CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT and AFFIDAVIT
Related to Contract/Amendment/Solicitation
EDS # 137346

SECTION I -- GENERAL INFORMATION

A. Legal name of the Disclosing Party submitting the EDS:

Motorola Solutions, Inc

Enter d/b/a if applicable:

The Disclosing Party submitting this EDS is:

the Applicant

B. Business address of the Disclosing Party:

500 W. Monroe
Chicago, IL 60661
United States

C. Telephone:

847-309-5862

Fax:

312-614-4295

D. Name of contact person:

Mr. Thomas Vedder

F. Brief description of contract, transaction or other undertaking (referred to below as the "Matter") to which this EDS pertains:

RADIO EQUIPMENT, PARTS AND SERVICES

Which City agency or department is requesting this EDS?

DEPT OF PROCUREMENT SERVICES

Specification Number

110054

Contract (PO) Number

33939

Revision Number

Release Number

User Department Project Number

SECTION II -- DISCLOSURE OF OWNERSHIP INTERESTS

A. NATURE OF THE DISCLOSING PARTY

1. Indicate the nature of the Disclosing Party:

Publicly registered business corporation

Is the Disclosing Party incorporated or organized in the State of Illinois?

No

State or foreign country of incorporation or organization:

Delaware

Registered to do business in the State of Illinois as a foreign entity?

Yes

B. DISCLOSING PARTY IS A LEGAL ENTITY:

1.a.1 Does the Disclosing Party have any directors?

Yes

1.a.3 List below the full names and titles of all executive officers and all directors, if any, of the entity. Do not include any directors who have no power to select the entity's officers.

Officer/Director: Mr. Gregory Q. Brown
Title: Chairman and Chief Executive Officer
Role: Both

Officer/Director: Mr. Samuel C. Scott III
Title: Director
Role: Director

Officer/Director: Ms. Judy C. Lewent
Title: Director
Role: Director

Officer/Director: Mrs. Anne R. Pramaggiore
Title: President and Chief Executive Officer, Commonwealth Edison Company
Role: Director

Officer/Director: Mr. Mark S. Hacker
Title: Executive Vice President
Role: Officer

Officer/Director: Mr. Gino A Bonanotte
Title: Executive Vice President & Chief Financial Officer
Role: Officer

Officer/Director: Mr. Jack Molloy
Title: Executive Vice President
Role: Officer

Officer/Director: Mr. Egon Durban
Title: Managing Partner and Managing Director, Silver Lake
Role: Director

Officer/Director: Mr. Gregory Mondre
Title: Managing Partner and Managing Director, Silver Lake
Role: Director

Officer/Director: Ms. Kristin Kruska

Title: Vice President and Corporate Secretary
Role: Officer

Officer/Director: Clayton M Jones
Title: Director
Role: Director

Officer/Director: Mr. Kenneth D. Denman
Title: Director
Role: Director

Officer/Director: Mr. Joseph M. Tucci
Title: Director
Role: Director

Officer/Director: Mrs. Kelly Mark
Title: Executive Vice President
Role: Officer

Officer/Director: Mr. Rajan Naik
Title: Senior VIce President
Role: Officer

Officer/Director: Ms. Cynthia Yazdi
Title: Senior VIce President
Role: Officer

2. Ownership Information

Please provide ownership information concerning each person or entity that holds, or is anticipated to hold (see next paragraph), a direct or indirect beneficial interest in excess of 7.5% of the Applicant. Examples of such an interest include shares in a corporation, partnership interest in a partnership or joint venture, interest of a member or manager in a limited liability company, or interest of a beneficiary of a trust, estate, or other similar entity. Note: Each legal entity below may be required to submit an EDS on its own behalf.

Please disclose present owners below. Please disclose anticipated owners in an attachment submitted through the "Additional Info" tab. "Anticipated owner" means an individual or entity in existence at the time application for City action is made, which is not an applicant or owner at such time, but which the applicant expects to assume a legal status, within six months of the time the City action occurs, that would render such individual or entity an applicant or owner if they had held such legal status at the time application was made.

- BlackRock, Inc. - 10.8%
- The Vanguard Group, Inc. - 10.1%

Owner Details

Name	Business Address
BlackRock, Inc.	40 East 52nd Street New York, NY 10022 United States
The Vanguard Group, Inc.	100 Vanguard Blvd. Malvern, PA 19355 United States

SECTION III -- INCOME OR COMPENSATION TO, OR OWNERSHIP BY, CITY ELECTED OFFICIALS

A. Has the Disclosing Party provided any income or compensation to any City elected official during the 12-month period preceding the date of this EDS?

No

B. Does the Disclosing Party reasonably expect to provide any income or compensation to any City elected official during the 12-month period following the date of this EDS?

No

D. Does any City elected official or, to the best of the Disclosing Party's knowledge after reasonable inquiry, any City elected official's spouse or domestic partner, have a financial interest (as defined in Chapter 2-156 of the Municipal Code ("MCC")) in the Disclosing Party?

No

SECTION IV -- DISCLOSURE OF SUBCONTRACTORS AND OTHER RETAINED PARTIES

The Disclosing Party must disclose the name and business address of each subcontractor, attorney, lobbyist (as defined in MCC Chapter 2-156), accountant, consultant and any other person or entity whom the Disclosing Party has retained or expects to retain in connection with the Matter, as well as the nature of the relationship, and the total amount of the fees paid or estimated to be paid. The Disclosing Party is not required to disclose employees who are paid solely through the Disclosing Party's regular payroll.

If the Disclosing Party is uncertain whether a disclosure is required under this Section, the Disclosing Party must either ask the City whether disclosure is required or make the disclosure.

1. Has the Disclosing Party retained or does it anticipate retaining any legal entities in connection with the Matter?

Yes

2. List below the names of all legal entities which are retained parties.

Name: Chicago Communications LLC
Anticipated/Retained: Retained
Business Address: 200 Spangler Avenue
Elmhurst, IL 60126 United States
Relationship: Subcontractor - MWDBE
Fees ($$ or %): 6% (Dependent Upon Request)
Estimated/Paid: Estimated

Name: Quantum Crossings LLC
Anticipated/Retained: Retained
Business Address: 111 E. Wacker Drive
Suite 990
Chicago, IL 60601 United States
Relationship: Subcontractor - MWDBE
Fees ($$ or %): 8% (Dependent Upon Request)
Estimated/Paid: Estimated

Name: Sierra Public Safety Group LLC
Anticipated/Retained: Retained
Business Address: 515 W. Wrightwood
Suite 513
Chicago, IL 60614 United States
Relationship: Subcontractor - MWDBE
Fees ($$ or %): 3% (Dependent Upon Request)

Estimated/Paid: Estimated

Name: Fullerton Engineering Consultants Inc

Anticipated/Retained: Retained

Business Address: 9600 W. Bryn Mawr Avenue
Rosemont, IL 60018 United States

Relationship: Subcontractor - MWDBE

Fees ($$ or %): 3% (Dependent Upon Request)

Estimated/Paid: Estimated

Name: Nicolay & Dart LLC

Anticipated/Retained: Retained

Business Address: 121 W. Wacker Drive
Suite 1108
Chicago, IL 60601 United States

Relationship: Lobbyist

Fees ($$ or %): $5,000

Estimated/Paid: Estimated

3. Has the Disclosing Party retained or does it anticipate retaining any persons in connection with the Matter?

Yes

4. List below the names of all persons who are retained parties.

Name: Mr. Timothy J Dart

Anticipated/Retained:

Business Address: 121 W. Wacker Drive
Suite 1108
Chicago, IL 60601 United States

Relationship: Lobbyist

Fees ($$ or %): $5,000

Estimated/Paid: Estimated

SECTION V -- CERTIFICATIONS

A. COURT-ORDERED CHILD SUPPORT COMPLIANCE

Under MCC Section 2-92-415, substantial owners of business entities that contract with the City must remain in compliance with their child support obligations throughout the contract's term.

Has any person who directly or indirectly owns 10% or more of the Disclosing Party been declared in arrearage of any child support obligations by any Illinois court of competent jurisdiction?

Not applicable because no person directly or indirectly owns 10% or more of the Disclosing Party

B. FURTHER CERTIFICATIONS

1. [This certification applies only if the Matter is a contract being handled by the City's Department of Procurement Services.] In the 5-year period preceding the date of this EDS, neither the Disclosing Party nor any Affiliated Entity has engaged, in connection with the performance of any public contract, the services of an integrity monitor, independent private sector inspector general, or integrity compliance consultant (i.e. an individual or entity with legal, auditing, investigative, or other similar skills, designated by a public agency to help the agency monitor the activity of specified agency vendors as well as help the vendors reform their business practices so they can be considered for agency contracts in the future, or continue with a contract in progress).

I certify the above to be true

2. The Disclosing Party and its Affiliated Entities are not delinquent in the payment of any fine, fee, tax or other source of indebtedness owed to the City of Chicago, including, but not limited to, water and sewer charges, license fees, parking tickets, property taxes and sales taxes, nor is the Disclosing Party delinquent in the payment of any tax administered by the Illinois Department of Revenue.

I certify the above to be true

3. The Disclosing Party and, if the Disclosing Party is a legal entity, all of those persons or entities identified in Section II(B)(1) of this EDS:

a. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;
b. have not, during the 5 years before the date of this EDS, been convicted of a criminal offense, adjudged guilty, or had a civil judgment rendered against them in connection with: obtaining, attempting to obtain, or performing a public (federal,

state or local) transaction or contract under a public transaction; a violation of federal or state antitrust statutes; fraud; embezzlement; theft; forgery; bribery; falsification or destruction of records; making false statements; or receiving stolen property;

c. are not presently indicted for, or criminally or civilly charged by, a governmental entity (federal, state or local) with committing any of the offenses set forth in subparagraph (b) above;
d. have not, during the 5 years before the date of this EDS, had one or more public transactions (federal, state or local) terminated for cause or default; and
e. have not, during the 5 years before the date of this EDS, been convicted, adjudged guilty, or found liable in a civil proceeding, or in any criminal or civil action, including actions concerning environmental violations, instituted by the City or by the federal government, any state, or any other unit of local government.

I certify the above to be true

4. The Disclosing Party understands and shall comply with the applicable requirements of MCC Chapter 2-56 (Inspector General) and Chapter 2-156 (Governmental Ethics).

I certify the above to be true

5. Neither the Disclosing Party, nor any Contractor, nor any Affiliated Entity of either the Disclosing Party or any Contractor, nor any Agents have, during the 5 years before the date of this EDS, or, with respect to a Contractor, an Affiliated Entity, or an Affiliated Entity of a Contractor during the 5 years before the date of such Contractor's or Affiliated Entity's contract or engagement in connection with the Matter:

a. bribed or attempted to bribe, or been convicted or adjudged guilty of bribery or attempting to bribe, a public officer or employee of the City, the State of Illinois, or any agency of the federal government or of any state or local government in the United States of America, in that officer's or employee's official capacity;
b. agreed or colluded with other bidders or prospective bidders, or been a party to any such agreement, or been convicted or adjudged guilty of agreement or collusion among bidders or prospective bidders, in restraint of freedom of competition by agreement to bid a fixed price or otherwise; or
c. made an admission of such conduct described in subparagraph (a) or (b) above that is a matter of record, but have not been prosecuted for such conduct; or
d. violated the provisions referenced in MCC Subsection 2-92-320(a)(4)(Contracts Requiring a Base Wage); (a)(5)(Debarment Regulations); or (a)(6)(Minimum Wage Ordinance).

I certify the above to be true

6. Neither the Disclosing Party, nor any Affiliated Entity or Contractor, or any of their employees, officials, agents or partners, is barred from contracting with any unit of state or local government as a result of engaging in or being convicted of

- bid-rigging in violation of 720 ILCS 5/33E-3;
- bid-rotating in violation of 720 ILCS 5/33E-4; or
- any similar offense of any state or of the United States of America that contains the same elements as the offense of bid-rigging or bid-rotating.

I certify the above to be true

7. Neither the Disclosing Party nor any Affiliated Entity is listed on a Sanctions List maintained by the United States Department of Commerce, State, or Treasury, or any successor federal agency.

I certify the above to be true

8. [FOR APPLICANT ONLY]

i. Neither the Applicant nor any "controlling person" [see MCC Chapter 1-23, Article I for applicability and defined terms] of the Applicant is currently indicted or charged with, or has admitted guilt of, or has ever been convicted of, or placed under supervision for, any criminal offense involving actual, attempted, or conspiracy to commit bribery, theft, fraud, forgery, perjury, dishonesty or deceit against an officer or employee of the City or any "sister agency" ; and
ii. the Applicant understands and acknowledges that compliance with Article I is a continuing requirement for doing business with the City.

NOTE: If MCC Chapter 1-23, Article I applies to the Applicant, that Article's permanent compliance timeframe supersedes 5-year compliance timeframes in this Section V.

I certify the above to be true

9. [FOR APPLICANT ONLY] The Applicant and its Affiliated Entities will not use, nor permit their subcontractors to use, any facility listed as having an active exclusion by the U.S. EPA on the federal System for Award Management ("SAM")

I certify the above to be true

10. [FOR APPLICANT ONLY] The Applicant will obtain from any contractors/ subcontractors hired or to be hired in connection with the Matter certifications equal in form and substance to those in Certifications (2) and (9) above and will not, without the prior written consent of the City, use any such contractor/subcontractor that does not provide such certifications or that the Applicant has reason to believe has not provided or cannot provide truthful certifications.

I certify the above to be true

11. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all current employees of the Disclosing Party who were, at

any time during the 12-month period preceding the date of this EDS, an employee, or elected or appointed official, of the City of Chicago.

None

12. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all gifts that the Disclosing Party has given or caused to be given, at any time during the 12-month period preceding the execution date of this EDS, to an employee, or elected or appointed official, of the City of Chicago. For purposes of this statement, a "gift" does not include: (i) anything made generally available to City employees or to the general public, or (ii) food or drink provided in the course of official City business and having a retail value of less than $25 per recipient, or (iii) a political contribution otherwise duly reported as required by law.

None

C. CERTIFICATION OF STATUS AS FINANCIAL INSTITUTION

The Disclosing Party certifies, as defined in MCC Section 2-32-455(b), the Disclosing Party

is not a "financial institution"

D. CERTIFICATION REGARDING FINANCIAL INTEREST IN CITY BUSINESS

Any words or terms defined in MCC Chapter 2-156 have the same meanings if used in this Part D.

1. In accordance with MCC Section 2-156-110: To the best of the Disclosing Party's knowledge after reasonable inquiry, does any official or employee of the City have a financial interest in his or her own name or in the name of any other person or entity in the Matter?

No

E. CERTIFICATION REGARDING SLAVERY ERA BUSINESS

If the Disclosing Party cannot make this verification, the Disclosing Party must disclose all required information in the space provided below or in an attachment in the "Additional Info" tab. Failure to comply with these disclosure requirements may make any contract entered into with the City in connection with the Matter voidable by the City.

The Disclosing Party verifies that the Disclosing Party has searched any and all records of the Disclosing Party and any and all predecessor entities regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era (including insurance policies issued to slaveholders that provided coverage for damage to or injury or death of their slaves), and the Disclosing Party has found no such records.

I can make the above verification

SECTION VI -- CERTIFICATIONS FOR FEDERALLY FUNDED MATTERS

Is the Matter federally funded? For the purposes of this Section VI, tax credits allocated by the City and proceeds of debt obligations of the City are not federal funding.

Yes

A. CERTIFICATION REGARDING LOBBYING

1.a Are there any persons who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter?

Yes

1.b. List below the names of all persons registered under the federal Lobbying Disclosure Act of 1995, as amended, who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter.

Name: Mr. Timothy J Dart

1.c. Are there any legal entities who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter?

Yes

1.d. List below the names of all entities registered under the federal Lobbying Disclosure Act of 1995, as amended, who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter:

Name: Nicolay & Dart LLC

2. The Disclosing Party has not spent and will not expend any federally appropriated funds to pay any person or entity listed in paragraph A(1) above for his or her lobbying activities or to pay any person or entity to influence or attempt to influence an officer or employee of any agency, as defined by applicable federal law, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress, in connection with the award of any federally funded contract, making any federally funded

grant or loan, entering into any cooperative agreement, or to extend, continue, renew, amend, or modify any federally funded contract, grant, loan, or cooperative agreement.

I certify to the above.

3. The Disclosing Party will submit an updated certification at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the statements and information set forth in paragraphs A(1) and A(2) above.

I certify to the above.

4. The Disclosing Party certifies that either:

i. it is not an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 or
ii. it is an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 but has not engaged and will not engage in "Lobbying Activities," as that term is defined in the Lobbying Disclosure Act of 1995, as amended.

I certify to the above.

5. If the Disclosing Party is the Applicant, the Disclosing Party must obtain certifications equal in form and substance to paragraphs A(1) through A(4) above from all subcontractors before it awards any subcontract and the Disclosing Party must maintain all such subcontractors' certifications for the duration of the Matter and must make such certifications promptly available to the City upon request.

I certify to the above.

B. CERTIFICATION REGARDING EQUAL EMPLOYMENT OPPORTUNITY

If the Matter is federally funded, federal regulations require the Applicant and all proposed subcontractors to submit the following information with their bids or in writing at the outset of negotiations.

1. Have you developed and do you have on file affirmative action programs pursuant to applicable federal regulations? (See 41 CFR Part 60-2.)

Yes

2. Have you filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs, or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements?

Yes

3. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause?

Yes

SECTION VII - FURTHER ACKNOWLEDGMENTS AND CERTIFICATION

The Disclosing Party understands and agrees that:

A. The certifications, disclosures, and acknowledgments contained in this EDS will become part of any contract or other agreement between the Applicant and the City in connection with the Matter, whether procurement, City assistance, or other City action, and are material inducements to the City's execution of any contract or taking other action with respect to the Matter. The Disclosing Party understands that it must comply with all statutes, ordinances, and regulations on which this EDS is based.

B. The City's Governmental Ethics Ordinance, MCC Chapter 2-156, imposes certain duties and obligations on persons or entities seeking City contracts, work, business, or transactions. The full text of this ordinance and a training program is available on line at www.cityofchicago.org/Ethics, and may also be obtained from the City's Board of Ethics, 740 N. Sedgwick St., Suite 500, Chicago, IL 60610, (312) 744-9660. The Disclosing Party must comply fully with this ordinance.

I acknowledge and consent to the above

The Disclosing Party understands and agrees that:

C. If the City determines that any information provided in this EDS is false, incomplete or inaccurate, any contract or other agreement in connection with which it is submitted may be rescinded or be void or voidable, and the City may pursue any remedies under the contract or agreement (if not rescinded or void), at law, or in equity, including terminating the Disclosing Party's participation in the Matter and/or declining to allow the Disclosing Party to participate in other City transactions. Remedies at law for a false statement of material fact may include incarceration and an award to the City of treble damages.

D. It is the City's policy to make this document available to the public on its Internet site and/or upon request. Some or all of the information provided in, and appended to, this EDS may be made publicly available on the Internet, in response to a Freedom of Information Act request, or otherwise. By completing and signing this EDS, the Disclosing Party waives and releases any possible rights or claims which it may have against the City in connection with the public release of information contained in this EDS and also authorizes the City to verify the accuracy of any information submitted in this EDS.

E. The information provided in this EDS must be kept current. In the event of changes, the Disclosing Party must supplement this EDS up to the time the City takes action on the Matter. If the Matter is a contract being handled by the City's Department of Procurement Services, the Disclosing Party must update this EDS as the contract requires. NOTE: With respect to Matters subject to MCC Article I of Chapter 1-23 (imposing PERMANENT INELIGIBILITY for certain specified offenses), the information provided herein regarding eligibility must be kept current for a longer period, as required by MCC Chapter 1-23 and Section 2-154-020.

I acknowledge and consent to the above

APPENDIX A - FAMILIAL RELATIONSHIPS WITH ELECTED CITY OFFICIALS AND DEPARTMENT HEADS

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5%. It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

Under MCC Section 2-154-015, the Disclosing Party must disclose whether such Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently has a "familial relationship" with any elected city official or department head. A "familial relationship" exists if, as of the date this EDS is signed, the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof is related to the mayor, any alderman, the city clerk, the city treasurer or any city department head as spouse or domestic partner or as any of the following, whether by blood or adoption: parent, child, brother or sister, aunt or uncle, niece or nephew, grandparent, grandchild, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather or stepmother, stepson or stepdaughter, stepbrother or stepsister or half-brother or half-sister.

"Applicable Party" means (1) all corporate officers of the Disclosing Party, if the Disclosing Party is a corporation; all partners of the Disclosing Party, if the Disclosing Party is a general partnership; all general partners and limited partners of the Disclosing Party, if the Disclosing Party is a limited partnership; all managers, managing members and members of the Disclosing Party, if the Disclosing Party is a limited liability company; (2) all principal officers of the Disclosing Party; and (3) any person having more than a 7.5% ownership interest in the Disclosing Party. "Principal officers" means the president, chief operating officer, executive director, chief financial officer, treasurer or secretary of a legal entity or any person exercising similar authority.

Does the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently have a "familial relationship" with an elected city official or department head?

No

APPENDIX B - BUILDING CODE SCOFFLAW/PROBLEM LANDLORD CERTIFICATION

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5% (an "Owner"). It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

Pursuant to MCC Section 2-154-010, is the Applicant or any Owner identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416??

No

If the Applicant is a legal entity publicly traded on any exchange, is any officer or director of the Applicant identified as a building code scofflaw or problem landlord pursuant to Section 2-92-416 of the Municipal Code?

No

ADDITIONAL INFO

Please add any additional explanatory information here. If explanation is longer than 1000 characters, you may add an attachment below. Please note that your EDS, including all attachments, becomes available for public viewing upon contract award. Your attachments will be viewable "as is" without manual redaction by the City. You are responsible for redacting any non-public information from your documents before uploading.

List of vendor attachments uploaded by City staff

None.

List of attachments uploaded by vendor

Vanguard EDS
BlackRock EDS
Attachment B
BlackRock Leadership Information
Motorola Solutions 10K
BlackRock Proxy statement

CERTIFICATION

Under penalty of perjury, the person signing below: (1) warrants that he/she is authorized to execute this EDS, and all applicable appendices, on behalf of the

Disclosing Party, and (2) warrants that all certifications and statements contained in this EDS, and all applicable appendices, are true, accurate and complete as of the date furnished to the City. Submission of this form constitutes making the oath associated with notarization.

/s/ 04/29/2019
Mr. Thomas Vedder
Account Manager
Motorola Solutions, Inc

This is a printed copy of the Economic Disclosure Statement, the original of which is filed electronically with the City of Chicago. Any alterations must be made electronically, alterations on this printed copy are void and of no effect.

MOTOROLA SOLUTIONS, INC.
ATTACHMENT TO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT REGARDING
THE VANGUARD GROUP

The Vanguard Group, 100 Vanguard Boulevard; Malvern, PA 19355, a registered investment adviser, as of May 10, 2018, owns more than 7.5%, but less than 22.5%, beneficially for its third party investors.

Pursuant to Rule 1(g) of the Rules Regarding Economic Disclosure Statement and Affidavit ("EDS") promulgated pursuant to Section 2-154-050 of the Municipal Code, The Vanguard Group may in lieu of an EDS, provide a copy of its most recent Form ADV and its most recent amendment thereto. Accordingly, attached hereto is The Vanguard Group Form ADV (which was downloaded November 26, 2018 from https://www.adviserinfo.sec.gov/IAPD/content/ViewForm/crd_iapd_stream_pdf.aspx?ORG_PK=105958)

FORM ADV

UNIFORM APPLICATION FOR INVESTMENT ADVISER REGISTRATION AND REPORT BY EXEMPT REPORTING ADVISERS

Primary Business Name: VANGUARD GROUP INC	**CRD Number: 105958**
Other-Than-Annual Amendment - All Sections	**Rev. 10/2017**
5/10/2018 11:35:37 AM	

WARNING: Complete this form truthfully. False statements or omissions may result in denial of your application, revocation of your registration, or criminal prosecution. You must keep this form updated by filing periodic amendments. See Form ADV General Instruction 4.

Item 1 Identifying Information

Responses to this Item tell us who you are, where you are doing business, and how we can contact you. If you are filing an *umbrella registration*, the information in Item 1 should be provided for the *filing adviser* only. General Instruction 5 provides information to assist you with filing an *umbrella registration*.

A. Your full legal name (if you are a sole proprietor, your last, first, and middle names):
THE VANGUARD GROUP, INC.

B. (1) Name under which you primarily conduct your advisory business, if different from Item 1.A.
VANGUARD GROUP INC

List on Section 1.B. of Schedule D any additional names under which you conduct your advisory business.

(2) If you are using this Form ADV to register more than one investment adviser under an *umbrella registration*, check this box ☐

If you check this box, complete a Schedule R for each relying adviser.

C. If this filing is reporting a change in your legal name (Item 1.A.) or primary business name (Item 1.B.(1)), enter the new name and specify whether the name change is of
☐ your legal name or ☐ your primary business name:

D. (1) If you are registered with the SEC as an investment adviser, your SEC file number: **801-11953**

(2) If you report to the SEC as an *exempt reporting adviser*, your SEC file number:

(3) If you have one or more Central Index Key numbers assigned by the SEC ("CIK Numbers"), all of your CIK numbers:

No Information Filed

E. (1) If you have a number ("*CRD* Number") assigned by the *FINRA's CRD* system or by the IARD system, your *CRD* number: **105958**

If your firm does not have a CRD number, skip this Item 1.E. Do not provide the CRD number of one of your officers, employees, or affiliates.

(2) If you have additional *CRD* Numbers, your additional *CRD* numbers:

No Information Filed

F. *Principal Office and Place of Business*

(1) Address (do not use a P.O. Box):

Number and Street 1:		Number and Street 2:	
100 VANGUARD BLVD		V26	
City:	State:	Country:	ZIP+4/Postal Code:
MALVERN	Pennsylvania	United States	19355

If this address is a private residence, check this box: ☐

List on Section 1.F. of Schedule D any office, other than your principal office and place of business, at which you conduct investment advisory business. If you are applying for registration, or are registered, with one or more state securities authorities, you must list all of your offices in the state or states to which you are applying for registration or with whom you are registered. If you are applying for SEC registration, if you are registered only with the SEC, or if you are reporting to the SEC as an exempt reporting adviser, list the largest twenty-five offices in terms of numbers of employees as of the end of your most recently completed fiscal year.

(2) Days of week that you normally conduct business at your *principal office and place of business:*
● Monday - Friday ○ Other:

Normal business hours at this location:
8:30AM - 5:30PM

(3) Telephone number at this location:
610-669-1000

(4) Facsimile number at this location, if any:
610-669-6600

(5) What is the total number of offices, other than your *principal office and place of business*, at which you conduct investment advisory business as of

the end of your most recently completed fiscal year?
1

G. Mailing address, if different from your *principal office and place of business* address:

Number and Street 1:
Number and Street 2:
City:
State:
Country:
ZIP+4/Postal Code:

If this address is a private residence, check this box: ☐

H. If you are a sole proprietor, state your full residence address, if different from your *principal office and place of business* address in Item 1.F.:

Number and Street 1:
Number and Street 2:
City:
State:
Country:
ZIP+4/Postal Code:

Yes No

I. Do you have one or more websites or accounts on publicly available social media platforms (including, but not limited to, Twitter, Facebook and LinkedIn)? ● ○

If "yes," list all firm website addresses and the address for each of the firm's accounts on publicly available social media platforms on Section 1.I. of Schedule D. If a website address serves as a portal through which to access other information you have published on the web, you may list the portal without listing addresses for all of the other information. You may need to list more than one portal address. Do not provide the addresses of websites or accounts on publicly available social media platforms where you do not control the content. Do not provide the individual electronic mail (e-mail) addresses of employees or the addresses of employee accounts on publicly available social media platforms.

J. Chief Compliance Officer

(1) Provide the name and contact information of your Chief Compliance Officer. If you are an *exempt reporting adviser*, you must provide the contact information for your Chief Compliance Officer, if you have one. If not, you must complete Item 1.K. below.

Name:
Other titles, if any:
Telephone number:
Facsimile number, if any:
Number and Street 1:
Number and Street 2:
City:
State:
Country:
ZIP+4/Postal Code:

Electronic mail (e-mail) address, if Chief Compliance Officer has one:

(2) If your Chief Compliance Officer is compensated or employed by any *person* other than you, a *related person* or an investment company registered under the Investment Company Act of 1940 that you advise for providing chief compliance officer services to you, provide the *person's* name and IRS Employer Identification Number (if any):

Name:
IRS Employer Identification Number:

K. Additional Regulatory Contact Person: If a person other than the Chief Compliance Officer is authorized to receive information and respond to questions about this Form ADV, you may provide that information here.

Name:
Titles:
Telephone number:
Facsimile number, if any:
Number and Street 1:
Number and Street 2:
City:
State:
Country:
ZIP+4/Postal Code:

Electronic mail (e-mail) address, if contact person has one:

Yes No

L. Do you maintain some or all of the books and records you are required to keep under Section 204 of the Advisers Act, or similar state law, somewhere other than your *principal office and place of business*? ● ○

If "yes," complete Section 1.L. of Schedule D.

Yes No

M. Are you registered with a *foreign financial regulatory authority*? ○ ●

Answer "no" if you are not registered with a foreign financial regulatory authority, even if you have an affiliate that is registered with a foreign financial regulatory authority. If "yes," complete Section 1.M. of Schedule D.

Yes No

N. Are you a public reporting company under Sections 12 or 15(d) of the Securities Exchange Act of 1934? ○ ●

Yes No

O. Did you have $1 billion or more in assets on the last day of your most recent fiscal year? ● ○

If yes, what is the approximate amount of your assets:

● $1 billion to less than $10 billion
○ $10 billion to less than $50 billion

○ $50 billion or more

For purposes of Item 1.O. only, "assets" refers to your total assets, rather than the assets you manage on behalf of clients. Determine your total assets using the total assets shown on the balance sheet for your most recent fiscal year end.

P. Provide your *Legal Entity Identifier* if you have one:
5493002789CX3L0CJP65

A *legal entity identifier* is a unique number that companies use to identify each other in the financial marketplace. You may not have a *legal entity identifier*.

SECTION 1.B. Other Business Names

No Information Filed

SECTION 1.F. Other Offices

No Information Filed

SECTION 1.I. Website Addresses

List your website addresses, including addresses for accounts on publicly available social media platforms where you control the content (including, but not limited to, Twitter, Facebook and/or LinkedIn). You must complete a separate Schedule D Section 1.I. for each website or account on a publicly available social media platform.

Address of Website/Account on Publicly Available Social Media Platform: HTTP://WWW.VANGUARD.COM

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://WWW.FACEBOOK.COM/VANGUARD

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://TWITTER.COM/VANGUARD_GROUP

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://PLUS.GOOGLE.COM/+VANGUARD#+VANGUARD/POSTS

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://WWW.YOUTUBE.COM/USER/VANGUARD

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://TWITTER.COM/VANGUARD_FA

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://WWW.LINKEDIN.COM/COMPANY/VANGUARD

Address of Website/Account on Publicly Available Social Media Platform: HTTPS://TWITTER.COM/VANGUARD_INSTL

SECTION 1.L. Location of Books and Records

Complete the following information for each location at which you keep your books and records, other than your *principal office and place of business*. You must complete a separate Schedule D, Section 1.L. for each location.

Name of entity where books and records are kept:
IRON MOUNTAIN INC

Number and Street 1:

Number and Street 2:

2500 HENDERSON DRIVE

City:	State:	Country:	ZIP+4/Postal Code:
SHARON HILL	Pennsylvania	United States	19079

If this address is a private residence, check this box: ☐

Telephone Number:	Facsimile number, if any:
610-725-0200 X3008	

This is (check one):
- ○ one of your branch offices or affiliates.
- ● a third-party unaffiliated recordkeeper.
- ○ other.

Briefly describe the books and records kept at this location.
STORAGE OF CLIENT AND OTHER FILES CONTAINING CONTRACTS, CORRESPONDENCE, RECOMMENDATIONS AND TRANSACTIONS, IN ADDITION TO PROGRAMMING CODE.

SECTION 1.M. Registration with Foreign Financial Regulatory Authorities

No Information Filed

Item 2 SEC Registration/Reporting

Responses to this Item help us (and you) determine whether you are eligible to register with the SEC. Complete this Item 2.A. only if you are applying for SEC registration or submitting an *annual updating amendment* to your SEC registration. If you are filing an *umbrella registration*, the information in Item 2 should be provided for the *filing adviser* only.

A. To register (or remain registered) with the SEC, you must check **at least one** of the Items 2.A.(1) through 2.A.(12), below. If you are submitting an *annual updating amendment* to your SEC registration and you are no longer eligible to register with the SEC, check Item 2.A.(13). Part 1A Instruction 2 provides information to help you determine whether you may affirmatively respond to each of these items.

You (the adviser):

☑ (1) are a **large advisory firm** that either:

(a) has regulatory assets under management of $100 million (in U.S. dollars) or more; or

(b) has regulatory assets under management of $90 million (in U.S. dollars) or more at the time of filing its most recent *annual updating amendment* and is registered with the SEC;

☐ (2) are a **mid-sized advisory firm** that has regulatory assets under management of $25 million (in U.S. dollars) or more but less than $100 million (in U.S. dollars) and you are either:

(a) not required to be registered as an adviser with the *state securities authority* of the state where you maintain your *principal office and place of business*; or

(b) not subject to examination by the *state securities authority* of the state where you maintain your *principal office and place of business*;

*Click **HERE** for a list of states in which an investment adviser, if registered, would not be subject to examination by the state securities authority.*

(3) Reserved

☐ (4) have your *principal office and place of business* **outside the United States**;

☑ (5) are **an investment adviser (or subadviser) to an investment company** registered under the Investment Company Act of 1940;

☐ (6) are **an investment adviser to a company which has elected to be a business development company** pursuant to section 54 of the Investment Company Act of 1940 and has not withdrawn the election, and you have at least $25 million of regulatory assets under management;

☐ (7) are a **pension consultant** with respect to assets of plans having an aggregate value of at least $200,000,000 that qualifies for the exemption in rule 203A-2(a);

☐ (8) are a **related adviser** under rule 203A-2(b) that *controls*, is *controlled* by, or is under common *control* with, an investment adviser that is registered with the SEC, and your *principal office and place of business* is the same as the registered adviser;

If you check this box, complete Section 2.A.(8) of Schedule D.

☐ (9) are an **adviser** relying on rule 203A-2(c) because you **expect to be eligible for SEC registration within 120 days;**

If you check this box, complete Section 2.A.(9) of Schedule D.

☐ (10) are a **multi-state adviser** that is required to register in 15 or more states and is relying on rule 203A-2(d);

If you check this box, complete Section 2.A.(10) of Schedule D.

☐ (11) are an **Internet adviser** relying on rule 203A-2(e);

☐ (12) have **received an SEC order** exempting you from the prohibition against registration with the SEC;

If you check this box, complete Section 2.A.(12) of Schedule D.

☐ (13) are **no longer eligible** to remain registered with the SEC.

State Securities Authority Notice Filings and State Reporting by *Exempt Reporting Advisers*

C. Under state laws, SEC-registered advisers may be required to provide to *state securities authorities* a copy of the Form ADV and any amendments they file with the SEC. These are called *notice filings*. In addition, *exempt reporting advisers* may be required to provide *state securities authorities* with a copy of reports and any amendments they file with the SEC. If this is an initial application or report, check the box(es) next to the state(s) that you would like to receive notice of this and all subsequent filings or reports you submit to the SEC. If this is an amendment to direct your *notice filings* or reports to additional state(s), check the box(es) next to the state(s) that you would like to receive notice of this and all subsequent filings or reports you submit to the SEC. If this is an amendment to your registration to stop your *notice filings* or reports from going to state(s) that currently receive them, uncheck the box(es) next to those state(s).

Jurisdictions

☐ AL
☐ AK
☐ AZ
☐ AR
☐ CA
☐ CO
☐ CT
☐ DE
☐ DC
☐ FL
☐ GA
☐ GU
☐ HI
☐ ID
☐ IL
☐ IN
☐ IA
☐ KS
☐ KY
☐ LA
☐ ME
☐ MD
☐ MA
☐ MI
☐ MN
☐ MS
☐ MO
☐ MT
☐ NE
☐ NV
☐ NH
☐ NJ
☐ NM
☐ NY
☐ NC
☐ ND
☐ OH
☐ OK
☐ OR
☐ PA
☐ PR
☐ RI
☐ SC
☐ SD
☐ TN
☐ TX
☐ UT
☐ VT
☐ VI
☐ VA
☐ WA
☐ WV
☐ WI
☐ WY

If you are amending your registration to stop your notice filings or reports from going to a state that currently receives them and you do not want to pay that state's notice filing or report filing fee for the coming year, your amendment must be filed before the end of the year (December 31).

SECTION 2.A.(8) Related Adviser

If you are relying on the exemption in rule 203A-2(b) from the prohibition on registration because you *control*, are *controlled* by, or are under common *control* with an investment adviser that is registered with the SEC and your *principal office and place of business* is the same as that of the registered adviser, provide the following information:

Name of Registered Investment Adviser

CRD Number of Registered Investment Adviser

SEC Number of Registered Investment Adviser
-

SECTION 2.A.(9) Investment Adviser Expecting to be Eligible for Commission Registration within 120 Days

If you are relying on rule 203A-2(c), the exemption from the prohibition on registration available to an adviser that expects to be eligible for SEC registration within 120 days, you are required to make certain representations about your eligibility for SEC registration. By checking the appropriate boxes, you will be deemed to have made the required representations. You must make both of these representations:

☐ I am not registered or required to be registered with the SEC or a *state securities authority* and I have a reasonable expectation that I will be eligible to register with the SEC within 120 days after the date my registration with the SEC becomes effective.

☐ I undertake to withdraw from SEC registration if, on the 120th day after my registration with the SEC becomes effective, I would be prohibited by Section 203A(a) of the Advisers Act from registering with the SEC.

SECTION 2.A.(10) Multi-State Adviser

If you are relying on rule 203A-2(d), the multi-state adviser exemption from the prohibition on registration, you are required to make certain representations about your eligibility for SEC registration. By checking the appropriate boxes, you will be deemed to have made the required representations.

If you are applying for registration as an investment adviser with the SEC, you must make both of these representations:

☐ I have reviewed the applicable state and federal laws and have concluded that I am required by the laws of 15 or more states to register as an investment adviser with the *state securities authorities* in those states.

☐ I undertake to withdraw from SEC registration if I file an amendment to this registration indicating that I would be required by the laws of fewer than 15 states to register as an investment adviser with the *state securities authorities* of those states.

If you are submitting your *annual updating amendment*, you must make this representation:

☐ Within 90 days prior to the date of filing this amendment, I have reviewed the applicable state and federal laws and have concluded that I am required by the laws of at least 15 states to register as an investment adviser with the *state securities authorities* in those states.

SECTION 2.A.(12) SEC Exemptive *Order*

If you are relying upon an SEC *order* exempting you from the prohibition on registration, provide the following information:

Application Number:

803-

Date of *order*:

Item 3 Form of Organization

If you are filing an *umbrella registration*, the information in Item 3 should be provided for the *filing adviser* only.

A. How are you organized?

- ● Corporation
- ○ Sole Proprietorship
- ○ Limited Liability Partnership (LLP)
- ○ Partnership
- ○ Limited Liability Company (LLC)
- ○ Limited Partnership (LP)
- ○ Other (specify):

If you are changing your response to this Item, see Part 1A Instruction 4.

B. In what month does your fiscal year end each year?
DECEMBER

C. Under the laws of what state or country are you organized?

State	Country
Pennsylvania	United States

If you are a partnership, provide the name of the state or country under whose laws your partnership was formed. If you are a sole proprietor, provide the name of the state or country where you reside.

If you are changing your response to this Item, see Part 1A Instruction 4.

Item 4 Successions

	Yes	No
A. Are you, at the time of this filing, succeeding to the business of a registered investment adviser, including, for example, a change of your structure or legal status (e.g., form of organization or state of incorporation)?	○	●

If "yes", complete Item 4.B. and Section 4 of Schedule D.

B. Date of Succession: (MM/DD/YYYY)

If you have already reported this succession on a previous Form ADV filing, do not report the succession again. Instead, check "No." See Part 1A Instruction 4.

SECTION 4 Successions

No Information Filed

Item 5 Information About Your Advisory Business - Employees, Clients, and Compensation

Responses to this Item help us understand your business, assist us in preparing for on-site examinations, and provide us with data we use when making regulatory policy. Part 1A Instruction 5.a. provides additional guidance to newly formed advisers for completing this Item 5.

Employees

If you are organized as a sole proprietorship, include yourself as an employee in your responses to Item 5.A. and Items 5.B.(1), (2), (3), (4), and (5). If an employee performs more than one function, you should count that employee in each of your responses to Items 5.B.(1), (2), (3), (4), and (5).

A. Approximately how many *employees* do you have? Include full- and part-time *employees* but do not include any clerical workers.

314

B. (1) Approximately how many of the *employees* reported in 5.A. perform investment advisory functions (including research)?

206

(2) Approximately how many of the *employees* reported in 5.A. are registered representatives of a broker-dealer?

45

(3) Approximately how many of the *employees* reported in 5.A. are registered with one or more *state securities authorities* as *investment adviser representatives*?

4

(4) Approximately how many of the *employees* reported in 5.A. are registered with one or more *state securities authorities* as *investment adviser representatives* for an investment adviser other than you?

0

(5) Approximately how many of the *employees* reported in 5.A. are licensed agents of an insurance company or agency?

0

(6) Approximately how many firms or other *persons* solicit advisory *clients* on your behalf?

0

In your response to Item 5.B.(6), do not count any of your employees and count a firm only once – do not count each of the firm's employees that solicit on your behalf.

Clients

In your responses to Items 5.C. and 5.D. do not include as "clients" the investors in a private fund you advise, unless you have a separate advisory relationship with those investors.

C. (1) To approximately how many *clients* for whom you do not have regulatory assets under management did you provide investment advisory services during your most recently completed fiscal year?

0

(2) Approximately what percentage of your *clients* are non-*United States persons*?

42%

D. *For purposes of this Item 5.D., the category "individuals" includes trusts, estates, and 401(k) plans and IRAs of individuals and their family members, but does not include businesses organized as sole proprietorships.*
The category "business development companies" consists of companies that have made an election pursuant to section 54 of the Investment Company Act of 1940. Unless you provide advisory services pursuant to an investment advisory contract to an investment company registered under the Investment Company Act of 1940, do not answer (d)(1) or (d)(3) below.

Indicate the approximate number of your *clients* and amount of your total regulatory assets under management (reported in Item 5.F. below) attributable to each of the following type of *client*. If you have fewer than 5 *clients* in a particular category (other than (d), (e), and (f)) you may check Item 5.D.(2) rather than respond to Item 5.D.(1).

The aggregate amount of regulatory assets under management reported in Item 5.D.(3) should equal the total amount of regulatory assets under management reported in Item 5.F.(2)(c) below.

If a *client* fits into more than one category, select one category that most accurately represents the *client* to avoid double counting *clients* and assets. If you advise a registered investment company, business development company, or pooled investment vehicle, report those assets in categories (d), (e), and (f) as applicable.

Type of *Client*	**(1) Number of *Client(s)***	**(2) Fewer than 5 *Clients***	**(3) Amount of Regulatory Assets under Management**
(a) Individuals (other than *high net worth individuals*)	0	☐	$ 0
(b) *High net worth individuals*	0	☐	$ 0
(c) Banking or thrift institutions	0	☐	$ 0
(d) Investment companies	162		$ 4,574,437,591,611
(e) Business development companies	0		$ 0

(f) Pooled investment vehicles (other than investment companies and business development companies)	115		$ 224,302,322,291
(g) Pension and profit sharing plans (but not the plan participants or government pension plans)	0	☐	$ 0
(h) Charitable organizations	0	☐	$ 0
(i) State or municipal *government entities* (including government pension plans)	0	☐	$ 0
(j) Other investment advisers	0	☐	$ 0
(k) Insurance companies	0	☐	$ 0
(l) Sovereign wealth funds and foreign official institutions	0	☐	$ 0
(m) Corporations or other businesses not listed above	3	☐	$ 40,556,568,087
(n) Other:	0	☐	$ 0

Compensation Arrangements

E. You are compensated for your investment advisory services by (check all that apply):

☑ (1) A percentage of assets under your management
☐ (2) Hourly charges
☐ (3) Subscription fees (for a newsletter or periodical)
☐ (4) Fixed fees (other than subscription fees)
☐ (5) Commissions
☐ (6) *Performance-based fees*
☑ (7) Other (specify): AT-COST

Item 5 Information About Your Advisory Business - Regulatory Assets Under Management

Regulatory Assets Under Management

Yes No

F. (1) Do you provide continuous and regular supervisory or management services to securities portfolios? ● ○

(2) If yes, what is the amount of your regulatory assets under management and total number of accounts?

		U.S. Dollar Amount		Total Number of Accounts
Discretionary:	(a)	$ 4,839,296,481,989	(d)	280
Non-Discretionary:	(b)	$ 0	(e)	0
Total:	(c)	$ 4,839,296,481,989	(f)	280

Part 1A Instruction 5.b. explains how to calculate your regulatory assets under management. You must follow these instructions carefully when completing this Item.

(3) What is the approximate amount of your total regulatory assets under management (reported in Item 5.F.(2)(c) above) attributable to *clients* who are non-*United States persons*?

$ 306,701,037,631

Item 5 Information About Your Advisory Business - Advisory Activities

Advisory Activities

G. What type(s) of advisory services do you provide? Check all that apply.

☐ (1) Financial planning services
☐ (2) Portfolio management for individuals and/or small businesses
☑ (3) Portfolio management for investment companies (as well as "business development companies" that have made an election pursuant to section 54 of the Investment Company Act of 1940)
☑ (4) Portfolio management for pooled investment vehicles (other than investment companies)
☑ (5) Portfolio management for businesses (other than small businesses) or institutional *clients* (other than registered investment companies and other pooled investment vehicles)
☐ (6) Pension consulting services
☑ (7) Selection of other advisers (including *private fund* managers)
☑ (8) Publication of periodicals or newsletters
☐ (9) Security ratings or pricing services
☐ (10) Market timing services
☐ (11) Educational seminars/workshops
☐ (12) Other(specify):

Do not check Item 5.G.(3) unless you provide advisory services pursuant to an investment advisory contract to an investment company registered under the Investment Company Act of 1940, including as a subadviser. If you check Item 5.G.(3), report the 811 or 814 number of the investment company or investment companies to which you provide advice in Section 5.G.(3) of Schedule D.

H. If you provide financial planning services, to how many *clients* did you provide these services during your last fiscal year?

○ 0

○ 1 - 10
○ 11 - 25
○ 26 - 50
○ 51 - 100
○ 101 - 250
○ 251 - 500
○ More than 500
If more than 500, how many?
(round to the nearest 500)

In your responses to this Item 5.H., do not include as "clients" the investors in a private fund you advise, unless you have a separate advisory relationship with those investors.

		Yes	No
I.	(1) Do you participate in a *wrap fee program*?	○	●

(2) If you participate in a *wrap fee program*, what is the amount of your regulatory assets under management attributable to acting as:

(a) *sponsor* to a *wrap fee program*
$
(b) portfolio manager for a *wrap fee program*?
$
(c) *sponsor* to and portfolio manager for the same *wrap fee program*?
$

If you report an amount in Item 5.I.(2)(c), do not report that amount in Item 5.I.(2)(a) or Item 5.I.(2)(b).

If you are a portfolio manager for a wrap fee program, list the names of the programs, their sponsors and related information in Section 5.I.(2) of Schedule D.

If your involvement in a wrap fee program is limited to recommending wrap fee programs to your clients, or you advise a mutual fund that is offered through a wrap fee program, do not check Item 5.I.(1) or enter any amounts in response to Item 5.I.(2).

		Yes	No
J.	(1) In response to Item 4.B. of Part 2A of Form ADV, do you indicate that you provide investment advice only with respect to limited types of investments?	○	●
	(2) Do you report *client* assets in Item 4.E. of Part 2A that are computed using a different method than the method used to compute your regulatory assets under management?	○	●

K. Separately Managed Account *Clients*

	Yes	No
(1) Do you have regulatory assets under management attributable to *clients* other than those listed in Item 5.D.(3)(d)-(f) (separately managed account *clients*)?	●	○
If yes, complete Section 5.K.(1) of Schedule D.		
(2) Do you engage in borrowing transactions on behalf of any of the separately managed account *clients* that you advise?	●	○
If yes, complete Section 5.K.(2) of Schedule D.		
(3) Do you engage in derivative transactions on behalf of any of the separately managed account *clients* that you advise?	●	○
If yes, complete Section 5.K.(2) of Schedule D.		
(4) After subtracting the amounts in Item 5.D.(3)(d)-(f) above from your total regulatory assets under management, does any custodian hold ten percent or more of this remaining amount of regulatory assets under management?	●	○
If yes, complete Section 5.K.(3) of Schedule D for each custodian.		

SECTION 5.G.(3) Advisers to Registered Investment Companies and Business Development Companies

If you check Item 5.G.(3), what is the SEC file number (811 or 814 number) of each of the registered investment companies and business development companies to which you act as an adviser pursuant to an advisory contract? You must complete a separate Schedule D Section 5.G.(3) for each registered investment company and business development company to which you act as an adviser.

SEC File Number
811 - 00121

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 00834

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 01027

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 01530

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 01685

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 01776

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 02368

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 02554

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 02652

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 02687

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 02968

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 03916

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 03919

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04098

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04474

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04526

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04570

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04571

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04627

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 04681

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 05340

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 05445

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 05628

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 05962

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 05972

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 06083

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 06093

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 07043

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 07175

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 07239

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 07443

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 07803

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number

811 - 09005

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 21478

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 22114

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 22619

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SEC File Number
811 - 58431

Provide the regulatory assets under management of all *parallel managed accounts* related to a registered investment company (or series thereof) or business development company that you advise.

No Information Filed

SECTION 5.I.(2) *Wrap Fee Programs*

No Information Filed

SECTION 5.K.(1) Separately Managed Accounts

After subtracting the amounts reported in Item 5.D.(3)(d)-(f) from your total regulatory assets under management, indicate the approximate percentage of this remaining amount attributable to each of the following categories of assets. If the remaining amount is at least $10 billion in regulatory assets under management, complete Question (a). If the remaining amount is less than $10 billion in regulatory assets under management, complete Question (b).

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise.

End of year refers to the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment* . Mid-year is the date six months before the end of year date. Each column should add up to 100% and numbers should be rounded to the nearest percent.

Investments in derivatives, registered investment companies, business development companies, and pooled investment vehicles should be reported in those categories. Do not report those investments based on related or underlying portfolio assets. Cash equivalents include bank deposits, certificates of deposit, bankers' acceptances and similar bank instruments.

Some assets could be classified into more than one category or require discretion about which category applies. You may use your own internal methodologies and the conventions of your service providers in determining how to categorize assets, so long as the methodologies or conventions are consistently applied and consistent with information you report internally and to current and prospective clients. However, you should not double count assets, and your responses must be consistent with any instructions or other guidance relating to this Section.

(a)

Asset Type	**Mid-year**	**End of year**
(i) Exchange-Traded Equity Securities	98 %	98 %
(ii) Non Exchange-Traded Equity Securities	0 %	0 %
(iii) U.S. Government/Agency Bonds	0 %	0 %
(iv) U.S. State and Local Bonds	0 %	0 %
(v) *Sovereign Bonds*	1 %	1 %
(vi) Investment Grade Corporate Bonds	0 %	0 %
(vii) Non-Investment Grade Corporate Bonds	0 %	0 %
(viii) Derivatives	1 %	1 %
(ix) Securities Issued by Registered Investment Companies or Business Development Companies	0 %	0 %
(x) Securities Issued by Pooled Investment Vehicles (other than Registered Investment Companies or Business Development Companies)	0 %	0 %
(xi) Cash and Cash Equivalents	0 %	0 %
(xii) Other	0 %	0 %

Generally describe any assets included in "Other"

(b)

Asset Type	**End of year**
(i) Exchange-Traded Equity Securities	%
(ii) Non Exchange-Traded Equity Securities	%
(iii) U.S. Government/Agency Bonds	%
(iv) U.S. State and Local Bonds	%
(v) *Sovereign Bonds*	%
(vi) Investment Grade Corporate Bonds	%
(vii) Non-Investment Grade Corporate Bonds	%
(viii) Derivatives	%
(ix) Securities Issued by Registered Investment Companies or Business Development Companies	%
(x) Securities Issued by Pooled Investment Vehicles (other than Registered Investment Companies or Business Development Companies)	%
(xi) Cash and Cash Equivalents	%
(xii) Other	%

Generally describe any assets included in "Other"

SECTION 5.K.(2) Separately Managed Accounts - Use of *Borrowings*and Derivatives

☐ **No information is required to be reported in this Section 5.K.(2) per the instructions of this Section 5.K.(2)**

If your regulatory assets under management attributable to separately managed accounts are at least $10 billion, you should complete Question (a). If your regulatory assets under management attributable to separately managed accounts are at least $500 million but less than $10 billion, you should complete Question (b).

(a) In the table below, provide the following information regarding the separately managed accounts you advise. If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise. End of year refers to the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment*. Mid-year is the date six months before the end of year date.

In column 1, indicate the regulatory assets under management attributable to separately managed accounts associated with each level of gross notional exposure. For purposes of this table, the gross notional exposure of an account is the percentage obtained by dividing (i) the sum of (a) the dollar amount of any *borrowings* and (b) the *gross notional value* of all derivatives, by (ii) the regulatory assets under management of the account.

In column 2, provide the dollar amount of *borrowings* for the accounts included in column 1.

In column 3, provide aggregate *gross notional value* of derivatives divided by the aggregate regulatory assets under management of the accounts included in column 1 with respect to each category of derivatives specified in 3(a) through (f).

You may, but are not required to, complete the table with respect to any separately managed account with regulatory assets under management of less than $10,000,000.

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

(i) Mid-Year

Gross Notional Exposure	**(1) Regulatory Assets Under Management**	**(2) *Borrowings***	**(3) Derivative Exposures**					
			(a) *Interest Rate Derivative*	**(b) *Foreign Exchange Derivative***	**(c) *Credit Derivative***	**(d) *Equity Derivative***	**(e) *Commodity Derivative***	**(f) *Other Derivative***
Less than 10%	$ 34,847,722,218	$ 228,660,184	0 %	0 %	0 %	1 %	0 %	0 %
10-149%	$ 0	$ 0	0 %	0 %	0 %	0 %	0 %	0 %
150% or more	$ 0	$ 0	0 %	0 %	0 %	0 %	0 %	0 %

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

(ii) End of Year

Gross Notional Exposure	**(1) Regulatory Assets Under Management**	**(2) *Borrowings***	**(3) Derivative Exposures**					
			(a) *Interest Rate Derivative*	**(b) *Foreign Exchange Derivative***	**(c) *Credit Derivative***	**(d) *Equity Derivative***	**(e) *Commodity Derivative***	**(f) *Other Derivative***
Less than 10%	$ 40,556,568,087	$ 253,190,815	0 %	0 %	0 %	1 %	0 %	0 %
10-149%	$ 0	$ 0	0 %	0 %	0 %	0 %	0 %	0 %
150% or more	$ 0	$ 0	0 %	0 %	0 %	0 %	0 %	0 %

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

(b) In the table below, provide the following information regarding the separately managed accounts you advise as of the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment*. If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise.

In column 1, indicate the regulatory assets under management attributable to separately managed accounts associated with each level of gross notional exposure. For purposes of this table, the gross notional exposure of an account is the percentage obtained by dividing (i) the sum of (a) the dollar amount of any *borrowings* and (b) the *gross notional value* of all derivatives, by (ii) the regulatory assets under management of the account.

In column 2, provide the dollar amount of *borrowings* for the accounts included in column 1.

You may, but are not required to, complete the table with respect to any separately managed accounts with regulatory assets under management of less than $10,000,000.

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

Gross Notional Exposure	**(1) Regulatory Assets Under Management**	**(2) *Borrowings***
Less than 10%	$	$
10-149%	$	$
150% or more	$	$

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

SECTION 5.K.(3) Custodians for Separately Managed Accounts

Complete a separate Schedule D Section 5.K.(3) for each custodian that holds ten percent or more of your aggregate separately managed account regulatory assets under management.

(a) Legal name of custodian:

STATE STREET BANK AND TRUST COMPANY

(b) Primary business name of custodian:

STATE STREE BANK

(c) The location(s) of the custodian's office(s) responsible for *custody* of the assets :

City:	State:	Country:
CENTRAL		Hong Kong

	Yes	No
(d) Is the custodian a *related person* of your firm?	○	●

(e) If the custodian is a broker-dealer, provide its SEC registration number (if any)

\-

(f) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

571474TGEMMWANRLN572

(g) What amount of your regulatory assets under management attributable to separately managed accounts is held at the custodian?

$ 40,141,803,535

Item 6 Other Business Activities

In this Item, we request information about your firm's other business activities.

A. You are actively engaged in business as a (check all that apply):

☐ (1) broker-dealer (registered or unregistered)
☐ (2) registered representative of a broker-dealer
☑ (3) commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
☐ (4) futures commission merchant
☐ (5) real estate broker, dealer, or agent
☐ (6) insurance broker or agent
☐ (7) bank (including a separately identifiable department or division of a bank)
☐ (8) trust company
☐ (9) registered municipal advisor
☐ (10) registered security-based swap dealer
☐ (11) major security-based swap participant
☐ (12) accountant or accounting firm
☐ (13) lawyer or law firm
☐ (14) other financial product salesperson (specify):

If you engage in other business using a name that is different from the names reported in Items 1.A. or 1.B.(1), complete Section 6.A. of Schedule D.

	Yes	No
B. (1) Are you actively engaged in any other business not listed in Item 6.A. (other than giving investment advice)?	●	○
(2) If yes, is this other business your primary business?	●	○

If "yes," describe this other business on Section 6.B.(2) of Schedule D, and if you engage in this business under a different name, provide that name.

	Yes	No
(3) Do you sell products or provide services other than investment advice to your advisory *clients*?	●	○

If "yes," describe this other business on Section 6.B.(3) of Schedule D, and if you engage in this business under a different name, provide that name.

SECTION 6.A. Names of Your Other Businesses

No Information Filed

SECTION 6.B.(2) Description of Primary Business

Describe your primary business (not your investment advisory business):

VGI PROVIDES ITS CLIENTS WITH CORPORATE, MANAGEMENT & ADMINISTRATIVE MUTUAL FUND SERVICES, INCLUDING LEGAL, ACCOUNTING, TRANSFER AGENCY & DISTRIBUTION SERVICES.

If you engage in that business under a different name, provide that name:

SECTION 6.B.(3) Description of Other Products and Services

Describe other products or services you sell to your *client*. You may omit products and services that you listed in Section 6.B.(2) above.
SAME AS 6.B.(2).

If you engage in that business under a different name, provide that name:

Item 7 Financial Industry Affiliations

In this Item, we request information about your financial industry affiliations and activities. This information identifies areas in which conflicts of interest may occur between you and your *clients*.

A. This part of Item 7 requires you to provide information about you and your *related persons*, including foreign affiliates. Your *related persons* are all of your *advisory affiliates* and any *person* that is under common *control* with you.

You have a *related person* that is a (check all that apply):

☑ (1) broker-dealer, municipal securities dealer, or government securities broker or dealer (registered or unregistered)
☑ (2) other investment adviser (including financial planners)
☑ (3) registered municipal advisor
☐ (4) registered security-based swap dealer
☐ (5) major security-based swap participant
☑ (6) commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
☐ (7) futures commission merchant
☑ (8) banking or thrift institution
☑ (9) trust company
☐ (10) accountant or accounting firm
☐ (11) lawyer or law firm
☑ (12) insurance company or agency
☐ (13) pension consultant
☐ (14) real estate broker or dealer
☐ (15) sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
☑ (16) sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Note that Item 7.A. should not be used to disclose that some of your employees perform investment advisory functions or are registered representatives of a broker-dealer. The number of your firm's employees who perform investment advisory functions should be disclosed under Item 5.B.(1). The number of your firm's employees who are registered representatives of a broker-dealer should be disclosed under Item 5.B.(2).

Note that if you are filing an umbrella registration, you should not check Item 7.A.(2) with respect to your relying advisers, and you do not have to complete Section 7.A. in Schedule D for your relying advisers. You should complete a Schedule R for each relying adviser.

For each related person, including foreign affiliates that may not be registered or required to be registered in the United States, complete Section 7.A. of Schedule D.

You do not need to complete Section 7.A. of Schedule D for any related person if: (1) you have no business dealings with the related person in connection with advisory services you provide to your clients; (2) you do not conduct shared operations with the related person; (3) you do not refer clients or business to the related person, and the related person does not refer prospective clients or business to you; (4) you do not share supervised persons or premises with the related person; and (5) you have no reason to believe that your relationship with the related person otherwise creates a conflict of interest with your clients.

You must complete Section 7.A. of Schedule D for each related person acting as qualified custodian in connection with advisory services you provide to your clients (other than any mutual fund transfer agent pursuant to rule 206(4)-2(b)(1)), regardless of whether you have determined the related person to be operationally independent under rule 206(4)-2 of the Advisers Act.

SECTION 7.A. Financial Industry Affiliations

Complete a separate Schedule D Section 7.A. for each *related person* listed in Item 7.A.

1. Legal Name of *Related Person*:
VANGUARD ADVISERS INC

2. Primary Business Name of *Related Person*:
VANGUARD ADVISERS INC

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
801 - 49601

or
Other

4. *Related Person's*
   (a) *CRD* Number (if any):
   106715
   (b) CIK Number(s) (if any):
   No Information Filed

5. *Related Person* is: (check all that apply)
   (a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
   (b) ☑ other investment adviser (including financial planners)
   (c) ☑ registered municipal advisor
   (d) ☐ registered security-based swap dealer
   (e) ☐ major security-based swap participant
   (f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
   (g) ☐ futures commission merchant
   (h) ☐ banking or thrift institution
   (i) ☐ trust company
   (j) ☐ accountant or accounting firm
   (k) ☐ lawyer or law firm
   (l) ☐ insurance company or agency
   (m) ☐ pension consultant
   (n) ☐ real estate broker or dealer
   (o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
   (p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

	Yes	No
6. Do you *control* or are you *controlled* by the *related person*?	●	○
7. Are you and the *related person* under common *control*?	○	●
8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*?	○	●
(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*?	○	○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

	Yes	No
9. (a) If the *related person* is an investment adviser, is it exempt from registration?	○	●

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ?	○	●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.
No Information Filed

11. Do you and the *related person* share any *supervised persons*?	●	○
12. Do you and the *related person* share the same physical location?	●	○

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1. Legal Name of *Related Person*:
   VANGUARD MARKETING CORPORATION

2. Primary Business Name of *Related Person*:
   VANGUARD MARKETING CORPORATION

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
   8 - 21570
   or
   Other

4. *Related Person's*
   (a) *CRD* Number (if any):
   7452

(b) CIK Number(s) (if any):

No Information Filed

5. *Related Person* is: (check all that apply)
   - (a) ☑ broker-dealer, municipal securities dealer, or government securities broker or dealer
   - (b) ☐ other investment adviser (including financial planners)
   - (c) ☐ registered municipal advisor
   - (d) ☐ registered security-based swap dealer
   - (e) ☐ major security-based swap participant
   - (f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
   - (g) ☐ futures commission merchant
   - (h) ☐ banking or thrift institution
   - (i) ☐ trust company
   - (j) ☐ accountant or accounting firm
   - (k) ☐ lawyer or law firm
   - (l) ☐ insurance company or agency
   - (m) ☐ pension consultant
   - (n) ☐ real estate broker or dealer
   - (o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
   - (p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

	Yes	No
6. Do you *control* or are you *controlled* by the *related person*?	●	○
7. Are you and the *related person* under common *control*?	○	●
8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*?	○	●
(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*?	○	○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:

Number and Street 1:　Number and Street 2:

City:　State:　Country:　ZIP+4/Postal Code:

If this address is a private residence, check this box: ☐

	Yes	No
9. (a) If the *related person* is an investment adviser, is it exempt from registration?	○	○
(b) If the answer is yes, under what exemption?		
10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ?	○	●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

No Information Filed

	Yes	No
11. Do you and the *related person* share any *supervised persons*?	●	○
12. Do you and the *related person* share the same physical location?	●	○

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1. Legal Name of *Related Person*:
   VANGUARD FIDUCIARY TRUST COMPANY

2. Primary Business Name of *Related Person*:
   VANGUARD FIDUCIARY TRUST COMPANY

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
   -
   or
   Other
   028-11554

4. *Related Person's*
   (a) *CRD* Number (if any):

   (b) CIK Number(s) (if any):

No Information Filed

5. *Related Person* is: (check all that apply)

(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☐ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☑ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1:
Number and Street 2:
City:
State:
Country:
ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ○ ○

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ○ ●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

No Information Filed

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ● ○

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1. Legal Name of *Related Person*:
VGI INSURANCE, INC.

2. Primary Business Name of *Related Person*:
VGI INSURANCE, INC.

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
-
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):

(b) CIK Number(s) (if any):

No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☐ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)

(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☑ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

	Yes	No
6. Do you *control* or are you *controlled* by the *related person*?	●	○
7. Are you and the *related person* under common *control*?	○	●
8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*?	○	●
(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*?	○	○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

	Yes	No
9. (a) If the *related person* is an investment adviser, is it exempt from registration?	○	○

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ?	○	●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.
No Information Filed

11. Do you and the *related person* share any *supervised persons*?	●	○
12. Do you and the *related person* share the same physical location?	○	●

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1. Legal Name of *Related Person*:
VANGUARD NATIONAL TRUST COMPANY, N.A.

2. Primary Business Name of *Related Person*:
VANGUARD NATIONAL TRUST COMPANY

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
-
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):

(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☐ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☑ banking or thrift institution
(i) ☑ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency

(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:

Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ○ ○

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ○ ●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

No Information Filed

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ● ○

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1. Legal Name of *Related Person*:
VANGUARD GLOBAL ADVISERS, LLC

2. Primary Business Name of *Related Person*:
VANGUARD GLOBAL ADVISERS, LLC

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
801 - 76825
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):
164593
(b) CIK Number(s) (if any):

No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☑ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:

Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ○ ●

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ○ ●

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

No Information Filed

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ● ○

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1. Legal Name of *Related Person*:
VANGUARD ASSET MANAGEMENT, LIMITED

2. Primary Business Name of *Related Person*:
VANGUARD ASSET MANAGEMENT, LIMITED

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
-
or
Other

4. *Related Person's*

(a) *CRD* Number (if any):
282598

(b) CIK Number(s) (if any):

No Information Filed

5. *Related Person* is: (check all that apply)

(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☑ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☐ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required ○ ○

to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*?

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:

Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ● ○

(b) If the answer is yes, under what exemption?
FOREIGN PRIVATE ADVISER EXEMPTION

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

11. Do you and the *related person* share any *supervised persons*? ○ ●

12. Do you and the *related person* share the same physical location? ○ ●

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1. Legal Name of *Related Person*:
VANGUARD INVESTMENTS AUSTRALIA LIMITED

2. Primary Business Name of *Related Person*:
VANGUARD INVESTMENTS AUSTRALIA LIMITED

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
801 - 107761
or
Other

4. *Related Person's*

(a) *CRD* Number (if any):
282933

(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)

(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☑ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☑ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:

Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:

If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ● ○

(b) If the answer is yes, under what exemption?
FOREIGN PRIVATE ADVISER EXEMPTION

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Australia - Australian Securities and Investments Commission

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ○ ●

---

1. Legal Name of *Related Person*:
VANGUARD INVESTMENTS UK, LIMITED

2. Primary Business Name of *Related Person*:
VANGUARD INVESTMENTS UK, LIMITED

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
802 - 108191
or
Other

4. *Related Person's*

(a) *CRD* Number (if any):
283775

(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)

(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☑ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☑ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ● ○

(b) If the answer is yes, under what exemption?

PRIVATE FUND ADVISER

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ○ ●

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1. Legal Name of *Related Person*:
VANGUARD GROUP (IRELAND) LIMITED

2. Primary Business Name of *Related Person*:
VANGUARD GROUP (IRELAND) LIMITED

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
-
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):

(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☐ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☑ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ○ ○

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ○ ●

---

1. Legal Name of *Related Person*:
VANGUARD INVESTMENTS CANADA INC.

2. Primary Business Name of *Related Person*:
VANGUARD INVESTMENTS CANADA INC.

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
802 - 107926
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):
283519
(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☑ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☑ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●
(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○
(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ● ○
(b) If the answer is yes, under what exemption?
PRIVATE FUND ADVISER

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○
(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Canada - Ontario Securities Commission

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ○ ●

---

1. Legal Name of *Related Person*:
VANGUARD INVESTMENTS HONG KONG LIMITED

2. Primary Business Name of *Related Person*:
VANGUARD INVESTMENTS HONG KONG LIMITED

3. *Related Person's* SEC File Number (if any) (e.g., 801-, 8-, 866-, 802-)
-
or
Other

4. *Related Person's*
(a) *CRD* Number (if any):

(b) CIK Number(s) (if any):
No Information Filed

5. *Related Person* is: (check all that apply)
(a) ☐ broker-dealer, municipal securities dealer, or government securities broker or dealer
(b) ☐ other investment adviser (including financial planners)
(c) ☐ registered municipal advisor
(d) ☐ registered security-based swap dealer
(e) ☐ major security-based swap participant
(f) ☐ commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
(g) ☐ futures commission merchant
(h) ☐ banking or thrift institution
(i) ☐ trust company
(j) ☐ accountant or accounting firm
(k) ☐ lawyer or law firm
(l) ☐ insurance company or agency
(m) ☐ pension consultant
(n) ☐ real estate broker or dealer
(o) ☐ sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
(p) ☑ sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

Yes No

6. Do you *control* or are you *controlled* by the *related person*? ● ○

7. Are you and the *related person* under common *control*? ○ ●

8. (a) Does the *related person* act as a qualified custodian for your *clients* in connection with advisory services you provide to *clients*? ○ ●

(b) If you are registering or registered with the SEC and you have answered "yes," to question 8.(a) above, have you overcome the presumption that you are not operationally independent (pursuant to rule 206(4)-2(d)(5)) from the *related person* and thus are not required to obtain a surprise examination for your *clients'* funds or securities that are maintained at the *related person*? ○ ○

(c) If you have answered "yes" to question 8.(a) above, provide the location of the *related person's* office responsible for *custody* of your *clients'* assets:
Number and Street 1: Number and Street 2:
City: State: Country: ZIP+4/Postal Code:
If this address is a private residence, check this box: ☐

Yes No

9. (a) If the *related person* is an investment adviser, is it exempt from registration? ○ ○

(b) If the answer is yes, under what exemption?

10. (a) Is the *related person* registered with a *foreign financial regulatory authority* ? ● ○

(b) If the answer is yes, list the name and country, in English of each *foreign financial regulatory authority* with which the *related person* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Hong Kong - Securities and Futures Commission

11. Do you and the *related person* share any *supervised persons*? ● ○

12. Do you and the *related person* share the same physical location? ○ ●

Item 7 *Private Fund* Reporting

	Yes	No
B. Are you an adviser to any *private fund*?	●	○

If "yes," then for each private fund that you advise, you must complete a Section 7.B.(1) of Schedule D, except in certain circumstances described in the next sentence and in Instruction 6 of the Instructions to Part 1A. If you are registered or applying for registration with the SEC or reporting as an SEC exempt reporting adviser, and another SEC-registered adviser or SEC exempt reporting adviser reports this information with respect to any such private fund in Section 7.B.(1) of Schedule D of its Form ADV (e.g., if you are a subadviser), do not complete Section 7.B.(1) of Schedule D with respect to that private fund. You must, instead, complete Section 7.B.(2) of Schedule D.

In either case, if you seek to preserve the anonymity of a private fund client by maintaining its identity in your books and records in numerical or alphabetical code, or similar designation, pursuant to rule 204-2(d), you may identify the private fund in Section 7.B.(1) or 7.B.(2) of Schedule D using the same code or designation in place of the fund's name.

SECTION 7.B.(1) *Private Fund* Reporting

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
ASF PRIVATE FUND
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-9892811178

2. Under the laws of what state or country is the *private fund* organized:
State:
Country:
Cayman Islands

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VGMF I (CAYMAN) LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Other - CAYMAN ISLANDS REGISTRAR OF TRUSTS

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?
Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

● hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ○ Other *private fund*:

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 18,194,023

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 1

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

1

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

100%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

0%

Your Advisory Services

	Yes	No
17. (a) Are you a subadviser to this *private fund*?	○	●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

1%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ○ ●

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

No Information Filed

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ○ ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

○ Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:

BROWN BROTHERS HARRIMAN & CO

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN & CO

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
NEW YORK	New York	United States

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ○ ●

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

No Information Filed

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

0%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
MPF PRIVATE FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)
805-4963110572

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Cayman Islands

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VGMF I (CAYMAN) LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Other - CAYMAN ISLANDS REGISTRAR OF TRUSTS

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

● hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ○ Other *private fund*:

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 100,874,213

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 1

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

1

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

100%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

100%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

0%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

1%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ○ ●

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

No Information Filed

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ○ ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

○ Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24\. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25\. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN & CO

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN & CO

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
NEW YORK	New York	United States

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26\. (a) Does the *private fund* use an administrator other than your firm? ○ ●

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

No Information Filed

27\. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

0%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD 20+ EURO TREASURY INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-3049683562

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 632,492,958

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 500,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
25

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

24. (a) Does the *private fund* use one or more prime brokers? Yes ○ No ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? Yes ● No ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(e) Is the custodian a *related person* of your firm? Yes ○ No ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

26. (a) Does the *private fund* use an administrator other than your firm? Yes ● No ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD EMERGING MARKETS STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-1008263004

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 10,740,850,371

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

811

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

3%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? Yes ○ No ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD EURO GOVERNMENT BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-3887364091

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 5,792,491,361

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

    273

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

    1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

    5%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

    99%

Your Advisory Services

	Yes	No
17. (a) Are you a subadviser to this *private fund*?	○	●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

	Yes	No
18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*?	●	○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

	Yes	No
19. Are your *clients* solicited to invest in the *private fund*?	○	●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

    0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity* *identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD EUROPEAN STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-8868733226

2. Under the laws of what state or country is the *private fund* organized:

State: Country:

Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 5,395,880,554

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

381

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(e) Is the custodian a *related person* of your firm? Yes ○ No ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):

-

CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

26. (a) Does the *private fund* use an administrator other than your firm? Yes ● No ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRAITON SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? Yes ○ No ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD EUROZONE STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-6072356426

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 2,109,799,884

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

132

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?
100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD FTSE DEVELOPED EUROPE EX-UK EQUITY INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-2145318378

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 2,126,321,887

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

281

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

24%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNAITONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD FTSE DEVELOPED WORLD EX-UK EQUITY INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-6256932420

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 5,380,108,009

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

349

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

43%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD FTSE GLOBAL ALL CAP INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-7238775015

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*:
POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 54,932,979

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

35

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-

CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ● ○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):
No Information Filed

A. PRIVATE FUND

<u>Information About the *Private Fund*</u>

1. (a) Name of the *private fund*:
VANGUARD FTSE UK ALL SHARE INDEX UNIT TRUST
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-6850163127

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

		Yes	No
6.	(a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

		Yes	No
8.	(a) Is this *private fund* a "fund of funds"?	○	●
	NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
	(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

		Yes	No
9.	During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*:
POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 10,204,940,602

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
493

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
18%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):
No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
VANGUARD FTSE UK EQUITY INCOME INDEX FUND
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-7627491853

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.
No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?
No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?
Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 1,588,917,505

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

288

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL BALANCED FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-6531915726

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 67,405,697

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

24

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

33%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

67%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
WELLINGTON MANAGEMENT COMPANY LLP	801-15908	106595

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City: State: Country:
ESSEX United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City: State: Country:
LONDON United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-8406017077

2. Under the laws of what state or country is the *private fund* organized:

State:	Country: Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

		Yes	**No**
6.	(a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	**No**
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

		Yes	**No**
8.	(a) Is this *private fund* a "fund of funds"?	○	●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

	Yes	**No**
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 15,666,485,954

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

358

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

1%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598
VANGUARD INVESTMENTS AUSTRALIA LIMITED		282933

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL CORPORATE BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-2609083679

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 456,649,102

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

12

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
\-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not

your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL CREDIT BOND FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-1119022813

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 80,851,975

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 100,000
NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
22

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
82%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
0%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
18%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

		Yes	No
24. (a)	Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

		Yes	No
25. (a)	Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

		Yes	No
(e)	Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

		Yes	No
26. (a)	Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City: State: Country:

DUBLIN Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL EMERGING MARKETS FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-4297146126

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 43,638,174

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

32

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

73%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

27%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
BAILLIE GIFFORD OVERSEAS LTD	801-21051	110296
OAKTREE CAPITAL MANAGEMENT, L.P.	801-48923	106793
PZENA INVESTMENT MANAGEMENT LLC	801-50838	106847

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):
No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
VANGUARD GLOBAL EQUITY FUND
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-3656756397

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.
No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?
No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?
Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 32,619,427

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

21

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

56%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

46%

Your Advisory Services

	Yes	No
17. (a) Are you a subadviser to this *private fund*?	○	●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
BAILLIE GIFFORD OVERSEAS LTD	801-21051	110296
WELLINGTON MANAGEMENT COMPANY LLP	801-15908	106595

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(f) Does the marketer market the *private fund* through one or more websites? ○ ●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL EQUITY INCOME FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-4883701155

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 28,637,801

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

28

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

79%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

21%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
WELLINGTON MANAGEMENT COMPANY LLP	801-15908	106595

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
BASILDON		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ● ○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

Yes No

(b) Is the marketer a *related person* of your firm? ● ○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(f) Does the marketer market the *private fund* through one or more websites? ○ ●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL SHORT TERM BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)
805-4191096117

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	**No**
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	**No**
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	**No**
8. (a) Is this *private fund* a "fund of funds"?	○	●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*:
UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 2,314,123,849

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
315

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?
0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

		Yes	No
23. (a)	(1) Are the *private fund's* financial statements subject to an annual audit?	●	○
	(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

		Yes	No
(d)	Is the auditing firm an *independent public accountant*?	●	○
(e)	Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●
	If yes, Public Company Accounting Oversight Board-Assigned Number:		
(f)	If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

		Yes	No
(g)	Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

		Yes	No
24. (a)	Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

		Yes	No
25. (a)	Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL SHORT-TERM CORPORATE BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-7573479699

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 153,285,558

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

2

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

	Yes	No
(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?
100%
Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any

relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL SMALL CAP INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-1389914252

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:

(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 1,454,661,977

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
425

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
0%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
99%

Your Advisory Services

	Yes	No
17. (a) Are you a subadviser to this *private fund*?	○	●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD GLOBAL STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-8738383876

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 11,103,131,463

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

667

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD JAPAN GOVERNMENT BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-5514262679

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 1,277,031,152

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

42

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD INVESTMENTS AUSTRALIA LIMITED		282933

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-

CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity* *identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD JAPAN STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-6144906727

2. Under the laws of what state or country is the *private fund* organized:

State: Country:

Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
BURTON G MALKIEL
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
WILLIAM M MCCANN

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 4,202,503,775

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

457

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

1%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City: DUBLIN
State:
Country: Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):

-

CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City: DUBLIN
State:
Country: Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD PACIFIC EX-JAPAN STOCK INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-9666881662

2. Under the laws of what state or country is the *private fund* organized:

State:	Country: Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 3,371,388,103

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

351

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

2%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(e) Is the custodian a *related person* of your firm? Yes ○ No ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

26. (a) Does the *private fund* use an administrator other than your firm? Yes ● No ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? Yes ○ No ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD SRI EURO INVESTMENT GRADE BOND FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-3345755356

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 166,617,540

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

4

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

	Yes	No
19. Are your *clients* solicited to invest in the *private fund*? *NOTE: For purposes of this question, do not consider feeder funds of the private fund.*	○	●

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

	Yes	No
21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933?	○	●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

	Yes	No
23. (a) (1) Are the *private fund's* financial statements subject to an annual audit?	●	○
(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP?	○	●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

	Yes	No
(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

		Yes	No
25. (a)	Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

		Yes	No
26. (a)	Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD SRI EUROPEAN STOCK FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-1831597482

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 707,868,720

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

136

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* ● ○

investors?

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

		Yes	No
24. (a)	Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

		Yes	No
25. (a)	Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

		Yes	No
(e)	Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

		Yes	No
26. (a)	Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD SRI GLOBAL STOCK FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-3870994200

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 669,102,881

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

205

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?
100%
Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
VANGUARD TARGET RETIREMENT 2060 FUND
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-4738794099

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
   - ☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
   - ☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	●	○
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	●	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 40,511

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
1

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
100%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
0%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?
0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:
PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(d) Is the auditing firm an *independent public accountant*?	●	○
(e) Is the auditing firm registered with the Public Company Accounting Oversight Board?	○	●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules?	○	○

	Yes	No
(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors?	●	○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	●	○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

	Yes	No
(b) Is the marketer a *related person* of your firm?	●	○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):
No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
VANGUARD TARGET RETIREMENT 2065 FUND
(b) *Private fund* identification number:
(include the "805-" prefix also)
805-1727743684

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):
☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940
☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ● ○

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ● ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 24,375

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

1

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

100%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

0%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):

-

CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ● ○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

Yes No

(b) Is the marketer a *related person* of your firm? ● ○

(c) Name of the marketer:

VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):

282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD UK GOVERNMENT BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-3472678319

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 2,987,530,823

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 200,000,000
NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
287

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
26%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD UK INFLATION-LINKED GILT INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-5736385480

2. Under the laws of what state or country is the *private fund* organized:

State:
Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 1,674,596,861

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
244

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
27%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

		Yes	No
24. (a)	Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

		Yes	No
25. (a)	Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

		Yes	No
(e)	Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

		Yes	No
26. (a)	Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
ESSEX		United Kingdom

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? Yes ● No ○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

(b) Is the marketer a *related person* of your firm? Yes ● No ○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):

801 - 107653

and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:
VANGUARD UK INVESTMENT GRADE BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)
805-2077737256

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:

(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:
$ 3,612,768,521

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:
$ 200,000,000
NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:
285

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:
1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:
13%

	Yes	No
(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*?	○	○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:
99%

Your Advisory Services

	Yes	No
17. (a) Are you a subadviser to this *private fund*?	○	●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	SEC file number	CRD number
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

24. (a) Does the *private fund* use one or more prime brokers? Yes ○ No ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? Yes ● No ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(e) Is the custodian a *related person* of your firm? Yes ○ No ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

26. (a) Does the *private fund* use an administrator other than your firm? Yes ● No ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD UK LONG DURATION GILT INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-8999352793

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
United Kingdom

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
VANGUARD INVESTMENTS UK, LIMITED

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
United Kingdom - Financial Conduct Authority

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: POOLED FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 432,062,583

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 100,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

150

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED	801-107653	282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS LLC

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

	Yes	No
24. (a) Does the *private fund* use one or more prime brokers?	○	●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

	Yes	No
25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets?	●	○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
STATE STREET TRUSTEES LIMITED

(c) Primary business name of custodian:
STATE STREET TRUSTEES LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
EDINBURGH		United Kingdom

	Yes	No
(e) Is the custodian a *related person* of your firm?	○	●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

	Yes	No
26. (a) Does the *private fund* use an administrator other than your firm?	●	○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 2 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES EUROPE LIMITED

(c) Location of administrator (city, state and country):

City: State: Country:
ESSEX United Kingdom

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
DST FINANCIAL SERVICES INTERNATIONAL LIMITED

(c) Location of administrator (city, state and country):
City: State: Country:
ESSEX United Kingdom

(d) Is the administrator a *related person* of your firm? Yes ○ No ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?
100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? Yes ● No ○

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

Additional Marketer Information : 1 Record(s) Filed.

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer, you must complete questions (b) through (g) separately for each marketer.

(b) Is the marketer a *related person* of your firm? Yes ● No ○

(c) Name of the marketer:
VANGUARD ASSET MANAGEMENT, LIMITED

(d) If the marketer is registered with the SEC, its file number (*e.g.*, 801-, 8-, or 866-):
801 - 107653
and CRD Number (if any):
282598

(e) Location of the marketer's office used principally by the *private fund* (city, state and country):

City:	State:	Country:
LONDON		United Kingdom

	Yes	No
(f) Does the marketer market the *private fund* through one or more websites?	○	●

(g) If the answer to question 28.(f) is "yes," list the website address(es):

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD UK SHORT-TERM INVESTMENT GRADE BOND FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-4483268449

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 1,950,008,461

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

217

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

0%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ● ○

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

Name of Other Adviser to *private fund*	**SEC file number**	**CRD number**
VANGUARD ASSET MANAGEMENT, LIMITED		282598

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:
BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?
● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD US GOVERNMENT BOND INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-6577999498

2. Under the laws of what state or country is the *private fund* organized:

State:

Country:
Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

Yes No

6. (a) Is this a "master fund" in a master-feeder arrangement? ○ ●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

Yes No

(c) Is this a "feeder fund" in a master-feeder arrangement? ○ ●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Yes No

8. (a) Is this *private fund* a "fund of funds"? ○ ●

NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.

(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*? ○ ○

Yes No

9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)? ○ ●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*:
UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 1,787,888,536

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

280

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

10%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

	Yes	No
(d) Is the administrator a *related person* of your firm?	○	●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

	Yes	No
28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes?	○	●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

A. PRIVATE FUND

Information About the *Private Fund*

1. (a) Name of the *private fund*:

VANGUARD US INVESTMENT GRADE CREDIT INDEX FUND

(b) *Private fund* identification number:
(include the "805-" prefix also)

805-2274270124

2. Under the laws of what state or country is the *private fund* organized:

State:	Country:
	Ireland

3. (a) Name(s) of General Partner, Manager, Trustee, or Directors (or *persons* serving in a similar capacity):

Name of General Partner, Manager, Trustee, or Director
AXEL LOMHOLT
JAMES M NORRIS
MICHAEL S MILLER
PETER BLESSING
TARA DOYLE
VANGUARD GROUP (IRELAND) LIMITED
WILLIAM SLATTERY

(b) If filing an *umbrella registration*, identify the *filing adviser* and/or *relying adviser(s)* that sponsor(s) or manage(s) this *private fund*.

No Information Filed

4. The *private fund* (check all that apply; you must check at least one):

☐ (1) qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940

☑ (2) qualifies for the exclusion from the definition of investment company under section 3(c)(7) of the Investment Company Act of 1940

5. List the name and country, in English, of each *foreign financial regulatory authority* with which the *private fund* is registered.

Name of Country/English Name of *Foreign Financial Regulatory Authority*
Ireland - Central Bank of Ireland

	Yes	No
6. (a) Is this a "master fund" in a master-feeder arrangement?	○	●

(b) If yes, what is the name and *private fund* identification number (if any) of the feeder funds investing in this *private fund*?

No Information Filed

	Yes	No
(c) Is this a "feeder fund" in a master-feeder arrangement?	○	●

(d) If yes, what is the name and *private fund* identification number (if any) of the master fund in which this *private fund* invests?

Name of *private fund*:

Private fund identification number:
(include the "805-" prefix also)

NOTE: You must complete question 6 for each master-feeder arrangement regardless of whether you are filing a single Schedule D, Section 7.B.(1) for the master-feeder arrangement or reporting on the funds separately.

7. If you are filing a single Schedule D, Section 7.B.(1) for a master-feeder arrangement according to the instructions to this Section 7.B.(1), for each of the feeder funds answer the following questions:

No Information Filed

NOTE: For purposes of questions 6 and 7, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

	Yes	No
8. (a) Is this *private fund* a "fund of funds"?	○	●
NOTE: For purposes of this question only, answer "yes" if the fund invests 10 percent or more of its total assets in other pooled investment vehicles, regardless of whether they are also *private funds* or registered investment companies.		
(b) If yes, does the *private fund* invest in funds managed by you or by a *related person*?	○	○

	Yes	No
9. During your last fiscal year, did the *private fund* invest in securities issued by investment companies registered under the Investment Company Act of 1940 (other than "money market funds," to the extent provided in Instruction 6.e.)?	○	●

10. What type of fund is the *private fund*?

○ hedge fund ○ liquidity fund ○ private equity fund ○ real estate fund ○ securitized asset fund ○ venture capital fund ● Other *private fund*: UCITS FUND

NOTE: For definitions of these fund types, please see Instruction 6 of the Instructions to Part 1A.

11. Current gross asset value of the *private fund*:

$ 1,999,827,533

Ownership

12. Minimum investment commitment required of an investor in the *private fund*:

$ 200,000,000

NOTE: Report the amount routinely required of investors who are not your *related persons* (even if different from the amount set forth in the organizational documents of the fund).

13. Approximate number of the *private fund's* beneficial owners:

196

14. What is the approximate percentage of the *private fund* beneficially owned by you and your *related persons*:

1%

15. (a) What is the approximate percentage of the *private fund* beneficially owned (in the aggregate) by funds of funds:

11%

Yes No

(b) If the private fund qualifies for the exclusion from the definition of investment company under section 3(c)(1) of the Investment Company Act of 1940, are sales of the fund limited to *qualified clients*? ○ ○

16. What is the approximate percentage of the *private fund* beneficially owned by non-*United States persons*:

99%

Your Advisory Services

Yes No

17. (a) Are you a subadviser to this *private fund*? ○ ●

(b) If the answer to question 17.(a) is "yes," provide the name and SEC file number, if any, of the adviser of the *private fund*. If the answer to question 17.(a) is "no," leave this question blank.

No Information Filed

Yes No

18. (a) Do any investment advisers (other than the investment advisers listed in Section 7.B.(1).A.3.(b)) advise the *private fund*? ○ ●

(b) If the answer to question 18.(a) is "yes," provide the name and SEC file number, if any, of the other advisers to the *private fund*. If the answer to question 18.(a) is "no," leave this question blank.

No Information Filed

Yes No

19. Are your *clients* solicited to invest in the *private fund*? ○ ●

NOTE: For purposes of this question, do not consider feeder funds of the private fund.

20. Approximately what percentage of your *clients* has invested in the *private fund*?

0%

Private Offering

Yes No

21. Has the *private fund* ever relied on an exemption from registration of its securities under Regulation D of the Securities Act of 1933? ○ ●

22. If yes, provide the *private fund's* Form D file number (if any):

No Information Filed

B. SERVICE PROVIDERS

Auditors

Yes No

23. (a) (1) Are the *private fund's* financial statements subject to an annual audit? ● ○

(2) If the answer to question 23.(a)(1) is "yes," are the financial statements prepared in accordance with U.S. GAAP? ○ ●

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

Additional Auditor Information : 1 Record(s) Filed.

If the answer to question 23.(a)(1) is "yes," respond to questions (b) through (h) below. If the *private fund* uses more than one auditing firm, you must complete questions (b) through (f) separately for each auditing firm.

(b) Name of the auditing firm:

PRICEWATERHOUSECOOPERS

(c) The location of the auditing firm's office responsible for the *private fund's* audit (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the auditing firm an *independent public accountant*? ● ○

(e) Is the auditing firm registered with the Public Company Accounting Oversight Board? ○ ●

If yes, Public Company Accounting Oversight Board-Assigned Number:

(f) If "yes" to (e) above, is the auditing firm subject to regular inspection by the Public Company Accounting Oversight Board in accordance with its rules? ○ ○

Yes No

(g) Are the *private fund's* audited financial statements for the most recently completed fiscal year distributed to the *private fund's* investors? ● ○

(h) Do all of the reports prepared by the auditing firm for the *private fund* since your last *annual updating amendment* contain unqualified opinions?

● Yes ○ No ○ Report Not Yet Received

If you check "Report Not Yet Received," you must promptly file an amendment to your Form ADV to update your response when the report is available.

Prime Broker

Yes No

24. (a) Does the *private fund* use one or more prime brokers? ○ ●

If the answer to question 24.(a) is "yes," respond to questions (b) through (e) below for each prime broker the *private fund* uses. If the *private fund* uses more than one prime broker, you must complete questions (b) through (e) separately for each prime broker.

No Information Filed

Custodian

Yes No

25. (a) Does the *private fund* use any custodians (including the prime brokers listed above) to hold some or all of its assets? ● ○

If the answer to question 25.(a) is "yes," respond to questions (b) through (g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

Additional Custodian Information : 1 Record(s) Filed.

If the answer to question 25.(a) is "yes," respond to questions (b) through g) below for each custodian the *private fund* uses. If the *private fund* uses more than one custodian, you must complete questions (b) through (g) separately for each custodian.

(b) Legal name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(c) Primary business name of custodian:
BROWN BROTHERS HARRIMAN TRUSTEE SERVICES (IRELAND) LIMITED

(d) The location of the custodian's office responsible for *custody* of the *private fund's* assets (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(e) Is the custodian a *related person* of your firm? ○ ●

(f) If the custodian is a broker-dealer, provide its SEC registration number (if any):
-
CRD Number (if any):

(g) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

Administrator

Yes No

26. (a) Does the *private fund* use an administrator other than your firm? ● ○

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

Additional Administrator Information : 1 Record(s) Filed.

If the answer to question 26.(a) is "yes," respond to questions (b) through (f) below. If the *private fund* uses more than one administrator, you must complete questions (b) through (f) separately for each administrator.

(b) Name of administrator:

BROWN BROTHERS HARRIMAN ADMINISTRATION SERVICES (IRELAND) LIMITED

(c) Location of administrator (city, state and country):

City:	State:	Country:
DUBLIN		Ireland

Yes No

(d) Is the administrator a *related person* of your firm? ○ ●

(e) Does the administrator prepare and send investor account statements to the *private fund's* investors?

● Yes (provided to all investors) ○ Some (provided to some but not all investors) ○ No (provided to no investors)

(f) If the answer to question 26.(e) is "no" or "some," who sends the investor account statements to the (rest of the) *private fund's* investors? If investor account statements are not sent to the (rest of the) *private fund's* investors, respond "not applicable."

27. During your last fiscal year, what percentage of the *private fund's* assets (by value) was valued by a *person*, such as an administrator, that is not your *related person*?

100%

Include only those assets where (i) such *person* carried out the valuation procedure established for that asset, if any, including obtaining any relevant quotes, and (ii) the valuation used for purposes of investor subscriptions, redemptions or distributions, and fee calculations (including allocations) was the valuation determined by such *person*.

Marketers

Yes No

28. (a) Does the *private fund* use the services of someone other than you or your *employees* for marketing purposes? ○ ●

You must answer "yes" whether the *person* acts as a placement agent, consultant, finder, introducer, municipal advisor or other solicitor, or similar *person*. If the answer to question 28.(a) is "yes," respond to questions (b) through (g) below for each such marketer the *private fund* uses. If the *private fund* uses more than one marketer you must complete questions (b) through (g) separately for each marketer.

No Information Filed

SECTION 7.B.(2) *Private Fund* Reporting

1. Name of the *private fund*:
   VANGUARD DEVELOPED ALL-CAP EX NORTH AMERICA EQUITY INDEX POOLED FUND

2. *Private fund* identification number:
   (include the "805-" prefix also)
   805-9057962151

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing
   Name:
   VANGUARD INVESTMENTS CANADA INC.
   SEC File Number:
   802 - 107926

	Yes	No
4. Are your *clients* solicited to invest in this *private fund*?	○	●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:
   VANGUARD GLOBAL ALL-CAP EX CANADA EQUITY INDEX POOLED FUND

2. *Private fund* identification number:
   (include the "805-" prefix also)
   805-6410978692

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing
   Name:
   VANGUARD INVESTMENTS CANADA INC.
   SEC File Number:
   802 - 107926

	Yes	No
4. Are your *clients* solicited to invest in this *private fund*?	○	●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:
   VANGUARD GLOBAL EX-CANADA FIXED INCOME INDEX POOLED FUND (CAD-HEDGED)

2. *Private fund* identification number:
   (include the "805-" prefix also)
   805-1468327154

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing
   Name:
   VANGUARD INVESTMENTS CANADA INC.
   SEC File Number:
   802 - 107926

Yes No

4. Are your *clients* solicited to invest in this *private fund*? ○ ●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:

VANGUARD GLOBAL LIQUIDITY FACTOR ETF

2. *Private fund* identification number:
(include the "805-" prefix also)

805-6286382296

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing

Name:

VANGUARD INVESTMENTS CANADA INC.

SEC File Number:

802 - 107926

Yes No

4. Are your *clients* solicited to invest in this *private fund*? ○ ●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:

VANGUARD GLOBAL MOMENTUM FACTOR ETF

2. *Private fund* identification number:
(include the "805-" prefix also)

805-7115780130

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing

Name:

VANGUARD INVESTMENTS CANADA INC.

SEC File Number:

802 - 107926

Yes No

4. Are your *clients* solicited to invest in this *private fund*? ○ ●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:

VANGUARD SHORT-TERM INVESTMENT POOLED FUND

2. *Private fund* identification number:
(include the "805-" prefix also)

805-3070634952

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing

Name:

VANGUARD INVESTMENTS CANADA INC.

SEC File Number:

802 - 107926

Yes No

4. Are your *clients* solicited to invest in this *private fund*? ○ ●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

1. Name of the *private fund*:

VANGUARD TARGET RETIREMENT 2015 POOLED FUND

2. *Private fund* identification number:
(include the "805-" prefix also)

805-5914296358

3. Name and SEC File number of adviser that provides information about this *private fund* in Section 7.B.(1) of Schedule D of its Form ADV filing

Name:

VANGUARD INVESTMENTS CANADA INC.

SEC File Number:

802 - 107926

Yes No

4. Are your *clients* solicited to invest in this *private fund*? ○ ●

In answering this question, disregard feeder funds' investment in a master fund. For purposes of this question, in a master-feeder arrangement, one or more funds ("feeder funds") invest all or substantially all of their assets in a single fund ("master fund"). A fund would also be a "feeder fund" investing in a "master fund" for purposes of this question if it issued multiple classes (or series) of shares or interests, and each class (or series) invests substantially all of its assets in a single master fund.

Item 8 Participation or Interest in *Client* Transactions

In this Item, we request information about your participation and interest in your *clients*' transactions. This information identifies additional areas in which conflicts of interest may occur between you and your *clients*. Newly-formed advisers should base responses to these questions on the types of participation and interest that you expect to engage in during the next year.

Like Item 7, Item 8 requires you to provide information about you and your *related persons*, including foreign affiliates.

Proprietary Interest in *Client* Transactions

A. Do you or any *related person*: **Yes No**

(1) buy securities for yourself from advisory *clients*, or sell securities you own to advisory *clients* (principal transactions)? ○ ●

(2) buy or sell for yourself securities (other than shares of mutual funds) that you also recommend to advisory *clients*? ○ ●

(3) recommend securities (or other investment products) to advisory *clients* in which you or any *related person* has some other proprietary (ownership) interest (other than those mentioned in Items 8.A.(1) or (2))? ○ ●

Sales Interest in *Client* Transactions

B. Do you or any *related person*: **Yes No**

(1) as a broker-dealer or registered representative of a broker-dealer, execute securities trades for brokerage customers in which advisory *client* securities are sold to or bought from the brokerage customer (agency cross transactions)? ○ ●

(2) recommend to advisory *clients*, or act as a purchaser representative for advisory *clients* with respect to, the purchase of securities for which you or any *related person* serves as underwriter or general or managing partner? ● ○

(3) recommend purchase or sale of securities to advisory *clients* for which you or any *related person* has any other sales interest (other than the receipt of sales commissions as a broker or registered representative of a broker-dealer)? ● ○

Investment or Brokerage Discretion

C. Do you or any *related person* have *discretionary authority* to determine the: **Yes No**

(1) securities to be bought or sold for a *client's* account? ● ○

(2) amount of securities to be bought or sold for a *client's* account? ● ○

(3) broker or dealer to be used for a purchase or sale of securities for a *client's* account? ● ○

(4) commission rates to be paid to a broker or dealer for a *client's* securities transactions? ● ○

D. If you answer "yes" to C.(3) above, are any of the brokers or dealers *related persons*? ● ○

E. Do you or any *related person* recommend brokers or dealers to *clients*? ● ○

F. If you answer "yes" to E. above, are any of the brokers or dealers *related persons*? ● ○

G. (1) Do you or any *related person* receive research or other products or services other than execution from a broker-dealer or a third party ("soft dollar benefits") in connection with *client* securities transactions? ● ○

(2) If "yes" to G.(1) above, are all the "soft dollar benefits" you or any *related persons* receive eligible "research or brokerage services" under section 28(e) of the Securities Exchange Act of 1934? ● ○

H. (1) Do you or any *related person*, directly or indirectly, compensate any *person* that is not an *employee* for *client* referrals? ○ ●

(2) Do you or any *related person*, directly or indirectly, provide any *employee* compensation that is specifically related to obtaining *clients* for the firm (cash or non-cash compensation in addition to the *employee's* regular salary)? ● ○

I. Do you or any *related person*, including any *employee*, directly or indirectly, receive compensation from any *person* (other than you or any *related person*) for *client* referrals? ○ ●

In your response to Item 8.I., do not include the regular salary you pay to an employee.

In responding to Items 8.H. and 8.I., consider all cash and non-cash compensation that you or a related person gave to (in answering Item 8.H.) or received from (in answering Item 8.I.) any person in exchange for client referrals, including any bonus that is based, at least in part, on the number or amount of client referrals.

Item 9 Custody

In this Item, we ask you whether you or a *related person* has *custody* of *client* (other than *clients* that are investment companies registered under the Investment Company Act of 1940) assets and about your custodial practices.

A. (1) Do you have *custody* of any advisory *clients'*: **Yes No**

(a) cash or bank accounts? ○ ●

(b) securities? ○ ●

If you are registering or registered with the SEC, answer "No" to Item 9.A.(1)(a) and (b) if you have custody solely because (i) you deduct your advisory fees directly from your clients' accounts, or (ii) a related person has custody of client assets in connection with advisory services you provide to clients, but you have overcome the presumption that you are not operationally independent (pursuant to Advisers Act rule 206(4)-2(d)(5)) from the related person.

(2) If you checked "yes" to Item 9.A.(1)(a) or (b), what is the approximate amount of *client* funds and securities and total number of *clients* for which you have *custody*:

U.S. Dollar Amount	Total Number of *Clients*
(a) $	(b)

If you are registering or registered with the SEC and you have custody solely because you deduct your advisory fees directly from your clients' accounts, do not include the amount of those assets and the number of those clients in your response to Item 9.A.(2). If your related person has custody of client assets in connection with advisory services you provide to clients, do not include the amount of those assets and number of those clients in your response to 9.A.(2). Instead, include that information in your response to Item 9.B.(2).

B. (1) In connection with advisory services you provide to *clients*, do any of your *related persons* have *custody* of any of your advisory *clients'*: **Yes No**

(a) cash or bank accounts? ○ ●

(b) securities? ○ ●

You are required to answer this item regardless of how you answered Item 9.A.(1)(a) or (b).

(2) If you checked "yes" to Item 9.B.(1)(a) or (b), what is the approximate amount of *client* funds and securities and total number of *clients* for which your *related persons* have *custody*:

U.S. Dollar Amount	Total Number of *Clients*
(a) $	(b)

C. If you or your *related persons* have *custody* of *client* funds or securities in connection with advisory services you provide to *clients*, check all the following that apply:

(1) A qualified custodian(s) sends account statements at least quarterly to the investors in the pooled investment vehicle(s) you manage. ☐

(2) An *independent public accountant* audits annually the pooled investment vehicle(s) that you manage and the audited financial statements ☐

are distributed to the investors in the pools.

(3) An *independent public accountant* conducts an annual surprise examination of *client* funds and securities. ☐

(4) An *independent public accountant* prepares an internal control report with respect to custodial services when you or your *related persons* are qualified custodians for *client* funds and securities. ☐

If you checked Item 9.C.(2), C.(3) or C.(4), list in Section 9.C. of Schedule D the accountants that are engaged to perform the audit or examination or prepare an internal control report. (If you checked Item 9.C.(2), you do not have to list auditor information in Section 9.C. of Schedule D if you already provided this information with respect to the private funds you advise in Section 7.B.(1) of Schedule D).

D. Do you or your *related person(s)* act as qualified custodians for your *clients* in connection with advisory services you provide to *clients*? **Yes No**

(1) you act as a qualified custodian ○ ●

(2) your *related person(s)* act as qualified custodian(s) ○ ●

If you checked "yes" to Item 9.D.(2), all related persons that act as qualified custodians (other than any mutual fund transfer agent pursuant to rule 206(4)-2(b)(1)) must be identified in Section 7.A. of Schedule D, regardless of whether you have determined the related person to be operationally independent under rule 206(4)-2 of the Advisers Act.

E. If you are filing your *annual updating amendment* and you were subject to a surprise examination by an *independent public accountant* during your last fiscal year, provide the date (MM/YYYY) the examination commenced:

F. If you or your *related persons* have *custody* of *client* funds or securities, how many *persons*, including, but not limited to, you and your *related persons,* act as qualified custodians for your *clients* in connection with advisory services you provide to *clients?*

SECTION 9.C. *Independent Public Accountant*

No Information Filed

Item 10 Control Persons

In this Item, we ask you to identify every *person* that, directly or indirectly, *controls* you. If you are filing an *umbrella registration*, the information in Item 10 should be provided for the *filing adviser* only.

If you are submitting an initial application or report, you must complete Schedule A and Schedule B. Schedule A asks for information about your direct owners and executive officers. Schedule B asks for information about your indirect owners. If this is an amendment and you are updating information you reported on either Schedule A or Schedule B (or both) that you filed with your initial application or report, you must complete Schedule C.

Yes No

A. Does any *person* not named in Item 1.A. or Schedules A, B, or C, directly or indirectly, *control* your management or policies? ○ ●

If yes, complete Section 10.A. of Schedule D.

B. If any *person* named in Schedules A, B, or C or in Section 10.A. of Schedule D is a public reporting company under Sections 12 or 15(d) of the Securities Exchange Act of 1934, please complete Section 10.B. of Schedule D.

SECTION 10.A. *Control Persons*

No Information Filed

SECTION 10.B. *Control Person* Public Reporting Companies

No Information Filed

Item 11 Disclosure Information

In this Item, we ask for information about your disciplinary history and the disciplinary history of all your *advisory affiliates*. We use this information to determine whether to grant your application for registration, to decide whether to revoke your registration or to place limitations on your activities as an investment adviser, and to identify potential problem areas to focus on during our on-site examinations. One event may result in "yes" answers to more than one of the questions below. In accordance with General Instruction 5 to Form ADV, "you" and "your" include the *filing adviser* and all *relying advisers* under an *umbrella registration*.

Your *advisory affiliates* are: (1) all of your current *employees* (other than *employees* performing only clerical, administrative, support or similar functions); (2) all of your officers, partners, or directors (or any *person* performing similar functions); and (3) all *persons* directly or indirectly *controlling* you or *controlled* by you. If you are a "separately identifiable department or division" (SID) of a bank, see the Glossary of Terms to determine who your *advisory affiliates* are.

If you are registered or registering with the SEC or if you are an exempt reporting adviser, you may limit your disclosure of any event listed in Item 11 to ten years following the date of the event. If you are registered or registering with a state, you must respond to the questions as posed; you may, therefore, limit your disclosure to ten years following the date of an event only in responding to Items 11.A.(1), 11.A.(2), 11.B.(1), 11.B.(2), 11.D.(4), and 11.H.(1)(a). For purposes of calculating this ten-year period, the date of an event is the date the final order, judgment, or decree was entered, or the date any rights of appeal from preliminary orders, judgments, or decrees lapsed.

You must complete the appropriate Disclosure Reporting Page ("DRP") for "yes" answers to the questions in this Item 11.

	Yes	No
Do any of the events below involve you or any of your *supervised persons*?	○	●

For "yes" answers to the following questions, complete a Criminal Action DRP:

	Yes	No
A. In the past ten years, have you or any *advisory affiliate*:		
(1) been convicted of or pled guilty or nolo contendere ("no contest") in a domestic, foreign, or military court to any *felony*?	○	●
(2) been *charged* with any *felony*?	○	●

If you are registered or registering with the SEC, or if you are reporting as an exempt reporting adviser, you may limit your response to Item 11.A.(2) to charges that are currently pending.

	Yes	No
B. In the past ten years, have you or any *advisory affiliate*:		
(1) been convicted of or pled guilty or nolo contendere ("no contest") in a domestic, foreign, or military court to a *misdemeanor* involving: investments or an *investment-related* business, or any fraud, false statements, or omissions, wrongful taking of property, bribery, perjury, forgery, counterfeiting, extortion, or a conspiracy to commit any of these offenses?	○	●
(2) been *charged* with a *misdemeanor* listed in Item 11.B.(1)?	○	●

If you are registered or registering with the SEC, or if you are reporting as an exempt reporting adviser, you may limit your response to Item 11.B.(2) to charges that are currently pending.

For "yes" answers to the following questions, complete a Regulatory Action DRP:

	Yes	No
C. Has the SEC or the Commodity Futures Trading Commission (CFTC) ever:		
(1) *found* you or any *advisory affiliate* to have made a false statement or omission?	○	●
(2) *found* you or any *advisory affiliate* to have been *involved* in a violation of SEC or CFTC regulations or statutes?	○	●
(3) *found* you or any *advisory affiliate* to have been a cause of an *investment-related* business having its authorization to do business denied, suspended, revoked, or restricted?	○	●
(4) entered an *order* against you or any *advisory affiliate* in connection with *investment-related* activity?	○	●
(5) imposed a civil money penalty on you or any *advisory affiliate*, or *ordered* you or any *advisory affiliate* to cease and desist from any activity?	○	●
D. Has any other federal regulatory agency, any state regulatory agency, or any *foreign financial regulatory authority*:		
(1) ever *found* you or any *advisory affiliate* to have made a false statement or omission, or been dishonest, unfair, or unethical?	○	●
(2) ever *found* you or any *advisory affiliate* to have been *involved* in a violation of *investment-related* regulations or statutes?	●	○
(3) ever *found* you or any *advisory affiliate* to have been a cause of an *investment-related* business having its authorization to do business denied, suspended, revoked, or restricted?	○	●
(4) in the past ten years, entered an *order* against you or any *advisory affiliate* in connection with an *investment-related* activity?	●	○
(5) ever denied, suspended, or revoked your or any *advisory affiliate's* registration or license, or otherwise prevented you or any *advisory affiliate*, by *order*, from associating with an *investment-related* business or restricted your or any *advisory affiliate's* activity?	○	●
E. Has any *self-regulatory organization* or commodities exchange ever:		
(1) *found* you or any *advisory affiliate* to have made a false statement or omission?	○	●
(2) *found* you or any *advisory affiliate* to have been *involved* in a violation of its rules (other than a violation designated as a "*minor rule violation*" under a plan approved by the SEC)?	●	○
(3) *found* you or any *advisory affiliate* to have been the cause of an *investment-related* business having its authorization to do business denied, suspended, revoked, or restricted?	○	●
(4) disciplined you or any *advisory affiliate* by expelling or suspending you or the *advisory affiliate* from membership, barring or suspending you or the *advisory affiliate* from association with other members, or otherwise restricting your or the *advisory affiliate's* activities?	○	●
F. Has an authorization to act as an attorney, accountant, or federal contractor granted to you or any *advisory affiliate* ever been revoked or suspended?	○	●
G. Are you or any *advisory affiliate* now the subject of any regulatory *proceeding* that could result in a "yes" answer to any part of Item 11.C., 11.D., or 11.E.?	○	●

For "yes" answers to the following questions, complete a Civil Judicial Action DRP:

	Yes	No
H. (1) Has any domestic or foreign court:		
(a) in the past ten years, *enjoined* you or any *advisory affiliate* in connection with any *investment-related* activity?	○	●

(b) ever *found* that you or any *advisory affiliate* were *involved* in a violation of *investment-related* statutes or regulations? ○ ●

(c) ever dismissed, pursuant to a settlement agreement, an *investment-related* civil action brought against you or any *advisory affiliate* by a state or *foreign financial regulatory authority*? ○ ●

(2) Are you or any *advisory affiliate* now the subject of any civil *proceeding* that could result in a "yes" answer to any part of Item 11.H.(1)? ○ ●

Item 12 Small Businesses

The SEC is required by the Regulatory Flexibility Act to consider the effect of its regulations on small entities. In order to do this, we need to determine whether you meet the definition of "small business" or "small organization" under rule 0-7.

Answer this Item 12 only if you are registered or registering with the SEC **and** you indicated in response to Item 5.F.(2)(c) that you have regulatory assets under management of less than $25 million. You are not required to answer this Item 12 if you are filing for initial registration as a state adviser, amending a current state registration, or switching from SEC to state registration.

For purposes of this Item 12 only:

- Total Assets refers to the total assets of a firm, rather than the assets managed on behalf of *clients*. In determining your or another *person's* total assets, you may use the total assets shown on a current balance sheet (but use total assets reported on a consolidated balance sheet with subsidiaries included, if that amount is larger).
- *Control* means the power to direct or cause the direction of the management or policies of a *person*, whether through ownership of securities, by contract, or otherwise. Any *person* that directly or indirectly has the right to vote 25 percent or more of the voting securities, or is entitled to 25 percent or more of the profits, of another *person* is presumed to *control* the other *person*.

	Yes	No
A. Did you have total assets of $5 million or more on the last day of your most recent fiscal year?	○	○
If "yes," you do not need to answer Items 12.B. and 12.C.		
B. Do you:		
(1) *control* another investment adviser that had regulatory assets under management (calculated in response to Item 5.F.(2)(c) of Form ADV) of $25 million or more on the last day of its most recent fiscal year?	○	○
(2) *control* another *person* (other than a natural person) that had total assets of $5 million or more on the last day of its most recent fiscal year?	○	○
C. Are you:		
(1) *controlled* by or under common *control* with another investment adviser that had regulatory assets under management (calculated in response to Item 5.F.(2)(c) of Form ADV) of $25 million or more on the last day of its most recent fiscal year?	○	○
(2) *controlled* by or under common *control* with another *person* (other than a natural person) that had total assets of $5 million or more on the last day of its most recent fiscal year?	○	○

Schedule A

Direct Owners and Executive Officers

1. Complete Schedule A only if you are submitting an initial application or report. Schedule A asks for information about your direct owners and executive officers. Use Schedule C to amend this information.
2. Direct Owners and Executive Officers. List below the names of:
   (a) each Chief Executive Officer, Chief Financial Officer, Chief Operations Officer, Chief Legal Officer, Chief Compliance Officer(Chief Compliance Officer is required if you are registered or applying for registration and cannot be more than one individual), director, and any other individuals with similar status or functions;
   (b) if you are organized as a corporation, each shareholder that is a direct owner of 5% or more of a class of your voting securities, unless you are a public reporting company (a company subject to Section 12 or 15(d) of the Exchange Act);
   Direct owners include any *person* that owns, beneficially owns, has the right to vote, or has the power to sell or direct the sale of, 5% or more of a class of your voting securities. For purposes of this Schedule, a *person* beneficially owns any securities: (i) owned by his/her child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, sharing the same residence; or (ii) that he/she has the right to acquire, within 60 days, through the exercise of any option, warrant, or right to purchase the security.
   (c) if you are organized as a partnership, all general partners and those limited and special partners that have the right to receive upon dissolution, or have contributed, 5% or more of your capital;
   (d) in the case of a trust that directly owns 5% or more of a class of your voting securities, or that has the right to receive upon dissolution, or has contributed, 5% or more of your capital, the trust and each trustee; and
   (e) if you are organized as a limited liability company ("LLC"), (i) those members that have the right to receive upon dissolution, or have contributed, 5% or more of your capital, and (ii) if managed by elected managers, all elected managers.
3. Do you have any indirect owners to be reported on Schedule B? ○ Yes ● No
4. In the DE/FE/I column below, enter "DE" if the owner is a domestic entity, "FE" if the owner is an entity incorporated or domiciled in a foreign country, or "I" if the owner or executive officer is an individual.
5. Complete the Title or Status column by entering board/management titles; status as partner, trustee, sole proprietor, elected manager, shareholder, or member; and for shareholders or members, the class of securities owned (if more than one is issued).
6. Ownership codes are:

	NA - less than 5%	B - 10% but less than 25%	D - 50% but less than 75%
	A - 5% but less than 10%	C - 25% but less than 50%	E - 75% or more

7. (a) In the *Control Person* column, enter "Yes" if the *person* has *control* as defined in the Glossary of Terms to Form ADV, and enter "No" if the *person* does not have *control*. Note that under this definition, most executive officers and all 25% owners, general partners, elected managers, and trustees are

control persons.

(b) In the PR column, enter "PR" if the owner is a public reporting company under Sections 12 or 15(d) of the Exchange Act.

(c) Complete each column.

FULL LEGAL NAME (Individuals: Last Name, First Name, Middle Name)	**DE/FE/I**	**Title or Status**	**Date Title or Status Acquired MM/YYYY**	**Ownership Code**	***Control Person***	**PR**	***CRD* No. If None: S.S. No. and Date of Birth, IRS Tax No. or Employer ID No.**
HEISEN, JOANN, HEFFERNAN	I	DIRECTOR	07/1998	NA	Y	N	1461567
MCNABB, FREDERICK, WILLIAM	I	CHAIRMAN	08/2008	NA	Y	N	1567399
VANGUARD ADMIRAL FUNDS	DE	STOCKHOLDER	12/1992	NA	N	N	23-2696041
VANGUARD OHIO TAX-FREE FUNDS	DE	STOCKHOLDER	06/1990	NA	N	N	23-2601142
VANGUARD VALLEY FORGE FUNDS	DE	STOCKHOLDER	11/1992	NA	N	N	23-2691871
VANGUARD TAX-MANAGED FUNDS	DE	STOCKHOLDER	09/1994	NA	N	N	23-2764159
VANGUARD WHITEHALL FUNDS	DE	STOCKHOLDER	02/1996	NA	N	N	23-2827110
VANGUARD HORIZON FUNDS	DE	STOCKHOLDER	06/1995	NA	N	N	23-2787277
VANGUARD SCOTTSDALE FUNDS	DE	STOCKHOLDER	11/2009	NA	N	N	27-0840999
VANGUARD NEW JERSEY TAX-FREE FUNDS	DE	STOCKHOLDER	09/1987	NA	N	N	23-2488282
VANGUARD CALIFORNIA TAX-FREE FUNDS	DE	STOCKHOLDER	10/1985	NA	N	N	23-2388563
VANGUARD NEW YORK TAX-FREE FUNDS	DE	STOCKHOLDER	01/1986	NA	N	N	23-2388559
VANGUARD PENNSYLVANIA TAX-FREE FUNDS	DE	STOCKHOLDER	01/1986	NA	N	N	23-2388562
VANGUARD CONVERTIBLE SECURITIES FUND	DE	STOCKHOLDER	04/1986	NA	N	N	23-2397232
VANGUARD QUANTITATIVE FUNDS	DE	STOCKHOLDER	08/1986	NA	N	N	23-2426756
VANGUARD VARIABLE INSURANCE FUNDS	DE	STOCKHOLDER	04/1991	NA	N	N	23-2585135
VANGUARD MASSACHUSETTS TAX-EXEMPT FUNDS	DE	STOCKHOLDER	07/1992	NA	N	N	23-2975858
VANGUARD WELLINGTON FUND	DE	STOCKHOLDER	05/1975	NA	N	N	51-0071687
VANGUARD WINDSOR FUNDS	DE	STOCKHOLDER	05/1975	NA	N	N	51-0082711
VANGUARD WORLD FUND	DE	STOCKHOLDER	05/1975	NA	N	N	04-6035483
VANGUARD TRUSTEES' EQUITY FUND	DE	STOCKHOLDER	02/1980	NA	N	N	23-2439141
VANGUARD EXPLORER FUND	DE	STOCKHOLDER	12/1975	NA	N	N	51-0106626
VANGUARD MORGAN GROWTH FUND	DE	STOCKHOLDER	05/1975	NA	N	N	51-0108190
VANGUARD WELLESLEY INCOME FUND	DE	STOCKHOLDER	05/1975	NA	N	N	23-1711688
VANGUARD INDEX FUNDS	DE	STOCKHOLDER	08/1976	C	Y	N	23-1999755
VANGUARD BOND INDEX FUNDS	DE	STOCKHOLDER	12/1986	B	N	N	23-2383781
VANGUARD FENWAY FUNDS	DE	STOCKHOLDER	11/1987	NA	N	N	23-2491240
VANGUARD MALVERN FUNDS	DE	STOCKHOLDER	11/1988	NA	N	N	23-2520805
VANGUARD INTERNATIONAL EQUITY INDEX FUNDS	DE	STOCKHOLDER	04/1990	NA	N	N	23-2590839
VANGUARD FIXED INCOME SECURITIES FUNDS	DE	STOCKHOLDER	05/1975	NA	N	N	23-1899003
VANGUARD MONEY MARKET RESERVES	DE	STOCKHOLDER	05/1975	NA	N	N	23-6607979
VANGUARD MUNICIPAL BOND FUNDS	DE	STOCKHOLDER	09/1977	NA	N	N	23-2022170
VANGUARD SPECIALIZED FUNDS	DE	STOCKHOLDER	10/1983	NA	N	N	23-2284351
VANGUARD CHESTER FUNDS	DE	STOCKHOLDER	08/1984	NA	N	N	23-2311358
BUCKLEY, MORTIMER, JOSEPH	I	CHIEF EXECUTIVE OFFICER, PRESIDENT, AND DIRECTOR	01/2018	NA	Y	N	2167630
PEROLD, ANDRE, FRANCOIS	I	DIRECTOR	12/2004	NA	Y	N	4660204
GUTMANN, AMY	I	DIRECTOR	06/2006	NA	Y	N	5304199
VANGUARD MONTGOMERY FUNDS	DE	STOCKHOLDER	11/2007	NA	N	N	26-1082315
FULLWOOD, EMERSON, U	I	DIRECTOR	01/2008	NA	Y	N	5511592
VOLANAKIS, PETER, FREDERICK	I	DIRECTOR	12/2008	NA	Y	N	5648569
NORRIS, JAMES, MAURICE	I	MANAGING DIRECTOR	03/2009	NA	Y	N	1783874
LOUGHREY, FRANCIS, JOSEPH	I	DIRECTOR	10/2009	NA	Y	N	5755253
VANGUARD STAR FUNDS	DE	STOCKHOLDER	03/2009	A	N	N	23-2282995
VANGUARD CHARLOTTE FUNDS	DE	STOCKHOLDER	10/2011	NA	N	N	45-3707767
KING, MARTHA, GEIGER	I	MANAGING DIRECTOR	03/2012	NA	Y	N	1420059
MCISAAC, CHRISTOPHER, DAVIS	I	MANAGING DIRECTOR	03/2012	NA	Y	N	2928259
MALPASS, SCOTT, CHARLES	I	DIRECTOR	03/2012	NA	Y	N	2532347
LOUGHRIDGE, MARK	I	DIRECTOR	03/2012	NA	Y	N	6048361
MARCANTE, JOHN, THOMAS	I	MANAGING DIRECTOR AND CHIEF INFORMATION	03/2013	NA	Y	N	2366586

		OFFICER					
RAMPULLA, THOMAS, MARK	I	MANAGING DIRECTOR	07/2015	NA	Y	N	1816948
RISI, KARIN, ANN	I	MANAGING DIRECTOR	07/2015	NA	Y	N	3209445
HOUSTON, SARAH, LIANE	I	CHIEF AUDIT EXECUTIVE	07/2015	NA	Y	N	2228004
ROLLINGS, MICHAEL, THOMAS	I	MANAGING DIRECTOR AND CHIEF FINANCIAL OFFICER	06/2016	NA	Y	N	1592402
ROBINSON, ANNE, ELIZABETH	I	GENERAL COUNSEL, MANAGING DIRECTOR, AND SECRETARY	09/2016	NA	Y	N	6706699
JAMES, JOHN, MARK	I	MANAGING DIRECTOR	12/2016	NA	Y	N	5594356
DVORAK, BRIAN, WAYNE	I	CHIEF COMPLIANCE OFFICER	06/2017	NA	Y	N	2651639
MULLIGAN, DEANNA, MARIE	I	DIRECTOR	07/2017	NA	Y	N	4562715
RASKIN, SARAH, BLOOM	I	DIRECTOR	07/2017	NA	Y	N	6844984
DAVIS, GREGORY	I	MANAGING DIRECTOR AND CHIEF INVESTMENT OFFICER	07/2017	NA	Y	N	2416369
VANGUARD INSTITUTIONAL INDEX FUNDS	DE	STOCKHOLDER	02/2018	A	N	N	23-2601141

Schedule B

Indirect Owners

1. Complete Schedule B only if you are submitting an initial application or report. Schedule B asks for information about your indirect owners; you must first complete Schedule A, which asks for information about your direct owners. Use Schedule C to amend this information.
2. Indirect Owners. With respect to each owner listed on Schedule A (except individual owners), list below:
   (a) in the case of an owner that is a corporation, each of its shareholders that beneficially owns, has the right to vote, or has the power to sell or direct the sale of, 25% or more of a class of a voting security of that corporation;

   For purposes of this Schedule, a *person* beneficially owns any securities: (i) owned by his/her child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, sharing the same residence; or (ii) that he/she has the right to acquire, within 60 days, through the exercise of any option, warrant, or right to purchase the security.

   (b) in the case of an owner that is a partnership, all general partners and those limited and special partners that have the right to receive upon dissolution, or have contributed, 25% or more of the partnership's capital;

   (c) in the case of an owner that is a trust, the trust and each trustee; and

   (d) in the case of an owner that is a limited liability company ("LLC"), (i) those members that have the right to receive upon dissolution, or have contributed, 25% or more of the LLC's capital, and (ii) if managed by elected managers, all elected managers.
3. Continue up the chain of ownership listing all 25% owners at each level. Once a public reporting company (a company subject to Sections 12 or 15(d) of the Exchange Act) is reached, no further ownership information need be given.
4. In the DE/FE/I column below, enter "DE" if the owner is a domestic entity, "FE" if the owner is an entity incorporated or domiciled in a foreign country, or "I" if the owner is an individual.
5. Complete the Status column by entering the owner's status as partner, trustee, elected manager, shareholder, or member; and for shareholders or members, the class of securities owned (if more than one is issued).
6. Ownership codes are:

   C - 25% but less than 50%
   E - 75% or more
   D - 50% but less than 75%
   F - Other (general partner, trustee, or elected manager)
7. (a) In the *Control Person* column, enter "Yes" if the *person* has *control* as defined in the Glossary of Terms to Form ADV, and enter "No" if the *person* does not have *control*. Note that under this definition, most executive officers and all 25% owners, general partners, elected managers, and trustees are *control persons*.

   (b) In the PR column, enter "PR" if the owner is a public reporting company under Sections 12 or 15(d) of the Exchange Act.

   (c) Complete each column.

No Information Filed

Schedule D - Miscellaneous

You may use the space below to explain a response to an Item or to provide any other information.

Please note that two individuals in Schedule A, Amy Gutmann and Mark Loughridge, do not have middle names.

Schedule R

No Information Filed

DRP Pages

CRIMINAL DISCLOSURE REPORTING PAGE (ADV)

No Information Filed

REGULATORY ACTION DISCLOSURE REPORTING PAGE (ADV)

GENERAL INSTRUCTIONS

This Disclosure Reporting Page (DRP ADV) is an ○ INITIAL ***OR*** ● AMENDED response used to report details for affirmative responses to Items 11.C., 11.D., 11.E., 11.F. or 11.G. of Form ADV.

Regulatory Action

Check item(s) being responded to:

☐ 11.C(1)	☐ 11.C(2)	☐ 11.C(3)	☐ 11.C(4)	☐ 11.C(5)
☐ 11.D(1)	☐ 11.D(2)	☐ 11.D(3)	☐ 11.D(4)	☐ 11.D(5)
☐ 11.E(1)	☑ 11.E(2)	☐ 11.E(3)	☐ 11.E(4)	
☐ 11.F.	☐ 11.G.			

Use a separate DRP for each event or *proceeding* . The same event or *proceeding* may be reported for more than one *person* or entity using one DRP. File with a completed Execution Page.

One event may result in more than one affirmative answer to Items 11.C., 11.D., 11.E., 11.F. or 11.G. Use only one DRP to report details related to the same event. If an event gives rise to actions by more than one regulator, provide details for each action on a separate DRP.

PART I

A. The *person(s)* or entity(ies) for whom this DRP is being filed is (are):

○ You (the advisory firm)

○ You and one or more of your *advisory affiliates*

● One or more of your *advisory affiliates*

If this DRP is being filed for an *advisory affiliate*, give the full name of the *advisory affiliate* below (for individuals, Last name, First name, Middle name). If the *advisory affiliate* has a *CRD* number, provide that number. If not, indicate "non-registered" by checking the appropriate box.

ADV DRP - *ADVISORY AFFILIATE*

CRD Number: 7452

This *advisory affiliate* is ● a Firm ○ an Individual

Registered: ● Yes ○ No

Name: VANGUARD MARKETING CORPORATION
(For individuals, Last, First, Middle)

☐ This DRP should be removed from the ADV record because the *advisory affiliate(s)* is no longer associated with the adviser.

☐ This DRP should be removed from the ADV record because: (1) the event or *proceeding* occurred more than ten years ago or (2) the adviser is registered or applying for registration with the SEC or reporting as an *exempt reporting adviser* with the SEC and the event was resolved in the adviser's or *advisory affiliate's* favor.

If you are registered or registering with a *state securities authority* , you may remove a DRP for an event you reported only in response to Item 11.D(4), and only if that event occurred more than ten years ago. If you are registered or registering with the SEC, you may remove a DRP for any event listed in Item 11 that occurred more than ten years ago.

☐ This DRP should be removed from the ADV record because it was filed in error, such as due to a clerical or data-entry mistake. Explain the circumstances:

B. If the *advisory affiliate* is registered through the IARD system or *CRD* system, has the *advisory affiliate* submitted a DRP (with Form ADV, BD or U-4) to the IARD or *CRD* for the event? If the answer is "Yes," no other information on this DRP must be provided.

● Yes ○ No

NOTE: The completion of this form does not relieve the *advisory affiliate* of its obligation to update its IARD or *CRD* records.

PART II

1. Regulatory Action initiated by:

○ SEC ○ Other Federal ○ State ● *SRO* ○ Foreign

(Full name of regulator, *foreign financial regulatory authority*, federal, state, or *SRO*)

2. Principal Sanction:

Other Sanctions:

3. Date Initiated (MM/DD/YYYY):

○ Exact ○ Explanation

If not exact, provide explanation:

4. Docket/Case Number:

5. *Advisory Affiliate* Employing Firm when activity occurred which led to the regulatory action (if applicable):

6. Principal Product Type:

Other Product Types:

7. Describe the allegations related to this regulatory action (your response must fit within the space provided):

8. Current Status? ○ Pending ○ On Appeal ○ Final

9. If on appeal, regulatory action appealed to (SEC, *SRO,* Federal or State Court) and Date Appeal Filed:

If Final or On Appeal, complete all items below. For Pending Actions, complete Item 13 only.

10. How was matter resolved:

11. Resolution Date (MM/DD/YYYY):

○ Exact ○ Explanation

If not exact, provide explanation:

12. Resolution Detail:

A. Were any of the following Sanctions *Ordered* (check all appropriate items)?

☐ Monetary/Fine Amount: $

☐ Revocation/Expulsion/Denial	☐ Disgorgement/Restitution
☐ Censure	☐ Cease and Desist/Injunction
☐ Bar	☐ Suspension

B. Other Sanctions *Ordered:*

Sanction detail: if suspended, *enjoined* or barred, provide duration including start date and capacities affected (General Securities Principal, Financial Operations Principal, etc.). If requalification by exam/retraining was a condition of the sanction, provide length of time given to requalify/retrain, type of exam required and whether condition has been satisfied. If disposition resulted in a fine, penalty, restitution, disgorgement or monetary compensation, provide total amount, portion levied against you or an *advisory affiliate*, date paid and if any portion of penalty was waived:

13. Provide a brief summary of details related to the action status and (or) disposition and include relevant terms, conditions and dates (your response must fit within the space provided).

GENERAL INSTRUCTIONS

This Disclosure Reporting Page (DRP ADV) is an ○ INITIAL ***OR*** ● AMENDED response used to report details for affirmative responses to Items 11.C., 11.D., 11.E., 11.F. or 11.G. of Form ADV.

Regulatory Action

Check item(s) being responded to:

☐ 11.C(1)	☐ 11.C(2)	☐ 11.C(3)	☐ 11.C(4)	☐ 11.C(5)
☐ 11.D(1)	☑ 11.D(2)	☐ 11.D(3)	☑ 11.D(4)	☐ 11.D(5)
☐ 11.E(1)	☐ 11.E(2)	☐ 11.E(3)	☐ 11.E(4)	
☐ 11.F.	☐ 11.G.			

Use a separate DRP for each event or *proceeding* . The same event or *proceeding* may be reported for more than one *person* or entity using one DRP. File with a completed Execution Page.

One event may result in more than one affirmative answer to Items 11.C., 11.D., 11.E., 11.F. or 11.G. Use only one DRP to report details related to the same event. If an event gives rise to actions by more than one regulator, provide details for each action on a separate DRP.

PART I

A. The *person(s)* or entity(ies) for whom this DRP is being filed is (are):

○ You (the advisory firm)

○ You and one or more of your *advisory affiliates*

● One or more of your *advisory affiliates*

If this DRP is being filed for an *advisory affiliate*, give the full name of the *advisory affiliate* below (for individuals, Last name, First name, Middle name). If the *advisory affiliate* has a *CRD* number, provide that number. If not, indicate "non-registered" by checking the appropriate box.

ADV DRP - *ADVISORY AFFILIATE*

CRD Number:	106715	This *advisory affiliate* is ● a Firm ○ an Individual
Registered:	● Yes ○ No	
Name:	VANGUARD ADVISERS INC (For individuals, Last, First, Middle)	

☐ This DRP should be removed from the ADV record because the *advisory affiliate(s)* is no longer associated with the adviser.
☐ This DRP should be removed from the ADV record because: (1) the event or *proceeding* occurred more than ten years ago or (2) the adviser is registered or applying for registration with the SEC or reporting as an *exempt reporting adviser* with the SEC and the event was resolved in the adviser's or *advisory affiliate's* favor.

If you are registered or registering with a *state securities authority* , you may remove a DRP for an event you reported only in response to Item 11.D(4), and only if that event occurred more than ten years ago. If you are registered or registering with the SEC, you may remove a DRP for any event listed in Item 11 that occurred more than ten years ago.

☐ This DRP should be removed from the ADV record because it was filed in error, such as due to a clerical or data-entry mistake. Explain the circumstances:

B. If the *advisory affiliate* is registered through the IARD system or *CRD* system, has the *advisory affiliate* submitted a DRP (with Form ADV, BD or U-4) to the IARD or *CRD* for the event? If the answer is "Yes," no other information on this DRP must be provided.

● Yes ○ No

NOTE: The completion of this form does not relieve the *advisory affiliate* of its obligation to update its IARD or *CRD* records.

PART II

1. Regulatory Action initiated by:
○ SEC ○ Other Federal ○ State ○ *SRO* ○ Foreign
(Full name of regulator, *foreign financial regulatory authority*, federal, state, or *SRO*)

2. Principal Sanction:

Other Sanctions:

3. Date Initiated (MM/DD/YYYY):
○ Exact ○ Explanation
If not exact, provide explanation:

4. Docket/Case Number:

5. *Advisory Affiliate* Employing Firm when activity occurred which led to the regulatory action (if applicable):

6. Principal Product Type:

Other Product Types:

7. Describe the allegations related to this regulatory action (your response must fit within the space provided):

8. Current Status? ○ Pending ○ On Appeal ○ Final

9. If on appeal, regulatory action appealed to (SEC, *SRO,* Federal or State Court) and Date Appeal Filed:

If Final or On Appeal, complete all items below. For Pending Actions, complete Item 13 only.

10. How was matter resolved:

11. Resolution Date (MM/DD/YYYY):

○ Exact ○ Explanation

If not exact, provide explanation:

12. Resolution Detail:

A. Were any of the following Sanctions *Ordered* (check all appropriate items)?

☐ Monetary/Fine Amount: $

☐ Revocation/Expulsion/Denial

☐ Censure

☐ Bar

☐ Disgorgement/Restitution

☐ Cease and Desist/Injunction

☐ Suspension

B. Other Sanctions *Ordered:*

Sanction detail: if suspended, *enjoined* or barred, provide duration including start date and capacities affected (General Securities Principal, Financial Operations Principal, etc.). If requalification by exam/retraining was a condition of the sanction, provide length of time given to requalify/retrain, type of exam required and whether condition has been satisfied. If disposition resulted in a fine, penalty, restitution, disgorgement or monetary compensation, provide total amount, portion levied against you or an *advisory affiliate*, date paid and if any portion of penalty was waived:

13. Provide a brief summary of details related to the action status and (or) disposition and include relevant terms, conditions and dates (your response must fit within the space provided).

CIVIL JUDICIAL ACTION DISCLOSURE REPORTING PAGE (ADV)

No Information Filed

Part 2

Exemption from brochure delivery requirements for SEC-registered advisers

SEC rules exempt SEC-registered advisers from delivering a firm brochure to some kinds of clients. If these exemptions excuse you from delivering a brochure to *all* of your advisory clients, you do not have to prepare a brochure.

	Yes	No
Are you exempt from delivering a brochure to all of your clients under these rules?	○	●

If no, complete the ADV Part 2 filing below.

Amend, retire or file new brochures:

Execution Pages

DOMESTIC INVESTMENT ADVISER EXECUTION PAGE

You must complete the following Execution Page to Form ADV. This execution page must be signed and attached to your initial submission of Form ADV to the SEC and all amendments.

Appointment of Agent for Service of Process

By signing this Form ADV Execution Page, you, the undersigned adviser, irrevocably appoint the Secretary of State or other legally designated officer, of the state in which you maintain your *principal office and place of business* and any other state in which you are submitting a *notice filing*, as your agents to receive service, and agree that such *persons* may accept service on your behalf, of any notice, subpoena, summons, *order* instituting *proceedings*, demand for arbitration, or other process or papers, and you further agree that such service may be made by registered or certified mail, in any federal or state action, administrative *proceeding* or arbitration brought against you in any place subject to the jurisdiction of the United States, if the action, *proceeding*, or arbitration (a) arises out of any activity in connection with your investment advisory business that is subject to the jurisdiction of the United States, and (b) is *founded*, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment Advisers Act of 1940, or any rule or regulation under any of these acts, or (ii) the laws of the state in which you maintain your *principal office and place of business* or of any state in which you are submitting a *notice filing*.

Signature

I, the undersigned, sign this Form ADV on behalf of, and with the authority of, the investment adviser. The investment adviser and I both certify, under penalty of perjury under the laws of the United States of America, that the information and statements made in this ADV, including exhibits and any other information submitted, are true and correct, and that I am signing this Form ADV Execution Page as a free and voluntary act.

I certify that the adviser's books and records will be preserved and available for inspection as required by law. Finally, I authorize any *person* having *custody* or possession of these books and records to make them available to federal and state regulatory representatives.

Signature: BRIAN DVORAK	Date: MM/DD/YYYY 05/10/2018
Printed Name: BRIAN DVORAK	Title: CHIEF COMPLIANCE OFFICER
Adviser *CRD* Number: 105958	

NON-RESIDENT **INVESTMENT ADVISER EXECUTION PAGE**

You must complete the following Execution Page to Form ADV. This execution page must be signed and attached to your initial submission of Form ADV to the SEC and all amendments.

1. Appointment of Agent for Service of Process

By signing this Form ADV Execution Page, you, the undersigned adviser, irrevocably appoint each of the Secretary of the SEC, and the Secretary of State or other legally designated officer, of any other state in which you are submitting a *notice filing*, as your agents to receive service, and agree that such persons may accept service on your behalf, of any notice, subpoena, summons, *order* instituting *proceedings*, demand for arbitration, or other process or papers, and you further agree that such service may be made by registered or certified mail, in any federal or state action, administrative *proceeding* or arbitration brought against you in any place subject to the jurisdiction of the United States, if the action, *proceeding* or arbitration (a) arises out of any activity in connection with your investment advisory business that is subject to the jurisdiction of the United States, and (b) is *founded*, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment Advisers Act of 1940, or any rule or regulation under any of these acts, or (ii) the laws of any state in which you are submitting a *notice filing*.

2. Appointment and Consent: Effect on Partnerships

If you are organized as a partnership, this irrevocable power of attorney and consent to service of process will continue in effect if any partner withdraws from or is admitted to the partnership, provided that the admission or withdrawal does not create a new partnership. If the partnership dissolves, this irrevocable power of attorney and consent shall be in effect for any action brought against you or any of your former partners.

3. *Non-Resident* Investment Adviser Undertaking Regarding Books and Records

By signing this Form ADV, you also agree to provide, at your own expense, to the U.S. Securities and Exchange Commission at its principal office in Washington D.C., at any Regional or District Office of the Commission, or at any one of its offices in the United States, as specified by the Commission, correct, current, and complete copies of any or all records that you are required to maintain under Rule 204-2 under the Investment Advisers Act of 1940. This undertaking shall be binding upon you, your heirs, successors and assigns, and any *person* subject to your written irrevocable consents or powers of attorney or any of your general partners and *managing agents*.

Signature

I, the undersigned, sign this Form ADV on behalf of, and with the authority of, the *non-resident* investment adviser. The investment adviser and I both certify, under penalty of perjury under the laws of the United States of America, that the information and statements made in this ADV, including exhibits and any other information submitted, are true and correct, and that I am signing this Form ADV Execution Page as a free and voluntary act.

I certify that the adviser's books and records will be preserved and available for inspection as required by law. Finally, I authorize any *person* having *custody* or possession of these books and records to make them available to federal and state regulatory representatives.

Signature:	Date: MM/DD/YYYY
Printed Name:	Title:
Adviser *CRD* Number: 105958	

MOTOROLA SOLUTIONS, INC.
ATTACHMENT TO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT REGARDING
BLACKROCK, INC.

BlackRock, Inc., 55 East 52nd Street, New York, NY 10055, a publicly traded investment management firm, as of December 31, 2016, owns more than 7.5%, but less than 22.5%, beneficially for its third party investors.

Pursuant to Rule 1(i) of the Rules Regarding Economic Disclosure Statement and Affidavit ("EDS") promulgated pursuant to Section 2-154-050 of the Municipal Code, BlackRock, Inc. may in lieu of an EDS, provide a copy of its most recent Form 10-Q. Accordingly, attached hereto is BlackRock, Inc. Form 10-Q (which was downloaded November 26, 2018 from http://www.sec.gov/edgar/searchedgar/companysearch.html)

Top of Form

Bottom of Form

Section 1: 10-Q (10-Q)

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the quarterly period ended September 30, 2018

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the transition period from ________________to ________________.

Commission file number 001-33099

BLACKROCK

BlackRock, Inc.
(Exact name of registrant as specified in its charter)

Delaware	32-0174431
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

55 East 52nd Street, New York, NY 10055
(Address of Principal Executive Offices)
(Zip Code)

(212) 810-5300
(Registrant’s Telephone Number, Including Area Code)

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ____X____ No ________

Indicate by check mark whether the registrant has submitted electronically, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ____X____ No ________

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒
Non-accelerated filer ☐
Accelerated filer ☐
Smaller reporting company ☐
Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes _________ No ___X___

As of October 31, 2018, there were 157,712,287 shares of the registrant’s common stock outstanding.

BlackRock, Inc.
Index to Form 10-Q

PART I

FINANCIAL INFORMATION

PART II
OTHER INFORMATION

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

BlackRock, Inc.
Condensed Consolidated Statements of Financial Condition
(unaudited)

(in millions, except shares and per share data)	**September 30, 2018**	**December 31, 2017**
Assets		
Cash and cash equivalents	$ 6,358	$ 6,894
Accounts receivable	2,682	2,699
Investments	1,760	1,981
Assets of consolidated variable interest entities:		
Cash and cash equivalents	222	144
Investments	2,217	1,493
Other assets	179	66
Separate account assets	107,982	149,937
Separate account collateral held under securities lending agreements	19,575	24,190
Property and equipment (net of accumulated depreciation of $765 and $658 at September 30, 2018 and December 31, 2017, respectively)	588	592
Intangible assets (net of accumulated amortization of $229 and $219 at September 30, 2018 and December 31, 2017, respectively)	17,854	17,389
Goodwill	13,526	13,220
Other assets	1,919	1,636
Total assets	$ 174,862	$ 220,241
Liabilities		
Accrued compensation and benefits	$ 1,611	$ 2,153
Accounts payable and accrued liabilities	1,403	1,161
Liabilities of consolidated variable interest entities:		
Borrowings	44	—
Other liabilities	514	369
Borrowings	4,991	5,014
Separate account liabilities	107,982	149,937
Separate account collateral liabilities under securities lending agreements	19,575	24,190
Deferred income tax liabilities	3,555	3,527
Other liabilities	2,114	1,626
Total liabilities	141,789	187,977
Commitments and contingencies (Note 12)		
Temporary equity		
Redeemable noncontrolling interests	603	416
Permanent Equity		
BlackRock, Inc. stockholders' equity		
Common stock, $0.01 par value; Shares authorized: 500,000,000 at September 30, 2018 and December 31, 2017; Shares issued: 171,252,185 at September 30, 2018 and December 31, 2017; Shares outstanding: 158,837,718 and 159,977,115 at September 30, 2018 and December 31, 2017, respectively	2	2
Preferred stock (Note 17)	—	—
Additional paid-in capital	19,048	19,256
Retained earnings	18,852	16,939
Accumulated other comprehensive loss	(616)	(432)
Treasury stock, common, at cost (12,414,467 and 11,275,070 shares held at September 30, 2018 and December 31, 2017, respectively)	(4,871)	(3,967)
Total BlackRock, Inc. stockholders' equity	32,415	31,798
Nonredeemable noncontrolling interests	55	50
Total permanent equity	32,470	31,848
Total liabilities, temporary equity and permanent equity	$ 174,862	$ 220,241

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Condensed Consolidated Statements of Income
(unaudited)

(in millions, except shares and per share data)	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Revenue				
Investment advisory, administration fees and securities lending revenue				
Related parties	$ 2,045	$ 1,982	$ 6,244	$ 5,627
Other third parties	838	799	2,530	2,344
Total investment advisory, administration fees and securities lending revenue	2,883	2,781	8,774	7,971
Investment advisory performance fees	151	191	312	309
Technology services revenue	200	169	582	481
Distribution fees	279	298	884	877
Advisory and other revenue	63	69	212	198
Total revenue	3,576	3,508	10,764	9,836
Expense				
Employee compensation and benefits	1,097	1,087	3,300	3,106
Distribution and servicing costs	408	419	1,255	1,230
Direct fund expense	249	231	774	658
General and administration	413	355	1,189	996
Amortization of intangible assets	13	27	35	77
Total expense	2,180	2,119	6,553	6,067
Operating income	1,396	1,389	4,211	3,769
Nonoperating income (expense)				
Net gain (loss) on investments	50	41	68	128
Interest and dividend income	29	15	63	35
Interest expense	(46)	(46)	(138)	(159)
Total nonoperating income (expense)	33	10	(7)	4
Income before income taxes	1,429	1,399	4,204	3,773
Income tax expense	226	443	829	1,085
Net income	1,203	956	3,375	2,688
Less:				
Net income (loss) attributable to noncontrolling interests	(13)	12	(3)	31
Net income attributable to BlackRock, Inc.	$ 1,216	$ 944	$ 3,378	$ 2,657
Earnings per share attributable to BlackRock, Inc. common stockholders:				
Basic	$ 7.59	$ 5.83	$ 21.01	$ 16.35
Diluted	$ 7.54	$ 5.76	$ 20.83	$ 16.17
Cash dividends declared and paid per share	$ 3.13	$ 2.50	$ 8.89	$ 7.50

Weighted-average common shares outstanding:				
Basic	160,141,506	161,872,716	160,786,768	162,459,737
Diluted	161,378,217	163,773,546	162,140,879	164,289,042

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Condensed Consolidated Statements of Comprehensive Income
(unaudited)

(in millions)	**Three Months Ended September 30,**		**Nine Months Ended September 30,**	
	2018	**2017**	**2018**	**2017**
Net income	$ 1,203	$ 956	$ 3,375	$ 2,688
Other comprehensive income:				
Foreign currency translation adjustments[1]	(41)	102	(176)	244
Other	—	—	(2)	(1)
Other comprehensive income (loss)	(41)	102	(178)	243
Comprehensive income	1,162	1,058	3,197	2,931
Less: Comprehensive income (loss) attributable to noncontrolling interests	(13)	12	(3)	31
Comprehensive income attributable to BlackRock, Inc.	$ 1,175	$ 1,046	$ 3,200	$ 2,900

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[1] Amounts for the three months ended September 30, 2018 and 2017 include a gain from a net investment hedge of $4 million (net of a tax expense of $1 million) and a loss of $18 million (net of a tax benefit of $11 million), respectively. Amounts for the nine months ended September 30, 2018 and 2017 include a gain from a net investment hedge of $22 million (net of a tax expense of $7 million) and a loss of $56 million (net of a tax benefit of $33 million), respectively.

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Condensed Consolidated Statements of Changes in Equity
(unaudited)

(in millions)	**Additional Paid-in Capital[1]**	**Retained Earnings**	**Accumulated Other Comprehensive Income (Loss)**	**Treasury Stock Common**	**Total BlackRock Stockholders' Equity**	**Nonredeemable Noncontrolling Interests**	**Total Permanent Equity**	**Redeemable Noncontrolling Interests / Temporary Equity**
December 31, 2017	$ 19,258	$ 16,939	$ (432)	$ (3,967)	$ 31,798	$ 50	$ 31,848	$ 416
Net income	—	3,378	—	—	3,378	1	3,379	(4)
Dividends paid	—	(1,471)	—	—	(1,471)	—	(1,471)	—

Stock-based compensation	431	—	—	—	431	—	431	—
PNC preferred stock capital contribution	58	—	—	—	58	—	58	—
Retirement of preferred stock	(58)	—	—	—	(58)	—	(58)	—
Issuance of common shares related to employee stock transactions	(639)	—	—	651	12	—	12	—
Employee tax withholdings related to employee stock transactions	—	—	—	(420)	(420)	—	(420)	—
Shares repurchased	—	—	—	(1,135)	(1,135)	—	(1,135)	—
Subscriptions (redemptions/distributions) — noncontrolling interest holders	—	—	—	—	—	4	4	742
Net consolidations (deconsolidations) of sponsored investment funds	—	—	—	—	—	—	—	(551)
Other comprehensive income (loss)	—	—	(178)	—	(178)	—	(178)	—
Adoption of new accounting pronouncements	—	6	(6)	—	—	—	—	—
September 30, 2018	**$ 19,050**	**$ 18,852**	**$ (616)**	**$ (4,871)**	**$ 32,415**	**$ 55**	**$ 32,470**	**$ 603**

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(1) Amounts include $2 million of common stock at both September 30, 2018 and December 31, 2017.

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Condensed Consolidated Statements of Changes in Equity
(unaudited)

(in millions)	Additional Paid-in Capital(1)	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock Common	Total BlackRock Stockholders' Equity	Nonredeemable Noncontrolling Interests	Total Permanent Equity	Redeemable Noncontrolling Interests / Temporary Equity
December 31, 2016	$ 19,339	$ 13,650	$ (716)	$ (3,185)	$ 29,088	$ 52	$ 29,140	$ 194
Net income	—	2,657	—	—	2,657	3	2,660	28
Dividends paid	—	(1,259)	—	—	(1,259)	—	(1,259)	—
Stock-based compensation	417	—	—	—	417	—	417	—
PNC preferred stock capital contribution	193	—	—	—	193	—	193	—
Retirement of preferred stock	(193)	—	—	—	(193)	—	(193)	—
Issuance of common shares related to employee stock transactions	(612)	—	—	621	9	—	9	—
Employee tax withholdings related to employee stock	—	—	—	(308)	(308)	—	(308)	—

transactions								
Shares repurchased	—	—	—	(825)	(825)	—	(825)	—
Subscriptions (redemptions/distributions) — noncontrolling interest holders	—	—	—	—	—	(14)	(14)	338
Net consolidations (deconsolidations) of sponsored investment funds	—	—	—	—	—	14	14	(240)
Other comprehensive income (loss)	—	—	243	—	243	—	243	—
Adoption of new accounting pronouncement	3	(2)	—	—	1	—	1	—
September 30, 2017	**$ 19,147**	**$ 15,046**	**$ (473)**	**$ (3,697)**	**$ 30,023**	**$ 55**	**$ 30,078**	**$ 320**

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[1] Amounts include $2 million of common stock at both September 30, 2017 and December 31, 2016.

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Condensed Consolidated Statements of Cash Flows
(unaudited)

(in millions)	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Cash flows from operating activities		
Net income	$ 3,375	$ 2,688
Adjustments to reconcile net income to cash flows from operating activities:		
Depreciation and amortization	164	190
Stock-based compensation	431	417
Deferred income tax expense (benefit)	(187)	170
Other gains	(50)	—
Net (gains) losses within consolidated VIEs	21	(95)
Net (purchases) proceeds within consolidated VIEs	(1,107)	(148)
(Earnings) losses from equity method investees	(92)	(92)
Distributions of earnings from equity method investees	23	24
Changes in operating assets and liabilities:		
Accounts receivable	(5)	(361)
Investments, trading	161	(145)
Other assets	(191)	(572)
Accrued compensation and benefits	(594)	(267)
Accounts payable and accrued liabilities	164	217
Other liabilities	439	514
Cash flows from operating activities	2,552	2,540
Cash flows from investing activities		
Purchases of investments	(259)	(400)
Proceeds from sales and maturities of investments	400	121
Distributions of capital from equity method investees	18	26
Net consolidations (deconsolidations) of sponsored investment funds (VIEs/VREs)	(52)	(56)
Acquisitions, net of cash acquired	(699)	(102)
Purchases of property and equipment	(108)	(100)
Cash flows from investing activities	(700)	(511)
Cash flows from financing activities		

Proceeds from long-term borrowings	—	697
Repayments of long-term borrowings	—	(700)
Cash dividends paid	(1,471)	(1,259)
Repurchases of common stock	(1,555)	(1,133)
Net (redemptions/distributions paid)/subscriptions received from noncontrolling interest holders	746	324
Other financing activities	(13)	(12)
Cash flows from financing activities	(2,293)	(2,083)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(58)	161
Net increase (decrease) in cash, cash equivalents and restricted cash	(499)	107
Cash, cash equivalents and restricted cash, beginning of period	7,096	6,192
Cash, cash equivalents and restricted cash, end of period	$ 6,597	$ 6,299
Supplemental disclosure of cash flow information:		
Cash paid for:		
Interest	$ 123	$ 150
Income taxes (net of refunds)	$ 765	$ 916
Supplemental schedule of noncash investing and financing transactions:		
Issuance of common stock	$ 639	$ 612
PNC preferred stock capital contribution	$ 58	$ 193
Increase (decrease) in noncontrolling interests due to net consolidation (deconsolidation) of sponsored investment funds	$ (551)	$ (226)

See accompanying notes to condensed consolidated financial statements.

BlackRock, Inc.
Notes to the Condensed Consolidated Financial Statements
(unaudited)

1. Business Overview

BlackRock, Inc. (together, with its subsidiaries, unless the context otherwise indicates, “BlackRock” or the “Company”) is a leading publicly traded investment management firm providing a broad range of investment and technology services to institutional and retail clients worldwide.

BlackRock’s diverse platform of alpha-seeking active, index and cash management investment strategies across asset classes enables the Company to tailor investment outcomes and asset allocation solutions for clients. Product offerings include single- and multi-asset portfolios investing in equities, fixed income, alternatives and money market instruments. Products are offered directly and through intermediaries in a variety of vehicles, including open-end and closed-end mutual funds, *iShares*® exchange-traded funds (“ETFs”), separate accounts, collective investment trusts and other pooled investment vehicles. BlackRock also offers technology services, including the investment and risk management technology platform, *Aladdin*®, Aladdin Wealth, Cachematrix and FutureAdvisor, as well as advisory services and solutions to a broad base of institutional and wealth management clients.

At September 30, 2018, The PNC Financial Services Group, Inc. (“PNC”) held 21.4% of the Company’s voting common stock and 21.9% of the Company’s capital stock, which includes outstanding common and nonvoting preferred stock.

2. Significant Accounting Policies

Basis of Presentation

These condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“GAAP”) and include the accounts of the Company and its controlled subsidiaries. Noncontrolling interests on the condensed consolidated statements of financial condition represents the portion of consolidated sponsored investment funds in which the Company does not have direct equity ownership. Accounts and transactions between consolidated entities have been eliminated.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expense during the reporting periods. Actual results could differ from those estimates.

Certain financial information that normally is included in annual financial statements, including certain financial statement footnotes, is not required for interim reporting purposes and has been condensed or omitted herein. These condensed consolidated financial statements should be read in conjunction with the Company's consolidated financial statements and notes related thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017, which was filed with the Securities and Exchange Commission ("SEC") on February 28, 2018 ("2017 Form 10-K").

The interim financial information at September 30, 2018 and for the three and nine months ended September 30, 2018 and 2017 is unaudited. However, in the opinion of management, the interim information includes all normal recurring adjustments necessary for the fair presentation of the Company's results for the periods presented. The results of operations for interim periods are not necessarily indicative of results to be expected for the full year.

Certain prior period presentations and disclosures, while not required to be recast, were reclassified to ensure comparability with current period classifications.

Accounting Pronouncements Adopted in the Nine Months Ended September 30, 2018

Revenue from Contracts with Customers. The Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers*, and several amendments (collectively, "ASU 2014-09"). ASU 2014-09 outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most previous revenue recognition guidance, including industry-specific guidance. The guidance also changes the accounting for certain contract costs and revises the criteria for determining if an entity is acting as a principal or agent in certain arrangements.

The Company adopted ASU 2014-09 effective January 1, 2018 on a full retrospective basis, which required the Company to recast 2016 and 2017 previously reported amounts. The most significant impact to the Company relates to the presentation of certain distribution costs, which were previously presented net against revenue (contra-revenue) and are now presented as an expense on a gross basis. Revenue recognition related to investment advisory, administration fees and securities lending revenue as well as performance fees remained unchanged, which represents a substantial portion of the Company's revenue. However, under ASU 2014-09, the Company may recognize certain performance fees, including carried interest, earlier than under the prior revenue recognition guidance. The impact to the condensed consolidated statement of financial condition upon adoption was related to a change in timing of recognition for certain technology services revenue and related costs that resulted in an increase to other assets and other liabilities of $19 million and $25 million, respectively. The cumulative adjustment to retained earnings as of January 1, 2016 was a net decrease of $6 million.

The following table presents the impact of the adoption to the condensed consolidated statements of income for the three and nine months ended September 30, 2017.

	Three Months Ended September 30, 2017			**Nine Months Ended September 30, 2017**		
(in millions, except shares and per share data)	**Previously Reported**	**Adoption of the New Revenue Standard Adjustment**	**Recast**	**Previously Reported**	**Adoption of the New Revenue Standard Adjustment**	**Recast**
Total revenue	$ 3,233	$ 275	$ 3,508	$ 9,022	$ 814	$ 9,836

Total expense	1,839	280	2,119	5,239	828	6,067
Operating income	$ 1,394	$ (5)	$ 1,389	$ 3,783	$ (14)	$ 3,769
Income tax expense	$ 445	$ (2)	$ 443	$ 1,090	$ (5)	$ 1,085
Net income	$ 959	$ (3)	$ 956	$ 2,697	$ (9)	$ 2,688
Net income attributable to BlackRock, Inc.	$ 947	$ (3)	$ 944	$ 2,666	$ (9)	$ 2,657
Earnings per share attributable to BlackRock, Inc. common stockholders:						
Basic	$ 5.85	$ (0.02)	$ 5.83	$ 16.41	$ (0.06)	$ 16.35
Diluted	$ 5.78	$ (0.02)	$ 5.76	$ 16.23	$ (0.06)	$ 16.17

Recognition and Measurement of Financial Instruments. In January 2016, the FASB issued ASU 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01"). ASU 2016-01 amends guidance on the classification and measurement of financial instruments, including requiring an entity to measure substantially all equity securities (other than those accounted for under the equity method of accounting) at fair value through earnings. ASU 2016-01 also amends certain disclosures associated with the fair value of financial instruments. The Company adopted ASU 2016-01 using a modified retrospective approach on January 1, 2018. The reclassification of unrealized gains (losses) on equity securities within accumulated other comprehensive income ("AOCI") to retained earnings was not material upon adoption.

Cash Flow Classification. In August 2016, the FASB issued ASU 2016-15, *Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), which amends and clarifies the current guidance to reduce diversity in practice of the classification of certain cash receipts and payments in the consolidated statement of cash flows. The Company adopted ASU 2016-15 on January 1, 2018 retrospectively to all periods presented. The adoption of ASU 2016-15 did not have a material impact on the condensed consolidated statements of cash flows.

Restricted Cash. In November 2016, the FASB issued 2016-18, *Restricted Cash* ("ASU 2016-18"), which clarifies the classification and presentation of restricted cash in the statement of cash flows. The Company adopted ASU 2016-18 on January 1, 2018 retrospectively to all periods presented. The adoption of ASU 2016-18 did not have a material impact on the condensed consolidated statements of cash flows. See Note 3, *Cash, Cash Equivalents and Restricted Cash*, for additional disclosures related to restricted cash.

Reclassifications from Accumulated Other Comprehensive Income. In February 2018, the FASB issued ASU 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* ("ASU 2018-02"). ASU 2018-02 allows reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act. The Company adopted ASU 2018-02 prospectively on January 1, 2018. The adoption of ASU 2018-02 did not have a material impact on the condensed consolidated statement of financial condition.

Fair Value Disclosure Requirements. In August 2018, the FASB issued ASU 2018-13, *Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which adds, modifies and removes certain disclosure requirements for fair value measurements. The Company early adopted the provisions of ASU 2018-13 that remove and modify disclosure requirements effective July 1, 2018, which included the removal of the estimated liquidation periods for investments measured at net asset value on a retrospective basis and removal of the valuation processes discussion for Level 3 fair value measurements.

The additional disclosure requirements under ASU 2018-13 are required to be applied prospectively and are effective for the Company on January 1, 2020. The Company does not expect the additional disclosure requirements to have a material impact on its consolidated financial statements.

Revenue Recognition

Revenue is recognized upon transfer of control of promised services to customers in an amount to which the Company expects to be entitled in exchange for those services. The Company enters into contracts that can include multiple services, which are accounted for separately if they are determined to be distinct. Consideration for the Company's services is generally in the form of variable consideration because the amount of fees is subject to market conditions that are outside of the Company's influence. The Company includes variable consideration in revenue when it is no longer probable of significant reversal, i.e. when the associated uncertainty is resolved. For some contracts with customers, the Company has discretion to involve a third party in providing services to the customer. Generally, the Company is deemed to be the principal in these arrangements because the Company controls the promised services before they are transferred to customers, and accordingly presents the revenue gross of related costs.

Investment Advisory, Administration Fees and Securities Lending Revenue. Investment advisory and administration fees are recognized as the services are performed over time and are primarily based on agreed-upon percentages of assets under management ("AUM"). Such fees are affected by changes in AUM, including market appreciation or depreciation, foreign exchange translation and net inflows or outflows. Investment advisory and administration fees for investment funds are shown net of fee waivers. In addition, the Company may contract with third parties to provide sub-advisory services on its behalf. The Company presents the investment advisory fees and associated costs to such third-party advisors on a gross basis where it is deemed to be the principal and on a net basis where it is deemed to be the agent. Management judgment involved in making these assessments is focused on ascertaining whether the Company is primarily responsible for fulfilling the promised service.

The Company earns revenue by lending securities on behalf of clients, primarily to highly rated banks and broker-dealers. Revenue is recognized over time as services are performed. Generally, the securities lending fees are shared between the Company and the funds or other third-party accounts managed by the Company from which the securities are borrowed.

Investment Advisory Performance Fees / Carried Interest. The Company receives investment advisory performance fees, including incentive allocations (carried interest) from certain actively managed investment funds and certain separately managed accounts. These performance fees are dependent upon exceeding specified relative or absolute investment return thresholds, which may vary by product or account, and include monthly, quarterly, annual or longer measurement periods.

The Company is allocated carried interest from certain alternative investment products upon exceeding performance thresholds. The Company may be required to reverse/return all, or part, of such carried interest allocations/distributions depending upon future performance of these funds. Therefore, carried interest subject to such clawback provisions is recorded in investments/investments of consolidated variable interest entities ("VIEs") or cash/cash of consolidated VIEs to the extent that it is distributed, on its condensed consolidated statements of financial condition.

Performance fees, including carried interest, are recognized when it is determined that they are no longer probable of significant reversal (such as upon the sale of a fund's investment or when the amount of AUM becomes known as of the end of a specified measurement period). Given the unique nature of each fee arrangement, contracts with customers are evaluated on an individual basis to determine the timing of revenue recognition. Significant judgement is involved in making such determination. Performance fees typically arise from investment management services that began in prior reporting periods. Consequently, a portion of the fees the Company recognizes may be partially related to the services performed in prior periods that meet the recognition criteria in the current period. At each reporting date, the Company considers various factors in estimating performance fees to be recognized, including carried interest. These factors include but are not limited to whether: (1) the fees are dependent on the market and thus are highly susceptible to factors outside the Company's influence; (2) the fees have a large number and a broad range of possible amounts; and (3) the funds or separately managed accounts have the ability to invest or reinvest their sales proceeds.

The Company records a liability for deferred carried interest to the extent it receives cash or capital allocations related to carried interest prior to meeting the revenue recognition criteria. A portion of the deferred carried interest may also be paid to certain employees. The ultimate timing of the recognition of performance fee revenue and related compensation expense, if any, for these products is unknown.

Technology services revenue. The Company offers investment management technology systems, risk management services, wealth management and digital distribution tools on a fee basis. Clients include banks, insurance companies, official institutions, pension funds, asset managers, retail distributors and other investors. Fees earned for technology services revenue are recorded as services are performed over time and are generally determined using the value of positions on the *Aladdin* platform or on a fixed-rate basis.

Distribution Fees. The Company accounts for fund distribution services and shareholder servicing as distinct services, separate from fund management services, because customers can benefit from each of the services on their own and because the services are separately identifiable (that is, the nature of the promised services is to transfer each service individually). The Company records upfront and ongoing sales commissions as distribution fee revenue for serving as the principal underwriter and/or distributor for certain managed mutual funds. Fund distribution services are satisfied at the point in time when an investor makes an investment in a share class of the managed mutual funds. Accordingly, the Company recognizes the upfront fees for front-end load funds on a trade date basis when the services are performed and the amount is known. However, the on-going distribution fees (e.g., 12b-1 fees) from the back-end load funds are based on net asset values over the investment period and are recognized when the amount is known. Consequently, a portion of the on-going distribution fees the Company recognized may be related to the services performed in prior periods that meet the recognition criteria in the current period. Generally, retail products offered outside of the United States do not generate a separate distribution fee as the quoted management fee rate is inclusive of these services. The Company recognizes ongoing shareholder servicing fee revenue as shareholder services are performed over time. On-going distribution fees are largely passed through as a distribution expense to third-party distributors who distribute the funds. The Company contracts with third parties for various fund distribution services and shareholder servicing of certain funds to be performed on its behalf. These arrangements are generally priced as a portion of the fee paid to the Company by the fund or as an agreed-upon percentage of net asset value. The Company presents its distribution fees and distribution and servicing costs incurred on a gross basis in the condensed consolidated statements of income because it has primary responsibility for fulfilling the promise to provide the specified services.

Advisory and other revenue. Advisory and other revenue primarily includes fees earned for advisory services, fees earned for transition management services primarily comprised of commissions recognized in connection with buying and selling securities on behalf of customers, and equity method investment earnings related to certain strategic investments.

Advisory services fees are determined using fixed-rate fees and are recognized over time as the related services are performed.

Commissions related to transition management services are recorded on a trade-date basis as securities transactions occur.

Investments

Investments in Debt Securities. The Company classifies debt investments as available-for-sale, held-to-maturity or trading based on the Company's intent to sell the security or, its intent and ability to hold the debt security to maturity.

Available-for-sale debt securities are those securities that are not classified as trading or held-to-maturity. Available-for-sale debt securities include certain investments in collateralized loan obligations ("CLOs") and are carried at fair value on the condensed consolidated statements of financial condition with changes in fair value recorded in AOCI within stockholders' equity in the period of the change. Upon the disposition of an available-for-sale security, the Company reclassifies the gain or loss on the security from AOCI to nonoperating income (expense) on the condensed consolidated statements of income.

Held-to-maturity debt securities are purchased with the positive intent and ability to be held to maturity and are recorded at amortized cost on the condensed consolidated statements of financial condition.

Trading securities are those investments that are purchased principally for the purpose of selling them in the near term. Trading securities are carried at fair value on the condensed consolidated statements of financial condition with

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changes in fair value recorded in nonoperating income (expense) on the condensed consolidated statements of income. Trading securities include certain investments in CLOs for which the fair value option is elected in order to reduce operational complexity of bifurcating embedded derivatives.

Investments in Equity Securities. Equity securities are generally carried at fair value on the condensed consolidated statements of financial condition with changes in the fair value recorded through net income ("FVTNI") within nonoperating income (expense). For nonmarketable equity securities, the Company generally elects to apply the practicality exception to apply fair value measurement, under which such securities will be measured at cost, less impairment, plus or minus observable price changes for identical or similar securities of the same issuer with such changes recorded in the condensed consolidated statements of income. Dividends received are recorded as dividend income within nonoperating income (expense).

Equity Method. For equity investments where the Company does not control the investee, and where it is not the primary beneficiary ("PB") of a VIE, but can exert significant influence over the financial and operating policies of the investee, the Company follows the equity method of accounting. The Company's share of the investee's underlying net income or loss is recorded as net gain (loss) on investments within nonoperating income (expense) and as other revenue for certain strategic investments since such companies are considered to be an extension of the Company's core business. The Company's share of net income of the investee is recorded based upon the most current information available at the time, which may precede the date of the condensed consolidated statement of financial condition. Distributions received reduce the Company's carrying value of the investee and the cost basis if deemed to be a return of capital.

Impairments of Investments. Management periodically assesses equity method, available-for-sale and held-to-maturity investments for other-than-temporary impairment ("OTTI"). If an OTTI exists, an impairment charge would be recorded for the excess of the carrying amount of the investment over its estimated fair value in the condensed consolidated statements of income.

For equity method investments and held-to-maturity investments, if circumstances indicate that an OTTI may exist, the investments are evaluated using market values, where available, or the expected future cash flows of the investment.

For the Company's investments in CLOs, the Company reviews cash flow estimates over the life of each CLO investment. On a quarterly basis, if the present value of the estimated future cash flows is lower than the carrying value of the investment and there is an adverse change in estimated cash flows, an impairment is considered to be other-than-temporary.

In addition, for nonmarketable equity securities that are accounted for under the measurement alternative to fair value, the Company applies the impairment model that does not require the Company to consider whether the impairment is other-than-temporary.

Fair Value Measurements

Hierarchy of Fair Value Inputs. The Company uses a fair value hierarchy that prioritizes inputs to valuation approaches used to measure fair value. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. Assets and liabilities measured and reported at fair value are classified and disclosed in one of the following categories:

Level 1 Inputs:

Quoted prices (unadjusted) in active markets for identical assets or liabilities at the reporting date.

- Level 1 assets may include listed mutual funds, ETFs, listed equities and certain exchange-traded derivatives.

Level 2 Inputs:

Quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities that are not active; quotes from pricing services or brokers for which the Company can determine that orderly transactions took place at the quoted price or that the inputs used to arrive at the price are observable; and inputs other than quoted prices that are observable, such as models or other valuation methodologies.

- Level 2 assets may include debt securities, investments in CLOs, bank loans, short-term floating-rate notes, asset-backed securities, securities held within consolidated hedge funds, restricted public securities valued at a discount, as well as over-the-counter derivatives, including interest and inflation rate swaps and foreign currency exchange contracts that have inputs to the valuations that generally can be corroborated by observable market data.

Level 3 Inputs:

Unobservable inputs for the valuation of the asset or liability, which may include nonbinding broker quotes. Level 3 assets include investments for which there is little, if any, market activity. These inputs require significant management judgment or estimation.

- Level 3 assets may include direct private equity investments held within consolidated funds, investments in CLOs and bank loans of consolidated CLOs.

- Level 3 liabilities include contingent liabilities related to acquisitions valued based upon discounted cash flow analyses using unobservable market data and borrowings of a consolidated CLO.

Significance of Inputs. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the financial instrument.

Valuation Approaches. The fair values of certain Level 3 assets and liabilities were determined using various valuation approaches as appropriate, including third-party pricing vendors, broker quotes and market and income approaches.

A significant number of inputs used to value equity, debt securities, investments in CLOs and bank loans is sourced from third-party pricing vendors. Generally, prices obtained from pricing vendors are categorized as Level 1 inputs for identical securities traded in active markets and as Level 2 for other similar securities if the vendor uses observable inputs in determining the price.

In addition, quotes obtained from brokers generally are nonbinding and categorized as Level 3 inputs. However, if the Company is able to determine that market participants have transacted for the asset in an orderly manner near the quoted price or if the Company can determine that the inputs used by the broker are observable, the quote is classified as a Level 2 input.

Investments Measured at Net Asset Values. As a practical expedient, the Company uses net asset value ("NAV") as the fair value for certain investments. The inputs to value these investments may include the Company's capital accounts for its partnership interests in various alternative investments, including hedge funds, real assets and private equity funds, which may be adjusted by using the returns of certain market indices. The various partnerships generally are investment companies, which record their underlying investments at fair value based on fair value policies established by management of the underlying fund. Fair value policies at the underlying fund generally require the fund to utilize pricing/valuation information from third-party sources, including independent appraisals. However, in some instances, current valuation information for illiquid securities or securities in markets that are not active may not be available from any third-party source or fund management may conclude that the valuations that are available from third-party sources are not reliable. In these instances, fund management may perform model-based analytical valuations that could be used as an input to value these investments.

Fair Value of Asset and Liabilities of Consolidated CLO. The Company applies the fair value option provisions for eligible assets, including bank loans, held by a consolidated CLO. As the fair value of the financial assets of the consolidated CLO is more observable than the fair value of the borrowings of the consolidated CLO, the Company measures the fair value of the borrowings of the consolidated CLO as the fair value of the assets of the consolidated CLO less the fair value of the Company's economic interest in the CLO.

Derivative Instruments and Hedging Activities. The Company does not use derivative financial instruments for trading or speculative purposes. The Company uses derivative financial instruments primarily for purposes of hedging exposures to fluctuations in foreign currency exchange rates of certain assets and liabilities, and market exposures for certain seed investments. However, certain consolidated sponsored investment funds may also utilize derivatives as a part of their investment strategy.

Changes in the fair value of the Company's derivative financial instruments are recognized in earnings and, where applicable, are offset by the corresponding gain or loss on the related foreign-denominated assets or liabilities or hedged investments, on the condensed consolidated statements of income.

The Company may also use financial instruments designated as net investment hedges for accounting purposes to hedge net investments in international subsidiaries whose functional currency is not U.S. dollars. The gain or loss from revaluing accounting hedges of net investments in foreign operations at the spot rate is deferred and reported within

AOCI on the condensed consolidated statements of financial condition. The Company reassesses the effectiveness of its net investment hedge on a quarterly basis.

***Separate Account Assets and Liabilities*.** Separate account assets are maintained by BlackRock Life Limited, a wholly owned subsidiary of the Company, which is a registered life insurance company in the United Kingdom, and represent segregated assets held for purposes of funding individual and group pension contracts. The life insurance company does not underwrite any insurance contracts that involve any insurance risk transfer from the insured to the life insurance company. The separate account assets primarily include equity securities, debt securities, money market funds and derivatives. The separate account assets are not subject to general claims of the creditors of the Company. These separate account assets and the related equal and offsetting liabilities are recorded as separate account assets and separate account liabilities on the condensed consolidated statements of financial condition.

The net investment income attributable to separate account assets supporting individual and group pension contracts accrues directly to the contract owner and is not reported on the condensed consolidated statements of income. While the Company has no economic interest in these separate account assets and liabilities, the Company earns policy administration and management fees associated with these products, which are included in investment advisory, administration fees and securities lending revenue on the condensed consolidated statements of income.

Separate Account Collateral Assets Held and Liabilities Under Securities Lending Agreements. The Company facilitates securities lending arrangements whereby securities held by separate accounts maintained by BlackRock Life Limited are lent to third parties under global master securities lending agreements. In exchange, the Company receives legal title to the collateral with minimum values generally ranging from approximately 102% to 112% of the value of the securities lent in order to reduce counterparty risk. The required collateral value is calculated on a daily basis. The global master securities lending agreements provide the Company the right to request additional collateral or, in the event of borrower default, the right to liquidate collateral. The securities lending transactions entered into by the Company are accompanied by an agreement that entitles the Company to request the borrower to return the securities at any time; therefore, these transactions are not reported as sales.

The Company records on the condensed consolidated statements of financial condition the cash and noncash collateral received under these BlackRock Life Limited securities lending arrangements as its own asset in addition to an equal and offsetting collateral liability for the obligation to return the collateral. The securities lending revenue earned from lending securities held by the separate accounts is included in investment advisory, administration fees and securities lending revenue on the condensed consolidated statements of income. During the nine months ended September 30, 2018 and 2017, the Company had not resold or repledged any of the collateral received under these arrangements. At September 30, 2018 and December 31, 2017, the fair value of loaned securities held by separate accounts was approximately $17.8 billion and $22.3 billion, respectively, and the fair value of the collateral held under these securities lending agreements was approximately $19.6 billion and $24.2 billion, respectively.

Recent Accounting Pronouncements Not Yet Adopted

Leases. In February 2016, the FASB issued ASU 2016-02, *Leases,* and several amendments (collectively, “ASU 2016-02”), which requires lessees to recognize assets and liabilities arising from most operating leases on the condensed consolidated statements of financial condition. The Company expects to record assets and liabilities for its current operating leases upon adoption of ASU 2016-02 and does not expect the adoption to have a material impact on its results of operations or cash flows.

In July 2018, the FASB issued ASU 2018-11, *Targeted Improvements* (“ASU 2018-11”), which provides entities a transition option to not apply the new lease standard to the comparative periods presented in financial statements. Under this transition option, an entity applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption.

The Company will adopt ASU 2016-02 on its effective date of January 1, 2019 on a modified retrospective basis applying the transition option permitted by ASU 2018-11. The Company intends to elect the package of practical expedients that will alleviate certain operational complexities related to the adoption. See Note 13 of the 2017 Form 10-K for information on the Company’s operating lease commitments.

3. Cash, Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash and cash equivalents reported within the condensed consolidated statements of financial condition to the cash, cash equivalents, and restricted cash reported within the condensed consolidated statements of cash flows.

(in millions)	**September 30, 2018**	**December 31, 2017**

Cash and cash equivalents	$ 6,358	$ 6,894
Cash and cash equivalents of consolidated VIEs	222	144
Restricted cash included in other assets	17	58
Total cash, cash equivalents and restricted cash	$ 6,597	$ 7,096

4. Investments

A summary of the carrying value of total investments is as follows:

(in millions)	**September 30, 2018(1)**
Debt securities:	
Available-for-sale investments	$ 42
Held-to-maturity investments	145
Trading securities ($148 debt securities of consolidated sponsored investment funds)	176
Total debt securities	363
Equity securities at FVTNI ($283 equity securities of consolidated sponsored investment funds)	508
Equity method investments(2)	779
Federal Reserve Bank stock(3)	92
Carried interest(4)	18
Total investments	$ 1,760

(in millions)	**December 31, 2017(1)**
Available-for-sale investments	$ 103
Held-to-maturity investments	102
Trading investments:	
Consolidated sponsored investment funds:	
Debt securities	267
Equity securities	245
Other equity and debt securities	267
Deferred compensation plan mutual funds	56
Total trading investments	835
Equity method investments(2)	816
Cost method investments(3)	93
Carried interest(4)	32
Total investments	$ 1,981

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(1) Amounts at September 30, 2018 reflect the adoption of ASU 2016-01. See Note 2, *Significant Accounting Policies*, for further information. Amounts at December 31, 2017 reflect accounting guidance prior to ASU 2016-01.

(2) Equity method investments primarily include BlackRock's direct investments in certain BlackRock sponsored investment funds.

(3) Amounts include Federal Reserve Bank stock, which is held for regulatory purposes and is restricted from sale. At December 31, 2017, amount also includes other nonmarketable securities, which were immaterial. At September 30, 2018 and December 31, 2017, there were no indicators of impairment on these investments.

(4) Carried interest of consolidated sponsored investment funds accounted for as voting rights entities ("VREs") represents allocations to BlackRock's general partner capital accounts from certain funds. These balances are subject to change upon cash distributions, additional allocations or reallocations back to limited partners within the respective funds.

Available-for-Sale Investments

At both September 30, 2018 and December 31, 2017, available-for-sale investments primarily included certain investments in CLOs. The cost of these investments approximated carrying value. At September 30, 2018, $42 million of these investments mature after ten years.

Held-to-Maturity Investments

The carrying value of held-to-maturity investments was $145 million and $102 million at September 30, 2018 and December 31, 2017, respectively. Held-to-maturity investments included foreign government debt held primarily for regulatory purposes and certain investments in CLOs. The amortized cost (carrying value) of these investments approximated fair value (primarily a Level 2 input). At September 30, 2018, $11 million of these investments mature between five to ten years and $134 million mature after ten years.

Equity and Trading Debt Securities

A summary of the cost and carrying value of equity and trading debt securities is as follows:

	September 30, 2018[1]	
(in millions)	**Cost**	**Carrying Value**
Trading debt securities:		
Corporate debt	$ 94	$ 92
Government debt	46	39
Asset/mortgage-backed debt	49	45
Total debt securities	189	176
Equity securities at FVTNI:		
Equity securities/multi-asset mutual funds	475	472
Deferred compensation plan mutual funds	21	36
Total equity securities at FVTNI	496	508
Total equity and trading debt securities	$ 685	$ 684

	December 31, 2017[1]	
(in millions)	**Cost**	**Carrying Value**
Trading investments:		
Deferred compensation plan mutual funds	$ 34	$ 56
Equity securities/multi-asset mutual funds	446	493
Debt securities		
Corporate debt	152	157
Government debt	72	73
Asset/mortgage backed debt	56	56
Total trading investments	$ 760	$ 835

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[1] Amounts at September 30, 2018 reflect the adoption of ASU 2016-01. See Note 2, *Significant Accounting Policies*, for further information. Amounts at December 31, 2017 reflect accounting guidance prior to ASU 2016-01.

Other

In addition, the Company accounts for its interest in PennyMac Financial Services, Inc. (“PennyMac”) as an equity method investment. At September 30, 2018 and December 31, 2017, the Company’s investment in PennyMac is included in other assets on the condensed consolidated statements of financial condition. The carrying value and market value of the Company’s interest (approximately 20% or 16 million shares and units) was approximately $384 million and $325 million, respectively, at September 30, 2018 and approximately $342 million and $348 million, respectively, at December 31, 2017. The market value of the Company’s interest reflected the PennyMac stock price at September 30, 2018 and December 31, 2017, respectively (a Level 1 input). The estimated market value of the Company’s interest in the non-public units held of PennyMac is based on the stock price of the PennyMac public securities at September 30, 2018 and December 31, 2017. The Company performed an other-than-temporary impairment analysis as of September 30, 2018 and believes the shortfall of market value versus book value is temporary.

5. Consolidated Voting Rights Entities

The Company consolidates certain sponsored investment funds accounted for as VREs because it is deemed to control such funds. The following table presents the amounts related to these consolidated VREs that were recorded on the condensed consolidated statements of financial condition, including BlackRock’s net interest in these funds:

(in millions)	**September 30, 2018**	**December 31, 2017**
Cash and cash equivalents	$ 58	$ 63
Investments:		
Trading debt securities	148	267
Equity securities at FVTNI	283	245
Total investments	431	512
Other assets	12	13
Other liabilities	(52)	(37)
Noncontrolling interests ("NCI")	(60)	(91)
BlackRock’s net interests in consolidated VREs	$ 389	$ 460

BlackRock’s total exposure to consolidated VREs represents the value of its economic ownership interest in these sponsored investment funds. Valuation changes associated with investments held at fair value by these consolidated VREs are reflected in nonoperating income (expense) and partially offset in net income (loss) attributable to noncontrolling interests for the portion not attributable to BlackRock.

The Company cannot readily access cash and cash equivalents held by consolidated VREs to use in its operating activities.

6. Variable Interest Entities

In the normal course of business, the Company is the manager of various types of sponsored investment vehicles, which may be considered VIEs. The Company may from time to time own equity or debt securities or enter into derivatives with the vehicles, each of which are considered variable interests. The Company’s involvement in financing the operations of the VIEs is generally limited to its investments in the entity. The Company consolidates entities when it is determined to be the PB.

Consolidated VIEs. The Company’s consolidated VIEs include certain sponsored investment products in which BlackRock has an investment and as the investment manager is deemed to have both the power to direct the most significant activities of the products and the right to receive benefits (or the obligation to absorb losses) that could potentially be significant to these sponsored investment products. The assets of these VIEs are not available to creditors of the Company. In addition, the investors in these VIEs have no recourse to the credit of the Company.

Consolidated VIE assets and liabilities are presented after intercompany eliminations in the following table:

(in millions)	September 30, 2018	December 31, 2017
Assets of consolidated VIEs:		
Cash and cash equivalents	$ 222	$ 144
Investments:		
Trading debt securities	973	475
Equity securities at FVTNI	600	440
Bank loans	53	—
Other investments	285	312
Carried interest	306	266
Other assets	179	66
Total investments and other assets	2,396	1,559
Liabilities of consolidated VIEs:		
Borrowings	(44)	—
Other liabilities	(514)	(369)
Noncontrolling interests	(598)	(375)
BlackRock's net interests in consolidated VIEs	$ 1,462	$ 959

Net gain (loss) related to consolidated VIEs is presented in the following table:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	2018	2017	2018	2017
Nonoperating net gain (loss) on consolidated VIEs	$ (9)	$ 29	$ (21)	$ 95
Net income (loss) attributable to NCI on consolidated VIEs	$ (14)	$ 10	$ (3)	$ 28

Nonconsolidated VIEs. At September 30, 2018 and December 31, 2017, the Company's carrying value of assets and liabilities included on the condensed consolidated statements of financial condition pertaining to nonconsolidated VIEs and its maximum risk of loss related to VIEs for which it held a variable interest, but for which it was not the PB, was as follows:

(in millions)

At September 30, 2018	Investments	Advisory Fee Receivables	Other Net Assets (Liabilities)	Maximum Risk of Loss(1)
Sponsored investment products	$ 335	$ 40	$ (6)	$ 392
At December 31, 2017				
Sponsored investment products	$ 263	$ 15	$ (7)	$ 295

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(1) At both September 30, 2018 and December 31, 2017, BlackRock's maximum risk of loss associated with these VIEs primarily related to BlackRock's investments and the collection of advisory fee receivables.

The net assets of sponsored investment products that are nonconsolidated VIEs approximated $8 billion and $5 billion at September 30, 2018 and December 31, 2017, respectively.

7. Fair Value Disclosures

Fair Value Hierarchy

Assets and liabilities measured at fair value on a recurring basis and other assets not held at fair value

September 30, 2018[1] *(in millions)*	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Investments Measured at NAV**[2]	**Other Assets Not Held at Fair Value**[3]	**September 30, 2018**
Assets:						
Investments:						
Equity securities at FVTNI:						
Deferred compensation plan mutual funds	$ 36	$ —	$ —	$ —	$ —	$ 36
Equity securities/Multi-asset mutual funds	472	—	—	—	—	472
Total equity securities at FVTNI	508	—	—	—	—	508
Debt securities:						
Available-for-sale	—	42	—	—	—	42
Trading securities	—	176	—	—	—	176
Held-to-maturity securities	—	—	—	—	145	145
Total debt securities	—	218	—	—	145	363
Equity method:						
Equity and fixed income mutual funds	140	—	—	14	—	154
Other	—	—	—	622	3	625
Total equity method	140	—	—	636	3	779
Federal Reserve Bank Stock	—	—	—	—	92	92
Carried interest	—	—	—	—	18	18
Total investments	648	218	—	636	258	1,760
Investments of consolidated VIEs:						
Equity securities at FVTNI	600	—	—	—	—	600
Trading debt securities	—	973	—	—	—	973
Bank loans	—	9	44	—	—	53
Private equity[4]	—	—	105	49	74	228
Other	—	—	—	57	—	57
Carried interest	—	—	—	—	306	306
Total investments of consolidated VIEs	600	982	149	106	380	2,217
Separate account assets	79,607	27,667	—	—	708	107,982
Separate account						

collateral held under securities lending agreements:						
Equity securities	17,392	—	—	—	—	17,392
Debt securities	—	2,183	—	—	—	2,183
Total separate account collateral held under securities lending agreements	17,392	2,183	—	—	—	19,575
Total	$ 98,247	$ 31,050	$ 149	$ 742	$ 1,346	$ 131,534
Liabilities:						
Borrowings of consolidated VIEs[5]	$ —	$ —	$ 44	$ —	$ —	$ 44
Separate account collateral liabilities under securities lending agreements	17,392	2,183	—	—	—	19,575
Other liabilities[6]	—	6	259	—	—	265
Total	$ 17,392	$ 2,189	$ 303	$ —	$ —	$ 19,884

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[1] Amounts at September 30, 2018 reflect the adoption of ASU 2016-01. See Note 2, *Significant Accounting Policies*, for further information.

[2] Amounts are comprised of certain investments measured at fair value using NAV (or its equivalent) as a practical expedient.

[3] Amounts are comprised of investments held at cost or amortized cost, carried interest and certain equity method investments, which include sponsored investment funds and other assets, which are not accounted for under a fair value measure. In accordance with GAAP, certain equity method investees do not account for both their financial assets and liabilities under fair value measures; therefore, the Company's investment in such equity method investees may not represent fair value.

[4] Level 3 amounts primarily include direct investments in private equity companies held by private equity funds.

[5] Borrowings of consolidated VIEs are classified based on the more significant inputs, which are unobservable, used for calculating the fair value of consolidated CLO assets.

[6] Amounts primarily include contingent liabilities related to certain acquisitions (see Note 12, *Commitments and Contingencies*, for more information).

Assets and liabilities measured at fair value on a recurring basis and other assets not held at fair value

December 31, 2017[1] *(in millions)*	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Investments Measured at NAV**[2]	**Other Assets Not Held at Fair Value**[3]	**December 31, 2017**
Assets:						
Investments						
Available-for-sale	$ 7	$ 96	$ —	$ —	$ —	$ 103
Held-to-maturity debt securities	—	—	—	—	102	102
Trading:						
Deferred compensation plan mutual funds	56	—	—	—	—	56
Equity/Multi-asset mutual funds	493	—	—	—	—	493

Debt securities / fixed income mutual funds	2	284	—	—	—	286
Total trading	551	284	—	—	—	835
Equity method:						
Equity and fixed income mutual funds	183	—	—	12	—	195
Other	—	—	—	609	12	621
Total equity method	183	—	—	621	12	816
Cost method investments	—	—	—	—	93	93
Carried interest	—	—	—	—	32	32
Total investments	741	380	—	621	239	1,981
Separate account assets	114,422	34,582	—	—	933	149,937
Separate account collateral held under securities lending agreements:						
Equity securities	18,778	—	—	—	—	18,778
Debt securities	—	5,412	—	—	—	5,412
Total separate account collateral held under securities lending agreements	18,778	5,412	—	—	—	24,190
Investments of consolidated VIEs:						
Trading:						
Equity securities	440	—	—	—	—	440
Debt securities	—	475	—	—	—	475
Private / public equity(4)	6	2	116	59	76	259
Other	—	—	—	53	—	53
Carried interest	—	—	—	—	266	266
Total investments of consolidated VIEs	446	477	116	112	342	1,493
Total	$ 134,387	$ 40,851	$ 116	$ 733	$ 1,514	$ 177,601
Liabilities:						
Separate account collateral liabilities under securities lending agreements	$ 18,778	$ 5,412	$ —	$ —	$ —	$ 24,190
Other liabilities(5)	—	7	236	—	—	243
Total	$ 18,778	$ 5,419	$ 236	$ —	$ —	$ 24,433

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(1) Amounts at December 31, 2017 reflect accounting guidance prior to ASU 2016-01.

(2) Amounts are comprised of certain investments measured at fair value using NAV (or its equivalent) as a practical expedient.

(3) Amounts are comprised of investments held at cost or amortized cost, carried interest and certain equity method investments, which include sponsored investment funds and other assets, which are not accounted for under a fair value measure. In accordance with GAAP, certain equity method investees do not account for both their financial assets and liabilities under fair value measures; therefore, the Company's investment in such equity method investees may not represent fair value.

(4) Level 3 amounts include direct investments in private equity companies held by private equity funds.

(5) Amounts primarily include contingent liabilities related to certain acquisitions (see Note 12, *Commitments and Contingencies*, for more information).

Level 3 Assets. Level 3 assets may include investments in CLOs and bank loans of consolidated CLOs valued based on single-broker nonbinding quotes and direct private equity investments valued using the market or income approach as described below.

Level 3 investments of consolidated VIEs of $149 million and $116 million at September 30, 2018 and December 31, 2017, respectively, related to direct investments in private equity companies held by consolidated private equity funds. At September 30, 2018, level 3 investments of consolidated VIEs also included bank loans of a consolidated CLO valued based on single-broker nonbinding quotes.

Direct investments in private equity companies may be valued using the market approach or the income approach, or a combination thereof, and were valued based on an assessment of each underlying investment, incorporating evaluation of additional significant third-party financing, changes in valuations of comparable peer companies, the business environment of the companies, market indices, assumptions relating to appropriate risk adjustments for nonperformance and legal restrictions on disposition, among other factors. The fair value derived from the methods used is evaluated and weighted, as appropriate, considering the reasonableness of the range of values indicated. Under the market approach, fair value may be determined by reference to multiples of market-comparable companies or transactions, including earnings before interest, taxes, depreciation and amortization ("EBITDA") multiples. Under the income approach, fair value may be determined by discounting the expected cash flows to a single present value amount using current expectations about those future amounts. Unobservable inputs used in a discounted cash flow model may include projections of operating performance generally covering a five-year period and a terminal value of the private equity direct investment. For investments utilizing a discounted cash flow valuation technique, a significant increase (decrease) in the discount rate, risk premium or discount for lack of marketability in isolation could have resulted in a significantly lower (higher) fair value measurement as of September 30, 2018. For investments utilizing the market-comparable valuation technique, a significant increase (decrease) in a valuation multiple in isolation could have resulted in a significantly higher (lower) fair value measurement as of September 30, 2018.

Level 3 Liabilities. Level 3 other liabilities primarily include recorded contingent liabilities related to certain acquisitions, which were valued based upon discounted cash flow analyses using unobservable market data inputs and borrowings of consolidated VIEs, which were valued based on the fair value of the assets of the consolidated CLO less fair value of the Company's economic interest in the CLO.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis for the Three Months Ended September 30, 2018

(in millions)	June 30, 2018[1]	Realized and Unrealized Gains (Losses) in Earnings and OCI	Purchases	Sales and Maturities	Issuances and other Settlements[2]	Transfers into Level 3	Transfers out of Level 3	September 30, 2018[1]	Total Net Unrealized Gains (Losses) Included in Earnings[3]
Assets:									
Assets of consolidated VIEs:									
Private equity	$ 104	$ 1	$ —	$ —	$ —	$ —	$ —	$ 105	
Bank loans[4]	—	—	—	—	44	—	—	44	
Total Assets of	$ 104	$ 1	$ —	$ —	$ 44	$ —	$ —	$ 149	$ 1

consolidated VIEs									
Liabilities:									
Borrowings of consolidated VIEs(4)	$ —	$ —	$ —	$ —	$ 44	$ —	$ —	$ 44	
Other liabilities	223	(30)	—	—	6	—	—	259	
Total Level 3 liabilities	$ 223	$ (30)	$ —	$ —	$ 50	$ —	$ —	$ 303	$ (30)

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(1) Amounts reflect the adoption of ASU 2016-01. See Note 2, *Significant Accounting Policies*, for further information.

(2) Other liabilities amount includes a contingent liability in connection with an acquisition, partially offset by a contingent liability payment in connection with a prior acquisition.

(3) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.

(4) Bank loans and borrowings of consolidated VIEs amounts are related to the consolidation of one additional CLO.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis for the Nine Months Ended September 30, 2018

(in millions)	**December 31, 2017**	**Realized and Unrealized Gains (Losses) in Earnings and OCI**	**Purchases**	**Sales and Maturities**	**Issuances and other Settlements(1)**	**Transfers into Level 3**	**Transfers out of Level 3**	**September 30, 2018(2)**	**Total Net Unrealized Gains (Losses) Included in Earnings(3)**
Assets:									
Investments:									
Debt securities:									
Available-for-sale securities(4)	$ —	$ —	$ 26	$ —	$ —	$ —	$ (26)	$ —	
Trading securities	—	—	5	—	—	—	(5)	—	
Total debt securities	—	—	31	—	—	—	(31)	—	
Total investments	—	—	31	—	—	—	(31)	—	
Assets of consolidated VIEs:									
Private equity	116	1	—	(12)	—	—	—	105	
Bank loans(5)	—	—	—	—	44	—	—	44	
Total Assets of consolidated VIEs	116	1	—	(12)	44	—	—	149	
Total Level 3 assets	$ 116	$ 1	$ 31	$ (12)	$ 44	$ —	$ (31)	$ 149	$ 1
Liabilities:									
Borrowings of consolidated VIEs(5)	$ —	$ —	$ —	$ —	$ 44	$ —	$ —	$ 44	
Other liabilities	236	(33)	—	—	(10)	—	—	259	
Total Level 3 liabilities	$ 236	$ (33)	$ —	$ —	$ 34	$ —	$ —	$ 303	$ (33)

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(1) Other liabilities amount includes contingent liability payments in connection with certain prior acquisitions, partially offset by a contingent liability in connection with an acquisition.

(2) Amounts reflect the adoption of ASU 2016-01. See Note 2, *Significant Accounting Policies*, for further information.

(3) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.

(4) Amounts include investments in CLOs.

(5) Bank loans and borrowings of consolidated VIEs amounts are related to the consolidation of one additional CLO.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis for the Three Months Ended September 30, 2017[1]

(in millions)	**June 30, 2017**	**Realized and Unrealized Gains (Losses) in Earnings and OCI**	**Purchases**	**Sales and Maturities**	**Issuances and other Settlements**[2]	**Transfers into Level 3**	**Transfers out of Level 3**	**September 30, 2017**	**Total Net Unrealized Gains (Losses) Included in Earnings**[3]
Assets:									
Investments:									
Available-for-sale securities[4]	$ 23	$ —	$ —	$ —	$ —	$ —	$ —	$ 23	
Trading	4	—	—	—	—	—	(2)	2	
Total investments	27	—	—	—	—	—	(2)	25	
Assets of consolidated VIEs - Private equity	113	1	—	—	—	—	—	114	$ 1
Total Level 3 assets	$ 140	$ 1	$ —	$ —	$ —	$ —	$ (2)	$ 139	
Liabilities:									
Other liabilities[5]	$ 218	$ (7)	$ —	$ —	$ 3	$ —	$ —	$ 228	$ (7)

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(1) Amounts reflect accounting guidance prior to ASU 2016-01.

(2) Issuance and other settlements amount includes a contingent liability of $9 million in connection with the acquisition of Cachematrix in July 2017 (“Cachematrix Transaction”) and a contingent liability payment in connection with a prior acquisition.

(3) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.

(4) Amounts include investments in CLOs.

(5) Other liabilities amount includes contingent liabilities in connection with certain acquisitions.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis for the Nine Months Ended September 30, 2017[1]

(in millions)	December 31, 2016	Realized and Unrealized Gains (Losses) in Earnings and OCI	Purchases	Sales and Maturities	Issuances and other Settlements[2]	Transfers into Level 3	Transfers out of Level 3[3]	September 30, 2017	Total Net Unrealized Gains (Losses) Included in Earnings[4]
Assets:									
Investments:									
Available-for-sale securities[5]	$ 24	$ —	$ 23	$ —	$ —	$ —	$ (24)	$ 23	
Trading	7	—	4	—	—	—	(9)	2	
Total investments	31	—	27	—	—	—	(33)	25	
Assets of consolidated VIEs - Private equity	112	2	—	—	—	—	—	114	$ 2
Total Level 3 assets	$ 143	$ 2	$ 27	$ —	$ —	$ —	$ (33)	$ 139	
Liabilities:									
Other liabilities[6]	$ 115	$ (2)	$ —	$ —	$ 111	$ —	$ —	$ 228	$ (2)

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(1) Amounts reflect accounting guidance prior to ASU 2016-01.

(2) Issuance and other settlements amount includes $120 million and $9 million of contingent liabilities in connection with the acquisition of the equity infrastructure franchise of First Reserve in June 2017 ("First Reserve Transaction") and the Cachematrix Transaction, respectively, and contingent liability payments in connection with certain prior acquisitions.

(3) Amounts include transfers out of Level 3 due to availability of observable market inputs from pricing vendors.

(4) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.

(5) Amounts include investments in CLOs.

(6) Other liabilities amount includes contingent liabilities in connection with certain acquisitions.

Realized and Unrealized Gains (Losses) for Level 3 Assets and Liabilities. Realized and unrealized gains (losses) recorded for Level 3 assets and liabilities are reported in nonoperating income (expense) on the condensed consolidated statements of income. A portion of net income (loss) for consolidated sponsored investment funds is allocated to noncontrolling interests to reflect net income (loss) not attributable to the Company.

Transfers in and/or out of Levels. Transfers in and/or out of levels are reflected when significant inputs, including market inputs or performance attributes, used for the fair value measurement become observable/unobservable, or when the carrying value of certain equity method investments no longer represents fair value as determined under valuation methodologies.

Disclosures of Fair Value for Financial Instruments Not Held at Fair Value. At September 30, 2018 and December 31, 2017, the fair value of the Company's financial instruments not held at fair value are categorized in the table below:

	September 30, 2018		December 31, 2017		
(in millions)	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value	Fair Value Hierarchy

Financial Assets(1):					
Cash and cash equivalents	$ 6,358	$ 6,358	$ 6,894	$ 6,894	Level 1(2)(3)
Cash and cash equivalents of consolidated VIEs	222	222	144	144	Level 1(2)(3)
Other assets	26	26	70	70	Level 1(2)(4)
Financial Liability:					
Long-term borrowings	4,991	5,033	5,014	5,225	Level 2(5)

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(1) See Note 4, *Investments*, for further information on investments not held at fair value.

(2) Cash and cash equivalents are carried at either cost or amortized cost, which approximates fair value due to their short-term maturities.

(3) At September 30, 2018 and December 31, 2017, approximately $131 million and $163 million, respectively, of money market funds were recorded within cash and cash equivalents on the condensed consolidated statements of financial condition. In addition, at September 30, 2018 and December 31, 2017, approximately $12 million and $14 million, respectively, of money market funds were recorded within cash and cash equivalents of consolidated VIEs. Money market funds are valued based on quoted market prices, or $1.00 per share, which generally is the NAV of the fund.

(4) Other assets primarily include restricted cash.

(5) Long-term borrowings are recorded at amortized cost net of debt issuance costs. The fair value of the long-term borrowings, including the current portion of long-term borrowings, is estimated using market prices at the end of September 2018 and December 2017, respectively. See Note 11, *Borrowings*, for the fair value of each of the Company's long-term borrowings.

Investments in Certain Entities that Calculate Net Asset Value Per Share

As a practical expedient to value certain investments that do not have a readily determinable fair value and have attributes of an investment company, the Company uses NAV as the fair value. The following tables list information regarding all investments that use a fair value measurement to account for both their financial assets and financial liabilities in their calculation of a NAV per share (or equivalent).

September 30, 2018

(in millions)	**Ref**	**Fair Value**	**Total Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Equity method:(1)					
Hedge funds/funds of hedge funds	(a)	$ 176	$ 94	Daily/Monthly (31%) Quarterly (18%) N/R (51%)	1 – 90 days
Private equity funds	(b)	111	88	N/R	N/R
Real assets funds	(c)	335	91	Quarterly (73%) N/R (27%)	60 days
Other		14	17	Daily/Monthly (79%) N/R (21%)	3 – 5 days
Consolidated VIEs:					
Private equity funds of funds	(d)	49	18	N/R	N/R
Hedge fund	(a)	3	—	Quarterly	90 days
Real assets funds	(c)	54	45	N/R	N/R
Total		$ 742	$ 353		

December 31, 2017

(in millions)	Ref	Fair Value	Total Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity method:(1)					
Hedge funds/funds of hedge funds	(a)	$ 230	$ 48	Daily/Monthly (21%) Quarterly (49%) N/R (30%)	1 – 90 days
Private equity funds	(b)	94	86	N/R	N/R
Real assets funds	(c)	282	69	Quarterly (83%) N/R (17%)	60 days
Other		15	14	Daily (80%) N/R (20%)	5 days
Consolidated VIEs:					
Private equity funds of funds	(d)	59	20	N/R	N/R
Hedge fund	(a)	19	—	Quarterly	90 days
Real assets funds	(c)	34	49	N/R	N/R
Total		$ 733	$ 286		

N/R – not redeemable

(1) Comprised of equity method investments, which include investment companies, which account for their financial assets and most financial liabilities under fair value measures; therefore, the Company's investment in such equity method investees approximates fair value.

(a) This category includes hedge funds and funds of hedge funds that invest primarily in equities, fixed income securities, distressed credit, opportunistic and mortgage instruments and other third-party hedge funds. The fair values of the investments have been estimated using the NAV of the Company's ownership interest in partners' capital. The liquidation period for the investments in the funds that are not subject to redemption is unknown at both September 30, 2018 and December 31, 2017.

(b) This category includes several private equity funds that initially invest in nonmarketable securities of private companies, which ultimately may become public in the future. The fair values of these investments have been estimated using capital accounts representing the Company's ownership interest in the funds as well as other performance inputs. The Company's investment in each fund is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets of the private equity funds. The liquidation period for the investments in these funds is unknown at both September 30, 2018 and December 31, 2017.

(c) This category includes several real assets funds that invest directly and indirectly in real estate or infrastructure. The fair values of the investments have been estimated using capital accounts representing the Company's ownership interest in the funds. The Company's investments that are not subject to redemption or are not currently redeemable are normally returned through distributions and realizations of the underlying assets of the funds. The liquidation periods for the investments in the funds that are not subject to redemptions is unknown at both September 30, 2018 and December 31, 2017. The total remaining unfunded commitments to real assets funds were $136 million and $117 million at September 30, 2018 and December 31, 2017, respectively. The Company had contractual obligations to the real assets funds of $120 million at September 30, 2018 and $98 million at December 31, 2017.

(d) This category includes the underlying third-party private equity funds within consolidated BlackRock sponsored private equity funds of funds. The fair values of the investments in the third-party funds have been estimated using capital accounts representing the Company's ownership interest in each fund in the portfolio as well as other performance inputs. These investments are not subject to redemption; however, for certain funds, the Company may sell or transfer its interest, which may need approval by the general partner of the underlying funds. Due to the nature of the investments in this category, the Company reduces its investment by distributions that are received through the realization of the underlying assets of the funds. The liquidation period for the underlying assets of these funds is unknown at both September 30, 2018 and December 31, 2017. The total remaining unfunded commitments to other third-party funds were $18 million and $20 million at September 30, 2018 and December 31, 2017, respectively. The Company had contractual obligations to the consolidated funds of $23 million at both September 30, 2018 and December 31, 2017.

Fair Value Option.

As of September 30, 2018, the Company elected the fair value option for certain trading debt securities of approximately $28 million reported within investments.

The following table summarizes information at September 30, 2018 related to assets and liabilities of a consolidated CLO, recorded within investments and borrowings of consolidated VIEs, respectively, for which the fair value option was elected:

(in millions)		September 30, 2018
CLO Bank loans:		
Aggregate principal amounts outstanding	$	53
Fair value		53
Aggregate unpaid principal balance in excess of (less than) fair value	$	—
CLO Borrowings:		
Aggregate principal amounts outstanding	$	43
Fair value	$	44

At September 30, 2018, the principal amounts outstanding of the borrowings issued by the CLOs mature in 2030.

During the three and nine months ended September 30, 2018, the net gains (losses) from the change in fair value of the bank loans and borrowings held by the consolidated CLO were not material and were recorded in net gain (loss) on consolidated VIEs on the consolidated statements of income. The change in fair value of the assets and liabilities included interest income and expense, respectively.

As of December 31, 2017, assets for which the fair value option was elected were not material to the condensed consolidated financial statements.

8. Derivatives and Hedging

The Company maintains a program to enter into swaps to hedge against market price and interest rate exposures with respect to certain seed investments in sponsored investment products. At September 30, 2018 and December 31, 2017, the Company had outstanding total return swaps with aggregate notional values of approximately $546 million and approximately $587 million, respectively.

At both September 30, 2018 and December 31, 2017, the Company had a derivative providing credit protection of approximately $17 million to a counterparty, representing the Company's maximum risk of loss with respect to the provision of credit protection. The Company carries the derivative at fair value based on the expected discounted future cash outflows under the arrangement.

The fair values of the outstanding total return swaps and the credit default swap were not material to the condensed consolidated statement of financial condition at both September 30, 2018 and December 31, 2017.

The Company executes forward foreign currency exchange contracts to mitigate the risk of certain foreign exchange movements. At September 30, 2018 and December 31, 2017, the Company had outstanding forward foreign currency exchange contracts with aggregate notional values of approximately $2.3 billion and $1.5 billion, respectively. The fair value of the outstanding forward foreign currency exchange contracts was not material to the condensed consolidated statement of financial condition at both September 30, 2018 and December 31, 2017.

The following table presents gains (losses) recognized in the condensed consolidated statements of income on derivative instruments:

		Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)		2018	2017	2018	2017
Derivative Instruments	**Statement of Income Classification**	**Gains (Losses)**		**Gains (Losses)**	
Total return swaps	Nonoperating income (expense)	$ (12)	$ (26)	$ (5)	$ (90)
Interest rate swaps	Nonoperating income (expense)	—	—	—	(2)
Forward foreign currency exchange contracts	Other general and administration expense	(27)	29	(90)	58
Total gain (loss) from derivative instruments		$ (39)	$ 3	$ (95)	$ (34)

The Company consolidates certain sponsored investment funds, which may utilize derivative instruments as a part of the funds' investment strategies. The change in fair value of such derivatives, which is recorded in nonoperating income (expense), was not material for the three months and nine months ended September 30, 2018 and 2017.

See Note 12, *Borrowings*, in the 2017 Form 10-K for more information on the Company's net investment hedge.

9. Goodwill

Goodwill activity during the nine months ended September 30, 2018 was as follows:

(in millions)	
December 31, 2017	$ 13,220
Acquisitions (1)	314
Goodwill adjustments related to Quellos (2)	(8)
September 30, 2018	**$ 13,526**

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(1) Amount includes $184 million of goodwill related to the acquisition of Tennenbaum Capital Partners, LLC, a middle market credit and special situation credit opportunities manager, in August 2018 ("TCP Transaction"). The Company believes the acquisition will enhance its ability to provide clients with private credit solutions across a range of risk level, liquidity and geography. Total cash consideration paid at closing for the TCP Transaction was approximately $393 million. The amount also includes $130 million of goodwill related to the acquisition of the asset management business of Citibanamex, a subsidiary of Citigroup, Inc. in September 2018 ("Citibanamex Transaction"). The Company acquired AUM across local fixed income, equity and multi-asset products, enabling the Company to offer a full range of local and international investment solutions for clients in Mexico. Total consideration at closing for the Citibanamex Transaction was approximately $360 million, including contingent consideration.

(2) The decrease in goodwill during the nine months ended September 30, 2018 resulted from a decline related to tax benefits realized from tax-deductible goodwill in excess of book goodwill from the acquisition of the fund-of-funds business of Quellos Group, LLC in October 2007 (the "Quellos Transaction"). Goodwill related to the Quellos Transaction will continue to be reduced in future periods by the amount of tax benefits realized from tax-deductible goodwill in excess of book goodwill from the Quellos Transaction. The balance of the Quellos tax-deductible goodwill in excess of book goodwill was approximately $145 million and $168 million at September 30, 2018 and December 31, 2017, respectively.

10. Intangible Assets

The carrying amounts of identifiable intangible assets are summarized as follows:

(in millions)	Indefinite-lived	Finite-lived	Total
December 31, 2017	$ 17,178	$ 211	$ 17,389
Amortization expense	—	(35)	(35)
Acquisitions[1]	400	100	500
September 30, 2018	**$ 17,578**	**$ 276**	**$ 17,854**

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[1] Amount includes $145 million of indefinite-lived management contracts and $69 million of finite-lived assets with a weighted-average estimated life of approximately eight years related to the TCP Transaction, and $255 million of indefinite-lived management contracts and $31 million of finite-lived management contracts with a weighted-average estimated life of approximately eight years related to the Citibanamex Transaction.

11. Borrowings

Short-Term Borrowings

2018 Revolving Credit Facility. The Company's credit facility has an aggregate commitment amount of $4.0 billion and was amended in April 2018 to extend the maturity date to March 2023 (the "2018 credit facility"). The 2018 credit facility permits the Company to request up to an additional $1.0 billion of borrowing capacity, subject to lender credit approval, increasing the overall size of the 2018 credit facility to an aggregate principal amount not to exceed $5.0 billion. Interest on borrowings outstanding accrues at a rate based on the applicable London Interbank Offered Rate plus a spread. The 2018 credit facility requires the Company not to exceed a maximum leverage ratio (ratio of net debt to earnings before interest, taxes, depreciation and amortization, where net debt equals total debt less unrestricted cash) of 3 to 1, which was satisfied with a ratio of less than 1 to 1 at September 30, 2018. The 2018 credit facility provides back-up liquidity to fund ongoing working capital for general corporate purposes and various investment opportunities. At September 30, 2018, the Company had no amount outstanding under the credit facility.

Commercial Paper Program. The Company can issue unsecured commercial paper notes (the "CP Notes") on a private-placement basis up to a maximum aggregate amount outstanding at any time of $4.0 billion. The commercial paper program is currently supported by the 2018 credit facility. At September 30, 2018, BlackRock had no CP Notes outstanding.

Long-Term Borrowings

The carrying value and fair value of long-term borrowings estimated using market prices and foreign exchange rates at September 30, 2018 included the following:

(in millions)	Maturity Amount	Unamortized Discount and Debt Issuance Costs	Carrying Value	Fair Value
5.00% Notes due 2019	$ 1,000	$ —	$ 1,000	$ 1,021
4.25% Notes due 2021	750	(1)	749	768
3.375% Notes due 2022	750	(4)	746	750
3.50% Notes due 2024	1,000	(5)	995	999
1.25% Notes due 2025	813	(5)	808	823
3.20% Notes due 2027	700	(7)	693	672
Total Long-term Borrowings	$ 5,013	$ (22)	$ 4,991	$ 5,033

See Note 12, *Borrowings*, in the 2017 Form 10-K for more information regarding the Company's borrowings.

12. Commitments and Contingencies

Investment Commitments. At September 30, 2018, the Company had $348 million of various capital commitments to fund sponsored investment funds, including consolidated VIEs. These funds include private equity funds, real assets funds and opportunistic funds. This amount excludes additional commitments made by consolidated funds of funds to underlying third-party funds as third-party noncontrolling interest holders have the legal obligation to fund the respective commitments of such funds of funds. Generally, the timing of the funding of these commitments is unknown and the commitments are callable on demand at any time prior to the expiration of the commitment. These unfunded commitments are not recorded on the condensed consolidated statements of financial condition. These commitments do not include potential future commitments approved by the Company that are not yet legally binding. The Company intends to make additional capital commitments from time to time to fund additional investment products for, and with, its clients.

Lease Commitment. In May 2017, the Company entered into an agreement with 50 HYMC Owner LLC, for the lease of approximately 847,000 square feet of office space located at 50 Hudson Yards, New York, New York. The term of the lease is twenty years from the date that rental payments begin, expected to occur in May 2023, with the option to renew for a specified term. The lease requires annual base rental payments of approximately $51 million per year during the first five years of the lease term, increasing every five years to $58 million, $66 million and $74 million per year (or approximately $1.2 billion in base rent over its twenty-year term).

Contingencies

Contingent Payments Related to Business Acquisitions. In connection with certain acquisitions, BlackRock is required to make contingent payments, subject to achieving specified performance targets, which may include revenue related to acquired contracts or new capital commitments for certain products. The fair value of the remaining aggregate contingent payments at September 30, 2018 totaled $259 million, and is included in other liabilities on the condensed consolidated statements of financial condition.

Other Contingent Payments. The Company acts as the portfolio manager in a derivative transaction and has a maximum potential exposure of $17 million between the Company and counterparty. See Note 8, *Derivatives and Hedging*, for further discussion.

Legal Proceedings. From time to time, BlackRock receives subpoenas or other requests for information from various U.S. federal, state governmental and regulatory authorities and international regulatory authorities in connection with industry-wide or other investigations or proceedings. It is BlackRock's policy to cooperate fully with such inquiries. The Company and certain of its subsidiaries have been named as defendants in various legal actions, including arbitrations and other litigation arising in connection with BlackRock's activities. Additionally, BlackRock-advised investment portfolios may be subject to lawsuits, any of which potentially could harm the investment returns of the applicable portfolio or result in the Company being liable to the portfolios for any resulting damages.

On May 27, 2014, certain investors in the BlackRock Global Allocation Fund, Inc. and the BlackRock Equity Dividend Fund (collectively, the "Funds") filed a consolidated complaint (the "Consolidated Complaint") in the U.S. District Court for the District of New Jersey against BlackRock Advisors, LLC, BlackRock Investment Management, LLC and BlackRock International Limited under the caption *In re BlackRock Mutual Funds Advisory Fee Litigation*. In the lawsuit, which purports to be brought derivatively on behalf of the Funds, the plaintiffs allege that the defendants violated Section 36(b) of the Investment Company Act by receiving allegedly excessive investment advisory fees from the Funds. On June 13, 2018, the court granted in part and denied in part the defendants' motion for summary judgment. On July 25, 2018, the plaintiffs served a pleading that supplemented the time period of their alleged damages to run through the date of trial. The lawsuit seeks, among other things, to recover on behalf of the Funds all allegedly excessive advisory fees received by the defendants beginning twelve months preceding the start of the lawsuit with respect to each Fund and ending on the date of judgment, along with purported lost investment returns on those amounts, plus interest. The defendants believe the claims in the lawsuit are without merit. The trial on the remaining issues was completed on August 29, 2018 and the parties are awaiting judgment from the Court.

On June 16, 2016, *iShares* Trust, BlackRock, Inc. and certain of its advisory subsidiaries, and the directors and certain officers of the *iShares* ETFs were named as defendants in a purported class action lawsuit filed in California state court. The lawsuit was filed by investors in certain *iShares* ETFs (the "ETFs"), and alleges the defendants violated the federal securities laws by failing to adequately disclose in prospectuses issued by the ETFs the risks to the ETFs' shareholders in the event of a "flash crash." Plaintiffs seek unspecified monetary and rescission damages. The plaintiffs' complaint was dismissed in December 2016 and on January 6, 2017, plaintiffs filed an amended complaint.

On April 27, 2017, the court partially granted the defendants' motion for judgment on the pleadings, dismissing certain of the plaintiffs' claims. On September 18, 2017, the court issued a decision dismissing the remainder of the lawsuit after a one-day bench trial. On December 1, 2017, the plaintiffs appealed the dismissal of their lawsuit, which is pending.

On April 5, 2017, BlackRock, Inc., BlackRock Institutional Trust Company, N.A. ("BTC"), the BlackRock, Inc. Retirement Committee and various sub-committees, and a BlackRock employee were named as defendants in a purported class action lawsuit brought in the U.S. District Court for the Northern District of California by a former employee on behalf of all participants and beneficiaries in the BlackRock employee 401(k) Plan (the "Plan") from April 5, 2011 to the present. The lawsuit generally alleges that the defendants breached their duties towards Plan participants in violation of the Employee Retirement Income Security Act of 1974 by, among other things, offering investment options that were overly expensive, underperformed peer funds, focused disproportionately on active versus passive strategies, and were unduly concentrated in investment options managed by BlackRock. On October 18, 2017, the plaintiffs filed an Amended Complaint, which, among other things, added as defendants certain current and former members of the BlackRock Retirement and Investment Committees. The Amended Complaint also included a new purported class claim on behalf of investors in certain Collective Trust Funds ("CTFs") managed by BTC. Specifically, the plaintiffs allege that BTC, as fiduciary to the CTFs, engaged in self-dealing by, most significantly, selecting itself as the securities lending agent on terms that plaintiffs claim were excessive. The Amended Complaint also alleged that BlackRock took undue risks in its management of securities lending cash reinvestment vehicles ("STIFs") during the financial crisis. On August 23, 2018, the court granted permission to plaintiffs to file a Second Amended Complaint ("SAC") which, most significantly, added as defendants the BlackRock, Inc. Management Development and Compensation Committee, the Plan's independent investment consultant and the Plan's Administrative Committee and its members. On October 22, 2018, BlackRock filed a motion to dismiss the SAC. The defendants believe the claims in this lawsuit are without merit and are vigorously defending the action.

Management, after consultation with legal counsel, currently does not anticipate that the aggregate liability arising out of regulatory matters or lawsuits will have a material effect on BlackRock's results of operations, financial position, or cash flows. However, there is no assurance as to whether any such pending or threatened matters will have a material effect on BlackRock's results of operations, financial position or cash flows in any future reporting period. Due to uncertainties surrounding the outcome of these matters, management cannot reasonably estimate the possible loss or range of loss that may arise from these matters.

Indemnifications. In the ordinary course of business or in connection with certain acquisition agreements, BlackRock enters into contracts pursuant to which it may agree to indemnify third parties in certain circumstances. The terms of these indemnities vary from contract to contract and the amount of indemnification liability, if any, cannot be determined or the likelihood of any liability is considered remote. Consequently, no liability has been recorded on the condensed consolidated statements of financial condition.

In connection with securities lending transactions, BlackRock has issued certain indemnifications to certain securities lending clients against potential loss resulting from a borrower's failure to fulfill its obligations under the securities lending agreement should the value of the collateral pledged by the borrower at the time of default be insufficient to cover the borrower's obligation under the securities lending agreement. At September 30, 2018, the Company indemnified certain of its clients for their securities lending loan balances of approximately $211 billion. The Company held, as agent, cash and securities totaling $225 billion as collateral for indemnified securities on loan at September 30, 2018. The fair value of these indemnifications was not material at September 30, 2018.

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13. Revenue

The table below presents the Company's revenue for the three and nine months ended September 30, 2018 and 2017, respectively, and disaggregates investment advisory, administration fees and securities lending revenue by product type and investment style. See Note 2, *Significant Accounting Policies*, for further information on the Company's revenue recognition and the adoption of ASU 2014-09.

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
(in millions)	**2018**	**2017**	**2018**	**2017**
Investment advisory, administration fees and securities lending revenue:				
Equity:				
Active	$ 405	$ 418	$ 1,269	$ 1,229
iShares ETFs	885	835	2,722	2,332
Non-ETF Index	169	168	532	503
Equity subtotal	1,459	1,421	4,523	4,064
Fixed income:				
Active	460	437	1,374	1,268
iShares ETFs	205	210	620	595
Non-ETF Index	98	88	292	257
Fixed income subtotal	763	735	2,286	2,120
Multi-asset	298	289	889	843
Alternatives:				
Core	185	169	539	469
Currency and commodities	24	23	75	67
Alternatives subtotal	209	192	614	536
Long-term	**2,729**	**2,637**	**8,312**	**7,563**
Cash management	154	144	462	408
Total base fees	**2,883**	**2,781**	**8,774**	**7,971**
Investment advisory performance fees:				
Equity	7	30	68	57
Fixed income	—	9	2	20
Multi-asset	1	2	15	14
Alternatives	143	150	227	218
Total performance fees	**151**	**191**	**312**	**309**
Technology services revenue	**200**	**169**	**582**	**481**
Distribution fees:				
Retrocessions	168	175	541	490
12b-1 fees (U.S. mutual funds distribution fees)	102	113	313	356
Other	9	10	30	31
Total distribution fees	**279**	**298**	**884**	**877**
Advisory and other revenue:				

Advisory	26	25	80	74
Other	37	44	132	124
Total advisory and other revenue	**63**	**69**	**212**	**198**
Total revenue	**$ 3,576**	**$ 3,508**	**$ 10,764**	**$ 9,836**

The table below presents the investment advisory, administration fees and securities lending revenue by client type, investment style and product type, respectively:

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
(in millions)	**2018**	**2017**	**2018**	**2017**
By client type:				
Retail	$ 860	$ 827	$ 2,573	$ 2,410
iShares ETFs	1,113	1,067	3,414	2,990
Institutional:				
Active	504	495	1,542	1,429
Index	252	248	783	734
Total institutional	756	743	2,325	2,163
Long-term	**2,729**	**2,637**	**8,312**	**7,563**
Cash management	154	144	462	408
Total	**$ 2,883**	**$ 2,781**	**$ 8,774**	**$ 7,971**
By investment style:				
Active	$ 1,346	$ 1,309	$ 4,063	$ 3,796
Index and *iShares* ETFs	1,383	1,328	4,249	3,767
Long-term	**2,729**	**2,637**	**8,312**	**7,563**
Cash management	154	144	462	408
Total	**$ 2,883**	**$ 2,781**	**$ 8,774**	**$ 7,971**
By product type:				
Equity	$ 1,459	$ 1,420	$ 4,523	$ 4,064
Fixed income	763	736	2,286	2,120
Multi-asset	298	289	889	843
Alternatives	209	192	614	536
Long-term	**2,729**	**2,637**	**8,312**	**7,563**
Cash management	154	144	462	408
Total	**$ 2,883**	**$ 2,781**	**$ 8,774**	**$ 7,971**

Investment advisory and administration fees

The table below presents estimated investment advisory and administration fees expected to be recognized in the future related to the unsatisfied portion of the performance obligations at September 30, 2018:

(in millions)	Remainder of 2018	2019	2020	2021	Thereafter	Total
Investment advisory and administration fees:						
Alternatives[1][2]	$ 21	$ 74	$ 63	$ 49	$ 46	$ 253

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[1] Investment advisory and administration fees include management fees related to certain alternative products, which are based on contractual committed capital outstanding at September 30, 2018. Actual management fees could be higher to the extent additional committed capital is raised. These fees are generally billed on a quarterly basis in arrears.

[2] The Company elected the following practical expedients and therefore does not include amounts related to (1) performance obligations with an original duration of one year or less, (2) variable consideration related to future service periods, and (3) the comparative prior period as of September 30, 2017.

Investment advisory performance fees / Carried interest

The table below presents changes in the deferred carried interest liability (including the portion related to consolidated VIEs) for the three and nine months ended September 30, 2018 and 2017:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	2018	2017	2018	2017
Beginning balance	$ 242	$ 169	$ 219	$ 152
Net increase (decrease) in unrealized allocations	17	23	44	54
Performance fee revenue recognized that was included in the beginning balance	(2)	—	(6)	(14)
Ending balance	$ 257	$ 192	$ 257	$ 192

Technology services revenue

The table below presents estimated technology services revenue expected to be recognized in the future related to the unsatisfied portion of the performance obligations at September 30, 2018:

(in millions)	Remainder of 2018	2019	2020	2021	Thereafter	Total
Technology services revenue[1][2]	$ 8	$ 27	$ 23	$ 18	$ 15	$ 91

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[1] Technology services revenue primarily includes upfront payments from customers, which the Company generally recognizes as services are performed.

[2] The Company elected the following practical expedients and therefore does not include amounts related to (1) performance obligations with an original duration of one year or less, (2) variable consideration related to future service periods, and (3) the comparative prior period as of September 30, 2017.

In addition to amounts disclosed in the table above, certain technology services contracts require fixed minimum fees, which are billed on a monthly or quarterly basis in arrears. The Company recognizes such revenue as services are performed. As of September 30, 2018, the estimated fixed minimum fees for the remainder of 2018 for currently outstanding contracts approximated $133 million. The term for these contracts, which are either in their initial or renewal period, ranges from one to five years.

The table below presents changes in the technology services deferred revenue liability for the three and nine months ended September 30, 2018 and 2017, which is included in other liabilities on the condensed consolidated statements of financial condition:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	**2018**	**2017**	**2018**	**2017**
Beginning balance	$ 64	$ 52	$ 62	$ 42
Additions	11	13	31	33
Revenue recognized that was included in the beginning balance	(10)	(7)	(28)	(17)
Ending balance	$ 65	$ 58	$ 65	$ 58

14. Stock-Based Compensation

Restricted Stock and RSUs.

Restricted stock and restricted stock units ("RSUs") activity for the nine months ended September 30, 2018 is summarized below.

Outstanding at	**Restricted Stock and RSUs**	**Weighted-Average Grant Date Fair Value**
December 31, 2017	2,608,668	$ 342.79
Granted	830,424	$ 560.16
Converted	(1,247,109)	$ 338.06
Forfeited	(49,678)	$ 421.08
September 30, 2018(1)	**2,142,305**	**$ 428.08**

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(1) At September 30, 2018, approximately 2.0 million awards are expected to vest and 0.2 million awards have vested but have not been converted.

In January 2018, the Company granted 527,337 RSUs or shares of restricted stock to employees as part of 2017 annual incentive compensation that vest ratably over three years from the date of grant and 209,201 RSUs or shares of restricted stock to employees that cliff vest 100% on January 31, 2021. The Company values restricted stock and RSUs at their grant-date fair value as measured by BlackRock's common stock price. The total fair market value of RSUs/restricted stock granted to employees during the nine months ended September 30, 2018 was $465 million.

At September 30, 2018, the intrinsic value of outstanding RSUs was $1.0 billion, reflecting a closing stock price of $471.33.

At September 30, 2018, total unrecognized stock-based compensation expense related to unvested RSUs was $410 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 1.1 years.

Performance-Based RSUs.

Performance-based RSU activity for the nine months ended September 30, 2018 is summarized below.

Outstanding at	**Performance-Based RSUs**	**Weighted-Average Grant Date Fair Value**
December 31, 2017	903,525	$ 335.12
Granted	199,068	$ 566.44
Additional shares granted due to attainment of performance measures	23,376	$ 343.86
Converted	(269,648)	$ 343.86
Forfeited	(11,036)	$ 405.47
September 30, 2018	**845,285**	**$ 386.13**

In January 2018, the Company granted 199,068 performance-based RSUs to certain employees that cliff vest 100% on January 31, 2021. These awards are amortized over a service period of three years. The number of shares distributed at vesting could be higher or lower than the original grant based on the level of attainment of predetermined Company performance measures. In January 2018, the Company granted 23,376 additional RSUs to certain employees based on the attainment of Company performance measures during the performance period.

The Company initially values performance-based RSUs at their grant-date fair value as measured by BlackRock's common stock price. The total grant-date fair market value of performance-based RSUs granted to employees during the nine months ended September 30, 2018 was $121 million.

At September 30, 2018, the intrinsic value of outstanding performance-based RSUs was $398 million, reflecting a closing stock price of $471.33.

At September 30, 2018, total unrecognized stock-based compensation expense related to unvested performance-based awards was $140 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 1.2 years.

See Note 14, *Stock-Based Compensation,* in the 2017 Form 10-K for more information on performance-based RSUs.

Market Performance-based RSUs.

Market performance-based RSUs activity for the nine months ended September 30, 2018 is summarized below.

Outstanding at	**Market Performance-Based RSUs**	**Weighted-Average Grant Date Fair Value**
December 31, 2017	286,336	$ 195.33
Converted	(286,336)	$ 195.33
September 30, 2018	**—**	**$ —**

See Note 14, *Stock-Based Compensation,* in the 2017 Form 10-K for more information on market performance-based RSUs.

Long-Term Incentive Plans Funded by PNC. Under a share surrender agreement, PNC committed to provide up to 4 million shares of BlackRock stock, held by PNC, to fund certain BlackRock long-term incentive plans ("LTIP"), including performance-based and market performance-based RSUs. The current share surrender agreement commits PNC to provide BlackRock Series C nonvoting participating preferred stock to fund the remaining committed shares. As of September 30, 2018, 3.9 million shares had been surrendered by PNC, including 103,064 shares in the first quarter of 2018.

At September 30, 2018, the available remaining shares committed by PNC were 0.1 million.

Performance-based Stock Options.

Stock option activity for the nine months ended September 30, 2018 is summarized below.

Outstanding at	**Shares Under Option**	**Weighted Average Exercise Price**
December 31, 2017	2,147,562	$ 513.50
Forfeited	(41,080)	$ 513.50
September 30, 2018	**2,106,482**	**$ 513.50**

At September 30, 2018, total unrecognized stock-based compensation expense related to unvested performance-based stock options was $174 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 5.2 years.

See Note 14, *Stock-Based Compensation,* in the 2017 Form 10-K for more information on performance-based stock options.

15. Net Capital Requirements

The Company is required to maintain net capital in certain regulated subsidiaries within a number of jurisdictions, which is partially maintained by retaining cash and cash equivalent investments in those subsidiaries or jurisdictions. As a result, such subsidiaries of the Company may be restricted in their ability to transfer cash between different jurisdictions and to their parents. Additionally, transfers of cash between international jurisdictions may have adverse tax consequences that could discourage such transfers.

At September 30, 2018, the Company was required to maintain approximately $1.8 billion in net capital in certain regulated subsidiaries, including BlackRock Institutional Trust Company, N.A. (a wholly owned subsidiary of the Company that is chartered as a national bank whose powers are limited to trust and other fiduciary activities and which is subject to regulatory capital requirements administered by the Office of the Comptroller of the Currency), entities regulated by the Financial Conduct Authority and Prudential Regulation Authority in the United Kingdom, and the Company's broker-dealers. The Company was in compliance with all applicable regulatory net capital requirements.

16. Accumulated Other Comprehensive Income (Loss)

The following tables present changes in accumulated other comprehensive income (loss) by component for the three and nine months ended September 30, 2018 and 2017:

(in millions)	**Foreign currency translation**	**Other**[2]	**Total**

	adjustments[1]		
For the Three Months Ended September 30, 2018			
June 30, 2018	$ (577)	$ 2	$ (575)
Net other comprehensive income (loss) for the three months ended September 30, 2018	(41)	—	(41)
September 30, 2018	**$ (618)**	**$ 2**	**$ (616)**
For the Nine Months Ended September 30, 2018			
December 31, 2017	$ (436)	$ 4	$ (432)
Net other comprehensive income (loss) for the nine months ended September 30, 2018	(176)	(2)	(178)
Reclassification as a result of adoption of ASU 2018-02	(6)	—	(6)
September 30, 2018	**$ (618)**	**$ 2**	**$ (616)**

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[1] Amounts for the three and nine months ended September 30, 2018 include gains from a net investment hedge of $4 million (net of a tax expense of $1 million) and $22 million (net of a tax expense of $7 million), respectively.

[2] Other includes amounts related to benefit plans and available-for-sale investments, which are presented net of tax. Amounts reclassified from AOCI to net income were not material for the three and nine months ended September 30, 2018.

(in millions)	**Foreign currency translation adjustments**[1]	**Other**[2]	**Total**
For the Three Months Ended September 30, 2017			
June 30, 2017	$ (579)	$ 4	$ (575)
Net other comprehensive income (loss) for the three months ended September 30, 2017	102	—	102
September 30, 2017	**$ (477)**	**$ 4**	**$ (473)**
For the Nine Months Ended September 30, 2017			
December 31, 2016	$ (721)	$ 5	$ (716)
Net other comprehensive income (loss) for the nine months ended September 30, 2017	244	(1)	243
September 30, 2017	**$ (477)**	**$ 4**	**$ (473)**

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[1] Amounts for the three and nine months ended September 30, 2017 includes losses from a net investment hedge of $18 million (net of a tax benefit of $11 million) and $56 million (net of a tax benefit of $33 million), respectively.

[2] Other includes amounts related to benefit plans and available-for-sale investments, which are presented net of tax. Amounts reclassified from AOCI to net income were not material for the three and nine months ended September 30, 2017.

17. Capital Stock

Nonvoting Participating Preferred Stock. The Company's preferred shares authorized, issued and outstanding consisted of the following:

	September 30, 2018	**December 31, 2017**
Series A		

Shares authorized, $0.01 par value	20,000,000	20,000,000
Shares issued and outstanding	—	—
Series B		
Shares authorized, $0.01 par value	150,000,000	150,000,000
Shares issued and outstanding(1)	823,188	823,188
Series C		
Shares authorized, $0.01 par value	6,000,000	6,000,000
Shares issued and outstanding(1)	143,458	246,522
Series D		
Shares authorized, $0.01 par value	20,000,000	20,000,000
Shares issued and outstanding	—	—

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(1) Shares held by PNC.

Share Repurchases. The Company repurchased 2.2 million common shares in open market transactions under the share repurchase program for approximately $1,135 million during the nine months ended September 30, 2018. At September 30, 2018, there were 4.2 million shares still authorized to be repurchased.

PNC Capital Contribution. During the three months ended March 31, 2018, PNC surrendered to BlackRock 103,064 shares of BlackRock Series C Preferred to fund certain LTIP awards.

18. Income Taxes

On December 22, 2017, The Tax Cuts and Jobs Act (the "2017 Tax Act") was enacted. The 2017 Tax Act significantly revises the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent, (2) requiring companies to pay a one-time tax on certain unrepatriated earnings of foreign subsidiaries, (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries, (4) creating new taxes on certain earnings of controlled foreign corporations, and (5) creating a new limitation on deductible net interest expense. BlackRock's results in 2017 included a $1.2 billion net tax benefit related to the 2017 Tax Act. The Company has not made any additional measurement-period adjustments during the nine months ended September 30, 2018. The Company may record adjustments to the provisional amounts during the measurement period as additional guidance from the U.S. Department of the Treasury is provided, as changes in the Company's assumptions occur, and as further information and interpretations become available. For further information on the 2017 Tax Act, see Note 21, *Income Taxes*, in the consolidated financial statements included in the 2017 Form 10-K.

The three and nine months ended September 30, 2018 income tax expense reflected a reduced tax rate associated with the 2017 Tax Act and $90 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure. The nine months ended September 30, 2018 income tax expense also included a discrete tax benefit of $58 million related to stock-based compensation awards that vested in 2018.

The three and nine months ended September 30, 2017 income tax expense included net noncash expense of $19 million related to the revaluation of certain deferred income tax liabilities as a result of domestic state and local tax changes. The nine months ended September 30, 2017 income tax expense also included a discrete tax benefit of $84 million related to stock-based compensation awards that vested in 2017.

19. Earnings Per Share

Due to the similarities in terms between BlackRock nonvoting participating preferred stock and the Company's common stock, the Company considers its participating preferred stock to be a common stock equivalent for purposes of earnings per share ("EPS") calculations. As such, the Company has included the outstanding nonvoting participating preferred stock in the calculation of average basic and diluted shares outstanding.

The following table sets forth the computation of basic and diluted EPS for the three and nine months ended September 30, 2018 and 2017 under the treasury stock method:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions, except shares and per share data)	**2018**	**2017**	**2018**	**2017**
Net income attributable to BlackRock	$ 1,216	$ 944	$ 3,378	$ 2,657
Basic weighted-average shares outstanding	160,141,506	161,872,716	160,786,768	162,459,737
Dilutive effect of nonparticipating RSUs and stock options	1,236,711	1,900,830	1,354,111	1,829,305
Total diluted weighted-average shares outstanding	161,378,217	163,773,546	162,140,879	164,289,042
Basic earnings per share	$ 7.59	$ 5.83	$ 21.01	$ 16.35
Diluted earnings per share	$ 7.54	$ 5.76	$ 20.83	$ 16.17

20. Segment Information

The Company's management directs BlackRock's operations as one business, the asset management business. The Company utilizes a consolidated approach to assess performance and allocate resources. As such, the Company operates in one business segment.

The following table illustrates total revenue for the three and nine months ended September 30, 2018 and 2017 by geographic region. These amounts are aggregated on a legal entity basis and do not necessarily reflect where the customer resides or affiliated services are provided.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
Revenue	**2018**	**2017**	**2018**	**2017**
Americas	$ 2,328	$ 2,219	$ 6,989	$ 6,378
Europe	1,083	1,121	3,258	2,992
Asia-Pacific	165	168	517	466
Total revenue	$ 3,576	$ 3,508	$ 10,764	$ 9,836

See Note 13, *Revenue*, for further information on the Company's sources of revenue.

The following table illustrates long-lived assets that consist of goodwill and property and equipment at September 30, 2018 and December 31, 2017 by geographic region. These amounts are aggregated on a legal entity basis and do not necessarily reflect where the asset is physically located.

(in millions) **Long-lived Assets**	**September 30, 2018**	**December 31, 2017**
Americas	$ 13,737	$ 13,560
Europe	295	168
Asia-Pacific	82	84

Total long-lived assets	$ 14,114	$ 13,812

Americas is primarily comprised of the United States and Canada, while Europe is primarily comprised of United Kingdom and Luxembourg. Asia-Pacific is primarily comprised of Hong Kong, Australia, Japan and Singapore.

21. Subsequent Events

The Company conducted a review for subsequent events and determined that no subsequent events had occurred that would require accrual or additional disclosures.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

FORWARD-LOOKING STATEMENTS

This report, and other statements that BlackRock may make, may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act, with respect to BlackRock’s future financial or business performance, strategies or expectations. Forward-looking statements are typically identified by words or phrases such as “trend,” “potential,” “opportunity,” “pipeline,” “believe,” “comfortable,” “expect,” “anticipate,” “current,” “intention,” “estimate,” “position,” “assume,” “outlook,” “continue,” “remain,” “maintain,” “sustain,” “seek,” “achieve,” and similar expressions, or future or conditional verbs such as “will,” “would,” “should,” “could,” “may” and similar expressions.

BlackRock cautions that forward-looking statements are subject to numerous assumptions, risks and uncertainties, which change over time. Forward-looking statements speak only as of the date they are made, and BlackRock assumes no duty to and does not undertake to update forward-looking statements. Actual results could differ materially from those anticipated in forward-looking statements and future results could differ materially from historical performance.

BlackRock has previously disclosed risk factors in its Securities and Exchange Commission (“SEC”) reports. These risk factors and those identified elsewhere in this report, among others, could cause actual results to differ materially from forward-looking statements or historical performance and include: (1) the introduction, withdrawal, success and timing of business initiatives and strategies; (2) changes and volatility in political, economic or industry conditions, the interest rate environment, foreign exchange rates or financial and capital markets, which could result in changes in demand for products or services or in the value of assets under management (“AUM”); (3) the relative and absolute investment performance of BlackRock’s investment products; (4) the impact of increased competition; (5) the impact of future acquisitions or divestitures; (6) the unfavorable resolution of legal proceedings; (7) the extent and timing of any share repurchases; (8) the impact, extent and timing of technological changes and the adequacy of intellectual property, information and cyber security protection; (9) the potential for human error in connection with BlackRock’s operational systems; (10) the impact of legislative and regulatory actions and reforms and regulatory, supervisory or enforcement actions of government agencies relating to BlackRock or The PNC Financial Services Group, Inc. (“PNC”); (11) changes in law and policy and uncertainty pending any such changes; (12) terrorist activities, international hostilities and natural disasters, which may adversely affect the general economy, domestic and local financial and capital markets, specific industries or BlackRock; (13) the ability to attract and retain highly talented professionals; (14) fluctuations in the carrying value of BlackRock’s economic investments; (15) the impact of changes to tax legislation, including income, payroll and transaction taxes, and taxation on products or transactions, which could affect the value proposition to clients and, generally, the tax position of the Company; (16) BlackRock’s success in negotiating distribution arrangements and maintaining distribution channels for its products; (17) the failure by a key vendor of BlackRock to fulfill its obligations to the Company; (18) any disruption to the operations of third parties whose functions are integral to

BlackRock's exchange-traded funds ("ETF") platform; (19) the impact of BlackRock electing to provide support to its products from time to time and any potential liabilities related to securities lending or other indemnification obligations; and (20) the impact of problems at other financial institutions or the failure or negative performance of products at other financial institutions.

OVERVIEW

BlackRock, Inc. (together, with its subsidiaries, unless the context otherwise indicates, "BlackRock" or the "Company") is a leading publicly traded investment management firm with $6.44 trillion of AUM at September 30, 2018. With approximately 14,900 employees in more than 30 countries, BlackRock provides a broad range of investment and technology services to institutional and retail clients worldwide.

BlackRock's diverse platform of alpha-seeking active, index and cash management investment strategies across asset classes enables the Company to tailor investment outcomes and asset allocation solutions for clients. Product offerings include single- and multi-asset portfolios investing in equities, fixed income, alternatives and money market instruments. Products are offered directly and through intermediaries in a variety of vehicles, including open-end and closed-end mutual funds, *iShares*® ETFs, separate accounts, collective investment trusts and other pooled investment vehicles. BlackRock also offers technology services, including the investment and risk management technology platform, *Aladdin*®, Aladdin Wealth, Cachematrix and FutureAdvisor, as well as advisory services and solutions to a broad base of institutional and wealth management clients.

BlackRock serves a diverse mix of institutional and retail clients across the globe. Clients include tax-exempt institutions, such as defined benefit and defined contribution pension plans, charities, foundations and endowments; official institutions, such as central banks, sovereign wealth funds, supranationals and other government entities; taxable institutions, including insurance companies, financial institutions, corporations and third-party fund sponsors, and retail investors.

BlackRock maintains a significant global sales and marketing presence that is focused on establishing and maintaining retail and institutional investment management and technology service relationships by marketing its services to investors directly and through third-party distribution relationships, including financial professionals and pension consultants.

At September 30, 2018, PNC held 21.4% of the Company's voting common stock and 21.9% of the Company's capital stock, which includes outstanding common and nonvoting preferred stock.

The Company adopted Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09") effective January 1, 2018 on a full retrospective basis. Accordingly, financial results for 2017 were recast to reflect the adoption of the revenue recognition standard. For further information, refer to Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements.

Certain prior period presentations and disclosures, while not required to be recast, were reclassified to ensure comparability with current period classifications. Beginning with the second quarter of 2018, the Company changed the title "Technology and risk management revenue" to "Technology services revenue" on the condensed consolidated statements of income. Prior period amounts have not changed.

OTHER DEVELOPMENTS

Acquisitions

In August 2018, the Company completed the acquisition of Tennenbaum Capital Partners, LLC ("TCP Transaction"), a leading manager focused on middle market performing credit and special situation credit opportunities. The Company believes the acquisition will enhance its ability to provide clients with private credit solutions across a range of risk level, liquidity and geography. Total cash consideration paid at closing was approximately $393 million.

In September 2018, the Company completed the acquisition of the asset management business of Citibanamex, a subsidiary of Citigroup Inc. (“Citibanamex Transaction”). The Company acquired AUM across local fixed income, equity and multi-asset products, enabling the Company to offer a full range of local and international investment solutions for clients in Mexico. Total consideration at closing was approximately $360 million, including contingent consideration.

Divestitures

In August 2018, the Company completed the sale of its minority interest in DSP BlackRock Investment Managers Pvt. Ltd. to The DSP Group (“DSP Transaction”). The Company had a 40% stake in the joint venture, which managed and marketed a range of co-branded mutual funds in India. The Company recorded a $40 million pre-tax nonoperating gain in connection with the DSP Transaction.

In July 2018, the Company completed the Part VII transfer of the underlying assets and liabilities of its UK Defined Contribution Administration and Platform business to Aegon N.V. (“Aegon Transaction”). The Company continues to be the primary investment manager for the clients who transferred to Aegon in connection with the transaction. This transaction was not material to the Company’s condensed consolidated statements of financial condition or results of operations.

United Kingdom Exit from European Union

Following the June 2016 vote to exit the European Union (“EU”), the United Kingdom served notice under Article 50 of the Treaty on European Union on March 29, 2017 to initiate the process of exiting from the EU, commonly referred to as "Brexit". The outcome of the negotiations between the United Kingdom and the EU in connection with Brexit remains uncertain and information regarding the long-term relationship continues to develop. The Company has implemented a number of steps to seek to ensure it is prepared for various outcomes, including applying for and receiving licenses and permissions in the EU, and engaging in client communications.

EXECUTIVE SUMMARY

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions, except shares and per share data)	**2018**	**2017**[4]	**2018**	**2017**[4]
GAAP basis:				
Total revenue	$ 3,576	$ 3,508	$ 10,764	$ 9,836
Total expense	2,180	2,119	6,553	6,067
Operating income	1,396	1,389	4,211	3,769
Operating margin	*39.0%*	*39.6%*	*39.1%*	*38.3%*
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	46	(2)	(4)	(27)
Income tax expense	(226)	(443)	(829)	(1,085)
Net income attributable to BlackRock	$ 1,216	$ 944	$ 3,378	$ 2,657
Diluted earnings per common share	$ 7.54	$ 5.76	$ 20.83	$ 16.17
Effective tax rate	15.7%	31.9%	19.7%	29.0%
As adjusted[1]**:**				
Operating income	$ 1,400	$ 1,393	$ 4,221	$ 3,781
Operating margin	*44.2%*	*45.1%*	*44.5%*	*43.9%*
Nonoperating income (expense), less	46	(2)	(4)	(27)

net income (loss) attributable to noncontrolling interests				
Net income attributable to BlackRock	$ 1,214	$ 966	$ 3,386	$ 2,685
Diluted earnings per common share	$ 7.52	$ 5.90	$ 20.88	$ 16.34
Effective tax rate	16.0%	30.6%	19.7%	28.5%
Other:				
Assets under management (end of period)	$ 6,444,100	$ 5,976,892	$ 6,444,100	$ 5,976,892
Diluted weighted-average common shares outstanding(2)	161,378,217	163,773,546	162,140,879	164,289,042
Common and preferred shares outstanding (end of period)	159,804,364	161,597,770	159,804,364	161,597,770
Book value per share(3)	$ 202.84	$ 185.79	$ 202.84	$ 185.79
Cash dividends declared and paid per share	$ 3.13	$ 2.50	$ 8.89	$ 7.50

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(1) As adjusted items are described in more detail in *Non-GAAP Financial Measures*.

(2) Nonvoting participating preferred shares are considered to be common stock equivalents for purposes of determining basic and diluted earnings per share calculations.

(3) Total BlackRock stockholders' equity divided by total common and preferred shares outstanding at September 30 of the respective period-end.

(4) Results for 2017 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements.

THREE MONTHS ENDED SEPTEMBER 30, 2018 COMPARED WITH THREE MONTHS ENDED SEPTEMBER 30, 2017

GAAP. Operating income of $1,396 million increased $7 million and operating margin of 39.0% decreased 60 bps from the third quarter of 2017. Operating margin was impacted by higher base fees and higher technology services revenue, partially offset by lower performance fees, higher volume-related expense and higher general and administration expense, including $42 million of transaction-related expense recorded in the third quarter of 2018. Nonoperating results for the three months ended September 30, 2018 included a $40 million pre-tax gain related to the DSP Transaction and a $10 million noncash pre-tax gain related to the revaluation of another strategic investment.

Third quarter 2018 income tax expense reflected a reduced tax rate associated with The Tax Cuts and Jobs Act enacted on December 22, 2017 (the "2017 Tax Act") and included $90 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure. Third quarter 2018 and 2017 income tax expense included a $5 million net noncash benefit and a $19 million net noncash expense, respectively, related to the revaluation of certain deferred income tax liabilities as a result of domestic state and local changes. See *Income Tax Expense* within *Discussion of Financial Results* for more information.

Earnings per diluted common share increased $1.78, or 31%, from the third quarter of 2017, driven primarily by higher nonoperating income, a lower effective tax rate and the benefit of share repurchases.

As Adjusted. Operating income of $1,400 million increased $7 million and operating margin of 44.2% decreased 90 bps from the third quarter of 2017. Income tax expense for the third quarter of 2018 and 2017 excluded the $5 million net noncash benefit and $19 million net noncash expense described above. Earnings per diluted common share increased $1.62, or 27%, from the third quarter of 2017.

NINE MONTHS ENDED SEPTEMBER 30, 2018 COMPARED WITH NINE MONTHS ENDED SEPTEMBER 30, 2017

GAAP. Operating income of $4,211 million increased $442 million and operating margin of 39.1% increased 80 bps from the nine months ended September 30, 2017. Operating income and operating margin growth primarily reflected higher year-over-year base fees and technology services revenue, partially offset by higher compensation and benefits, higher general and administration expense, and higher volume-related expense. Nonoperating income (expense), less net income (loss) attributable to noncontrolling interest ("NCI"), increased $23 million from the nine months ended September 30, 2017. Nonoperating results for the nine months ended September 30, 2018 included a $40 million gain related to the DSP Transaction and a $10 million noncash pre-tax gain, described above. Nonoperating results for the nine months ended September 30, 2017 included a "make-whole" redemption premium of $14 million related to the refinancing of $700 million of 6.25% notes, which were repaid prior to their September 2017 maturity.

Income tax expense for the nine months ended September 30, 2018 reflected a reduced tax rate associated with the 2017 Tax Act and included $148 million of discrete tax benefits related to changes in the Company's organizational entity structure and stock-based compensation awards that vested in 2018. Income tax expense for the nine months ended September 30, 2017 included a discrete tax benefit of $84 million related to stock-based compensation awards that vested in 2017 and the $19 million net noncash expense mentioned above. See *Income Tax Expense* within *Discussion of Financial Results* for more information.

Earnings per diluted common share increased $4.66 to $20.83, or 29%, from the nine months ended September 30, 2017, driven primarily by higher operating income, a lower tax rate and the benefit of share repurchases.

As Adjusted. Operating income of $4,221 million increased $440 million and operating margin of 44.5% increased 60 bps from the nine months ended September 30, 2017. Income tax expense for the nine months ended September 30, 2017 excluded the $19 million net noncash expense described above. Earnings per diluted common share increased $4.54, or 28%, from the nine months ended September 30, 2017.

See *Non-GAAP Financial Measures* for further information on as adjusted items and the reconciliation to accounting principles generally accepted in the United States ("GAAP").

For further discussion of BlackRock's revenue, expense, nonoperating results and income tax expense, see *Discussion of Financial Results* herein.

NON-GAAP FINANCIAL MEASURES

BlackRock reports its financial results in accordance with GAAP; however, management believes evaluating the Company's ongoing operating results may be enhanced if investors have additional non-GAAP financial measures. Management reviews non-GAAP financial measures to assess ongoing operations and considers them to be helpful, for both management and investors, in evaluating BlackRock's financial performance over time. Management also uses non-GAAP financial measures as a benchmark to compare its performance with other companies and to enhance the comparability of this information for the reporting periods presented. Non-GAAP measures may pose limitations because they do not include all of BlackRock's revenue and expense. BlackRock's management does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP. Non-GAAP measures may not be comparable to other similarly titled measures of other companies.

Management uses both GAAP and non-GAAP financial measures in evaluating BlackRock's financial performance. Adjustments to GAAP financial measures ("non-GAAP adjustments") include certain items management deems nonrecurring or that occur infrequently, transactions that ultimately will not impact BlackRock's book value or certain tax items that do not impact cash flow.

Computations for all periods are derived from the condensed consolidated statements of income as follows:

(1) Operating income, as adjusted, and operating margin, as adjusted:
Management believes operating income, as adjusted, and operating margin, as adjusted, are effective indicators of BlackRock's financial performance over time and, therefore, provide useful disclosure to investors.

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
(in millions)	**2018**	**2017**	**2018**	**2017**
Operating income, GAAP basis	**$ 1,396**	**$ 1,389**	**$ 4,211**	**$ 3,769**
Non-GAAP expense adjustment:				
PNC LTIP funding obligation	4	4	10	12
Operating income, as adjusted	**1,400**	**1,393**	**4,221**	**3,781**
Product launch costs and commissions	1	—	13	—
Operating income used for operating margin measurement	$ 1,401	$ 1,393	$ 4,234	$ 3,781
Revenue, GAAP basis	$ 3,576	$ 3,508	$ 10,764	$ 9,836
Non-GAAP adjustment:				
Distribution and servicing costs	(408)	(419)	(1,255)	(1,230)
Revenue used for operating margin measurement	$ 3,168	$ 3,089	$ 9,509	$ 8,606
Operating margin, GAAP basis	**39.0%**	**39.6%**	**39.1%**	**38.3%**
Operating margin, as adjusted	**44.2%**	**45.1%**	**44.5%**	**43.9%**

- Operating income, as adjusted, includes non-GAAP expense adjustments. The portion of compensation expense associated with certain long-term incentive plans ("LTIP") funded, or to be funded, through share distributions to participants of BlackRock stock held by PNC has been excluded because it ultimately does not impact BlackRock's book value.

- Operating income used for measuring operating margin, as adjusted, is equal to operating income, as adjusted, excluding the impact of product launch costs (e.g. closed-end fund launch costs) and related commissions. Management believes the exclusion of such costs and related commissions is useful because these costs can fluctuate considerably and revenue associated with the expenditure of these costs will not fully impact BlackRock's results until future periods.

  Revenue used for operating margin, as adjusted, excludes distribution and servicing costs paid to third parties. Management believes such costs represent a benchmark for the amount of revenue passed through to external parties who distribute the Company's products. BlackRock excludes from revenue used for operating margin, as adjusted, the costs related to distribution and servicing costs as a proxy for such offsetting revenue.

(2) Net income attributable to BlackRock, Inc., as adjusted:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions, except per share data)	**2018**	**2017**	**2018**	**2017**
Net income attributable to BlackRock, Inc., GAAP basis	**$ 1,216**	**$ 944**	**$ 3,378**	**$ 2,657**
Non-GAAP adjustments:				
PNC LTIP funding obligation, net of tax	3	3	9	9
Income tax matters	(5)	19	(1)	19
Net income attributable to BlackRock, Inc., as adjusted	**$ 1,214**	**$ 966**	**$ 3,386**	**$ 2,685**
Diluted weighted-average common shares outstanding (3)	161.4	163.8	162.1	164.3
Diluted earnings per common share, GAAP basis (3)	**$ 7.54**	**$ 5.76**	**$ 20.83**	**$ 16.17**
Diluted earnings per common share, as adjusted (3)	**$ 7.52**	**$ 5.90**	**$ 20.88**	**$ 16.34**

Management believes net income attributable to BlackRock, Inc., as adjusted, and diluted earnings per common share, as adjusted, are useful measures of BlackRock's profitability and financial performance. Net income attributable to BlackRock, Inc., as adjusted, equals net income attributable to BlackRock, Inc., GAAP basis, adjusted for significant nonrecurring items and charges that ultimately will not impact BlackRock's book value or certain tax items that do not impact cash flow.

See aforementioned discussion regarding operating income, as adjusted, and operating margin, as adjusted, for information on the PNC LTIP funding obligation.

For each period presented, the non-GAAP adjustment related to the PNC LTIP funding obligation was tax effected at the respective blended rates applicable to the adjustment. Amounts for income tax matters represent net noncash (benefits) expense primarily associated with the revaluation of certain deferred tax liabilities related to intangible assets and goodwill. Amounts have been excluded from the as adjusted results as these items will not have a cash flow impact and to ensure comparability among periods presented.

Per share amounts reflect net income attributable to BlackRock, Inc., as adjusted divided by diluted weighted average common shares outstanding.

(3) Nonvoting participating preferred stock is considered to be a common stock equivalent for purposes of determining basic and diluted earnings per share calculations.

ASSETS UNDER MANAGEMENT

AUM for reporting purposes generally is based upon how investment advisory and administration fees are calculated for each portfolio. Net asset values, total assets, committed assets or other measures may be used to determine portfolio AUM.

AUM and Net Inflows (Outflows) by Client Type

	AUM				Net inflows (outflows)		
	September 30,	June 30,	December 31,	September 30,	Three Months	Nine Months	Twelve Months

(in millions)	2018	2018	2017	2017	Ended September 30, 2018	Ended September 30, 2018	Ended September 30, 2018
Retail	$ 663,261	$ 636,825	$ 628,377	$ 608,521	$ 1,697	$ 23,880	$ 35,270
iShares ETFs	1,853,188	1,776,765	1,752,239	1,640,437	33,673	86,133	140,933
Institutional:							
Active	1,130,921	1,123,388	1,139,308	1,105,224	(1,204)	(3,638)	(1,450)
Index	2,351,785	2,304,764	2,316,807	2,194,701	(23,554)	(26,639)	(14,440)
Institutional subtotal	3,482,706	3,428,152	3,456,115	3,299,925	(24,758)	(30,277)	(15,890)
Long-term	**5,999,155**	**5,841,742**	**5,836,731**	**5,548,883**	**10,612**	**79,736**	**160,313**
Cash management	443,185	457,054	449,949	425,423	(14,570)	(6,167)	17,239
Advisory(1)	1,760	910	1,515	2,586	853	288	(769)
Total	**$ 6,444,100**	**$ 6,299,706**	**$ 6,288,195**	**$ 5,976,892**	**$ (3,105)**	**$ 73,857**	**$ 176,783**

AUM and Net Inflows (Outflows) by Investment Style

	AUM				Net inflows (outflows)		
(in millions)	September 30, 2018	June 30, 2018	December 31, 2017	September 30, 2017	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018	Twelve Months Ended September 30, 2018
Active	$ 1,713,576	$ 1,682,794	$ 1,696,005	$ 1,645,352	$ (1,109)	$ 12,291	$ 25,253
Index and *iShares* ETFs	4,285,579	4,158,948	4,140,726	3,903,531	11,721	67,445	135,060
Long-term	**5,999,155**	**5,841,742**	**5,836,731**	**5,548,883**	**10,612**	**79,736**	**160,313**
Cash management	443,185	457,054	449,949	425,423	(14,570)	(6,167)	17,239
Advisory(1)	1,760	910	1,515	2,586	853	288	(769)
Total	**$ 6,444,100**	**$ 6,299,706**	**$ 6,288,195**	**$ 5,976,892**	**$ (3,105)**	**$ 73,857**	**$ 176,783**

AUM and Net Inflows (Outflows) by Product Type

	AUM				Net inflows (outflows)		
(in millions)	September 30, 2018	June 30, 2018	December 31, 2017	September 30, 2017	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018	Twelve Months Ended September 30, 2018
Equity	$ 3,482,687	$ 3,366,480	$ 3,371,641	$ 3,172,465	$ (17,264)	$ (13,125)	$ 22,656
Fixed income	1,883,806	1,858,609	1,855,465	1,788,420	22,908	76,011	118,962
Multi-asset	492,810	481,666	480,278	457,027	3,228	9,617	14,539
Alternatives:							
Core	109,465	102,768	98,533	99,168	2,092	5,529	3,958
Currency and commodities(2)	30,387	32,219	30,814	31,803	(352)	1,704	198
Alternatives subtotal	139,852	134,987	129,347	130,971	1,740	7,233	4,156
Long-term	**5,999,155**	**5,841,742**	**5,836,731**	**5,548,883**	**10,612**	**79,736**	**160,313**
Cash management	443,185	457,054	449,949	425,423	(14,570)	(6,167)	17,239
Advisory(1)	1,760	910	1,515	2,586	853	288	(769)
Total	**$ 6,444,100**	**$ 6,299,706**	**$ 6,288,195**	**$ 5,976,892**	**$ (3,105)**	**$ 73,857**	**$ 176,783**

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(1) Advisory AUM represents long-term portfolio liquidation assignments.

(2) Amounts include commodity *iShares* ETFs.

Component Changes in AUM for the Three Months Ended September 30, 2018

The following table presents the component changes in AUM by client type and product type for the three months ended September 30, 2018.

(in millions)	June 30, 2018	Net inflows (outflows)	Acquisitions and dispositions(1)	Market change	FX impact(2)	September 30, 2018	Average AUM(3)
Retail:							
Equity	$ 232,617	$ (2,889)	$ 2,137	$ 6,362	$ (683)	$ 237,544	$ 235,327
Fixed income	266,987	3,141	14,070	(1,066)	(253)	282,879	271,896
Multi-asset	119,299	789	2,519	1,799	(102)	124,304	121,557
Alternatives	17,922	656	7	(22)	(29)	18,534	18,164
Retail subtotal	636,825	1,697	18,733	7,073	(1,067)	663,261	646,944
iShares ETFs:							
Equity	1,346,288	21,215	-	46,621	(199)	1,413,925	1,388,881
Fixed income	401,731	12,914	-	(2,094)	(208)	412,343	408,384
Multi-asset	3,767	(9)	-	55	1	3,814	3,803
Alternatives	24,979	(447)	-	(1,435)	9	23,106	24,152
iShares ETFs subtotal	1,776,765	33,673	-	43,147	(397)	1,853,188	1,825,220
Institutional:							
Active:							
Equity	134,986	(4,745)	(4,296)	3,564	(534)	128,975	131,834
Fixed income	550,444	(398)	2,417	722	(1,594)	551,591	552,157
Multi-asset	350,545	2,471	(1,593)	5,932	(468)	356,887	353,321
Alternatives	87,413	1,468	4,995	(164)	(244)	93,468	90,308
Active subtotal	1,123,388	(1,204)	1,523	10,054	(2,840)	1,130,921	1,127,620
Index:							
Equity	1,652,589	(30,845)	4,749	80,833	(5,083)	1,702,243	1,689,785
Fixed income	639,447	7,251	2,051	(6,660)	(5,096)	636,993	640,079
Multi-asset	8,055	(23)	(243)	110	(94)	7,805	7,914
Alternatives	4,673	63	1	39	(32)	4,744	4,680
Index subtotal	2,304,764	(23,554)	6,558	74,322	(10,305)	2,351,785	2,342,458
Institutional subtotal	3,428,152	(24,758)	8,081	84,376	(13,145)	3,482,706	3,470,078
Long-term	**5,841,742**	**10,612**	**26,814**	**134,596**	**(14,609)**	**5,999,155**	**5,942,242**
Cash management	457,054	(14,570)	686	630	(615)	443,185	455,852
Advisory(4)	910	853	-	(10)	7	1,760	1,308
Total	**$ 6,299,706**	**$ (3,105)**	**$ 27,500**	**$ 135,216**	**$ (15,217)**	**$ 6,444,100**	**$ 6,399,402**

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(1) Amounts include $5.4 billion and $25.6 billion net AUM from the TCP Transaction and the Citibanamex Transaction, respectively. In addition, amounts include $18.6 billion and $2.3 billion AUM reclassifications and net dispositions, respectively, related to the Aegon Transaction and $1.2 billion of net AUM dispositions related to the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing four months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for the three months ended September 30, 2018.

(in millions)	June 30, 2018	Net inflows (outflows)	Acquisitions and dispositions(1)	Market change	FX impact(2)	September 30, 2018	Average AUM(3)
Active:							
Equity	$ 304,098	$ (7,737)	$ (2,160)	$ 7,729	$ (881)	$ 301,049	$ 302,744
Fixed income	803,515	1,244	16,487	(199)	(1,715)	819,332	809,629
Multi-asset	469,845	3,260	926	7,731	(570)	481,192	474,878
Alternatives	105,336	2,124	5,002	(186)	(273)	112,003	108,472

Active subtotal	1,682,794	(1,109)	20,255	15,075	(3,439)	1,713,576	1,695,723
Index and *iShares* ETFs:							
iShares ETFs:							
Equity	1,346,288	21,215	-	46,621	(199)	1,413,925	1,388,881
Fixed income	401,731	12,914	-	(2,094)	(208)	412,343	408,384
Multi-asset	3,767	(9)	-	55	1	3,814	3,803
Alternatives	24,979	(447)	-	(1,435)	9	23,106	24,152
iShares ETFs subtotal	1,776,765	33,673	-	43,147	(397)	1,853,188	1,825,220
Non-ETF Index:							
Equity	1,716,094	(30,742)	4,750	83,030	(5,419)	1,767,713	1,754,202
Fixed income	653,363	8,750	2,051	(6,805)	(5,228)	652,131	654,503
Multi-asset	8,054	(23)	(243)	110	(94)	7,804	7,914
Alternatives	4,672	63	1	39	(32)	4,743	4,680
Non-ETF Index subtotal	2,382,183	(21,952)	6,559	76,374	(10,773)	2,432,391	2,421,299
Index & *iShares* ETFs subtotal	4,158,948	11,721	6,559	119,521	(11,170)	4,285,579	4,246,519
Long-term	**5,841,742**	**10,612**	**26,814**	**134,596**	**(14,609)**	**5,999,155**	**5,942,242**
Cash management	457,054	(14,570)	686	630	(615)	443,185	455,852
Advisory(4)	910	853	-	(10)	7	1,760	1,308
Total	**$6,299,706**	**$ (3,105)**	**$ 27,500**	**$135,216**	**$(15,217)**	**$ 6,444,100**	**$ 6,399,402**

The following table presents component changes in AUM by product type for the three months ended September 30, 2018.

(in millions)	**June 30, 2018**	**Net inflows (outflows)**	**Acquisitions and dispositions(1)**	**Market change**	**FX impact(2)**	**September 30, 2018**	**Average AUM(3)**
Equity	$3,366,480	$ (17,264)	$ 2,590	$137,380	$ (6,499)	$ 3,482,687	$3,445,827
Fixed income	1,858,609	22,908	18,538	(9,098)	(7,151)	1,883,806	1,872,516
Multi-asset	481,666	3,228	683	7,896	(663)	492,810	486,595
Alternatives:							
Core	102,768	2,092	4,995	(162)	(228)	109,465	105,918
Currency and commodities(5)	32,219	(352)	8	(1,420)	(68)	30,387	31,386
Alternatives subtotal	134,987	1,740	5,003	(1,582)	(296)	139,852	137,304
Long-term	**5,841,742**	**10,612**	**26,814**	**134,596**	**(14,609)**	**5,999,155**	**5,942,242**
Cash management	457,054	(14,570)	686	630	(615)	443,185	455,852
Advisory(4)	910	853	-	(10)	7	1,760	1,308
Total	**$6,299,706**	**$ (3,105)**	**$ 27,500**	**$135,216**	**$(15,217)**	**$ 6,444,100**	**$6,399,402**

AUM increased $144.4 billion to $6.4 trillion at September 30, 2018, driven by net market appreciation, net AUM added from strategic transactions and positive long-term net inflows, partially offset by the impact of foreign exchange movements.

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(1) Amounts include net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing four months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

(5) Amounts include commodity *iShares* ETFs.

Net market appreciation of $135.2 billion was primarily driven by higher U.S. equity markets, partially offset by market depreciation in international developed and emerging markets, which are often linked to higher fee AUM.

Long-term net inflows of $10.6 billion included $33.7 billion and $1.7 billion from *iShares* ETFs and retail clients, respectively, partially offset by net outflows of $24.8 billion from institutional clients. Net flows in long-term products are described below.

- *iShares* ETFs net inflows of $33.7 billion reflected $20.3 billion and $13.4 billion of net inflows into Core and non-Core ETFs, respectively. Equity net inflows of $21.2 billion reflected demand for Core ETFs across developed and emerging markets. Fixed income *iShares* net inflows of $12.9 billion were diversified across long-duration treasuries, corporate bond, high-yield and emerging markets debt ETFs.

- Retail net inflows of $1.7 billion reflected net inflows of $2.5 billion in the United States, partially offset by net outflows of $0.8 billion internationally. Fixed income net inflows of $3.1 billion were diversified across the Company's active platform, led by net inflows into municipals, unconstrained and high-yield strategies. Equity net outflows of $2.9 billion reflected outflows from international active equities.

- Institutional active net outflows of $1.2 billion reflected active equity net outflows of $4.7 billion, partially offset by active multi-asset and alternatives net inflows. Multi-asset net inflows of $2.5 billion were driven by ongoing demand for the *LifePath*® target-date series. Alternative net inflows of $1.5 billion were led by flows into illiquid alternatives.

- Institutional index net outflows of $23.6 billion were driven by equity net outflows of $30.8 billion, reflecting client de-risking and re-balancing activity, partially offset by fixed income net inflows of $7.3 billion, led by continued demand for liability-driven investing strategies.

Cash management AUM decreased to $443.2 billion due to net outflows of $14.6 billion, driven by a planned $23.9 billion redemption of a single escrow mandate.

AUM decreased $15.2 billion due to the impact of foreign exchange movements, primarily due to the strengthening of the U.S. dollar, largely against the British pound and the Japanese yen.

Component Changes in AUM for the Nine Months Ended September 30, 2018

The following table presents the component changes in AUM by client type and product for the nine months ended September 30, 2018.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions[1]	Market change	FX impact[2]	September 30, 2018	Average AUM[3]
Retail:							
Equity	$ 233,218	$ (205)	$ 2,137	$ 4,760	$ (2,366)	$ 237,544	$ 236,413
Fixed income	257,571	19,425	14,070	(6,684)	(1,503)	282,879	267,050
Multi-asset	120,855	2,744	2,519	(1,407)	(407)	124,304	121,965
Alternatives	16,733	1,916	7	(14)	(108)	18,534	17,623
Retail subtotal	628,377	23,880	18,733	(3,345)	(4,384)	663,261	643,051
iShares ETFs:							
Equity	1,329,610	52,308	-	37,177	(5,170)	1,413,925	1,375,039
Fixed income	395,252	32,072	-	(12,415)	(2,566)	412,343	401,309

Multi-asset	3,761	62	-	(5)	(4)	3,814	3,789
Alternatives	23,616	1,691	-	(2,156)	(45)	23,106	24,886
iShares ETFs subtotal	1,752,239	86,133	-	22,601	(7,785)	1,853,188	1,805,023
Institutional:							
Active:							
Equity	137,185	(6,255)	(4,296)	4,170	(1,829)	128,975	136,050
Fixed income	570,050	(7,387)	2,417	(9,490)	(3,999)	551,591	558,285
Multi-asset	347,825	6,270	(1,593)	8,795	(4,410)	356,887	349,495
Alternatives	84,248	3,734	4,995	1,396	(905)	93,468	87,890
Active subtotal	1,139,308	(3,638)	1,523	4,871	(11,143)	1,130,921	1,131,720
Index:							
Equity	1,671,628	(58,973)	4,749	98,283	(13,444)	1,702,243	1,683,996
Fixed income	632,592	31,901	2,051	(14,976)	(14,575)	636,993	642,648
Multi-asset	7,837	541	(243)	(262)	(68)	7,805	8,106
Alternatives	4,750	(108)	1	154	(53)	4,744	4,751
Index subtotal	2,316,807	(26,639)	6,558	83,199	(28,140)	2,351,785	2,339,501
Institutional subtotal	3,456,115	(30,277)	8,081	88,070	(39,283)	3,482,706	3,471,221
Long-term	**5,836,731**	**79,736**	**26,814**	**107,326**	**(51,452)**	**5,999,155**	**5,919,295**
Cash management	449,949	(6,167)	686	1,043	(2,326)	443,185	456,017
Advisory(4)	1,515	288	-	(2)	(41)	1,760	1,267
Total	**$ 6,288,195**	**$ 73,857**	**$ 27,500**	**$ 108,367**	**$ (53,819)**	**$ 6,444,100**	**$6,376,579**

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(1) Amounts include net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing ten months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for the nine months ended September 30, 2018.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions(1)	Market change	FX impact(2)	September 30, 2018	Average AUM(3)
Active:							
Equity	$ 311,209	$ (11,127)	$ (2,160)	$ 6,268	$ (3,141)	$ 301,049	$ 309,669
Fixed income	815,135	8,754	16,487	(15,985)	(5,059)	819,332	811,651
Multi-asset	468,679	9,014	926	7,388	(4,815)	481,192	471,460
Alternatives	100,982	5,650	5,002	1,383	(1,014)	112,003	105,513
Active subtotal	1,696,005	12,291	20,255	(946)	(14,029)	1,713,576	1,698,293
Index and *iShares* ETFs:							
iShares ETFs:							
Equity	1,329,610	52,308	-	37,177	(5,170)	1,413,925	1,375,039
Fixed income	395,252	32,072	-	(12,415)	(2,566)	412,343	401,309
Multi-asset	3,761	62	-	(5)	(4)	3,814	3,789
Alternatives	23,616	1,691	-	(2,156)	(45)	23,106	24,886
iShares ETFs subtotal	1,752,239	86,133	-	22,601	(7,785)	1,853,188	1,805,023
Non-ETF Index							
Equity	1,730,822	(54,306)	4,750	100,945	(14,498)	1,767,713	1,746,790

Fixed income	645,078	35,185	2,051	(15,165)	(15,018)	652,131	656,332
Multi-asset	7,838	541	(243)	(262)	(70)	7,804	8,106
Alternatives	4,749	(108)	1	153	(52)	4,743	4,751
Non-ETF Index subtotal	2,388,487	(18,688)	6,559	85,671	(29,638)	2,432,391	2,415,979
Index & *iShares* ETFs subtotal	4,140,726	67,445	6,559	108,272	(37,423)	4,285,579	4,221,002
Long-term	**5,836,731**	**79,736**	**26,814**	**107,326**	**(51,452)**	**5,999,155**	**5,919,295**
Cash management	449,949	(6,167)	686	1,043	(2,326)	443,185	456,017
Advisory(4)	1,515	288	-	(2)	(41)	1,760	1,267
Total	**$ 6,288,195**	**$ 73,857**	**$ 27,500**	**$ 108,367**	**$ (53,819)**	**$ 6,444,100**	**$6,376,579**

The following table presents component changes in AUM by product type for the nine months ended September 30, 2018.

(in millions)	**December 31, 2017**	**Net inflows (outflows)**	**Acquisitions and dispositions(1)**	**Market change**	**FX impact(2)**	**September 30, 2018**	**Average AUM(3)**
Equity	$ 3,371,641	$ (13,125)	$ 2,590	$ 144,390	$ (22,809)	$ 3,482,687	$3,431,498
Fixed income	1,855,465	76,011	18,538	(43,565)	(22,643)	1,883,806	1,869,292
Multi-asset	480,278	9,617	683	7,121	(4,889)	492,810	483,355
Alternatives:							
Core	98,533	5,529	4,995	1,407	(999)	109,465	102,928
Currency and commodities(5)	30,814	1,704	8	(2,027)	(112)	30,387	32,222
Alternatives subtotal	129,347	7,233	5,003	(620)	(1,111)	139,852	135,150
Long-term	**5,836,731**	**79,736**	**26,814**	**107,326**	**(51,452)**	**5,999,155**	**5,919,295**
Cash management	449,949	(6,167)	686	1,043	(2,326)	443,185	456,017
Advisory(4)	1,515	288	-	(2)	(41)	1,760	1,267
Total	**$ 6,288,195**	**$ 73,857**	**$ 27,500**	**$ 108,367**	**$ (53,819)**	**$ 6,444,100**	**$6,376,579**

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(1) Amounts include net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing ten months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

(5) Amounts include commodity *iShares* ETFs.

AUM increased $155.9 billion to $6.4 trillion at September 30, 2018, driven by net market appreciation, net inflows and net AUM added from strategic transactions, partially offset by the impact of foreign exchange movements.

Net market appreciation of $108.4 billion included $144.4 billion from equity products due to higher U.S. equity markets, partially offset by net depreciation from lower international developed and emerging equity markets, and $43.6 billion from fixed income strategies.

Long-term net inflows of $79.7 billion were comprised of net inflows of $86.1 billion and $23.9 billion from *iShares* ETFs and retail clients, respectively, partially offset by net outflows of $30.3 billion from institutional clients. Net flows in long-term products are described below.

- *iShares* ETFs net inflows of $86.1 billion reflected $73.0 billion and $13.1 billion of net inflows into Core and non-Core ETFs, respectively. Equity net inflows of $52.3 billion were driven by both U.S. and international equity market exposures. Fixed income inflows of $32.1 billion were led by flows into treasuries.

- Retail net inflows of $23.9 billion reflected net inflows of $19.4 billion in the United States and $4.5 billion internationally. Retail net inflows were led by fixed income net inflows of $19.4 billion, reflecting inflows into emerging markets, municipal bond funds, and unconstrained strategies.

- Institutional active net outflows of $3.6 billion reflected active fixed income and equity net outflows of $7.4 billion and $6.3 billion, respectively, partially offset by active multi-asset and alternatives net inflows of $6.3 billion and $3.7 billion, respectively. Multi-asset net inflows were driven by ongoing demand for the *LifePath* target-date series. Alternatives net inflows were led by flows into illiquid alternatives.

- Institutional index net outflows of $26.6 billion were primarily driven by equity net outflows of $59.0 billion, linked to client asset allocation, re-balancing and cash needs, partially offset by fixed income net inflows of $31.9 billion, led by continued demand for liability-driven investment fixed income solutions.

Cash management AUM decreased to $443.2 billion, primarily due to net outflows of $6.2 billion, driven by a planned $23.9 billion redemption of a single escrow mandate in the third quarter.

AUM also decreased $53.8 billion due to the impact of foreign exchange movements, primarily resulting from the strengthening of the U.S. dollar against the British pound and the Euro.

Component Changes in AUM for the Twelve Months Ended September 30, 2018

The following table presents the component changes in AUM by client type and product for the twelve months ended September 30, 2018.

(in millions)	September 30, 2017	Net inflows (outflows)	Acquisitions and dispositions(1)	Market change	FX impact(2)	September 30, 2018	Average AUM(3)
Retail:							
Equity	$ 225,668	$ 930	$ 2,137	$ 10,465	$ (1,656)	$ 237,544	$ 234,570
Fixed income	248,348	27,430	14,070	(6,032)	(937)	282,879	263,376
Multi-asset	118,062	4,734	2,519	(726)	(285)	124,304	121,297
Alternatives	16,443	2,176	7	(31)	(61)	18,534	17,364
Retail subtotal	608,521	35,270	18,733	3,676	(2,939)	663,261	636,607
iShares ETFs:							
Equity	1,228,395	97,196	-	92,086	(3,752)	1,413,925	1,350,595
Fixed income	386,267	40,744	-	(13,023)	(1,645)	412,343	398,421
Multi-asset	3,491	324	-	3	(4)	3,814	3,755
Alternatives	22,284	2,669	-	(1,815)	(32)	23,106	24,365
iShares ETFs subtotal	1,640,437	140,933	-	77,251	(5,433)	1,853,188	1,777,136
Institutional:							
Active:							

Equity	130,366	(7,491)	(4,296)	11,829	(1,433)	128,975	135,167
Fixed income	562,027	(5,073)	2,417	(4,658)	(3,122)	551,591	559,446
Multi-asset	327,733	9,180	(1,593)	24,431	(2,864)	356,887	345,708
Alternatives	85,098	1,934	4,995	2,146	(705)	93,468	87,097
Active subtotal	1,105,224	(1,450)	1,523	33,748	(8,124)	1,130,921	1,127,418
Index:							
Equity	1,588,036	(67,979)	4,749	188,093	(10,656)	1,702,243	1,669,668
Fixed income	591,778	55,861	2,051	(1,141)	(11,556)	636,993	633,159
Multi-asset	7,741	301	(243)	67	(61)	7,805	8,040
Alternatives	7,146	(2,623)	1	254	(34)	4,744	4,952
Index subtotal	2,194,701	(14,440)	6,558	187,273	(22,307)	2,351,785	2,315,819
Institutional subtotal	3,299,925	(15,890)	8,081	221,021	(30,431)	3,482,706	3,443,237
Long-term	**5,548,883**	**160,313**	**26,814**	**301,948**	**(38,803)**	**5,999,155**	**5,856,980**
Cash management	425,423	17,239	686	1,432	(1,595)	443,185	450,862
Advisory(4)	2,586	(769)	-	(18)	(39)	1,760	1,494
Total	**$ 5,976,892**	**$ 176,783**	**$ 27,500**	**$ 303,362**	**$ (40,437)**	**$ 6,444,100**	**$ 6,309,336**

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(1) Amounts include net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for the twelve months ended September 30, 2018.

(in millions)	**September 30, 2017**	**Net inflows (outflows)**	**Acquisitions and dispositions(1)**	**Market change**	**FX impact(2)**	**September 30, 2018**	**Average AUM(3)**
Active:							
Equity	$ 300,176	$ (12,158)	$ (2,160)	$ 17,436	$ (2,245)	$ 301,049	$ 308,300
Fixed income	797,840	19,387	16,487	(10,687)	(3,695)	819,332	809,440
Multi-asset	445,795	13,914	926	23,705	(3,148)	481,192	467,005
Alternatives	101,541	4,110	5,002	2,115	(765)	112,003	104,461
Active subtotal	1,645,352	25,253	20,255	32,569	(9,853)	1,713,576	1,689,206
Index and *iShares* ETFs:							
iShares ETFs:							
Equity	1,228,395	97,196	-	92,086	(3,752)	1,413,925	1,350,595
Fixed income	386,267	40,744	-	(13,023)	(1,645)	412,343	398,421
Multi-asset	3,491	324	-	3	(4)	3,814	3,755
Alternatives	22,284	2,669	-	(1,815)	(32)	23,106	24,365
iShares ETFs subtotal	1,640,437	140,933	-	77,251	(5,433)	1,853,188	1,777,136
Non-ETF Index:							
Equity	1,643,894	(62,382)	4,750	192,951	(11,500)	1,767,713	1,731,105
Fixed income	604,313	58,831	2,051	(1,144)	(11,920)	652,131	646,541
Multi-asset	7,741	301	(243)	67	(62)	7,804	8,040
Alternatives	7,146	(2,623)	1	254	(35)	4,743	4,952

Non-ETF Index subtotal	2,263,094	(5,873)	6,559	192,128	(23,517)	2,432,391	2,390,638
Index & *iShares* ETFs subtotal	3,903,531	135,060	6,559	269,379	(28,950)	4,285,579	4,167,774
Long-term	**5,548,883**	**160,313**	**26,814**	**301,948**	**(38,803)**	**5,999,155**	**5,856,980**
Cash management	425,423	17,239	686	1,432	(1,595)	443,185	450,862
Advisory(4)	2,586	(769)	-	(18)	(39)	1,760	1,494
Total	**$ 5,976,892**	**$ 176,783**	**$ 27,500**	**$303,362**	**$(40,437)**	**$ 6,444,100**	**$6,309,336**

The following table presents component changes in AUM by product type for the twelve months ended September 30, 2018.

(in millions)	**September 30, 2017**	**Net inflows (outflows)**	**Acquisitions and dispositions(1)**	**Market change**	**FX impact(2)**	**September 30, 2018**	**Average AUM(3)**
Equity	$ 3,172,465	$ 22,656	$ 2,590	$302,473	$ (17,497)	$ 3,482,687	$3,390,000
Fixed income	1,788,420	118,962	18,538	(24,854)	(17,260)	1,883,806	1,854,402
Multi-asset	457,027	14,539	683	23,775	(3,214)	492,810	478,800
Alternatives:							
Core	99,168	3,958	4,995	2,092	(748)	109,465	101,921
Currency and commodities(5)	31,803	198	8	(1,538)	(84)	30,387	31,857
Alternatives subtotal	130,971	4,156	5,003	554	(832)	139,852	133,778
Long-term	**5,548,883**	**160,313**	**26,814**	**301,948**	**(38,803)**	**5,999,155**	**5,856,980**
Cash management	425,423	17,239	686	1,432	(1,595)	443,185	450,862
Advisory(4)	2,586	(769)	-	(18)	(39)	1,760	1,494
Total	**$ 5,976,892**	**$ 176,783**	**$ 27,500**	**$ 303,362**	**$ (40,437)**	**$ 6,444,100**	**$6,309,336**

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(1) Amounts include net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

(5) Amounts include commodity *iShares* ETFs.

AUM increased $467.2 billion to $6.4 trillion at September 30, 2018 from $6.0 trillion at September 30, 2017, driven by net market appreciation, positive net inflows and net AUM added from strategic transactions, partially offset by the impact of foreign exchange movements.

Net market appreciation of $303.4 billion was primarily driven by higher U.S. and global equity markets, partially offset by $24.9 billion of net market depreciation from fixed income strategies.

Long-term net inflows of $160.3 billion were comprised of net inflows of $140.9 billion and $35.3 billion from *iShares* ETFs and retail clients, respectively, partially offset by net outflows of $15.9 billion from institutional clients. Net flows in long-term products are described below.

- *iShares* ETFs net inflows of $140.9 billion reflected $101.5 billion and $39.4 billion of net inflows into Core and non-Core ETFs, respectively. Equity net inflows of $97.2 billion were driven by both U.S. and international equity market exposures. Fixed income inflows of $40.7 billion were led by flows into treasuries and emerging markets bond funds.
- Retail net inflows of $35.3 billion reflected net inflows of $26.8 billion in the United States and

$8.5 billion internationally. Retail net inflows primarily reflected net inflows of $27.4 billion into fixed income products, led by emerging markets, municipal bond funds, and unconstrained strategies, and $4.7 billion into multi-asset products.

- Institutional active net outflows of $1.5 billion reflected active equity and fixed income net outflows of $7.5 billion and $5.1 billion, respectively, partially offset by active multi-asset net inflows of $9.2 billion. Multi-asset net inflows were driven by ongoing demand for the *LifePath* target-date series.

- Institutional index net outflows of $14.4 billion were primarily driven by equity net outflows of $68.0 billion, linked to client asset allocation, re-balancing and cash needs, partially offset by fixed income net inflows of $55.9 billion, led by continued demand for liability-driven investment fixed income solutions.

Cash management AUM increased to $443.2 billion, driven by positive net inflows, partially offset by the planned redemption of a single escrow mandate and the impact of foreign exchange movements.

AUM decreased $40.4 billion due to the impact of foreign exchange movements, primarily due to the strengthening of the U.S. dollar, largely against the British pound and the Euro.

DISCUSSION OF FINANCIAL RESULTS

The Company's results of operations for the three and nine months ended September 30, 2018 and 2017 are discussed below. For a further description of the Company's revenue and expense, see the Company's Annual Report on Form 10-K for the year ended December 31, 2017 ("2017 Form 10-K") and Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements.

Revenue

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
(in millions)	**2018**	**2017**	**2018**	**2017**
Investment advisory, administration fees and securities lending revenue:				
Equity:				
Active	$ 405	$ 418	$ 1,269	$ 1,229
iShares ETFs	885	835	2,722	2,332
Non-ETF Index	169	168	532	503
Equity subtotal	1,459	1,421	4,523	4,064
Fixed income:				
Active	460	437	1,374	1,268
iShares ETFs	205	210	620	595
Non-ETF Index	98	88	292	257
Fixed income subtotal	763	735	2,286	2,120
Multi-asset	298	289	889	843
Alternatives:				
Core	185	169	539	469
Currency and commodities	24	23	75	67
Alternatives subtotal	209	192	614	536
Long-term	**2,729**	**2,637**	**8,312**	**7,563**

Cash management	154	144	462	408
Total base fees	**2,883**	**2,781**	**8,774**	**7,971**
Investment advisory performance fees:				
Equity	7	30	68	57
Fixed income	—	9	2	20
Multi-asset	1	2	15	14
Alternatives	143	150	227	218
Total performance fees	**151**	**191**	**312**	**309**
Technology services revenue	**200**	**169**	**582**	**481**
Distribution fees:				
Retrocessions	168	175	541	490
12b-1 fees (U.S. mutual funds distribution fees)	102	113	313	356
Other	9	10	30	31
Total distribution fees	**279**	**298**	**884**	**877**
Advisory and other revenue:				
Advisory	26	25	80	74
Other	37	44	132	124
Total advisory and other revenue	**63**	**69**	**212**	**198**
Total revenue	**$ 3,576**	**$ 3,508**	**$ 10,764**	**$ 9,836**

The table below lists the asset type mix of investment advisory, administration fees and securities lending revenue (collectively "base fees") and mix of average AUM by product type:

	Three Months Ended September 30,				**Nine Months Ended September 30,**			
	Mix of Base Fees		**Mix of Average AUM by Asset Class**[1]		**Mix of Base Fees**		**Mix of Average AUM by Asset Class**[2]	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Equity:								
Active	15%	15%	5%	5%	14%	15%	5%	5%
iShares ETFs	31%	30%	22%	20%	31%	29%	22%	20%
Non-ETF Index	6%	6%	27%	28%	6%	6%	27%	28%
Equity subtotal	52%	51%	54%	53%	51%	50%	54%	53%
Fixed income:								
Active	16%	16%	13%	13%	17%	17%	12%	13%
iShares ETFs	7%	8%	6%	6%	7%	7%	6%	6%
Non-ETF Index	3%	3%	10%	10%	3%	3%	10%	10%
Fixed income subtotal	26%	27%	29%	29%	27%	27%	28%	29%
Multi-asset	10%	10%	8%	8%	10%	11%	8%	8%
Alternatives:								
Core	6%	6%	2%	2%	6%	6%	2%	2%
Currency and commodities	1%	1%	0%	1%	1%	1%	1%	1%
Alternatives subtotal	7%	7%	2%	3%	7%	7%	3%	3%
Long-term	**95%**	**95%**	**93%**	**93%**	**95%**	**95%**	**93%**	**93%**
Cash management	5%	5%	7%	7%	5%	5%	7%	7%
Total excluding Advisory AUM	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

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(1) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing four months.

(2) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing ten months.

Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017

Revenue increased $68 million, or 2%, from the three months ended September 30, 2017, driven by growth in base fees and technology services revenue, partially offset by lower performance fees.

Investment advisory, administration fees and securities lending revenue of $2,883 million increased $102 million from $2,781 million for the three months ended September 30, 2017, reflecting the impact of higher markets and organic growth on average AUM. The increase lagged the growth in average AUM as a result of the impact of divergent beta and previously announced pricing changes to select investment products. Securities lending revenue was $160 million in the current quarter compared with $150 million in the third quarter of 2017.

Investment advisory performance fees of $151 million decreased $40 million from $191 million for the three months ended September 30, 2017, primarily reflecting lower fees from liquid alternative and long-only products.

Technology services revenue of $200 million increased $31 million from $169 million for the three months ended September 30, 2017, primarily reflecting higher revenue from institutional *Aladdin*.

Nine Months Ended September 30, 2018 Compared with Nine Months Ended September 30, 2017

Revenue increased $928 million, or 9%, from the nine months ended September 30, 2017, driven by growth in base fees and technology services revenue.

Investment advisory, administration fees and securities lending revenue of $8,774 million increased $803 million from $7,971 million for the nine months ended September 30, 2017, reflecting the impact of higher markets and organic growth on average AUM. The increase lagged the growth in average AUM as a result of divergent beta and previously announced pricing changes to select investment products. Securities lending revenue was $498 million for the nine months ended September 30, 2018 compared with $447 million for the nine months ended September 30, 2017.

Investment advisory performance fees of $312 million increased $3 million from the nine months ended September 30, 2017, primarily reflecting improved performance in long-only equity and single strategy hedge fund products, partially offset by lower revenue from fixed income products.

Technology services revenue of $582 million increased $101 million from $481 million for the nine months ended September 30, 2017, reflecting higher revenue for institutional *Aladdin*, Aladdin Wealth and distribution technologies.

Expense

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	2018	2017	2018	2017
Expense, GAAP:				
Employee compensation and benefits	$ 1,097	$ 1,087	$ 3,300	$ 3,106

Distribution and servicing costs:				
Retrocessions	168	175	541	490
12b-1 costs	100	111	307	349
Other	140	133	407	391
Total distribution and servicing costs	408	419	1,255	1,230
Direct fund expense	249	231	774	658
General and administration:				
Marketing and promotional	77	76	253	231
Occupancy and office related	73	68	220	202
Portfolio services	60	60	203	175
Technology	61	51	172	145
Professional services	42	37	111	92
Communications	9	8	28	24
Foreign exchange remeasurement	7	3	12	(3)
Contingent consideration fair value adjustments	29	7	34	(1)
Product launch costs	1	—	12	4
Other general and administration	54	45	144	127
Total general and administration expense	413	355	1,189	996
Amortization of intangible assets	13	27	35	77
Total expense, GAAP	**$ 2,180**	**$ 2,119**	**$ 6,553**	**$ 6,067**
Less non-GAAP expense adjustments:				
Employee compensation and benefits:				
PNC LTIP funding obligation	4	4	10	12
Expense, as adjusted:				
Employee compensation and benefits	$ 1,093	$ 1,083	$ 3,290	$ 3,094
Distribution and servicing costs	408	419	1,255	1,230
Direct fund expense	249	231	774	658
General and administration	413	355	1,189	996
Amortization of intangible assets	13	27	35	77
Total expense, as adjusted	**$ 2,176**	**$ 2,115**	**$ 6,543**	**$ 6,055**

Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017

GAAP. Expense increased $61 million from the three months ended September 30, 2017, primarily driven by higher general and administration expense, including $42 million of transaction-related expense recorded in the three months ended September 30, 2018, higher volume-related expense, and higher employee compensation and benefits expense.

Employee compensation and benefits expense increased $10 million from the three months ended September 30, 2017, primarily reflecting higher salaries, partially offset by lower incentive compensation. Employees at September 30, 2018 totaled approximately 14,900 compared with approximately 13,700 at September 30, 2017.

General and administration expense increased $58 million from the three months ended September 30, 2017, primarily due to $42 million of transaction-related expense recorded in the three months ended September 30, 2018, consisting of contingent consideration fair value adjustments, other general and administration expense, and professional services.

As Adjusted. Expense, as adjusted, increased $61 million, or 3%, to $2,176 million from $2,115 million for the three months ended September 30, 2017. The increase in total expense, as adjusted, is driven primarily by higher general and administration expense, higher volume-related expense, and higher employee compensation and benefits expense.

Nine Months Ended September 30, 2018 Compared with Nine Months Ended September 30, 2017

GAAP. Expense increased $486 million from the nine months ended September 30, 2017, primarily driven by higher employee compensation and benefits expense, higher general and administration expense, and higher volume-related expense.

Employee compensation and benefits expense increased $194 million, or 6%, from the nine months ended September 30, 2017, reflecting higher salaries and higher incentive compensation, primarily driven by higher operating income and higher headcount, partially offset by approximately $20 million of expense associated with the strategic repositioning of the active equity platform in the nine months ended September 30, 2017.

Distribution and servicing costs totaled $1,255 million compared with $1,230 million for the nine months ended September 30, 2017, reflecting higher average AUM.

Direct fund expense increased $116 million from the nine months ended September 30, 2017, reflecting higher average AUM.

Amortization of intangible assets decreased $42 million from the nine months ended September 30, 2017, primarily reflecting certain finite-lived intangible assets being fully amortized.

As Adjusted. Expense, as adjusted, increased $488 million, or 8%, to $6,543 million from $6,055 million for the nine months ended September 30, 2017. The increase in total expense, as adjusted, is driven primarily by higher employee compensation and benefit expense, higher general and administration expense, and higher volume-related expense.

Nonoperating Results

The summary and reconciliation of GAAP nonoperating income (expense) to nonoperating income (expense), as adjusted for the three and nine months ended September 30, 2018 and 2017 was as follows:

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
(in millions)	**2018**	**2017**	**2018**	**2017**
Nonoperating income (expense), GAAP basis(1)	$ 33	$ 10	$ (7)	$ 4
Less: Net income (loss) attributable to NCI	(13)	12	(3)	31
Nonoperating income (expense), as adjusted, net of NCI(2)(3)	$ 46	$ (2)	$ (4)	$ (27)

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(1) Amounts include a loss of $9 million and a gain of $29 million for the three months ended September 30, 2018 and 2017, respectively, attributable to consolidated variable interest entities ("VIEs"). Amounts include a loss of $21 million and a gain of $95 million for the nine months ended September 30, 2018 and 2017, respectively, attributable to consolidated VIEs.

(2) Net of income (loss) attributable to NCI.

(3) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing BlackRock's nonoperating contribution to results. See *Non-GAAP Financial Measures* for further information on non-GAAP financial measures for the three and nine months ended September 30, 2018 and 2017.

The components of nonoperating income (expense), as adjusted, for the three and nine months ended September 30, 2018 and 2017 were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	**2018**	**2017**	**2018**	**2017**
Net gain (loss) on investments(1)(2)				
Private equity	$ 4	$ 7	$ 10	$ 21
Real assets	10	1	24	2
Other alternatives(3)	1	11	5	34
Other investments(4)	(3)	10	(20)	35
Subtotal	12	29	19	92
Other gains(5)	51	—	52	5
Total net gain (loss) on investments(1)(2)	63	29	71	97
Interest and dividend income	29	15	63	35
Interest expense(6)	(46)	(46)	(138)	(159)
Net interest expense	(17)	(31)	(75)	(124)
Nonoperating income (expense), as adjusted(1)(2)	$ 46	$ (2)	$ (4)	$ (27)

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(1) Net of net income (loss) attributable to NCI. Amounts also include net gain (loss) on consolidated VIEs.

(2) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing BlackRock's nonoperating contribution to results. See *Non-GAAP Financial Measures* for further information on non-GAAP financial measures for the three and nine months ended September 30, 2018 and 2017.

(3) Amounts primarily include net gains (losses) related to direct hedge fund strategies and hedge fund solutions.

(4) Amounts primarily include net gains (losses) related to equity and fixed income investments.

(5) Amount for the three months ended September 30, 2018 primarily includes a $40 million pre-tax gain related to the DSP Transaction and a $10 million noncash pre-tax gain related to the revaluation of another strategic investment.

(6) Amount for the nine months ended September 30, 2017 included a "make-whole" redemption premium of $14 million related to the refinancing of $700 million of 6.25% notes, which were repaid prior to their September 2017 maturity.

Income Tax Expense

	GAAP				As Adjusted			
	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Operating income(1)	$ 1,396	$ 1,389	$ 4,211	$ 3,769	$ 1,400	$ 1,393	$ 4,221	$ 3,781
Total nonoperating income (expense)(1)(2)	46	(2)	(4)	(27)	46	(2)	(4)	(27)
Income before income taxes(2)	$ 1,442	$ 1,387	$ 4,207	$ 3,742	$ 1,446	$ 1,391	$ 4,217	$ 3,754
Income tax expense	$ 226	$ 443	$ 829	$ 1,085	$ 232	$ 425	$ 831	$ 1,069
Effective tax rate	*15.7%*	*31.9%*	*19.7%*	*29.0%*	*16.0%*	*30.6%*	*19.7%*	*28.5%*

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(1) See *Non-GAAP Financial Measures* for further information on and reconciliation of as adjusted items.

(2) Net of net income (loss) attributable to NCI.

2018. The three and nine months ended September 30, 2018 income tax expense (GAAP) reflected a reduced tax rate associated with the 2017 Tax Act and $90 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure. The nine months ended September 30, 2018 income tax expense (GAAP) also included a discrete tax benefit of $58 million related to stock-based compensation awards that vested in 2018.

2017. The three and nine months ended September 30, 2017 income tax expense (GAAP) included net noncash expense of $19 million related to the revaluation of certain deferred income tax liabilities as a result of domestic state and local tax changes. The nine months ended September 30, 2017 income tax expense (GAAP) also included a discrete tax benefit of $84 million related to stock-based compensation awards that vested in 2017.

The as adjusted effective tax rate of 30.6% and 28.5% for the three and nine months ended September 30, 2017, respectively, excluded the net noncash expense of $19 million mentioned above as it will not have a cash flow impact and to ensure comparability among periods presented.

BALANCE SHEET OVERVIEW

As Adjusted Balance Sheet

The following table presents a reconciliation of the condensed consolidated statement of financial condition presented on a GAAP basis to the condensed consolidated statement of financial condition, excluding the impact of separate account assets and separate account collateral held under securities lending agreements (directly related to lending separate account securities) and separate account liabilities and separate account collateral liabilities under securities lending agreements and consolidated sponsored investment products.

The Company presents the as adjusted balance sheet as additional information to enable investors to exclude certain assets that have equal and offsetting liabilities or noncontrolling interests that ultimately do not have an impact on stockholders' equity or cash flows. Management views the as adjusted balance sheet, a non-GAAP financial measure, as an economic presentation of the Company's total assets and liabilities; however, it does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP.

Separate Account Assets and Liabilities and Separate Account Collateral Held under Securities Lending Agreements

Separate account assets are maintained by BlackRock Life Limited, a wholly owned subsidiary of the Company that is a registered life insurance company in the United Kingdom, and represent segregated assets held for purposes of funding individual and group pension contracts. The Company records equal and offsetting separate account liabilities. The separate account assets are not available to creditors of the Company and the holders of the pension contracts have no recourse to the Company's assets. The net investment income attributable to separate account assets accrues directly to the contract owners and is not reported on the condensed consolidated statements of income. While BlackRock has no economic interest in these assets or liabilities, BlackRock earns an investment advisory fee for the service of managing these assets on behalf of its clients.

In addition, the Company records on its condensed consolidated statements of financial condition the separate account collateral received under BlackRock Life Limited securities lending arrangements as its own asset in addition to an equal and offsetting separate account collateral liability for the obligation to return the collateral. The collateral is not available to creditors of the Company and the borrowers under the securities lending arrangements have no recourse to the Company's assets.

Consolidated Sponsored Investment Products

The Company consolidates certain sponsored investment products accounted for as voting rights entities ("VREs") and VIEs, (collectively, "Consolidated Sponsored Investment Products"). See Note 2, *Significant Accounting Policies*, in the notes to the consolidated financial statements contained in the 2017 Form 10-K for more information on the Company's consolidation policy.

The Company cannot readily access cash and cash equivalents or other assets held by Consolidated Sponsored Investment Products to use in its operating activities. In addition, the Company cannot readily sell investments held by Consolidated Sponsored Investment Products in order to obtain cash for use in the Company's operations.

	September 30, 2018			
(in millions)	**GAAP Basis**	**Separate Account Assets/ Collateral(1)**	**Consolidated Sponsored Investment Products(2)**	**As Adjusted**
Assets				
Cash and cash equivalents	$ 6,358	$ —	$ 32	$ 6,326
Accounts receivable	2,682	—	—	2,682
Investments	1,760	—	42	1,718
Assets of consolidated VIEs:				
Cash and cash equivalents	222	—	222	—
Investments	2,217	—	449	1,768
Other assets	179	—	179	—
Separate account assets and collateral held under securities lending agreements	127,557	127,557	—	—
Other assets(3)	2,507	—	(1)	2,508
Subtotal	143,482	127,557	923	15,002
Goodwill and intangible assets, net	31,380	—	—	31,380
Total assets	$ 174,862	$ 127,557	$ 923	$ 46,382
Liabilities				
Accrued compensation and benefits	$ 1,611	$ —	$ —	$ 1,611
Accounts payable and accrued liabilities	1,403	—	—	1,403
Liabilities of consolidated VIEs	558	—	558	—
Borrowings	4,991	—	—	4,991
Separate account liabilities and collateral liabilities under securities lending agreements	127,557	127,557	—	—
Deferred income tax liabilities(4)	3,555	—	—	3,555
Other liabilities	2,114	—	(293)	2,407
Total liabilities	141,789	127,557	265	13,967
Equity				
Total stockholders' equity	32,415	—	—	32,415
Noncontrolling interests	658	—	658	—
Total equity	33,073	—	658	32,415
Total liabilities and equity	$ 174,862	$ 127,557	$ 923	$ 46,382

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(1) Amounts represent segregated client assets generating advisory fees in which BlackRock has no economic interest or liability.

(2) Amounts primarily represent the portion of assets and liabilities of Consolidated Sponsored Investment Products attributable to NCI.

(3) Amounts include property and equipment and other assets.

[4] Amount includes approximately $4.0 billion of deferred income tax liabilities related to goodwill and intangibles.

The following discussion summarizes the significant changes in assets and liabilities on a GAAP basis. Please see the condensed consolidated statements of financial condition as of September 30, 2018 and December 31, 2017 contained in Part I, Item 1 of this filing. The discussion does not include changes related to assets and liabilities that are equal and offsetting and have no impact on BlackRock's stockholders' equity.

Assets. Cash and cash equivalents at September 30, 2018 and December 31, 2017 included $58 million and $63 million, respectively, of cash held by consolidated VREs (see *Liquidity and Capital Resources* for details on the change in cash and cash equivalents during the nine months ended September 30, 2018).

Accounts receivable at September 30, 2018 decreased $17 million from December 31, 2017. Investments were $1,760 million at September 30, 2018 (for more information see *Investments*herein). Goodwill and intangible assets increased $771 million from December 31, 2017, primarily due to goodwill and intangible assets acquired in the TCP and Citibanamex transactions, partially offset by amortization of intangible assets. Other assets (including property and equipment) increased $279 million from December 31, 2017, primarily related to an increase in unit trust receivables (substantially offset by an increase in unit trust payables recorded within other liabilities) and an increase in deferred tax assets.

Liabilities. Accrued compensation and benefits at September 30, 2018 decreased $542 million from December 31, 2017, primarily due to 2017 incentive compensation cash payments in the first quarter of 2018, partially offset by 2018 incentive compensation accruals. Accounts payable and accrued liabilities at September 30, 2018 increased $242 million from December 31, 2017 primarily due to higher current income taxes payables. Other liabilities increased $488 million from December 31, 2017, primarily related to higher unit trust payables (substantially offset by an increase in unit trust receivables recorded within other assets), timing of settlements in connection with certain transactions, and uncertain tax positions.

Investments and Investments of Consolidated VIEs

The Company's investments and investments of consolidated VIEs (collectively, "Total Investments") were $1,760 million and $2,217 million, respectively, at September 30, 2018. Total Investments include consolidated investments held by sponsored investment products accounted for as VREs and VIEs. Management reviews BlackRock's Total Investments on an "economic" basis, which eliminates the portion of Total Investments that does not impact BlackRock's book value or net income attributable to BlackRock. BlackRock's management does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP.

The Company presents Total Investments, as adjusted, to enable investors to understand the portion of Total Investments that is owned by the Company, net of NCI, as a gauge to measure the impact of changes in net nonoperating income (expense) on investments to net income (loss) attributable to BlackRock.

The Company further presents net "economic" investment exposure, net of deferred compensation investments and hedged investments, to reflect another helpful measure for investors. The economic impact of Total Investments held pursuant to deferred compensation arrangements is offset by a change in compensation expense. The impact of certain investments is substantially mitigated by swap hedges. Carried interest capital allocations are excluded as there is no impact to BlackRock's stockholders' equity until such amounts are realized as performance fees. Finally, the Company's regulatory investment in Federal Reserve Bank stock, which is not subject to market or interest rate risk, is excluded from the Company's net economic investment exposure.

(in millions)	**September 30, 2018**	**December 31, 2017**
Investments, GAAP	$ 1,760	$ 1,981
Investments held by consolidated VIEs, GAAP	2,217	1,493
Total Investments	**3,977**	**3,474**
Investments held by consolidated VIEs	(2,217)	(1,493)
Investments held by consolidated VREs	(431)	(512)
Net interest in consolidated VREs	389	460
Net interest in consolidated VIEs(1)	1,768	1,225
Total Investments, as adjusted	**3,486**	**3,154**
Federal Reserve Bank stock	(92)	(91)
Deferred compensation investments	(36)	(56)
Hedged investments	(546)	(587)
Carried interest (VIEs/VREs)	(324)	(298)
Total “economic” investment exposure	**$ 2,488**	**$ 2,122**

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(1) Amount includes $306 million of carried interest (VIEs) as of September 30, 2018 and $266 million as of December 31, 2017, which has no impact on the Company’s “economic” investment exposure.

The following table represents the carrying value of the Company’s economic investment exposure, by asset type, at September 30, 2018 and December 31, 2017:

(in millions)	**September 30, 2018**	**December 31, 2017**
Private equity	$ 322	$ 331
Real assets	363	313
Other alternatives(1)	219	236
Other investments(2)	1,584	1,242
Total “economic” investment exposure	**$ 2,488**	**$ 2,122**

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(1) Other alternatives include direct hedge fund strategies and hedge fund solutions.

(2) Other investments primarily include seed investments in fixed income, equity and multi-asset mutual funds/strategies as well as U.K. government securities, primarily held for regulatory purposes.

As adjusted investment activity for the nine months ended September 30, 2018 was as follows:

(in millions)	**2018**
Total Investments, as adjusted, beginning balance	**$ 3,154**
Purchases/capital contributions/acquisitions	1,183
Sales/maturities	(820)
Distributions(1)	(65)
Market appreciation(depreciation)/earnings from equity method investments	23
Carried interest capital allocations/(distributions)	26
Other	(15)
Total Investments, as adjusted, ending balance	**$ 3,486**

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(1) Amount includes distributions representing return of capital and return on investments.

LIQUIDITY AND CAPITAL RESOURCES

BlackRock Cash Flows Excluding the Impact of Consolidated Sponsored Investment Products

The condensed consolidated statements of cash flows include the cash flows of the Consolidated Sponsored Investment Products. The Company uses an adjusted cash flow statement, which excludes the impact of Consolidated Sponsored Investment Products, as a supplemental non-GAAP measure to assess liquidity and capital requirements. The Company believes that its cash flows, excluding the impact of the Consolidated Sponsored Investment Products, provide investors with useful information on the cash flows of BlackRock relating to its ability to fund additional operating, investing and financing activities. BlackRock's management does not advocate that investors consider such non-GAAP measures in isolation from, or as a substitute for, its cash flows presented in accordance with GAAP.

The following table presents a reconciliation of the condensed consolidated statements of cash flows presented on a GAAP basis to the condensed consolidated statements of cash flows, excluding the impact of the cash flows of Consolidated Sponsored Investment Products:

(in millions)	GAAP Basis	Impact on Cash Flows of Consolidated Sponsored Investment Products	Cash Flows Excluding Impact of Consolidated Sponsored Investment Products
Cash, cash equivalents and restricted cash, December 31, 2017	**$ 7,096**	**$ 207**	**$ 6,889**
Cash flows from operating activities	2,552	(593)	3,145
Cash flows from investing activities	(700)	(80)	(620)
Cash flows from financing activities	(2,293)	746	(3,039)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(58)	—	(58)
Net change in cash, cash equivalents and restricted cash	(499)	73	(572)
Cash, cash equivalents and restricted cash, September 30, 2018	**$ 6,597**	**$ 280**	**$ 6,317**

Sources of BlackRock's operating cash primarily include investment advisory, administration fees and securities lending revenue, performance fees, technology services revenue, advisory and other revenue and distribution fees. BlackRock uses its cash to pay all operating expense, interest and principal on borrowings, income taxes, dividends on BlackRock's capital stock, repurchases of the Company's stock, capital expenditures and purchases of co-investments and seed investments.

For details of the Company's GAAP cash flows from operating, investing and financing activities, see the condensed consolidated statements of cash flows contained in Part I, Item 1 of this filing.

Cash flows from operating activities, excluding the impact of Consolidated Sponsored Investment Products, primarily include the receipt of investment advisory and administration fees, securities lending revenue and performance fees offset by the payment of operating expenses incurred in the normal course of business, including year-end incentive compensation accrued for in the prior year.

Cash outflows from investing activities, excluding the impact of Consolidated Sponsored Investment Products, for the nine months ended September 30, 2018 were $620 million and primarily reflected $699 million related to the TCP and Citibanamex transactions, $263 million of investment purchases, $108 million of purchases of property and equipment, partially offset by $432 million of net proceeds from sales and maturities of certain investments.

Cash outflows from financing activities, excluding the impact of Consolidated Sponsored Investment Products, for the nine months ended September 30, 2018 were $3,039 million, primarily resulting from $1,555 million of share repurchases, including $1,135 million in open market transactions and $420 million of employee tax withholdings related to employee stock transactions, and $1,471 million of cash dividend payments.

The Company manages its financial condition and funding to maintain appropriate liquidity for the business. Liquidity resources at September 30, 2018 and December 31, 2017 were as follows:

(in millions)		September 30, 2018		December 31, 2017
Cash and cash equivalents(1)	$	6,358	$	6,894
Cash and cash equivalents held by consolidated VREs(2)		(58)		(63)
Subtotal		6,300		6,831
Credit facility – undrawn		4,000		4,000
Total liquidity resources(3)	$	10,300	$	10,831

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(1) The percentage of cash and cash equivalents held by the Company's U.S. subsidiaries was approximately 45% and 40% at September 30, 2018 and December 31, 2017, respectively. See *Net Capital Requirements* herein for more information on net capital requirements in certain regulated subsidiaries.

(2) The Company cannot readily access such cash to use in its operating activities.

(3) Amount does not reflect year-end incentive compensation accruals, which are paid in the first quarter.

Total liquidity resources decreased $531 million during the nine months ended September 30, 2018, primarily reflecting cash payments of 2017 year-end incentive awards, share repurchases of $1,555 million, $699 million related to the TCP and Citibanamex transactions and cash dividend payments of $1,471 million, partially offset by cash flows from other operating activities.

A significant portion of the Company's $3,486 million of Total Investments, as adjusted, is illiquid in nature and, as such, cannot be readily convertible to cash.

Share Repurchases. The Company repurchased 2.2 million common shares in open market transactions under the share repurchase program for approximately $1,135 million during the nine months ended September 30, 2018. At September 30, 2018, there were 4.2 million shares still authorized to be repurchased.

Net Capital Requirements. The Company is required to maintain net capital in certain regulated subsidiaries within a number of jurisdictions, which is partially maintained by retaining cash and cash equivalent investments in those subsidiaries or jurisdictions. As a result, such subsidiaries of the Company may be restricted in their ability to transfer cash between different jurisdictions and to their parents. Additionally, transfers of cash between international jurisdictions may have adverse tax consequences that could discourage such transfers.

BlackRock Institutional Trust Company, N.A. ("BTC") is chartered as a national bank that does not accept client deposits and whose powers are limited to trust and other fiduciary activities. BTC provides investment management services, including investment advisory and securities lending agency services, to institutional clients. BTC is subject to regulatory capital and liquid asset requirements administered by the Office of the Comptroller of the Currency.

At both September 30, 2018 and December 31, 2017, the Company was required to maintain approximately $1.8 billion in net capital in certain regulated subsidiaries, including BTC, entities regulated by the Financial Conduct Authority and Prudential Regulation Authority in the United Kingdom, and the Company's broker-dealers. The Company was in compliance with all applicable regulatory net capital requirements.

Short-Term Borrowings

2018 Revolving Credit Facility. The Company's credit facility has an aggregate commitment amount of $4.0 billion and was amended in April 2018 to extend the maturity date to March 2023 (the "2018 credit facility"). The 2018 credit facility permits the Company to request up to an additional $1.0 billion of borrowing capacity, subject to lender credit approval, increasing the overall size of the 2018 credit facility to an aggregate principal amount not to exceed $5.0 billion. Interest on borrowings outstanding accrues at a rate based on the applicable London Interbank Offered Rate plus a spread. The 2018 credit facility requires the Company not to exceed a maximum leverage ratio (ratio of net debt to earnings before interest, taxes, depreciation and amortization, where net debt equals total debt less unrestricted cash) of 3 to 1, which was satisfied with a ratio of less than 1 to 1 at September 30, 2018. The 2018 credit facility provides back-up liquidity to fund ongoing working capital for general corporate purposes and various investment opportunities. At September 30, 2018, the Company had no amount outstanding under the credit facility.

Commercial Paper Program. The Company can issue unsecured commercial paper notes (the "CP Notes") on a private-placement basis up to a maximum aggregate amount outstanding at any time of $4.0 billion. The commercial paper program is currently supported by the 2018 credit facility. At September 30, 2018, BlackRock had no CP Notes outstanding.

Long-Term Borrowings

At September 30, 2018, the principal amount of long-term borrowings outstanding was $5.0 billion. See Note 12, *Borrowings*, in the 2017 Form 10-K for more information on borrowings outstanding as of December 31, 2017.

During the nine months ended September 30, 2018, the Company paid approximately $121 million of interest on long-term borrowings. Future principal repayments and interest requirements at September 30, 2018 were as follows:

(in millions)

Year	Principal	Interest	Total Payments
Remainder of 2018	$ —	$ 54	$ 54
2019	1,000	175	1,175
2020	—	125	125
2021	750	109	859
2022	750	80	830
2023	—	68	68
Thereafter(1)	2,513	116	2,629
Total	$ 5,013	$ 727	$ 5,740

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(1) The amount of principal and interest payments for the 2025 Notes (issued in Euros) represents the expected payment amounts using foreign exchange rates as of September 30, 2018.

Commitments and Contingencies

Investment Commitments. At September 30, 2018, the Company had $348 million of various capital commitments to fund sponsored investment products, including consolidated VIEs. These funds include private equity funds, real assets funds and opportunistic funds. This amount excludes additional commitments made by consolidated funds of funds to underlying third-party funds as third-party noncontrolling interest holders have the legal obligation to fund the respective commitments of such funds of funds. Generally, the timing of the funding of these commitments is unknown and the commitments are callable on demand at any time prior to the expiration of the commitment. These unfunded commitments are not recorded on the condensed consolidated statements of financial condition. These commitments do not include potential future commitments approved by the Company that are not yet legally binding. The Company intends to make additional capital commitments from time to time to fund additional investment products for, and with, its clients.

Lease Commitment. In May 2017, the Company entered into an agreement with 50 HYMC Owner LLC, for the lease of approximately 847,000 square feet of office space located at 50 Hudson Yards, New York, New York. The term of the lease is twenty years from the date that rental payments begin, expected to occur in May 2023, with the option to renew for a specified term. The lease requires annual base rental payments of approximately $51 million per year during the first five years of the lease term, increasing every five years to $58 million, $66 million and $74 million per year (or approximately $1.2 billion in base rent over its twenty-year term).

Contingent Payments Related to Business Acquisitions. In connection with certain acquisitions, BlackRock is required to make contingent payments, subject to achieving specified performance targets, which may include revenue related to acquired contracts or new capital commitments for certain products. The fair value of the remaining aggregate contingent payments at September 30, 2018 totaled $259 million and is included in other liabilities on the condensed consolidated statements of financial condition.

Carried Interest Clawback. As a general partner in certain investment products, including private equity partnerships and certain hedge funds, the Company may receive carried interest cash distributions from the partnerships in accordance with distribution provisions of the partnership agreements. The Company may, from time to time, be required to return all or a portion of such distributions to the limited partners in the event the limited partners do not achieve a return as specified in the various partnership agreements. Therefore, BlackRock records carried interest subject to such clawback provisions in Total Investments, or cash/cash of consolidated VIEs to the extent that it is distributed, and as a deferred carried interest liability/other liabilities of consolidated VIEs on its condensed consolidated statements of financial condition. Carried interest is recorded as performance fees on BlackRock's condensed consolidated statements of income when the fees are no longer probable of significant reversal.

Indemnifications. On behalf of certain clients, the Company lends securities to highly rated banks and broker-dealers. In these securities lending transactions, the borrower is required to provide and maintain collateral at or above regulatory minimums. Securities on loan are marked to market daily to determine if the borrower is required to pledge additional collateral. BlackRock has issued certain indemnifications to certain securities lending clients against potential loss resulting from a borrower's failure to fulfill its obligations under the securities lending agreement should the value of the collateral pledged by the borrower at the time of default be insufficient to cover the borrower's obligation under the securities lending agreement. At September 30, 2018, the Company indemnified certain of its clients for their securities lending loan balances of approximately $211 billion. The Company held, as agent, cash and securities totaling $225 billion as collateral for indemnified securities on loan at September 30, 2018. The fair value of these indemnifications was not material at September 30, 2018.

While the collateral pledged by a borrower is intended to be sufficient to offset the borrower's obligations to return securities borrowed and any other amounts owing to the lender under the relevant securities lending agreement, in the event of a borrower default, the Company can give no assurance that the collateral pledged by the borrower will be sufficient to fulfill such obligations. If the amount of such pledged collateral is not sufficient to fulfill such obligations to a client for whom the Company has provided indemnification, BlackRock would be responsible for the amount of the shortfall. These indemnifications cover only the collateral shortfall described above, and do not in any way guarantee, assume or otherwise insure the investment performance or return of any cash collateral vehicle into which securities lending cash collateral is invested.

Critical Accounting Policies

The preparation of condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenue and expense during the reporting periods. Actual results could differ significantly from those estimates. Management considers the following critical accounting policies important to understanding the condensed consolidated financial statements. For a summary of these and additional accounting policies see Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements, including information regarding the adoption of ASU 2014-09. In addition, see *Critical Accounting Policies* in Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 2, *Significant Accounting Policies*, in the 2017 Form 10-K for further information.

Consolidation. In the normal course of business, the Company is the manager of various types of sponsored investment vehicles. The Company performs an analysis for investment products to determine if the product is a VIE or a VRE. Assessing whether an entity is a VIE or a VRE involves judgment and analysis. Factors considered in this assessment include the entity's legal organization, the entity's capital structure and equity ownership, and any related party or de facto agent implications of the Company's involvement with the entity. Investments that are determined to be VREs are consolidated if the Company can exert control over the financial and operating policies of the investee, which generally exists if there is greater than 50% voting interest. See Note 5, *Consolidated Voting Rights Entities*, in the notes to the condensed consolidated financial statements for more information. Investments that are determined to be VIEs are consolidated if the Company is the primary beneficiary ("PB") of the entity.

At September 30, 2018, BlackRock was determined to be the PB for certain investment products that were determined to be VIEs, which required BlackRock to consolidate them. BlackRock was deemed to be the PB because it has the power to direct the activities that most significantly impact the entities' economic performance and has the obligation to absorb losses or the right to receive benefits that potentially could be significant to the VIE. The Company generally consolidates VIEs in which it holds an equity ownership interest of 10% or greater and deconsolidates such VIEs once equity ownership falls below 10%. See Note 6, *Variable Interest Entities*, in the notes to the condensed consolidated financial statements for more information.

Fair Value Measurements. The Company's assessment of the significance of a particular input to the fair value measurement according to the fair value hierarchy (i.e., Level 1, 2 and 3 inputs, as defined) in its entirety requires judgment and considers factors specific to the financial instrument. See Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements for more information on fair value measurements.

Revenue Recognition. Revenue is recognized upon transfer of control of promised services to customers in an amount to which the Company expects to be entitled in exchange for those services. The Company enters into contracts that can include multiple services, which are accounted for separately if they are determined to be distinct. Management judgment is required to identify distinct services and involves assessing such factors as whether the promised services significantly modify or customize one another or are highly interdependent or interrelated. Management judgment may be also required when determining the following: when variable consideration is no longer probable of significant reversal (and hence can be included in revenue); whether certain revenue should be presented gross or net of certain related costs; when a promised service transfers to the customer; and the applicable method of measuring progress for services transferred to the customer over time. Many of BlackRock's promised services represent a series of distinct services (e.g., investment advisory services) in which the associated variable consideration (e.g., management fees) is allocated to specific days of service as opposed to over the entire contract term.

Investment advisory and administration fees are recognized as the services are performed over time and are primarily based on agreed-upon percentages of AUM. Such fees are affected by changes in AUM, including market appreciation or depreciation, foreign exchange translation and net inflows or outflows. AUM represents the broad range of financial assets the Company manages for clients on a discretionary basis pursuant to investment management and trust agreements that are expected to continue for at least 12 months. In general, reported AUM reflects the valuation methodology that corresponds to the basis used for determining revenue (for example, net asset value).

The Company earns revenue by lending securities on behalf of clients, primarily to highly rated banks and broker-dealers. The securities loaned are secured by collateral, generally ranging from 102% to 112% of the value of the loaned securities. Securities lending revenue earned by the Company totaled $160 million and $498 million, respectively for the three and nine months ended September 30, 2018 and totaled $150 million and $447 million for the three and nine months ended September 30, 2017, respectively.

The Company receives investment advisory performance fees, including incentive allocations (carried interest) from certain actively managed investment funds and certain separately managed accounts. These performance fees are dependent upon exceeding specified relative or absolute investment return thresholds, which may vary by product or account, and include monthly, quarterly, annual or longer measurement periods.

The Company is allocated carried interest from certain alternative investment products upon exceeding performance thresholds. The Company may be required to reverse/return all, or part, of such carried interest allocations/distributions depending upon future performance of these funds. Therefore, carried interest subject to such clawback provisions is recorded in investments/investments of consolidated VIEs or cash/cash of consolidated VIEs to the extent that it is distributed, on its condensed consolidated statements of financial condition.

Performance fees, including carried interest, are recognized when it is determined that they are no longer probable of significant reversal (such as upon the sale of a fund’s investment or when the amount of AUM becomes known as of the end of a specified measurement period). Given the unique nature of each fee arrangement, contracts with customers are evaluated on an individual basis to determine the timing of revenue recognition. Significant judgement is involved in making such determination. Performance fees typically arise from investment management services that began in prior reporting periods. Consequently, a portion of the fees the Company recognizes may be partially related to the services performed in prior periods that meet the recognition criteria in the current period. At each reporting date, the Company considers various factors in estimating performance fees to be recognized, including carried interest. These factors include but are not limited to whether: (1) the fees are dependent on the market and thus are highly susceptible to factors outside the Company’s influence; (2) the fees have a large number and a broad range of possible amounts; and (3) the funds or separately managed accounts have the ability to invest or reinvest their sales proceeds.

The Company records a liability for deferred carried interest to the extent it receives cash or capital allocations related to carried interest prior to meeting the revenue recognition criteria. At September 30, 2018 and December 31, 2017, the Company had $257 million and $219 million, respectively, of deferred carried interest recorded in other liabilities/other liabilities of consolidated VIEs on the condensed consolidated statements of financial condition. A portion of the deferred carried interest may also be paid to certain employees. The ultimate timing of the recognition of performance fee revenue and related compensation expense, if any, for these products is unknown. See Note 13*, Revenue,* in the notes to the condensed consolidated financial statements for detailed changes in the deferred carried interest liability balance for the three and nine months ended September 30, 2018 and 2017.

Fees earned for technology services revenue are recorded as services are performed and are generally determined using the value of positions on the *Aladdin* platform or on a fixed-rate basis.

Adjustments to revenue arising from initial estimates recorded historically have been immaterial since the majority of BlackRock's investment advisory and administration revenue is calculated based on AUM and since the Company does not record performance fee revenue until: (1) performance thresholds have been exceeded and (2) management determines the fees are no longer probable of significant reversal.

Distribution and service fees represent fees earned for distributing investment products and for providing other support services to investment portfolios, are based on net asset values, and are recognized when the amount of fees is known.

Accounting Developments

For accounting pronouncements that the Company adopted during the nine months ended September 30, 2018 and for recent accounting pronouncements not yet adopted, see Note 2, *Significant Accounting Policies*, in the condensed consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

AUM Market Price Risk. BlackRock's investment advisory and administration fees are primarily comprised of fees based on a percentage of the value of AUM and, in some cases, performance fees expressed as a percentage of the returns realized on AUM. At September 30, 2018, the majority of the Company's investment advisory and administration fees were based on average or period end AUM of the applicable investment funds or separate accounts. Movements in equity market prices, interest rates/credit spreads, foreign exchange rates or all three could cause the value of AUM to decline, which would result in lower investment advisory and administration fees.

Corporate Investments Portfolio Risks. As a leading investment management firm, BlackRock devotes significant resources across all of its operations to identifying, measuring, monitoring, managing and analyzing market and operating risks, including the management and oversight of its own investment portfolio. The Board of Directors of the Company has adopted guidelines for the review of investments to be made by the Company, requiring, among other things, that investments be reviewed by certain senior officers of the Company, and that certain investments may be referred to the Audit Committee or the Board of Directors, depending on the circumstances, for approval.

In the normal course of its business, BlackRock is exposed to equity market price risk, interest rate/credit spread risk and foreign exchange rate risk associated with its corporate investments.

BlackRock has investments primarily in sponsored investment products that invest in a variety of asset classes, including real assets, private equity and hedge funds. Investments generally are made for co-investment purposes, to establish a performance track record, to hedge exposure to certain deferred compensation plans or for regulatory purposes. Currently, the Company has a seed capital hedging program in which it enters into swaps to hedge market and interest rate exposure to certain investments. At September 30, 2018, the Company had outstanding total return swaps with an aggregate notional value of approximately $546 million. At September 30, 2018, there were no outstanding interest rate swaps.

At September 30, 2018, approximately $2.6 billion of BlackRock's Total Investments were maintained in consolidated sponsored investment funds accounted for as VREs and VIEs. Excluding the impact of the

Federal Reserve Bank stock, carried interest, investments made to hedge exposure to certain deferred compensation plans and certain investments that are hedged via the seed capital hedging program, the Company's economic exposure to its investment portfolio is $2,488 million. See *Balance Sheet Overview-Investments and Investments of Consolidated VIEs* in Management's Discussion and Analysis of Financial Condition and Results of Operations for further information on the Company's Total Investments.

Equity Market Price Risk. At September 30, 2018, the Company's net exposure to equity market price risk in its investment portfolio was approximately $994 million of the Company's total economic investment exposure. Investments subject to market price risk include private equity and real assets investments, hedge funds and funds of funds as well as mutual funds. The Company estimates that a hypothetical 10% adverse change in market prices would result in a decrease of approximately $99.4 million in the carrying value of such investments.

Interest Rate/Credit Spread Risk. At September 30, 2018, the Company was exposed to interest-rate risk and credit spread risk as a result of approximately $1,494 million of Total Investments in debt securities and sponsored investment products that invest primarily in debt securities. Management considered a hypothetical 100 basis point fluctuation in interest rates or credit spreads and estimates that the impact of such a fluctuation on these investments, in the aggregate, would result in a decrease, or increase, of approximately $43.8 million in the carrying value of such investments.

Foreign Exchange Rate Risk. As discussed above, the Company invests in sponsored investment products that invest in a variety of asset classes. The carrying value of the total economic investment exposure denominated in foreign currencies, primarily the British pound and Euro, was $653 million at September 30, 2018. A 10% adverse change in the applicable foreign exchange rates would result in approximately a $65.3 million decline in the carrying value of such investments.

Other Market Risks. The Company executes forward foreign currency exchange contracts to mitigate the risk of certain foreign exchange risk movements. At September 30, 2018, the Company had outstanding forward foreign currency exchange contracts with an aggregate notional value of approximately $2.3 billion.

Item 4. Controls and Procedures

Disclosure Controls and Procedures. Under the direction of BlackRock's Chief Executive Officer and Chief Financial Officer, BlackRock evaluated the effectiveness of its disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this quarterly report on Form 10-Q. Based on this evaluation, BlackRock's Chief Executive Officer and Chief Financial Officer have concluded that BlackRock's disclosure controls and procedures were effective.

Internal Control over Financial Reporting. There were no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2018 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, BlackRock receives subpoenas or other requests for information from various U.S. federal, state governmental and regulatory authorities and international regulatory authorities in connection with industry-wide or other investigations or proceedings. It is BlackRock's policy to cooperate fully with such inquiries. The Company and certain of its subsidiaries have been named as defendants in various legal actions, including arbitrations and other litigation arising in connection with BlackRock's activities. Additionally, BlackRock-advised investment portfolios may be subject to lawsuits, any of which potentially could harm the investment returns of the applicable portfolio or result in the Company being liable to the portfolios for any resulting damages.

On May 27, 2014, certain investors in the BlackRock Global Allocation Fund, Inc. and the BlackRock Equity Dividend Fund (collectively, the "Funds") filed a consolidated complaint (the "Consolidated Complaint") in the U.S. District Court for the District of New Jersey against BlackRock Advisors, LLC, BlackRock Investment Management, LLC and BlackRock International Limited under the caption *In re BlackRock Mutual Funds Advisory Fee Litigation*. In the lawsuit, which purports to be brought derivatively on behalf of the Funds, the plaintiffs allege that the defendants violated Section 36(b) of the Investment Company Act by receiving allegedly excessive investment advisory fees from the Funds. On June 13, 2018, the court granted in part and denied in part the defendants' motion for summary judgment. On July 25, 2018, the plaintiffs served a pleading that supplemented the time period of their alleged damages to run through the date of trial. The lawsuit seeks, among other things, to recover on behalf of the Funds all allegedly excessive advisory fees received by the defendants beginning twelve months preceding the start of the lawsuit with respect to each Fund and ending on the date of judgment, along with purported lost investment returns on those amounts, plus interest. The defendants believe the claims in the lawsuit are without merit. The trial on the remaining issues was completed on August 29, 2018 and the parties are awaiting judgment from the Court.

On June 16, 2016, *iShares* Trust, BlackRock, Inc. and certain of its advisory subsidiaries, and the directors and certain officers of the *iShares* ETFs were named as defendants in a purported class action lawsuit filed in California state court. The lawsuit was filed by investors in certain *iShares* ETFs (the "ETFs"), and alleges the defendants violated the federal securities laws by failing to adequately disclose in prospectuses issued by the ETFs the risks to the ETFs' shareholders in the event of a "flash crash." Plaintiffs seek unspecified monetary and rescission damages. The plaintiffs' complaint was dismissed in December 2016 and on January 6, 2017, plaintiffs filed an amended complaint. On April 27, 2017, the court partially granted the defendants' motion for judgment on the pleadings, dismissing certain of the plaintiffs' claims. On September 18, 2017, the court issued a decision dismissing the remainder of the lawsuit after a one-day bench trial. On December 1, 2017, the plaintiffs appealed the dismissal of their lawsuit, which is pending.

On April 5, 2017, BlackRock, Inc., BlackRock Institutional Trust Company, N.A. ("BTC"), the BlackRock, Inc. Retirement Committee and various sub-committees, and a BlackRock employee were named as defendants in a purported class action lawsuit brought in the U.S. District Court for the Northern District of California by a former employee on behalf of all participants and beneficiaries in the BlackRock employee 401(k) Plan (the "Plan") from April 5, 2011 to the present. The lawsuit generally alleges that the defendants breached their duties towards Plan participants in violation of the Employee Retirement Income Security Act of 1974 by, among other things, offering investment options that were overly expensive, underperformed peer funds, focused disproportionately on active versus passive strategies, and were unduly concentrated in investment options managed by BlackRock. On October 18, 2017, the plaintiffs filed an Amended Complaint, which, among other things, added as defendants certain current and former members of the BlackRock Retirement and Investment Committees. The Amended Complaint also included a new purported class claim on behalf of investors in certain Collective Trust Funds ("CTFs") managed by BTC. Specifically, the plaintiffs allege that BTC, as fiduciary to the CTFs, engaged in self-dealing by, most significantly, selecting itself as the securities lending agent on terms that plaintiffs claim were excessive. The Amended Complaint also alleged that BlackRock took undue risks in its management of securities lending cash reinvestment vehicles ("STIFs") during the financial crisis. On August 23, 2018, the court granted permission to plaintiffs to file a Second Amended Complaint ("SAC") which, most significantly, added as defendants the BlackRock, Inc. Management Development and Compensation Committee, the Plan's independent investment consultant and the Plan's Administrative

Committee and its members. On October 22, 2018, BlackRock filed a motion to dismiss the SAC. The defendants believe the claims in this lawsuit are without merit and are vigorously defending the action.

Management, after consultation with legal counsel, currently does not anticipate that the aggregate liability arising out of regulatory matters or lawsuits will have a material effect on BlackRock's results of operations, financial position, or cash flows. However, there is no assurance as to whether any such pending or threatened matters will have a material effect on BlackRock's results of operations, financial position or cash flows in any future reporting period. Due to uncertainties surrounding the outcome of these matters, management cannot reasonably estimate the possible loss or range of loss that may arise from these matters.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

During the three months ended September 30, 2018, the Company made the following purchases of its common stock, which is registered pursuant to Section 12(b) of the Exchange Act.

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
July 1, 2018 through July 31, 2018	244,022 (1)	$ 505.68	241,654	4,949,792
August 1, 2018 through August 31, 2018	798,387 (1)	$ 481.57	784,956	4,164,836
September 1, 2018 through September 30, 2018	14,105 (1)	$ 475.27	—	4,164,836
Total	1,056,514	$ 487.05	1,026,610	

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(1) Includes purchases made by the Company primarily to satisfy income tax withholding obligations of employees and members of the Company's Board of Directors related to the vesting of certain restricted stock or restricted stock unit awards and purchases made by the Company as part of the publicly announced share repurchase program.

Item 6. Exhibits

Exhibit No.	Description
12.1	Computation of Ratio of Earnings to Fixed Charges
31.1	Section 302 Certification of Chief Executive Officer
31.2	Section 302 Certification of Chief Financial Officer
32.1	Section 906 Certification of Chief Executive Officer and Chief Financial Officer
101.INS	XBRL Instance Document

101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

BLACKROCK, INC.
(Registrant)

By: /s/ Gary S. Shedlin
Gary S. Shedlin
Senior Managing Director &
Chief Financial Officer

Date: November 9, 2018

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Section 2: EX-12.1 (COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES)

Exhibit 12.1

RATIO OF EARNINGS TO FIXED CHARGES
(UNAUDITED)

(in millions)	**Nine Months Ended September 30, 2018**	**Year ended December 31, 2017**[4]	**2016**[4]	**2015**[4]	**2014**[4]	**2013**[4]
Income before income taxes	$ 4,204	$ 5,259	$ 4,455	$ 4,602	$ 4,395	$ 3,973
Less: Net income (loss) attributable to noncontrolling interests[1]	(3)	37	(2)	7	(30)	19
Pre-tax income attributable to BlackRock, Inc.	4,207	5,222	4,457	4,595	4,425	3,954
Add: Fixed charges	186	247	253	261	254	258
Distributions of earnings from equity method	23	35	31	41	57	80

investees						
Less: (Losses) earnings from equity method investees	92	122	113	91	158	158
Pre-tax income before fixed charges	$ 4,324	$ 5,382	$ 4,628	$ 4,806	$ 4,578	$ 4,134
Fixed charges:						
Interest expense	$ 138	$ 191	$ 205	$ 204	$ 232	$ 211
Interest expense on uncertain tax positions(2)	14	12	3	12	(22)	3
Portion of rent representative of interest(3)	34	44	45	45	44	44
Total fixed charges	$ 186	$ 247	$ 253	$ 261	$ 254	$ 258
Ratio of earnings to fixed charges	23.2x	21.8x	18.3x	18.4x	18.0x	16.0x

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(1) Amount includes redeemable and nonredeemable noncontrolling interests.

(2) Interest expense on uncertain tax positions has been recorded within income tax expense on the consolidated statements of income.

(3) The portion of rent representative of interest is calculated as one third of the total rent expense.

(4) BlackRock, Inc. adopted Accounting Standards Update (“ASU”) 2014-09, *Revenue from Contracts with Customers* (“ASU 2014-09”) effective January 1, 2018. Financial results for 2017 and 2016 were recast to reflect the adoption of ASU 2014-09. Financial results for 2015, 2014 and 2013 reflect accounting guidance prior to ASU 2014-09.

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Section 3: EX-31.1 (SECTION 302 CERTIFICATION OF CHIEF EXECUTIVE OFFICER)

Exhibit 31.1

CEO CERTIFICATION

I, Laurence D. Fink, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q, for the period ended September 30, 2018 of BlackRock, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash

flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a–15(f) and 15d–15(f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 9, 2018

By: /s/ Laurence D. Fink
Laurence D. Fink
Chairman & Chief Executive Officer

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Section 4: EX-31.2 (SECTION 302 CERTIFICATION OF

CHIEF FINANCIAL OFFICER)

Exhibit 31.2

CFO CERTIFICATION

I, Gary S. Shedlin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q, for the period ended September 30, 2018 of BlackRock, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a–15(f) and 15d–15(f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 9, 2018

By: /s/ Gary S. Shedlin
Gary S. Shedlin
Senior Managing Director & Chief Financial Officer

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Section 5: EX-32.1 (SECTION 906 CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER)

Exhibit 32.1

Certification of CEO and CFO Pursuant to
18 U.S.C. Section 1350,
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report on Form 10-Q of BlackRock, Inc. (the "Company") for the quarterly period ended September 30, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Laurence D. Fink, as Chief Executive Officer of the Company, and Gary S. Shedlin, as Chief Financial Officer of the Company, each hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Laurence D. Fink
Name: Laurence D. Fink
Title: Chairman & Chief Executive Officer
Date: November 9, 2018

/s/ Gary S. Shedlin
Name: Gary S. Shedlin
Title: Senior Managing Director & Chief Financial Officer
Date: November 9, 2018

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Attachment B
February 4, 2019
Section V Certifications

With respect to itself, Motorola Solutions, Inc. (“MSI”) certifies on knowledge and belief after due inquiry that the following are true: V.B.3.a through e. MSI, however, provides further clarification below regarding V.B.3e. With respect to non-MSI entities listed in Section II.B.1, MSI certifies on knowledge and belief after due inquiry all subsections in Section V to be true.

B.3.e. MSI does not maintain a detailed history of such civil and criminal cases involving executive officers and directors or their outcomes, nor does it maintain a listing of all allegations made therein, and therefore cannot provide the same. In no event can Motorola Solutions agree to waive the rights of its employees, nor can Motorola Solutions provide the Customer with any information protected by law, including but not limited to background check data. As a publicly traded company, however, MSI files the enclosed annual report Form 10-K with the SEC and describes therein certain litigation that is material for disclosure under SEC rules. Since the 10-K contains only such litigation as is material for public disclosure under SEC rules, it may not list all litigation with which MSI or its subsidiaries are presently involved.

BlackRock, Inc.

Global Executive Committee

Larry Fink, Chairman and Chief Executive Officer

Rob Kapito, President

David Blumer, Global Head of BlackRock Alternative Investors

Geraldine Buckingham, Global Head of Corporate Strategy

Edwin N. Conway, Global Head of Institutional Client Business

Frank Cooper III, Chief Marketing Officer

Robert W. Fairbairn, Senior Managing Director

Rob L. Goldstein, Chief Operating Officer & Global Head of BlackRock Solutions

Ben Golub, Chief Risk Officer

Philipp Hildebrand, Vice Chairman

J. Richard Kushel, Head of Multi-Asset Strategies and Global Fixed Income

Rachel Lord, Head of Europe, Middle East and Africa

Mark McCombe, Head of the Americas

Christopher Meade, Chief Legal Officer

Barbara G. Novick, Vice Chairman

Richard Pranger, Head of Trading, Liquidity and Investments Platform

Salim Ramji, Global Head of iShares and Index Investments

Gary Shedlin, Chief Financial Officer

Jeffrey A. Smith, Ph.D., Global Head of Human Resources

Derek Stein, Global Head of Technology & Operations

Ryan Stork, Head of Asia Pacific

Mark K. Wiedman, Head of International and of Corporate Strategy

Mark D. Wiseman, Global Head of Active Equities and Chairman, BlackRock Alternative Investors

Source: https://www.blackrock.com/corporate/about-us/leadership

Board of Directors

Laurence D. Fink, Chairman & Chief Executive Officer, BlackRock, Inc.

Mathis Cabiallavetta, Former Vice Chairman of the Board, Swiss RE

Pamela Daley, Former Senior Vice President of Corporate Business Development, General Electric Company

William S. Demchak, President and Chief Executive Officer, The PNC Financial Services Group, Inc.

Jessica Einhorn, Former Dean, Paul H. Nitze School of Advanced International Studies (SAIS) at the Johns Hopkins University

William E. Ford, Chief Executive Officer of General Atlantic

Fabrizio Freda, President and Chief Executive Officer, The Estee Lauder Companies, Inc.

Murry S. Gerber, Lead Independent Director, Former Chairman and Chief Executive Officer EQT Corporation

Margaret L. Johnson, Executive Vice President of Business Development at Microsoft Corporation

Robert Steven Kapito, President, BlackRock, Inc.

Sir Deryck Maughan, Former Senior Advisor, Kohlberg Kravis Roberts

Cheryl Mills, CEO of Blackivy Group

Gordon Melbourne Nixon, Former President & CEO of RBC

Charles H. Robbins, Chairman and Chief Executive Officer, Cisco Systems, Inc.

Ivan G. Seidenberg, Former Chairman of the Board and Chief Executive Officer, Verizon Communications

Marco Antonio Slim Domit, Chairman of the Board of Directors, Grupo Financiero Inbursa

Susan Lynne Wagner, Former Vice Chairman, BlackRock

Mark Wilson, Former Chief Executive Officer of Aviva, PLC (“AVIVA”)

Source: http://ir.blackrock.com/board-of-directors

Ownership Interest Over 7.5%

The PNC Financial Services Group, Inc. and affiliates
One PNC Plaza
249 Fifth Avenue
Pittsburg, PA 15222

Amount of common stock ownership: 34,438,549
Percentage of common stock outstanding: 21.48%

Source: 2018 Proxy Statement, March 23, 2018;
http://ir.blackrock.com/Cache/1500109548.PDF?O=PDF&T=&Y=&D=&FID=1500109548&iid=4048287

MOTOROLA SOLUTIONS

2017 ANNUAL REPORT

TO STOCKHOLDERS

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2017
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission File number 1-7221

MOTOROLA SOLUTIONS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE	**36-1115800**
(State of Incorporation)	(I.R.S. Employer Identification No.)

500 West Monroe Street, Chicago, Illinois 60661
(Address of principal executive offices)
(847) 576-5000
(Registrant's telephone number)
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $.01 Par Value per Share	**New York Stock Exchange**

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

(Do not check if a smaller reporting company)

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant as of July 1, 2017 (the last business day of the Registrant's most recently completed second quarter) was approximately $12.6 billion.

The number of shares of the registrant's Common Stock, $.01 par value per share, outstanding as of February 2, 2018 was 161,307,525.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement to be delivered to stockholders in connection with its Annual Meeting of Stockholders to be held on May 14, 2018, are incorporated by reference into Part III.

PART I

Throughout this 10-K report we “incorporate by reference” certain information in parts of other documents filed with the Securities and Exchange Commission (the “SEC”). The SEC allows us to disclose important information by referring to it in that manner. Please refer to such information.

We are making forward-looking statements in this report. In “Item 1A: Risk Factors” we discuss some of the risk factors that could cause actual results to differ materially from those stated in the forward-looking statements.

“Motorola Solutions” (which may be referred to as the “Company,” “we,” “us,” or “our”) means Motorola Solutions, Inc. or Motorola Solutions, Inc. and its subsidiaries, or one of our segments, as the context requires. MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo, as well as iDEN are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license.

Item 1: Business

General

We are a leading global provider of mission-critical communication infrastructure, devices, accessories, software and services. Our products and services help government, public safety, and commercial customers improve their operations through increased effectiveness, efficiency, and safety of their mobile workforces. We serve our customers with a global footprint of sales in more than 100 countries based on our industry leading innovation and a deep portfolio of products and services.

We are incorporated under the laws of the State of Delaware as the successor to an Illinois corporation, Motorola, Inc., organized in 1928. We changed our name from Motorola, Inc. to Motorola Solutions, Inc. on January 4, 2011. Our principal executive offices are located at 500 W. Monroe Street, Chicago, Illinois 60661.

Business Organization

We conduct our business globally and manage it through two segments: Products and Services.

Products Segment

The Products segment offers an extensive portfolio of infrastructure, devices, accessories, and software. The primary customers of the Products segment are government, public safety and first-responder agencies, municipalities, and commercial and industrial customers who operate private communications networks and manage a mobile workforce. In 2017, the segment’s net sales were $3.8 billion, representing 59% of our consolidated net sales. The Products segment has the following two principal product lines:

Devices: Devices includes: (i) two-way portable radios and vehicle-mounted radios, (ii) accessories such as speaker microphones, batteries, earpieces, headsets, carry cases and cables, and (iii) software features and upgrades. Devices represented 74% of the net sales of the Products segment in 2017.

Systems: Systems includes: (i) the radio network core and central processing software, (ii) base stations, (iii) consoles, (iv) repeaters, and (v) software applications and features. Systems represented 26% of the net sales of the Products segment in 2017.

Our Devices and Systems are based on the following industry technology standards:

Industry standard definition	The Association of Public Safety Communications Officials Project 25 standard ("APCO-25")	The European Telecommunications Standards Institute (“ETSI”) Terrestrial Trunked Radio standard ("TETRA")	ETSI, Digital mobile radio ("DMR") and professional commercial radio ("PCR") standards
Industry standard name	APCO P25	TETRA	DMR
Motorola Solutions product name	ASTRO	Dimetra IP	PCR MOTOTRBO (Digital)
Primary end users	Government, Public Safety	Government, Public Safety	Commercial
Primary geographic region of use	North America, Latin America, Asia, Middle East, Africa	Europe, Asia, Latin America, Middle East, Africa	All regions

Services Segment

The Services segment provides a full set of service offerings for government, public safety, and commercial communication networks. In 2017, the segment's net sales were $2.6 billion, representing 41% of our consolidated net sales. The Services segment has the following principal product lines:

Integration services	Integration services includes the implementation, optimization, and integration of systems, devices, software, and applications. Integration services represented 30% of the net sales of the Services segment in 2017.
Managed & Support services	Managed & Support services includes a continuum of service offerings beginning with repair, technical support, and hardware maintenance. More advanced offerings include network monitoring, software maintenance, and cyber security services. Managed service offerings range from partial or full operation of customer owned networks to operation of Motorola Solutions owned networks. Services and Software as a Service (SaaS) are provided across all radio network technologies, Command Center Software Offerings, and Smart Public Safety Solutions. Managed & Support services represented 69% of the net sales of the Services segment in 2017.
iDEN services	Integrated Digital Enhanced Network ("iDEN") is a Motorola Solutions proprietary push-to-talk technology. iDEN services consist primarily of hardware and software maintenance services for our legacy iDEN customers and represented 1% of the net sales of the Services segment in 2017.

Strategy and Focus Areas

In 2018, Motorola Solutions will celebrate 90 years of providing public safety and commercial customers with secure and reliable mission critical communications. Our customers have unique voice, data, and operational requirements. We offer comprehensive solutions that include infrastructure, devices, software applications, and services designed and delivered to enable our customers to safely and effectively accomplish their mission.

Our strategy for long-term growth and the evolution of our business includes organic and inorganic investments in the following three areas:

(i) Continued innovation in standards-based voice and data solutions spanning APCO 25, TETRA, DMR, and LTE technologies. Our dedication, focus, and innovation for public safety and commercial solutions built the foundation of our Land Mobile Radio ("LMR") platform business, which is reflected in our installed base of over 12,500 systems deployed in 100+ countries around the world. These systems have a multi-year and often multi-decade life span which drives demand for additional device sales, software upgrades, infrastructure refresh and expansion, as well as additional services to maintain, monitor, and manage these complex networks and solutions. We believe our government and commercial customers will continue to require next-generation systems, enhanced software features and analytics, as well as incremental services to drive operational efficiencies.

(ii) Managed and support services offerings that leverage our large global installed base and allow our customers to improve performance across their systems, devices, and applications for greater safety and productivity. Our comprehensive suite of services - from repair, technical support, security, and system monitoring to operation of customer owned networks or Motorola Solutions owned networks, ensures continuity and reduces risks for continued critical communications operations. Today, agency procurement models are primarily capex investments in customer owned and operated solutions with long-term contracts. As agencies seek budget predictability, increased flexibility, and outcome based solutions, there continues to be a shift to alternative consumption models. We feel our suite of services positions us well for this change and allows us to provide incremental, value-added services for our customers.

(iii) Software solutions to support the entire public safety workflow - from the command center to mobile applications in the field to post-incident analytics. Today, the public safety workflow is addressed by a variety of point solutions. Motorola Solutions is attempting to expand its software offerings to provide solutions across the various segments of the public safety workflow. As the public safety market continues to embrace software offerings to enhance their workflows, we are able to sell cloud-first SaaS offerings in addition to on-premise solutions with ancillary implementation and managed services.

Our Customers and Contracts

We address the communication needs of government agencies, state and local public safety and first-responder agencies, and commercial and industrial customers who utilize private communications networks and manage a mobile workforce. Our customer base is fragmented and widespread when considering the many levels of governmental and first-responder decision-makers that procure and use our products and services. Serving this global customer base spanning federal, state, county, province, territory, municipal, and departmental independent bodies, along with our commercial and industrial customers, requires a significant go-to-market investment.

Our sales model includes both direct sales by our in-house sales force, which tends to focus on our largest accounts, and sales through our channel partner program. Our trained channel partners include independent dealers, distributors, and software vendors around the world. The dealers and distributors each have their own sales organizations that complement and extend the reach of our sales force. The independent software vendors offer customized applications that meet specific needs in the verticals we serve.

Our largest customers are the U.S. federal government (through multiple contracts with its various branches and agencies, including the armed services) and the Home Office of the United Kingdom, representing approximately 9% and 8% of our consolidated net sales in 2017, respectively. The loss of these customers could have a material adverse effect on our revenue and earnings over several quarters as many of our contracts with these governments are long-term in nature. All contracts with the U.S. federal government, and certain other government agencies within the U.S., are subject to cancellation at the customer's convenience. For a discussion of risks related to government contracting requirements, please refer to "Item 1A. Risk Factors."

Net sales in the Americas continued to comprise a significant portion of our business, accounting for 68%, 68% and 71% of our consolidated net sales in 2017, 2016, and 2015, respectively.

Payment terms with our customers vary worldwide. Generally, contractual payment terms range from 30 to 45 days from the invoice date within North America and typically do not exceed 90 days from the invoice date in regions outside of North America. A portion of our contracts include implementation milestones, such as delivery, installation, and system acceptance, which generally take 30 to 180 days to complete. Invoicing the customer is dependent on completion of the milestones. We generally do not grant extended payment terms. As required for competitive reasons, we may provide long-term financing in connection with equipment purchases. Financing may cover all or a portion of the purchase price.

Generally, our contracts do not include a right of return, other than for standard warranty provisions. Due to customer purchasing patterns and the cyclical nature of the markets we serve, our sales tend to be somewhat higher in the second half of the year, with the fourth quarter being the highest.

Competition

The markets in which we operate are highly competitive. Key competitive factors include: performance, features, quality, availability, warranty, price, vendor financing, availability of service, company reputation and financial strength, partner community, and relationships with customers. Our strong reputation with customers and partners, trusted brand, technology leadership, breadth of portfolio, product performance, and specialized support services position us well for success.

We experience widespread competition from a growing number of existing and new competitors, including large system integrators and manufacturers of private and public wireless network equipment and devices. Traditional Land Mobile Radio competitors include: Harris, Hytera, Airbus, and Kenwood.

As demand for fully integrated voice, data, and broadband systems continue to grow, we may face additional competition from public telecommunications carriers and telecommunications equipment providers. As we continue to evolve our Integration services and Managed & Support services strategy, we may work with other companies on a consortium or joint venture basis as customers' delivery needs become more complex to fulfill.

Our continued focus on growing our Command Center suite has added additional competitors such as: West Corporation, Intergraph, Tri-Tech, and Zetron.

Several other competitive factors may have an impact on our future business including: evolving spectrum mandates by government regulators, increasing investment by broadband and IP solution providers, and new low-tier competitors.

Other Information

Backlog

Our backlog for the Products and Services segments includes all product and service orders that have been received and are believed to be firm. As of December 31, 2017 and December 31, 2016, our backlog was as follows:

	December 31	
(In millions)	***2017***	*2016*
Products	**$ 1,895**	$ 1,513
Services	**7,717**	6,858
	$ 9,612	$ 8,371

The increase in backlog of $1.2 billion is driven by acquisitions and growth in both the Products and Services segments absent of acquisitions. Approximately 54% of the Products segment backlog and 25% of the Services segment backlog is expected to be recognized as revenue during 2018. The forward-looking estimate of the firmness of such orders is subject to future events that may cause the amount recognized to change.

Research and Development

We continue to prioritize investments in R&D to expand and improve our portfolio of products through both new product introductions and continuous enhancements to our core products. Our R&D programs are focused on the development of: (i) new public safety devices, infrastructure, software and solutions, (ii) Command Center applications that include voice, data, and video, and (iii) public safety broadband solutions based on the LTE technology.

R&D expenditures were $568 million in 2017, $553 million in 2016, and $620 million in 2015. As of December 31, 2017, we had approximately 5,000 employees engaged in R&D activities. In addition, we engage in R&D activities with joint development and manufacturing partners and outsource certain activities to engineering firms to further supplement our internal spend.

Intellectual Property Matters

Patent protection is an important aspect of our operations. We have a portfolio of U.S. and foreign utility and design patents relating to our products, systems, and technologies, including research developments in radio frequency technology and circuits, wireless network technologies, over-the-air protocols, mission critical communications, software and services, and next-generation public safety. We have filed new patent applications with the U.S. Patent and Trademark Office and foreign patent offices.

We license some of our patents to third-parties, but licensing revenue is not a significant source of revenue. We are also licensed to use certain patents owned by others. Royalty and licensing fees vary from year-to-year and are subject to the terms of the agreements and sales volumes of the products subject to the license. Motorola Solutions has a royalty-free license under all of the patents and patent applications assigned to Motorola Mobility at the time of the separation of the two businesses in 2011.

We actively participate in the development of standards for interoperable, mission-critical digital two-way radio systems. Our patents are used in standards in which our products and services are based. We offer standards-based licenses to those patents on fair, reasonable, and non-discriminatory terms.

We believe that our patent portfolio will continue to provide us with a competitive advantage in our core product areas as well as provide leverage in the development of future technologies. While we are not dependent upon a single patent or even a few patents, we do have patents that protect features and functionality of our products and services. While these patents are important, our success also depends upon our extensive know-how, innovative culture, technical leadership, and distribution channels. We do not rely solely on patents or other intellectual property rights to protect or establish our market position; however, we will enforce our intellectual property rights in certain technologies when it is necessary to protect our innovation, or in some cases attempts to negotiate mutually agreeable licenses are not successful.

We seek to obtain patents and trademarks to protect our proprietary positions whenever possible and wherever practical. As of December 31, 2017, we owned approximately 4,402 granted patents in the U.S. and in foreign countries. As of December 31, 2017, we had approximately 1,210 U.S. and foreign patent applications pending. Foreign patents and patent applications are mostly counterparts of our U.S. patents. During 2017, we were granted approximately 404 patents in the U.S. and in foreign countries.

We no longer own certain logos and other trademarks, trade names and service marks, including MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M logo and all derivatives thereof (“Motorola Marks”) and we license the Motorola Marks from Motorola Mobility, which is currently owned by Lenovo.

Inventory and Raw Materials

Our practice is to carry reasonable amounts of inventory to meet customers’ delivery requirements. We provide custom products which require the stocking of inventories and a large variety of piece parts and replacement parts in order to meet delivery and warranty requirements. To the extent suppliers’ product life cycles are shorter than ours; stocking of lifetime buy inventories is required to meet long-term warranty and contractual requirements. In addition, replacement parts are stocked for delivery on customer demand within a short delivery cycle.

Availability of required materials and components is generally dependable; however, fluctuations in supply and market demand could cause selective shortages and affect our results of operations. We currently procure certain materials and components from single-source vendors. A material disruption from a single-source vendor may have a material adverse impact on our results of operations. If certain single-source suppliers were to become capacity constrained or insolvent, it could result in a reduction or interruption in supplies, or an increase in the price of supplies, and adversely impact our financial results.

Natural gas, electricity and, to a lesser extent, oil are the primary sources of energy for our manufacturing operations. Each of these resources is currently in adequate supply for our operations. The cost to operate our facilities and freight costs are dependent on world oil prices and external third-party logistics rates for inbound and outbound air lanes. Labor is generally available in reasonable proximity to our manufacturing facilities and the manufacturing facilities of our largest outsourced manufacturing suppliers. Difficulties in obtaining any of the aforementioned resources, or a significant cost increase, could affect our financial results.

Environmental Quality and Regulatory Matters

Some of our operations use substances regulated under various federal, state, local, and international laws governing the environment and worker health and safety, including those governing the discharge of pollutants into the ground, air, and water, the management and disposal of hazardous substances and wastes, and the cleanup of contaminated sites, as well as relating to the protection of the environment. Certain products of ours are subject to various federal, state, local, and international laws governing chemical substances in electronic products. During 2017, compliance with these U.S. federal, state and local, and international laws did not have a material effect on our capital expenditures, earnings, or competitive position.

Radio spectrum is required to provide wireless voice, data, and video communications service. The allocation of spectrum is regulated in the U.S. and other countries and limited spectrum space is allocated to wireless services and specifically to public safety users. In the U.S., the Federal Communications Commission (“FCC”) and the National Telecommunications and Information Administration (“NTIA”) regulate spectrum use by non-federal entities and federal entities, respectively. Similarly, countries around the world have one or more regulatory bodies that define and implement the rules for use of radio spectrum, pursuant to their respective national laws and international coordination under the International Telecommunications Union

(“ITU”). We manufacture and market products in spectrum bands already made available by regulatory bodies. These include voice and data infrastructure, mobile radios, and portable or hand-held devices. Consequently, our results could be positively or negatively affected by the rules and regulations adopted from time to time by the FCC, NTIA, ITU, or regulatory agencies in other countries. Our products operate both on licensed and unlicensed spectrum. The availability of additional radio spectrum may provide new business opportunities. Conversely, the loss of available radio spectrum may result in the loss of business opportunities. Regulatory changes in current spectrum bands may also provide opportunities or may require modifications to some of our products so they can continue to be manufactured and marketed.

As television transmission and reception technology transitions from analog to more efficient digital modes, various countries around the world are examining, and in some cases already pursuing, the redevelopment of portions of the television spectrum. In the U.S., spectrum historically used for broadcast television, known as the 700MHz band, has been redeveloped and deployed for new uses (the so-called “digital dividend” spectrum), including broadband and narrowband wireless communications. In 2016, this trend continued in the US and additional TV spectrum in the 600MHz band was auctioned for broadband communications (part of the “Broadcast Incentive Auction”). This auction closed in April 2017, but auction winners will not get access to the spectrum for several years.

Internationally, the ITU World Radio Conference ("WRC") is held every three to four years to discuss and promote global agreement on the use and cooperation of spectrum usage. The most recent WRC-15 was held in November 2015. During this conference, leaders from United Nations member countries considered a number of initiatives, including whether to allocate additional spectrum for commercial broadband use as well as whether to allocate spectrum dedicated for public safety broadband. The WRC has agreed to support countries making individual decisions to allocate spectrum for public safety broadband in the 700MHz and 800MHz spectrum bands. Studies are underway to assess whether and how much spectrum is needed and to develop recommendations on where in the spectrum range the spectrum should be allocated (taking into account regional and global harmonization to the extent practicable). Motorola Solutions continues to work with its customers and governments around the world to advocate for future allocations of dedicated broadband spectrum for public safety which will provide new business opportunities for us in the future.

Several major markets including: Canada, the United States, the UAE, Mexico, Singapore, and South Korea have already set aside broadband spectrum for use by public safety and the wider first-responder communities. We believe this trend will continue over time and the planned implementation of broadband public safety networks provides new opportunities for our broadband portfolio and services growth strategy. In addition, certain countries, in response to increasing security concerns, already have spectrum landscapes that permit country administrations to allocate public safety spectrum quickly without a protracted process or agreement. Some other markets including Australia and the UK are launching broadband public safety networks drawing on basic LTE infrastructure built by the carriers. These trends also provide opportunities for our broadband and services portfolio.

Employees

At December 31, 2017, and December 31, 2016 we had approximately 15,000 and 14,000 employees, respectively.

Material Dispositions

On October 27, 2014, we completed the sale of certain assets and liabilities of the Enterprise business to Zebra Technologies Corporation ("Zebra"). The financial results of the disposed business have been classified as discontinued operations for all periods presented. The results of discontinued operations are discussed in further detail in the “Discontinued Operations” footnote included in Item 8.

Financial Information About Geographic Areas

The response to this section of Item 1 incorporates by reference Note 11, “Commitments and Contingencies” and Note 12, “Information by Segment and Geographic Region” of Part II, "Item 8: Financial Statements and Supplementary Data" of this document, the “Results of Operations—2017 Compared to 2016” and “Results of Operations—2016 Compared to 2015” sections of Part II, “Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Item 1A: Risk Factors” of this document.

Financial Information About Segments

The response to this section of Item 1 incorporates by reference Note 12, “Information by Segment and Geographic Region,” of Part II, "Item 8: Financial Statements and Supplementary Data" of this document.

Available Information

We make available free of charge through our website, www.motorolasolutions.com/investors*,* our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements, other reports filed under the Securities Exchange Act of 1934 (“Exchange Act”), and all amendments to those reports simultaneously or as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Our reports are also available free of charge on the SEC’s website, *www.sec.gov.* Also available free of charge on our website are the following corporate governance documents:

- Motorola Solutions, Inc. Restated Certificate of Incorporation with Amendments
- Conformed Restated Certificate of Incorporation of Motorola Solutions, Inc. (amended Jan. 4, 2011)
- Certificate of Amendment to the Restated Certificate of Incorporation of Motorola, Inc. (effective Jan. 4, 2011)

- Certificate of Ownership and Merger of Motorola Name Change Corporation into Motorola, Inc. (effective Jan. 4, 2011)
- Motorola Solutions, Inc. Amended and Restated Bylaws
- Board Governance Guidelines
- Director Independence Guidelines
- Principles of Conduct for Members of the Motorola Solutions, Inc. Board of Directors
- Motorola Solutions Code of Business Conduct, which is applicable to all Motorola Solutions employees, including the principal executive officers, the principal financial officer and the controller (principal accounting officer)
- Audit Committee Charter
- Compensation and Leadership Committee Charter
- Governance and Nominating Committee Charter

All of our reports and corporate governance documents may also be obtained without charge by contacting Investor Relations, Motorola Solutions, Inc., Corporate Offices, 500 W. Monroe Street, Chicago, IL 60661, E-mail: *investors@motorolasolutions.com*. This annual report on Form 10-K and Definitive Proxy Statement are available on the Internet at www.motorolasolutions.com/investors and may also be requested in hardcopy by completing the on-line request form available on our website at www.motorolasolutions.com/investors. Our Internet website and the information contained therein or incorporated therein are not intended to be incorporated into this Annual Report on Form 10-K.

Item 1A: Risk Factors

We face a number of risks related to current global economic and political conditions, including low economic growth rates in certain markets, the impact of currency fluctuations, commodity price volatility, and unstable political conditions that have and could continue to unfavorably impact our business.

Global economic and political conditions continue to be challenging for many of our government and commercial markets, as economic growth in many countries, particularly in parts of Latin America and in other emerging markets, has remained low or declined, currency fluctuations have impacted profitability, credit markets have remained tight for certain counterparties of ours and many of our customers remain dependent on government grants to fund purchases of our products and services. In addition, conflicts in the Middle East and elsewhere have created many economic and political uncertainties that continue to impact worldwide markets. The length of time these adverse economic and political conditions may persist is unknown. These global economic and political conditions have impacted and could continue to impact our business, financial condition, results of operations, and cash flows in a number of ways, including:

- Requests by Customers for Vendor Financing by Motorola Solutions: Certain customers of ours, particularly, but not limited to, those who purchase large infrastructure systems, request that their suppliers provide financing in connection with equipment purchases and/or the provision of solutions and services, particularly as the size and length of these types of contracts increases and as we increase our business in developing countries. Requests for vendor financing continue to increase in volume and scope, including in response to reduced tax revenue at the state and local government level and ongoing tightening of credit for certain commercial customers. Motorola Solutions has continued to provide vendor financing to both our government and commercial customers. We have been faced with and expect to continue to be faced with choosing between further increasing our level of vendor financing or potentially losing sales, as some of our competitors, particularly those in Asia, have been more willing to provide vendor financing to customers around the world, particularly customers in Africa and Latin America. To the extent we are unable to sell these receivables on terms acceptable to us we may retain exposure to the credit quality of our customers who we finance.

- Customers' Inability to Obtain Financing to Make Purchases from Motorola Solutions and/or Maintain Their Business: Some of our customers require substantial financing, including public financing or government grants, in order to fund their operations and make purchases from us. The inability of these customers to obtain sufficient credit or other funds, including as a result of lower tax revenues, currency fluctuations or unavailability of government grants, to finance purchases of our products and services and/or to meet their payment obligations to us could have, and in some cases has had, a negative impact on our financial results. This risk increases as the size and length of our contracts increase. In addition, if global economic conditions result in insolvencies for our customers, it will negatively impact our financial results.

- Challenges in Budgeting and Forecasting: It is difficult to estimate changes in various parts of the U.S. and world economy, including the markets in which we participate. Components of our budgeting and forecasting are dependent upon estimates of demand for our products and estimates of foreign exchange rates. The prevailing economic uncertainties render estimates of future income and expenditures challenging.

- Potential Deferment or Cancellation of Purchases and Orders by Customers: Uncertainty about current and future global economic conditions may cause, and in some cases has caused, businesses and governments to defer or cancel purchases in response to tighter credit, decreased cash availability and de-prioritization of communications equipment within the budgeting process. If future demand for our products declines due to economic conditions, it will negatively impact our financial results.

- Inability to Operate and Grow in Certain Markets: We operate in a number of markets with a risk of intensifying political instability, including Europe, Russia, Brazil, the Middle East and Africa. If political instability continues in these markets and in other parts of the world in which we operate it could have a significant impact on our ability to grow and, in some cases, operate in those locations, which will negatively impact our financial results.

A security breach or other significant disruption of our IT systems, those of our outsource partners, suppliers or those we manufacture, install, and in some cases operate and maintain for our customers, caused by cyber attack or other means, could have a negative impact on our operations, sales, and operating results.

All information technology systems are potentially vulnerable to damage, unauthorized access or interruption from a variety of sources, including but not limited to, cyber attack, cyber intrusion, computer viruses, security breach, energy blackouts, natural disasters, terrorism, sabotage, war, insider trading, and telecommunication failures. As a provider of mission-critical communications systems for customers in critical infrastructure sectors of the U.S. and globally, including systems that we operate and maintain for certain customers of ours, we face additional risk as a target of sophisticated attacks aimed at compromising both our Company's and our customers' sensitive information and intellectual property, through means referred to as advanced persistent threats. This risk is heightened because these systems may contain sensitive governmental information or personally identifiable or other protected information. While we employ a number of countermeasures and security controls, including training and audits and utilization of commercial information security threat sharing networks to protect against such attacks, we, along with the industry, have experienced a gradual and steady increase in the sophistication of these threats, most noticeably through well-crafted social engineering and phishing attempts. We cannot guarantee that all threat attempts will be successfully thwarted even with these countermeasures and we are therefore investing more in detection and response capabilities to minimize potential impacts. Further, we are dependent, in certain instances, upon our outsourced business partners, suppliers, and customers to adequately protect our IT systems and those IT systems that we manage for our customers. In addition, some of our customers are exploring broadband solutions that use public carrier networks on which our solutions would operate. We do not have direct oversight or influence over how public carrier networks manage the security, quality, or resiliency of their networks, and because they are an attractive high value target due to their role in critical infrastructure, they expose customers to an elevated risk over our private networks.

Our Company outsources certain business operations, including, but not limited to IT, HR information systems, manufacturing, repair, distribution and engineering services. These arrangements are governed by various contracts and agreements which reference and mandate Company and international standards of information protection, as appropriate. In addition, we maintain certain networked equipment at customer locations and are reliant on those customers to protect and maintain that equipment. The "attack surface" for us to protect against our adversaries is thus often extended to these partners and customers, as well as our suppliers, and we have some dependency upon their cyber security capabilities as well as their willingness to exchange threat and response information with us

A cyber attack or other significant disruption involving our IT systems or those of our outsource partners, suppliers or our customers could result in the unauthorized release of proprietary, confidential or sensitive information of ours or our customers. Such unauthorized access to, or release of, this information could: (i) allow others to unfairly compete with us, (ii) compromise safety or security, given the mission-critical nature of our customers' systems, (iii) subject us to claims for breach of contract, tort, and other civil claims, and (iv) damage our reputation. We could face regulatory penalties, enforcement actions, remediation obligations and/or private litigation by parties whose data is improperly disclosed or misused. In addition, there has been a sharp increase in laws in Europe, the U.S. and elsewhere, imposing requirements for the handling of personal data, including data of employees, consumers and business contacts, as well as imposing requirements for remediation action, including specific timing and method of notification. There is a risk that our Company, directly or as the result of some third-party service provider we use, could be found to have failed to comply with the laws or regulations of some country regarding the collection, consent, handling, transfer, retention or disposal of such personal data, and therefore subject us to fines or other sanctions. The European Courts invalidation of Safe Harbor as a mechanism to legitimize cross border data flows increases the risk that our Company, directly or through some third-party service provider that we use, may inappropriately transfer EU personal data. Any or all of the foregoing could have a negative impact on our business, financial condition, results of operations, and cash flow.

A significant amount of our international business is transacted in local currency and a significant percentage of our cash and cash equivalents are held outside of the United States, which exposes us to risk relating to currency fluctuations, changes in foreign exchange regulations and repatriation delays and costs, which could negatively impact our sales, profitability and financial flexibility.

We have sizable sales and operations in Canada and our Europe, Middle East and Africa, Asia, and Latin America regions.

A significant amount of this business is transacted in local currency. As a result, our financial performance is impacted by currency fluctuations. We are also experiencing increased pressure to agree to established currency conversion rates and cost of living adjustments as a result of foreign currency fluctuations or the requirement to transact business in local currencies.

A significant percentage of our cash and cash equivalents is currently held outside the U.S. and we continue to generate profits outside of the U.S., while many of our liabilities, such as our public debt, the majority of our pension liabilities and certain other cash payments, such as dividends and share repurchases, are payable in the U.S. While we have regularly repatriated funds with minimal adverse impact, repatriation of some of the funds has been and could continue to be subject to delay for local country approvals and could have potential adverse tax consequences. In addition, foreign exchange regulations may limit our ability to convert or repatriate foreign currency. As a result of having a lower amount of cash and cash equivalents in the U.S., our financial flexibility may be reduced.

We face uncertainty in the global geopolitical landscape that may impede the implementation of our strategy outside the United States.

In June 2016, the United Kingdom (the “U.K”) held a referendum in which voters approved an exit from the European Union (“E.U.”), commonly referred to as Brexit. It is expected that the U.K. government will initiate a process to withdraw from the E.U. and begin negotiating the terms of its separation. The announcement of Brexit has resulted in volatility in the global stock market and currency exchange rate fluctuations that resulted in strengthening of the U.S. dollar relative to other foreign currencies in which we conduct business. The announcement of Brexit and likely withdrawal of the U.K. from the E.U. may also create global economic uncertainty, which may cause our customers to closely monitor their costs and reduce their spending budgets. In addition, there may be uncertainty as to the position the United States will take with respect to certain treaty and trade relationships with other countries. This uncertainty may impact (i) the ability or willingness of non-U.S. companies to transact business in the United States, including with our Company, (ii) regulation and trade agreements affecting U.S. companies, (iii) global stock markets and (iv) general global economic conditions. All of these factors are outside of our control, but may cause us to adjust our strategy in order to compete effectively in global markets and could adversely affect our business, financial condition, operating results and cash flows.

A portion of our business is dependent upon U.S. government contracts and grants, which are highly regulated and subject to oversight audits by U.S. government representatives and subject to cancellations. Such audits could result in adverse findings and negatively impact our business.

Our U.S. government business is subject to specific procurement regulations with numerous compliance requirements. These requirements, although customary in government contracting in the U.S., increase our performance and compliance costs. These costs may increase in the future, thereby reducing our margins, which could have an adverse effect on our financial condition. Failure to comply with these regulations or other compliance requirements could lead to suspension or debarment from U.S. government contracting or subcontracting for a period of time. Among the causes for debarment are violations of various laws or policies, including those related to procurement integrity, export control, U.S. government security regulations, employment practices, protection of criminal justice data, protection of the environment, accuracy of records, proper recording of costs, foreign corruption and the False Claims Act.

Generally, in the U.S. government contracts and grants are subject to oversight audits by government representatives. Such audits could result in adjustments to our contracts. Any costs found to be improperly allocated to a specific contract may not be allowed, and such costs already reimbursed may have to be refunded. Future audits and adjustments, if required, may materially reduce our revenues or profits upon completion and final negotiation of audits. Negative audit findings could also result in investigations, termination of a contract or grant, forfeiture of profits or reimbursements, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. All contracts with the U.S. government are subject to cancellation at the convenience of the U.S. government.

In addition, contacts with government officials and participation in political activities are areas that are tightly controlled by federal, state, local and international laws. Failure to comply with these laws could cost us opportunities to seek certain government sales opportunities or even result in fines, prosecution, or debarment.

Government regulation of radio frequencies may limit the growth of public safety broadband systems or reduce barriers to entry for new competitors.

Radio frequencies are required to provide wireless services. The allocation of frequencies is regulated in the U.S. and other countries and limited spectrum is allocated to wireless services and specifically to public safety users. The growth of public safety broadband communications systems may be affected: (i) by regulations relating to the access to allocated spectrum for public safety users, (ii) if adequate frequencies are not allocated, or (iii) if new technologies are not developed to better utilize the frequencies currently allocated for such use. Industry growth may also be affected by new licensing fees required to use frequencies.

The U.S. leads the world in allocating spectrum to enable wireless communications including LTE. Other countries have also allocated spectrum to allow deployment of these and other technologies. This changing landscape may introduce new competition and new opportunities for us.

MSI’s opportunities to sell LTE equipment and related software and services in the U.S will be substantially impacted by: (1) AT&T's success in satisfying contract requirements and milestones, including, among others, subscriber adoption rate, mandatory payments to FirstNet, and coverage and (2) fiscal, public, and regulatory policies and/or special interest politics that risk delaying deployment.

We derive a portion of our revenue from government customers who award business through competitive bidding which can involve significant upfront costs and risks. This effort may not result in awards of business or we may fail to accurately estimate the costs to fulfill contracts awarded to us, which could have adverse consequences on our future profitability.

Many government customers, including most U.S. government customers, award business through a competitive bidding process, which results in greater competition and increased pricing pressure. The competitive bidding process involves significant cost and managerial time to prepare bids for contracts that may not be awarded to us. Even if we are awarded contracts, we may fail to accurately estimate the resources and costs required to fulfill a contract, or to resolve problems with our subcontractors or suppliers, which could negatively impact the profitability of any contract award to us, particularly in the case of fixed price contracts. In addition, following the award of a contract, we have experienced and may continue to experience significant expense or delay, contract modification or contract rescission as a result of customer delay or our competitors protesting or challenging contracts awarded to us in competitive bidding.

We enter into fixed-price contracts that could subject us to losses in the event we fail to properly estimate our costs or hedge our risks associated with currency fluctuations.

We enter into a number of firm fixed-price contracts. If our initial cost estimates are incorrect, we can lose money on these contracts. Because certain of these contracts involve new technologies and applications, require us to engage subcontractors and/or can last multiple years, unforeseen events, such as technological difficulties, fluctuations in the price of raw materials, problems with our subcontractors or suppliers and other cost overruns, can result in the contract pricing becoming less favorable or even unprofitable to us and have an adverse impact on our financial results. In addition, a significant increase in inflation rates or currency fluctuations could have an adverse impact on the profitability of longer-term contracts.

The expansion of our solutions and services business creates new competitors and new and increased areas of risk that we have not been exposed to in the past and that we may not be able to properly assess or mitigate.

We plan to continue to expand our solutions and services business by offering additional and expanded managed services for existing and new types of customers, such as designing, building, operating, managing and in some cases owning a public-safety system or other commercial system. The offering of managed services involves the integration of multiple services, multiple vendors and multiple technologies, requiring that we partner with other solutions and services providers, often on multiyear projects.

Additionally, our managed services business will be expanded to include the hosting of software applications. This allows the customers to “consume” the software “as a service” and avoid the costs and complexities of acquiring and operating the software.

- We may recognize revenue over time as a services offering, rather than at a point in time as with a traditional equipment sale, which will extend revenue recognition over the length of the services contracts, which may be several years.

- The managed services business is one characterized by large subcontracting arrangements and we may not be able to obtain favorable contract terms including adequate indemnities, performance commitments or other protections from our subcontractors to adequately mitigate our exposure to our customers.

- We may face increasing competition from traditional system integrators and the defense industry as solutions and services contracts become larger and more complicated.

- Expansion will bring us into contact with new regulatory requirements and restrictions, such as data security or data residency/localization obligations, with which we will have to comply and may increase the costs of doing business, reduce margins and delay or limit the range of new solutions and services which we will be able to offer.

- We may be required to agree to specific performance metrics that meet the customer's requirements for network security, availability, reliability, maintenance and support and, in some cases, if these performance metrics are not met we may not be paid.

We may not continue to have access to the capital markets for financing on acceptable terms and conditions, particularly if our credit ratings are downgraded, which could limit our ability to repay our indebtedness and could cause liquidity issues.

From time to time we access the capital markets to obtain financing. Our access to the capital markets and the bank credit markets at acceptable terms and conditions are impacted by many factors, including: (i) our credit ratings, (ii) the liquidity of the overall capital markets, (iii) strength and credit availability in the banking markets, and (iv) the current state of the global economy. In addition, we frequently access the credit markets to obtain performance bonds, bid bonds, standby letters of credit and surety bonds, as well as to hedge foreign exchange risk and sell receivables. In addition, there can be no assurances we will be able to refinance our existing indebtedness (i) on commercially reasonable terms, (ii) on terms, including with respect to interest rates, as favorable as our current debt, or (iii) at all. There can be no assurances that we will continue to have access to the capital markets or bank credit markets on terms acceptable to us and if we are unable to repay or refinance our debt, we cannot guarantee that we will be able to generate enough cash flows from operations or that we will be able to obtain enough capital to service our debt, fund our planned capital expenditures or pay future dividends.

We are rated investment grade by all three national rating agencies. Any downward changes by the rating agencies to our credit rating may negatively impact the value and liquidity of both our debt and equity securities. Under certain circumstances, an increase in the interest rate payable by us under our revolving credit facility, if any amounts were borrowed under such facility, could negatively affect our operating cash flows. In addition, a downgrade in our credit ratings could limit our ability to: (i) access the capital markets or bank credit markets, (ii) provide performance bonds, bid bonds, standby letters of credit and surety bonds, (iii) hedge foreign exchange risk, (iv) fund our foreign affiliates, and (v) sell receivables. A downgrade in our credit rating could also result in less favorable trade terms with suppliers. In addition, any downgrades in our credit ratings may affect our ability to obtain additional financing in the future and may affect the terms of any such financing. Any future disruptions, uncertainty or volatility in the capital markets may result in higher funding costs for us and adversely affect our ability to access funds and other credit related products. In addition, we may avoid taking actions that would otherwise benefit us or our stockholders, such as engaging in certain acquisitions or engaging in stock repurchases, that would negatively impact our credit rating.

Our future operating results depend on our ability to purchase at acceptable prices a sufficient amount of materials, parts, and components, as well as services and software to meet the demands of our customers and any disruption to our suppliers or significant increase in the price of supplies could have a negative impact on our results of operations.

Our ability to meet customers' demands depends, in part, on our ability to timely obtain an adequate delivery of quality materials, parts, and components, as well as services and software from our suppliers. In addition, certain supplies, including for some of our critical components, are available only from a single source or limited sources and we may not be able to diversify sources in a timely manner. If demand for our products or services increases from our current expectations or if suppliers are unable to meet our demand for other reasons, including as a result of natural disasters or financial issues, we could experience an interruption in supplies or a significant increase in the price of supplies, including as a result of having to move to an alternative source, that could have a negative impact on our business as a result of increased cost or delay in or inability to deliver our products. This risk may increase as a result of consolidation of certain suppliers of ours. We have experienced shortages in the past that have negatively impacted our results of operations and may experience such shortages in the future. In addition, credit constraints at our suppliers could cause us to accelerate payment of accounts payable by us, impacting our cash flow.

We have seen and expect to continue to see increases in the price of certain supplies as we no longer qualify for certain volume discounts given our significant decrease in direct material spend over the last several years as a result of our spin-offs and divestitures. We have also experienced less support and focus from our suppliers as our spend has diminished, making it more difficult for us to resolve gaps in supply due to unforeseen changes in forecast and demand. In addition, our current contractual arrangements with certain suppliers may be cancelled or not extended by such suppliers and, therefore, not afford us with sufficient protection against a reduction or interruption in supplies. Moreover, in the event any of these suppliers breach their contracts with us, our legal remedies associated with such a breach may be insufficient to compensate us for any damages we may suffer.

Over the last several years we have outsourced portions of certain business operations like IT, HR information systems, manufacturing, repair, distribution and engineering services and expect to outsource additional business operations. This outsourcing limits our control over these business operations and exposes us to additional risk as a result of the actions of our outsource partners.

As we outsource more of our business operations we are not able to directly control these activities. Our outsource partners may not prioritize our business over that of their other customers and they may not meet our desired level of quality, performance, service, cost reductions or other metrics. Failure to meet key performance indicators may result in our being in default with our customers. In addition, we may rely on our outsource partners to secure materials from our suppliers with whom our outsource partners may not have existing relationships and we may be required to continue to manage these relationships even after we outsource certain business operations.

As we outsource business operations we become dependent on the IT systems of our outsource partners, including to transmit demand and purchase orders to suppliers, which can result in a delay in order placement. In addition, in an effort to reduce costs and limit their liabilities, our outsource partners may not have robust systems or make commitments in as timely a manner as we require.

In some cases the actions of our outsource partners may result in our being found to be in violation of laws or regulations like import or export regulations. As many of our outsource partners operate outside of the U.S., our outsourcing activity exposes us to information security vulnerabilities and increases our global risks. In addition, we are exposed to the financial viability of our outsource partners. Once a business activity is outsourced we may be contractually prohibited from or may not practically be able to bring such activity back within the Company or move it to another outsource partner. The actions of our outsource partners could result in reputational damage to us and could negatively impact our business, financial conditions, results of operations, and cash flows.

Our sales within a quarter are not linear, with a substantial percentage of products shipping in the final month of the quarter. This lack of linearity creates inefficiencies in our business performance and any interruption during this final month could have a substantial impact on our quarterly financial results.

On average, a substantial percentage of our quarterly sales ship in the final month of a quarter. Any interruption in our ability to ship products during this final month, such as unavailability of critical components, disruption to our manufacturing capabilities or disruptions in our distribution channel, will have a disproportionately large impact on our quarterly financial results, as we may be unable to recover in time to ship the products and recognize revenue in that quarter.

In addition, this lack of linearity results in inefficiencies in our financial performance, as we must invest in capacity and resources to support this business model, meaning we have underutilized operations during the first two months of the quarter. We also must maintain additional component inventory and engage in pre-builds of finished goods to mitigate the impact of this lack of linearity and meet potential last month demand. This could result in our carrying excess inventory, which is costly and may result in increased inventory obsolescence over time.

We no longer own certain logos and other trademarks, trade names and service marks, including MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M logo and all derivatives and formatives thereof ("Motorola Marks") and we license the Motorola Marks from Motorola Trademark Holdings, LLC ("MTH"), which is currently owned by Motorola Mobility, a subsidiary of Lenovo. Our joint use of the Motorola Marks could result in product and market confusion and negatively impact our ability to expand our business under the Motorola brand. In addition, if we do not comply with the terms of the license agreement we could lose our rights to the Motorola Marks. Because of the change of control of Motorola Mobility, which is now owned by Lenovo, we may find that an incompatible third-party owns the Motorola Marks.

We have a worldwide, perpetual and royalty-free license from MTH to use the Motorola Marks as part of our corporate name and in connection with the manufacture, sale, and marketing of our current products and services. The license of the Motorola Marks is important to us because of the reputation of the Motorola brand for our products and services. There are risks associated with both Motorola Mobility and the Company using the Motorola Marks and with this loss of ownership. As both Motorola Mobility and the Company will be using the Motorola Marks, confusion could arise in the market, including customer confusion regarding the products offered by and the actions of the two companies. Motorola Mobility was acquired by Lenovo in 2014, which resulted in Lenovo having effective control over the Motorola Marks. This risk could increase as both Motorola Mobility's and our products continue to converge. This risk could increase under Lenovo's control if they expand their use of the Motorola Marks. Also, any negative publicity associated with either company in the future could adversely affect the public image of the other. In addition, because our license of the Motorola Marks will be limited to products and services within our specified fields of use, we will not be permitted to use the Motorola Marks in other fields of use without the approval of Motorola Mobility, which is now controlled by Lenovo. In the event that we desire to expand our business into any other fields of use, we may need to do so with a brand other than the Motorola brand. Developing a brand as well-known and with as much brand equity as Motorola could take considerable time and expense. The risk of needing to develop a second brand increases as Motorola Mobility's and our products continue to converge and if our business expands into other fields of use. In addition, we could lose our rights to use the Motorola Marks if we do not comply with the terms of the license agreement. Such a loss could negatively affect our business, results of operations and financial condition. Furthermore, MTH has the right to license the brand to third-parties and either Motorola Mobility or licensed third-parties may use the brand in ways that make the brand less attractive for customers of Motorola Solutions, creating increased risk that Motorola Solutions may need to develop an alternate or additional brand. In 2013 Motorola Mobility modified certain Motorola Marks used by the Company. Motorola Mobility may require the Company to adopt the use of the modified Motorola Marks, which would result in the Company incurring the costs of rebranding.

In addition, neither Motorola Mobility nor Lenovo are prohibited from selling the Motorola Marks. In the event of a liquidation of Motorola Mobility or the then owner of the Motorola Marks, it is possible that a bankruptcy court would permit the Motorola Marks to be assigned to a third-party. While our right to use the Motorola Marks under our license should continue in our specified field of use in such situations, it is possible that we could be party to a license arrangement with a third-party whose interests are incompatible with ours, thereby potentially making the license arrangement difficult to administer, and increasing the costs and risks associated with sharing the Motorola Marks. In addition, there is a risk that, in the event of a bankruptcy of Motorola Mobility or the then owner of the Motorola Marks, Motorola Mobility, the then owner or its bankruptcy trustee may attempt to reject the license, or a bankruptcy court may refuse to uphold the license or certain of its terms. Such a loss could negatively affect our business, results of operations and financial condition.

We utilize the services of subcontractors to perform under many of our contracts and the inability of our subcontractors to perform in a timely and compliant manner could negatively impact our ability to comply with our performance obligations as the prime contractor.

We engage subcontractors, including third-party integrators, on many of our contracts and as we expand our solutions and services business our use of subcontractors has and will continue to increase. Our subcontractors may further subcontract performance and may supply third-party products and software from a number of smaller companies. We may have disputes with our subcontractors, including disputes regarding the quality and timeliness of work performed by the subcontractor or its subcontractors and the functionality, warranty and indemnities of products, software and services supplied by our subcontractor. We are not always successful in passing down customer requirements to our subcontractors, and thus in some cases may be required to absorb contractual risks from our customers without corresponding back-to-back coverage from our subcontractor. Even when we are able to pass down customer requirements to our subcontractors, sometimes those subcontractors have less financial resources than we do, and a customer may look to us to cover a loss or damage. Our subcontractors may not be able to acquire or maintain the quality of the materials, components, subsystems and services they supply, or secure preferred warranty and indemnity coverage from their suppliers which might result in greater product returns, service problems, warranty claims and costs and regulatory compliance issues. Any of the foregoing could harm our business, financial condition and results of operations.

Failure of our suppliers, subcontractors, distributors, resellers and representatives to use acceptable legal or ethical business practices and adhere to our Supplier Code of Conduct or our Human Rights Policy could negatively impact our business.

It is our policy to require our suppliers, subcontractors, distributors, resellers, and third-party sales representatives ("TPSRs") to operate in compliance with applicable laws, rules and regulations regarding working conditions, employment practices, environmental compliance, anti-corruption and trademark and copyright licensing. However, we do not control their labor and other business practices. If one of our suppliers, subcontractors, brokers, distributors, resellers, or TPSRs violates labor or other laws or implements labor or other business practices that are regarded as unethical, the shipment of finished products to us could be interrupted, orders could be canceled, relationships could be terminated and our reputation could be damaged. If one of our suppliers or subcontractors fails to procure necessary license rights to trademarks, copyrights or patents, legal action could be taken against us that could impact the salability of our products and expose us to financial obligations to a third-party. Any of these events could have a negative impact on our sales and results of operations.

Our employees, customers, suppliers and outsource partners are located throughout the world and, as a result, we face risks that other companies that are not global may not face.

Most of our products that are manufactured by or for us outside the U.S. are manufactured in Malaysia. If manufacturing in our facility, or a facility manufacturing products for us, in Malaysia is disrupted, our overall capacity would be significantly reduced and our business, financial condition, results of operation, and cash flows could be negatively impacted.

Our customers and suppliers are located throughout the world. In 2017, approximately 42% percent of our revenue was generated outside the U.S. In addition, we have a number of research and development, administrative and sales facilities outside the U.S. and more than 54% of our employees are employed outside the U.S. Most of our suppliers' operations are outside the U.S. and most of our products are manufactured outside the U.S., both internally and by third-parties.

Because we have sizable sales and operations, including outsourcing and procurement arrangements, outside of the U.S., we have more complexity in our operations and are exposed to a unique set of global risks that could negatively impact our business, financial condition, results of operations, and cash flows, including but not limited to: (i) currency fluctuations, (ii) import/export regulations, tariffs, trade barriers and trade disputes, customs classifications and certifications, including but not limited to changes in classifications or errors or omissions related to such classifications and certifications, (iii) changes in U.S. and non-U.S. rules related to trade, environmental, health and safety, technical standards, consumer and intellectual property and consumer protection, (iv) longer payment cycles, (v) tax issues, such as tax law changes, variations in tax laws from country to country and as compared to the U.S., obligations under tax incentive agreements, difficulties in repatriating cash generated or held abroad in a tax-efficient manner and difficulties in securing local country approvals for cash repatriations, (vi) changes in foreign exchange regulations, (vii) challenges in collecting accounts receivable, (viii) cultural and language differences, (ix) employment regulations and local labor conditions, (x) privacy and data protection regulations and restrictions, (xi) difficulties protecting intellectual property in foreign countries, (xii) instability in economic or political conditions, including inflation, recession and actual or anticipated military or political conflicts and terrorism, (xiii) natural disasters, (xiv) public health issues or outbreaks, (xv) changes in laws or regulations that negatively impact benefits being received by us or that require costly modifications in products sold or operations performed in such countries, (xvi) litigation in foreign court systems and foreign enforcement or administrative proceedings, and (xvii) applicability of anti-corruption laws including the Foreign Corrupt Practices Act ("FCPA") and the U.K. Bribery Act.

We have a number of employees, contractors, representatives and agents in, and sell our products and services throughout, the Middle East and our operations, as well as demand for our products and services, could be negatively impacted by political conflicts and hostilities in this region. The potential for future unrest, terrorist attacks, increased global conflicts, hostility against U.S.-based multinational companies and the escalation of existing conflicts has created worldwide uncertainties that have negatively impacted, and may continue to negatively impact, demand for certain products of ours.

We also are subject to risks that our operations could be conducted by our employees, contractors, representatives or agents in ways that violate the FCPA, the U.K. Bribery Act, or other similar anti-corruption laws. While we have policies and procedures to comply with these laws, our employees, contractors, representatives and agents may take actions that violate our policies. Any such violations could have a negative impact on our business. Moreover, we face additional risks that our anti-corruption policies and procedures may be violated by TPSRs or other third-parties that help sell our products or provide other solutions and services, because such TPSRs and other third parties are not our employees, and, it is therefore more difficult to oversee [and control] their conduct.

Many of our components and some of our products, including software, are developed and/or manufactured by third-parties and in some cases designed by third-parties and if such third-parties lack sufficient quality control, change the design of components or if there are significant changes in the financial or business condition of such third-parties, it may have a negative impact on our business.

We rely on third-parties to develop and/or manufacture many of our components and some of our finished products, and to design certain components and finished products, as well as provide us with software necessary for the operation of those products and we may increase our reliance on such third-parties in the future. We could have difficulties fulfilling our orders and our sales and profits could decline if: (i) we are not able to engage such third-parties with the capabilities or capacities required by our business, (ii) such third-parties lack sufficient quality control or fail to deliver quality components, products, services or software on time and at reasonable prices, or deliver products, services or software that do not meet regulatory or industry standards or requirements, (iii) if there are significant changes in the financial or business condition of such third-parties, or (iv) if we have difficulties transitioning operations to such third-parties.

Because of the long life-cycle of many of our products, we need access to limited quantities of components for manufacturing and repair and suppliers have been and may continue to be unwilling to manufacture such components or may only do so at high prices. Certain key component suppliers are reducing the expected lifetime of key components, in particular semiconductor and electrical components, on some of our products. This could result in the need for more frequent product redesigns and increased engineering costs on some products or costly last time buys, which may negatively impact our financial performance. In addition, we may be unable to meet our repair obligations to our customers.

We are exposed to risks under large, multi-year system and solutions and services contracts that may negatively impact our business.

We enter into large, multi-year system and solutions and services contracts with large municipal, state, and nationwide government and commercial customers. In some cases we may not be the prime contractor and may be dependent on other third-parties such as commercial carriers or systems integrators. This exposes us to risks, including among others: (i) technological risks, especially when the contracts involve new technology, (ii) risk of defaults by third-parties on whom we are relying for products or services as part of our offering or who are the prime contractors, (iii) financial risks, including the estimates inherent in projecting costs associated with large, long-term contracts, the impact of currency fluctuations, inflation, and the related impact on operating results, (iv) cyber security risk, especially in managed services contracts with public safety and commercial customers that process data, and (v) political risk, especially related to the contracts with government customers. In addition, multi-year awards from governmental customers may often only receive partial funding initially and may typically be cancelable on short notice with limited penalties. Recovery of front loaded capital expenditures in long-term managed services contracts is dependent on the continued viability of such customers. The termination of funding for a government program or insolvency of commercial customer could result in a loss of anticipated future revenue attributable to that program, which could have an adverse impact on our profitability.

Our success depends in part on our timely introduction of new products and technologies and our results can be impacted by the effectiveness of our significant investments in new products and technologies.

The markets for certain products of ours are characterized by changing technologies and evolving industry standards. In some cases it is unclear what specific technology will be adopted in the market or what delivery model will prevail, including whether public safety LTE will be delivered via private networks, public carriers or some combination thereof. In addition, new technologies such as voice over LTE or push-to-talk clients over LTE could reduce sales of our traditional products. The shift to smart public safety and the prevalence of data in our customer’s use cases results in our competing in a more fragmented marketplace. In addition, new technologies and new competitors continue to enter our markets at a faster pace than we have experienced in the past, resulting in increased competition from non-traditional suppliers, including public carriers, telecom equipment providers, consumer device manufacturers and software companies. New products are expensive to develop and bring to market and additional complexities are added when this process is outsourced as we have done in certain cases or as we increase our reliance on third-party content and technology. Our success depends, in substantial part, on the timely and successful introduction of new products, upgrades and enhancements of current products to comply with emerging industry standards, laws and regulations, such as China's proprietary technology, PDT, and to address competing technological and product developments carried out by our competitors. Developing new technologies to compete in a specific market may not be financially viable, resulting in our inability to compete in that market. The R&D of new, technologically-advanced products is a complex and uncertain process requiring high levels of innovation and investment, as well as the accurate anticipation of technology and market trends. Many of our products and systems are complex and we may experience delays in completing development and introducing new products or technologies in the future. We may focus our resources on technologies that do not become widely accepted or are not commercially viable or involve compliance obligations with additional areas of regulatory requirements.

Our results are subject to risks related to our significant investment in developing and introducing new products. These risks include among others: (i) difficulties and delays in the development, production, testing and marketing of products, particularly when such activities are done through third-parties, (ii) customer acceptance of products, (iii) the development of, approval of, and compliance with industry standards and regulatory requirements, (iv) the significant amount of resources we must devote to the development of new technologies, and (v) the ability to differentiate our products and compete with other companies in the same markets.

If the quality of our products does not meet our customers' expectations or regulatory or industry standards, then our sales and operating earnings, and ultimately our reputation, could be negatively impacted.

Some of the products we sell may have quality issues resulting from the design or manufacture of the product, or from the software used in the product. Sometimes, these issues may be caused by components we purchase from other manufacturers or suppliers. Often these issues are identified prior to the shipment of the products and may cause delays in shipping products to customers, or even the cancellation of orders by customers. Sometimes, we discover quality issues in the products after they have been shipped to our customers, requiring us to resolve such issues in a timely manner that is the least disruptive to our customers, particularly in light of the mission-critical nature of our communications products. Such pre-shipment and post-shipment quality issues can have legal, financial and reputational ramifications, including: (i) delays in the recognition of revenue, loss of revenue or future orders, (ii) customer-imposed penalties for failure to meet contractual requirements, (iii) increased costs associated with repairing or replacing products, and (iv) a negative impact on our goodwill and brand name reputation.

In some cases, if the quality issue affects the product's performance, safety or regulatory compliance, then such a “defective” product may need to be “stop-shipped” or recalled. Depending on the nature of the quality issue and the number of products in the field, it could cause us to incur substantial recall or corrective field action costs, in addition to the costs associated with the potential loss of future orders and the damage to our goodwill or brand reputation. In addition, we may be required, under certain customer contracts, to pay damages for failed performance that might exceed the revenue that we receive from the contracts. Recalls and field actions involving regulatory non-compliance could also result in fines and additional costs. Recalls and field actions could result in third-party litigation by persons or companies alleging harm or economic damage as a result of the use of the products.

We expect to continue to make strategic acquisitions of other companies or businesses and these acquisitions introduce significant risks and uncertainties, including risks related to integrating the acquired businesses and achieving benefits from the acquisitions.

In order to position ourselves to take advantage of growth opportunities or to meet other strategic needs such as product or technology gaps, we have made, and expect to continue to make, strategic acquisitions that involve significant risks and uncertainties. These risks and uncertainties include: (i) the difficulty or inability in integrating newly-acquired businesses and operations in an efficient and effective manner, (ii) risks associated with integrating financial reporting and internal control systems, (iii) the challenges in achieving strategic objectives, cost savings and other benefits from acquisitions, (iv) the risk that our contractual relationships or the markets do not evolve as anticipated and that the technologies acquired do not prove to be those needed to be successful in those markets, (v) the potential loss of key employees of the acquired businesses, (vi) the risk of diverting the attention of senior management from our operations, (vii) the risks of entering new markets in which we have limited experience, (viii) difficulties in integrating information technology systems and other business processes to accommodate the acquired businesses, (ix) challenges in integrating acquired businesses to create the operating platform for public safety and (x) future impairments of goodwill of an acquired business. In particular, failure to achieve targeted cost and revenue synergies could negatively impact our business performance.

Certain acquisition candidates in the industries in which we participate may carry higher relative valuations (based on revenues, earnings, cash flow, or other relevant multiples) than we do. This is particularly evident in software and certain services businesses. Acquiring a business that has a higher relative valuation than Motorola Solutions may be dilutive to our earnings. In addition, we may not pursue opportunities that are highly dilutive to near-term earnings.

Key employees of acquired businesses may receive substantial value in connection with a transaction in the form of cash payments for their ownership interest, particularly in the case of founders and other shareholder employees, or as a result of change-in-control agreements, acceleration of stock options and the lifting of restrictions on other equity-based compensation rights. To retain such employees and integrate the acquired business, we may offer additional retention incentives, but it may still be difficult to retain certain key employees.

We have completed a number of large divestitures over the last several years and have ongoing obligations and potential liabilities associated with those transactions and the businesses we divested. In addition, these divestitures have resulted in less diversity of our business and our customer base, which could negatively impact our financial results in the event of a downturn in our mission-critical communications business.

Over the last several years we have spun-off or sold a number of large businesses, including Motorola Mobility, our Networks business and our Enterprise business. In connection with our divestitures we typically remain liable for certain pre-closing liabilities associated with the divested business, such as pension liabilities, taxes, employment, environmental liabilities and litigation. In addition, although we often assign contracts associated with the divested business to a buyer in a divestiture, often that assignment will be subject to the consent of the contractual counterparty, which may not be obtained or may be conditioned, resulting in the company remaining liable under the contract. In connection with our divestitures we make representations and warranties and agree to covenants relating to the business divested. We remain liable for a period of time for breaches of representations, warranties and covenants and we also indemnify buyers in the event of such breaches and for other specific risks. Even though we establish reserves for any expected ongoing liability associated with divested businesses, those reserves may not be sufficient if unexpected liabilities arise and this could negatively impact our financial condition and future results of operations.

Because we are now singularly focused on mission-critical communications for public safety and commercial customers we have less diversity in our business and our customer base. A downturn in this business could have a greater negative impact on our financial results than when we were a more diversified communications provider.

We face many risks relating to intellectual property rights.

Our business will be harmed if: (i) we, our customers and/or our suppliers are found to have infringed intellectual property rights of third-parties, (ii) the intellectual property indemnities in our supplier agreements are inadequate to cover damages and losses due to infringement of third-party intellectual property rights by supplier products, (iii) we are required to provide broad intellectual property indemnities to our customers, (iv) our intellectual property protection is inadequate to protect against threats of misappropriation from internal or external sources or otherwise inadequate to protect our proprietary rights, or (v) our competitors negotiate significantly more favorable terms for licensed intellectual property. We may be harmed if we are forced to make publicly available, under the relevant open-source licenses, certain internally developed software-related intellectual property as a result of either our use of open-source software code or the use of third-party software that contains open-source code.

Since our products are comprised of complex technology, much of which we acquire from suppliers through the purchase of components or licensing of software, we are often involved in or impacted by assertions, including both requests for licenses and litigation, regarding patent and other intellectual property rights. Third-parties have asserted, and in the future may assert, intellectual property infringement claims against us and against our customers and suppliers. Many of these assertions are brought by non-practicing entities whose principle business model is to secure patent licensing-based revenue from product manufacturing companies. The patent holders often make broad and sweeping claims regarding the applicability of their patents to our products, seeking a percentage of sales as licenses fees, seeking injunctions to pressure us into taking a license, or a combination thereof. Defending claims may be expensive and divert the time and efforts of our management and employees. Increasingly, third-parties have sought broad injunctive relief which could limit our ability to sell our products in the U.S. or elsewhere with intellectual property subject to the claims. If we do not succeed in any such litigation, we could be required to expend significant resources to pay damages, develop non-infringing products or to obtain licenses to the intellectual property that is the subject of such litigation, each of which could have a negative impact on our financial results. However, we cannot be certain that any such licenses, if available at all, will be available to us on commercially reasonable terms. In some cases, we might be forced to stop delivering certain products if we or our customer or supplier are subject to a final injunction.

We attempt to negotiate favorable intellectual property indemnities with our suppliers for infringement of third-party intellectual property rights. However, there is no assurance that we will be successful in our negotiations or that a supplier's indemnity will cover all damages and losses suffered by us and our customers due to the infringing products or that a supplier will choose to accept a license or modify or replace its products with non-infringing products which would otherwise mitigate such damages and losses. Further, we may not be able to participate in intellectual property litigation involving a supplier and may not be able to influence any ultimate resolution or outcome that may negatively impact our sales if a court enters an injunction that enjoins the supplier's products or if the International Trade Commission issues an exclusionary order that blocks our products from importation into the U.S. Intellectual property disputes involving our suppliers have resulted in our involvement in International Trade Commission proceedings from time to time. These proceedings are costly and entail the risk that we will be subjected to a ban on the importation of our products into the U.S. solely as a result of our use of a supplier's components.

In addition, our customers increasingly demand that we indemnify them broadly from all damages and losses resulting from intellectual property litigation against them. These demands stem from the increasing trend of the non-practicing entities that engage in patent enforcement and litigation targeting the end users of our products. End users are targeted so the non-practicing entities can seek royalties and litigation judgments in proportion to the value of the use of our products, rather than in proportion to the cost of our products. Such demands can amount to many times the selling price of our products.

Our patent and other intellectual property rights are important competitive tools and may generate income under license agreements. We regard our intellectual property as proprietary and attempt to protect it with patents, copyrights, trademarks, trade secret laws, confidentiality agreements and other methods. We also generally restrict access to and distribution of our proprietary information. Despite these precautions, it may be possible for a third-party to obtain and use our proprietary information or develop similar technology independently. In addition, effective patent, copyright, trademark and trade secret protection may be unavailable or limited in certain foreign countries. Unauthorized use of our intellectual property rights by third-parties and the cost of any litigation necessary to enforce our intellectual property rights could have a negative impact on our financial results.

As we expand our business, including through acquisitions, and compete with new competitors in new markets, the breadth and strength of our intellectual property portfolio in those new markets may not be as developed as in our longer-standing businesses. This may expose us to a heightened risk of litigation and other challenges from competitors in these new markets. Further, competitors may be able to negotiate significantly more favorable terms for licensed intellectual property than we are able to, which puts them at a competitive advantage.

We may not have the ability to settle the principal amount of the $1 billion of 2% Senior Convertible Notes (the "Senior Convertible Notes") in cash in the event of conversion or to repurchase the Senior Convertible Notes upon the occurrence of a fundamental change, which could have a material effect on our reported financial results.

Our Senior Convertible Notes are convertible any time. In the event of conversion, the Company currently intends to settle the principal amount of the Senior Convertible Notes in cash.

Under certain circumstances, convertible debt instruments (such as the Senior Convertible Notes) that may be settled entirely or partially in cash are evaluated for their impact on earnings per share utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the Senior Convertible Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Senior Convertible Notes exceeds their principal amount. Under the treasury stock method the number of shares outstanding for purposes of calculating diluted earnings per share includes the number of shares that would be required to settle the excess of the conversion value of the Senior Convertible Notes, if any, over the principal amounts of the Senior Convertible Notes (which would be settled in cash). The conversion value of the Senior Convertible Notes will exceed the principal amount of the notes to the extent the trading price of a share of our stock exceeds the effective conversion price as of the conversion date.

If we do not have adequate cash available, either from cash on hand, funds generated from operations or existing financing arrangements, or we cannot obtain additional financing arrangements, we may not be able to settle the principal amount of the Senior Convertible Notes in cash and, in the case of settlement of conversion elections, will be required to settle the principal amount of the Senior Convertible Notes in stock. If we settle any portion of the principal amount of the Senior Convertible Notes in stock, it will result in immediate, and possibly material, dilution to the interests of existing security holders.

Following any conclusion that we no longer have the ability to settle the Senior Convertible Notes in cash, we will be required on a going forward basis to change our accounting policy for earnings per share from the treasury stock method to the if-converted method. Earnings per share will most likely be significantly lower under the if-converted method as compared to the treasury stock method.

Our ability to repurchase the Senior Convertible Notes in cash upon the occurrence of a fundamental change or make any other required payments may be limited by law or the terms of other agreements relating to our indebtedness outstanding at the time. Our failure to repurchase the Senior Convertible Notes when required would result in an event of default with respect to the Senior Convertible Notes and may constitute an event of default or prepayment under, or result in the acceleration of the maturity of, our then-existing indebtedness.

Tax matters could have a negative impact on our financial condition and results of operations.

We are subject to income taxes in the U.S. and numerous foreign tax jurisdictions. Our provision for income taxes and cash tax liability may be negatively impacted by: (i) changes in the mix of earnings taxable in jurisdictions with different statutory tax rates, (ii) changes in tax laws and accounting principles, (iii) changes in the valuation of our deferred tax assets and liabilities, (iv) failure to meet commitments under tax incentive agreements, (v) discovery of new information during the course of tax return preparation, (vi) increases in nondeductible expenses, or (vii) difficulties in repatriating cash held abroad in a tax-efficient manner.

As of December 22, 2017 the U.S. enacted wide-sweeping tax law changes that will impact our provision for income taxes. Certain provisions included in the legislation, primarily related to the taxation of non-U.S. income, do not contain sufficient details for us to determine the specific financial impact on the Company in future years. The future guidance or interpretations of the new law could result in an increase to our U.S. tax liability and a resulting negative impact on our future operating results.

Tax audits may also negatively impact our business, financial condition and results of operations. We are subject to continued examination of our income tax returns, and tax authorities may disagree with our tax positions and assess additional tax. We regularly evaluate the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuing examinations will not have a negative impact on our future financial condition and operating results.

Certain tax policy efforts, including the Organisation for Economic Co-operation and Development's ("OECD") Base Erosion and Profit Shifting ("BEPS") Project, the European Commission's state aid investigations, and other initiatives could have an adverse effect on the taxation of international businesses. Furthermore, many of the countries where we are subject to taxes, including the United States, are independently evaluating their tax policy and we may see significant changes in legislation and regulations concerning taxation. Certain countries have already enacted legislation which could affect international businesses, and other countries have become more aggressive in their approach to audits and enforcement of their applicable tax laws. Such changes, to the extent they are brought into tax legislation, regulations, policies, or practices, could increase our effective tax rates in many of the countries where we have operations and have an adverse effect on our overall tax rate, along with increasing the complexity, burden and cost of tax compliance, all of which could impact our operating results, cash flows and financial condition.

Our success depends in part upon our ability to attract, retain and prepare succession plans for senior management and key employees.

The performance of our CEO, senior management and other key employees is critical to our success. If we are unable to retain talented, highly qualified senior management and other key employees or attract them when needed, it could negatively impact our business. We rely on the experience of our senior management, most of whom have been with the Company for many years and as a result have specific knowledge relating to us and our industry that is difficult to replace and competition for management with experience in the communications industry is intense. A loss of the CEO, a member of senior management or key employee particularly to a competitor could also place us at a competitive disadvantage. Further, if we fail to adequately plan for the succession of our CEO, senior management and other key employees, our business could be negatively impacted.

It may be difficult for us to recruit and retain the types of engineers and other highly-skilled employees that are necessary to remain competitive and layoffs of such skilled employees as a result of divestitures, restructuring activities or cost reductions may benefit our competitors.

Competition for key technical personnel in high-technology industries is intense. As we expand our solutions and services business, we now have increased demand for technical personnel in areas like software development, which is an area of particularly high demand for skilled employees. We believe that our future success depends in large part on our continued ability to hire, assimilate, retain and leverage the skills of qualified engineers and other highly-skilled personnel needed to develop successful new products or services. We may not be as successful as our competitors at recruiting, assimilating, retaining and utilizing these highly-skilled personnel, which could have a negative impact on our business. In addition, as we have divested businesses and restructured our operations we have, in some cases, had to layoff engineers and other highly skilled employees. If these employees were to go to work for our competitors it could have a negative impact on our business.

Returns on pension and retirement plan assets and interest rate changes could affect our earnings and cash flows in future periods.

Although we engaged in pension de-risking activities in 2014, we continue to have large underfunded pension obligations, in part resulting from the fact that we retained almost all of the U.S. pension liabilities and a major portion of our non-U.S. pension liabilities following our divestitures, including the distribution of Motorola Mobility, the sale of our Networks business and the sale of our Enterprise business. The funding position of our pension plans is affected by the performance of the financial markets, particularly the equity and debt markets, and the interest rates used to calculate our pension obligations for funding and expense purposes. Minimum annual pension contributions are determined by government regulations and calculated based upon our pension funding status, interest rates, and other factors. If the financial markets perform poorly, we have been and could be required to make additional large contributions. The equity and debt markets can be volatile, and therefore our estimate of future contribution requirements can change dramatically in relatively short periods of time. Similarly, changes in interest rates can affect our contribution requirements. In volatile capital market environments, the uncertainty of material changes in future minimum required contributions increases.

Changes in our operations or sales outside the U.S. markets could result in lost benefits in impacted countries and increase our cost of doing business.

We have entered into various agreements with non-U.S. governments, agencies or similar organizations under which we receive certain benefits relating to its operations and/or sales in the jurisdiction. If our circumstances change, and operations or sales are not at levels originally anticipated, we may be at risk of having to reimburse benefits already granted, and losing some or all of these benefits and increasing our cost of doing business.

We transferred a significant portfolio of intellectual property rights, including patents, to Motorola Mobility and Zebra and we are unable to leverage these intellectual property rights as we did prior to the distribution of Motorola Mobility or the sale of our Enterprise business.

We contributed approximately 17,200 granted patents and approximately 8,000 pending patent applications worldwide to Motorola Mobility in connection with the distribution. We also transferred approximately 2,700 granted patents and approximately 800 pending patent applications to Zebra in connection with the sale of the Enterprise business. Although we have a worldwide, perpetual, royalty-free license to these patents and other intellectual property rights, we no longer own them. As a result we are unable to leverage these intellectual property rights for purposes of generating licensing revenue or entering into favorable licensing arrangements with third-parties. As a result we may incur increased license fees or litigation costs. Although we cannot predict the extent of such unanticipated costs, it is possible such costs could negatively impact our financial results.

We are subject to a wide range of product regulatory and safety, consumer, worker safety and environmental laws that continue to expand and could impact our ability to grow our business, could subject us to unexpected costs and liabilities and could impact our financial performance.

Our operations and the products we manufacture and/or sell are subject to a wide range of product regulatory and safety, consumer, worker safety and environmental laws. Compliance with such existing or future laws could subject us to future costs or liabilities, impact our production capabilities, constrict our ability to sell, expand or acquire facilities, restrict what products and services we can offer, and generally impact our financial performance. Some of these laws are environmental and relate to the use, disposal, clean up of, and exposure to certain substances. For example, in the U.S., laws often require parties to fund remedial studies or actions regardless of fault and often times in response to action or omissions that were legal at the time they occurred. We continue to incur disposal costs and have ongoing remediation obligations. Changes to environmental laws or our discovery of additional obligations under these laws could have a negative impact on our financial performance.

Laws focused on: (i) the energy efficiency of electronic products and accessories, (ii) recycling of both electronic products and packaging, (iii) reducing or eliminating certain hazardous substances in electronic products, and (iv) the transportation of batteries continue to expand significantly. Laws pertaining to accessibility features of electronic products, standardization of connectors and power supplies, the transportation of lithium-ion batteries and other aspects of our products are also proliferating. There are also demanding and rapidly changing laws around the globe related to issues such as product safety, radio interference, radio frequency radiation exposure, medical related functionality, and consumer and social mandates pertaining to use of wireless or electronic equipment. These laws, and changes to these laws, could have a substantial impact on whether we can offer certain products, solutions and services, on product costs, and on what capabilities and characteristics our products or services can or must include.

These laws could impact our products and negatively affect our ability to manufacture and sell products competitively. We expect these trends to continue. In addition, we anticipate that we will see increased demand to meet voluntary criteria related to reduction or elimination of certain constituents from products, increasing energy efficiency, and providing additional accessibility.

We may be unable to obtain components and parts that are verified to be Democratic Republic of Congo ("DRC") Conflict Free, which could result in reputational damage if we disclose that our products include minerals that have been identified as “not found to be DRC conflict free” or if we disclose that we are unable to determine whether such minerals are included in our products.

The Dodd-Frank Wall Street Reform and Consumer Protection Act included disclosure requirements regarding the use of tin, tantalum, tungsten and gold (which are defined as “conflict minerals”) in our products and if the origin of these materials were from the DRC or an adjoining country. If the minerals originated from the DRC or an adjoining country then a company must disclose the measures it has taken to exercise due diligence and chain of custody to prevent the sourcing of such minerals that have been found to be financing conflict in the DRC. There is a limited pool of suppliers who can provide verifiable DRC Conflict Free components and parts, particularly since our supply chain is complex. As a result, we may be required to publicly disclose that we are not currently able to determine if the products we manufactured in 2017 are DRC Conflict Free. For future reporting years, if the industry systems that we are relying on are not mature enough for us to make a definitive Conflict Free determination, we may have to declare our products as “not found to be DRC conflict free,” or such other definitional standard as determined by the SEC and/or the judicial system and we may face reputational challenges with our customers, other stockholders and the activist community as a result. In addition, the European Union has passed conflict minerals legislation which may have an impact on our reporting obligations and compliance programs in Europe.

Any system or network disruption could have negative impact on our operations, sales and operating results.

We rely extensively on our information systems to manage our business operations. Our systems are subject to damage or interruption from various sources, including power outages, computer and telecommunications failures, computer viruses, cyber security breaches, vandalism, severe weather conditions, catastrophic events, terrorism, and human error, and our disaster recovery planning cannot account for all eventualities. If our systems are damaged, fail to function properly, or otherwise become compromised or unavailable, we may incur substantial costs to repair or replace them, and we may experience loss of critical data and interruptions or delays in our ability to perform critical functions, which could adversely affect our business and operating results. We also currently rely on a number of older legacy information systems that are harder to maintain and that we now have fewer resources to maintain since implementing our new ERP system. A system failure could negatively impact our operations and financial results. In addition, as we have outsourced more of our business operations we have increased our dependence on the IT systems of our outsourced business partners which are not under our direct management or control. Any disruption to either those outsourced systems or the communication links between Motorola Solutions and the outsourced supplier, may negatively impact our ability to manufacture, distribute, or repair products. We may incur additional costs to remedy the damages caused by these disruptions.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

Motorola Solutions' principal executive offices are located at 500 W. Monroe Street, Chicago, Illinois 60661. Motorola Solutions also operates manufacturing facilities and sales offices in other U.S. locations and in many other countries.

As of December 31, 2017, we: (i) owned 2 facilities (manufacturing and office), both of which were located in Europe, (ii) leased 203 facilities, 105 of which were located in North America and South America and 98 of which were located in other countries and (iii) primarily utilized three major facilities for the manufacturing and distribution of our products, located in: Penang, Malaysia; Elgin, Illinois; and Berlin, Germany. Motorola Solutions sold its Penang, Malaysia facility and manufacturing operations to Sanmina Corporation ("Sanmina") on February 1, 2016.

We generally consider the productive capacity of our manufacturing facilities to be adequate and sufficient for our requirements. The extent of utilization of each manufacturing facility varies throughout the year.

In 2017, approximately 35% of our products were manufactured in Illinois and approximately 60% of our products were manufactured in Penang. We rely on third-party providers in order to enhance our ability to lower costs and deliver products that meet demand. If manufacturing in Malaysia or Illinois were disrupted, our overall productive capacity could be significantly reduced.

Item 3: Legal Proceedings

We are a defendant in various lawsuits, claims, and actions, which arise in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on our consolidated financial position, liquidity, or results of operations. However, an unfavorable resolution could have a material adverse effect on our consolidated financial position, liquidity, or results of operations in the periods in which the matters are ultimately resolved, or in the periods in which more information is obtained that changes management's opinion of the ultimate disposition.

Item 4: Mine Safety Disclosures

Not applicable.

Executive Officers of the Registrant

The following are the persons who were the executive officers of Motorola Solutions, their ages, and their current titles as of February 16, 2018 and the positions they have held during the last five years with the Company:

Gregory Q. Brown; age 57; Chairman and Chief Executive Officer since May 3, 2011.

Gino A. Bonanotte; age 53; Executive Vice President and Chief Financial Officer since November 13, 2013; Corporate Vice President and Acting Chief Financial Officer from August 2013 to November 2013; and Corporate Vice President, Finance, Sales and Field Operations, from October 2012 to August 2013.

Bruce W. Brda; age 55; Executive Vice President, Products and Solutions since July 24, 2017; Executive Vice President, Products & Services from January 2016 to July 2017; Executive Vice President, Systems & Products from May 2015 to January 2016; Senior Vice President, Systems & Products from December 2014 to May 2015; Senior Vice President, Government Solutions from March 2014 to December 2014; and Senior Vice President, Global Solutions & Services from January 2013 to March 2014.

Mark S. Hacker; age 46; Executive Vice President, General Counsel and Chief Administrative Officer since January 21, 2015; Senior Vice President and General Counsel from June 2013 to January 2015; and Corporate Vice President, Law, Sales and Product Operations, International and Legal Operations from January 2013 to June 2013.

John P. "Jack" Molloy; age 46; Executive Vice President, Worldwide Sales and Services since July 24, 2017; Executive Vice President, Worldwide Sales from January 2016 to July 2017; Executive Vice President, Americas Sales & Services from November 2015 to January 2016; Senior Vice President, The Americas Sales & Marketing from September 2015 to November 2015; Senior Vice President, North America Sales from January 2014 to August 2015; Corporate Vice President, Central US & Canada and NA Energy Market from January 2013 to December 2013.

John K. Wozniak; age 46; Corporate Vice President and Chief Accounting Officer since November 3, 2009.

The above executive officers will serve as executive officers of Motorola Solutions until the regular meeting of the Board of Directors in May 2018 or until their respective successors are elected. There is no family relationship between any of the executive officers listed above.

PART II

Item 5: Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Motorola Solutions' common stock is listed on the New York Stock Exchange. The number of stockholders of record of its common stock on February 2, 2018 was 28,697.

Information regarding securities authorized for issuance under equity compensation plans is incorporated by reference to the information under the caption "Equity Compensation Plan Information" of Motorola Solutions' Proxy Statement for the 2018 Annual Meeting of Stockholders. The remainder of the response to this Item incorporates by reference Note 16, "Quarterly and Other Financial Data (unaudited)" of the Notes to Consolidated Financial Statements appearing under "Item 8: Financial Statements and Supplementary Data."

The following table provides information with respect to acquisitions by the Company of shares of its common stock during the quarter ended December 31, 2017.

ISSUER PURCHASES OF EQUITY SECURITIES

Period	*(a) Total Number of Shares Purchased*	*(b) Average Price Paid per Share* (1)	*(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program* (2)	*(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Program* (2)
09/28/17 to 10/25/17	—	N/A	—	$ 1,833,468,345
10/26/17 to 11/22/17	749,423	$ 91.59	749,423	$ 1,770,826,834
11/23/17 to 12/27/17	610,029	$ 92.39	610,029	$ 1,708,468,411
Total	1,359,452	$ 91.95	1,359,452	

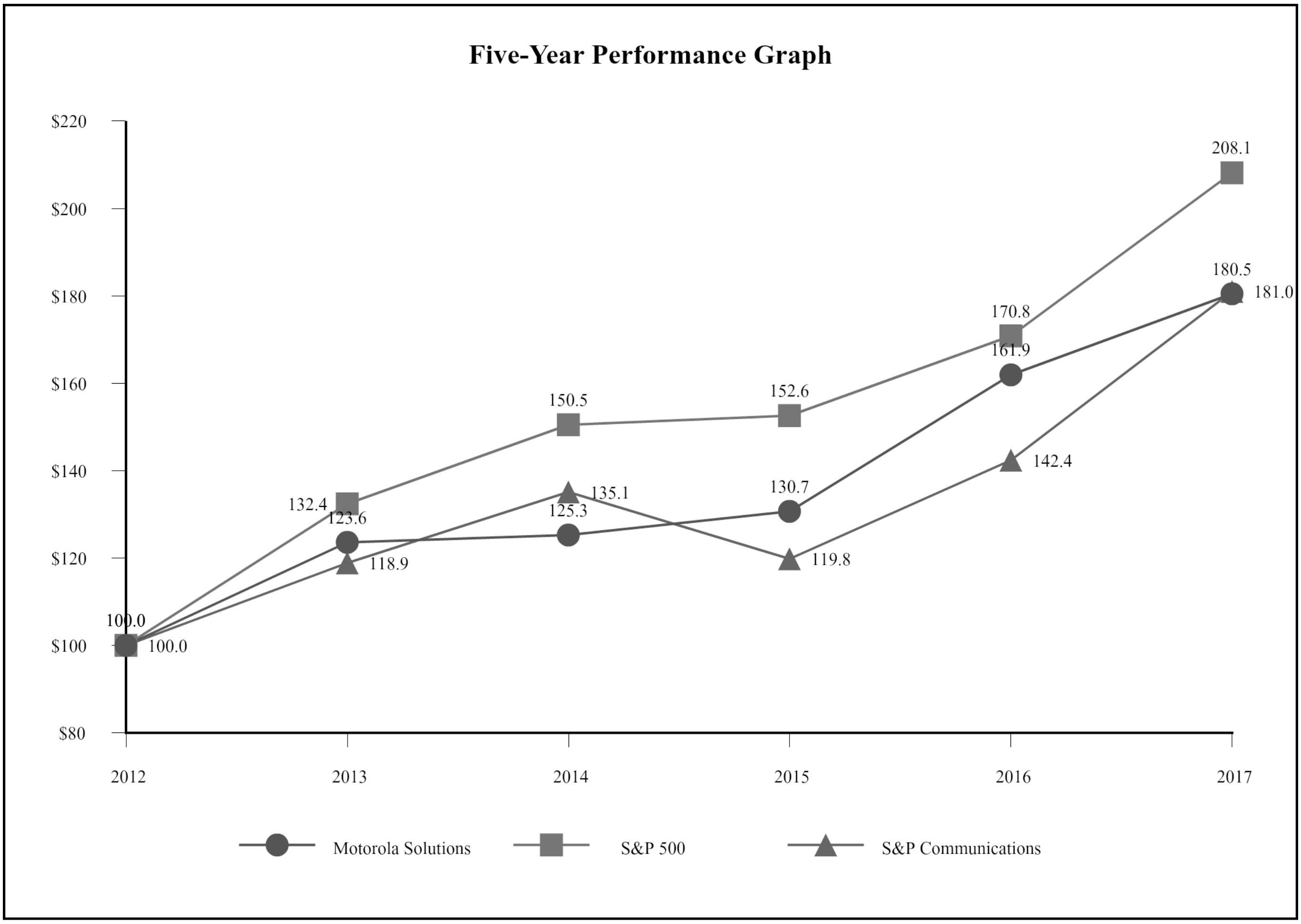
(1) Average price paid per share of common stock repurchased is the execution price, including commissions paid to brokers.

(2) Through a series of actions, the Board of Directors has authorized the Company to repurchase an aggregate amount of up to $14.0 billion of its outstanding shares of common stock (the "share repurchase program"). The share repurchase program does not have an expiration date. As of December 31, 2017, the Company had used approximately $12.3 billion, including transaction costs, to repurchase shares.

PERFORMANCE GRAPH

The following graph compares the five-year cumulative total returns of Motorola Solutions, Inc., the S&P 500 Index and the S&P Communications Equipment Index.

This graph assumes $100 was invested in the stock or the indices on December 31, 2012 and reflects the payment of dividends.



Item 6: Selected Financial Data

	Years Ended December 31				
(In millions, except per share amounts)	**2017**	2016	2015	2014	2013
Operating Results					
Net sales	**$ 6,380**	$ 6,038	$ 5,695	$ 5,881	$ 6,227
Operating earnings (loss)	**1,282**	1,067	994	(1,006)	947
Earnings (loss) from continuing operations, net of tax*	**(155)**	560	640	(697)	933
Per Share Data (in dollars)					
Diluted earnings (loss) from continuing operations per common share*	**$ (0.95)**	$ 3.24	$ 3.17	$ (2.84)	$ 3.45
Earnings (loss) per diluted common share*	**(0.95)**	3.24	3.02	5.29	4.06
Diluted weighted average common shares outstanding (in millions)	**162.9**	173.1	201.8	245.6	270.5
Dividends declared per share	**$ 1.93**	$ 1.70	$ 1.43	$ 1.30	$ 1.14
Balance Sheet					
Total assets	**$ 8,208**	$ 8,463	$ 8,346	$ 10,423	$ 11,851
Total debt	**4,471**	4,396	4,349	3,400	2,461
Other Data					
Capital expenditures	**$ 227**	$ 271	$ 175	$ 181	$ 169
% of sales	**3.6%**	4.5%	3.1%	3.1%	2.7%
Research and development expenditures	**$ 568**	$ 553	$ 620	$ 681	$ 761
% of sales	**8.9%**	9.2%	10.9%	11.6%	12.2%

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations

The following is a discussion and analysis of our financial position as of December 31, 2017 and 2016 and results of operations for each of the three years in the period ended December 31, 2017. This commentary should be read in conjunction with our consolidated financial statements and the notes thereto appearing under "Item 8: Financial Statements and Supplementary Data."

Executive Overview

Our Business

We are a leading global provider of mission-critical communication infrastructure, devices, accessories, software, and services. Our products and services help government, public safety, and commercial customers improve their operations through increased effectiveness, efficiency, and safety of their mobile workforces. We serve our customers with a global footprint of sales in more than 100 countries and 15,000 employees worldwide based on our industry leading innovation and a deep portfolio of products and services.

We conduct our business globally and manage it by two segments:

Products: The Products segment is comprised of Devices and Systems. Devices includes two-way portable and vehicle mounted radios, accessories, and software features and upgrades. Systems includes the radio network core and central processing software, base stations, consoles, repeaters, and software applications and features. The primary customers of the Products segment are government, public safety and first-responder agencies, municipalities, and commercial and industrial customers who operate private communications networks and manage a mobile workforce. In 2017, the segment's net sales were $3.8 billion, representing 59% of our consolidated net sales.

Services: The Services segment provides a full set of service offerings for government, public safety, and commercial communication networks including: (i) Integration services, (ii) Managed & Support services, and (iii) iDEN services. Integration services includes the implementation, optimization, and integration of systems, devices, software, and applications. Managed & Support services includes a continuum of service offerings beginning with repair, technical support, and hardware maintenance. More advanced offerings include network monitoring, software maintenance, and cyber security services. Managed service offerings range from partial or full operation of customer owned networks to operation of Motorola Solutions owned networks. Services and SaaS offerings are provided across all radio network technologies, Command Center Consoles, and Smart Public Safety Solutions. iDEN services consists primarily of hardware and software maintenance services for our legacy iDEN customers. In 2017, the segment's net sales were $2.6 billion, representing 41% of our consolidated net sales.

Trends Affecting Our Business

Impact of Macroeconomic Conditions: The stronger U.S. dollar and weakening economic conditions had a negative impact on sales throughout 2015 and 2016, particularly in Latin America, parts of Europe, and China. During that time, the strengthening dollar reduced the purchasing power of our customers, and economic challenges negatively impacted government and commercial budgets in these regions. While economic conditions in parts of the world stabilized in 2017 in contrast to the prior year, we expect continued political and economic uncertainty, in particular with the United Kingdom's planned exit from the European Union (commonly referred to as "Brexit"), and in parts of Latin America and Europe.

Focus on Managed & Support Services and Software: Services continues to grow at a faster rate than the Products segment, driven by acquisitions as well as growth in Managed & Support services absent of acquisitions. While Services generally have lower gross margins than our Products segment, we expect revenue growth will continue to drive operating margin expansion. During the year ended December 31, 2017, our Services segment grew by 9%.

In addition, we continue to invest in software through internal development and strategic acquisitions, as our customers increasingly demand expanded technology solutions that are delivered via software and related services. This includes mobile applications and software in the Command Center that provide enhanced capabilities such as analytics and predictive intelligence. In some cases, government funding or mandates help drive this software expansion, such as Next Generation 9-1-1 funding in the United States, and Public Safety LTE investment in the United States, United Kingdom, and other countries. This evolving trend provides a growth opportunity for us.

Recent Developments

On February 1, 2018, we announced our intention to purchase Avigilon Corporation, a provider of advanced end-to-end security and surveillance solutions including video analytics, network video management hardware and software, surveillance cameras and access control solutions for a purchase price of approximately $1.3 billion Canadian dollars. The acquisition is expected to be completed in the second quarter of 2018.

On July 28, 2017, we announced our intention to purchase Plant Holdings, Inc., the parent company of Airbus DS Communications. This acquisition will expand our software portfolio in the Command Center with additional solutions for Next Generation 9-1-1. The acquisition is expected to be completed in the first quarter of 2018.

Recent Changes to U.S. Tax Law

On December 22, 2017, the U.S. Tax Cuts and Jobs Act (the “Tax Act”) was enacted into law. The Tax Act contains broad and complex provisions including, but not limited to: (i) the reduction of corporate income tax rate from 35% to 21%, (ii) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, (iii) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries, (iv) modifying limitation on excessive employee remuneration, (v) requiring current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations, (vi) repeal of corporate alternative minimum tax (“AMT”) and changing how AMT credits can be realized, (vii) creating a new minimum tax, (viii) creating a new limitation on deductible interest expense, (ix) changing rules related to uses and limitations of net operating loss carryforwards and foreign tax credits created in tax years beginning after December 31, 2017, and (x) eliminating the deduction for income attributable to domestic production activities.

As required under U.S. GAAP, the effects of tax law changes are recognized in the period of enactment. Accordingly, we have recorded incremental income tax expense in the amount of $874 million associated with the Tax Act during the year ended December 31, 2017.

Change in Presentation

During the first quarter of 2017, we restructured our regions to combine the North America and Latin America regions into one region which is now reflected as the Americas. Accordingly, we now report net sales in the following three geographic regions: the Americas, Europe, Middle East and Africa ("EMEA"), and Asia Pacific ("AP"). We have updated all periods presented to reflect this change in presentation.

2017 financial results

- Ended 2017 with a record backlog position of $9.6 billion, up 15% compared to 2016
- Net sales were $6.4 billion in 2017 compared to $6.0 billion in 2016 and grew in every region
- Operating earnings were $1.3 billion in 2017, compared to $1.1 billion in 2016
- Recorded an $874 million tax expense due to U.S. tax reform
- Loss from continuing operations was $155 million, or $0.95 per diluted common share in 2017, compared to earnings of $560 million, or $3.24 per diluted common share in 2016
- Operating cash flow increased $181 million to $1.3 billion in 2017
- Returned $790 million of capital in the form of $483 million in share repurchases and $307 million in dividends in 2017 and invested $298 million in acquisitions
- Increased our quarterly dividend by 11% to $0.52 per share in November 2017

Financial results for our two segments in 2017

- In the Products segment, net sales were $3.8 billion in 2017, an increase of $123 million, or 3%, compared to $3.6 billion in 2016. On a geographic basis, net sales increased in every region, compared to 2016. Operating earnings were $914 million in 2017, compared to $734 million in 2016. Operating margin increased in 2017 to 24.2% from 20.1% in 2016.
- In the Services segment, net sales were $2.6 billion in 2017, an increase of $219 million, or 9%, compared to $2.4 billion in 2016. On a geographic basis, net sales increased in every region, compared to 2016. Managed & Support services grew 12% primarily driven by the acquisitions of Airwave, Spillman Technologies, Interexport and Kodiak Networks. Operating earnings were $368 million in 2017, compared to $333 million in 2016. Operating margin increased in 2017 to 14.1% from 13.9% in 2016.

Looking Forward

Entering 2018, we believe we are well-positioned to compete moving forward. We have a broad, compelling products and services portfolio specifically tailored for our mission-critical communications customer base that spans many layers of governments, public safety, and first responders, as well as commercial and industrial customers in a number of key verticals. As we add new products, features, and software upgrades, we ensure our solutions are interoperable and backward-compatible, enabling customers to confidently invest for their future needs while allowing them to utilize their prior investment in our technology.

Supplementing our traditional core business is our investment in our Managed & Support services business and software solutions in the Command Center. As communication networks have become increasingly complex, software-centric, and data-driven, we have shifted our offerings to align with this technology trend in serving our customers. We expect to continue to see growing demand for our Managed & Support services going forward. These services offerings help customers manage, support, and upgrade their networks as well as utilize features, applications, and data in new ways, including predictive policing, proactive support, or smarter response strategies. We expect our overall revenue mix to continue to shift towards software and services over time. We expanded our software solutions and services portfolios in 2017 with the acquisitions of Kodiak Networks and Interexport, respectively.

Another key technology trend complementing our existing business is the expanded use of broadband LTE by our customers. We have been proactively investing in next-generation public safety broadband solutions for years, as we believe public safety LTE solutions are the next-generation tool for our public safety first-responder customers. We believe our expertise in both public and private networks makes us uniquely qualified to provide these public safety broadband solutions to this customer base. We have now won the four largest public safety LTE network installations awarded to date and expect LTE sales to represent a larger portion of our revenue in the coming years.

We remain committed to driving shareholder value with revenue growth, operating leverage, cash flow generation, and efficient capital deployment. Our framework for efficient capital deployment of cash flow from operations consists of approximately: (i) 50% for acquisitions or share repurchases, (ii) 30% for dividends, and (iii) 20% for investments in the business through capital expenditures. We expect to continue a balanced approach in allocating capital through this framework. Our share repurchase program has approximately $1.7 billion of authority available as of December 31, 2017.

Results of Operations

	Years ended December 31								
(Dollars in millions, except per share amounts)		**2017**	***% of Sales *****		2016	*% of Sales ***		2015	*% of Sales ***
Net sales from products	**$**	**3,772**		$	3,649		$	3,676	
Net sales from services		**2,608**			2,389			2,019	
Net sales		**6,380**			6,038			5,695	
Costs of product sales		**1,686**	**44.7 %**		1,649	45.2 %		1,625	44.2 %
Costs of services sales		**1,670**	**64.0 %**		1,520	63.6 %		1,351	66.9 %
Costs of sales		**3,356**	**52.6 %**		3,169	52.5 %		2,976	52.3 %
Gross margin		**3,024**	**47.4 %**		2,869	47.5 %		2,719	47.7 %
Selling, general and administrative expenses		**979**	**15.3 %**		1,000	16.6 %		1,021	17.9 %
Research and development expenditures		**568**	**8.9 %**		553	9.2 %		620	10.9 %
Other charges		**195**	**3.1 %**		249	4.1 %		84	1.5 %
Operating earnings		**1,282**	**20.1 %**		1,067	17.7 %		994	17.5 %
Other income (expense):									
Interest expense, net		**(201)**	**(3.2)%**		(205)	(3.4)%		(173)	(3.0)%
Gains (losses) on sales of investments and businesses, net		**3**	**— %**		(6)	(0.1)%		107	1.9 %
Other		**(8)**	**(0.1)%**		(12)	(0.2)%		(11)	(0.2)%
Total other expense		**(206)**	**(3.2)%**		(223)	(3.7)%		(77)	(1.4)%
Earnings from continuing operations before income taxes		**1,076**	**16.9 %**		844	14.0 %		917	16.1 %
Income tax expense		**1,227**	**19.2 %**		282	4.7 %		274	4.8 %
Earnings (loss) from continuing operations		**(151)**	**(2.4)%**		562	9.3 %		643	11.3 %
Less: Earnings attributable to noncontrolling interests		**4**	**0.1 %**		2	— %		3	0.1 %
Earnings (loss) from continuing operations*		**(155)**	**(2.4)%**		560	9.3 %		640	11.2 %
Loss from discontinued operations, net of tax		**—**	**— %**		—	— %		(30)	(0.5)%
Net earnings (loss)*	**$**	**(155)**	**(2.4)%**	$	560	9.3 %	$	610	10.7 %
Earnings (loss) per diluted common share*:									
Continuing operations	**$**	**(0.95)**		$	3.24		$	3.17	
Discontinued operations		**—**			—			(0.15)	
Earnings per diluted common share*	**$**	**(0.95)**		$	3.24		$	3.02	

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

** Percentages may not add due to rounding.

Geographic Market Sales by Locale of End Customer

	2017	2016	2015
Americas	**68%**	68%	71%
EMEA	**21%**	21%	17%
AP	**11%**	11%	12%
	100%	100%	100%

Results of Operations—2017 Compared to 2016

Net Sales

Net sales were $6.4 billion in 2017, up $342 million, or 6%, compared to $6.0 billion in 2016, reflecting solid demand across the globe for our products and services. The increase in net sales is reflective of Products and Services growth in every region. Within the Products segment, Systems net sales increased in the Americas, while Devices net sales increased in every region. Services net sales increased, driven by the acquisitions of Airwave, Interexport, Spillman Technologies and Kodiak Networks and growth in Managed & Support and Integration services, absent of acquisitions.

Gross Margin

Gross margin was $3.0 billion, or 47.4% of net sales in 2017, compared to $2.9 billion, or 47.5% of net sales in 2016.

Selling, General and Administrative Expenses

SG&A expenses decreased 2% to $979 million, or 15.3% of net sales in 2017, compared to $1.0 billion, or 16.6% of net sales in 2016. The decrease in SG&A expenditures is primarily due to cost saving initiatives, partially offset by expenses associated with acquired businesses.

Research and Development Expenditures

R&D expenditures increased 3% to $568 million, or 8.9% of net sales in 2017, compared to $553 million, or 9.2% of net sales in 2016. The increase in R&D expenditures is primarily due to increased expenses associated with acquired businesses.

Other Charges

We recorded net other charges of $195 million in 2017, compared to net charges of $249 million in 2016. The charges in 2017 included: (i) $151 million of charges relating to the amortization of intangibles, (ii) $48 million of losses on settlements within a non-U.S. pension plan, (iii) $33 million of net reorganization of business charges, (iv) $9 million of asset impairments, and (v) $1 million of charges for acquisition related transaction fees, partially offset by a $47 million gain on legal settlements. The charges in 2016 included: (i) $113 million of charges relating to the amortization of intangibles, (ii) $97 million of net reorganization of business charges, including a $17 million building impairment and a $3 million impairment of our corporate aircraft, (iii) $26 million of losses on settlements within a non-U.S. pension plan, and (iv) $13 million of transaction fees on the acquisition of Airwave. The net reorganization of business charges are discussed in further detail in the “Reorganization of Businesses” section.

Net Interest Expense

Net interest expense was $201 million in 2017 compared to $205 million in 2016. The decrease in net interest expense in 2017 compared to 2016 was a result of lower outstanding debt throughout 2017, due to the $675 million term loan outstanding throughout 2016, which was repaid at the end of 2016.

Gains (losses) on Sales of Investments and Businesses, net

Net gains on sales of investments and businesses were $3 million in 2017, compared to net losses on sales of investments and businesses of $6 million in 2016. The net gains in 2017 were primarily related to the sales of various equity investments. The net losses in 2016 consisted primarily of a $19 million loss on the sale of an investment in United Kingdom treasury securities and a $7 million loss from the sale of our Malaysia manufacturing operations, partially offset by $20 million of gains on the sales of equity investments.

Other

Net Other expense was $8 million in 2017, compared to $12 million in 2016. The net Other expense in 2017 was primarily comprised of a $31 million foreign currency loss, partially offset by: (i) a $15 million gain on derivative instruments, (ii) $7 million of other non-operating gains and (iii) a $1 million gain on equity method investments. The net Other expense in 2016 was primarily comprised of: (i) a $56 million loss on derivative instruments, (ii) a $10 million foreign currency loss on currency purchased and held in anticipation of the acquisition of Airwave, (iii) a $4 million investment impairment, and (iv) a $2 million loss on the extinguishment of long-term debt, partially offset by: (i) a $46 million foreign currency gain, (ii) $9 million of other non-operating gains, and (iii) $5 million gain on equity method investments.

Effective Tax Rate

We recorded $1.2 billion of net tax expense in 2017, an increase of $945 million compared to $282 million of net tax expense in 2016, or an effective tax rate of 33%. As a result of the Tax Act, we recorded $874 million of non-recurring charges during 2017, primarily related to a valuation allowance of $471 million against U.S. foreign tax credit carryforwards and income tax expense of $366 million from the remeasurement of our deferred tax balances at the lower federal tax rate of 21%. Excluding the income tax effects from the Tax Act, our effective tax rate was lower than the current U.S. federal statutory rate of 35%.

Our effective tax rate in 2016 was lower than the U.S. statutory tax rate of 35% primarily due to lower tax rates on non-U.S. income.

Our effective tax rate will change from period to period based on non-recurring events, such as the settlement of income tax audits, changes in valuation allowances, changes in tax laws, and the tax impact of significant unusual or extraordinary items, as well as recurring factors including changes in the geographic mix of income and effects of various global income tax strategies.

Earnings (Loss) from Continuing Operations Attributable to Motorola Solutions, Inc.

After taxes, we had a loss from continuing operations attributable to Motorola Solutions, Inc. of $155 million, or $0.95 per diluted share, in 2017, compared to earnings of $560 million, or $3.24 per diluted share, in 2016.

The decrease in earnings from continuing operations in 2017, as compared to 2016, was driven by an increase in income tax expense primarily related to an $874 million charge for the implementation of the Tax Act.

Results of Operations—2016 Compared to 2015

Net Sales

Net sales were $6.0 billion in 2016, up $343 million, or 6%, compared to $5.7 billion in 2015. The increase in net sales is reflective of growth in every region. EMEA grew on Services sales, partially offset by lower Products sales. The increase in EMEA Services sales was due to expansion of our Managed & Support services, primarily from the acquisition of Airwave which provided $462 million of net sales during the year ended December 31, 2016. The Americas grew on Products sales, partially offset by lower Services sales. The decrease in the Americas Services sales was primarily due to macroeconomic pressures in Latin America. AP grew on both Services and Products sales.

Gross Margin

Gross margin was $2.9 billion, or 47.5% of net sales in 2016, compared to $2.7 billion, or 47.7% of net sales in 2015.

Selling, General and Administrative Expenses

SG&A expenses decreased 2% to $1.0 billion, or 16.6% of net sales in 2016, compared to $1.0 billion, or 17.9% of net sales in 2015. The decrease in SG&A expenditures is primarily due to cost savings initiatives, including headcount reductions, partially offset by higher incentive compensation and acquisitions costs.

Research and Development Expenditures

R&D expenditures decreased 11% to $553 million, or 9.2% of net sales in 2016, compared to $620 million, or 10.9% of net sales in 2015. The decrease in R&D expenditures is primarily due to: (i) cost savings initiatives, including headcount reductions, and (ii) the movement of employees to lower cost work sites.

Other Charges

We recorded net other charges of $249 million in 2016, compared to net charges of $84 million in 2015. The charges in 2016 included: (i) $113 million of charges relating to the amortization of intangibles, (ii) $97 million of net reorganization of business charges, including a $17 million building impairment and a $3 million impairment on our corporate aircraft, (iii) $26 million of losses on settlements within a non-U.S. pension plan, and (iv) $13 million of transaction fees on the acquisition of Airwave. The charges in 2015 included: (i) $108 million of net reorganization of business charges, including a $31 million impairment of our corporate aircraft which was sold and (ii) $8 million of charges relating to the amortization of intangibles, partially offset by a $32 million non-U.S. pension curtailment gain. The net reorganization of business charges are discussed in further detail in the “Reorganization of Businesses” section.

Net Interest Expense

Net interest expense was $205 million in 2016 compared to $173 million in 2015. The increase in net interest expense in 2016 compared to 2015 was a result of higher outstanding debt balances throughout 2016.

Gains (losses) on Sales of Investments and Businesses, net

Net losses on sales of investments and businesses were $6 million in 2016, compared to net gains on sales of investments and businesses of $107 million in 2015. The net losses in 2016 consisted primarily of: (i) a $19 million loss on the sale of an investment in United Kingdom treasury securities and (ii) a $7 million loss from the sale of our Malaysia manufacturing operations, partially offset by $20 million of gains on the sales of equity investments. The net gains in 2015 were related to the sales of equity investments.

Other

Net Other expense was $12 million in 2016, compared to $11 million in 2015. The net Other expense in 2016 was primarily comprised of: (i) a $56 million loss on derivative instruments, (ii) a $10 million foreign currency loss on currency purchased and held in anticipation of the acquisition of Airwave, (iii) a $4 million investment impairment, and (iv) a $2 million loss on the extinguishment of long-term debt, partially offset by: (i) a $46 million foreign currency gain, (ii) $9 million of other non-operating gains, and (iii) a $5 million gain on equity method investments. The net Other expense in 2015 was primarily comprised of: (i) a $23 million foreign currency loss and (ii) a $6 million investment impairment, partially offset by: (i) a $7 million gain on derivative instruments, (ii) a $6 million gain on equity method investments, and (iii) $5 million of other non-operating gains.

Effective Tax Rate

We recorded $282 million of net tax expense in 2016, resulting in an effective tax rate of 33%, compared to $274 million of net tax expense in 2015, resulting in an effective tax rate of 30%. Our effective tax rate in 2016 and 2015 were lower than the U.S. statutory tax rate of 35% primarily due to lower tax rates on non-U.S. income.

Our effective tax rate will change from period to period based on non-recurring events, such as the settlement of income tax audits, changes in valuation allowances, and the tax impact of significant unusual or extraordinary items, as well as recurring factors including changes in the geographic mix of income and effects of various global income tax strategies.

Earnings (Loss) from Continuing Operations Attributable to Motorola Solutions, Inc.

After taxes, we had earnings from continuing operations attributable to Motorola Solutions, Inc. of $560 million, or $3.24 per diluted share, in 2016, compared to $640 million, or $3.17 per diluted share, in 2015.

The decrease in earnings from continuing operations in 2016, as compared to 2015, was primarily driven by: (i) a $165 million increase in Other charges primarily due to the increase in intangible amortization expense and (ii) a $113 million decrease in Gains on sales of investments and businesses, partially offset by: (i) a $150 million increase in Gross margin, (ii) a $67 million decrease in R&D, and (iii) a $21 million decrease in SG&A. The increase in earnings from continuing operations per diluted share was driven by lower shares outstanding as a result of repurchases made through our ongoing share repurchase program, offset by a decrease in earnings from continuing operations.

Earnings from Discontinued Operations

In 2016, we reported no earnings from discontinued operations, compared to a loss from discontinued operations of $30 million, or $0.15 per diluted share, in 2015. The loss from discontinued operations in 2015 was related to the sale of the Enterprise business.

Segment Information

The following commentary should be read in conjunction with the financial results of each operating business segment as detailed in Note 12, "Information by Segment and Geographic Region," of our consolidated financial statements. Net sales and operating results for our two segments for 2017, 2016, and 2015 are presented below.

Products Segment

The Products segment's net sales represented 59% of our consolidated net sales in 2017, compared to 60% in 2016 and 65% in 2015.

	Years ended December 31			*Percent Change*	
(Dollars in millions)	***2017***	*2016*	*2015*	***2017—2016***	*2016—2015*
Segment net sales	**$ 3,772**	$ 3,649	$ 3,676	**3%**	(1)%
Operating earnings (loss)	**914**	734	704	**25%**	4 %

Segment Results—2017 Compared to 2016

The segment's net sales increased $123 million, or 3%, to $3.8 billion in 2017, as compared to $3.6 billion in 2016. On a geographic basis, net sales increased in every region in 2017, compared to 2016. Devices net sales increased in every region while Systems net sales increased in the Americas partially offset by decreases in EMEA and AP. The segment's backlog was $1.9 billion at December 31, 2017 and $1.5 billion at December 31, 2016.

Net sales in the Americas continued to comprise a significant portion of the segment's business, accounting for approximately 74% of the segment's net sales in both 2017 and 2016.

The segment had operating earnings of $914 million in 2017, compared to $734 million in 2016. The increase in operating earnings in 2017 compared to 2016 was driven primarily by higher net sales and lower SG&A expenses, R&D expenditures, and Other charges.

Segment Results—2016 Compared to 2015

The segment's net sales decreased $27 million, or 1%, to $3.6 billion in 2016, as compared to $3.7 billion in 2015. The decrease in the segment's net sales was primarily driven by a decrease in global Systems sales and unfavorable foreign exchange rates with a strengthening U.S. dollar in EMEA, Latin America, and AP, partially offset by growth in Devices in the Americas and AP. On a geographic basis, net sales decreased in EMEA and increased in the Americas and AP in 2016, compared to 2015. The segment's backlog was $1.5 billion at December 31, 2016 and $1.2 billion at December 31, 2015.

Net sales in the Americas continued to comprise a significant portion of the segment's business, accounting for approximately 74% of the segment's net sales in 2016, up from 73% of the segment's net sales in 2015.

The segment had operating earnings of $734 million in 2016, compared to $704 million in 2015. The increase in operating earnings in 2016 compared to 2015 was driven primarily by: (i) lower SG&A and R&D expenditures as a result of cost savings initiatives including headcount reductions, partially offset by an increase in Other charges.

Services Segment

The Services segment's net sales represented 41% of our consolidated net sales in 2017, compared to 40% in 2016 and 35% in 2015.

	Years ended December 31			*Percent Change*	
(Dollars in millions)	***2017***	*2016*	*2015*	***2017—2016***	*2016—2015*
Segment net sales	**$ 2,608**	$ 2,389	$ 2,019	**9%**	18%
Operating earnings (loss)	**368**	333	290	**11%**	15%

Segment Results—2017 Compared to 2016

The segment's net sales increased $219 million, or 9%, to $2.6 billion in 2017, as compared to $2.4 billion in 2016. The increase in the segment's net sales was driven by growth in Managed & Support services and Integration services absent of acquisitions and the acquisitions of Interexport, Airwave, Spillman Technologies and Kodiak Networks. The net sales increase in the Americas was driven by Managed & Support services absent of acquisitions and the acquisitions of Interexport, Spillman Technologies and Kodiak Networks. The net sales increase in EMEA was driven by the acquisition of Airwave and growth in both Managed & Support services and Integration services absent of acquisitions. The net sales increase in AP was driven by growth in Integration services. The segment's backlog was $7.7 billion at December 31, 2017 and $6.9 billion at December 31, 2016.

Net sales in the Americas continued to comprise a significant portion of the segment's business, accounting for approximately 59% of the segment's net sales in 2017, up from 58% of the segment's net sales in 2016.

The segment had operating earnings of $368 million in 2017 compared to $333 million in 2016. The increase in operating earnings in 2017 compared to 2016 was driven primarily by higher net sales, partially offset by operating expenses related to acquisitions.

Segment Results—2016 Compared to 2015

The segment's net sales increased $370 million, or 18%, to $2.4 billion in 2016, as compared to $2.0 billion in 2015. The increase in the segment's net sales was primarily driven by higher Managed & Support services sales from both the acquisition of Airwave and absent of acquisitions. The acquisition of Airwave provided $462 million of net sales within EMEA during the year ended December 31, 2016, while the Managed & Support services business absent of acquisitions grew in the Americas and AP. This sales growth was partially offset by: (i) a decrease in Integration services sales, with a significant decrease in EMEA related to the winding down of a large system implementation, (ii) declining iDEN services sales in the Americas, and (iii) the effect of unfavorable foreign exchange rates with a strengthening U.S. dollar in EMEA, Latin America, and AP. On a geographic basis, net sales increased in EMEA and AP and decreased in the Americas in 2016, compared to 2015. The segment's backlog was $6.9 billion at December 31, 2016 and $5.2 billion at December 31, 2015. The increase in the segment's backlog in 2016 compared to 2015 was driven in part by $1.2 billion from the acquisition of Airwave.

Net sales in the Americas continued to comprise a significant portion of the segment's business, accounting for approximately 58% of the segment's net sales in 2016, down from 69% of the segment's net sales in 2015.

The segment had operating earnings of $333 million in 2016 compared to $290 million in 2015. The increase in operating earnings in 2016 compared to 2015 was driven primarily by: (i) increased sales volume generating higher gross margin on our Managed & Support services, primarily in EMEA due to the acquisition of Airwave, and (ii) lower SG&A expenditures due to cost savings initiatives, including headcount reductions, partially offset by an increase in Other charges, including $105 million of intangible amortization expense, primarily associated with the Airwave acquisition.

Reorganization of Businesses

In 2017, we recorded net reorganization of business charges of $42 million relating to the separation of 400 employees, of which 300 were indirect employees and 100 were direct employees. The $42 million of charges included $9 million recorded to Cost of sales and $33 million recorded to Other charges. Included in the aggregate $42 million are charges of $43 million for employee separation costs and $8 million for exit costs, partially offset by $9 million of reversals for accruals no longer needed.

During 2016, we recorded net reorganization of business charges of $140 million relating to the separation of 1,300 employees, of which 900 were indirect employees and 400 were direct employees. The $140 million of charges included $43 million recorded to Cost of sales and $97 million recorded to Other charges. Included in the aggregate $140 million are charges of: (i) $120 million for employee separation costs, (ii) $20 million for impairments, including $17 million for a building impairment and $3 million for the impairment of corporate aircraft, and (iii) $5 million for exit costs, partially offset by $5 million of reversals for accruals no longer needed.

During 2015, we recorded net reorganization of business charges of $117 million relating to the separation of 1,100 employees, of which 900 were indirect employees and 200 were direct employees. The $117 million of charges in earnings from continuing operations included $9 million recorded to Cost of sales and $108 million recorded to Other charges. Included in the aggregate $117 million are charges of: (i) $74 million for employee separation costs, (ii) $31 million for the impairment of corporate aircraft, (iii) $10 million for exit costs, and (iv) a $6 million building impairment charge, partially offset by $4 million of reversals for accruals no longer needed.

The following table displays the net charges incurred by business segment:

Years ended December 31	***2017***	*2016*	*2015*
Products	**$ 31**	$ 106	$ 84
Services	**11**	34	33
	$ 42	$ 140	$ 117

Cash payments for exit costs and employee severance in connection with the reorganization of business plans were $93 million, $79 million, and $71 million in 2017, 2016, and 2015, respectively. The reorganization of business accruals at December 31, 2017 were $50 million, of which $41 million relates to employee separation costs that are expected to be paid within one year and $9 million relates primarily to lease termination obligations that are expected to be paid over a number of years.

Liquidity and Capital Resources

We increased the aggregate of our cash and cash equivalent balances from $1.0 billion as of December 31, 2016 to $1.3 billion as of December 31, 2017. As highlighted in the consolidated statements of cash flows, our liquidity and available capital resources are impacted by four key components: (i) cash and cash equivalents, (ii) operating activities, (iii) investing activities, and (iv) financing activities.

Cash and Cash Equivalents

At December 31, 2017, $757 million of the $1.3 billion cash and cash equivalents balance was held in the U.S. and $511 million was held outside of the U.S. Restricted cash was approximately $63 million at both December 31, 2017 and December 31, 2016.

In 2017, we repatriated approximately $606 million in cash to the U.S. from international jurisdictions. Under the Tax Act, federal income taxes on dividends from foreign subsidiaries have been generally eliminated after December 31, 2017. The change in tax law will allow the Company to more simply repatriate foreign income in a tax exempt manner. However, we do not anticipate significant changes in liquidity or our ability to repatriate foreign earnings more efficiently in the future as a result of the Tax Act.

Undistributed earnings that we intend to reinvest indefinitely, and for which no U.S. income taxes have been provided, aggregate to $1.8 billion at December 31, 2017. We currently have no plans to repatriate the foreign earnings permanently reinvested. If circumstances change and it becomes apparent that some or all of the permanently reinvested earnings will be remitted to the U.S. in the foreseeable future, an additional income tax charge may be necessary.

Where appropriate, we may also pursue capital reduction activities; however, such activities can be involved and lengthy. While we regularly repatriate funds, and a portion of offshore funds can be repatriated with minimal adverse financial impact, repatriation of some of these funds may be subject to delay for local country approvals and could have potential adverse cash tax consequences.

Operating Activities

Net cash provided by operating activities from continuing operations in 2017 was $1.3 billion, compared to cash provided by operating activities from continuing operations of $1.2 billion in 2016 and cash provided by operating activities from continuing operations of $1.0 billion in 2015. Operating cash flows in 2017, as compared to 2016, were positively impacted by higher revenue from continuing operations and resulting operating earnings. Operating cash flows in 2016, as compared to 2015, were positively impacted by higher earnings from continuing operations, offset by higher employee incentive compensation payments.

We expect to make a $500 million debt funded contribution to our U.S. Pension Plans in 2018. As a result, we will generate a tax benefit under the current U.S. federal tax rate of 35% for the plan year 2017, before the enacted rate lowers to 21% as a result of the Tax Act. We expect to make approximately $7 million of cash contributions to our Non-U.S. Pension Plans in 2018.

Investing Activities

Net cash used by investing activities from continuing operations was $448 million in 2017, compared to net cash used by investing activities from continuing operations of $1.0 billion in 2016 and net cash used by investing activities from continuing operations of $528 million in 2015. The decrease in net cash used by investing activities from 2016 to 2017 was primarily due to a decrease in acquisitions and investments, partially offset by lower proceeds from sales of investments and businesses. The increase in net cash used by investing activities from 2015 to 2016 was primarily due to the acquisition of Airwave, offset by the sale of an investment used to fund the acquisition.

Acquisitions and Investments: We used net cash of $404 million for acquisitions and new investment activities in 2017, compared to $1.5 billion in 2016, and $586 million in 2015. The cash used during 2017 was used for investment in short-term government securities, and the acquisitions (net of acquired cash) of Kodiak Networks for $225 million and Interexport for $55 million. In 2016, we paid cash of $1.0 billion related to the acquisition of Airwave, $217 million for the acquisition of Spillman, and

$26 million related to the acquisition of other software and services related businesses. The remainder of the cash was used for several debt and equity investments. In 2015, we invested $401 million in order to partially offset our foreign currency risk associated with the purchase of Airwave. We liquidated these investments in February 2016 to partially fund the acquisition. Additionally, we paid $49 million for the acquisition of two public safety software solution providers, as well as several debt and equity investments.

Sales of Investments and Businesses: We received $183 million of proceeds in 2017, compared to $670 million in 2016, and $230 million in 2015. The $183 million of cash provided by investments in 2017 primarily consisted of the sales of short-term government securities. The $670 million of cash received in 2016 was primarily comprised of: (i) $382 million from the sale of an investment used to finance the acquisition of Airwave, (ii) $242 million from the sales of various debt and equity securities, and (iii) $46 million from the sale of our Penang, Malaysia facility and manufacturing operations. The $230 million of cash received in 2015 was primarily comprised of: (i) $49 million reimbursement from Zebra for cash transferred with the sale of the Enterprise business in conjunction with legal entities sold through a stock sale, (ii) $107 million from the sale of two equity investments, (iii) $13 million net cash received from Zebra for the final purchase price adjustment, as well as for reimbursement of liabilities of the Enterprise business paid on Zebra's behalf, and (iv) proceeds from the sale of various debt and equity securities, partially offset by $27 million of net cash transferred in conjunction with the sale of our ownership interest in a majority owned subsidiary to the entity's noncontrolling interest.

Capital Expenditures: Capital expenditures were $227 million in 2017, compared to $271 million in 2016, and $175 million in 2015. The decrease in capital spending in 2017, as compared to 2016, was primarily driven by lower facilities spend and lower expenditures on networks that we build and operate on behalf of our customers, partially offset by an increase in information technology spend. The increase in capital spending in 2016, as compared to 2015, was primarily driven by an increase in expenditures on networks that we build and operate on behalf of our customers, information technology spend and facilities expenditures.

Sales of Property, Plant, and Equipment: We had no proceeds related to the sale of property, plant, and equipment in 2017, compared to $73 million in 2016 and $3 million in 2015. The proceeds in 2016 were driven by the sale of buildings and land on the Schaumburg, IL campus and the sale of the corporate aircraft. The proceeds in 2015 were primarily comprised of sales of buildings and land.

Financing Activities

Net cash used for financing activities was $722 million in 2017, compared to $1.0 billion in 2016, and $2.4 billion in 2015. Cash used for financing activities in 2017 was primarily comprised of: (i) $483 million used for purchases under our share repurchase program and (ii) $307 million of cash used for the payment of dividends, partially offset by $82 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans.

Cash used for financing activities in 2016 was primarily comprised of: (i) $842 million used for purchases under our share repurchase program and (ii) $280 million of cash used for the payment of dividends, partially offset by $93 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans.

Cash used for financing activities in 2015 was primarily comprised of: (i) $3.2 billion used for purchases under our share repurchase program and (ii) $277 million of cash used for the payment of dividends, partially offset by: (i) $971 million of net proceeds from the issuance of the Senior Convertible Notes and (ii) $84 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans.

Current and Long-Term Debt: We had outstanding long-term debt of $4.5 billion and $4.4 billion, including the current portions of $52 million and $4 million, at December 31, 2017 and December 31, 2016, respectively. In the acquisition of Interexport, we assumed $92 million of debt, including a current portion of $40 million, primarily related to capital leases.

On August 25, 2015, we entered into an agreement with Silver Lake Partners to issue $1.0 billion of 2% Senior Convertible Notes which mature in September 2020. The notes became fully convertible as of August 25, 2017. The notes are convertible based on a conversion rate of 14.7476, as may be adjusted for dividends declared, per $1,000 principal amount (which is currently equal to a published conversion price of $67.81 per share). The exercise price adjusts automatically for dividends. In the event of conversion, the notes may be settled in either cash or stock, at our discretion. We intend to settle the principal amount of the Senior Convertible Notes in cash.

We have investment grade ratings on our senior unsecured long-term debt from the three largest U.S. national rating agencies. We believe that we will be able to maintain sufficient access to the capital markets. Any future disruptions, uncertainty, volatility in the capital markets, or deterioration in our credit ratings may result in higher funding costs for us and adversely affect our ability to access funds.

We may, from time to time, seek to retire certain outstanding debt of ours through open market cash purchases, privately-negotiated transactions or otherwise. Such repurchases, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors.

Share Repurchase Program: Through a series of actions, the Board of Directors has authorized an aggregate share repurchase amount of up to $14.0 billion of our outstanding shares of common stock (the “share repurchase program”). The share repurchase program does not have an expiration date. As of December 31, 2017, we have used approximately $12.3 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving approximately $1.7 billion of authority available for future repurchases.

During 2017, we paid an aggregate of $483 million, including transaction costs, to repurchase 5.7 million shares at an average price of $85.32 per share. During 2016, we paid an aggregate of $842 million, including transaction costs, to repurchase 12.0 million shares at an average price of $70.28. During 2015, we paid an aggregate of $3.2 billion, including transaction costs, to repurchase 48.0 million shares at an average price of $66.22. Shares repurchased in 2015 include 30.1 million shares repurchased under a modified "Dutch auction" tender offer at a tender price of $66.50 for an aggregate of $2.0 billion, including transaction costs.

Payment of Dividends: We paid cash dividends to holders of our common stock of $307 million in 2017, $280 million in 2016, and $277 million in 2015. Subsequent to quarter end, we paid an additional $84 million in cash dividends to holders of our common stock.

Credit Facilities

As of December 31, 2017, we had a $2.2 billion unsecured revolving credit facility scheduled to mature in April 2022, which can be used for borrowing and letters of credit (the "2017 Motorola Solutions Credit Agreement"). The 2017 Motorola Solutions Credit Agreement includes a $500 million letter of credit sub-limit with $450 million of fronting commitments. Borrowings under the facility bear interest at the prime rate plus the applicable margin, or at a spread above the London Interbank Offered Rate, at our option. An annual facility fee is payable on the undrawn amount of the credit line. The interest rate and facility fee are subject to adjustment if our credit rating changes. We must comply with certain customary covenants including a maximum leverage ratio, as defined in the 2017 Motorola Solutions Credit Agreement. We were in compliance with our financial covenants as of December 31, 2017. During the twelve months ended December 31, 2017, we had borrowings and repayments of $150 million under the 2017 Motorola Solutions Credit Agreement. Such borrowings were used to purchase Kodiak Networks in April of 2017, and were repaid using cash from operations in June of 2017. No letters of credit were issued under the revolving credit facility as of December 31, 2017.

Contractual Obligations and Other Purchase Commitments

Summarized in the table and text below are our obligations and commitments to make future payments under long-term debt obligations, lease obligations, purchase obligations and tax obligations as of December 31, 2017.

	Payments Due by Period							
(in millions)	*Total*	*2018*	*2019*	*2020*	*2021*	*2022*	*Uncertain Timeframe*	*Thereafter*
Long-term debt obligations	$ 4,528	$ 52	$ 6	$ 1,007	$ 417	$ 770	$ —	$ 2,276
Lease obligations	661	121	107	82	64	53	—	234
Purchase obligations*	237	173	41	15	7	1	—	—
Tax obligations	76	14	—	—	—	—	62	—
Total contractual obligations	$ 5,502	$ 360	$ 154	$ 1,104	$ 488	$ 824	$ 62	$ 2,510

**Amounts included represent firm, non-cancelable commitments.*

Lease Obligations: We lease certain office, factory and warehouse space, land, information technology and other equipment, principally under non-cancelable operating leases. Our future minimum lease obligations, net of minimum sublease rentals, totaled $661 million. Rental expense, net of sublease income, was $94 million in 2017, $84 million in 2016, and $42 million in 2015.

Purchase Obligations: During the normal course of business, in order to manage manufacturing lead times and help ensure adequate component supply, we enter into agreements with contract manufacturers and suppliers that either allow them to procure inventory based upon criteria as defined by us or establish the parameters defining our requirements. In addition, we have entered into software license agreements which are firm commitments and are not cancelable. We had entered into firm, noncancelable, and unconditional commitments under such arrangements through 2022. The total payments expected to be made under these agreements are $237 million, of which $220 million relate to take or pay obligations from arrangements with suppliers for the sourcing of inventory supplies and materials. We do not anticipate the cancellation of any of our take or pay agreements in the future and estimate that purchases from these suppliers will exceed the minimum obligations during the agreement periods.

Tax Obligations: We have approximately $76 million of unrecognized income tax benefits relating to multiple tax jurisdictions and tax years. Based on the potential outcome of our global tax examinations, or the expiration of the statute of limitations for specific jurisdictions, it is reasonably possible that the unrecognized tax benefits will change within the next twelve months. The associated net tax impact on the effective tax rate, exclusive of valuation allowance changes, is estimated to be in the range of a $10 million tax charge to a $30 million tax benefit, with cash payments not expected to exceed $20 million.

Commitments Under Other Long-Term Agreements: We have entered into certain long-term agreements to purchase software, components, supplies and materials from suppliers which are not "take or pay" in nature. Most of the agreements extend for periods of one to three years (three to five years for software). Generally, these agreements do not obligate us to make any purchases, and many permit us to terminate the agreement with advance notice (usually ranging from 60 to 180 days). If we were to terminate these agreements, we generally would be liable for certain termination charges, typically based on work performed and supplier on-hand inventory and raw materials attributable to canceled orders. Our liability would only arise in the event we terminate the agreements for reasons other than “cause.”

We outsource certain corporate functions, such as benefit administration and information technology-related services, under third-party contracts, the longest of which is expected to expire in 2022. Our remaining payments under these contracts are approximately $97 million over the remaining life of the contracts; however, these contracts can be terminated. Termination would result in a penalty substantially less than the remaining annual contract payments. We would also be required to find another source for these services, including the possibility of performing them in-house.

As is customary in bidding for and completing certain projects and pursuant to a practice we have followed for many years, we have a number of performance bonds, bid bonds, standby letters of credit and surety bonds outstanding (collectively, referred to as “Performance Bonds”), primarily relating to projects with our government customers. These Performance Bonds normally have maturities of multiple years and are standard in the industry as a way to give customers a convenient mechanism to seek resolution if a contractor does not satisfy certain requirements under a contract. Typically, a customer can draw on the Performance Bond only if we do not fulfill all terms of a project contract. If such an occasion occurred, we would be obligated to reimburse the institution that issued the Performance Bond for the amounts paid. In our long history, it has been rare for us to have a Performance Bond drawn upon. At December 31, 2017, outstanding Performance Bonds totaled approximately $2.4 billion, compared to $2.2 billion at December 31, 2016. Any future disruptions, uncertainty, or volatility in bank, insurance or capital markets, or a change in our credit ratings could adversely affect our ability to obtain Performance Bonds and may result in higher funding costs to obtain such Performance Bonds.

Off-Balance Sheet Arrangements: At December 31, 2017, we had no significant off-balance sheet arrangements other than operating leases and guarantees to third parties as described in Note 11 to the consolidated financial statements and our obligation to settle the embedded conversion option under the Senior Convertible Notes described in Note 4 to the consolidated financial statements.

Long-term Customer Financing Commitments

Outstanding Commitments: Certain purchasers of our products and services may request that we provide long-term financing (defined as financing with a term of greater than one year) in connection with the sale of equipment. These requests may include all or a portion of the purchase price of the products and services. Our obligation to provide long-term financing may be conditioned on the issuance of a letter of credit in favor of us by a reputable bank to support the purchaser's credit or a pre-existing commitment from a reputable bank to purchase the long-term receivables from us. We had outstanding commitments to provide long-term financing to third-parties totaling $93 million at December 31, 2017, compared to $125 million at December 31, 2016.

Outstanding Long-Term Receivables: We had non-current long-term receivables of $19 million at December 31, 2017, compared to $49 million at December 31, 2016. There were no allowances for losses in 2017 and $2 million of allowances for losses in 2016. These long-term receivables are generally interest bearing, with interest rates ranging from 0% to 11%.

Sales of Receivables

From time to time, we sell accounts receivable and long-term receivables to third-parties under one-time arrangements. We may or may not retain the obligation to service the sold accounts receivable and long-term receivables. Servicing obligations are limited to collection activities for sold accounts receivables and long-term receivables.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2017, 2016, and 2015:

Years ended December 31	**2017**	2016	2015
Accounts receivable sales proceeds	**$ 193**	$ 51	$ 29
Long-term receivables sales proceeds	**284**	289	196
Total proceeds from receivable sales	**$ 477**	$ 340	$ 225

At December 31, 2017, the Company had retained servicing obligations for $873 million of long-term receivables, compared to $774 million of long-term receivables at December 31, 2016. Servicing obligations are limited to collection activities related to the sales of accounts receivables and long-term receivables.

Adequate Internal Funding Resources

We believe that we have adequate internal resources available to fund expected working capital and capital expenditure requirements for the next twelve months as supported by the level of cash and cash equivalents in the U.S., the ability to repatriate funds from foreign jurisdictions, cash provided by operations, as well as liquidity provided by our $2.2 billion revolving credit facility.

Other Contingencies

Potential Contractual Damage Claims in Excess of Underlying Contract Value: In certain circumstances, we enter into contracts with customers pursuant to which the damages that could be claimed by the customer for failed performance might exceed the revenue we receive from the contract. Contracts with these types of uncapped damages provisions are fairly rare, but individual contracts could still represent meaningful risk. There is a possibility that a claim by a counterparty to one of these contracts could result in expenses that are far in excess of the revenue received from the counterparty in connection with the contract.

Indemnification Provisions: We may provide indemnifications for losses that result from the breach of general warranties contained in certain commercial, intellectual property and divestiture agreements. Historically, we have not made significant payments under these agreements, nor have there been significant claims asserted against us. However, there is an increasing risk in relation to intellectual property indemnities given the current legal climate. In indemnification cases, payment by us is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, which procedures typically allow us to challenge the other party's claims. In some instances we may have recourse against third-parties for certain payments made by us. Further, our obligations under divestiture agreements for indemnification based on breach of representations and warranties are generally limited in terms of duration, typically not more than 18 months, and for amounts not in excess of a percentage of the contract value.

Legal Matters: We are a defendant in various lawsuits, claims, and actions, which arise in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on our consolidated financial position, liquidity, or results of operations. However, an unfavorable resolution could have a material adverse effect on our consolidated financial position, liquidity, or results of operations in the periods in which the matters are ultimately resolved, or in the periods in which more information is obtained that changes management's opinion of the ultimate disposition.

Critical Accounting Policies

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenues and expenses during the reporting period.

Management bases its estimates and judgments on historical experience, current economic and industry conditions and on various other factors that are believed to be reasonable under the circumstances. This forms the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following significant accounting policies require significant judgment and estimates.

Revenue Recognition

Net sales consist of a wide range of activities including the delivery of stand-alone equipment or services, custom design and installation over a period of time, and bundled sales of equipment, software and services. We enter into revenue arrangements that may consist of multiple deliverables of our products and services due to the needs of our customers, including any combination of products, services and software. For multiple-element arrangements, deliverables are separated into more than one unit of accounting when: (i) the delivered element(s) have value to the customer on a stand-alone basis and (ii) delivery of the undelivered element(s) is probable and substantially in our control.

In these arrangements, we generally allocate revenue to all deliverables based on their relative selling prices, applying an estimated selling price ("ESP") as our best estimate of fair value. We determine ESP by: (i) collecting all reasonably available data points including sales, cost and margin analysis of the product or service, and other inputs based on our normal pricing and discounting practices, (ii) making any reasonably required adjustments to the data based on market and Company-specific factors, and (iii) stratifying the data points, when appropriate, based on major product or service type, type of customer, geographic market, and sales volume. Once elements of an arrangement are separated into more than one unit of accounting, revenue is recognized for each separate unit of accounting based on the nature of the revenue as described above. Our arrangements with multiple deliverables may also contain one or more software deliverables that are subject to software revenue recognition guidance. In limited circumstances, we have established vendor specific objective evidence ("VSOE") of fair value on certain post-contract service offerings. Where the contract contains more than one software deliverable and VSOE does not exist for the undelivered software elements, revenue is deferred until the undelivered element is delivered. When the final undelivered software element is post contract support, revenue is recognized on a ratable basis over the remaining service period.

For long-term contracts that involve customization of equipment and/or software, we generally recognize revenue using the percentage of completion method based on the percentage of costs incurred to date compared to the total estimated costs to complete the contract ("Estimated Costs at Completion"). Total Estimated Costs at Completion include direct labor, material and subcontracting costs. Due to the nature of the work required to be performed under many of our long-term contracts, determining Estimated Costs at Completion is complex and subject to many variables. We have a standard and disciplined quarterly process in which management reviews the progress and performance of open contracts in order to determine the best estimate of Estimated Costs at Completion. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion, the project schedule, identified risks and opportunities, and the related changes in estimates of revenues and costs. The risks and opportunities include management's judgment about the ability and cost to achieve the project schedule, technical requirements, and other contract requirements. Management must make assumptions and estimates regarding labor productivity and availability, the complexity of the work to be performed, the availability of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustments to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. Changes in estimates of net sales or cost of sales could affect the profitability of one or more of our contracts.

The impact on operating earnings as a result of changes in Estimated Costs at Completion was not significant for the years 2017, 2016, and 2015. When estimates of total costs to be incurred on a contract exceed estimates of total revenue to be earned, a provision for the entire loss on the contract is recorded in the period the loss is determined.

Retirement Benefits

Our benefit obligations and net periodic pension cost (benefits) associated with our domestic noncontributory pension plans (“U.S. Pension Benefit Plans”), our foreign noncontributory pension plans (“Non-U.S. Plans”), as well as our domestic postretirement health care plan (“Postretirement Health Care Benefits”), are determined using actuarial assumptions. The assumptions are based on management’s best estimates, after consulting with outside investment advisors and actuaries.

Accounting methodologies use an attribution approach that generally spreads the effects of individual events over the service lives of the participants in the plan, or estimated average lifetime when almost all of the plan participants are considered "inactive." Examples of “events” are plan amendments and changes in actuarial assumptions such as discount rate, expected long-term rate of return on plan assets, and rate of compensation increases.

There are various assumptions used in calculating the net periodic cost (benefit) and related benefit obligations. One of these assumptions is the expected long-term rate of return on plan assets. The required use of the expected long-term rate of return on plan assets may result in recognized pension income that is greater or less than the actual returns of those plan assets in any given year. Over time, however, the expected long-term returns are designed to approximate the actual long-term returns. We use a five-year, market-related asset value method of recognizing asset related gains and losses.

We use long-term historical actual return experience with consideration of the expected investment mix of the plans’ assets, as well as future estimates of long-term investment returns, to develop our expected rate of return assumption used in calculating the net periodic pension cost and the net retirement health care expense. Our investment return assumption for the U.S. Pension Benefit Plans was 6.95% in 2017 and 7.00% in 2016. Our investment return assumption for the Postretirement Health Care Benefits Plan was 7.00% in 2017 and 2016. Our weighted average investment return assumption for the Non-U.S. Plans was 5.20% in 2017 and 5.90% in 2016. At December 31, 2017, the pension plans, including the U.S. Pension Benefit Plans and Non-U.S. Plans investment portfolios were comprised of approximately 29% equity investments, while the Postretirement Health Care Benefits Plan was all comprised of approximately 34% equity investments.

A second key assumption is the discount rate. The discount rate assumptions used for pension benefits and Postretirement Health Care Benefits Plan reflects, at December 31 of each year, the prevailing market rates for high-quality, fixed-income debt instruments that, if the obligation was settled at the measurement date, would provide the necessary future cash flows to pay the benefit obligation when due. Our discount rates for measuring our U.S. Pension Benefit Plan obligations were 3.79% and 4.42% at December 2017 and 2016, respectively. Our weighted average discount rates for measuring our Non-U.S. Plans were 2.34% and 2.54% at December 2017 and 2016, respectively. Our discount rates for measuring the Postretirement Health Care Benefits Plan obligation were 3.62% and 4.11% at December 31, 2017 and 2016, respectively.

Under relevant accounting rules, when almost all of the plan participants are considered inactive, the amortization period for certain unrecognized losses changes from the average remaining service period to the average remaining lifetime of the participant. As such, depending on the specific plan, we amortize gains and losses over periods ranging from eleven to thirty-four years. Prior service costs are being amortized over periods ranging from one to five years. Benefits under all pension plans are valued based on the projected unit credit cost method.

Effective January 1, 2016, we began to use a full yield curve approach in the estimation of our interest and service cost components of our net periodic cost, which uses a single weighted-average discount rate derived from the yield curve used to measure the projected benefit obligation at the beginning of the period. This method was elected to improve the correlation between projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of interest and service costs. Prior to January 1, 2016, estimates of interest and service cost components used a single weighted-average discount rate derived from the yield curve used to measure the projected benefit obligation at the beginning of the year.

Valuation and Recoverability of Goodwill

We assess the recorded amount of goodwill for recovery on an annual basis in the fourth quarter of each fiscal year. Goodwill is assessed more frequently if an event occurs or circumstances change that would indicate it is more-likely-than-not that the fair value of a reporting unit is below its carrying amount. We continually assess whether any such events and circumstances have occurred, which requires a significant amount of judgment. Such events and circumstances may include: adverse changes in macroeconomic conditions, adverse changes in the industry or market in which we transact, changes in cost factors negatively impacting earnings and cash flows, negative or declining overall financial performance, events affecting the carrying value or composition of a reporting unit, or a sustained decrease in share price, among others. Any such adverse event or change in circumstances could have a significant impact on the recoverability of goodwill and could have a material impact on our consolidated financial statements.

The goodwill impairment assessment is performed at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment (referred to as a “component”). A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available and segment management regularly reviews the operating results of that component. When two or more components of an operating segment have similar economic characteristics, the components are aggregated and deemed a single reporting unit. An operating segment is deemed to be a reporting unit if all of its components are similar, if none of its components is a reporting unit, or if the segment comprises only a single component. Based on this guidance, we have determined that our Products and Services segments each meet the definition of a reporting unit. We performed a qualitative assessment of goodwill and determined that it was not more-likely-than-not that the fair value of each reporting unit was less than its carrying amount for the fiscal years 2017, 2016, and 2015. In performing this qualitative assessment we assessed relevant events and circumstances including macroeconomic conditions, industry and market conditions, cost factors, overall financial performance, changes in enterprise value, and entity-specific events. For fiscal years 2017, 2016, and 2015, we concluded it was more-likely-than-not that the fair value of each reporting unit exceeded its carrying value.

Valuation of Deferred Tax Assets and Liabilities

We record deferred income tax assets and liabilities based on the estimated future tax effects of differences between the financial and tax bases of assets and liabilities based on the currently enacted tax laws. As a result of the enactment of the Tax Act, we have reflected our best estimates and assumptions regarding: (i) the value of deferred income tax assets and liabilities based on the enacted corporate federal tax rate of 21%, (ii) the value of foreign tax credit carryforwards based on our ability to utilize foreign tax credits to offset future income tax liabilities and (iii) the accounting impact of new rules such as Global Intangible Low-Taxed Income ("GILTI") and Base Erosion Anti-abuse Tax ("BEAT"). We will continue to evaluate the valuation of our deferred tax positions on a quarterly basis to determine if valuation allowances are appropriately estimated by considering available evidence, including historical and projected taxable income and tax planning strategies that are both prudent and feasible. As our understanding of the application of certain rules under the Tax Act becomes clarified, we will further refine our estimates throughout 2018.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers." This new standard will replace the existing revenue recognition guidance in U.S. GAAP. The core principle of the ASU is the recognition of revenue for the transfer of goods and services equal to the amount an entity expects to receive for those goods and services. This ASU requires additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and estimates and changes in those estimates. In August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers: Deferral of the Effective Date" that delayed the effective date of ASU No. 2014-09 by one year to January 1, 2018, as our annual reporting period begins after December 15, 2017.

We have analyzed the impact of the new standard on our financial results based on an inventory of our current contracts with customers. We have obtained an understanding of the new standard and currently believe that we will retain much of the same accounting treatment used to recognize revenue under current standards. Revenue on a significant portion of our contracts is currently recognized under percentage of completion accounting applying a cost-to-cost method, including contracts for radio network deployments based on the APCO P25, TETRA, and DMR technologies, as well as certain offerings within our Smart Public Safety Solutions requiring significant integration (collectively "network integration contracts").

Under the new standard, we must identify the distinct promises to transfer goods and/or services within our contracts using certain factors. For network integration contracts, we have considered the factors used to determine whether promises made in the contract are distinct and determined that devices and accessories represent distinct goods. Accordingly, adoption of the new standard will impact our network integration contracts that include devices and accessories, with the resulting impact being revenue recognized earlier as control of the devices and accessories transfers to the customer at a point in time rather than over time. For the remaining promised goods and services within our network integration contracts, we will continue to recognize revenue on these contracts using a cost-to-cost method based on the continuous transfer of control to the customer over time. Transfer of control in our contracts is demonstrated by creating a customized asset for customers, in conjunction with contract terms which provide the right to receive payment for goods and services.

In addition, the standard may generally cause issuers to accelerate revenue recognition in contracts which were previously limited by software revenue recognition rules. While we have contracts which fall under these rules in the current standard, we have not historically deferred significant amounts of revenue under these rules as many arrangements are single-element software arrangements or sales of software with a tangible product which falls out of the scope of the current software rules. Based on the contracts currently in place, we do not anticipate a significant acceleration of revenue upon applying the new standard to our current contracts under these fact patterns.

The new standard also requires the concept of transfer of control to determine whether an entity must present revenue from providing goods or services at the gross amount billed to a customer (as a principal) or at the net amount retained (as an agent). Therefore, an entity must assess whether it controls the goods or services provided to a customer before they are transferred. The new standard provides three indicators to assist entities in determining control. Under the current standard, eight indicators (including the three indicators under the new standard) exist to evaluate whether an entity should present revenue gross as a principal or net as an agent. Historically, we have presented transactions that involved a third-party sales representative on a net basis. After considering the control concept and remaining three indicators under the new standard, we have determined that we are the principal in contracts that involve a third-party sales representative. Thus, upon adoption of the new standard we will present associated revenues on a gross basis, recording third-party sales commissions within selling, general and administrative expenses.

Under current accounting standards, we expense sales commissions as incurred. However, under ASU No. 2014-09, we will capitalize sales commissions as incremental costs to obtain a contract. Such costs will be classified as a contract asset and amortized over a period that approximates the timing of revenue recognition on the underlying contracts.

We have evaluated the impact of ASU No. 2014-09 on our financial results and determined to adopt this standard using the modified retrospective method, which requires the recognition of the cumulative effect of the transition as an adjustment to retained earnings for open contracts as of January 1, 2018. Based on the application of the changes described above to our contracts open as of January 1, 2018, we expect to recognize a transition adjustment in the range of $120 million to $140 million, net of deferred tax effects, which will increase our opening retained earnings. Based on our existing operations, ASU No. 2014-09 is not expected to have a material impact to net earnings for the year ended December 31, 2018.

In February 2016, the FASB issued ASU No. 2016-02, "Leases," which amends existing guidance to require lessees to recognize assets and liabilities on the balance sheet for the rights and obligations created by long-term leases and to disclose additional quantitative and qualitative information about leasing arrangements. The ASU is effective for us on January 1, 2019 and interim periods within that reporting period. The ASU prescribes the use of a modified retrospective method upon adoption, which requires all prior periods presented in the financial statements to be restated, with a cumulative adjustment to retained earnings as of the beginning of the earliest period presented. We are in the process of assessing the impact of this ASU on our consolidated financial statements and footnote disclosures.

In August 2016, the FASB issued ASU No. 2016-15, “Statement of Cash Flows (Topic 230) - Classification of Certain Cash Receipts and Cash Payments,” which clarifies eight specific cash flow issues in an effort to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. This ASU is effective for us on January 1, 2018 with early adoption permitted. We intend to adopt this ASU on January 1, 2018. Upon adoption, the ASU requires a retrospective application unless it is determined that it is impractical to do so, in which case it must be retrospectively applied at the earliest date practical. Upon adoption, we do not anticipate significant changes to our existing accounting policies or presentation of the Statement of Cash Flows.

In October 2016, the FASB issued ASU No. 2016-16, “Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory,” as part of the Board’s simplification initiative aimed at reducing complexity in accounting standards. This ASU eliminates the current application of deferring the income tax effect of intra-entity asset transfers, other than inventory, until the transferred asset is sold to a third party or otherwise recovered through use and will require entities to recognize tax expense when the transfer occurs. The guidance will be effective for us on January 1, 2018 and interim periods within that reporting period; early adoption permitted. We intend to adopt the ASU on January 1, 2018. The ASU requires a modified retrospective application with a cumulative-effect adjustment recorded in retained earnings as of the beginning of the period of adoption. We expect to record a $30 million cumulative-effect adjustment to beginning retained earnings in the first quarter of 2018 for the remaining unrecognized deferred tax expense related to the intra-entity transfers of property, plant, and equipment.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," which requires that the statement of cash flows explain the change during the period in the total cash, which is inclusive of cash and cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Restricted cash and restricted cash equivalents will be included with cash and cash equivalents when reconciling the beginning of period and end of period balances on the statement of cash flows upon adoption of this standard. The ASU is effective for us on January 1, 2018 with early adoption permitted. We intend to adopt the ASU on January 1, 2018. Upon adoption, the ASU requires retrospective application. We do not anticipate significant changes to our financial statements and related disclosures from adoption of the ASU.

In March 2017, the FASB issued ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The amendments in this update require that an employer disaggregate the service cost component from the other components of net periodic cost (benefit) and report that component in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of net periodic cost (benefit) are required to be presented in the statement of operations separately from the service cost component and outside of operating earnings. The amendment also allows for the service cost component of net periodic cost (benefit) to be eligible for capitalization when applicable. The guidance will be effective for us on January 1, 2018 and interim periods within that reporting period; early adoption is permitted. The guidance on the income statement presentation of the components of net periodic cost (benefit) must be applied retrospectively, while the guidance limiting the capitalization of net periodic cost (benefit) in assets to the service cost component must be applied prospectively. We intend to adopt this ASU on January 1, 2018. Upon adoption, we plan to update the presentation of net periodic cost (benefit) accordingly, noting all components of our net periodic cost (benefit), with the exception of the service cost component, will be presented outside of operating earnings. The estimated impact of adoption of the ASU will be a reclassification of certain components of net periodic benefit from operating earnings to other income (expense) in the amount of approximately $8 million and $29 million for the years ended December 31, 2017 and December 31, 2016, respectively.

In August 2017, the FASB issued ASU No. 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities," which is intended to simplify the application of hedge accounting and better portray the economic results of risk management strategies in the consolidated financial statements. The ASU expands and refines hedge accounting for both financial and non-financial risk components, aligns the recognition and presentation of the effects of hedging instruments and hedge items in the financial statements, and includes certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. The ASU is effective for us on January 1, 2019 with adoption permitted immediately in any interim or annual period (including the current period). We are currently assessing the impact of this ASU, including transition elections and required elections, on our consolidated financial statements and the timing of adoption.

Recently Adopted Accounting Pronouncements

We have elected to early adopt ASU No. 2018-2, "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," as of January 1, 2017. The ASU, which was issued by the FASB in February 2018, allows for a reclassification from Accumulated other comprehensive income to Retained earnings for stranded tax effects resulting from the newly enacted federal corporate income tax rate and other stranded tax amounts related to the Tax Act. As a result of adoption of the ASU, we reclassified $270 million of stranded tax effects related to our U.S. Pension Plans out of Accumulated other comprehensive loss and into Retained earnings for the year ended December 31, 2017.

Forward-Looking Statements

Except for historical matters, the matters discussed in this Form 10-K are forward-looking statements within the meaning of applicable federal securities law. These statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and generally include words such as “believes,” “expects,” “intends,” “aims,” “estimates” and similar expressions. We can give no assurance that any future results or events discussed in these statements will be achieved. Any forward-looking statements represent our views only as of today and should not be relied upon as representing our views as of any subsequent date. Readers are cautioned that such forward-looking statements are subject to a variety of risks and uncertainties that could cause our actual results to differ materially from the statements contained in this Form 10-K. Forward-looking statements include, but are not limited to, statements under the following headings: (1) “Business,” about: (a) industry growth and demand, including opportunities resulting from such growth, (b) future product development and the demand for new products, (c) customer spending, (d) the impact of our strategy and focus areas, (e) the impact from the loss of key customers, (f) competitive position and our ability to maintain a leadership position in our core products, (g) increased competition, (h) the impact of regulatory matters, (i) the impact from the allocation and regulation of spectrum, particularly with respect to broadband spectrum, (j) the firmness of each segment's backlog, (k) the competitiveness of the patent portfolio, (l) the impact of research and development, (m) the availability of materials and components, energy supplies and labor, and (n) the seasonality of the business; (2) “Properties,” about the sufficiency of our manufacturing capacity and the consequences of a disruption in manufacturing; (3) “Legal Proceedings,” about the ultimate disposition of pending legal matters and timing; (4) “Management's Discussion and Analysis,” about: (a) the impact of acquisitions on our business, (b) market growth/contraction, demand, spending and resulting opportunities, (c) the impact of foreign exchange rate fluctuations, (d) our continued ability to reduce our operating expenses, (e) the growth of our Services segment and the resulting impact on consolidated gross margin, (f) the increase in public safety LTE revenues, (g) the decline in iDEN, (h) the return of capital to shareholders through dividends and/or repurchasing shares, (i) our ability to invest in capital expenditures and R&D, (j) the success of our business strategy and portfolio, (k) future payments, charges, use of accruals and expected cost-saving and profitability benefits associated with our reorganization of business programs and employee separation costs, (l) our ability and cost to repatriate funds, (m) future cash contributions to pension plans or retiree health benefit plans, (n) the liquidity of our investments, (o) our ability and cost to access the capital markets, (p) our ability to borrow and the amount available under our credit facilities, (q) our ability to settle the principal amount of the Senior Convertible Notes in cash, (r) our ability and cost to obtain Performance Bonds, (s) adequacy of internal resources to fund expected working capital and capital expenditure measurements, (t) expected payments pursuant to commitments under long-term agreements, (u) the ability to meet minimum purchase obligations, (v) our ability to sell accounts receivable and the terms and amounts of such sales, (w) the outcome and effect of ongoing and future legal proceedings, (x) the impact of the loss of key customers, (y) the expected effective tax rate and deductibility of certain items, and (z) the impact of the adoption of accounting pronouncements on our retained earnings; and (5) “Quantitative and Qualitative Disclosures about Market Risk,” about: (a) the impact of foreign currency exchange risks, (b) future hedging activity and expectations of the Company, and (c) the ability of counterparties to financial instruments to perform their obligations.

Some of the risk factors that affect our business and financial results are discussed in “Item 1A: Risk Factors.” We caution the reader that the risk factors discussed in “Item 1A: Risk Factors,” and those described elsewhere in this report or in our other Securities and Exchange Commission filings, could cause our actual results to differ materially from those stated in the forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

As of December 31, 2017, we have $4.5 billion of long-term debt, including the current portion of long-term debt, which is primarily priced at long-term, fixed interest rates. Our subsidiaries have variable interest loans denominated in the Euro and Chilean Peso. We have interest rate swap agreements in place which change the characteristics of interest rate payments from variable to maximum fixed-rate payments. A hypothetical unfavorable movement of 10% in the interest rates would have an immaterial impact on the hedge's fair value.

Foreign Currency Risk

We use financial instruments to reduce our overall exposure to the effects of currency fluctuations on cash flows. Our policy prohibits speculation in financial instruments for profit on exchange rate price fluctuations, trading in currencies for which there are no underlying exposures, or entering into transactions for any currency to intentionally increase the underlying exposure. Instruments that are designated as part of a hedging relationship must be effective at reducing the risk associated with the exposure being hedged and are designated as part of a hedging relationship at the inception of the contract. Accordingly, changes in the market values of hedge instruments must be highly correlated with changes in market values of the underlying hedged items both at the inception of the hedge and over the life of the hedge contract.

Our strategy related to foreign exchange exposure management is to offset the gains or losses on the financial instruments against losses or gains on the underlying operational cash flows or investments based on our assessment of risk. We enter into derivative contracts for some of our non-functional currency cash, receivables, and payables, which are primarily denominated in major currencies that can be traded on open markets. We typically use forward contracts and options to hedge these currency exposures. In addition, we enter into derivative contracts for some forecasted transactions, which are designated as part of a hedging relationship if it is determined that the transaction qualifies for hedge accounting under the provisions of the authoritative accounting guidance for derivative instruments and hedging activities. A portion of our exposure is from currencies that are not traded in liquid markets and these are addressed, to the extent reasonably possible, by managing net asset positions, product pricing and component sourcing.

At December 31, 2017, we had outstanding foreign exchange contracts totaling $507 million, compared to $717 million outstanding at December 31, 2016. Management does not believe these financial instruments should subject it to undue risk due to foreign exchange movements because gains and losses on these contracts should generally offset gains and losses on the underlying assets, liabilities and transactions.

The following table shows the five largest net notional amounts of the positions to buy or sell foreign currency as of December 31, 2017 and the corresponding positions as of December 31, 2016:

	Notional Amount	
Net Buy (Sell) by Currency	**2017**	2016
Euro	**$ 149**	$ 122
British Pound	**72**	246
Chinese Renminbi	**(73)**	(108)
Australian Dollar	**(64)**	(51)
Brazilian Real	**(45)**	(56)

Foreign exchange financial instruments that are subject to the effects of currency fluctuations, which may affect reported earnings, include derivative financial instruments and other monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity holding the instrument. Derivative financial instruments consist primarily of currency forward contracts and options. Other monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity consist primarily of cash, cash equivalents, short-term investments, as well as accounts payable and receivable. Accounts payable and receivable are reflected at fair value in the financial statements. Assuming the amounts of the outstanding foreign exchange contracts represent our underlying foreign exchange risk related to monetary assets and liabilities, a hypothetical unfavorable 10% movement in the foreign exchange rates, from current levels, would reduce the value of those monetary assets and liabilities by approximately $52 million. Our market risk calculation represents an estimate of reasonably possible net losses that would be recognized assuming hypothetical 10% movements in future currency market pricing and is not necessarily indicative of actual results, which may or may not occur. It does not represent the maximum possible loss or any expected loss that may occur, since actual future gains and losses will differ from those estimated, based upon, among other things, actual fluctuation in market rates, operating exposures, and the timing thereof. We believe, however, that any such loss incurred would be offset by the effects of market rate movements on the respective underlying derivative financial instruments transactions. The foreign exchange financial instruments are held for purposes other than trading.

Item 8: Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Motorola Solutions, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Motorola Solutions, Inc. and subsidiaries (the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income (loss), stockholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2017, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 16, 2018 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

We have served as the Company’s auditor since 1959.

KPMG LLP

Chicago, Illinois

February 16, 2018

Consolidated Statements of Operations

	Years ended December 31		
(In millions, except per share amounts)	**2017**	2016	2015
Net sales from products	**$ 3,772**	$ 3,649	$ 3,676
Net sales from services	**2,608**	2,389	2,019
Net sales	**6,380**	6,038	5,695
Costs of products sales	**1,686**	1,649	1,625
Costs of services sales	**1,670**	1,520	1,351
Costs of sales	**3,356**	3,169	2,976
Gross margin	**3,024**	2,869	2,719
Selling, general and administrative expenses	**979**	1,000	1,021
Research and development expenditures	**568**	553	620
Other charges	**195**	249	84
Operating earnings	**1,282**	1,067	994
Other income (expense):			
Interest expense, net	**(201)**	(205)	(173)
Gains (losses) on sales of investments and businesses, net	**3**	(6)	107
Other	**(8)**	(12)	(11)
Total other expense	**(206)**	(223)	(77)
Earnings from continuing operations before income taxes	**1,076**	844	917
Income tax expense	**1,227**	282	274
Earnings (loss) from continuing operations	**(151)**	562	643
Loss from discontinued operations, net of tax	**—**	—	(30)
Net earnings (loss)	**(151)**	562	613
Less: Earnings attributable to noncontrolling interests	**4**	2	3
Net earnings (loss) attributable to Motorola Solutions, Inc.	**$ (155)**	$ 560	$ 610
Amounts attributable to Motorola Solutions, Inc. common stockholders:			
Earnings (loss) from continuing operations, net of tax	**$ (155)**	$ 560	$ 640
Loss from discontinued operations, net of tax	**—**	—	(30)
Net earnings (loss) attributable to Motorola Solutions, Inc.	**$ (155)**	$ 560	$ 610
Earnings (loss) per common share:			
Basic:			
Continuing operations	**$ (0.95)**	$ 3.30	$ 3.21
Discontinued operations	**—**	—	(0.15)
	$ (0.95)	$ 3.30	$ 3.06
Diluted:			
Continuing operations	**$ (0.95)**	$ 3.24	$ 3.17
Discontinued operations	**—**	—	(0.15)
	$ (0.95)	$ 3.24	$ 3.02
Weighted average common shares outstanding:			
Basic	**162.9**	169.6	199.6
Diluted	**162.9**	173.1	201.8
Dividends declared per share	**$ 1.93**	$ 1.70	$ 1.43

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Loss)

	Years ended December 31		
(In millions)	**2017**	2016	2015
Net earnings (loss)	**$ (151)**	$ 562	$ 613
Other comprehensive income (loss), net of tax (Note 3):			
Foreign currency translation adjustments	**141**	(228)	(62)
Marketable securities	**6**	3	(47)
Defined benefit plans	**(392)**	(226)	98
Total other comprehensive loss, net of tax	**(245)**	(451)	(11)
Comprehensive income (loss)	**(396)**	111	602
Less: Earnings attributable to noncontrolling interest	**4**	2	3
Comprehensive income (loss) attributable to Motorola Solutions, Inc. common shareholders	**$ (400)**	$ 109	$ 599

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

(In millions, except par value)	*December 31* **2017**	2016
ASSETS		
Cash and cash equivalents	**$ 1,205**	$ 967
Restricted cash	**63**	63
Total cash and cash equivalents	**1,268**	1,030
Accounts receivable, net	**1,523**	1,410
Inventories, net	**327**	273
Other current assets	**832**	755
Total current assets	**3,950**	3,468
Property, plant and equipment, net	**856**	789
Investments	**247**	238
Deferred income taxes	**1,023**	2,219
Goodwill	**938**	728
Intangible assets, net	**861**	821
Other assets	**333**	200
Total assets	**$ 8,208**	$ 8,463
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current portion of long-term debt	**$ 52**	$ 4
Accounts payable	**593**	553
Accrued liabilities	**2,286**	2,111
Total current liabilities	**2,931**	2,668
Long-term debt	**4,419**	4,392
Other liabilities	**2,585**	2,355
Stockholders' Equity		
Preferred stock, $100 par value	**—**	—
Common stock, $.01 par value:	**2**	2
Authorized shares: 600.0		
Issued shares: 12/31/17—161.6; 12/31/16—165.5		
Outstanding shares: 12/31/17—161.2; 12/31/16—164.7		
Additional paid-in capital	**351**	203
Retained earnings	**467**	1,148
Accumulated other comprehensive loss	**(2,562)**	(2,317)
Total Motorola Solutions, Inc. stockholders' equity (deficit)	**(1,742)**	(964)
Noncontrolling interests	**15**	12
Total stockholders' equity (deficit)	**(1,727)**	(952)
Total liabilities and stockholders' equity	**$ 8,208**	$ 8,463

See accompanying notes to consolidated financial statements.

Consolidated Statements of Stockholders' Equity

(In millions, except per share amounts)	*Shares*	*Common Stock and Additional Paid-in Capital*	*Accumulated Other Comprehensive Income (Loss)*	*Retained Earnings*	*Noncontrolling Interests*
Balance as of January 1, 2015	**220.5**	**$ 1,180**	**$ (1,855)**	**$ 3,410**	**$ 31**
Net earnings				610	3
Other comprehensive loss			(11)		
Issuance of common stock and stock options exercised	2.0	80			
Share repurchase program	(48.0)	(1,147)		(2,030)	
Tax shortfalls from share-based compensation		(155)			
Share-based compensation expense		78			
Sale of controlling interest in subsidiary common stock					(24)
Equity component of Senior Convertible Notes		8			
Dividends declared				(274)	
Balance as of December 31, 2015	**174.5**	**$ 44**	**$ (1,866)**	**$ 1,716**	**$ 10**
Net earnings				560	2
Other comprehensive loss			(451)		
Issuance of common stock and stock options exercised	3.0	93			
Share repurchase program	(12.0)			(842)	
Share-based compensation expense		68			
Dividends declared				(286)	
Balance as of December 31, 2016	**165.5**	**$ 205**	**$ (2,317)**	**$ 1,148**	**$ 12**
Net earnings (loss)				(155)	4
Other comprehensive income			25		
Issuance of common stock and stock options exercised	1.8	82			
Share repurchase program	(5.7)			(483)	
Reclassification of stranded tax effects			(270)	270	
Share-based compensation expense		66			
Dividends paid to noncontrolling interest on subsidiary common stock					(1)
Dividends declared				(313)	
Balance as of December 31, 2017	**161.6**	**$ 353**	**$ (2,562)**	**$ 467**	**$ 15**

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

	Years ended December 31		
(In millions)	**2017**	2016	2015
Operating			
Net earnings (loss) attributable to Motorola Solutions, Inc.	**$ (155)**	$ 560	$ 610
Earnings attributable to noncontrolling interests	**4**	2	3
Net earnings (loss)	**(151)**	562	613
Loss from discontinued operations, net of tax	**—**	—	(30)
Earnings (loss) from continuing operations, net of tax	**(151)**	562	643
Adjustments to reconcile earnings (loss) from continuing operations to net cash provided by operating activities:			
Depreciation and amortization	**343**	295	150
Non-cash other charges	**32**	54	52
Non-U.S. pension curtailment gain	**—**	—	(32)
Non-U.S. pension settlement loss	**48**	26	—
Share-based compensation expense	**66**	68	78
Loss (gains) on sales of investments and businesses, net	**(3)**	6	(107)
Loss from the extinguishment of long-term debt	**—**	2	—
Deferred income taxes	**1,100**	213	160
Changes in assets and liabilities, net of effects of acquisitions, dispositions, and foreign currency translation adjustments:			
Accounts receivable	**(60)**	(6)	21
Inventories	**(46)**	6	16
Other current assets	**(99)**	(185)	92
Accounts payable and accrued liabilities	**160**	241	26
Other assets and liabilities	**(44)**	(117)	(78)
Net cash provided by operating activities from continuing operations	**1,346**	1,165	1,021
Investing			
Acquisitions and investments, net	**(404)**	(1,474)	(586)
Proceeds from sales of investments and businesses, net	**183**	670	230
Capital expenditures	**(227)**	(271)	(175)
Proceeds from sales of property, plant and equipment	**—**	73	3
Net cash used for investing activities from continuing operations	**(448)**	(1,002)	(528)
Financing			
Repayment of debt	**(21)**	(686)	(4)
Net proceeds from issuance of debt	**10**	673	971
Issuance of common stock	**82**	93	84
Purchase of common stock	**(483)**	(842)	(3,177)
Excess tax benefit from share-based compensation	**—**	—	5
Payment of dividends	**(307)**	(280)	(277)
Payment of dividends to non-controlling interest	**(1)**	**—**	—
Deferred acquisition costs	**(2)**	—	—
Net cash used for financing activities from continuing operations	**(722)**	(1,042)	(2,398)
Effect of exchange rate changes on cash and cash equivalents from continuing operations	**62**	(71)	(69)
Net increase (decrease) in cash and cash equivalents	**238**	(950)	(1,974)
Cash and cash equivalents, beginning of period	**1,030**	1,980	3,954
Cash and cash equivalents, end of period	**$ 1,268**	$ 1,030	$ 1,980
Supplemental Cash Flow Information			
Cash paid during the period for:			
Interest, net	**$ 176**	$ 191	$ 163
Income and withholding taxes, net of refunds	**122**	66	105

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

(Dollars in millions, except as noted)

1. Summary of Significant Accounting Policies

Principles of Consolidation: The consolidated financial statements include the accounts of Motorola Solutions, Inc. (the "Company" or "Motorola Solutions") and all controlled subsidiaries. All intercompany transactions and balances have been eliminated.

The consolidated financial statements as of December 31, 2017 and 2016 and for the years ended December 31, 2017, 2016 and 2015, include, in the opinion of management, all adjustments (consisting of normal recurring adjustments and reclassifications) necessary to present fairly the Company's consolidated financial position, results of operations, statements of comprehensive income, and statements of stockholders' equity and cash flows for all periods presented.

Use of Estimates: The preparation of financial statements in conformity with United States ("U.S.") Generally Accepted Accounting Principles ("GAAP") requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Revenue Recognition: Net sales consist of a wide range of activities including the delivery of stand-alone equipment or services, custom design and installation over a period of time, and bundled sales of equipment, software and services. The Company enters into revenue arrangements that may consist of multiple deliverables of its products and services due to the needs of its customers. Such revenue arrangements may be a result of the combination of multiple contracts with our customers. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collectability of the sales price is reasonably assured. The Company recognizes revenue from the sale of equipment, equipment containing both software and nonsoftware components that function together to deliver the equipment's essential functionality, and services in accordance with general revenue recognition accounting principles. The Company recognizes revenue in accordance with software accounting guidance for the following types of sales transactions: (i) stand alone sales of software products or software upgrades and (ii) stand alone sales of software maintenance agreements.

Products

For equipment sales, in addition to the criteria mentioned above, revenue recognition occurs when title and risk of loss has transferred to the customer, objective evidence exists that customer acceptance provisions have been met, no significant obligations remain and allowances for discounts, price protection, returns and customer incentives can be reliably estimated. Recorded revenues are reduced by these allowances. The Company bases its estimates of these allowances on historical experience. The Company includes shipping charges billed to customers in revenue and includes the related shipping costs in cost of sales.

The Company sells software and equipment obtained from other companies. The Company establishes its own pricing and retains related inventory risk, is the primary obligor in sales transactions with customers, and assumes the credit risk for amounts billed to customers. Accordingly, the Company generally recognizes revenue for the sale of products obtained from other companies based on the gross amount billed.

Long-Term Contracts

For long-term contracts that involve customization of equipment and/or software, the Company generally recognizes revenue using the percentage of completion method based on the percentage of costs incurred to date compared to the total estimated costs to complete the contract ("Estimated Costs at Completion").

Total Estimated Costs at Completion include direct labor, material and subcontracting costs. Due to the nature of the work required to be performed under many of the Company's long-term contracts, determining Estimated Costs at Completion is complex and subject to many variables. The Company has a standard and disciplined quarterly process in which management reviews the progress and performance of open contracts including the related Estimated Costs at Completion. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion, the project schedule, identified risks and opportunities, and the related changes in estimates of revenues and costs. The risks and opportunities include management's judgment about the ability and cost to achieve the project schedule, technical requirements, and other contract requirements. Management must make assumptions and estimates regarding labor productivity and availability, the complexity of the work to be performed, the availability of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustments to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. Changes in estimates of net sales or cost of sales could affect the profitability of one or more of our contracts. The impact on Operating earnings as a result of changes in Estimated Costs at Completion was not significant for the years 2017, 2016, and 2015. When estimates of total costs to be incurred on a contract exceed total estimates of revenue to be earned, a provision for the entire loss on the contract is recorded in the period the loss is determined.

Hardware and Software Services Support

Revenue under equipment and software support and maintenance agreements, which do not contain specified future software upgrades, is recognized ratably over the contract term.

Software and Licenses

Revenue from pre-paid perpetual licenses is recognized at the inception of the arrangement, presuming all other revenue recognition criteria are met.

Multiple-Element Arrangements

Arrangements with customers may include multiple deliverables, including any combination of products, services and software. These multiple-element arrangements could also include an element accounted for as a long-term contract coupled with other products, services and software. For multiple-element arrangements, deliverables are separated into more than one unit of accounting when: (i) the delivered element(s) have value to the customer on a stand-alone basis and (ii) delivery of the undelivered element(s) is probable and substantially in the control of the Company.

In these arrangements, the Company generally allocates revenue to all deliverables based on their relative selling prices, applying an estimated selling price (“ESP”) as our best estimate of fair value. The Company determines ESP by: (i) collecting all reasonably available data points including sales, cost and margin analysis of the product or service, and other inputs based on its normal pricing and discounting practices, (ii) making any reasonably required adjustments to the data based on market and Company-specific factors, and (iii) stratifying the data points, when appropriate, based on major product or service, type of customer, geographic market, and sales volume. Once elements of an arrangement are separated into more than one unit of accounting, revenue is recognized for each separate unit of accounting based on the nature of the revenue as described above. The Company's arrangements with multiple deliverables may also contain one or more software deliverables that are subject to software revenue recognition guidance. In limited circumstances, the Company has established vendor specific objective evidence ("VSOE") of fair value on certain post-contract service offerings. Where the contract contains more than one deliverable and VSOE does not exist for the undelivered software elements, revenue is deferred until the undelivered element is delivered. When the final undelivered software element is post contract support services, revenue is recognized on a ratable basis over the remaining service period.

Cash Equivalents: The Company considers all highly-liquid investments purchased with an original maturity of three months or less to be cash equivalents. Restricted cash was $63 million at both December 31, 2017 and December 31, 2016.

Investments: Investments in equity and debt securities classified as available-for-sale are carried at fair value. Equity securities that are not publicly traded are carried at cost. Certain investments are accounted for using the equity method if the Company has significant influence over the issuing entity.

The Company assesses declines in the fair value of investments to determine whether such declines are other-than-temporary. This assessment is made considering all available evidence, including changes in general market conditions, specific industry and individual company data, the length of time and the extent to which the fair value has been less than cost, the financial condition and the near-term prospects of the entity issuing the security, and the Company’s ability and intent to hold the investment until recovery. Other-than-temporary impairments of investments are recorded to Other within Other income (expense) in the Company’s consolidated statements of operations in the period in which they become impaired.

Inventories: Inventories are valued at the lower of average cost (which approximates cost on a first-in, first-out basis) or net realizable value.

Property, Plant and Equipment: Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is recorded on a straight-line basis, based on the estimated useful lives of the assets (buildings and building equipment, five to forty years; machinery and equipment, two to ten years) and commences once the assets are ready for their intended use.

Goodwill and Intangible Assets: Goodwill is assessed for impairment at least annually at the reporting unit level. The Company performs its annual assessment of goodwill for impairment in the fourth quarter of each fiscal year. The annual assessment is performed using the two-step goodwill test which may also include the optional qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount prior to performing the two-step goodwill impairment test. If this is the case, the two-step goodwill impairment test is required. If it is more-likely-than-not that the fair value of a reporting unit is greater than its carrying amount, the two-step goodwill impairment test is not required.

If the two-step goodwill impairment test is performed, first, the fair value of each reporting unit is compared to its book value. Second, if the fair value of the reporting unit is less than its book value, the Company performs a hypothetical purchase price allocation based on the reporting unit's fair value to determine the fair value of the reporting unit's goodwill. Fair value is determined using a combination of present value techniques and market prices of comparable businesses.

Intangible assets are amortized on a straight line basis over their respective estimated useful lives ranging from one to sixteen years. The Company has no intangible assets with indefinite useful lives.

Impairment of Long-Lived Assets: Long-lived assets, which include intangible assets, held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of assets may not be recoverable. The Company evaluates recoverability of assets to be held and used by comparing the carrying amount of an asset (group) to future net undiscounted cash flows to be generated by the asset (group). If an asset (group) is considered to be impaired, the impairment to be recognized is equal to the amount by which the carrying amount of the asset (group) exceeds the asset's (group's) fair value calculated using a discounted future cash flows analysis or market comparable analysis. Assets held for sale, if any, are reported at the lower of the carrying amount or fair value less cost to sell.

Income Taxes: The Company records deferred income tax assets and liabilities based on the estimated future tax effects of differences between the financial and tax bases of assets and liabilities based on currently enacted tax laws. The Company's deferred and other tax balances are based on management's interpretation of the tax regulations and rulings in numerous tax jurisdictions. Income tax expense and liabilities recognized by the Company also reflect its best estimates and assumptions regarding, among other things, the level of future taxable income, the effect of the Company's various tax planning strategies, and uncertain tax positions. Future tax authority rulings and changes in tax laws, changes in projected levels of taxable income, and future tax planning strategies could affect the actual effective tax rate and tax balances recorded by the Company.

Sales and Use Taxes: The Company records taxes imposed on revenue-producing transactions, including sales, use, value added and excise taxes, on a net basis with such taxes excluded from revenue.

Long-term Receivables: Long-term receivables include trade receivables where contractual terms of the note agreement are greater than one year. Long-term receivables are considered impaired when management determines collection of all amounts due according to the contractual terms of the note agreement, including principal and interest, is no longer probable. Impaired long-term receivables are valued based on the present value of expected future cash flows discounted at the receivable’s effective interest rate, or the fair value of the collateral if the receivable is collateral dependent. Interest income and late fees on impaired long-term receivables are recognized only when payments are received. Previously impaired long-term receivables are no longer considered impaired and are reclassified to performing when they have performed under restructuring for four consecutive quarters.

Foreign Currency: Certain non-U.S. operations within the Company use their respective local currency as their functional currency. Those operations that do not have the U.S. dollar as their functional currency translate assets and liabilities at current rates of exchange in effect at the balance sheet date and revenues and expenses using rates that approximate those in effect during the period. The resulting translation adjustments are included as a component of Accumulated other comprehensive income (loss) in the Company’s consolidated balance sheets. For those operations that have the U.S. dollar as their functional currency, transactions denominated in the local currency are measured in U.S. dollars using the current rates of exchange for monetary assets and liabilities and historical rates of exchange for nonmonetary assets. Gains and losses from remeasurement of monetary assets and liabilities are included in Other within Other income (expense) within the Company’s consolidated statements of operations.

Derivative Instruments: Gains and losses on hedging instruments that do not qualify for hedge accounting are recorded immediately in Other income (expense) within the consolidated statements of operations. Gains and losses pertaining to instruments designated as net investment hedges that qualify for hedge accounting are recognized as a component of Accumulated comprehensive income.

Earnings Per Share: The Company calculates its basic earnings (loss) per share based on the weighted-average number of common shares issued and outstanding. Net earnings (loss) attributable to Motorola Solutions, Inc. is divided by the weighted average common shares outstanding during the period to arrive at the basic earnings (loss) per share. Diluted earnings (loss) per share is calculated by dividing net earnings (loss) attributable to Motorola Solutions, Inc. by the sum of the weighted average number of common shares used in the basic earnings (loss) per share calculation and the weighted average number of common shares that would be issued assuming exercise or conversion of all potentially dilutive securities, excluding those securities that would be anti-dilutive to the earnings (loss) per share calculation. Both basic and diluted earnings (loss) per share amounts are calculated for earnings (loss) from continuing operations and net earnings attributable to Motorola Solutions, Inc. for all periods presented.

Share-Based Compensation Costs: The Company grants share-based compensation awards and offers an employee stock purchase plan. The amount of compensation cost for these share-based awards is generally measured based on the fair value of the awards as of the date that the share-based awards are issued and adjusted to the estimated number of awards that are expected to vest. The fair values of stock options and stock appreciation rights are generally determined using a Black-Scholes option pricing model which incorporates assumptions about expected volatility, risk free rate, dividend yield, and expected life. Performance based stock options, performance-contingent stock options, and market stock units vest based on market conditions and are therefore measured under a Monte Carlo simulation in order to simulate a range of possible future unit prices for Motorola Solutions over the performance period. Compensation cost for share-based awards is recognized on a straight-line basis over the vesting period.

Retirement Benefits: The Company records annual expenses relating to its pension benefit and postretirement plans based on calculations which include various actuarial assumptions, including discount rates, assumed asset rates of return, compensation increases, and turnover rates. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends. The effects of the gains, losses, and prior service costs and credits are amortized either over the average service life or over the average remaining lifetime of the participants, depending on the number of active employees in the plan. The funded status, or projected benefit obligation less plan assets, for each plan, is reflected in the Company’s consolidated balance sheets using a December 31 measurement date.

Recent Accounting Pronouncements: In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers." This new standard will replace the existing revenue recognition guidance in U.S. GAAP. The core principle of the ASU is the recognition of revenue for the transfer of goods and services equal to the amount an entity expects to receive for those goods and services. This ASU requires additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and estimates and changes in those estimates. In August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers: Deferral of the Effective Date" that delayed the effective date of ASU No. 2014-09 by one year to January 1, 2018, as the Company’s annual reporting period begins after December 15, 2017.

The Company has analyzed the impact of the new standard on its financial results based on an inventory of the Company's current contracts with customers. The Company has obtained an understanding of the new standard and currently believes that it will retain much of the same accounting treatment used to recognize revenue under current standards. Revenue on a significant portion of the Company's contracts is currently recognized under percentage of completion accounting applying a cost-to-cost method, including contracts for radio network deployments based on the APCO P25, TETRA, and DMR technologies, as well as certain offerings within its Smart Public Safety Solutions requiring significant integration (collectively "network integration contracts").

Under the new standard, the Company must identify the distinct promises to transfer goods and/or services within its contracts using certain factors. For network integration contracts, the Company has considered the factors used to determine whether promises made in the contract are distinct and determined that devices and accessories represent distinct goods. Accordingly, adoption of the new standard will impact the Company's network integration contracts that include devices and accessories, with the resulting impact being revenue recognized earlier as control of the devices and accessories transfers to the customer at a point in time rather than over time. For the remaining promised goods and services within the Company's network integration contracts, it will continue to recognize revenue on these contracts using a cost-to-cost method based on the continuous transfer of control to the customer over time. Transfer of control in the Company's contracts is demonstrated by creating a customized asset for customers, in conjunction with contract terms which provide the right to receive payment for goods and services.

In addition, the standard may generally cause issuers to accelerate revenue recognition in contracts which were previously limited by software revenue recognition rules. While the Company has contracts which fall under these rules in the current standard, it has not historically deferred significant amounts of revenue under these rules as many arrangements are single-element software arrangements or sales of software with a tangible product which falls out of the scope of the current software rules. Based on the contracts currently in place, the Company does not anticipate a significant acceleration of revenue upon applying the new standard to its current contracts under these fact patterns.

The new standard also requires the concept of transfer of control to determine whether an entity must present revenue from providing goods or services at the gross amount billed to a customer (as a principal) or at the net amount retained (as an agent). Therefore, an entity must assess whether it controls the goods or services provided to a customer before they are transferred. The new standard provides three indicators to assist entities in determining control. Under the current standard, eight indicators (including the three indicators under the new standard) exist to evaluate whether an entity should present revenue gross as a principal or net as an agent. Historically, the Company presented transactions that involved a third-party sales representative on a net basis. After considering the control concept and remaining three indicators under the new standard, the Company has determined that it is the principal in contracts that involve a third-party sales representative. Thus, upon adoption of the new standard the Company will present associated revenues on a gross basis, recording third-party sales commissions within selling, general and administrative expenses.

Under current accounting standards, the Company expenses sales commissions as incurred. However, under ASU No. 2014-09, the Company will capitalize sales commissions as incremental costs to obtain a contract. Such costs will be classified as a contract asset and amortized over a period that approximates the timing of revenue recognition on the underlying contracts.

The Company has evaluated the impact of ASU No. 2014-09 on its financial results and determined to adopt this standard using the modified retrospective method, which requires the recognition of the cumulative effect of the transition as an adjustment to retained earnings for open contracts as of January 1, 2018. Based on the application of the changes described above to our contracts open as of January 1, 2018, the Company expects to recognize a transition adjustment in the range of $120 million to $140 million, net of deferred tax effects, which will increase its opening retained earnings. Based on the Company's existing operations, ASU No. 2014-09 is not expected to have a material impact to net earnings for the year ended December 31, 2018.

In February 2016, the FASB issued ASU No. 2016-02, "Leases," which amends existing guidance to require lessees to recognize assets and liabilities on the balance sheet for the rights and obligations created by long-term leases and to disclose additional quantitative and qualitative information about leasing arrangements. The ASU is effective for the Company on January 1, 2019 and interim periods within that reporting period. The ASU prescribes the use of a modified retrospective method upon adoption, which requires all prior periods presented in the financial statements to be restated, with a cumulative adjustment to retained earnings as of the beginning of the earliest period presented. The Company is in the process of assessing the impact of this ASU on its consolidated financial statements and footnote disclosures.

In August 2016, the FASB issued ASU No. 2016-15, “Statement of Cash Flows (Topic 230) - Classification of Certain Cash Receipts and Cash Payments,” which clarifies eight specific cash flow issues in an effort to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. This ASU is effective for the Company on January 1, 2018 with early adoption permitted. The Company intends to adopt this ASU on January 1, 2018. Upon adoption, the ASU requires a retrospective application unless it is determined that it is impractical to do so, in which case it must be retrospectively applied at the earliest date practical. Upon adoption, the Company does not anticipate significant changes to the Company's existing accounting policies or presentation of the Statement of Cash Flows.

In October 2016, the FASB issued ASU No. 2016-16, “Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory,” as part of the Board’s simplification initiative aimed at reducing complexity in accounting standards. This ASU eliminates the current application of deferring the income tax effect of intra-entity asset transfers, other than inventory, until the transferred asset is sold to a third party or otherwise recovered through use and will require entities to recognize tax expense when the transfer occurs. The guidance will be effective for the Company on January 1, 2018 and interim periods within that reporting period; early adoption permitted. The Company intends to adopt the ASU on January 1, 2018. The ASU requires a modified retrospective application with a cumulative-effect adjustment recorded in retained earnings as of the beginning of the period of adoption. The Company expects to record a $30 million cumulative-effect adjustment to beginning retained earnings in the first quarter of 2018 for the remaining unrecognized deferred tax expense related to intra-entity transfers of property, plant, and equipment.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," which requires that the statement of cash flows explain the change during the period in total cash, which is inclusive of cash and cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Restricted cash and restricted cash equivalents will be included with cash and cash equivalents when reconciling the beginning of period and end of period balances on the statement of cash flows upon adoption of this standard. The ASU is effective for the Company on January 1, 2018 with early adoption permitted. The Company intends to adopt the ASU on January 1, 2018. Upon adoption, the ASU requires retrospective application. The Company does not anticipate significant changes to the Company's financial statements and related disclosures from adoption of the ASU.

In March 2017, the FASB issued ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The amendments in this update require that an employer disaggregate the service cost component from the other components of net periodic cost (benefit) and report that component in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of net periodic cost (benefit) are required to be presented in the statement of operations separately from the service cost component and outside of operating earnings. The amendment also allows for the service cost component of net periodic cost (benefit) to be eligible for capitalization when applicable. The guidance will be effective for the Company on January 1, 2018 and interim periods within that reporting period; early adoption is permitted. The guidance on the income statement presentation of the components of net periodic cost (benefit) must be applied retrospectively, while the guidance limiting the capitalization of net periodic cost (benefit) in assets to the service cost component must be applied prospectively. The Company intends to adopt this ASU on January 1, 2018. Upon adoption, the Company plans to update the presentation of net periodic cost (benefit) accordingly, noting all components of the Company's net periodic cost (benefit), with the exception of the service cost component, will be presented outside of operating earnings. The estimated impact of adoption of the ASU will be a reclassification of certain components of net periodic benefit from operating earnings to other income (expense) in the amount of approximately $8 million and $29 million for the years ended December 31, 2017 and December 31, 2016, respectively.

In August 2017, the FASB issued ASU No. 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities," which is intended to simplify the application of hedge accounting and better portray the economic results of risk management strategies in the consolidated financial statements. The ASU expands and refines hedge accounting for both financial and non-financial risk components, aligns the recognition and presentation of the effects of hedging instruments and hedge items in the financial statements, and includes certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. The ASU is effective for the Company on January 1, 2019 with adoption permitted immediately in any interim or annual period (including the current period). The Company is currently assessing the impact of this ASU, including transition elections and required elections, on its consolidated financial statements and the timing of adoption.

Recently Adopted Accounting Pronouncements: The Company has elected to early adopt ASU No. 2018-2, "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," as of January 1, 2017. The ASU, which was issued by the FASB in February 2018, allows for a reclassification from Accumulated other comprehensive income to Retained earnings for stranded tax effects resulting from the newly enacted federal corporate income tax rate and other stranded tax amounts related to the Tax Act. As a result of adoption of the ASU, the Company reclassified $270 million of stranded tax effects related to our U.S. Pension Plans out of Accumulated other comprehensive loss and into Retained earnings for the year ended December 31, 2017.

2. Subsequent Events

On February 1, 2018, we announced our intention to purchase Avigilon Corporation, a provider of advanced end-to-end security and surveillance solutions including video analytics, network video management hardware and software, surveillance cameras and access control solutions for a purchase price of approximately $1.3 billion Canadian dollars.

3. Other Financial Data

Statement of Operations Information

Other Charges (Income)

Other charges (income) included in Operating earnings consist of the following:

Years ended December 31	**2017**	2016	2015
Other charges (income):			
Intangibles amortization (Note 14)	**$ 151**	$ 113	$ 8
Reorganization of businesses (Note 13)	**33**	77	71
Gain on legal settlement	**(47)**	—	—
Asset impairments	**9**	20	37
Non-U.S. pension curtailment gain (Note 7)	**—**	—	(32)
Non-U.S. pension plan settlement loss (Note 7)	**48**	26	—
Acquisition-related transaction fees	**1**	13	—
	$ 195	$ 249	$ 84

During the year ended December 31, 2017, the Company recognized a net gain of $47 million related to the recovery, through legal procedures to seize and liquidate assets, of financial receivables owed to the Company by a former customer of its legacy Networks business. The net gain of $47 million was based on $57 million of proceeds received, net $10 million of fees owed to third parties for their involvement in the recovery.

During the years ended December 31, 2017, December 31, 2016 and December 31, 2015, the Company recognized $9 million, $20 million and $37 million, respectively, of asset impairments. During the years ended December 31, 2017 and December 31, 2016, the impairments were primarily related to building impairments from the sale of various corporate and manufacturing facilities. During the year ended December 31, 2015, the impairments were primarily driven by the sale of the Company's corporate aircraft.

During the year ended December 31, 2017, the Company expensed $1 million of acquisition-related transaction fees compared to $13 million of transaction fees related to the acquisition of Airwave during the year ended December 31, 2016.

Other Income (Expense)

Interest expense, net, and Other both included in Other income (expense) consist of the following:

Years ended December 31	**2017**	2016	2015
Interest expense, net:			
Interest expense	**$ (215)**	$ (225)	$ (186)
Interest income	**14**	20	13
	$ (201)	$ (205)	$ (173)
Other:			
Loss from the extinguishment of long-term debt	**$ —**	$ (2)	$ —
Investment impairments	**—**	(4)	(6)
Foreign currency gain (loss)	**(31)**	46	(23)
Gain (loss) on derivative instruments	**15**	(56)	7
Gains on equity method investments	**1**	5	6
Realized foreign currency loss on acquisition	**—**	(10)	—
Other	**7**	9	5
	$ (8)	$ (12)	$ (11)

During the year ended December 31, 2017, the Company recognized a foreign currency loss of $31 million, primarily driven by the Euro and British pound, partially offset by a gain of $15 million on derivative instruments put in place to minimize the foreign exchange risk related to currency fluctuations.

During the year ended December 31, 2016, the Company recognized a foreign currency gain of $46 million, primarily driven by the British pound, offset by a loss of $56 million, on derivative instruments put in place to minimize the foreign exchange risk related to currency fluctuations. The Company also realized a $10 million foreign currency loss on currency purchased and held in anticipation of the acquisition of Airwave during the year ended December 31, 2016.

During the year ended December 31, 2015, the Company recognized foreign currency loss of $23 million, primarily driven by the Euro and Brazilian real, partially offset by a gain of $7 million on derivative instruments put in place to minimize the foreign exchange risk related to currency fluctuations.

Earnings Per Common Share

Basic and diluted earnings per common share from both continuing operations and net earnings attributable to Motorola Solutions, Inc. is computed as follows:

	Amounts attributable to Motorola Solutions, Inc. common stockholders					
	Earnings (loss) from Continuing Operations			*Net Earnings (loss)*		
Years ended December 31	**2017**	2016	2015	**2017**	2016	2015
Basic earnings per common share:						
Earnings (loss)	**$ (155)**	$ 560	$ 640	**$ (155)**	$ 560	$ 610
Weighted average common shares outstanding	**162.9**	169.6	199.6	**162.9**	169.6	199.6
Per share amount	**$ (0.95)**	$ 3.30	$ 3.21	**$ (0.95)**	$ 3.30	$ 3.06
Diluted earnings per common share:						
Earnings (loss)	**$ (155)**	$ 560	$ 640	**$ (155)**	$ 560	$ 610
Weighted average common shares outstanding	**162.9**	169.6	199.6	**162.9**	169.6	199.6
Add effect of dilutive securities:						
Share-based awards	**—**	2.7	2.1	**—**	2.7	2.1
Senior Convertible Notes	**—**	0.8	0.1	**—**	0.8	0.1
Diluted weighted average common shares outstanding	**162.9**	173.1	201.8	**162.9**	173.1	201.8
Per share amount	**$ (0.95)**	$ 3.24	$ 3.17	**$ (0.95)**	$ 3.24	$ 3.02

In the computation of diluted earnings per common share from continuing operations and on a net earnings basis for the year ended December 31, 2017, the Company recorded a net loss from continuing operations and, accordingly, the basic and diluted weighted average shares outstanding are equal because any increase to the basic shares would be antidilutive, including the assumed exercise of 8.7 million options, the assumed vesting of 1.4 million RSUs, and 3.1 million shares related to the Senior Convertible Notes. In the computation of diluted earnings per common share from continuing operations and on a net earnings basis for the year ended December 31, 2016, the assumed exercise of 2.8 million stock options and the assumed vesting of 0.3 million RSUs, including 2.0 million subject to market-based contingent stock agreements, were excluded because their inclusion would have been antidilutive. In the computation of diluted earnings per common share from continuing operations and on a net earnings basis for the year ended December 31, 2015, the assumed exercise of 2.7 million stock options and the assumed vesting of 0.3 million RSUs, including 1.2 million subject to market-based contingent stock agreements, were excluded because their inclusion would have been antidilutive.

On August 25, 2015, the Company issued $1.0 billion of 2% Senior Convertible Notes which mature in September 2020 (the "Senior Convertible Notes"). The notes became fully convertible as of August 25, 2017. In the event of conversion, the Company intends to settle the principal amount of the Senior Convertible Notes in cash. Because of the Company’s intention to settle the par value of the Senior Convertible Notes in cash upon conversion, only the number of shares that would be issuable (under the treasury stock method of accounting for share dilution) are included in our computation of diluted earnings per share. The conversion price is adjusted for dividends declared through the date of settlement. Diluted earnings per share has been calculated based upon the amount by which the average stock price exceeds the conversion price.

Balance Sheet Information

Accounts Receivable, Net

Accounts receivable, net, consists of the following:

December 31	**2017**	2016
Accounts receivable	**$ 1,568**	$ 1,454
Less allowance for doubtful accounts	**(45)**	(44)
	$ 1,523	$ 1,410

Inventories, Net

Inventories, net, consist of the following:

December 31	**2017**	2016
Finished goods	**$ 178**	$ 151
Work-in-process and production materials	**282**	253
	460	404
Less inventory reserves	**(133)**	(131)
	$ 327	$ 273

Other Current Assets

Other current assets consist of the following:

December 31	**2017**	2016
Available-for-sale securities	**$ —**	$ 46
Costs and earnings in excess of billings	**549**	476
Contract-related deferred costs	**62**	19
Tax-related refunds receivable	**90**	90
Other	**131**	124
	$ 832	$ 755

Property, Plant and Equipment, Net

Property, plant and equipment, net, consist of the following:

December 31	**2017**	2016
Land	**$ 11**	$ 12
Building	**316**	306
Machinery and equipment	**2,122**	1,921
	2,449	2,239
Less accumulated depreciation	**(1,593)**	(1,450)
	$ 856	$ 789

Depreciation expense for the years ended December 31, 2017, 2016, and 2015 was $192 million, $182 million and $142 million, respectively.

Property, plant and equipment, net includes capital leases of $73 million, net of accumulated depreciation of $11 million, as of December 31, 2017.

Investments

Investments consist of the following:

December 31, 2017	*Cost Basis*	*Unrealized Gains*	*Investments*
Available-for-sale securities:			
Corporate bonds	$ 2	$ —	$ 2
Common stock	5	8	13
	7	8	15
Other investments	219	—	219
Equity method investments	13	—	13
	$ 239	$ 8	$ 247

December 31, 2016	*Cost Basis*	*Unrealized Gains*	*Investments*
Available-for-sale securities:			
Government, agency, and government-sponsored enterprise obligations	$ 51	$ —	$ 51
Corporate bonds	5	—	5
	56	—	56
Other investments	211	—	211
Equity method investments	17	—	17
	284	—	284
Less: current portion of available-for-sale securities			46
			$ 238

Other investments include strategic investments in non-public technology-driven startup companies recorded at cost of $78 million and $76 million, and insurance policies recorded at their cash surrender value of $141 million and $135 million, at December 31, 2017 and December 31, 2016, respectively.

The Company recognized gains on the sale of investments and businesses of $3 million for the year ended December 31, 2017, compared to losses on the sale of investments and business of $6 million for the year ended December 31, 2016 and gains on the sale of investments and business of $107 million for the year ended December 31, 2015. During the years ended, December 31, 2016 and 2015 the Company recorded investment impairment charges of $4 million and $6 million, respectively, representing other-than-temporary declines in the value of the Company's equity investment portfolio. There were no investment impairments recorded during the year ended December 31, 2017. Investment impairment charges are included in Other within Other income (expense) in the Company's consolidated statements of operations.

Other Assets

Other assets consist of the following:

December 31	**2017**	2016
Long-term receivables	**$ 19**	$ 49
Defined benefit plan assets	**133**	102
Tax receivable (Note 6)	**101**	—
Other	**80**	49
	$ 333	$ 200

Accrued Liabilities

Accrued liabilities consist of the following:

December 31	**2017**	2016
Deferred revenue	**$ 613**	$ 439
Compensation	**273**	250
Billings in excess of costs and earnings	**428**	434
Tax liabilities	**107**	111
Deferred consideration (Note 14)	**83**	—
Dividend payable	**84**	77
Trade liabilities	**151**	180
Other	**547**	620
	$ 2,286	$ 2,111

Other Liabilities

Other liabilities consist of the following:

December 31	**2017**	2016
Defined benefit plans	**$ 2,019**	$ 1,799
Deferred revenue	**169**	115
Unrecognized tax benefits	**54**	39
Deferred income taxes	**115**	121
Deferred consideration (Note 14)	**—**	72
Other	**228**	209
	$ 2,585	$ 2,355

Stockholders' Equity Information

Share Repurchase Program: Through a series of actions, the Board of Directors has authorized the Company to repurchase in the aggregate up to $14.0 billion of its outstanding shares of common stock (the "share repurchase program"). The share repurchase program does not have an expiration date. As of December 31, 2017, the Company had used approximately $12.3 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving $1.7 billion of authority available for future repurchases.

During 2017, the Company paid an aggregate of $483 million, including transaction costs, to repurchase 5.7 million shares at an average price of $85.32 per share. During 2016, the Company paid an aggregate of $842 million, including transaction costs, to repurchase 12.0 million shares at an average price of $70.28. During 2015, the Company paid an aggregate of $3.2 billion, including transaction costs, to repurchase 48.0 million shares at an average price of $66.22. Shares repurchased in 2015 include 30.1 million shares repurchased under a modified "Dutch auction" tender offer at a tender price of $66.50 for an aggregate of $2.0 billion, including transaction costs.

Payment of Dividends: On November 2, 2017, the Company announced that its Board of Directors approved an increase in the quarterly cash dividend from $0.47 per share to $0.52 per share of common stock. During the years ended December 31, 2017, 2016, and 2015 the Company paid $307 million, $280 million, and $277 million, respectively, in cash dividends to holders of its common stock.

Accumulated Other Comprehensive Loss

The following table displays the changes in Accumulated other comprehensive loss, including amounts reclassified into income, and the affected line items in the consolidated statements of operations during the years ended December 31, 2017, 2016, and 2015:

	Years ended December 31		
	2017	*2016*	*2015*
Foreign Currency Translation Adjustments:			
Balance at beginning of period	**$ (494)**	$ (266)	$ (204)
Other comprehensive income (loss) before reclassification adjustment	**133**	(227)	(82)
Tax benefit (expense)	**8**	(1)	20
Other comprehensive income (loss), net of tax	**141**	(228)	(62)
Balance at end of period	**$ (353)**	$ (494)	$ (266)
Available-for-Sale Securities:			
Balance at beginning of period	**$ —**	$ (3)	$ 44
Other comprehensive income (loss) before reclassification adjustment	**8**	—	(15)
Tax benefit (expense)	**(2)**	—	5
Other comprehensive income (loss) before reclassification adjustment, net of tax	**6**	—	(10)
Reclassification adjustment into Losses (Gains) on sales of investments and businesses	**—**	5	(61)
Tax expense (benefit)	**—**	(2)	24
Reclassification adjustment into Earnings from continuing operations, net of tax	**—**	3	(37)
Other comprehensive income (loss), net of tax	**6**	3	(47)
Balance at end of period	**$ 6**	$ —	$ (3)
Defined Benefit Plans:			
Balance at beginning of period	**$ (1,823)**	$ (1,597)	$ (1,695)
Other comprehensive income (loss) before reclassification adjustment	**(260)**	(368)	108
Tax benefit (expense)	**(213)**	98	12
Other comprehensive income (loss) before reclassification adjustment, net of tax	**(473)**	(270)	120
Reclassification adjustment - Actuarial net losses into Selling, general, and administrative expenses	**65**	53	71
Reclassification adjustment - Prior service benefits into Selling, general, and administrative expenses	**(18)**	(27)	(62)
Reclassification adjustment - Non-U.S. pension curtailment gain into Other charges	**—**	—	(32)
Reclassification adjustment - Non-U.S. pension settlement loss into Other charges	**48**	26	—
Tax expense (benefit)	**(14)**	(8)	1
Reclassification adjustment into Earnings from continuing operations, net of tax	**81**	44	(22)
Other comprehensive income (loss), net of tax	**(392)**	(226)	98
Balance at end of period	**$ (2,215)**	$ (1,823)	$ (1,597)
Total Accumulated other comprehensive loss	**$ (2,562)**	$ (2,317)	$ (1,866)

During the year ended December 31, 2017, the Company reclassified $270 million of stranded tax effects out of Accumulated other comprehensive loss and into Retained earnings. The stranded tax effects remained a component of Accumulated other comprehensive loss as a result of the remeasurement of our deferred tax assets related to our U.S. Pension Plans through the statement of operations, to the new U.S. federal tax rate of 21%. As a result, stranded tax effects within Accumulated other comprehensive loss which would not be realized at the established historical tax rates have now been adjusted through equity.

4. Debt and Credit Facilities

Long-Term Debt

December 31	**2017**	2016
2.0% Senior Convertible Notes due 2020	**$ 1,000**	$ 988
3.5% senior notes due 2021	**396**	395
3.75% senior notes due 2022	**747**	746
3.5% senior notes due 2023	**594**	593
4.0% senior notes due 2024	**590**	588
6.5% debentures due 2025	**118**	117
7.5% debentures due 2025	**346**	345
6.5% debentures due 2028	**36**	36
6.625% senior notes due 2037	**54**	54
5.5% senior notes due 2044	**396**	396
5.22% debentures due 2097	**91**	91
Other long-term debt	**108**	52
	4,476	4,401
Adjustments for unamortized gains on interest rate swap terminations	**(5)**	(5)
Less: current portion	**(52)**	(4)
Long-term debt	**$ 4,419**	$ 4,392

On August 25, 2015, the Company entered into an agreement with Silver Lake Partners to issue $1.0 billion of 2.0% Senior Convertible Notes which mature in September 2020. The notes became fully convertible as of August 25, 2017 based on a conversion rate of 14.7476, as may be adjusted for dividends declared, per $1,000 principal amount (which is currently equal to a published conversion price of $67.81 per share). The exercise price adjusts automatically for dividends. The value by which the Senior Convertible Notes exceeded their principal amount if converted as of December 31, 2017 was $366 million. In the event of conversion, the Company intends to settle the principal amount of the Senior Convertible Notes in cash.

The Company recorded a long-term debt liability associated with the Senior Convertible Notes by determining the fair value of an equivalent debt instrument without a conversion option. Using a discount rate of 2.4%, which was determined based on a review of relevant market data, the Company calculated the fair value of the debt liability to be $992 million, indicating an $8 million discount to be amortized over the expected life of the debt instrument. As of December 31, 2017, the remaining unamortized debt discount has been fully amortized as a component of interest expense compared to $3 million as of December 31, 2016. For the year ended December 31, 2017, total interest expense relating to both the contractual interest coupon and amortization of the debt discount was $23 million, compared to $24 million for the year December 31, 2016 and $8 million for the year ended December 31, 2015.

Aggregate requirements for long-term debt maturities during the next five years are as follows: 2018—$52 million; 2019—$6 million; 2020—$1,007 million; 2021—$417 million; and 2022—$770 million.

Credit Facilities

As of December 31, 2017, the Company had a $2.2 billion syndicated, unsecured revolving credit facility scheduled to mature in April 2022, which can be used for borrowing and letters of credit (the "2017 Motorola Solutions Credit Agreement"). The 2017 Motorola Solutions Credit Agreement includes a $500 million letter of credit sub-limit with $450 million of fronting commitments. Borrowings under the facility bear interest at the prime rate plus the applicable margin, or at a spread above the London Interbank Offered Rate, at the Company's option. An annual facility fee is payable on the undrawn amount of the credit line. The interest rate and facility fee are subject to adjustment if the Company's credit rating changes. The Company must comply with certain customary covenants including a maximum leverage ratio, as defined in the 2017 Motorola Solutions Credit Agreement. The Company was in compliance with its financial covenants as of December 31, 2017. During the year ended December 31, 2017, the Company had borrowings and repayments of $150 million under the 2017 Motorola Solutions Credit Agreement. Such borrowings were used to purchase Kodiak Networks in April of 2017, and were repaid using cash from operations in June of 2017. No letters of credit were issued under the revolving credit facility as of December 31, 2017.

5. Risk Management

Foreign Currency Risk

The Company uses financial instruments to reduce its overall exposure to the effects of currency fluctuations on cash flows. The Company's policy prohibits speculation in financial instruments for profit on exchange rate fluctuations, trading in currencies for which there are no underlying exposures, or entering into transactions for any currency to intentionally increase the underlying exposure. Instruments that are designated as part of a hedging relationship must be effective at reducing the risk associated with the exposure being hedged and are designated as part of a hedging relationship at the inception of the contract. Accordingly, changes in the market values of hedge instruments must be highly correlated with changes in market values of the underlying hedged items both at the inception of the hedge and over the life of the hedge contract.

The Company's strategy related to foreign exchange exposure management is to offset the gains or losses on the financial instruments against gains or losses on the underlying operational cash flows or investments based on the Company's assessment of risk. The Company enters into derivative contracts for some of its non-functional currency cash, receivables, and payables, which are primarily denominated in major currencies that can be traded on open markets. The Company typically uses forward contracts and options to hedge these currency exposures. In addition, the Company has entered into derivative contracts for some forecasted transactions, which are designated as part of a hedging relationship if it is determined that the transaction qualifies for hedge accounting under the provisions of the authoritative accounting guidance for derivative instruments and hedging activities. A portion of the Company's exposure is from currencies that are not traded in liquid markets and these are addressed, to the extent reasonably possible, by managing net asset positions, product pricing and component sourcing.

At December 31, 2017, the Company had outstanding foreign exchange contracts with notional amounts totaling $507 million, compared to $717 million outstanding at December 31, 2016. The Company does not believe these financial instruments should subject it to undue risk due to foreign exchange movements because gains and losses on these contracts should generally offset gains and losses on the underlying assets, liabilities and transactions.

The following table shows the Company's five largest net notional amounts of the positions to buy or sell foreign currency as of December 31, 2017 and the corresponding positions as of December 31, 2016:

	Notional Amount	
Net Buy (Sell) by Currency	**2017**	2016
Euro	**$ 149**	$ 122
British Pound	**72**	246
Chinese Renminbi	**(73)**	(108)
Australian Dollar	**(64)**	(51)
Brazilian Real	**(45)**	(56)

During the year ended December 31, 2017, the Company entered into forward contracts to sell £50 million, which expired in December 2017. The Company also entered into forward contracts to sell £25 million, expiring in June 2018, as well as to sell £25 million, expiring in September 2018. The forward contracts have been designated as a net investment hedge which is in place to partially hedge the Company's British pound foreign currency exposure on its net investment in Airwave Solutions Limited. The gains and losses on the Company's net investment in British pound-denominated foreign operations, driven by changes in foreign exchange rates, are economically offset by movements in the fair values of the forward contracts designated as net investment hedges. Any changes in fair value of the net investment hedges are reflected as a component of Accumulated other comprehensive loss. As of December 31, 2017, the fair value of the derivative contracts was a $3 million liability.

Interest Rate Risk

The Company's subsidiaries have variable interest loans denominated in the Euro and Chilean Peso. The Company has interest rate swap agreements in place which change the characteristics of interest rate payments from variable to maximum fixed-rate payments. The interest rate swaps are not designated as hedges. As such, changes in the fair value of the interest rate swaps are included in Other income (expense) in the Company's consolidated statements of operations. The fair value of the interest rate swaps was de minimus at December 31, 2017 and December 31, 2016.

Counterparty Risk

The use of derivative financial instruments exposes the Company to counterparty credit risk in the event of non-performance by counterparties. However, the Company's risk is limited to the fair value of the instruments when the derivative is in an asset position. The Company actively monitors its exposure to credit risk. As of December 31, 2017, all of the counterparties have investment grade credit ratings. As of December 31, 2017, the credit risk with all counterparties was approximately $5 million.

Derivative Financial Instruments

The following tables summarize the fair values and location in the consolidated balance sheets of all derivative financial instruments held by the Company at December 31, 2017 and 2016:

	Fair Values of Derivative Instruments			
	Assets		*Liabilities*	
December 31, 2017	*Fair Value*	*Balance Sheet Location*	*Fair Value*	*Balance Sheet Location*
Derivatives designated as hedging instruments:				
Foreign exchange contracts	$ —	Other assets	$ 3	Accrued liabilities
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	$ 5	Other assets	$ 2	Accrued liabilities
Total derivatives	$ 5		$ 5	

	Fair Values of Derivative Instruments			
	Assets		*Liabilities*	
December 31, 2016	*Fair Value*	*Balance Sheet Location*	*Fair Value*	*Balance Sheet Location*
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	$ 9	Other assets	$ 32	Accrued liabilities

The following table summarizes the effect of derivatives designated as hedging instruments, for the years ended December 31, 2017, 2016 and 2015:

	December 31			
Gain (Loss) on Derivative Instruments	**2017**	2016	2015	*Financial Statement Location*
Foreign exchange contracts	**$ (3)**	$ —	$ —	Other comprehensive income (loss)

The following table summarizes the effect of derivatives not designated as hedging instruments, for the years ended December 31, 2017, 2016 and 2015:

	December 31			
Gain (Loss) on Derivative Instruments	**2017**	2016	2015	*Financial Statement Location*
Interest agreements	**$ —**	$ 1	$ 1	Other income (expense)
Foreign exchange contracts	**15**	(57)	6	Other income (expense)
Total derivatives	**$ 15**	$ (56)	$ 7	

6. Income Taxes

Enactment of the U.S. Tax Cuts and Jobs Act

On December 22, 2017, the U.S. Tax Cuts and Jobs Act (the “Tax Act”) was enacted into law. The Tax Act contains broad and complex provisions including, but not limited to: (i) the reduction of corporate income tax rate from 35% to 21%, (ii) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, (iii) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries, (iv) modifying limitation on excessive employee remuneration, (v) requiring current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations, (vi) repeal of corporate alternative minimum tax (“AMT”) and changing how AMT credits can be realized, (vii) creating the Base Erosion Anti-abuse Tax ("BEAT"), a new minimum tax, (viii) creating a new limitation on deductible interest expense, (ix) changing rules related to uses and limitations of net operating loss carryforwards and foreign tax credits created in tax years beginning after December 31, 2017, and (x) eliminating the deduction for income attributable to domestic production activities.

As required under U.S. GAAP, the effects of tax law changes are recognized in the period of enactment. Accordingly, the Company has recorded incremental income tax expense in the amount of $874 million associated with the Tax Act during the year ended December 31, 2017, which is summarized as follows:

Year ended December 31, 2017			*Financial Statement Location*
Valuation allowance on foreign tax credit carryforward	$	471	Deferred tax expense
Re-measurement of U.S. deferred tax balances at 21%		366	Deferred tax expense
Transition tax on repatriation of foreign earnings		16	Current tax expense
Uncertain tax positions on foreign operations		21	Current tax expense
Total	$	874	

In addition to the provisional amounts recognized within current and deferred tax expense during the year ended December 31, 2017, the Company also recorded significant changes within the statement of financial position as of December 31, 2017 as a result of the Tax Act including: (i) the reclassification of $270 million of stranded tax effects within Accumulated other comprehensive loss to Retained earnings, primarily associated with our U.S. post-retirement plans and (ii) the presentation of $101 million of credits associated with previous payments under AMT from deferred tax assets to other non-current assets.

In response to the enactment of the Tax Act in late 2017, the U.S. Securities and Exchange Commission issued Staff Accounting Bulletin No. 118 (“SAB 118”) to address situations where the accounting is incomplete for certain income tax effects of the Tax Act upon issuance of an entity’s financial statements for the reporting period in which the Tax Act was enacted. Under SAB 118, a company may record provisional amounts during a measurement period for specific income tax effects of the Tax Act for which the accounting is incomplete but a reasonable estimate can be determined, and when unable to determine a reasonable estimate for any income tax effects, report provisional amounts in the first reporting period in which a reasonable estimate can be determined. The Company has recorded the impact of the tax effects of the Tax Act, relying on estimates where the accounting is incomplete as of December 31, 2017. As guidance and technical corrections are issued in the upcoming quarters, the Company will record updates to its original provisional estimates.

The Act reduces the corporate tax rate to 21 percent, effective January 1, 2018. Accordingly, we have recorded a provisional decrease of $366 million to deferred tax assets for the year ended December 31, 2017. While we are able to make a reasonable estimate of the impact of the reduction in corporate rate, it may be affected by other analyses related to the Tax Act, including, but not limited to, our calculation of subsequent payments and economic performance analyses. The analyses will continue throughout 2018 and will be completed when the Company files its income tax returns in late 2018.

The Tax Act creates a new requirement that certain income earned by controlled foreign corporations must be included currently in the gross income of the U.S. shareholder under the Global Intangible Low-Taxed Income ("GILTI") provision. Because of the complexity of the new GILTI tax rules, the Company is continuing to evaluate this provision of the Tax Act and the application within the Company’s financial statements. Under U.S. GAAP, the Company may make an accounting policy choice to: (i) record taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the “period cost method”) or (ii) factor such amounts into its measurement of deferred taxes (the “deferred method”). The Company’s selection of an accounting policy with respect to the new GILTI tax rules will depend, in part, on analyzing its global income to determine whether it expects to have future U.S. inclusions in taxable income related to GILTI and, if so, what the impact is expected to be. Because whether the Company expects to have future U.S. inclusions in taxable income related to GILTI depends on not only its current structure and estimated future results of global operations but also its intent and ability to modify its structure and/or business, it is not yet able to reasonably estimate the effect of this provision of the Tax Act. Therefore, the Company has not made any adjustments related to potential GILTI tax in its financial statements and has not made a policy decision regarding how to record the tax effects of GILTI as of December 31, 2017. The Company will continue to analyze the impact of GILTI as more guidance is issued and a decision will be made during 2018 on whether to treat the GILTI as a period cost or a deferred tax item.

The Tax Act includes a transition tax on the deemed distribution of previously untaxed accumulated and current earnings and profits of certain of foreign subsidiaries. To determine the amount of the transition tax, the Company must determine, in addition to other factors, the amount of post-1986 earnings and profits of relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. An estimate of the transition tax of $16 million has been recorded as of December 31, 2017. This amount is the net impact after considering the utilization of existing foreign tax credit carryforwards against the deemed repatriation liability of $60 million and the benefit of $44 million from additional tax credits generated from actual distributions made during 2017 in anticipation of the tax reform. The Company is continuing to gather additional information to more precisely compute the amount of the transition tax, any related impacts to the deferred tax liability on unremitted earnings of foreign subsidiaries that are not reinvested indefinitely, and the state income tax impact of the deemed distributions.

Provisions under the Tax Act drive significant changes to the Company’s ability to utilize foreign tax credit carryforwards to offset taxable income from foreign sourced operations. Prior to the enactment of the Tax Act, the Company planned to put in place certain tax planning strategies which would maximize its ability to utilize foreign tax credits against U.S. corporate income tax. As a result of the Tax Act, such strategies are no longer prudent or feasible. The Company has recorded a valuation allowance of $471 million against its U.S. foreign tax credit carryforwards, representing a reasonable estimate of its inability to utilize remaining tax credits under the Tax Act. The valuation allowance estimate is effected by various aspects of the Tax Act, such as the deemed repatriation of deferred foreign income, GILTI inclusions, and new foreign tax credit limitations. Therefore, this estimate is subject to change as the IRS and Treasury clarify the application of these provisions under the Tax Act and the Company evaluates its structure for foreign operations in light of the changes made by the Tax Act and considers tax planning opportunities which may be available and management is willing to implement.

Components of Income Tax Expense

Components of earnings (loss) from continuing operations before income taxes are as follows:

Years ended December 31	**2017**	2016	2015
United States	**$ 959**	$ 651	$ 725
Other nations	**117**	193	192
	$ 1,076	$ 844	$ 917

Components of income tax expense (benefit) are as follows:

Years ended December 31	**2017**	2016	2015
United States	**$ 43**	$ 20	$ 71
Other nations	**75**	31	30
States (U.S.)	**9**	18	13
Current income tax expense	**127**	69	114
United States	**1,078**	180	154
Other nations	**(8)**	36	(13)
States (U.S.)	**30**	(3)	19
Deferred income tax expense	**1,100**	213	160
Total income tax expense (benefit)	**$ 1,227**	$ 282	$ 274

Differences between income tax expense (benefit) computed at the U.S. federal statutory tax rate of 35% and income tax expense (benefit) as reflected in the consolidated statements of operations are as follows:

Years ended December 31	**2017**		2016		2015	
Income tax expense (benefit) at statutory rate	**$ 377**	**35.0 %**	$ 295	35.0 %	$ 321	35.0 %
Non-U.S. tax on non-U.S. earnings	**(28)**	**(2.6)%**	(25)	(3.0)%	(46)	(5.0)%
State income taxes, net of federal benefit	**39**	**3.6 %**	26	3.1 %	24	2.6 %
Reserve for uncertain tax positions	**3**	**0.3 %**	(13)	(1.6)%	1	0.1 %
Other provisions	**(7)**	**(0.6)%**	(2)	(0.4)%	14	1.6 %
Valuation allowances	**(8)**	**(0.7)%**	(7)	(0.8)%	(9)	(1.0)%
Section 199 deduction	**(18)**	**(1.7)%**	(15)	(1.7)%	(19)	(2.1)%
U.S. tax on undistributed non-U.S. earnings	**20**	**1.9 %**	25	3.0 %	(7)	(0.8)%
Research credits	**(4)**	**(0.4)%**	(2)	(0.2)%	(5)	(0.5)%
Loss on sale of investment	**(21)**	**(2.0)%**	—	— %	—	— %
U.S. tax reform	**874**	**81.2 %**	—	— %	—	— %
	$ 1,227	**114.0 %**	$ 282	33.4 %	$ 274	29.9 %

Income tax expense for the year ended December 31, 2017 was $1.2 billion, an increase of $945 million, driven by $874 million of non-recurring charges during the year related to the enactment of the Tax Act which drove an effective tax rate in excess of the current U.S. federal statutory rate of 35%.

Deferred tax balances that were recorded within Accumulated other comprehensive loss in the Company's consolidated balance sheets, rather than Income tax expense, are a result of retirement benefit adjustments, currency translation adjustments, and fair value adjustments to available-for-sale securities. The adjustments were benefits of $49 million, $87 million, and $62 million for the years ended December 31, 2017, 2016, and 2015, respectively.

The Company evaluates its permanent reinvestment assertions with respect to foreign earnings at each reporting period and generally, except for certain earnings that the Company intends to reinvest indefinitely due to the capital requirements of the foreign subsidiaries or due to local country restrictions, accrues for the U.S. federal and foreign income tax applicable to the earnings. As a result of the Tax Act, dividends from foreign subsidiaries are now exempt, and the U.S. tax accrual for undistributed foreign earnings is limited primarily to foreign withholding taxes and inherent capital gains that would result from distribution of foreign earnings which are not permanently reinvested.

Undistributed earnings that the Company intends to reinvest indefinitely, and for which no U.S. income taxes have been provided, aggregate to $1.8 billion at December 31, 2017. However, the Company believes that the additional income tax charge with respect to such earnings, if distributed, would be immaterial. On a cash basis, these repatriations from the Company's non-U.S. subsidiaries could require the payment of additional taxes. The portion of earnings not reinvested indefinitely may be distributed without an additional charge given the U.S. federal and foreign income tax accrued on undistributed earnings.

Gross deferred tax assets were $2.1 billion and $3.1 billion at December 31, 2017 and 2016, respectively. Deferred tax assets, net of valuation allowances, were $1.5 billion at December 31, 2017 and $3.0 billion at December 31, 2016, respectively. Gross deferred tax liabilities were $546 million and $900 million at December 31, 2017 and 2016, respectively.

Significant components of deferred tax assets (liabilities) are as follows:

December 31	**2017**	2016
Inventory	**$ 46**	$ 29
Accrued liabilities and allowances	**74**	136
Employee benefits	**374**	693
Capitalized items	**18**	169
Tax basis differences on investments	**—**	7
Depreciation tax basis differences on fixed assets	**72**	74
Undistributed non-U.S. earnings	**(26)**	(27)
Tax carryforwards	**778**	927
Business reorganization	**16**	36
Warranty and customer liabilities	**21**	21
Deferred revenue and costs	**142**	122
Valuation allowances	**(604)**	(118)
Deferred charges	**—**	37
Other	**(3)**	(8)
	$ 908	$ 2,098

At December 31, 2017 and 2016, the Company had valuation allowances of $604 million and $118 million, respectively, against its deferred tax assets, including $90 million and $85 million, respectively, relating to deferred tax assets for non-U.S. subsidiaries. The Company’s U.S. valuation allowance increased $481 million during 2017 primarily related to the $471 million valuation allowance on foreign tax credits due to new limitations imposed on the utilization of such credits under the Tax Act. The Company believes that the remaining deferred tax assets are more-likely-than-not to be realizable based on estimates of future taxable income and the implementation of tax planning strategies.

Tax carryforwards are as follows:

December 31, 2017	*Gross Tax Loss*	*Tax Effected*	*Expiration Period*
United States:			
U.S. tax losses	$ 56	$ 12	2022-2036
Foreign tax credits	—	471	2018-2023
General business credits	—	98	2026-2037
State tax losses	—	39	2018-2030
State tax credits	—	28	2018-2031
Non-U.S. Subsidiaries:			
Japan tax losses	100	31	2018-2025
Germany tax losses	35	11	Unlimited
United Kingdom tax losses	88	16	Unlimited
Singapore tax losses	33	6	Unlimited
Other subsidiaries tax losses	129	31	Various
Spain tax credits	—	26	Various
Other subsidiaries tax credits	—	9	Various
		$ 778	

The Company had unrecognized tax benefits of $76 million and $68 million at December 31, 2017 and December 31, 2016, respectively, of which approximately $30 million, if recognized, would affect the effective tax rate for both 2017 and 2016, net of resulting changes to valuation allowances.

A roll-forward of unrecognized tax benefits is as follows:

	2017	2016
Balance at January 1	**$ 68**	$ 88
Additions based on tax positions related to current year	**10**	—
Additions for tax positions of prior years	**22**	2
Reductions for tax positions of prior years	**(1)**	(15)
Settlements and agreements	**(20)**	(3)
Lapse of statute of limitations	**(3)**	(4)
Balance at December 31	**$ 76**	$ 68

The IRS has completed its examination of the Company's 2012 and 2013 tax years. The Company also has several state and non-U.S. audits pending. A summary of open tax years by major jurisdiction is presented below:

Jurisdiction	*Tax Years*
United States	2008-2017
Australia	2014-2017
Brazil	2013-2017
Canada	2014-2017
China	2013-2017
Mexico	2012-2017
Germany	2011-2017
India	1997-2017
Israel	2012-2017
Poland	2014-2017
Malaysia	2010-2017
United Kingdom	2016-2017

Although the final resolution of the Company’s global tax disputes is uncertain, based on current information, in the opinion of the Company’s management, the ultimate disposition of these matters will not have a material adverse effect on the Company’s consolidated financial position, liquidity or results of operations. However, an unfavorable resolution of the Company’s global tax disputes could have a material adverse effect on the Company’s consolidated financial position, liquidity, or results of operations in the periods, and as of the dates, on which the matters are ultimately resolved.

Based on the potential outcome of the Company’s global tax examinations, the expiration of the statute of limitations for specific jurisdictions, or the continued ability to satisfy tax incentive obligations, it is reasonably possible that the unrecognized tax benefits will change within the next twelve months. The associated net tax impact on the effective tax rate, exclusive of valuation allowance changes, is estimated to be in the range of a $10 million tax charge to a $30 million tax benefit, with cash payments not to exceed $20 million.

At December 31, 2017, the Company had $31 million accrued for interest and $19 million accrued for penalties on unrecognized tax benefits. At December 31, 2016, the Company had $26 million and $18 million accrued for interest and penalties, respectively, on unrecognized tax benefits.

7. Retirement Benefits

Pension and Postretirement Health Care Benefits Plans

U.S. Pension Benefit Plans

The Company’s noncontributory U.S. pension plan (the "U.S. Pension Plan") provides benefits to U.S. employees hired prior to January 1, 2005, who became eligible after one year of service. The Company also has an additional noncontributory supplemental retirement benefit plan, the Motorola Supplemental Pension Plan ("MSPP"), which provided supplemental benefits to individuals by replacing benefits that are lost by such individuals under the retirement formula due to application of the limitations imposed by the Internal Revenue Code. Effective January 1, 2007, eligible compensation was capped at the IRS limit plus $175,000 (the "Cap") or, for those already in excess of the Cap as of January 1, 2007, the eligible compensation used to compute such employee's MSPP benefit for all future years is the greater of: (i) such employee's eligible compensation as of January 1, 2007 (frozen at that amount) or (ii) the relevant Cap for the given year. In December 2008, the Company amended the U.S. Pension Plan and MSSP (together the "U.S. Pension Plans") such that, effective March 1, 2009: (i) no participant shall accrue any benefit or additional benefit on or after March 1, 2009, and (ii) no compensation increases earned by a participant on or after March 1, 2009 shall be used to compute any accrued benefit.

Postretirement Health Care Benefits Plan

Certain health care benefits are available to eligible domestic employees hired prior to January 1, 2002 and meeting certain age and service requirements upon termination of employment (the “Postretirement Health Care Benefits Plan”). As of January 1, 2005, the Postretirement Health Care Benefits Plan was closed to new participants.

During 2012, the Postretirement Health Care Benefits Plan was amended ("the Original Amendment") such that, as of January 1, 2013, retirees over the age of 65 are provided an annual subsidy to use toward the purchase of their own health care coverage from private insurance companies or for reimbursement of eligible health care expenses. During 2014, the Postretirement Health Care Benefits Plan was then further amended ("The New Amendment") to provide the annual subsidy discussed as part of the Original Amendment to all participants remaining under the plan effective March 1, 2015. Additionally, the New Amendment eliminated dental benefits that were previously provided under the plan.

During the year ended December 31, 2016, the Company made two amendments to the Postretirement Health Care Benefits Plan (the “Amendments”). As a result of the first Amendment, all eligible retirees under the age of 65 will be provided an annual subsidy per household, versus per individual, toward the purchase of their own health care coverage from private insurance companies and for the reimbursement of eligible health care expenses. The second amendment modified the annual subsidy such that all retirees over the age of 65 were entitled to one fixed rate subsidy, capped at $560 per participant.

The Amendments to the Postretirement Health Care Benefits Plan required remeasurement of the plan, resulting in a reduction in the Postretirement Benefit Obligation. A substantial portion of the decrease related to prior service credits and will be amortized as a credit to the condensed consolidated statements of operations over approximately five years, or the period in which the remaining employees eligible for the plan qualify for benefits under the plan.

Non U.S. Pension Benefit Plans

The Company also provides defined benefit plans which cover non U.S. employees in certain jurisdictions, principally the United Kingdom and Germany (the “Non-U.S. Pension Benefit Plans”). Other pension plans outside of the U.S. are not material to the Company either individually or in the aggregate.

In June 2015, the Company amended its Non-U.S. defined benefit plan within the United Kingdom by closing future benefit accruals to all participants effective December 31, 2015. As a result, the Company recorded a curtailment gain of $32 million to Other Charges within the Company's consolidated statement of operations during 2015.

During the years ended December 31, 2017 and 2016, the Company offered lump-sum settlements to certain participants in the Non-U.S. defined benefit plan within the United Kingdom. The lump-sum settlements were targeted to certain participants who had accrued a pension benefit, but had not yet started receiving pension benefit payments. As a result of the actions taken, the Company recorded settlement losses of $48 million and $26 million in 2017 and 2016, respectively, which are recorded within Other charges within the consolidated statement of operations.

Net Periodic Cost (Benefit)

The net periodic cost (benefit) for pension and Postretirement Health Care Benefits plans was as follows:

	U.S. Pension Benefit Plans			*Non U.S. Pension Benefit Plans*			*Postretirement Health Care Benefits Plan*		
Years ended December 31	**2017**	2016	2015	**2017**	2016	2015	**2017**	2016	2015
Service cost	**$ —**	$ —	$ —	**$ 3**	$ 11	$ 12	**$ —**	$ —	$ 1
Interest cost	**185**	182	193	**40**	55	66	**3**	4	8
Expected return on plan assets	**(229)**	(220)	(212)	**(92)**	(93)	(103)	**(10)**	(9)	(9)
Amortization of:									
Unrecognized net loss	**44**	37	46	**16**	11	17	**5**	5	8
Unrecognized prior service benefit	**—**	—	—	**—**	—	(3)	**(18)**	(27)	(59)
Curtailment gain	**—**	—	—	**—**	—	(32)	**—**	—	—
Settlement loss	**—**	—	—	**48**	26	—	**—**	—	—
Net periodic cost (benefit)	**$ —**	$ (1)	$ 27	**$ 15**	$ 10	$ (43)	**$ (20)**	$ (27)	$ (51)

The status of the Company’s plans is as follows:

	U.S. Pension Benefit Plans		*Non U.S. Pension Benefit Plans*		*Postretirement Health Care Benefits Plan*	
	2017	2016	**2017**	2016	**2017**	2016
Change in benefit obligation:						
Benefit obligation at January 1	**$ 4,644**	$ 4,304	**$ 1,791**	$ 1,815	**$ 83**	$ 192
Service cost	**—**	—	**3**	11	**—**	—
Interest cost	**185**	182	**40**	55	**3**	4
Plan amendments	**—**	—	**—**	—	**—**	(70)
Settlements	**—**	—	**(201)**	(103)	**—**	—
Actuarial loss (gain)	**502**	256	**52**	359	**6**	(27)
Foreign exchange valuation adjustment	**—**	—	**193**	(293)	**—**	—
Expenses and tax payments	**—**	—	**—**	(7)	**—**	—
Benefit payments	**(96)**	(98)	**(34)**	(46)	**(7)**	(16)
Benefit obligation at December 31	**$ 5,235**	$ 4,644	**$ 1,844**	$ 1,791	**$ 85**	$ 83
Change in plan assets:						
Fair value at January 1	**$ 3,195**	$ 3,130	**$ 1,565**	$ 1,696	**$ 136**	$ 143
Return on plan assets	**512**	160	**96**	309	**21**	6
Company contributions	**3**	3	**7**	8	**—**	—
Settlements	**—**	—	**(201)**	(103)	**—**	—
Foreign exchange valuation adjustment	**—**	—	**157**	(292)	**—**	—
Expenses and tax payments	**—**	—	**—**	(7)	**—**	—
Benefit payments	**(96)**	(98)	**(34)**	(46)	**(6)**	(13)
Fair value at December 31	**$ 3,614**	$ 3,195	**$ 1,590**	$ 1,565	**$ 151**	$ 136
Funded status of the plan	**$ (1,621)**	$ (1,449)	**$ (254)**	$ (226)	**$ 66**	$ 53
Unrecognized net loss	**2,229**	2,054	**518**	559	**64**	75
Unrecognized prior service benefit	**—**	—	**—**	—	**(49)**	(67)
Prepaid pension cost	**$ 608**	$ 605	**$ 264**	$ 333	**$ 81**	$ 61
Components of prepaid (accrued) pension cost:						
Current benefit liability	**(3)**	(3)	**$ —**	—	**$ —**	—
Non-current benefit liability	**(1,618)**	(1,446)	**(294)**	(251)	**—**	—
Non-current benefit asset	**—**	—	**40**	25	**66**	53
Deferred income taxes	**544**	762	**58**	57	**6**	4
Accumulated other comprehensive loss	**1,685**	1,292	**460**	502	**9**	4
Prepaid pension cost	**$ 608**	$ 605	**$ 264**	$ 333	**$ 81**	$ 61

The benefit obligation and plan assets for the Company's U.S. Pension Benefit Plan and Postretirement Health Care Benefit Plan are measured as of December 31, 2017. The Company utilizes a five-year, market-related asset value method of recognizing asset related gains and losses.

Under relevant accounting rules, when almost all of the plan participants are considered inactive, the amortization period for certain unrecognized gains and losses changes from the average remaining service period to the average remaining lifetime of the participants. As such, depending on the specific plan, the Company amortizes gains and losses over periods ranging from eleven to thirty-four years. Prior service costs will be amortized over periods ranging from one to five years. Benefits under all pension plans are valued based on the projected unit credit cost method.

The net periodic cost for 2018 will include amortization of the unrecognized net loss for the U.S. Pension Benefit Plans and Non U.S. Pension Benefit Plans, currently included in Accumulated other comprehensive loss, of $56 million and $12 million, respectively. It is estimated that the 2018 net periodic expense for the Postretirement Health Care Benefits Plan will include amortization of net periodic benefits of $10 million, comprised of unrecognized net losses and prior service benefits, currently included in Accumulated other comprehensive loss.

Actuarial Assumptions

Certain actuarial assumptions such as the discount rate and the long-term rate of return on plan assets have a significant effect on the amounts reported for net periodic cost and the benefit obligation. The assumed discount rates reflect the prevailing market rates of a universe of high-quality, non-callable, corporate bonds currently available that, if the obligation were settled at the measurement date, would provide the necessary future cash flows to pay the benefit obligation when due. The long-term rates of return on plan assets represent an estimate of long-term returns on an investment portfolio consisting of a mixture of equities, fixed income, cash and other investments similar to the actual investment mix. In determining the long-term return on plan assets, the Company considers long-term rates of return on the asset classes (both historical and forecasted) in which the Company expects the plan funds to be invested.

Effective January 1, 2016, the Company changed the method used to estimate the interest and service cost components of net periodic cost for defined benefit pension and other post-retirement benefit plans. Historically, the interest and service cost components were estimated using a single weighted-average discount rate derived from the yield curve used to measure the projected benefit obligation at the beginning of the period. The Company has elected to use a full yield curve approach in the estimation of these components of net periodic cost by applying the specific spot rates along the yield curve used in the determination of the projected benefit obligation to the relevant projected cash flows. The Company made this change to improve the correlation between projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of interest and service costs. This change does not affect the measurement of total benefit obligations as the change in interest and service cost is completely offset in the actuarial loss reported in the period. The Company has concluded that this change is a change in estimate and, therefore, has accounted for it prospectively beginning January 1, 2016. Based on the change in estimate, the Company experienced a $28 million reduction in interest costs for the year ended December 31, 2016 compared to the prior approach. The overall reduction in the interest cost for the year ended December 31, 2016 is comprised of $18 million related to the U.S. Pension Benefit Plans, $4 million related to the Postretirement Health Care Benefit Plan, and $6 million related to the Non U.S. Pension Benefits Plans.

Weighted average actuarial assumptions used to determine costs for the plans at the beginning of the fiscal year were as follows:

	U.S. Pension Benefit Plans		*Non U.S. Pension Benefit Plans*		*Postretirement Health Care Benefits Plan*	
	2017	2016	***2017***	*2016*	**2017**	2016
Discount rate	**4.02%**	4.27%	**2.22%**	3.22%	**3.29%**	3.14%
Investment return assumption	**6.95%**	7.00%	**5.20%**	5.90%	**7.00%**	7.00%

Weighted average actuarial assumptions used to determine benefit obligations for the plans were as follows:

	U.S. Pension Benefit Plans		*Non U.S. Pension Benefit Plans*		*Postretirement Health Care Benefits Plan*	
	2017	2016	**2017**	2016	**2017**	2016
Discount rate	**3.79%**	4.42%	**2.34%**	2.54%	**3.62%**	4.11%
Future compensation increase rate	**n/a**	n/a	**0.52%**	0.46%	**n/a**	n/a

The accumulated benefit obligations for the plans were as follows:

	U.S. Pension Benefit Plans		*Non U.S. Pension Benefit Plans*	
December 31	**2017**	2016	**2017**	2016
Accumulated benefit obligation	**$ 5,235**	$ 4,644	**$ 1,838**	$ 1,785

In 2014, the Society of Actuaries ("SOA") released the “RP-2014 White Collar” mortality table which was utilized in calculating the 2014 projected benefit obligation. During 2016, the SOA issued an update, Mortality Improvement Scale MP-2016, which includes two additional years of mortality data and was utilized to calculate the 2017 and 2016 projected benefit obligations.

Investment Policy

The individual plans have adopted an investment policy designed to meet or exceed the expected rate of return on plan assets assumption. To achieve this, the plans retain professional advisors and investment managers that invest plan assets into various classes including, but not limited to: equity and fixed income securities, cash, cash equivalents, hedge funds, infrastructure/utilities, insurance contracts, leveraged loan funds and real estate. The Company uses long-term historical actual return experience with consideration of the expected investment mix of the plans' assets, as well as future estimates of long-term investment returns, to develop its expected rate of return assumption used in calculating the net periodic cost. The individual plans have target mixes for these asset classes, which are readjusted periodically when an asset class weighting deviates from the target mix, with the goal of achieving the required return at a reasonable risk level.

The weighted-average asset allocations by asset categories for all pension and the Postretirement Health Care Benefits plans were as follows:

	All Pension Benefit Plans		*Postretirement Health Care Benefits Plan*	
December 31	**2017**	2016	**2017**	2016
Target Mix:				
Equity securities	**31%**	33%	**35%**	37%
Fixed income securities	**49%**	46%	**44%**	43%
Cash and other investments	**20%**	21%	**21%**	20%
Actual Mix:				
Equity securities	**29%**	34%	**34%**	37%
Fixed income securities	**49%**	47%	**44%**	43%
Cash and other investments	**22%**	19%	**22%**	20%

Within the equity securities asset class, the investment policy provides for investments in a broad range of publicly-traded securities including both domestic and foreign equities. Within the fixed income securities asset class, the investment policy provides for investments in a broad range of publicly-traded debt securities including: U.S. treasury issues, corporate debt securities, mortgage and asset-backed securities, as well as foreign debt securities. In the cash and other investments asset class, investments may include, but are not limited to: cash, cash equivalents, commodities, hedge funds, infrastructure/utilities, insurance contracts, leveraged loan funds and real estate.

Cash Funding

The Company made $3 million of contributions to its U.S. Pension Benefit Plans during 2017 and 2016. The Company contributed $7 million to its Non U.S. Pension Benefit Plans during 2017, compared to $8 million contributed in 2016. The Company made no contributions to its Postretirement Health Care Benefits Plan in 2017 or 2016.

We expect to make a $500 million contribution to our U.S. Pension Plans in 2018, taking advantage of the recently enacted tax reform. As a result, we will generate a tax benefit under the current U.S. federal tax rate of 35% for the plan year 2017, before the enacted rate lowers to 21% as a result of the Tax Act.

Expected Future Benefit Payments

The following benefit payments are expected to be paid:

Year	*U.S. Pension Benefit Plans*	*Non U.S. Pension Benefit Plans*	*Postretirement Health Care Benefits Plan*
2018	$ 135	$ 43	$ 8
2019	151	45	7
2020	168	46	7
2021	190	47	6
2022	213	49	6
2023-2027	1,338	261	26

Other Benefit Plans

Split-Dollar Life Insurance Arrangements

The Company maintains a number of endorsement split-dollar life insurance policies on now-retired officers under a frozen plan. The Company had purchased the life insurance policies to insure the lives of employees and then entered into a separate agreement with the employees that split the policy benefits between the Company and the employee. Motorola Solutions owns the policies, controls all rights of ownership, and may terminate the insurance policies. To effect the split-dollar arrangement, Motorola Solutions endorsed a portion of the death benefits to the employee and upon the death of the employee, the employee's beneficiary typically receives the designated portion of the death benefits directly from the insurance company and the Company receives the remainder of the death benefits. It is currently expected that minimal cash payments will be required to fund these policies.

The net periodic pension cost for these split-dollar life insurance arrangements was $5 million for the years ended December 31, 2017, 2016 and 2015. The Company has recorded a liability representing the actuarial present value of the future death benefits as of the employees' expected retirement date of $62 million and $58 million as of December 31, 2017 and December 31, 2016, respectively.

Deferred Compensation Plan

The Company maintains a deferred compensation plan ("the Plan") for certain eligible participants. Under the Plan, participants may elect to defer base salary and cash incentive compensation in excess of 401(k) plan limitations. Participants under the Plan may choose to invest their deferred amounts in the same investment alternatives available under the Company's 401(k) plan. The Plan also allows for Company matching contributions for the following: (i) the first 4% of compensation deferred under the Plan, subject to a maximum of $50,000 for board officers, (ii) lost matching amounts that would have been made under the 401(k) plan if participants had not participated in the Plan, and (iii) discretionary amounts as approved by the Compensation and Leadership Committee of the Board of Directors.

Defined Contribution Plan

The Company has various defined contribution plans, in which all eligible employees may participate. In the U.S., the 401(k) plan is a contributory plan. Matching contributions are based upon the amount of the employees' contributions. The Company's expenses for material defined contribution plans for the years ended December 31, 2017, 2016 and 2015 were $28 million, $26 million and $28 million, respectively.

Under the 401(k) plan, the Company may make an additional discretionary matching contribution to eligible employees. For the years ended December 31, 2017, 2016, and 2015 the Company made no discretionary contributions.

8. Share-Based Compensation Plans and Other Incentive Plans

The Company grants options and stock appreciation rights to acquire shares of common stock to certain employees and to existing option holders of acquired companies in connection with the merging of option plans following an acquisition. Each option granted and stock appreciation right has an exercise price of no less than 100% of the fair market value of the common stock on the date of the grant. The awards have a contractual life of five to ten years and vest over two to three years. In conjunction with a change in control, stock options and stock appreciation rights assumed or replaced with comparable stock options or stock appreciation rights only become exercisable if the holder is also involuntarily terminated (for a reason other than cause) or resigns for good reason within 24 months of a change in control.

Restricted stock unit ("RSU") grants consist of shares or the rights to shares of the Company's common stock which are awarded to certain employees and non-employee directors. The grants are restricted such that they are subject to substantial risk of forfeiture and to restrictions on their sale or other transfer by the employee. In conjunction with a change in control, shares of RSUs assumed or replaced with comparable shares of RSUs will only have the restrictions lapse if the holder is also involuntarily terminated (for a reason other than cause) or resigns for good reason within 24 months of a change in control.

Performance-based stock options ("performance options") and market stock units ("MSUs") have been granted to certain Company executive officers. Performance options have a three-year performance period and are granted as a target number of units subject to adjustment based on company performance. Each performance option granted has an exercise price of no less than 100% of the fair market value of the common stock on the date of the grant. The awards have a contractual life of ten years. Shares ultimately issued for performance option awards granted are based on the actual total shareholder return ("TSR") compared to the S&P 500 over the three year performance period based on a payout factor that corresponds to actual TSR results as established at the date of grant. Vesting occurs on the third anniversary of the grant date. Under the terms of the MSUs, vesting is conditioned upon continuous employment until the vesting date and the payout factor is at least 60% of the share price on the award date. The payout factor is the share price on vesting date divided by share price on award date, with a maximum of 200%. The share price used in the payout factor is calculated using an average of the closing prices on the grant or vesting date, and the 30 calendar days immediately preceding the grant or vesting date. Vesting occurs ratably over three years.

On August 25, 2015, in conjunction with the issuance of the Senior Convertible Notes, and on March 9, 2017, the Company approved grants of performance-contingent stock options ("PCSOs") to certain executive officers. The PCSOs vest upon satisfaction of the following stock price hurdles which must be maintained for 10-consecutive trading days within the performance period ending August 25, 2018 and continuous employment over the vesting period. For PCSOs granted on August 25, 2015, 20% of the total award will vest at an $85 stock price, an additional 30% of the total award will vest at a $102.50 stock price, and the final 50% of the total award will vest at a $120 stock price. For options granted March 9, 2017, 44% of the total award will vest at an $85 stock price, an additional 24% of the total award will vest at a $102.50 stock price, and the 32% of the award will vest at a $120 stock price. If any stock price hurdles are not met during the performance period, the corresponding portion of the options will not vest and will be forfeited. The August 25, 2015 awards have a seven-year term and a per share exercise price of $68.50. The March 9, 2017 awards have a five and a half year term and a per share exercise price of $81.37.

The employee stock purchase plan allows eligible participants to purchase shares of the Company's common stock through payroll deductions of up to 20% of eligible compensation on an after-tax basis. Plan participants cannot purchase more than $25,000 of stock in any calendar year. The price an employee pays per share is 85% of the lower of the fair market value of the Company's stock on the close of the first trading day or last trading day of the purchase period. The plan has two purchase periods, the first from October 1 through March 31 and the second from April 1 through September 30. For the years ended December 31, 2017, 2016 and 2015, employees purchased 0.8 million, 0.9 million and 1.0 million shares, respectively, at purchase prices of $63.96 and $72.11, $57.60 and $64.69, and $52.99 and $56.67, respectively.

Significant Assumptions Used in the Estimate of Fair Value

The Company calculates the value of each employee stock option, estimated on the date of grant, using the Black-Scholes option pricing model. The weighted-average estimated fair value of employee stock options granted during 2017, 2016 and 2015 was $15.16, $13.09 and $10.21, respectively, using the following weighted-average assumptions:

	2017	2016	2015
Expected volatility	**24.0%**	23.7%	20.0%
Risk-free interest rate	**2.1%**	1.4%	1.6%
Dividend yield	**3.5%**	2.9%	2.9%
Expected life (years)	**5.9**	6.0	6.0

The Company calculates the value of each performance option, MSU, and PCSO using the Monte Carlo Simulation, estimated on the date of grant. The fair value of performance options, MSUs, and PCSOs granted during 2017 was $21.47, $85.74 and $7.76, respectively. The fair value of performance options and MSUs granted during 2016 was $19.80 and $76.48, respectively. The fair value of performance options, MSUs, and PCSOs granted during 2015 was $17.42, $60.37 and $3.97, respectively. The following assumptions were used for the calculations.

	2017 Performance Options	*2016 Performance Options*	*2015 Performance Options*
Expected volatility of common stock	**24.1%**	25.3%	21.0%
Expected volatility of the S&P 500	**25.6%**	19.8%	23.3%
Risk-free interest rate	**2.4%**	1.7%	1.8%
Dividend yield	**3.7%**	2.8%	2.9%
Expected life (years)	**6.5**	6.5	6.5

	2017 Market Stock Units	*2016 Market Stock Units*	*2015 Market Stock Units*
Expected volatility of common stock	**24.1%**	24.2%	19.3%
Risk-free interest rate	**1.7%**	1.1%	1.1%
Dividend yield	**2.9%**	2.8%	2.9%

	2017 PCSOs	*2015 PCSOs*
Expected volatility of common stock	**24.1%**	26.0%
Risk-free interest rate	**1.8%**	1.5%
Dividend yield	**3.0%**	3.1%
Expected life (years)	**3.5**	5

The Company uses the implied volatility for traded options on the Company's stock as the expected volatility assumption in the valuation of stock options, performance options, MSUs, and PCSOs. The selection of the implied volatility approach was based upon the availability of actively traded options on the Company's stock and the Company's assessment that implied volatility is more representative of future stock price trends than historical volatility. The Company uses the historical volatility as the expected volatility assumption in the valuation of performance options in order to calculate the correlation coefficients between the S&P 500 and the Company's stock, which can only be calculated using historical data.

The risk-free interest rate assumption is based upon the average daily closing rates during the year for U.S. Treasury notes that have a life which approximates the expected life of the grant. The dividend yield assumption is based on the Company’s future expectation of dividend payouts. The expected life represents the average of the contractual term of the options and the weighted average vesting period for all option tranches.

The Company has applied forfeiture rates, estimated based on historical data, of 10%-35% to the stock option fair values calculated by the Black-Scholes option pricing model. These estimated forfeiture rates are applied to grants based on their remaining vesting term and may be revised in subsequent periods if actual forfeitures differ from these estimates.

The following table summarizes information about the total stock options outstanding and exercisable under all stock option plans, including performance options and PCSOs, at December 31, 2017 (in thousands, except exercise price and years):

	Options Outstanding			*Options Exercisable*		
Exercise price range	*No. of options*	*Wtd. avg. Exercise Price*	*Wtd. avg. contractual life (in yrs.)*	*No. of options*	*Wtd. avg. Exercise Price*	*Wtd. avg. contractual life (in yrs.)*
Under $30	537	$ 27	2	537	$ 27	2
$30-$40	1,557	39	3	1,557	39	3
$41-$50	8	45	3	8	45	3
$51-$60	842	55	5	834	55	5
$61-$70	2,790	68	5	799	66	6
$71-$80	596	72	8	86	72	8
$81 and over	952	82	8	3	81	9
	7,282			3,824		

As of December 31, 2017, the weighted average contractual life for options outstanding and exercisable was five and four years, respectively.

Current Year Activity

Total share-based compensation activity was as follows (in thousands, except exercise price):

	Stock Options		Performance Options*		Restricted Stock Units		Market Stock Units	
Shares Outstanding in Thousands	*No. of Options Outstanding*	*Wtd. Avg. Exercise Price of Shares*	*No. of Options Outstanding*	*Wtd. Avg. Exercise Price of Shares*	*No. of Non-Vested Awards*	*Wtd. Avg. Grant Date Fair Value*	*No. of Non-Vested Awards*	*Wtd. Avg. Grant Date Fair Value*
Balance as of January 1, 2017	5,218	$ 50	2,066	$ 69	1,333	$ 63	116	$ 69
Granted	385	82	612	81	650	78	71	86
Releases/Exercised	(935)	53	—	—	(656)	64	(54)	68
Adjustment for payout factor	—	—	—	—	—	—	6	69
Forfeited/Canceled	(64)	76	—	—	(70)	71	—	—
Balance as of December 31, 2017	4,604	$ 52	2,678	$ 72	1,257	$ 70	139	$ 78
Vested or expected to vest	4,283	48	464	73	519	64	79	65

** Inclusive of PCSO awards*

At December 31, 2017 and 2016, 9.6 million and 11.2 million shares, respectively, were available for future share-based award grants under the current share-based compensation plan, covering all equity awards to employees and non-employee directors.

Total Share-Based Compensation Expense

Compensation expense for the Company's share-based compensation plans was as follows:

Years ended December 31		**2017**		2016		2015
Share-based compensation expense included in:						
Costs of sales	**$**	**9**	$	9	$	9
Selling, general and administrative expenses		**43**		45		52
Research and development expenditures		**14**		14		17
Share-based compensation expense included in Operating earnings		**66**		68		78
Tax benefit		**22**		21		24
Share-based compensation expense, net of tax	**$**	**44**	$	47	$	54
Decrease in basic earnings per share	**$**	**(0.27)**	$	(0.28)	$	(0.25)
Decrease in diluted earnings per share	**$**	**(0.27)**	$	(0.27)	$	(0.25)

At December 31, 2017, the Company had unrecognized compensation expense related to RS, RSUs, and MSUs of $56 million, net of estimated forfeitures, expected to be recognized over the weighted average period of approximately two years. The total fair value of RS, RSU and MSU shares vested during the years ended December 31, 2017, 2016, and 2015 was $39 million, $54 million, and $55 million, respectively. The aggregate fair value of outstanding RS, RSUs, and MSUs as of December 31, 2017 was $98 million.

At December 31, 2017, the Company had $15 million of total unrecognized compensation expense, net of estimated forfeitures, related to stock option plans including performance options and PCSO's that will be recognized over the weighted average period of approximately two years, and $4 million of unrecognized compensation expense related to the employee stock purchase plan that will be recognized over the remaining purchase period. Cash received from stock option exercises and the employee stock purchase plan was $82 million, $93 million, and $84 million for the years ended December 31, 2017, 2016, and 2015, respectively. The total intrinsic value of options exercised during the years ended December 31, 2017, 2016, and 2015 was $31 million, $16 million, and $15 million, respectively. The aggregate intrinsic value for options outstanding and exercisable as of December 31, 2017 was $227 million and $165 million, respectively, based on a December 31, 2017 stock price of $90.34 per share.

Motorola Solutions Incentive Plans

The Company's incentive plans provide eligible employees with an annual payment, calculated as a percentage of an employee's eligible earnings, in the year after the close of the current calendar year if specified business goals and individual performance targets are met. The expense for awards under these incentive plans for the years ended December 31, 2017, 2016 and 2015 was $122 million, $114 million and $119 million, respectively.

Long-Range Incentive Plan

The Long-Range Incentive Plan ("LRIP") rewards elected officers for the Company's achievement of specified business goals during the period, based on a single performance objective measured over a three-year period. The expense for LRIP for the years ended December 31, 2017, 2016 and 2015 was $9 million, $12 million and $12 million, respectively.

9. Fair Value Measurements

The Company holds certain fixed income securities, equity securities and derivatives, which are recognized and disclosed at fair value in the financial statements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date and is measured using the fair value hierarchy. This hierarchy prescribes valuation techniques based on whether the inputs to each measurement are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions about current market conditions. The prescribed fair value hierarchy and related valuation methodologies are as follows:

Level 1 — Quoted prices for identical instruments in active markets.

Level 2 — Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuations, in which all significant inputs are observable, in active markets.

Level 3 — Valuations derived from valuation techniques, in which one or more significant inputs are unobservable.

Investments and Derivatives

The fair values of the Company's financial assets and liabilities by level in the fair value hierarchy as of December 31, 2017 and December 31, 2016 were as follows:

December 31, 2017	*Level 1*	*Level 2*	*Total*
Assets:			
Foreign exchange derivative contracts	$ —	$ 5	$ 5
Available-for-sale securities:			
Corporate bonds	—	2	2
Common stock and equivalents	13	—	13
Liabilities:			
Foreign exchange derivative contracts	$ —	$ 5	$ 5

December 31, 2016	*Level 1*	*Level 2*	*Total*
Assets:			
Foreign exchange derivative contracts	$ —	$ 9	$ 9
Available-for-sale securities:			
Government, agency, and government-sponsored enterprise obligations	—	51	51
Corporate bonds	—	5	5
Liabilities:			
Foreign exchange derivative contracts	$ —	$ 32	$ 32

Pension and Postretirement Health Care Benefits Plan Assets

The fair values of the various pension and postretirement health care benefits plans' assets by level in the fair value hierarchy as of December 31, 2017 and 2016 were as follows:

U.S. Pension Benefit Plans

December 31, 2017	*Level 1*	*Level 2*	*Total*
Equities	$ 10	$ —	$ 10
Commingled funds	2,198	—	2,198
Government fixed income securities	10	285	295
Corporate fixed income securities	—	900	900
Short-term investment funds	186	—	186
Total investment securities	$ 2,404	$ 1,185	$ 3,589
Accrued income receivable			12
Cash			13
Fair value plan assets			$ 3,614

December 31, 2016	*Level 1*	*Level 2*	*Total*
Equities	$ 95	$ —	$ 95
Commingled funds	1,357	551	1,908
Government fixed income securities	—	179	179
Corporate fixed income securities	—	825	825
Short-term investment funds	183	—	183
Total investment securities	$ 1,635	$ 1,555	$ 3,190
Cash			5
Fair value plan assets			$ 3,195

Non-U.S. Pension Benefit Plans

December 31, 2017	*Level 1*	*Level 2*	*Total*
Equities	$ 136	$ —	$ 136
Commingled funds	431	38	469
Government fixed income securities	3	779	782
Short-term investment funds	92	—	92
Total investment securities	$ 662	$ 817	$ 1,479
Cash			3
Accrued income receivable			55
Insurance contracts			53
Fair value plan assets			$ 1,590

December 31, 2016	*Level 1*	*Level 2*	*Total*
Equities	$ 161	$ —	$ 161
Commingled funds	279	209	488
Government fixed income securities	—	823	823
Short-term investment funds	—	1	1
Total investment securities	$ 440	$ 1,033	$ 1,473
Cash			45
Insurance contracts			47
Fair value plan assets			$ 1,565

Postretirement Health Care Benefits Plan

December 31, 2017	*Level 1*	*Level 2*	*Total*
Equities	$ 1	$ —	$ 1
Commingled funds	92	—	92
Government fixed income securities	—	12	12
Corporate fixed income securities	—	38	38
Short-term investment funds	8	—	8
Fair value plan assets	$ 101	$ 50	$ 151

December 31, 2016	*Level 1*	*Level 2*	*Total*
Equities	$ 4	$ —	$ 4
Commingled funds	58	24	82
Government fixed income securities	—	7	7
Corporate fixed income securities	—	35	35
Short-term investment funds	8	—	8
Fair value plan assets	$ 70	$ 66	$ 136

The following is a description of the categories of investments:

Equities — A diversified portfolio of corporate common stock and preferred stock.

Commingled funds — Investments primarily in investment grade corporate and government related securities. This class also includes investments in mortgage-backed securities, futures and options.

Government fixed income securities — Securities issued by municipal, domestic and foreign government agencies, as well as index-linked government bonds.

Corporate fixed income securities — A diversified portfolio of primarily investment grade bonds issued by corporations.

Short-term investment funds — Investments in money market accounts and derivatives with a liquidity of less than 90 days.

Level 1 investments include securities which are valued at the closing price reported on the active market in which the individual securities are traded. Level 2 investments consist principally of securities which are valued using independent third party pricing sources. A variety of inputs are utilized by the independent pricing sources including market based inputs, binding quotes, indicative quotes, and ongoing redemption and subscription activity. Inputs may be weighted differently for any security, and not all inputs are used for each security evaluation.

At December 31, 2017, the Company had $633 million of investments in money market prime and government funds (Level 1) classified as Cash and cash equivalents in its consolidated balance sheet, compared to $309 million at December 31, 2016. The money market funds had quoted market prices that are approximately at par.

Using quoted market prices and market interest rates, the Company determined that the fair value of long-term debt at December 31, 2017 was $4.6 billion (Level 2), compared to a face value of $4.5 billion. Since considerable judgment is required in interpreting market information, the fair value of the long-term debt is not necessarily indicative of the amount which could be realized in a current market exchange.

All other financial instruments are carried at cost, which is not materially different from the instruments' fair values.

10. Long-term Financing and Sales of Receivables

Long-term Financing

Long-term receivables consist of receivables with payment terms greater than twelve months, long-term loans and lease receivables under sales-type leases. Long-term receivables consist of the following:

December 31		**2017**		2016
Long-term receivables	**$**	**37**	$	63
Less current portion		**(18)**		(14)
Non-current long-term receivables	**$**	**19**	$	49

The current portion of long-term receivables is included in Accounts receivable, net and the non-current portion of long-term receivables is included in Other assets in the Company's consolidated balance sheets. The Company recognized Interest income on long-term receivables of $1 million, $2 million, and $2 million for the years ended December 31, 2017, 2016 and 2015.

Certain purchasers of the Company's products and services may request that the Company provide long-term financing (defined as financing with a term greater than one year) in connection with the sale of products and services. These requests may include all or a portion of the purchase price of the products and services. The Company's obligation to provide long-term financing may be conditioned on the issuance of a letter of credit in favor of the Company by a reputable bank to support the purchaser's credit or a pre-existing commitment from a reputable bank to purchase the long-term receivables from the Company. The Company had outstanding commitments to provide long-term financing to third-parties totaling $93 million at December 31, 2017, compared to $125 million at December 31, 2016.

Sales of Receivables

From time to time, the Company sells accounts receivable and long-term receivables to third-parties under one-time arrangements. The Company may or may not retain the obligation to service the sold accounts receivable and long-term receivables.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2017, 2016 and 2015.

Years ended December 31		**2017**		2016		2015
Accounts receivable sales proceeds	**$**	**193**	$	51	$	29
Long-term receivables sales proceeds		**284**		289		196
Total proceeds from receivable sales	**$**	**477**	$	340	$	225

At December 31, 2017, the Company had retained servicing obligations for $873 million of long-term receivables, compared to $774 million of long-term receivables at December 31, 2016. Servicing obligations are limited to collection activities of sold accounts receivables and long-term receivables.

Credit Quality of Financing Receivables and Allowance for Credit Losses

An aging analysis of financing receivables at December 31, 2017 and December 31, 2016 is as follows:

December 31, 2017	*Total Long-term Receivable*	*Current Billed Due*	*Past Due Under 90 Days*	*Past Due Over 90 Days*
Municipal leases secured tax exempt	$ 21	$ —	$ 1	$ 2
Commercial loans and leases secured	16	1	3	1
Long-term receivables, including current portion	$ 37	$ 1	$ 4	$ 3

December 31, 2016	*Total Long-term Receivable*	*Current Billed Due*	*Past Due Under 90 Days*	*Past Due Over 90 Days*
Municipal leases secured tax exempt	$ 20	$ —	$ —	$ —
Commercial loans and leases secured	43	—	—	2
Long-term receivables, including current portion	$ 63	$ —	$ —	$ 2

The Company uses an internally developed credit risk rating system for establishing customer credit limits. This system is aligned with and comparable to the rating systems utilized by independent rating agencies.

The Company's policy for valuing the allowance for credit losses is to review all customer financing receivables for collectability on an individual receivable basis. For those receivables where collection risk is probable, the Company calculates the value of impairment based on the net present value of expected future cash flows from the customer.

11. Commitments and Contingencies

Lease Obligations

The Company leases certain office, factory and warehouse space, land, and information technology and other equipment under principally non-cancelable operating leases. Rental expense, net of sublease income, for the years ended December 31, 2017, 2016 and 2015 was $94 million, $84 million, and $42 million, respectively.

At December 31, 2017, future minimum lease obligations, net of minimum sublease rentals, for the next five years and beyond are as follows:

(in millions)	*2018*	*2019*	*2020*	*2021*	*2022*	*Beyond*
	$ 121	$ 107	$ 82	$ 64	$ 53	$ 234

Purchase Obligations

During the normal course of business, in order to manage manufacturing lead times and help ensure adequate component supply, the Company enters into agreements with contract manufacturers and suppliers that either allow them to procure inventory based upon criteria as defined by the Company or establish the parameters defining the Company's requirements. In addition, we have entered into software license agreements which are firm commitments and are not cancelable. As of December 31, 2017, the Company had entered into firm, noncancelable, and unconditional commitments under such arrangements through 2022. The Company expects to make total payments of $237 million under these arrangements as follows: $173 million in 2018, $41 million in 2019, $15 million in 2020, $7 million in 2021, and $1 million in 2022.

The Company outsources certain corporate functions, such as benefit administration and information technology-related services, under various contracts, the longest of which is expected to expire in 2022. The remaining payments under these contracts are approximately $97 million over the remaining life of the contracts. However, these contracts can be terminated. Termination would result in a penalty substantially less than the remaining annual contract payments. The Company would also be required to find another source for these services, including the possibility of performing them in-house.

Legal Matters

The Company is a defendant in various lawsuits, claims, and actions that arise in the normal course of business. While the outcome of these matters is currently not determinable, the Company does not expect the ultimate disposition of these matters to have a material adverse effect on the Company's consolidated financial position, liquidity or results of operations. However, an unfavorable resolution could have a material adverse effect on the Company's consolidated financial position, liquidity, or results of operations in the periods in which the matters are ultimately resolved, or in the periods in which more information is obtained that changes management's opinion of the ultimate disposition.

Indemnifications

The Company is a party to a variety of agreements pursuant to which it is obligated to indemnify the other party with respect to certain matters. In indemnification cases, payment by the Company is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, which procedures typically allow the Company to challenge the other party's claims. In some instances, the Company may have recourse against third parties for certain payments made by the Company.

Some of these obligations arise as a result of divestitures of the Company's assets or businesses and require the Company to indemnify the other party against losses arising from breaches of representations and warranties and covenants and, in some cases, the settlement of pending obligations. The Company's obligations under divestiture agreements for indemnification based on breaches of representations and warranties are generally limited in terms of duration and to amounts not in excess of a percentage of the contract value. The Company had no accruals for any such obligations at December 31, 2017.

In addition, the Company may provide indemnifications for losses that result from the breach of general warranties contained in certain commercial and intellectual property agreements. Historically, the Company has not made significant payments under these agreements.

12. Information by Segment and Geographic Region

The Company conducts its business globally and manages it through the following two segments:

Products: The Products segment is comprised of Devices and Systems. Devices includes two-way portable and vehicle-mounted radios, accessories, software features, and upgrades. Systems includes the radio network core and central processing software, base stations, consoles, repeaters, and software applications and features. The primary customers of the Products segment are government, public safety and first-responder agencies, municipalities, and commercial and industrial customers who operate private communications networks and manage a mobile workforce. In 2017, the segment’s net sales were $3.8 billion, representing 59% of the Company's consolidated net sales.

Services: The Services segment provides a full set of offerings for government, public safety and commercial communication networks including: (i) Integration services, (ii) Managed & Support services, and (iii) iDEN services. Integration services includes implementation, optimization, and integration of networks, devices, software, and applications. Managed & Support services includes a continuum of service offerings beginning with repair, technical support and hardware maintenance. More advanced offerings include network monitoring, software maintenance and cyber security services. Managed service offerings range from partial or full operation of customer owned networks to operation of Motorola Solutions owned networks. Services and SaaS offerings are provided across all radio network technologies, Command Center Consoles, and Smart Public Safety Solutions. iDEN services consists primarily of hardware and software maintenance services for our legacy iDEN customers. In 2017, the segment’s net sales were $2.6 billion, representing 41% of the Company's consolidated net sales.

For the years ended December 31, 2017, 2016 and 2015, no single customer accounted for more than 10% of the Company's net sales.

Segment Information

The following table summarizes Net sales and Operating earnings by segment:

	Net Sales			*Operating Earnings*		
Years ended December 31	**2017**	2016	2015	**2017**	2016	2015
Products	**$ 3,772**	$ 3,649	$ 3,676	**$ 914**	$ 734	$ 704
Services	**2,608**	2,389	2,019	**368**	333	290
	$ 6,380	$ 6,038	$ 5,695	**1,282**	1,067	994
Total other expense				**(206)**	(223)	(77)
Earnings from continuing operations before income taxes				**$ 1,076**	$ 844	$ 917

The following table summarizes the Company's capital expenditures and depreciation expense by segment:

	Capital Expenditures			*Depreciation Expense*		
Years ended December 31	**2017**	2016	2015	**2017**	2016	2015
Products	**$ 116**	$ 104	$ 76	**$ 102**	$ 68	$ 82
Services	**111**	167	99	**90**	114	60
	$ 227	$ 271	$ 175	**$ 192**	$ 182	$ 142

The Company's "chief operating decision maker" does not review or allocate resources based on segment assets.

Geographic Area Information

	Net Sales			*Assets*		
Years ended December 31	**2017**	2016	2015	**2017**	2016	2015
United States	**$ 3,725**	$ 3,566	$ 3,473	**$ 5,138**	$ 5,653	$ 6,213
United Kingdom	**558**	528	96	**2,329**	2,300	1,127
Other, net of eliminations	**2,097**	1,944	2,126	**741**	510	1,006
	$ 6,380	$ 6,038	$ 5,695	**$ 8,208**	$ 8,463	$ 8,346

Net sales attributed to geographic area are predominately based on the ultimate destination of the Company's products and services.

13. Reorganization of Businesses

The Company maintains a formal Involuntary Severance Plan (the “Severance Plan”), which permits the Company to offer eligible employees severance benefits based on years of service and employment grade level in the event that employment is involuntarily terminated as a result of a reduction-in-force or restructuring. The Severance Plan includes defined formulas to calculate employees’ termination benefits. In addition to the Involuntary Severance Plan, during the year ended December 31, 2016, the Company accepted voluntary applications to its Severance Plan from a defined subset of employees within the United States. Voluntary applicants received termination benefits based on the formulas defined in the Severance Plan. However, termination benefits, which are normally different based on employment level grade and capped at six months of salary, were equalized for all employment level grades and capped at a full year’s salary.

The Company recognizes termination benefits based on formulas per the Severance Plan at the point in time that future settlement is probable and can be reasonably estimated based on estimates prepared at the time a restructuring plan is approved by management. Exit costs consist of future minimum lease payments on vacated facilities and other contractual terminations. At each reporting date, the Company evaluates its accruals for employee separation and exit costs to ensure the accruals are still appropriate. In certain circumstances, accruals are no longer needed because of efficiencies in carrying out the plans or because employees previously identified for separation resigned from the Company and did not receive severance, or were redeployed due to circumstances not foreseen when the original plans were approved. In these cases, the Company reverses accruals through the consolidated statements of operations where the original charges were recorded when it is determined they are no longer needed.

During 2017, 2016, and 2015 the Company continued to implement various productivity improvement plans aimed at achieving long-term, sustainable profitability by driving efficiencies and reducing operating costs. Both of the Company’s segments were impacted by these plans. The employees affected were located in all geographic regions.

2017 Charges

During 2017, the Company recorded net reorganization of business charges of $42 million, including $9 million of charges in Costs of sales and $33 million of charges in Other charges in the Company’s consolidated statements of operations. Included in the $42 million were charges of $43 million for employee separation costs and $8 million for exit costs, partially offset by $9 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

Year ended December 31	2017
Products	$ 31
Services	11
	$ 42

The following table displays a rollforward of the reorganization of businesses accruals established for exit costs and employee separation costs from January 1, 2017 to December 31, 2017:

	Accruals at January 1	*Additional Charges*	*Adjustments*	*Amount Used*	*Accruals at December 31*
Exit costs	$ 7	$ 8	$ —	$ (6)	$ 9
Employee separation costs	94	43	(9)	(87)	41
	$ 101	$ 51	$ (9)	$ (93)	$ 50

Exit Costs

At January 1, 2017, the Company had $7 million accrual for exit costs. There were $8 million of additional charges in 2017. The $6 million used in 2017 reflects cash payments. The remaining accrual of $9 million, which was included in Accrued liabilities in the Company's consolidated balance sheets at December 31, 2017, primarily represents future cash payments for lease obligations that are expected to be paid over a number of years.

Employee Separation Costs

At January 1, 2017, the Company had an accrual of $94 million for employee separation costs. The 2017 additional charges of $43 million represent severance costs for approximately an additional 400 employees, of which 100 were direct employees and 300 were indirect employees. The adjustments of $9 million reflect reversals of accruals no longer needed. The $87 million used in 2017 reflects cash payments to severed employees. The remaining accrual of $41 million, which is included in Accrued liabilities in the Company's consolidated balance sheet at December 31, 2017, is expected to be paid, primarily within one year to: (i) severed employees who have already begun to receive payments and (ii) approximately 100 employees to be separated in 2018.

2016 Charges

During 2016, the Company recorded net reorganization of business charges of $140 million, including $43 million of charges in Costs of sales and $97 million of charges under Other charges in the Company's consolidated statements of operations. Included in the aggregate $140 million are charges of: (i) $120 million for employee separation costs, (ii) a $17 million building impairment charge, (iii) $5 million for exit costs, and (iv) $3 million for the impairment of the corporate aircraft, partially offset by $5 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

Year ended December 31	2016
Products	$ 106
Services	34
	$ 140

The following table displays a rollforward of the reorganization of businesses accruals established for exit costs and employee separation costs, including those related to discontinued operations which were maintained by the Company after the sale of the Enterprise business, from January 1, 2016 to December 31, 2016:

	Accruals at January 1	*Additional Charges*	*Adjustments*	*Amount Used*	*Accruals at December 31*
Exit costs	$ 9	$ 5	$ (1)	$ (6)	$ 7
Employee separation costs	51	120	(4)	(73)	94
	$ 60	$ 125	$ (5)	$ (79)	$ 101

Exit Costs

At January 1, 2016, the Company had $9 million accrual for exit costs. There were $5 million of additional charges in 2016. The $6 million used in 2016 reflects cash payments. The remaining accrual of $7 million, which was included in Accrued liabilities in the Company's consolidated balance sheets at December 31, 2016, primarily represented future cash payments for lease obligations.

Employee Separation Costs

At January 1, 2016, the Company had an accrual of $51 million for employee separation costs. The additional 2016 charges of $120 million represent severance costs for approximately an additional 1,300 employees, of which 400 were direct employees and 900 were indirect employees. The adjustments of $4 million reflect reversals of accruals no longer needed. The $73 million used in 2016 reflects cash payments to severed employees. The remaining accrual of $94 million was included in Accrued liabilities in the Company's consolidated balance sheet at December 31, 2016.

2015 Charges

During 2015, the Company recorded net reorganization of business charges of $117 million, including $9 million of charges in Costs of sales and $108 million of charges in Other charges in the Company's consolidated statements of operations. Included in the aggregate $117 million are charges of: (i) $74 million for employee separation costs, (ii) $31 million for the impairment of the corporate aircraft, (iii) $10 million of charges for exit costs, and (iv) a $6 million building impairment charge, partially offset by $4 million of reversals for accruals no longer needed.

The following table displays the net charges incurred by segment:

Year ended December 31	2015
Products	$ 84
Services	33
	$ 117

The following table displays a rollforward of the reorganization of businesses accruals established for exit costs and employee separation costs, including those related to discontinued operations which were maintained by the Company after the sale of the Enterprise business, from January 1, 2015 to December 31, 2015:

	Accruals at January 1	*Additional Charges*	*Adjustments*	*Amount Used*	*Accruals at December 31*
Exit costs	$ —	$ 10	$ —	$ (1)	$ 9
Employee separation costs	57	74	(10)	(70)	51
	$ 57	$ 84	$ (10)	$ (71)	$ 60

Exit Costs

At January 1, 2015, the Company had no accrual for exit costs. There were $10 million of additional charges in 2015. The $1 million used in 2015 reflects cash payments. The remaining accrual of $9 million, which was included in Accrued liabilities in the Company's consolidated balance sheets at as of December 31, 2015, primarily represented future cash payments for lease obligations.

Employee Separation Costs

At January 1, 2015, the Company had an accrual of $57 million for employee separation costs. The additional 2015 charges of $74 million represent severance costs for approximately an additional 1,100 employees, of which 200 were direct employees and 900 were indirect employees. The adjustments of $10 million reflect $4 million of reversals of accruals no longer needed and $6 million of reversals of accruals held for employees separated from discontinued operations. The $70 million used in 2015 reflects cash payments to these severed employees. The remaining accrual of $51 million was included in Accrued liabilities in the Company's consolidated balance sheet at December 31, 2015.

14. Intangible Assets and Goodwill

The Company accounts for acquisitions using purchase accounting with the results of operations for each acquiree included in the Company's consolidated financial statements for the period subsequent to the date of acquisition.

Recent Developments

On February 1, 2018, we announced our intention to purchase Avigilon Corporation, a provider of advanced end-to-end security and surveillance solutions including video analytics, network video management hardware and software, surveillance cameras and access control solutions for a purchase price of approximately $1.3 billion Canadian dollars.

On July 28, 2017, we announced our intention to purchase Plant Holdings, Inc., the parent company of Airbus DS Communications. This acquisition will expand our software portfolio in the Command Center with additional solutions for Next Generation 9-1-1.

Guardian Digital Communications Limited Acquisition

On February 19, 2016, the Company completed the acquisition of GDCL, a holding company of Airwave Solutions Limited ("Airwave"), the largest private operator of a public safety network in the world. All of the outstanding equity of Airwave was acquired for the sum of £1, after which the Company invested into Airwave £698 million, net of cash acquired, or approximately $1.0 billion, to settle all third party debt. The Company will make a deferred cash payment of £64 million on November 15, 2018.

The acquisition of Airwave enables the Company to geographically diversify its global Managed & Support services offerings, while offering a proven service delivery platform to build on for providing innovative, leading, mission-critical communications solutions and services to customers.

The acquisition of Airwave has been accounted for at fair value as of the acquisition date, based on the fair value of the total consideration transferred which has been attributed to all identifiable assets acquired and liabilities assumed and measured at fair value.

The total consideration for the acquisition of Airwave was approximately $1.1 billion, consisting of cash payments of $1.0 billion, net of cash acquired, and deferred consideration valued at fair value on the date of the acquisition of $82 million. The fair value of deferred consideration has been determined based on its net present value, calculated using a discount rate of 4.2%, which is reflective of the credit standing of the combined entity. The following table summarizes fair values of assets acquired and liabilities assumed as of the February 19, 2016 acquisition date:

Cash	$	86
Accounts receivable, net		55
Other current assets		36
Property, plant and equipment, net		245
Deferred income taxes		82
Accounts payable		(18)
Accrued liabilities		(181)
Other liabilities		(289)
Goodwill		191
Intangible assets		875
Total consideration	$	1,082
Net present value of deferred consideration payment to former owners		(82)
Net cash consideration at purchase	$	1,000

Acquired intangible assets consist of $846 million of customer relationships and $29 million of trade names. All intangibles have a useful life of seven years, over which amortization expense will be recognized on a straight line basis.

The fair values of trade names and customer relationships were estimated using the income approach. Customer relationships were valued under the excess earnings method which assumes that the value of an intangible asset is equal to the present value of the incremental after-tax cash flows attributable specifically to the intangible asset. Trade names were valued under the relief from royalty method, which assumes value to the extent that the acquired company is relieved of the obligation to pay royalties for the benefits received from them.

The fair value of acquired Property, plant and equipment, primarily network-related assets, was valued under the replacement cost method, which determines fair value based on the replacement cost of new property with similar capacity, adjusted for physical deterioration over the remaining useful life.

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the future economic benefits arising from the other assets acquired that could not be individually identified and separately recognized. Goodwill is not deductible for tax purposes.

Other Acquisitions

On August 28, 2017, the Company completed the acquisition of Kodiak Networks, a provider of broadband push-to-talk (PTT) for commercial customers, for a gross purchase price of $225 million. As a result of the acquisition, the Company recognized $191 million of goodwill, $44 million of identifiable intangible assets and $10 million of acquired liabilities. The identifiable intangible assets were classified as $25 million of customer-related intangibles and $19 million of completed technology and will be amortized over a period of 13 to 16 years.

On March 13, 2017, the Company completed the acquisition of Interexport, a company that provides Managed & Support services for communications systems to public safety and commercial customers in Chile, for a gross purchase price of $98 billion Chilean pesos, or approximately $147 million U.S. dollars based on cash payments of $55 million, net of cash acquired, and assumed liabilities of $92 million, primarily related to capital leases. As a result of the acquisition, the Company recognized $61 million of identifiable intangible assets, $70 million of acquired property, plant and equipment and $16 million of net other tangible assets. The estimated identifiable intangible assets were classified as $56 million of customer-related intangibles and $5 million of other intangibles and will be amortized over a period of seven years.

On November 10, 2016, the Company completed the acquisition of Spillman Technologies, Inc., a provider of comprehensive law enforcement and public safety software solutions, for a gross purchase price of $221 million. As a result of the acquisition, the Company recognized $144 million of goodwill, $115 million of identifiable intangible assets, and $38 million of acquired liabilities. The identifiable intangible assets were classified as $49 million of completed technology, $59 million of customer-related intangibles, and $7 million of other intangibles and will be amortized over a period of seven to ten years.

During the year ended December 31, 2016, the Company completed the acquisition of several software and service-based providers for a total of $30 million, recognizing $6 million of goodwill, $15 million of intangible assets, and $9 million of tangible net assets related to these acquisitions. Under the preliminary purchase accounting, the $15 million of identifiable intangible assets were classified as: (i) $7 million of completed technology and (ii) $8 million of customer-related intangibles and will be amortized over a period of five years. During the first quarter of 2017, the Company completed the purchase accounting and recorded an additional $11 million completed technology intangible asset that will be amortized over a period of eight years.

The results of operations for these acquisitions have been included in the Company's condensed consolidated statements of operations subsequent to the acquisition date. The pro forma effects of these acquisitions are not significant individually or in the aggregate.

Intangible Assets

Amortized intangible assets are comprised of the following:

	2017		2016	
December 31	***Gross Carrying Amount***	***Accumulated Amortization***	*Gross Carrying Amount*	*Accumulated Amortization*
Intangible assets:				
Completed technology	**$ 148**	**$ 55**	$ 116	$ 38
Patents	**2**	**2**	8	6
Customer-related	**977**	**242**	810	101
Other intangibles	**56**	**23**	49	17
	$ 1,183	**$ 322**	$ 983	$ 162

Amortization expense on intangible assets, which is included within Other charges in the consolidated statements of operations, was $151 million, $113 million, and $8 million for the years ended December 31, 2017, 2016, and 2015, respectively. As of December 31, 2017, future amortization expense is estimated to be $155 million in 2018, $154 million in 2019, $152 million in 2020, $151 million in 2021, and $148 million in 2022.

Amortized intangible assets, excluding goodwill, were comprised of the following by segment:

	2017		*2016*	
	Gross Carrying Amount	***Accumulated Amortization***	*Gross Carrying Amount*	*Accumulated Amortization*
Products	**$ 173**	**$ 76**	$ 178	$ 63
Services	**1,010**	**246**	805	99
	$ 1,183	**$ 322**	$ 983	$ 162

Goodwill

The following table displays a rollforward of the carrying amount of goodwill, net of impairment losses, by segment from January 1, 2016 to December 31, 2017:

	Products	*Services*	*Total*
Balance as of January 1, 2016	$ 270	$ 150	$ 420
Goodwill acquired	46	291	337
Foreign currency translation	—	(29)	(29)
Balance as of December 31, 2016	$ 316	$ 412	$ 728
Goodwill acquired	—	191	191
Purchase accounting adjustments	—	2	2
Foreign currency translation	—	17	17
Balance as of December 31, 2017	$ 316	$ 622	$ 938

The Company conducts its annual assessment of goodwill for impairment in the fourth quarter of each year. The goodwill impairment assessment is performed at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment. The Company has determined that the Products segment and Services segment each meet the definition of a reporting unit.

The Company performed a qualitative assessment to determine whether it was more-likely-than-not that the fair value of each reporting unit was less than its carrying amount for the fiscal years 2017, 2016, and 2015. In performing this qualitative assessment the Company assessed relevant events and circumstances including macroeconomic conditions, industry and market conditions, cost factors, overall financial performance, changes in share price, and entity-specific events. For fiscal years 2017, 2016, and 2015, the Company concluded it was more-likely-than-not that the fair value of each reporting unit exceeded its carrying value. Therefore, the two-step goodwill impairment test was not required and there was no impairment of goodwill.

15. Valuation and Qualifying Accounts

The following table presents the valuation and qualifying account activity for the years ended December 31, 2017, 2016, and 2015:

	Balance at January 1	*Charged to Earnings*	*Used*	*Adjustments**	*Balance at December 31*
2017					
Allowance for doubtful accounts	$ 44	$ 16	$ (16)	$ 1	$ 45
Inventory reserves	131	21	(19)	—	133
2016					
Allowance for doubtful accounts	28	44	(26)	(2)	44
Inventory reserves	142	20	(33)	2	131
2015					
Allowance for doubtful accounts	35	9	(17)	1	28
Inventory reserves	131	24	(13)	—	142

** Adjustments include translation adjustments*

16. Quarterly and Other Financial Data (unaudited)

	2017				2016			
	1st	***2nd***	***3rd***	***4th***	*1st*	*2nd*	*3rd*	*4th*
Operating Results								
Net sales	**$ 1,281**	**$ 1,497**	**$ 1,645**	**$ 1,957**	$ 1,193	$ 1,430	$ 1,532	$ 1,883
Costs of sales	**711**	**807**	**851**	**987**	691	754	770	955
Gross margin	**570**	**690**	**794**	**970**	502	676	762	928
Selling, general and administrative expenses	**232**	**242**	**248**	**257**	234	240	247	277
Research and development expenditures	**135**	**138**	**141**	**154**	135	138	137	142
Other charges	**27**	**53**	**67**	**48**	33	74	37	106
Operating earnings	**176**	**257**	**338**	**511**	100	224	341	403
Net earnings (loss)*	**77**	**131**	**212**	**(575)**	17	107	192	243
Per Share Data (in dollars)								
Net earnings (loss)*:								
Basic earnings per common share	**$ 0.47**	**$ 0.80**	**$ 1.30**	**$ (3.56)**	$ 0.10	$ 0.62	$ 1.15	$ 1.47
Diluted earnings per common share	**0.45**	**0.78**	**1.25**	**(3.56)**	0.10	0.61	1.13	1.43
Dividends declared	**$ 0.47**	**$ 0.47**	**$ 0.47**	**$ 0.52**	$ 0.41	$ 0.41	$ 0.41	$ 0.47
Dividends paid	**0.47**	**0.47**	**0.47**	**0.47**	0.41	0.41	0.41	0.41
Stock prices								
High	**$ 87.00**	**$ 89.15**	**$ 93.75**	**$ 95.30**	$ 76.11	$ 76.32	$ 78.32	$ 84.00
Low	**$ 76.92**	**$ 79.63**	**$ 82.86**	**$ 84.56**	$ 60.36	$ 63.08	$ 64.77	$ 71.29

* *Amounts attributable to Motorola Solutions, Inc. common shareholders.*

17. Discontinued Operations

On October 27, 2014, the Company completed the sale of its Enterprise business to Zebra Technologies Corporation ("Zebra") for $3.45 billion in cash. Certain assets of the Enterprise business were excluded from the transaction and retained by the Company, including the Company’s iDEN business. The historical financial results of the Enterprise business, excluding those assets and liabilities retained in the transaction, are reflected in the Company's consolidated financial statements and footnotes as discontinued operations for all periods presented. During the year ended December 31, 2015, the Company recognized a $30 million loss for discontinued operations related to the sale of its Enterprise business.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

Under the supervision and with the participation of our senior management, including our chief executive officer and chief financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this annual report (the "Evaluation Date"). Based on this evaluation, our chief executive officer and chief financial officer concluded as of the Evaluation Date that our disclosure controls and procedures were effective such that the information relating to Motorola Solutions, including our consolidated subsidiaries, required to be disclosed in our Securities and Exchange Commission ("SEC") reports (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to Motorola Solutions' management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting.

Motorola Solutions' management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our senior management, including our chief executive officer and chief financial officer, we assessed the effectiveness of our internal control over financial reporting as of December 31, 2017, using the criteria set forth in the *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has concluded that our internal control over financial reporting is effective as of December 31, 2017.

The Company's independent registered public accounting firm, KPMG LLP, has issued a report on the Company's internal control over financial reporting. The report on the audit of internal control over financial reporting appears in this Form 10-K.

Changes in Internal Control Over Financial Reporting.

There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2017, that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

We are in the process of a multi-year phased upgrade and consolidation of our ERP systems into a single global platform across our businesses. In April 2017, we implemented our new ERP system which is functioning as designed and continuing to support our business. Our new ERP system includes the replacement of regional systems supporting our product based business and back end finance processes including our general ledger. The system also includes the replacement of our current indirect procurement and service contract systems. We have made appropriate changes to our internal controls over financial reporting as we have implemented the new system. We plan to continue to migrate the remaining parts of the business off regional systems as we work towards a single global platform. We will continue to modify our internal controls in response to changes in the underlying ERP on future phases as needed.

Item 9B. Other Information

None.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Motorola Solutions, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Motorola Solutions, Inc.'s (the "Company") internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the "consolidated financial statements"), and our report dated February 16, 2018 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting in Item 9A: Controls and Procedures. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

KPMG LLP

Chicago, Illinois

February 16, 2018

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The response to this Item required by Item 401 of Regulation S-K, with respect to directors, incorporates by reference the information under the caption “2018 Director Nominees” of Motorola Solutions’ Proxy Statement for the 2018 Annual Meeting of Stockholders (the “Proxy Statement”) and, with respect to executive officers, is contained in Part I hereof under the caption “Executive Officers of the Registrant” and, with respect to the audit committee, incorporates by reference the information under the caption “Corporate Governance - Committees of the Board” and “Audit Committee Matters - Report of Audit Committee” of the Proxy Statement.

The response to this Item required by Item 405 of Regulation S-K incorporates by reference the information under the caption “Security Ownership Information-Section 16 (a) Beneficial Ownership Reporting Compliance” of the Proxy Statement.

The response to this Item also incorporates by reference the information under the caption “Important Dates for the 2019 Annual Meeting - Recommending a Director Candidate to the Governance and Nominating Committee” of the Proxy Statement.

Motorola Solutions has adopted a code of ethics, the Motorola Solutions Code of Business Conduct (the “Code”), that applies to all employees, including the Company’s principal executive officer, principal financial officer and controller (principal accounting officer). The Code is posted on Motorola Solutions’ Internet website, www.motorolasolutions.com/investors, and is available free of charge, upon request to Investor Relations, Motorola Solutions, Inc., Corporate Offices, 500 W. Monroe Street, Chicago, Illinois 60661, E-mail: investors@motorolasolutions.com. Any amendment to, or waiver from, the Code applicable to executive officers will be posted on our Internet website within four business days following the date of the amendment or waiver. Motorola Solutions’ Code of Business Conduct applies to all of the Company’s employees worldwide, without exception, and describes employee responsibilities to the various stakeholders involved in our business. The Code goes beyond the legal minimums by implementing the values we share as employees of Motorola Solutions—our key beliefs—uncompromising integrity and constant respect for people. The Code places special responsibility on managers and prohibits retaliation for reporting issues.

Item 11. Executive Compensation

The response to this Item incorporates by reference the information under the captions "Director Compensation - Determining Director Compensation - How the Directors are Compensated,” "Compensation Discussion and Analysis," "Compensation and Leadership Committee Report,” "Compensation and Leadership Committee Interlocks and Insider Participation," and under “Named Executive Officer Compensation," the following subsections: "2017 Summary Compensation Table,” "Grants of Plan-Based Awards in 2017," “Outstanding Equity Awards at 2017 Fiscal Year-End,” “Option Exercises and Stock Vested in 2017,” "Nonqualified Deferred Compensation in 2017,” "Retirement Plans," "Pension Benefits in 2017," "Employment Contracts," and "Termination of Employment and Change in Control Arrangements," of the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The response to this Item incorporates by reference the information under the captions “Equity Compensation Plan Information” and “Security Ownership Information” of the Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The response to this Item incorporates by reference the relevant information under the caption “Corporate Governance - Related Person Transaction Policy and Procedures” and “Independent Directors” of the Proxy Statement.

Item 14. Principal Accounting Fees and Services

The response to this Item incorporates by reference the information under the caption “Audit Committee Matters - Independent Registered Public Accounting Firm Fees” and “Audit Committee Matters - Audit Committee Pre-Approval Policies” of the Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) 1. Financial Statements

See Part II, Item 8 hereof.

2. Financial Statement Schedules and Independent Auditors' Report

All schedules omitted are inapplicable or the information required is shown in the consolidated financial statements or notes thereto.

3. Exhibits

Exhibit numbers 10.6 through 10.58, listed in the attached Exhibit Index, are management contracts or compensatory plans or arrangements required to be filed as exhibits to this form by Item 15(b) hereof.

2.1 Master Acquisition Agreement, dated April 14, 2014, by and between Motorola Solutions, Inc. and Zebra Technologies, Inc. (incorporated by reference to Exhibit 2.1 to Motorola Solutions' Current Report on Form 8-K filed on April 16, 2014 (File No. 1-7221)).

2.2 Share Purchase Agreement, dated December 3, 2015, by and between Motorola Solutions, Inc., Motorola Solutions Overseas Limited, and Guardian Digital Communications Holdings Limited (incorporated by reference to Exhibit 1.1 to Motorola Solutions' Current Report on 8-K filed on December 3, 2015 (File 1-17221)).

3.1 (a) Restated Certificate of Incorporation of Motorola, Inc., as amended through May 5, 2009 (incorporated by reference to Exhibit 3(i)(b) to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended July 4, 2009 (File No. 1-7221)).

3.1 (b) Certificate of Amendment to the Restated Certificate of Incorporation of Motorola, Inc., effective January 4, 2011, as filed with the Secretary of State of the State of Delaware (incorporated by reference to Exhibit 3.1 to Motorola Solutions' Current Report on Form 8-K filed on January 10, 2011 (File No. 1-7221)).

3.1 (c) Certificate of Ownership and Merger merging Motorola Name Change Corporation into Motorola, Inc., effective January 4, 2011, as filed with the Secretary of State of the State of Delaware (incorporated by reference to Exhibit 3.2 to Motorola Solutions' Current Report on Form 8-K filed on January 10, 2011 (File No. 1-7221)).

3.2 Amended and Restated Bylaws of Motorola Solutions, Inc. as of November 13, 2014 (incorporated by reference to Exhibit 3.1 to Motorola Solutions' Current Report on Form 8-K filed on November 14, 2014 (File No. 1-7221)).

4.1 (a) Senior Indenture, dated as of May 1, 1995, between The Bank of New York Mellon Trust Company, N.A. (as successor Trustee to JPMorgan Chase Bank (as successor in interest to Bank One Trust Company) and BNY Midwest Trust Company (as successor in interest to Harris Trust and Savings Bank) and Motorola, Inc. (incorporated by reference to Exhibit 4(d) of the Registrant's Registration Statement on Form S-3 dated September 25, 1995 (Registration No. 33-62911)).

4.1 (b) Instrument of Resignation, Appointment and Acceptance, dated as of January 22, 2001, among Motorola, Inc., Bank One Trust Company, N.A. and BNY Midwest Trust Company (as successor in interest to Harris Trust and Savings Bank) (incorporated by reference to Exhibit 4.2(b) to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2000 (File No. 1-7221)).

4.1 (c) Indenture dated as of August 19, 2014 between Motorola Solutions, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee. (incorporated by reference to Exhibit 4.1 to Motorola Solutions' Current Report on Form 8-K filed on August 19, 2014 (File No. 1-7221)).

4.1 (d) Indenture dated as of August 25, 2015 between Motorola Solutions, Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee, related to 2% Convertible Senior Notes Due 2020 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on August 26, 2015 (File No. 1-7221)).

Certain instruments defining the rights of holders of long-term debt of Motorola, Inc. and of all its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed are being omitted pursuant to paragraph (b)(4)(iii)(A) of Item 601 of Regulation S-K. Motorola Solutions agrees to furnish a copy of any such instrument to the Commission upon request.

10.1 Amended and Restated Master Separation and Distribution Agreement among Motorola Mobility Holdings, Inc. (f/k/a Motorola SpinCo Holdings Corporation), Motorola Mobility, Inc. and Motorola, Inc. effective as of July 31, 2010 (incorporated by reference to Exhibit 2.1 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation) (File No. 1-34805)).

10.2 Amended and Restated Intellectual Property License Agreement between Motorola Mobility, Inc. and Motorola, Inc. effective as of July 31, 2010 (incorporated by reference to Exhibit 10.2 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation (File No. 1-34805)).

10.3 Amended and Restated Exclusive License Agreement between Motorola Trademark Holdings, LLC and Motorola, Inc. effective as of July 30, 2010 (incorporated by reference to Exhibit 10.3 to Amendment No. 3 to the Form 10 Registration Statement filed on November 12, 2010 by Motorola Mobility Holdings, Inc. (File No. 1-34805)).

10.4 Tax Sharing Agreement among Motorola Mobility Holdings, Inc. (f/k/a Motorola SpinCo Holdings Corporation), Motorola Mobility, Inc. and Motorola, Inc. effective as of July 31, 2010 (incorporated by reference to Exhibit 10.4 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation) (File No. 1-34805)).

10.5 Amended and Restated Employee Matters Agreement among Motorola Mobility Holdings, Inc. (f/k/a Motorola SpinCo Holdings Corporation), Motorola Mobility, Inc. and Motorola, Inc. effective as of July 31, 2010 (incorporated by reference to Exhibit 10.7 to Amendment No. 2 to the Form 10 Registration Statement filed on October 8, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation (File No. 1-34805)).

10.6 Motorola Solutions Omnibus Incentive Plan of 2015, effective May 18, 2015 (an amendment and restatement of the Motorola Solutions Omnibus Incentive Plan of 2006) (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on May 21, 2015 (file No. 1-7221)).

10.7 March 9, 2017 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance-Contingent Stock Options (non-CEO) (incorporated by reference to Exhibit 10.8 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.8 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Section 16 Officers on or after March 9, 2015 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on March 11, 2015 (File No. 1-7221)).

10.9 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance-Contingent Stock Options (non-CEO) (incorporated by reference to Exhibit 10.3 to Motorola Solutions' Current Report on Form 8-K filed on August 26, 2015 (File No. 1-7221)).

10.10 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for grants to Section 16 Officers on or after May 6, 2013 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2013 (File No. 1-7221)).

10.11 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants on or after March 9, 2017 (incorporated by reference to Exhibit 10.6 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.12 Form of Motorola Solutions Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.9 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2013 (File No. 1-7221)).

10.13 Form of Motorola Solutions Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from January 4, 2011 to February 2, 2014 (incorporated by reference to Exhibit 10.11 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.14 Form of Motorola, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from August 1, 2009 to January 3, 2011 (incorporated by reference to Exhibit 10.1 to Motorola Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended July 4, 2009 (File No. 1-7221)).

10.15 Form of Motorola, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from May 6, 2008 to July 31, 2009 (incorporated by reference to Exhibit 10.54 to Motorola Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 29, 2008 (File No. 1-7221)).

10.16 Form of Motorola, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from February 11, 2007 to May 5, 2008 (incorporated by reference to Exhibit 10.37 to Motorola Inc.'s Current Report on Form 8-K filed on February 15, 2007 (File No. 1-7221)).

10.17 Form of Motorola Solutions, Inc. Stock Option Consideration Agreement for grants on or after March 9, 2017 (incorporated by reference to Exhibit 10.7 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.18 Form of Motorola Solutions Stock Option Consideration Agreement for grants from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.14 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2013 (File No. 1-7221)).

10.19 Form of Motorola Solutions Stock Option Consideration Agreement for grants from January 4, 2011 to February 2, 2014 (incorporated by reference to Exhibit 10.15 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.20 Form of Motorola, Inc. Stock Option Consideration Agreement for grants from May 6, 2008 to January 3, 2011 (incorporated by reference to Exhibit 10.56 to Motorola Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 29, 2008 (File No. 1-7221)).

10.21 Form of Motorola, Inc. Stock Option Consideration Agreement for grants from February 27, 2007 to May 5, 2008 (incorporated by reference to Exhibit 10.4 to Motorola Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2006 (File No. 1-7221)).

10.22 Form of Motorola Solutions, Inc. Market Stock Unit Agreement for grants to Section 16 Officers on or after March 9, 2017 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.23 Form of Motorola Solutions, Inc. Market Stock Unit Agreement for grants to Section 16 Officers from March 9, 2015 to March 8, 2017 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Current Report on Form 8-K filed on March 11, 2015 (File No. 1-7221)).

10.24 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Section 16 Officers on or after March 9, 2017 (incorporated by reference to Exhibit 10.5 to Motorola Solutions' Quarterly Report on Form 10-Q filed for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.25 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants to Section 16 Officers from May 6, 2013 to March 8, 2017 (incorporated by reference to Exhibit 10.1 to Motorola Inc's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2013 (File No. 1-7221)).

10.26 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Appointed Vice Presidents and Elected Officers on or after March 9, 2017 (incorporated by reference to Exhibit 10.3 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.27 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants to Appointed Vice Presidents and Elected Officers from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.19 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2013 (File No. 1-7221)).

10.28 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Employees on or after March 9, 2017 (incorporated by reference to Exhibit 10.4 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017 (File No. 1-7221)).

10.29 Motorola Solutions, Inc. Amended Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options and Addendum A to Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Stock Appreciation Rights, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for a grant on February 22, 2011 to Gregory Q. Brown. (incorporated by reference to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 2, 2011 (File No. 1-7221)).

10.30 Form of Motorola Solutions Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for Gregory Q. Brown, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grant on February 1, 2011 pursuant to the terms of the Employment Agreement dated August 27, 2008, as amended, by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.24 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.31 Form of Motorola Solutions Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for Gregory Q. Brown, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants on or after January 4, 2011 (incorporated by reference to Exhibit 10.25 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.32 Form of Motorola, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for Gregory Q. Brown, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from May 7, 2009 to January 3, 2011 (incorporated by reference to Exhibit 10.13 to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2009 (File No. 1-7221)).

10.33 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Gregory Q. Brown on or after March 9, 2015 (incorporated by reference to Exhibit 10.3 to Motorola Solutions' Current Report on Form 8-K filed on March 11, 2015 (File No. 1-7221)).

10.34 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance-Contingent Stock Options (CEO) (incorporated by reference to Exhibit 10.4 to Motorola Solutions' Current Report on Form 8-K filed on August 26, 2015 (File No. 1-7221)).

10.35 Form of Motorola Solutions Stock Option Consideration Agreement for Gregory Q. Brown for grants on or after January 4, 2011 under the Motorola Solutions Omnibus Incentive Plan of 2006 (incorporated by reference to Exhibit 10.27 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010)(File No. 1-7221)).

10.36 Form of Motorola, Inc. Stock Option Consideration Agreement for Gregory Q. Brown for grants from May 7, 2009 to January 3, 2011 under the Motorola Solutions Omnibus Incentive Plan of 2006 (incorporated by reference to Exhibit 10.14 to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2009 (File No. 1-7221)).

10.37 Form of Motorola, Inc. Stock Option Consideration Agreement for Gregory Q. Brown for grants from January 31, 2008 to May 6, 2009 under the Motorola Solutions Omnibus Incentive Plan of 2006 (incorporated by reference to Exhibit 10.10 to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2007 (File No. 1-7221)).

10.38 Form of Motorola Solutions, Inc. Restricted Stock Unit Award Agreement for Gregory Q. Brown under the Motorola Solutions Omnibus Incentive Plan of 2006 for grants on or after January 4, 2011 (incorporated by reference to Exhibit 10.32 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.39 Form of Motorola Solutions, Inc. Market Stock Unit Agreement for grants to Gregory Q. Brown on or after March 9, 2015 (incorporated by reference to Exhibit 10.4 to Motorola Solutions' Current Report on Form 8-K filed on March 11, 2015 (File No. 1-7221)).

10.40 Form of Motorola Solutions Deferred Stock Units Agreement between Motorola Solutions, Inc. and its non-employee directors, relating to the deferred stock units issued in lieu of cash compensation to directors under the Motorola Solutions Omnibus Incentive Plan of 2006, for acquisitions on or after January 1, 2012 (incorporated by reference to Exhibit 10.37 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2011 (File No. 1-7221)).

10.41 Form of Motorola Solutions Deferred Stock Units Agreement between Motorola Solutions, Inc. and its non-employee directors, relating to the deferred stock units issued in lieu of cash compensation to directors under the Motorola Solutions Omnibus Incentive Plan of 2006, for acquisitions on or after January 4, 2011 (incorporated by reference to Exhibit 10.37 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.42 Form of Motorola Solutions Deferred Stock Units Award between Motorola Solutions, Inc. and its non-employee directors under the Motorola Solutions Omnibus Incentive Plan of 2006 or any successor plan for grants on or after January 1, 2012 (incorporated by reference to Exhibit 10.40 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2011 (File No. 1-7221)).

10.43 Form of Motorola Solutions Deferred Stock Units Award between Motorola Solutions, Inc. and its non-employee directors under the Motorola Solutions Omnibus Incentive Plan of 2006 or any successor plan for grants from January 4, 2011 to December 31, 2011 (incorporated by reference to Exhibit 10.39 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.44 Form of Deferred Stock Units Award between Motorola, Inc. and its non-employee directors under the Motorola Solutions Omnibus Incentive Plan of 2006 or any successor plan for grants from February 11, 2007 to January 3, 2011(incorporated by reference to Exhibit 10.9 to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2006 (File No. 1-7221)).

10.45 Motorola Omnibus Incentive Plan of 2003, as amended through May 4, 2009 (incorporated by reference to Exhibit 10.6 to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2009 (File No. 1-7221)).

10.46 Motorola Omnibus Incentive Plan of 2000, as amended through May 4, 2009 (incorporated by reference to Exhibit 10.8 to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2009 (File No. 1-7221)).

10.47 Form of Deferred Stock Units Agreement between Motorola, Inc. and its non-employee directors, relating to the deferred stock units issued in lieu of cash compensation to directors under the Motorola Omnibus Incentive Plan of 2003 or any successor plan, for acquisitions from January 1, 2006 to February 11, 2007 (incorporated by reference to Exhibit No. 10.25 to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2005 (File No. 1-7221)).

10.48 Motorola Non-Employee Directors Stock Plan, as amended and restated on May 6, 2003 (incorporated by reference to Exhibit 10.20 to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 29, 2003 (File No. 1-7221)).

10.49 Motorola Solutions Executive Officer Short Term Incentive Plan dated January 17, 2013 (effective January 1, 2013) (incorporated by reference to Exhibit 10.50 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2012 (File No. 1-7221)).

10.50 Motorola Solutions Executive Officer Short Term Incentive Plan Term Sheet (incorporated by reference to Exhibit 10.51 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2012 (File No. 1-7221)).

10.51 Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated February 11, 2015 (incorporated by reference to Exhibit 10.5 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2015 (File No. 1-7221)).

10.52 2017-2019 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 16, 2017 (incorporated by reference to Exhibit No. 10.1 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended on April 1, 2017 (File No. 1-7221)).

10.53 2016-2018 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated February 18, 2016 (incorporated by reference to Exhibit No. 10.1 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended on April 2, 2016 (File No. 1-7221)).

10.54 2015-2017 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated February 11, 2015 (incorporated by reference to Exhibit 10.6 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended on April 4, 2015 (File No. 1-7221)).

10.55 Motorola Solutions Management Deferred Compensation Plan (As Amended and Restated Effective as of June 1, 2013) (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on June 5, 2013 (File No. 1-7221)).

10.56 Motorola Solutions Management Deferred Compensation Plan, as amended and restated effective as of December 1, 2010, as amended January 4, 2011 (incorporated by reference to Exhibit 10.57 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (File No. 1-7221)).

10.57 Motorola Solutions, Inc. 2011 Senior Officer Change in Control Severance Plan, as amended and restated November 13, 2014 (incorporated by reference to Exhibit No. 10.54 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2014 (File No. 1-7221)).

10.58 Motorola Solutions, Inc. 2011 Executive Severance Plan, as amended and restated November 13, 2014 (incorporated by reference to Exhibit No. 10.55 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2014 (File No. 1-7221)).

10.59 Arrangement for directors' fees for non-employee directors (description incorporated by reference from the information under the caption "How the Directors are Compensated" of Motorola Solutions' Proxy Statement for the Annual Meeting of Stockholders held on May 15, 2017 ("Motorola Solutions' Proxy Statement")).

10.60	Description of Insurance covering non-employee directors and their spouses (including a description incorporated by reference from the information under the caption “Director Retirement Plan and Insurance Coverage” of the Motorola Solutions’ Proxy Statement filed March 27, 2017, and incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended on July 1, 2017 (File No. 1-7221)).
10.61	Employment Agreement dated August 27, 2008 by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola, Inc.’s Current Report on Form 8-K filed on August 29, 2008 (File No. 1-7221)).
10.62	Amendment made on December 15, 2008 to the Employment Agreement dated August 27, 2008 by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit No. 10.50 to Motorola, Inc.’s Annual Report on Form 10-K for the fiscal year ended December 31, 2008 (File No. 1-7221)).
10.63	Second Amendment, dated May 28, 2010, to the Employment Agreement dated August 27, 2008, as amended, by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola, Inc.’s Current Report on Form 8-K filed on May 28, 2010 (File No. 1-7221)).
10.64	Third Amendment, dated March 10, 2014, to the Employment Agreement dated August 27, 2008, as amended, by and between Motorola Solutions, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola Solutions Current Report on Form 8-K filed on March 13, 2014 (File No. 1-7221)).
10.65	Revolving Credit Agreement dated as of May 29, 2014 among Motorola Solutions, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the several lenders and agents party thereto (incorporated by reference to Exhibit 10.1 to Motorola Solutions Current Report on Form 8-K filed on June 2, 2014 (File No. 1-7221)).
10.66	Term Loan Credit Agreement, dated February 18, 2016, by and among Motorola Solutions, Inc., Lloyds Bank PLC, as administrative agent, and the several lenders and agents party thereto (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on February 22, 2016 (File No. 1-7221)).
10.67	Revolving Credit Agreement dated as of April 25, 2017 among the Company, JPMorgan Chase Bank, N.A., as administrative agent, and the several lenders and agents party thereto (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on April 27, 2017 (File No. 1-7221)).
10.68	Definitive Purchase Agreement by and among Motorola Solutions, Inc., The Prudential Insurance Company of America, Prudential Financial, Inc., and State Street Bank and Trust Company, as Independent Fiduciary of the Motorola Solutions Pension Plan, dated as of September 22, 2014 (incorporated by reference to Exhibit 10.1 to Motorola Solutions’ Quarterly Report on Form 10-Q for the fiscal quarter ended September 27, 2014 (File No. 1-7221))**
10.69	Revised and Amended Aircraft Time Sharing Agreement as of October 1, 2015, by and between Motorola Solutions, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.4 to Motorola Solutions’, Quarterly Report on Form 10-Q for the fiscal quarter ended October 3, 2015 (File No. 1-7221)).
10.70	Investment Agreement by and among Motorola Solutions, Inc., Silver Lake Partners IV, L.P. and Silver Lake Partners IV Cayman (AIV II), L.P., dated as of August 4, 2015 (incorporated by reference to Exhibit 10.1 to Motorola Solutions’ Current Report on Form 8-K filed on August 5, 2015 (file No. 1-7221)).
*12	Statement regarding Computation of Ratio of Earnings to Fixed Charges.
*21	Subsidiaries of Motorola Solutions, Inc.
23	Consent of Independent Registered Public Accounting Firm, see page 97 of the Annual Report on Form 10-K of which this Exhibit Index is a part.
*31.1	Certification of Gregory Q. Brown pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
*31.2	Certification of Gino A. Bonanotte pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
*32.1	Certification of Gregory Q. Brown pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
*32.2	Certification of Gino A. Bonanotte pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Scheme Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

** Confidential treatment has been requested for portions of this agreement

(b) Exhibits:

See Item 15(a) 3 above.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Motorola Solutions, Inc.:

We consent to the incorporation by reference in the registration statements on Form S-8 (Nos. 033-59285, 333-51847, 333-36308, 333-53120, 333-60560, 333-60612, 333-87728, 333-105107, 333-123879, 333-133736, 333-142845, 333-160137, and 333-204324) and Form S-3 (Nos. 333-76637, 333-206451, and 333-208332) of Motorola Solutions, Inc. of our reports dated February 16, 2018, with respect to the consolidated balance sheets of Motorola Solutions, Inc. as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the "consolidated financial statements"), and the effectiveness of internal control over financial reporting as of December 31, 2017, which reports appear in the December 31, 2017 annual report on Form 10-K of Motorola Solutions, Inc.

KPMG LLP

Chicago, Illinois

February 16, 2018

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Motorola Solutions, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MOTOROLA SOLUTIONS, INC.

By: /S/ GREGORY Q. BROWN

Gregory Q. Brown

Chairman and Chief Executive Officer

February 16, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of Motorola Solutions, Inc. and in the capacities and on the dates indicated.

Signature	***Title***	***Date***
/S/ GREGORY Q. BROWN Gregory Q. Brown	Chairman and Chief Executive Officer and Director (Principal Executive Officer)	February 16, 2018
/S/ GINO A. BONANOTTE Gino A. Bonanotte	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 16, 2018
/S/ JOHN K. WOZNIAK John K. Wozniak	Corporate Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 16, 2018
/S/ KENNETH D. DENMAN Kenneth D. Denman	Director	February 16, 2018
/S/ EGON P. DURBAN Egon P. Durban	Director	February 16, 2018
/S/ CLAYTON M. JONES Clayton M. Jones	Director	February 16, 2018
/S/ JUDY C. LEWENT Judy C. Lewent	Director	February 16, 2018
/S/ GREGORY K. MONDRE Gregory K. Mondre	Director	February 16, 2018
/S/ ANNE R. PRAMAGGIORE Anne R. Pramaggiore	Director	February 16, 2018
/S/ SAMUEL C. SCOTT III Samuel C. Scott III	Director	February 16, 2018
/S/ JOSEPH M. TUCCI Joseph M. Tucci	Director	February 16, 2018

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STOCKHOLDER REFERENCE INFORMATION

Stock transfer, registrar, dividend disbursing, direct stock purchase and dividend reinvestment agent

EQ Shareowner Services
1110 Centre Pointe Curve, Suite 101
Mendota Heights, MN 55120 U.S.A.

Toll-free: +1 800 704 4098
International: +1 651 450 4064
Website: www.shareowneronline.com

Shareholder correspondence should be mailed to:

EQ Shareowner Services
P.O. Box 64874
St. Paul, MN 55164-0874 U.S.A.

Certified and overnight correspondence should be mailed to:

EQ Shareowner Services
1110 Centre Point Curve, Suite 101
Mendota Heights, MN 55120 U.S.A.

Investor Relations

Security analysts, investment professionals and shareholders can find investor relations information online at **www.motorolasolutions.com/investors**.

Inquiries should be directed to:

Investor Relations
Motorola Solutions, Inc.
500 West Monroe Street
Chicago, IL 60661 U.S.A.

Email: investors@motorolasolutions.com
Telephone: +1 847 538 7367

Common Stock

Motorola Solutions common stock is listed on the New York Stock Exchange.

Annual Meeting of Stockholders

May 14, 2018, 6 p.m. Eastern Daylight Time
Capital Hilton
1001 16th Street NW
Washington, D.C. 20036 U.S.A.

Availability of Proxy Statement and Form 10-K

The Proxy Statement and the Form 10-K are available on the Internet at **www.motorolasolutions.com/investor**. A copy of the Proxy Statement and/or Form 10-K may be obtained without charge by contacting the Investor Relations Department as listed above.

Independent Registered Public Accounting Firm Auditors

KPMG LLP
200 East Randolph Street, Suite 5500
Chicago, IL 60601 U.S.A.

Non-Incorporation

Motorola Solutions' 2017 Form 10-K, as filed with the SEC, is included within this Annual Report. Other than the Form 10-K, all other portions of this Annual Report are not "filed" with the SEC and should not be deemed so.

MOTOROLA SOLUTIONS

Motorola Solutions, Inc.
500 West Monroe Street
Chicago, IL 60661 U.S.A.

+1 847 576 5000
www.motorolasolutions.com

2019
Proxy Statement

Notice of Annual Meeting

May 23, 2019
New York, New York

BlackRock

Generating Long-Term Shareholder Value

BlackRock's mission is to help our clients build better financial futures. Our framework for creating long-term shareholder value is directly aligned with that mission. BlackRock, Inc. ("BlackRock" or the "Company") is a global asset management and technology services firm. We have strategically invested in our business over time to create a globally diverse investment platform, with index and alpha strategies ranging from ETFs to alternatives, industry-leading portfolio construction and risk management technology, and deep global capital markets expertise. The diversity of BlackRock's platform, across asset class, investment style and region, positions us to serve client needs holistically and through market cycles. It also enables us to generate more consistent growth and financial results for shareholders. We believe the stability of our financial results and our approach to continuously and deliberately invest in our business enhances BlackRock's ability to:

Generate differentiated organic growth

Leverage our scale for the benefit of clients and shareholders

Return capital to shareholders on a consistent and predictable basis

Over the long term, BlackRock has delivered on each of these tenets. We have generated differentiated organic growth and delivered operating margin expansion. We have prioritized investment in our business to first drive growth and then return "excess" cash flow to shareholders. Our capital return strategy has been balanced between dividends, where we target a 40-50% payout ratio, and a consistent share repurchase program.

Our framework for generating long-term shareholder value was developed in close collaboration with our Board of Directors (the "Board"), and the Board actively oversees our broader strategy and measures our ability to successfully execute it.

In 2019, we will continue to strategically, and efficiently, invest in BlackRock to optimize future growth. We will focus on areas we believe have high growth potential such as ETFs and illiquid alternatives, the shift from product selection to portfolio construction, and longer-term opportunities in technology, retirement and high growth markets – so we can deliver better outcomes for clients, opportunities for employees and long-term value for shareholders.

BlackRock, Inc.
55 East 52nd Street
New York, New York, 10055

April 12, 2019

To Our Shareholders:

Thank you for your confidence in BlackRock. It is my pleasure to invite you to our 2019 Annual Meeting, to be held on May 23, 2019 at the Lotte New York Palace Hotel. As we do each year, we will review our business and financial results for the year, address the voting items in the Proxy Statement and take your questions. Whether you plan to attend the meeting or not, your vote is important and we encourage you to review the enclosed materials and submit your proxy.

The benefits of the investments that BlackRock has made to build the most diversified global asset management and technology services company in the world are clearer today than at any point in our history. Our focus on the long-term and commitment to adapting and innovating ahead of change helps us stay ahead of clients' most pressing investment challenges and provide the solutions they need. Only by fulfilling our fiduciary duty to clients can BlackRock deliver long-term value to our shareholders.

In 2018, we delivered on each component of our framework for creating long-term shareholder value, while investing in our business for future growth. We generated $124 billion of net inflows in 2018, including record fourth quarter iShares flows, despite heightened uncertainty and volatility in global markets. We increased revenue, driven by growth in base fees and record annual technology services revenue, and expanded our full-year operating margin, while simultaneously investing in our highest growth opportunities, including retirement, illiquid alternatives, ETFs, factors and technology. And we returned approximately $3.6 billion of cash to shareholders through a combination of dividends and share repurchases, a more than 30% increase from 2017.

Despite our differentiation, BlackRock was not immune to sentiment on the asset management sector last year. As a significant owner of BlackRock shares myself, I share your deep disappointment in our stock's 2018 performance.

BlackRock's Board of Directors and I both believe that the performance of our stock price should be a factor in determining the compensation of our senior executives. And this year, driven by the Board and Compensation Committee's commitment to aligning executive compensation with performance, the Board lowered my 2018 compensation by 14% relative to 2017 - a decision I support. We are all committed to doing better for our clients and for our shareholders.

It has always been important that BlackRock's Board of Directors functions as a key strategic and governing body that challenges our leadership team to be better and more innovative. BlackRock's Board continues to play an integral role in our governance, our strategy, our growth and our success. A strong corporate governance framework is critical for executing on our strategy and ensuring we act as a fiduciary for clients. We are also focused on engaging with you, our shareholders, to better understand and address issues that are important to you.

To support our mission of helping people build better financial futures, we are vocal advocates for the adoption of sound corporate governance policies. This includes strong Board leadership, thoughtful strategic deliberations and prudent management practices, including awareness of how environmental and social risks may impact long-term value creation. We believe that BlackRock has implemented such a set of principles, guidelines and practices that support sustainable financial growth and long-term value creation for shareholders and hope that you will agree as you read our Proxy Statement.

Thank you again for your commitment to BlackRock. Our Board of Directors and I look forward to seeing you on May 23, 2019 in New York City.

Sincerely,

Laurence D. Fink
Chairman and Chief Executive Officer

> "Our focus on the long-term and commitment to adapting and innovating ahead of change helps us stay ahead of clients' most pressing investment challenges and provide the solutions they need."
>
> **Laurence D. Fink**
>
> Chairman and
> Chief Executive Officer

Notice of 2019 Annual Meeting of Shareholders

Annual Meeting of Shareholders

Date and Time
Thursday, May 23, 2019
8:00 am EDT

Place
Lotte New York Palace Hotel
455 Madison Avenue,
New York, 10022

Record Date
March 25, 2019

Voting Matters

At or before our Annual Meeting, we ask that you vote on the following items:

Item 1 Election of Directors

Item 2 Approval, in a Non-Binding Advisory Vote, of the Compensation for Named Executive Officers

Item 3 Ratification of the Appointment of the Independent Registered Public Accounting Firm

Item 4 Shareholder Proposal – Production of an Annual Report on Certain Trade Association and Lobbying Expenditures

Item 5 Shareholder Proposal – Simple Majority Vote Requirement

Important Notice Regarding the Availability of Proxy Materials for the 2019 Annual Meeting of Shareholders to be held on Thursday, May 23, 2019: our Proxy Statement and 2018 Annual Report are available free of charge on our website at **www.blackrock.com/corporate/en-us/investor-relations**

How to vote: Your vote is important

Internet

Visit the website listed on your proxy card. You will need the control number that appears on your proxy card when you access the web page.

Mail

Complete and sign the proxy card and return it in the enclosed postage pre-paid envelope.

Telephone

If your shares are held in the name of a broker, bank or other nominee: follow the telephone voting instructions, if any, provided on your voting instruction card. If your shares are registered in your name: call 1-800-690-6903 and follow the telephone voting instructions. You will need the control number that appears on your proxy.

In Person

You may attend the Annual Meeting and vote by ballot. Your admission ticket to the Annual Meeting is either attached to your proxy card or is in the email by which you received your Proxy Statement.

Please note that we are furnishing proxy materials and access to our Proxy Statement to our shareholders via our website instead of mailing printed copies to each shareholder. By doing so, we save costs and reduce our impact on the environment.

Beginning on April 12, 2019, we will mail or otherwise make available to each of our shareholders a Notice of Internet Availability of Proxy Materials, which contains instructions on how to access our proxy materials and vote online. If you attend the Annual Meeting, you may withdraw your proxy and vote in person, if you so choose.

Your vote is important and we encourage you to vote promptly whether or not you plan to attend the 2019 Annual Meeting of Shareholders of BlackRock, Inc.

By Order of the Board of Directors,

R. Andrew Dickson III

R. Andrew Dickson, III
Corporate Secretary
April 12, 2019

BlackRock, Inc.
55 East 52nd Street,
New York, New York 10055

Contents

Index of Frequently Requested Information

Helpful Resources

Where You Can Find More Information

Annual Meeting

Proxy Statement:
www.blackrock.com/corporate/en-us/investor-relations

Annual Report:
www.blackrock.com/corporate/en-us/investor-relations

Voting Your Proxy via the Internet:
www.proxyvote.com

Meeting Registration via Internet:
www.proxyvote.com

Board of Directors

http://ir.blackrock.com/board-of-directors

Communications with the Board

www.blackrock.com/corporate under the headings "Investor Relations / Corporate Governance / Governance Overview / Contact Our Board of Directors"

Governance Documents

www.blackrock.com/corporate under the headings "Investor Relations / Corporate Governance"

- Lead Independent Director Guidelines
- Corporate Governance Guidelines
- Committee Charters
- Code of Business Conduct and Ethics

Investor Relations

www.ir.blackrock.com

Other

Public Policy "Insights":
www.blackrock.com/corporate/insights/public-policy

Lobbying Disclosure Act:
www.senate.gov/legislative/lobbying

Federal Election Commission:
www.fec.gov

Definition of Certain Terms or Abbreviations

CEO	Chief Executive Officer
CFO	Chief Financial Officer
COO	Chief Operating Officer
Committees	The Audit, Management Development & Compensation, Nominating & Governance, Risk and Executive Committees
Compensation Committee	Management Development & Compensation Committee
Deloitte	Deloitte LLP
GAAP	Accounting Principles Generally Accepted in the United States
GEC	Global Executive Committee
Governance Committee	Nominating & Governance Committee
NEO	Named Executive Officer
Net Revenue	Revenue used for operating margin measurement
Non-core	Items such as deal-, tax- and Brexit-related professional fees, contingent consideration fair value adjustments, and product launch costs
NTM	Next Twelve Months
NYSE	New York Stock Exchange
PAC	Political Action Committee
PNC	The PNC Financial Services Group, Inc.
RS	Restricted Stock
RSU	Restricted Stock Unit
SEC	Securities and Exchange Commission
Traditional LC Peers	Traditional Large Cap Peers refers to Alliance Bernstein, Affiliated Managers Group, Inc., Franklin Resources, Inc., Eaton Vance, Invesco, Legg Mason, and T. Rowe Price

Proxy Summary

This summary provides an overview of selected information in this year's Proxy Statement. We encourage you to read the entire Proxy Statement before voting.

Annual Meeting of Shareholders

Date & Time:	Thursday, May 23, 2019 8:00 AM EDT	Place:	**Lotte New York Palace Hotel** 455 Madison Avenue New York, New York 10022	Record Date:	March 25, 2019

Voting Matters

Shareholders will be asked to vote on the following matters at the Annual Meeting:

	Board Recommendation	Page Reference
ITEM 1. Election of Directors The Board believes that the director nominees have the knowledge, experience, skills and backgrounds necessary to contribute to an effective and well-functioning Board.	Vote **FOR** each director nominee	9
ITEM 2. Approval, in a Non-Binding Advisory Vote, of the Compensation for Named Executive Officers BlackRock seeks a non-binding advisory vote from its shareholders to approve the compensation of the named executive officers as disclosed and discussed in this Proxy Statement. The Board values the opinions of our shareholders and will take into account the outcome of the advisory vote when considering future executive compensation decisions.	Vote **FOR**	51
ITEM 3. Ratification of the Appointment of the Independent Registered Public Accounting Firm The Audit Committee has appointed Deloitte LLP to serve as BlackRock's independent registered public accounting firm for the 2019 calendar year and this appointment is being submitted to our shareholders for ratification. The Audit Committee and the Board believe that the continued retention of Deloitte LLP to serve as BlackRock's independent auditors is in the best interests of the Company and its shareholders.	Vote **FOR**	85
ITEM 4. Shareholder Proposal – Production of an Annual Report on Certain Trade Association and Lobbying Expenditures The Board believes that the actions requested by the proponent are unnecessary and not in the best interest of our shareholders.	Vote **AGAINST**	88
ITEM 5. Shareholder Proposal – Simple Majority Vote Requirement The Board believes that the actions requested by the proponent are unnecessary and not in the best interest of our shareholders.	Vote **AGAINST**	91

What's New?

This year, we have expanded our discussion of BlackRock's governance, culture, sustainability and compensation practices. We believe providing a broader understanding of our perspectives on these items will be beneficial to you as you consider this year's voting matters. This year's updated items include:

- Board refreshment through the nomination of a new director (see "*Director Candidate Search*" on page 12)
- Board commitment to engagement with employees (see "*Beyond the Boardroom*" on page 24)
- Enhanced disclosure on Human Capital Management (see "*BlackRock's Approach to Human Capital Management*" on page 34)
- Enhanced disclosure on our Board and BlackRock's culture (see "*Our Board is deeply engaged in understanding the culture at BlackRock*" on page 23 and "*Beyond the Boardroom*" on page 24)
- Enhanced disclosure on our NEO compensation decisions framework (see "*Our Compensation Framework*" on page 56)
- BlackRock's Approach to Sustainability

Governance Highlights

Board Composition

(18 director nominees)

The Governance Committee regularly reviews the overall composition of the Board and its Committees to assess whether they reflect the appropriate mix of skills, experience, backgrounds and qualifications that are relevant to BlackRock's current and future global strategy and business. The Governance Committee identified a new candidate with strong senior executive, international and financial services experience for nomination to the Board this year.

Board Tenure

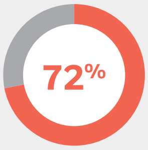
The Board considers length of tenure when reviewing nominees in order to maintain an overall balance of experience, continuity and fresh perspective.

0 – 5 Years:	5 – 10 Years:	10+ Years:
6 director nominees	**7 director nominees**	**5 director nominees**
33%	39%	28%

7 years: Average tenure of all director nominees

6 years: Average tenure of independent director nominees

Board Profile



Current & Former CEOs
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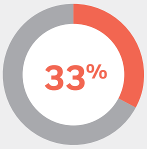

Non-U.S. or Dual Citizens
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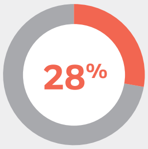


Women
5 of 18

Board Independence and Leadership

Each year the Board reviews and evaluates our Board leadership structure. The Board has appointed Laurence D. Fink as its Chairman and Murry S. Gerber as its Lead Independent Director.

15 of BlackRock's 18 director nominees are independent

Our Director Nominees

				Committee Memberships (effective May 23, 2019)				
Nominee	Age at Record Date	Primary Occupation	Director since	Audit	Compensation	Governance	Risk	Executive
Bader M. Alsaad	61	Former Managing Director of the Kuwait Investment Authority	N/A					
Mathis Cabiallavetta	74	Former Chairman of UBS, Vice Chairman of Swiss Re Ltd. and of Marsh & MacLennan Companies, Inc.	2007	●		●		
Pamela Daley	66	Former Senior Vice President of General Electric Company Corporate Business Development and Senior Advisor to Chairman	2014	🟠			●	●
William S. Demchak	56	Chairman, CEO and President of PNC	2003				●	●
Jessica P. Einhorn	71	Former Dean of Paul H. Nitze School of Advanced International Studies at The Johns Hopkins University and former Managing Director, World Bank	2012		●		●	
Laurence D. Fink	66	Chairman and CEO of BlackRock	1999					🟠
William E. Ford	57	CEO of General Atlantic	2018	●	●			
Fabrizio Freda	61	President and CEO of The Estée Lauder Companies Inc.	2012			●		
Murry S. Gerber **Lead Independent Director**	66	Former Executive Chairman, Chairman, President and CEO of EQT Corporation	2000	●		●		●
Margaret L. Johnson	57	Executive Vice President of Business Development of Microsoft Corporation	2018	●	●			
Robert S. Kapito	62	President of BlackRock	2006					
Cheryl D. Mills	54	Founder and CEO of BlackIvy Group and former Chief of Staff to Secretary of State Hillary Clinton	2013		●	●		
Gordon M. Nixon	62	Former President, CEO and Director of Royal Bank of Canada	2015		●	🟠		●
Charles H. Robbins	53	Chairman and CEO of Cisco Systems, Inc.	2017				●	
Ivan G. Seidenberg	72	Former Chairman and CEO of Verizon Communications Inc.	2011		🟠	●		●
Marco Antonio Slim Domit	50	Chairman of Grupo Financiero Inbursa, S.A.B. de C.V.	2011	●	●			
Susan L. Wagner	57	Former Vice Chairman of BlackRock	2012	●			🟠	●
Mark Wilson	52	Former CEO of Aviva plc and former President and CEO of AIA	2018				●	

🟠 Chairperson

Governance Practices

We are vocal advocates for the adoption of sound corporate governance policies that include strong Board leadership, strategic deliberation, and prudent management practices and transparency.

Highlights of our governance practices include:

- Annual election of directors
- Majority voting for directors in uncontested elections
- Lead Independent director may call special meetings of directors without management present
- Executive sessions of independent directors
- Annual Board and Committee evaluations
- Risk oversight by Board and Committees
- Strong investor outreach program
- Robust stock ownership requirements for directors and executives
- Annual advisory vote on executive compensation
- Adoption of proxy access
- Annual review of Committee charters and Corporate Governance Guidelines
- Human capital management oversight by Board and Committees

Stock Ownership Guidelines

Our stock ownership guidelines require the Company's GEC members to own shares with a target value of:

- $10 million for the CEO;
- $5 million for the President; and
- $2 million for all other GEC members.

As of December 31, 2018, all NEOs exceeded our stock ownership guidelines.

Shareholder Engagement and Outreach

Executive management, Investor Relations and the Corporate Secretary engage with shareholders on a regular basis to understand their perspectives on a variety of corporate governance matters, including executive compensation, corporate governance policies and corporate sustainability practices. Our directors also have engaged directly with shareholders during the last two years. We also communicate with shareholders through a number of routine forums, including quarterly earnings presentations, U.S. Securities and Exchange Commission ("SEC") filings, the Annual Report and Proxy Statement, the annual shareholder meeting, investor meetings and conferences and web communications. We relay shareholder feedback and trends on corporate governance and sustainability developments to our Board and its Committees and work with them to both enhance our practices and improve our disclosures. Additionally, four of our independent directors attended our 2018 Investor Day presentation.

Compensation Discussion and Analysis Highlights

Compensation Policies and Practices

Our commitment to designing an executive compensation program that is consistent with responsible financial and risk management is reflected in the following policies and practices:

✓ What We Do

- Review pay and performance alignment;
- Balance short- and long-term incentives, cash and equity, and fixed and variable pay elements;
- Maintain a clawback policy;
- Require one-year minimum vesting for awards granted under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan (the "Stock Plan");
- Maintain robust stock ownership and retention guidelines;
- Prohibit hedging, pledging or short selling of BlackRock securities by Section 16 officers and directors;
- Limit perquisites;
- Assess and mitigate compensation risk;
- Solicit an annual advisory vote on executive compensation; and
- Annually review the independence of the compensation consultant retained by the Compensation Committee.

☒ What We Don't Do

- No ongoing employment agreements or guaranteed compensation arrangements for NEOs;
- No automatic single trigger vesting of equity awards or transaction bonus payments upon a change-in-control;
- No dividends or dividend equivalents on unearned restricted stock, restricted stock units, stock options or stock appreciation rights;
- No repricing of stock options;
- No cash buyouts of underwater stock options;
- No tax reimbursements for perquisites;
- No tax gross-ups for excise taxes;
- No supplemental retirement benefits for NEOs; and
- No supplemental severance benefits for NEOs beyond standard severance benefits under BlackRock's Severance Pay Plan.

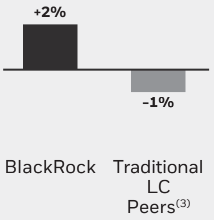
2018 Financial Performance(1),(2)

BlackRock's 2018 results reflect the investments we have made over time to leverage our scale and optimize our strategic positioning. We generated $124 billion of net inflows for the full year, representing 2% organic growth, delivered revenue growth, expanded our operating margin and returned $3.6 billion to shareholders, despite meaningful headwinds in the asset management industry. Long-term investment performance results across our alpha-seeking and index strategies as of December 31, 2018 remain strong and are detailed in Part I, Item 1 – *Business* of our 2018 Form 10-K.

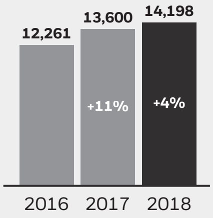
Differentiated Organic Growth

Organic asset growth of 2% and record technology services revenue in 2018 contributed to continued revenue growth

2018 Organic Asset Growth



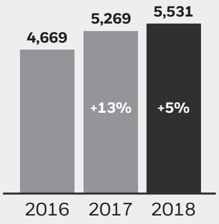
Revenue ($M)



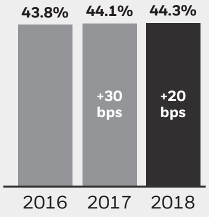
Operating Leverage

Operating Margin, as adjusted, of 44.3% was up 20 bps from 2017

Operating Income (as adjusted) ($M)



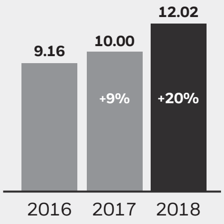
Operating Margin (as adjusted)



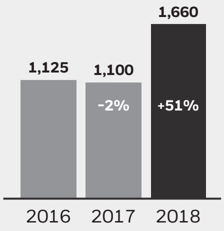
Consistent Capital Return

$3.6 billion returned to shareholders in 2018 through a combination of dividends and $1.7 billion of share repurchases

Cash Dividend Per Share ($)



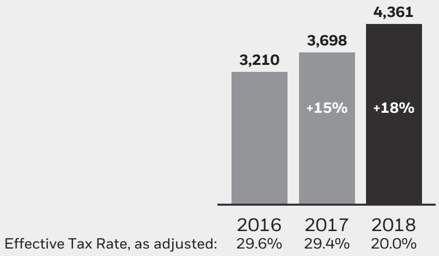
Share Buyback ($M)



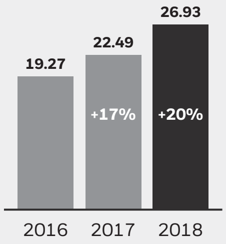
Earnings Growth

Diluted earnings per share, as adjusted, of $26.93 increased 20% versus 2017, reflecting execution of shareholder value framework and the impact of a lower effective tax rate

Net Income (as adjusted) ($M)



Earnings Per Share (as adjusted)



(1) Amounts in this section, where noted, are shown on an "as adjusted" basis. For a reconciliation with GAAP, please see Annex A.

(2) Results for 2016 and 2017 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, *Significant Accounting Policies*, in the consolidated financial statements in our 2018 Form 10-K.

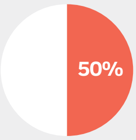
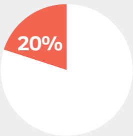
(3) Traditional LC Peers refers to Alliance Bernstein, Affiliated Managers Group, Franklin Resources, Eaton Vance, Invesco, Legg Mason and T. Rowe Price.

How We Pay NEOs

Each of BlackRock's NEOs, through their various roles and responsibilities, contributes to the firm-wide objectives summarized below. The Compensation Committee uses the associated weightings to assess each NEO. The Committee's performance assessment is directly related to each NEO's total incentive outcome, which includes all variable pay (annual discretionary cash award, annual discretionary deferred equity award and long-term equity awards).

For each NEO's performance assessment, please refer to the section "*2018 NEO Compensation and Performance Summaries*" on page 66.

How We Determine Total Incentive Amounts for NEOs

BlackRock Performance % of Award Opportunity	Measures	Indicative BlackRock Performance Metrics	
		2017	2018
Financial Performance  	Net New Business ($bn)	$367	$124
	Net New Base Fee Growth	7%	2%
	Operating Income, as adjusted(1) ($m)	$5,269	$5,531
	Year-over-year change	+13%	+5%
	Operating Margin, as adjusted(1)	44.1%	44.3%
	Year-over-year change	+30bps	+20bps
	Diluted Earnings Per Share, as adjusted(1)	$22.49	$26.93
	Year-over-year change	+17%	+20%
	Share Price Data	**BLK**	**Traditional LC Peers(2)**
	NTM P/E Multiple(3)	14.2x	9.3x
	Annual appreciation/depreciation	- 24%	- 31%
Business Strength  	Deliver superior client experience through competitive investment performance across global product groups	Long-term performance remains strong over the 3-yr and 5-yr period, although 1-year performance was pressured in a difficult market environment. Maintained #1 global share in our ETF business and gained market share in our global Retail and Institutional client businesses.	
	Drive organization discipline through execution of our strategic initiatives	Demonstrated successful execution across most of our Strategic Initiatives, highlighted by illiquid alternatives and private credit.	
	Lead in a changing world	Sustained progress on key long-term growth drivers, particularly in Technology, with related revenue up 19% year-over-year.	
Organizational Strength  	Drive high performance	Launched Growing More Great Investors initiative and continued to build out the BlackRock Academies, aimed to build mastery in key subject areas amongst employees.	
	Build a more diverse and inclusive culture	Expanded representation of female and ethnically diverse employees at the managing director and director levels.	
	Develop great managers and leaders	Strengthened the firm's leadership bench by refreshing succession plans for more than 100 key roles through a robust, peer-reviewed process.	

(1) Amounts are shown on an "as adjusted" basis. For a reconciliation with GAAP, please see Annex A.

(2) Traditional LC Peers refers to Alliance Bernstein, Affiliated Managers Group, Franklin Resources, Eaton Vance, Invesco, Legg Mason and T. Rowe Price.

(3) Next Twelve Months ("NTM") P/E multiple refers to the Company's share price as of December 31, 2018 divided by the consensus estimate of the Company's expected earnings over the next 12 months. Sourced from Factset.

NEO Total Annual Compensation Summary

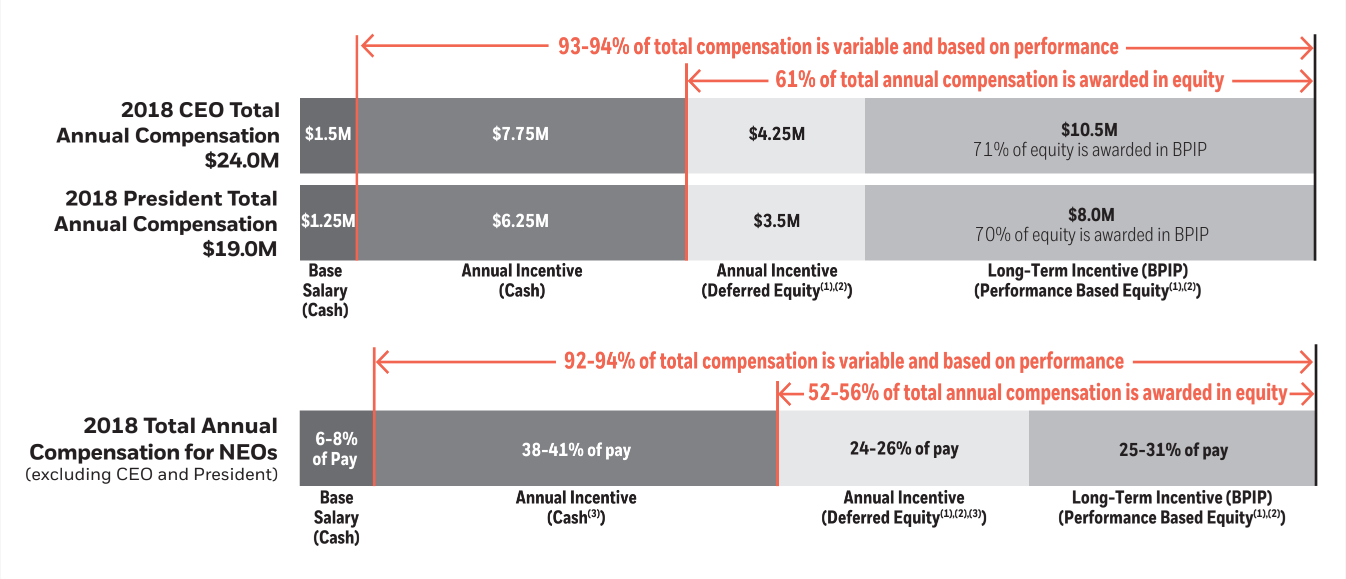
Following a review of full-year business and individual NEO performance, the Compensation Committee determined 2018 total annual compensation outcomes for each NEO, as outlined in the table below.

		2018 Total Incentive Award				
Name	Base Salary	Cash	Deferred Equity	Long-Term Incentive Award ("BPIP")	Total Annual Compensation ("TAC")	% change in TAC vs. 2017
Laurence D. Fink	$1,500,000	$7,750,000	$4,250,000	$10,500,000	$24,000,000	(14%)
Robert S. Kapito	$1,250,000	$6,250,000	$3,500,000	$ 8,000,000	$19,000,000	(14%)
Robert L. Goldstein	$ 500,000	$2,950,000	$2,000,000	$ 2,400,000	$ 7,850,000	(4%)
J. Richard Kushel	$ 500,000	$2,712,500	$1,762,500	$ 1,700,000	$ 6,675,000	(5%)
Gary S. Shedlin	$ 500,000	$2,475,000	$1,525,000	$ 1,950,000	$ 6,450,000	(5%)

The amounts listed above as "*2018 Annual Incentive Award: Deferred Equity*" and "*Long-Term Incentive Award ("BPIP")*" were granted in January 2019 in the form of equity and are separate from the cash award amounts listed above as "*2018 Annual Incentive Award: Cash.*" In conformance with SEC requirements, the *2018 Summary Compensation Table* on page 77 reports equity in the year granted but cash in the year earned.

Pay-for-Performance Compensation Structure for NEOs

Our total annual compensation structure embodies our commitment to align pay with performance. More than 90% of our regular annual executive compensation is performance based and "at risk." Compensation mix percentages shown below are based on 2018 year-end compensation decisions for individual NEOs by the Compensation Committee.



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(1) All grants of BlackRock equity (including the portion of the annual incentive awards granted in Restricted Stock Units ("RSUs") and the portion granted under the BlackRock Performance Incentive Plan ("BPIP Awards"), our long-term incentive plan) are approved by the Compensation Committee under the Stock Plan, which has been previously approved by shareholders. The Stock Plan allows multiple types of awards to be granted.

(2) The value of the 2018 long-term incentive BPIP Awards and the value of the equity portion of the bonus for 2018 annual incentive awards were converted into RSUs by dividing the award value by $410.315, which represented the average of the high and low prices per share of common stock of BlackRock on January 17, 2019.

(3) For NEOs other than the CEO and President, higher annual incentive awards are subject to higher deferral percentages, in accordance with the Company's deferral policy, as detailed on page 59.

Item 1:

Election of Directors

> “It has always been important that BlackRock’s Board of Directors functions as a key strategic and governing body that challenges our leadership team to be better and more innovative.”
>
> **Laurence D. Fink**
> Chairman and Chief Executive Officer

Director Nominees

Our Board has nominated 18 directors for election at this year’s Annual Meeting on the recommendation of our Governance Committee. Each director will serve until our next annual meeting and until his or her successor has been duly elected, or until his or her earlier death, resignation or retirement.

We expect each director nominee to be able to serve if elected. If a nominee is unable to serve, proxies will be voted in favor of the remainder of those directors nominated and may be voted for substitute nominees, unless the Board decides to reduce its total size.

If all 18 director nominees are elected, our Board will consist of 18 directors, 15 of whom, representing approximately 83% of the Board, will be “independent” as defined in the New York Stock Exchange (the “NYSE”) listing standards.

Stockholder Agreement with The PNC Financial Services Group, Inc.

BlackRock’s stockholder agreement with PNC (the “PNC Stockholder Agreement”) provides, subject to the waiver provisions of the PNC Stockholder Agreement, that BlackRock will use its best efforts to cause the election at each annual meeting of shareholders so that the Board will consist of:

- no more than 19 directors,
- not less than two nor more than four directors who will be members of BlackRock management,
- two directors who will be designated by The PNC Financial Services Group, Inc. (“PNC”), and
- the remaining directors being independent for purposes of the rules of the NYSE and not designated by or on behalf of PNC or any of its affiliates.

Laurence D. Fink and Robert S. Kapito are members of BlackRock’s management team and are currently members of the Board. PNC has designated one member of the Board, William S. Demchak, Chairman, President and Chief Executive Officer of PNC. PNC has notified BlackRock that for the time being it will not designate a second director to the Board, although it retains the right to do so at any time in accordance with the PNC Stockholder Agreement. PNC has additionally been permitted to invite an observer to attend meetings of the Board as a non-voting guest. The PNC observer is Gregory B. Jordan, the General Counsel and Chief Administrative Officer of PNC. For additional detail on the PNC Stockholder Agreement, see “*Certain Relationships and Related Transactions – PNC Stockholder Agreement*” on page 46.

Majority Vote Standard for Election of Directors

Directors are elected by receiving a majority of the votes cast in uncontested elections (the number of shares voted "for" a director nominee must exceed the number of shares voted "against" that director nominee). In a contested election (a situation in which the number of nominees exceeds the number of directors to be elected), directors are elected by receiving a plurality of the shares represented in person or by proxy at any meeting and entitled to vote on the election of directors. Whether an election is contested is determined seven days in advance of when we file our definitive Proxy Statement with the SEC.

Director Resignation Policy and Mandatory Retirement Age

Under the Board's Director Resignation Policy, any incumbent director who fails to receive a majority of votes cast in an uncontested election must tender his or her resignation to the Board. The Governance Committee would then make a recommendation to the Board about whether to accept or reject the resignation or take other action. The Board will act on the Governance Committee's recommendation and publicly disclose its decision and rationale within 90 days from the date the election results are certified. The director who tenders his or her resignation under the Director Resignation Policy will not participate in the Board's decision.

The Board has established a mandatory retirement age of 75 years for directors, as reflected in BlackRock's Corporate Governance Guidelines.

Director Nomination Process

The Governance Committee oversees the director nomination process. The Committee leads the Board's annual review of Board performance and reviews and recommends to the Board BlackRock's Corporate Governance Guidelines, which includes the minimum criteria for membership on the Board. The Governance Committee also assists the Board in identifying individuals qualified to become Board members and recommends to the Board a slate of candidates, which may include both incumbent and new director nominees, to submit for election at each annual meeting of shareholders. The Committee also may recommend that the Board elect new members to the Board to serve until the next annual meeting of shareholders.

Identifying and Evaluating Candidates for Director

The Governance Committee seeks advice on potential director candidates from current directors when identifying and evaluating new candidates for director. The Governance Committee also may engage third-party firms that specialize in identifying director candidates to assist with its search. Shareholders can recommend a candidate for election to the Board by submitting director recommendations to the Governance Committee. For information on the requirements governing shareholder nominations for the election of directors, please see *"Deadlines for Submission of Proxy Proposals, Nomination of Directors and Other Business of Shareholders"* on page 96.

The Governance Committee then reviews publicly available information regarding each potential director candidate to assess whether the candidate should be considered further. If the Governance Committee determines that the candidate warrants further consideration, then the Chairperson (or a person designated by the Governance Committee) will contact the candidate. If the candidate expresses a willingness to be considered and to serve on the Board, then the Governance Committee typically requests information from the candidate and reviews the candidate's accomplishments and qualifications against the criteria described below.

The Governance Committee's evaluation process does not vary based on whether a candidate is recommended by a shareholder, although the Governance Committee may consider the number of shares held by the recommending shareholder and the length of time that such shares have been held.

Criteria for Board Membership

Director Qualifications and Attributes

The Governance Committee and the Board take into consideration a number of factors and criteria when reviewing candidates for nomination to the Board. The Board believes that, at a minimum, a director candidate must demonstrate, by significant accomplishment in his or her field, an ability to make a meaningful contribution to the Board's oversight of the business and affairs of BlackRock. Equally important, a director candidate must have an impeccable record and reputation for honest and ethical conduct in his or her professional and personal activities.

In addition, nominees for director are selected on the basis of experience, diversity, knowledge, skills, expertise, ability to make independent analytical inquiries, understanding of BlackRock's business environment and a willingness to devote adequate time and effort to the responsibilities of the Board.

Board Diversity

BlackRock and its Board believe diversity in the boardroom is critical to the success of the Company and its ability to create long-term value for our shareholders. The Board has and will continue to make diversity in gender, ethnicity, age, career experience and geographic location – as well as diversity of mind – a priority when considering director candidates. The diverse backgrounds of our individual directors help the Board better evaluate BlackRock's management and operations and assess risk and opportunities for the Company's business model. BlackRock's commitment to diversity enhances Board involvement in our Company's multi-faceted long-term strategy and inspires deeper engagement with management, employees and clients around the world.

Our Board has nominated 18 candidates for election, 15 of whom are independent. The slate of director nominees includes 5 women, 1 of whom is African American, and 6 directors who are non-U.S. or dual citizens. Several of our nominees live and work overseas in countries and regions that are key areas of growth and investment for BlackRock, including Canada, Mexico, the Middle East and Continental Europe.

As BlackRock's business has evolved, so has its Board. Our slate of director nominees consists of senior leaders (including 13 current or former company CEOs) with substantial experience in financial services, consumer products, manufacturing, technology, banking and energy, and several directors have held senior policy and government positions. Core qualifications and areas of expertise represented on our Board (including those of our new director nominee) include:

Senior Executive & Corporate Governance

Directors bring valuable senior executive experience on matters relating to corporate governance, management, operations and compensation.

Global Business

Directors bring international business strategy, operations and substantive expertise in international matters relevant to BlackRock's global business.

Risk Management & Compliance

Directors have experience in risk management and compliance oversight relevant to exercising corporate and fiduciary responsibilities.

Financial Services

Directors possess in-depth knowledge of the financial services industry or asset management and provide valuable perspectives on issues faced by BlackRock.

Public Company & Financial Reporting

Directors have experience in the oversight of internal controls and reporting of public company financial and operating results.

Public Policy & Government/Regulatory Affairs

Directors possess insight and expertise in managing governmental and regulatory affairs relevant to BlackRock's business operations

Branding & Marketing

Directors bring expertise in brand development, marketing and sales in local markets at a global scale relevant to BlackRock's global business.

Technology

Directors possess experience in the development and embracing of new technology as well as leading innovation initiatives at companies.

Board Tenure and Size

To ensure the Board has an appropriate balance of experience, continuity and fresh perspective, the Board considers, among other factors, length of tenure when reviewing nominees. The average tenure of BlackRock's director nominees is approximately seven years and the average tenure for independent director nominees is approximately six years.

Following the 2019 Annual Meeting of Shareholders, assuming all of the nominated directors are elected, there will be six directors, comprising 33% of the Board, who have joined the Board within the past five years and bring fresh perspective to Board deliberations. Seven directors, comprising 39% of the Board, have served between 5 and 10 years. Five directors, comprising 28% of the Board, have served more than 10 years and bring a wealth of experience and knowledge concerning BlackRock.

The Board has not adopted a policy that sets a target for Board size and believes the current size and diverse composition of the Board is best suited to evaluate management's performance and oversee BlackRock's global strategy and risk management. As described in *"Board Evaluation Process"* on page 26, the Governance Committee and the Board evaluate Board and Committee performance and effectiveness on at least an annual basis and, as part of that process, ask each director to consider whether the size of the Board and its standing Committees are appropriate.

Compliance with Regulatory and Independence Requirements

The Governance Committee takes into consideration regulatory requirements, including competitive restrictions and financial institution interlocks, independence requirements under the NYSE listing standards and our Corporate Governance Guidelines in its review of director candidates for the Board and Committees. The Governance Committee also considers a director candidate's current and past positions held, including past and present board and committee memberships, as part of its evaluation.

Service on Other Public Company Boards

Each of our directors must have the time and ability to make a constructive contribution to the Board as well as a clear commitment to fulfilling the fiduciary duties required of directors and serving the interests of the Company's shareholders. BlackRock's CEO does not currently serve on the board of directors of any other public company, and none of our current directors serve on more than four public company boards, including BlackRock's Board.

Director Candidate Search

Consistent with BlackRock's age-based retirement policy, at least three of BlackRock's current directors will retire within the next six years. In order to maintain a Board with an appropriate mix of experience and qualifications, the Governance Committee, with the help of management and an outside consultant, engages in a year-round process to identify and evaluate new director candidates in conjunction with its recurring review of Board and Committee composition. Consistent with our long-term strategic goals and the qualifications and attributes described above, search criteria include significant experience in financial services, the technology sector and consumer branding, as well as international experience. In March of this year, the Governance Committee identified Bader M. Alsaad as a candidate with significant leadership and experience in international business and the financial sector and recommended him to the Board for consideration. Mr. Alsaad was recommended for consideration to the Governance Committee by our CEO. On March 14, 2019, the Board voted unanimously to nominate him to join our Board.

Board Recommendation

For this year's election, the Board has nominated 18 director candidates. The Board believes these director nominees provide BlackRock with the combined depth and breadth of skills, experience and qualities required to contribute to an effective and well-functioning Board. The composition of the current Board reflects a diverse range of skills, qualifications and professional experience that is relevant to our global strategy, business and governance.

The following biographical information about each director nominee highlights the particular experience, qualifications, attributes and skills possessed by each director nominee that led the Board to determine that he or she should serve as Director. All director nominee biographical information is as of March 25, 2019.

✓ The Board of Directors unanimously recommends shareholders vote **"FOR"** the election of each of the following 18 director nominees.

Director Nominee Biographies

Age
61

Tenure
0 Years

Committees
- None

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Bader M. Alsaad

Mr. Alsaad has served as a member of the Executive Committee of the Board of Directors of the Kuwait Investment Authority (KIA) since 2003. He was Managing Director of the KIA from December 2003 until April 2017. Prior to his appointment at KIA, Mr. Alsaad served as the Chief Executive Officer of one of the leading investment companies in Kuwait, The Kuwait Financial Center. Mr. Alsaad is currently a member of the Supervisory Board of Daimler AG, a member of the Global Advisory Council of Bank of America, and a member of the Board of Directors of the Kuwait Fund for Economic Development. He is a founding member of the International Forum of Sovereign Wealth Funds and served as its Chairman and Deputy Chairman from its inception in 2009 until October 2015.

Qualifications

Mr. Alsaad's extensive experience in the strategically important Middle East region and 35 years of experience in investments and the financial sector provides the Board with an experienced outlook on international business strategy and global capital markets.

Other Public Company Directorships (within the past 5 years)

- Daimler AG (2017 – present)

Age
74

Tenure
11 Years

Committees
- Audit
- Nominating & Governance

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Risk Management & Compliance

Mathis Cabiallavetta

Mr. Cabiallavetta has served as a member of the board of directors of Swiss Reinsurance Company Ltd. (Swiss Re) since 2008 and as the Vice Chairman of its board between 2009 and 2015. Mr. Cabiallavetta retired as Vice Chairman, Office of the Chief Executive Officer of Marsh & McLennan Companies, Inc. and as Chairman of Marsh & McLennan Companies International in 2008. Prior to joining Marsh & McLennan Companies, Inc. in 1999, Mr. Cabiallavetta was Chairman of the board of directors of Union Bank of Switzerland (UBS A.G.).

Qualifications

As a former leader of Swiss Re and Marsh & McLennan Companies, Inc. as well as UBS A.G., Mr. Cabiallavetta brings executive experience from these large and complex multinational businesses and provides substantial expertise in global capital markets, and as a result he offers unique insights to the Board's oversight of BlackRock's global operations and risk management.

Other Public Company Directorships (within the past 5 years)

- Swiss Re Ltd. (2008 – present) (Vice Chairman from 2009 – 2015)
- Philip Morris International Inc. (2002 – 2014)

Age
66

Tenure
5 Years

Committees
- Audit (Chair)
- Executive
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Pamela Daley

Ms. Daley retired from General Electric Company (GE) in January 2014, having most recently served as a Senior Advisor to its Chairman from April 2013 to January 2014. Prior to this role, Ms. Daley served as GE's Senior Vice President of Corporate Business Development from 2004 to 2013 and as Vice President and Senior Counsel for Transactions from 1991 to 2004. As Senior Vice President, Ms. Daley was responsible for GE's mergers, acquisitions and divestiture activities worldwide. Ms. Daley joined GE in 1989 as Tax Counsel. Previously, Ms. Daley was a Partner of Morgan, Lewis & Bockius, a large US law firm, where she specialized in domestic and cross-border tax-oriented financings and commercial transactions.

Qualifications

With over 35 years of transactional experience and more than 20 years as an executive at GE, one of the world's leading multinational corporations, Ms. Daley brings significant experience and strategic insight to the Board in the areas of leadership development, international operations, transactions, business development and strategy.

Other Public Company Directorships (within the past 5 years)

- BP p.l.c. (2018 – present)
- SecureWorks Corp. (2016 – present)
- Patheon N.V. (2016 – 2017)
- BG Group (2014 – 2016)

Age
56

Tenure
16 Years

Committees
- Executive
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Financial Services
- Public Company & Financial Reporting
- Risk Management & Compliance

William S. Demchak

Mr. Demchak has served as Chairman of the board of directors of PNC since April 2014, as Chief Executive Officer since April 2013 and as President since April 2012. Prior to that, Mr. Demchak held a number of supervisory positions at PNC, including Senior Vice Chairman, Head of Corporate and Institutional Banking and Chief Financial Officer. Before joining PNC in 2002, Mr. Demchak served as the Global Head of Structured Finance and Credit Portfolio for J.P. Morgan Chase & Co. and additionally held key leadership roles at J.P. Morgan prior to its merger with Chase Manhattan Corporation in 2000.

Qualifications

As the Chairman, President and Chief Executive Officer of PNC, a large, national, diversified financial services company providing traditional banking and asset management services, Mr. Demchak brings substantial expertise in financial services, risk management and corporate governance to bear as a member of the Board. Mr. Demchak was designated to serve on the Board by PNC pursuant to the PNC Stockholder Agreement.

Other Public Company Directorships (within the past 5 years)

- PNC (2013 – present) (Chairman from 2014 – present)

Age
71

Tenure
6 Years

Committees
- Management Development & Compensation
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Jessica P. Einhorn

Ms. Einhorn served as Dean of the Paul H. Nitze School of Advanced International Studies at The Johns Hopkins University from 2002 until June 2012. Prior to becoming Dean, she was a consultant at Clark & Weinstock, a strategic consulting firm. Ms. Einhorn also spent nearly 20 years at the World Bank, concluding as a Managing Director in 1998. Between 1998 and 1999, Ms. Einhorn was a Visiting Fellow at the International Monetary Fund. Prior to joining the World Bank in 1978, she held positions at the U.S. Treasury, the U.S. State Department and the International Development Cooperation Agency of the United States. Ms. Einhorn currently serves as a Director of the National Bureau of Economic Research and was formerly a Director of the Peterson Institute for International Economics. As of July 2012, Ms. Einhorn is resident at The Rock Creek Group in Washington, D.C., where she is a Senior Advisor and longstanding member of The Rock Creek Group Advisory Board.

Qualifications

Ms. Einhorn's leadership experience in academia and at the World Bank, along with her experience in the U.S. government and at the International Monetary Fund, provides the Board with a unique perspective and an in-depth understanding of international finance, economics and public policy. Through her service with other public companies, Ms. Einhorn also has developed expertise in corporate governance and risk oversight.

Other Public Company Directorships (within the past 5 years)

- Time Warner, Inc. (2005 – June 2018)

Age
66

Tenure
19 Years

Committees
- Executive (Chair)

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Laurence D. Fink

Mr. Fink is founder, Chairman and Chief Executive Officer of BlackRock. He also leads the firm's Global Executive Committee. He is responsible for senior leadership development and succession planning, defining and reinforcing BlackRock's vision and culture, and engaging relationships with key strategic clients, industry leaders, regulators and policy makers. Mr. Fink co-founded BlackRock in 1988, and under his leadership, the firm has grown into a global leader in investment management, risk management and advisory services for institutional and retail clients.

Qualifications

As one of the founding principals and Chief Executive Officer of BlackRock since 1988, Mr. Fink brings exceptional leadership skills and in-depth understanding of BlackRock's businesses, operations and strategy. His extensive and specific knowledge of BlackRock and its business enable him to keep the Board apprised of the most significant developments impacting the Company and to guide the Board's discussion and review of the Company's strategy.

Other Public Company Directorships (within the past 5 years)

- None

Age
57

Tenure
1 Year

Committees
- Audit
- Management Development & Compensation

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting

William E. Ford

Mr. Ford is the Chief Executive Officer of General Atlantic, a position he has held since 2007. He also serves as Chairman of General Atlantic's Management Committee and is a member of the firm's Investment and Portfolio Committees. Mr. Ford is actively involved with a number of educational and not-for-profit organizations and also serves on the Executive Committee of the Partnership for New York City, the Board of Directors of the National Committee on United States-China Relations and is a member of The Council on Foreign Relations. He is also a member of the Steering Committee for the CEO Action for Diversity and Inclusion initiative. Mr. Ford has formerly served on the boards of First Republic Bank, NYSE Euronext, E*Trade, Priceline, NYMEX Holdings, and Computershare.

Qualifications

Mr. Ford brings to the Board extensive global investment management experience and financial expertise acquired over his 25 years at General Atlantic, one of world's leading growth equity firms.

Other Public Company Directorships (within the past 5 years)

- Axel Springer (2016 – April 2018)
- IHS Markit Ltd. (July 2016 – present)

Age
61

Tenure
6 Years

Committees
- Nominating & Governance

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Global Business
- Risk Management & Compliance
- Technology

Fabrizio Freda

Mr. Freda has served as President and Chief Executive Officer of The Estée Lauder Companies Inc. (Estée Lauder) since July 2009, and is also a member of its board of directors. Mr. Freda previously served as Estée Lauder's President and Chief Operating Officer from March 2008 to July 2009. Estée Lauder is a global leader in beauty with more than 25 brands and over 40,000 employees worldwide. Prior to joining Estée Lauder, Mr. Freda held various senior positions at Procter & Gamble Company over the span of 20 years. From 1986 to 1988, Mr. Freda directed marketing and strategic planning for Gucci SpA.

Qualifications

Mr. Freda's extensive experience in product strategy, innovation and global branding brings valuable insights to the Board. His chief executive experience at Estée Lauder, an established multinational manufacturer and marketer of prestige brands, provides the Board with unique perspectives on the Company's marketing, strategy and innovation initiatives.

Other Public Company Directorships (within the past 5 years)

- The Estée Lauder Companies Inc. (2009 – present)

Age
66

Tenure
19 Years

Committees
- Audit
- Executive
- Nominating & Governance

Qualifications
- Senior Executive & Corporate Governance
- Global Business
- Public Company & Financial Reporting
- Risk Management & Compliance
- Technology

Murry S. Gerber

Mr. Gerber served as Executive Chairman of EQT Corporation, an integrated energy production company, from 2010 until May 2011, as its Chairman from 2000 to 2010, as its President from 1998 to 2007 and as its Chief Executive Officer from 1998 to 2000. Murry Gerber currently serves as BlackRock's Lead Independent Director.

Qualifications

As a former leader of a large, publicly traded energy production company and as a current or former member of the board of directors of three large, publicly traded companies, Mr. Gerber brings to the Board extensive expertise and insight into corporate operations, management and governance matters, as well as expert knowledge of the energy sector.

Other Public Company Directorships (within the past 5 years)

- U.S. Steel Corporation (2012 – present)
- Halliburton Company (2012 – present)

Age
57

Tenure
1 Year

Committees
- Audit
- Management Development & Compensation

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Technology

Margaret L. Johnson

Ms. Johnson has been an Executive Vice President of Business Development at Microsoft Corporation since September 2014. She is responsible for driving strategic business deals and partnerships across various industries. Ms. Johnson joined Microsoft from Qualcomm Incorporated, where she served in various leadership positions across engineering, sales, marketing and business development. She most recently served as Executive Vice President of Qualcomm Technologies, Inc. and President of Global Market Development. Ms. Johnson is a Director of PATH and a Trustee of The Paley Center for Media.

Qualifications

Ms. Johnson brings to the Board substantive experience in the field of technology as well as business and strategic development expertise acquired over her 28 years at Microsoft and Qualcomm.

Other Public Company Directorships (within the past 5 years)

- Live Nation Entertainment (2013 – June 2018)

Age
62

Tenure
12 Years

Committees
- None

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Financial Services
- Global Business
- Risk Management & Compliance

Robert S. Kapito

Mr. Kapito has been President of BlackRock since 2007 and is a member of BlackRock's Global Executive Committee and Chairman of the Global Operating Committee. Mr. Kapito co-founded BlackRock in 1988 and is also a director of iShares, Inc. He is responsible for the day-to-day oversight of BlackRock's key operating units including Investment Strategies, Client Businesses, Technology & Operations, and Risk & Quantitative Analysis. Prior to 2007, Mr. Kapito served as Vice Chairman of BlackRock and Head of BlackRock's Portfolio Management Group.

Qualifications

As one of our founding principals, Mr. Kapito has served as an executive leader of BlackRock since 1988. He brings to the Board industry and business acumen in addition to in-depth knowledge about BlackRock's businesses, investment strategies and risk management, as well as extensive experience overseeing day-to-day operations.

Other Public Company Directorships (within the past 5 years)

- None

Age
54

Tenure
5 Years

Committees
- Management Development & Compensation
- Nominating & Governance

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Cheryl D. Mills

Ms. Mills is Founder and Chief Executive Officer of the BlackIvy Group, an investment company that grows and builds businesses in Sub-Saharan Africa. Previously, she served as Chief of Staff to Secretary of State Hillary Clinton and Counselor to the U.S. Department of State from 2009 to 2013. Ms. Mills was with New York University from 2002 to 2009, where she served as Senior Vice President for Administration and Operations and as General Counsel. She also served as Secretary of the University's Board of Trustees. From 1999 to 2001, Ms. Mills was Senior Vice President for Corporate Policy and Public Programming at Oxygen Media. Prior to joining Oxygen Media, Ms. Mills served as Deputy Counsel to President Clinton and as the White House Associate Counsel. She began her career as an Associate at the Washington, D.C. law firm of Hogan & Hartson. Ms. Mills previously served on the boards of Cendant Corporation (now Avis Budget Group, Inc.), a consumer real estate and travel conglomerate, and Orion Power, an independent electric power generating company.

Qualifications

Ms. Mills brings to the Board a range of leadership experiences from government and academia, and through her prior service on the boards of corporations and non-profits, she provides expertise on issues concerning government relations, public policy, corporate administration and corporate governance.

Other Public Company Directorships (within the past 5 years)

- None

Age
62

Tenure
3 Years

Committees
- Executive
- Management Development & Compensation
- Nominating & Governance (Chair)

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Risk Management & Compliance

Gordon M. Nixon, C.M., O.Ont.

Mr. Nixon was President, Chief Executive Officer and a member of the board of directors of Royal Bank of Canada (RBC) from 2001 to 2014. He first joined RBC Dominion Securities Inc. in 1979, where he held a number of operating positions and from December 1999 to April 2001 was Chief Executive Officer of RBC Capital Markets (the successor company to RBC Dominion Securities Inc.). Mr. Nixon has served on the board of directors of BCE Inc. since 2014 and was named Chairman of the board upon his re-election in April 2016. He is also on the advisory board of Kingsett Capital.

Qualifications

With 13 years of experience leading a global financial institution and one of Canada's largest public companies, Mr. Nixon brings extensive expertise and perspective to the Board on global markets and an in-depth knowledge of the North American market. His experience growing a diversified, global financial services organization in a highly regulated environment also provides the Board with valuable insight into risk management, compensation and corporate governance matters.

Other Public Company Directorships (within the past 5 years)

- BCE Inc. (2014 – present)
- George Weston Limited (2014 – present)

Age
53

Tenure
1 Year

Committees
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Global Business
- Public Policy & Government/ Regulatory Affairs
- Technology

Charles H. Robbins

Mr. Robbins serves as the Chairman and Chief Executive Officer of Cisco Systems, Inc. (Cisco). Prior to assuming this role in July 2015, he was Senior Vice President of Cisco's Worldwide Field Operations and led its Worldwide Sales and Partner Organization where he helped drive and execute many of Cisco's investment areas and strategy shifts. He serves as Chairman of the U.S.-Japan Business Council, Chair of the IT Governors Steering Committee for the World Economic Forum and is a member of the International Business Council for the World Economic Forum and the Business Roundtable. Mr. Robbins is also on the Board of Directors for the Business Roundtable and is also a Trustee for the Ford Foundation.

Qualifications

Mr. Robbins brings to the Board extensive experience in the fields of technology, global sales and operations acquired over his 20 years at Cisco, one of world's leading information technology companies.

Other Public Company Directorships (within the past 5 years)

- Cisco Systems, Inc. (2015 – present) (Chairman from 2017 – present)

Age
72

Tenure
8 Years

Committees
- Executive
- Management Development & Compensation (Chair)
- Nominating & Governance

Qualifications
- Senior Executive & Corporate Governance
- Branding & Marketing
- Public Company & Financial Reporting
- Public Policy & Government/ Regulatory Affairs
- Technology

Ivan G. Seidenberg

Mr. Seidenberg retired as the Chairman of the board of Verizon Communications Inc. in December 2011 and previously served as its Chief Executive Officer from 2002 to 2011. Prior to the creation of Verizon Communications Inc., Mr. Seidenberg was the Chairman and Chief Executive Officer of Bell Atlantic and NYNEX Corp. Mr. Seidenberg has been an Advisory Partner of Perella Weinberg Partners, a global independent advisory and asset management firm, since June 2012.

Qualifications

Mr. Seidenberg brings extensive executive leadership, technological, and operational experience to the Board from his tenure at Verizon Communications Inc., one of the world's leading providers of communications services. Through his extensive experience on the boards of public companies, he has developed an in-depth understanding of business and corporate governance.

Other Public Company Directorships (within the past 5 years)

- Boston Properties, Inc. (2014 – 2016)

Age
50

Tenure
7 Years

Committees
- Audit
- Management Development & Compensation

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Risk Management & Compliance

Marco Antonio Slim Domit

Mr. Slim has been Chairman of the board of directors of Grupo Financiero Inbursa, S.A.B. de C.V. since 1997 and previously served as its Chief Executive Officer from 1997 until April 2012. Mr. Slim is also a member of the board of directors of Grupo Carso, S.A.B. de C.V. and Chairman of The Carlos Slim Health Institute and of Impulsora del Desarrollo y el Empleo en América Latina, S.A.B. de C.V. (IDEAL), an infrastructure company. Mr. Slim was a member of the board of directors of Teléfonos de México, S.A.B. de C.V. from 1995 until April 2014.

Qualifications

Mr. Slim's experience at Grupo Financiero Inbursa provides the Board with knowledge and expertise in international finance, and particular insight into emerging and Latin American markets. In addition, as a member of the board of directors of several international companies that invest globally, Mr. Slim brings substantive expertise in developing new businesses in international markets, shareholder rights, business strategy, and integration to the Board.

Other Public Company Directorships (within the past 5 years)

- Grupo Carso, S.A.B. de C.V. (1991 – present)
- Grupo Financiero Inbursa, S.A.B. de C.V. (Chairman from 1997 – present)
- Impulsora del Desarrollo y el Empleo en América Latina, S.A.B. de C.V. (Chairman from 2012 – present)
- Teléfonos de México, S.A.B. de C.V. (1995 – 2014)

Age
57

Tenure
6 Years

Committees
- Nominating & Governance
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Risk Management & Compliance

Susan L. Wagner

Ms. Wagner retired as Vice Chairman of BlackRock after serving in that role from 2006 to 2012. Ms. Wagner also served as a member of BlackRock's Global Executive Committee and Global Operating Committee. Ms. Wagner previously served as BlackRock's Chief Operating Officer and as Head of Corporate Strategy. She currently serves as a director of Color Genomics (privately-held).

Qualifications

As one of the founding principals of BlackRock, Ms. Wagner has over 25 years of experience across various positions. Accordingly, she is able to provide the Board with valuable insight and perspective on risk management, operations and strategy, as well as a broad and deep understanding of the asset management industry.

Other Public Company Directorships (within the past 5 years)

- Apple Inc. (2014 – present)
- Swiss Re Ltd. (2014 – present)

Age
52

Tenure
1 Year

Committees
- Risk

Qualifications
- Senior Executive & Corporate Governance
- Financial Services
- Global Business
- Public Company & Financial Reporting
- Public Policy & Government/Regulatory Affairs

Mark Wilson

Mr. Wilson served as the Chief Executive Officer of Aviva plc (Aviva), a multinational insurance company headquartered in the UK, from January 2013 to October 2018. Prior to joining Aviva, Mr. Wilson worked in Asia for 14 years, including as Chief Executive Officer of AIA Group Limited, a leading pan-Asian company. Mr. Wilson is recognized for his leadership on sustainability issues and is a member of the UN Business and Sustainable Development Commission. In addition, he is a member of the Development Board of the Royal Foundation for the Duke and Duchess of Cambridge and the Duke and Duchess of Sussex.

Qualifications

As the former Chief Executive Officer of Aviva, Mr. Wilson brings to the Board extensive experience in Europe and Asia and his operational and executive expertise in the insurance and pensions industry and in international finance provides the Board with an experienced outlook on international business strategy, development and sustainability.

Other Public Company Directorships (within the past 5 years)

- Aviva plc (2013 – October 2018)

Corporate Governance

BlackRock's corporate governance framework is a set of principles, guidelines and practices that support consistent financial performance and long-term value creation for our shareholders.

Our commitment to corporate governance is integral to our business and reflects not only regulatory requirements, NYSE listing standards and broadly recognized governance practices, but also effective leadership and oversight by our senior management team and Board.

We regularly meet with our shareholders to solicit feedback on our corporate governance framework. We make an effort to incorporate this feedback through enhanced policies, processes and disclosure.

Our Corporate Governance Framework

Our Board is committed to maintaining the highest standards of corporate governance at BlackRock. Because corporate governance practices evolve over time, our Board reviews and approves our Corporate Governance Guidelines, Committee charters and other governance policies at least once a year and updates them as necessary and appropriate.

Our Board is guided by our Corporate Governance Guidelines, which address director responsibilities, director access to management, director orientation and continuing education, director retirement, and the annual performance evaluations of the Board and Committees. The Corporate Governance Guidelines also directs that the Governance Committee consider the periodic rotation of Committee members and Committee Chairs as a means of introducing fresh perspectives and broadening and diversifying the views and experience represented on Committees.

The full versions of our Corporate Governance Guidelines, Committee Charters and other corporate governance policies are available on our website at **www.blackrock.com** under the headings "*Our Company and Sites / Our Firm / Investor Relations / Corporate Governance.*"

BlackRock's culture is vital to our success

BlackRock's culture is a key differentiator of our strategy and helps to drive our results and long-term growth. Our culture embraces our fiduciary commitment to serve clients and stay ahead of their needs. Our culture unifies the firm and helps to reinforce ethical behavior at all levels.

Our approach to instilling, reinforcing and enhancing our culture is deliberate and intentional. You can listen to Jeff Smith, our Global Head of Human Resources, talk about our approach during BlackRock's 2018 Investor Day at **www.ir.blackrock.com.**

Our Board is deeply engaged in understanding the culture at BlackRock

We believe our Board should have a strong understanding of BlackRock's culture, because that is the foundation for our Company's strategic plans.

We believe our Board should be deeply engaged, provide informed and honest guidance and feedback, and maintain an open dialogue with management, based on a clear understanding of our strategic plans.

Our Board plays an integral oversight role in our growth and success. At each Board meeting, we review components of our long-term strategy with our directors and engage in constructive dialogue, which our leadership team embraces. These discussions are not without disagreement – and those honest conversations push us to make the difficult decisions required to build a better BlackRock.

Our directors have full and free access to all BlackRock officers and employees at any time to address questions, comments or concerns. Our directors may arrange these meetings independently and without the presence of senior management. Additionally, the Board and Committees have the power to hire independent legal, financial or other advisors without approval from, or consultation with, BlackRock management.

Our Board plays an active part in our talent development as well, dedicating at least one meeting per year to talent review, evaluating whether we have the right people in the right places to execute our long-term strategy, reviewing the results of Employee Opinion Surveys, and making certain we are developing others to fill key roles in the future. Building a generation of future leaders, open to both Board and external ideas, is vital to BlackRock's long-term success. For more information, please refer to *"BlackRock's Approach to Human Capital Management"* on page 34.

Twice a year, Board and Committee meetings are held outside of New York, including at least one set of meetings outside of the United States. These off-site meetings provide our directors with an opportunity to focus on reviewing of regional strategies, to meet with employees and management based outside of our New York corporate headquarters, and to engage with local clients and government officials. These meetings provide our directors with firsthand exposure to BlackRock's corporate culture and how employees globally demonstrate BlackRock's principles and purpose. In 2018, the Board travelled to Boston, Massachusetts and Tokyo, Japan.

Our Board also takes an active role in ensuring we embrace "best practices" in corporate governance. Members of the Governance Committee are briefed on significant trends and developments in corporate governance and regulatory issues, including briefings from BlackRock's Investment Stewardship and Global Public Policy teams as well as feedback from shareholders. In 2018, we incorporated feedback from shareholders to enhance disclosure on how the Board oversees our Company's corporate culture.

The partnership and oversight of a strong, experienced and multi-faceted Board with diverse perspectives in finance, industry, academia, technology and government is essential to creating long-term shareholder value.

Beyond the Boardroom

On-site Visits to BlackRock Offices and BlackRock's Technology Showcase

In addition to Board and Committee off-site meetings, members of our Board are encouraged to make on-site visits to other BlackRock offices. In 2018, the Audit Committee Chair visited with members of BlackRock's Asia-Pacific audit and financial control groups in Tokyo, Japan.

Also in 2018, BlackRock inaugurated its "*Meet the Board*" program – a series of globally broadcast "fire-side" chats and town halls designed to give directors an opportunity to engage with employees directly and afford employees an opportunity to ask questions and get to know members of BlackRock's Board. This year, five directors participated in the program. Additionally, several of our independent directors attended our 2018 Investor Day presentation and nearly the entire Board attended our 30th Anniversary celebrations in the Spring of 2018, where they engaged directly with, employees and members of the investor community, and heard first-hand how BlackRock is developing its brand and strategy in keeping with its core culture and principles. Finally, in November 2018, two of our independent directors visited our Palo Alto artificial intelligence laboratory to meet with local management and employees, tour our facilities, and expand their knowledge of BlackRock's use of, and research relating to, artificial intelligence.

Our directors also attended a technology showcase led by BlackRock employees of all levels who specialize in technology development, as part of the Company's tech2020 strategy, and experienced first-hand our technology and where it is leading us.

Director Orientation

Under the oversight of management and the Board, BlackRock provides each new director with an orientation program conducted over the course of the first three months of their tenure. Orientation includes the opportunity to rotate through each of the Board's standing Committees and presentations by senior management to familiarize our new directors with BlackRock's:

- Financial position and strategic plans;
- Significant financial, accounting and risk management issues;
- Compliance programs, conflict policies, code of ethics and other controls; and
- Our principal officers and internal and independent auditors.

Continuing Education

All directors are encouraged to attend continuing educational programs offered by BlackRock or sponsored by universities, stock exchanges or other organizations related to fulfilling their duties as Board or Committee members. For example, members of our Audit Committee have participated in conferences and symposiums hosted by Deloitte and Ernst & Young.

Every week our directors receive summaries and copies of press coverage, analyst reports and current events relating to our business.

Individual Discussions and Mentoring Management

Outside of regularly scheduled Board and Committee meetings, our directors may have discussions with each other and our CEO at their discretion. Directors have access to management at any time and are encouraged to have small group or individual meetings, as necessary.

All directors are encouraged to meet with management outside of Board and Committee meetings and several directors have established informal mentoring relationships with key members of senior management.

Our Board Leadership Structure

Why our Board leadership structure is right for BlackRock

Our Board and Governance Committee regularly review and evaluate the Board's leadership structure. Mr. Fink serves as both BlackRock's CEO and Chairman of the Board, which the Board has determined is the most appropriate and effective leadership structure for the Board and the Company at this time. Mr. Fink has served in this capacity since founding BlackRock in 1988 and, as such, brings over 30 years of strategic leadership experience and an unparalleled knowledge of BlackRock's business, operations and risks to his role as Chairman of the Board.

The Board does not have a policy on whether the roles of the Chairman and CEO should be separated, but believes the current combination of the two roles provides BlackRock with, among other things, a clear and effective leadership structure to communicate the Company's business and long-term strategy to its clients, shareholders and the public. The combined Chairman-CEO structure also provides for robust and frequent communication between the Board's independent directors and the management of the Company.

To further facilitate coordination with the independent directors and to ensure the exercise of independent judgment by the Board, the independent directors annually select one of the independent members to serve as the Lead Independent Director.

Under our Lead Independent Director Guidelines, the Lead Independent Director will be elected annually by BlackRock's independent directors and serve until a successor is elected. Although elected annually, we generally expect the Lead Independent Director to serve for more than one year.

Our Lead Independent Director: Murry S. Gerber
Serving Since 2017

The Role of the Lead Independent Director

Our Lead Independent Director has significant authority and responsibilities to provide for an effective and independent Board. In this role, Mr. Gerber:

- In consultation with the Chairman and Committee Chairs, develops and approves the agenda for Board meetings and leads executive sessions.
- At each executive session, facilitates discussion of the Company's strategy, key governance issues (including succession planning), and the performance of BlackRock senior executives.
- Serves as liaison between independent directors and the Chairman.
- Focuses on Board effectiveness, performance and composition with input from the Governance Committee.
- Oversees and reports on annual Board and Committee performance self-evaluations, in consultation with the Governance Committee.
- Serves as the primary Board contact for shareholder engagement.

Executive Sessions

Executive sessions of non-management directors are held at most regularly scheduled Board meetings, and six executive sessions were held in 2018. Each session is chaired by the Lead Independent Director, who facilitates discussion of the Company's strategy, key governance issues, succession planning and the performance of senior executives. Any non-management director may request that an additional executive session be scheduled. At least once a year an executive session is held for only those directors determined to be "independent," within the meaning of the listing standards of the NYSE.

The full versions of our Lead Independent Director Guidelines, Corporate Governance Guidelines, Committee Charters, Code of Business Conduct and Ethics and other corporate governance policies are available on our website at ***www.blackrock.com*** under the headings "*Our Company and Sites / Our Firm / Investor Relations / Corporate Governance*".

Board Evaluation Process

The effectiveness of the Board and its Committees is critical to BlackRock's success and to the protection of our shareholders' long-term interests. To ensure their effectiveness, the Board and each Committee conduct comprehensive annual self-evaluations to identify and assess areas for improvements.

The evaluation process includes the following steps:

1

Questionnaires

Tailored assessments are reviewed and updated by the Governance Committee Chair, the Lead Independent Director and other Committee Chairs. These assessments focus on:

- Board and Committee performance, effectiveness and contributions to BlackRock;
- Board composition, Board processes, meeting dynamics and agendas; and
- Access to resources and senior management.

↓

2

Governance Committee Review

The Governance Committee Chair, Lead Independent Director and Chairman review each director's responses to the questionnaires.

They also share the results of the Committee evaluations with each of the respective Chairpersons of the Audit, Compensation and Risk Committees.

↓

3

Individual Director Interviews

The Chairman and/or the Lead Independent Director meet with each independent director on an individual basis to discuss Board, Committee and individual director performance and effectiveness.

↓

4

Board Summary And Feedback

The Chair of the Governance Committee along with the Chairman of the Board and Lead Independent Director provide the Board with a summary of the questionnaires and additional feedback received from individual directors annually in the fall or winter.

2018 Board Follow Up Actions

Based on responses from the most recent self-assessment, senior management has increased the types of, and time allocated to, the Company's strategic topics presented to the Board.

Board Refreshment

The Governance Committee is responsible for identifying and evaluating potential director candidates, reviewing Board and Committee composition and making recommendations to the full Board. This ongoing process includes:

Director Recruitment

In order to maintain a Board with an appropriate mix of experience and qualifications, the Governance Committee, with the help of management and an outside consultant, engages in a year-round process to identify and evaluate new director candidates in connection with its recurring review of Board and Committee composition.

Board and Committee Evaluations

Annual Board and Committee assessments help identify director skills that would enhance Board effectiveness.

The Governance Committee actively engages in Board succession planning to anticipate the future needs of the Board and its Committees.

Director Tenure and Mandatory Retirement Age

To ensure the Board has an appropriate balance of experience, continuity and fresh perspective, the Board considers length of tenure when reviewing nominees. The average tenure of our director nominees is approximately 7 years, while the average tenure for independent director nominees is approximately 5 years.

The Board has established a mandatory retirement age of 75 years for directors.

Our tenure and age-based retirement practices help the Board to anticipate future Board turnover.

Board Committee Rotation

The Governance Committee also considers the periodic rotation of Committee members and Committee Chairs to introduce fresh perspectives and to broaden and diversify the views and experience represented on Board Committees.

Director Onboarding

All new directors participate in an extensive orientation program, enabling new directors to quickly enhance their strategic value to our Board.

Board Committees

Each Committee is governed by a Board-approved Charter.

Board Committee Meetings and Members

The Board has five committees: the Audit Committee, the Compensation Committee, the Governance Committee, the Risk Committee and the Executive Committee. Below is a summary of our current Committee structure and membership information.

Member	Audit	Compensation	Governance	Risk	Executive
INDEPENDENT DIRECTORS					
Mathis Cabiallavetta	●		●		
Pamela Daley	🟠			●	●
Jessica P. Einhorn		●		●	
William E. Ford	●	●			
Fabrizio Freda			●		
Murry S. Gerber (Lead Independent Director)	●		●		●
Margaret L. Johnson	●	●			
Sir Deryck Maughan	●			🟠	●
Cheryl D. Mills		●	●		
Gordon M. Nixon		●	🟠		●
Charles H. Robbins				●	
Ivan G. Seidenberg		🟠	●		●
Marco Antonio Slim Domit	●	●			
Susan L. Wagner			●	●	
Mark Wilson				●	
NON-INDEPENDENT DIRECTORS					
Laurence D. Fink					🟠
Robert S. Kapito					
William S. Demchak				●	●
Number of Meetings Held in 2018	**14**	**9**	**7**	**6**	**0**

🟠 Chairperson

The Board met seven times during 2018. In 2018, each of our directors attended at least 75% of the aggregate of: (i) the total number of meetings of the Board held during the period for which such director was a member of the Board and (ii) the total number of meetings held by all Committees of the Board on which such director served, if any, during the period served by such director. Directors are encouraged to and do attend the annual meetings of BlackRock shareholders. Eighteen directors who were serving on the Board last year attended the 2018 Annual Meeting of Shareholders. Sir Deryck Maughan is retiring from the Board and will not be standing for re-election at the 2019 Annual Meeting of Shareholders.

Board Committee Refreshment

The Governance Committee considers the periodic rotation of Committee members and Committee Chairs to introduce fresh perspectives and to broaden and diversify the views and experience represented on Committees. On March 15, 2018, the Board appointed Mr. Ford and Ms. Johnson to serve on the Audit and Compensation Committees. Mr. Ford brings CEO, global business and financial services expertise. Ms. Johnson brings business development, technology, investment and talent management expertise. On March 15, 2018, the Board also appointed Mr. Wilson to serve as a member of the Risk Committee. He brings expertise in global business, public policy and regulatory affairs as well as experience as a former CEO. On March 14, 2019, the Board appointed Ms. Wagner to serve as Chair of the Risk Committee and a member of the Audit and Executive Committees, each appointment effective May 23, 2019.

Outlined below are the Company's Committees with brief descriptions of each Committee's membership, roles and responsibilities as of the date of this Proxy Statement.

Audit Committee

Chair Pamela Daley

Members(1) Mathis Cabiallavetta, William E. Ford, Murry S. Gerber, Margaret L. Johnson, Sir Deryck Maughan, Marco Antonio Slim Domit

Role and Responsibilities

The Audit Committee's primary responsibilities include oversight of the integrity of BlackRock's financial statements and public filings, the independent auditor's qualifications and independence, the performance of BlackRock's internal audit function and independent auditor, and BlackRock's compliance with legal and regulatory requirements.

The Audit Committee receives reports on:

- The progress and results of the internal audit program regularly, as provided by BlackRock's Head of Internal Audit, and approves BlackRock's internal audit plan;
- External audit findings regularly, as provided by BlackRock's independent registered public accounting firm, Deloitte LLP ("Deloitte");
- Financial controls regarding compliance with the Sarbanes-Oxley Act of 2002 annually, as prepared by the Head of Financial Controls and presented by management;
- The Company's Risk Management program on an annual basis, as provided by BlackRock's Chief Risk Officer;
- Financial updates regularly, as provided by the Chief Financial Officer;
- Cybersecurity updates, as provided by the Chief Information Security Officer;
- Compliance updates, as provided by the Chief Compliance Officer;
- Litigation, regulatory and material ethics matters regularly, as provided by BlackRock's Chief Legal Officer; and
- Risk matters addressed at the Risk Committee, as provided by the Chair of the Risk Committee.

The Audit Committee is also responsible for the appointment, compensation, retention and oversight of the independent registered public accounting firm retained to audit BlackRock's financial statements. The Audit Committee approves all audit engagement fees and terms associated with the retention of Deloitte. In addition to ensuring the regular rotation of the lead audit partner, as required by law, the Audit Committee selects, reviews and evaluates the lead audit partner and determines whether there should be periodic rotation of the independent registered public accounting firm.

The Audit Committee regularly holds separate sessions with BlackRock's management, internal auditors and Deloitte.

The Board has determined that each member of the Audit Committee is "independent" as defined in the NYSE listing standards and applicable SEC rules, is "financially literate," and has accounting and related financial management expertise within the meaning of the NYSE listing standards. All members of the Audit Committee, with the exception of Margaret L. Johnson, qualify as "audit committee financial experts" under applicable SEC rules.

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(1) Ivan G. Seidenberg served as a member of the Audit Committee until June 30, 2018.

Management Development & Compensation Committee

Chair	Ivan G. Seidenberg	**Members**[1]	Jessica P. Einhorn William E. Ford	Margaret L. Johnson Cheryl D. Mills	Gordon M. Nixon Marco Antonio Slim Domit

Role and Responsibilities

- Reviewing and approving corporate goals and objectives relevant to CEO compensation, evaluating the CEO's performance in light of those goals and objectives and determining and approving the CEO's overall compensation levels based on this evaluation;
- Reviewing BlackRock's executive compensation program and establishing the compensation framework of BlackRock's executive officers;
- Periodically reviewing and approving director compensation;
- Reviewing, approving, recommending to the Board, or delegating to management, BlackRock's benefits plans;
- Providing oversight of BlackRock's executive compensation program, and determining whether our program remains effective to attract, motivate and retain senior officers capable of making significant contributions to BlackRock's long-term success;
- Reviewing, assessing, and making reports and recommendations to the Board on BlackRock's talent development and succession planning, with an emphasis on performance and succession at the highest management levels; and
- Appointment, compensation and oversight of the work of any compensation consultant, legal counsel or other advisor retained by the Compensation Committee.

The Board has determined that each member of the Compensation Committee is "independent" as defined in the NYSE listing standards and applicable SEC rules, qualifies as a "non-employee director" under applicable SEC rules and is an "outside director" within the meaning of the Internal Revenue Code.

Additional information on the Compensation Committee's processes and procedures for consideration of NEO compensation is addressed in the "*Compensation Committee Report*" on page 52 and "*Compensation Discussion and Analysis*" beginning on page 53.

(1) Sir Deryck Maughan and Murry S. Gerber served as members of the Compensation Committee until March 13, 2018 and June 30, 2018, respectively.

Nominating & Governance Committee

Chair	Gordon M. Nixon	**Members**	Mathis Cabiallavetta Fabrizio Freda	Murry S. Gerber Cheryl D. Mills	Ivan G. Seidenberg Susan L. Wagner

Role and Responsibilities

- Recommending to the Board criteria for the selection of new directors to serve on the Board;
- Identifying candidates qualified to become members of the Board;
- Recommending to the Board the director nominees for the next annual meeting of shareholders;
- Recommending to the Board members for each Committee;
- Leading the Board in its annual review of the Board's performance;
- Evaluating and recommending to the Board corporate governance policies, practices, and guidelines applicable to the Company;
- Overseeing BlackRock's Related Persons Transaction Policy;
- Reviewing the Company's engagement with shareholders on governance matters, and considering shareholder proposals and proposed responses; and
- Periodically reviewing corporate governance trends, best practices, and regulations applicable to the corporate governance of the Company.

The Board has determined that each member of the Governance Committee is "independent" as defined in the NYSE listing standards and applicable SEC rules.

Risk Committee

Chair	Sir Deryck Maughan	**Members**(1)	Pamela Daley William S. Demchak	Jessica P. Einhorn Charles H. Robbins	Susan L. Wagner Mark Wilson

Role and Responsibilities

The Risk Committee assists the Board with its oversight of the Company's levels of risk, risk assessment, risk management, and related policies and processes in connection with the following types of risk and related areas:

Enterprise Risks

- Market risks from volatility in financial markets;
- Contractually indemnified risks;
- Credit risk of default by indemnified securities lending counterparties;
- Operational risks from failed or inadequate processes relating to investment management processes, new products and services, third party relationships, model risk, and change;
- The impact of firm-wide risk assessments including the quantification and analysis of requirements (liquidity, insurance, capital or other risk mitigation) associated with our key risks;
- Risks related to regulatory reform; and
- Technology and cybersecurity risks relating to information security, business continuity/resiliency and system capacity.

Fiduciary Risks

- Investment risks being taken on behalf of clients in their portfolios or accounts;
- Risks of default by client counterparties; and
- Pricing and valuation risk that BlackRock's counterparties misprice assets in client portfolios or accounts.

Other

- Reputational risk and any other areas of risk delegated to the Risk Committee by the Board.

The Committee regularly reviews a detailed risk profile report prepared by the Chief Risk Officer which covers a wide range of topics and potential issues that could impact BlackRock.

The Risk Committee also reviewed and discussed with management the Risk Factors included in the 2018 Form 10-K and received reports from members of management responsible for identifying and monitoring these risks.

(1) Mathis Cabiallavetta and Gordon M. Nixon served as members of the Risk Committee until June 30, 2018.

Executive Committee

Chair	Laurence D. Fink	**Members**	Pamela Daley William S. Demchak	Murry S. Gerber Sir Deryck Maughan	Gordon M. Nixon Ivan G. Seidenberg

Role and Responsibilities

The Executive Committee has all the powers of the Board, except as prohibited by applicable law, the PNC Stockholder Agreement and BlackRock's Amended and Restated Bylaws ("Bylaws"), and except to the extent another Committee has been accorded authority over the matter. The Executive Committee may meet to exercise such powers between meetings of the Board.

Board and Committee Oversight of Strategy

The Board of Directors actively engages with senior management by providing guidance on the formation and implementation of strategic initiatives. On an annual basis our Global Head of Corporate Strategy previews the Board's agenda, focusing on business reviews and the strategic topics for the coming year, with the Governance Committee and receives its feedback and input. Based on this agenda, members of senior management and business leads will brief directors on the strategic opportunities, priorities and implementation of strategy for their respective lines of business. These presentations serve as the basis for an active dialogue between the Board and senior management about strategic risks and opportunities facing BlackRock and its lines of business.

Board and Committee Oversight of Risk Management

Full Board

The Board has ultimate responsibility for oversight of BlackRock's risk management activities.
The Risk, Audit, Compensation and Governance Committees assist the Board in fulfilling this important role.

The Committees report to the full Board at least 6 times a year with updates on their areas of designated risk oversight responsibilities. These Committees work together and with the full Board to help ensure that the Committees and the Board have received all information necessary to permit them to fulfill their duties and responsibilities with respect to oversight of risk management activities.

Risk Committee

Responsible for assessing and overseeing BlackRock's levels of risk and risk management and related policies and processes in connection with fiduciary and enterprise risks and other areas of risk determined by the Board. Reflecting the increased importance of information security, the Risk Committee included cybersecurity as a recurring topic at each meeting during 2018.

Audit Committee

Oversees the integrity of BlackRock's financial statements and other disclosures, the effectiveness of the internal control environment, the internal audit function and the external auditors, and compliance with legal and regulatory requirements.

Compensation Committee

Responsible for overseeing risks associated with BlackRock's executive and employee compensation practices and the effective management of executive succession.

Governance Committee

Oversees risks related to Board and Committee succession and other corporate governance policies and practices.

Our Board Oversight of Cybersecurity

Our Board is actively engaged in the oversight of BlackRock's cybersecurity and information security programs. Our Risk Committee receives reports on the Company's cybersecurity program and developments in information security at each meeting from our Chief Information Security Officer. Additionally, on an annual basis, senior members of BlackRock's technology, risk and information security teams provide a comprehensive overview of BlackRock's cyber risk and information security program to a joint session of the Risk and Audit Committees.

Our global information security team, in collaboration with our technology risk team and independent third parties, assesses both risks and changes in the cyber environment and adjusts our cybersecurity program as needed.

Cybersecurity Highlights:

✓ BlackRock employs an in-depth, multi-layer strategy of control programs including monitoring external and internal threats and events, managing access, facilitating use of appropriate authentication options, validating controls and programs by internal teams and independent third parties, and testing various compromise scenarios that are overseen by a global information security team.

✓ BlackRock invests in threat intelligence and participates in financial services industry and government forums to improve both internal and sector cybersecurity defense.

✓ BlackRock routinely performs penetration tests.

✓ BlackRock's cyber risk program incorporates external expertise.

Corporate Governance Practices and Policies

Director Independence

The Board determines annually the independence of directors in accordance with NYSE listing standards and applicable SEC rules. No director is considered independent unless the Board has determined that he or she has no material relationship with BlackRock. The Board has adopted categorical standards to help determine whether certain relationships between the members of the Board and BlackRock or its affiliates and subsidiaries (either directly or as a partner, shareholder or officer of an organization that has a relationship with BlackRock) are material relationships for purposes of NYSE listing standards. The categorical standards provide that the following relationships are not material for such purposes:

- Relationships arising in the ordinary course of business, such as asset management, acting as trustee, lending, deposit, banking or other financial service relationships or other relationships involving the provision of products or services, so long as the products and services are being provided in the ordinary course of business and on substantially the same terms and conditions, including price, as would be available to similarly situated customers;
- Relationships with companies of which a director is a shareholder or partnerships of which a director is a partner, provided the director is not a principal shareholder of the company or a principal partner of the partnership;
- Contributions made or pledged to charitable organizations of which a director or an immediate family member of the director is an executive officer, director or trustee if (i) within the preceding three years, the aggregate amount of such contributions during any single fiscal year of the charitable organization did not exceed the greater of $1 million or 2% of the charitable organization's consolidated gross revenues for that fiscal year, and (ii) the charitable organization is not a family foundation created by the director or an immediate family member of the director; and
- Relationships involving a director's relative unless the relative is an immediate family member of the director.

As part of its determination, the Board also considered the relationships described under "*Certain Relationships and Related Transactions*." Following its review, the Board has determined that Mses. Daley, Einhorn, Johnson, Mills and Wagner and Messrs. Alsaad, Cabiallavetta, Ford, Freda, Gerber, Nixon, Robbins, Seidenberg, Slim and Wilson are "independent" as defined in the NYSE listing standards and that none of the relationships between these directors and BlackRock are material under the NYSE listing standards. The Board had also previously determined that Sir Deryck Maughan, who was a director for all of 2018 and is not standing for re-election, was "independent." Following the 2019 Annual Meeting of Shareholders, assuming all of the nominated directors are elected, BlackRock's Board is expected to consist of 18 directors, 15 of whom, representing approximately 83% of the Board, will be "independent" as defined in the NYSE listing standards.

Management Succession Planning

Our Board plays an integral oversight role in talent development and recognizes the importance of succession planning for the CEO and other key executives at BlackRock. The Board, in consultation with the Compensation Committee, dedicates at least one full meeting per year to talent to ensure BlackRock has the right people in place to execute our long-term strategic plans and appropriate succession for key individuals. The Board also works with the Compensation Committee to consider potential successors to the CEO in the event of an emergency or the CEO's retirement. Our CEO recommends and evaluates potential successors for BlackRock's top executives, along with a review of any development plans for these individuals. In the fourth quarter of 2017, we granted long-term incentive awards in the form of performance-based stock options to a select group of senior leaders who we believe will play critical roles in BlackRock's future. We do not consider these awards to be part of our regular annual compensation. For more information about these awards, see *"Performance-Based Stock Options"* on page 62.

BlackRock's Approach to Human Capital Management

BlackRock's purpose to help our clients build better financial futures is fulfilled by our people. This is what informs our differentiated approach to talent and culture.

Each year, we set corporate objectives specifically related to talent and culture. We achieve these objectives through our commitment to fostering a unifying culture and encouraging innovation, ensuring that we are developing, retaining and recruiting the best talent, and incorporating inclusion and diversity into all levels of our organization.

Our Board plays a critical role in the oversight of talent and culture at BlackRock and devotes one full meeting annually to an in-depth review of the Company's culture, talent development, retention and recruiting initiatives, inclusion and diversity strategy, leadership and succession planning, and employee feedback.

BlackRock's talent initiatives are executed by our Human Capital Committee, which is comprised of fifty senior leaders who help design, drive, and sponsor everything we do around talent and culture in partnership with Human Resources.

Culture

As BlackRock transformed from an organization of 8 founders to more than 14,900 employees, a focus on autonomy and inclusion has helped foster a culture of emotional ownership and innovation among BlackRock employees around the world. Our culture is what unifies our employees across our diverse business model, ensures we are best positioned to serve our diverse clients globally and propels BlackRock's continuous evolution. Our culture is rooted in four guiding principles, which you can read about on the back cover of this Proxy Statement.

Talent Development

It is the capabilities of our employees and our leaders that enable us to deliver for our clients, and we are focused on career development and total rewards programs that meet our employees' needs. As we continue to grow, and our clients' challenges become more complex, this focus becomes even more important.

We provide developmental opportunities for our employees through a robust set of formal and informal programs. **The BlackRock Academies,** for example, focus on enabling employees to build skills and thought leadership in specific facets of our business including client relationships, technology, investments, leadership and management and professional development. **Knowing BlackRock Core** is a set of resources and immersive experiences built around a series of Harvard Business School case studies about the Company that is designed to help employees explore our history and engage in shaping our future. Our **leadership programs** make a differentiated investment in our high potential, strong performing employees as we strive to deepen, enhance and diversify our leadership bench. These programs are intense, year-long experiences that include structured learning, assessments, external coaching, sponsorship, and hands-on work and provide a blend of full cohort, small group and individually tailored development.

We deliberately align employee incentives with the risk and performance frameworks of the firm. BlackRock's Pay for Performance philosophy connects individual, business and company results to employee compensation, providing employees with opportunities to share in the firm's growth and success. We offer employees a comprehensive Total Rewards package that meets the varying needs of our talent across the firm, including health and wellness, financial, educational and life management benefits. Also, we support employees in making an impact in their local communities and globally through environmental and social efforts that are meaningful to them.

Inclusion & Diversity

BlackRock is committed to cultivating and advancing diversity in all forms because we believe a wide range of perspectives is crucial to creating a richer culture for our employees and better results for our diversified global client base. We hold our businesses accountable for progress in inclusion and diversity. During our Quarterly Business Reviews, we have focused conversations with each business about its plans and progress and we report our progress against our inclusion and diversity initiatives regularly to our Board.

Employee Feedback

We value continuous dialogue with our employees about their experiences. We have several employee feedback mechanisms including our annual Employee Opinion Survey which has a more than 90% participation rate annually and provides us with actionable feedback for each team and for BlackRock as a whole, an annual People Manager Insights Survey which provides managers with upward feedback on how they are progressing against their expectations as managers and the *BlackRock Jam*, a 3-day online conversation with employees around the world. Our employees describe our culture in a way that aligns with our principles and we believe the high participation in the mechanisms reflects their belief that their responses will lead to action by management. We continue to build training programs and tools to help managers better understand metrics on talent and culture and create more diverse and inclusive teams. Our businesses use these metrics to make the day-to-day decisions that drive our talent and culture initiatives across the organization.

Accountability

Employee feedback and metrics on talent and diversity initiatives are shared with and reviewed by the Board on a regular basis. Moreover, senior leaders are held accountable for progress on diversity through bonus pool allocations and individual compensation decisions.

The Board and Compensation Committee routinely engage with senior leadership on talent and culture. Talent and culture is included in the Organizational Strength component of our NEO (and broader senior leadership) compensation. For more information on organizational strength, see "*2018 NEO Compensation and Performance Summaries*" beginning on page 66. Talent and culture are integral to BlackRock's success and its mission to generate long-term shareholder value. As such, BlackRock is committed to a diverse and inclusive workforce, and our Board works with management to provide oversight on culture, succession planning, employee development, recruiting and diversity and inclusion.

BlackRock Public Policy Engagement and Political Participation Policies

As part of our responsibilities to our shareholders and clients, BlackRock advocates for public policies that we believe are in our shareholders' and clients' long-term best interests. We support the creation of regulatory regimes that increase financial market transparency, protect investors and facilitate responsible growth of capital markets, while preserving consumer choice and properly balancing benefits versus implementation costs. BlackRock comments on public policy topics through, among other things, our published ViewPoints, which examine public policy issues and assess their implications for investors, and through comment letters and consultation responses that we submit to policy makers. We believe in the value of open dialogue and transparency on these important issues; our position papers and letters are available on the "*Insights – Public Policy*" section of our website.

Governance of Public Policy Engagement

BlackRock believes that responsible corporate citizenship requires active engagement in legislative and regulatory processes. Our engagement with policy makers and advocacy on public policy issues is coordinated by our Global Public Policy Group. Members of the Global Public Policy Group work closely with BlackRock's business and legal teams to identify legislative and regulatory priorities, both regionally and globally, that will protect investors, increase shareholder value, and facilitate responsible economic growth.

The head of the Global Public Policy Group is a member of BlackRock's Global Executive and Operating Committees and regularly briefs these committees on our public policy priorities and related advocacy efforts. BlackRock's Chief Legal Officer and the head of the Global Public Policy Group regularly brief both the Board's Risk and Governance Committees to keep directors apprised of, and engaged in, BlackRock's legislative and regulatory priorities and advocacy initiatives. The Global Public Policy Group and executive leadership regularly meet with and exchange views on legislation and regulatory priorities with public officials and policy makers, regionally and globally, and provide such individuals with educational materials to help inform their decisions.

Trade Associations

As part of BlackRock's engagement in the public policy process, BlackRock participates in a number of trade organizations and industry groups. The principal trade associations that we belong to are the Investment Company Institute, the Asset Management Group of the Securities Industry and Financial Markets Association, the European Fund and Asset Management Association and the Investment Association. BlackRock makes payments to these organizations, including membership fees and/or dues. However, BlackRock does not control these entities and may not always be aware of the entities' activities. We recognize that these organizations and groups represent numerous other companies and there may be instances where their positions on certain issues diverge from those of BlackRock.

As an asset manager, BlackRock focuses on issues that impact the asset management industry and the clients for whom we act as agent in managing assets. In general, BlackRock's efforts are focused at the national or regional level, rather than at a state-specific level.

Political Participation

Our ability to engage policy makers and participate in the public policy arena is subject to extensive laws and regulations at the international, federal, state and local levels. Under United States federal law, BlackRock may not contribute corporate funds or make in-kind contributions to candidates for federal office or to national party committees. In addition to federal limits on corporate political action, our political contributions at the state and local level in the United States are governed by Municipal Securities Rulemaking Board Rule G-37, SEC Rule 206(4)-5 and CFTC Rule 23.451, as well as applicable state and local law. Accordingly, BlackRock does not contribute corporate funds to candidates, political party committees, political action committees or any political organization exempt from federal income taxes under Section 527 of the Internal Revenue Code. Although permitted under federal law, BlackRock has voluntarily elected not to spend corporate funds directly on independent expenditures, including electioneering communications, and does not currently engage in “grassroots lobbying” or support or oppose ballot initiatives. Information about BlackRock’s lobbying activities, including contributions required to be disclosed under the Lobbying Disclosure Act, is publicly available at *https://www.senate.gov/legislative/lobbying*.

BlackRock maintains a federal political action committee (“PAC”) that is funded in accordance with applicable federal law on a voluntary basis by U.S.-based employees of the Company. The PAC makes contributions at the federal level on a bi-partisan basis consistent with the Company’s contribution policies and public policy goals and without regard to the private political preferences of management. As required by law, all political contributions by the PAC are reported to the Federal Election Commission and are publicly disclosed at *www.fec.gov*.

BlackRock maintains compliance processes designed to ensure that its activities are conducted in accordance with this policy and all relevant laws governing political contributions in the United States. All employees are required to annually review and acknowledge their compliance responsibilities regarding political contributions and must submit all of their proposed personal political contributions to our Legal and Compliance Department to determine if such contributions are consistent with applicable legal restrictions.

Shareholder Engagement and Outreach

We conduct shareholder outreach throughout the year to engage with shareholders on issues that are important to them. We report back to our Board on this engagement as well as specific issues that need to be addressed.

Executive management, Investor Relations and the Corporate Secretary engage on a regular basis with shareholders to solicit feedback on a variety of corporate governance matters, including but not limited to executive compensation, corporate governance policies, and corporate sustainability practices. Our directors have also engaged directly with shareholders during the last two years. BlackRock also routinely interacts and communicates with shareholders through a number of other forums, including quarterly earnings presentations, SEC filings, the Annual Report and Proxy Statement, the annual shareholder meeting, investor meetings and conferences, and web communications. We share our shareholder feedback and trends and developments about corporate governance matters with our Board and its Committees as we seek to enhance our governance and sustainability practices and improve our disclosures. Additionally, 4 of our independent directors attended our 2018 Investor Day presentation.

Also see “*Compensation Discussion and Analysis*” beginning on page 53 for a discussion of our compensation related shareholder engagement initiatives and our historical say-on-pay vote results.

Communications with the Board

Shareholders and other interested parties may contact any member (or all members) of the Board, any Committee or any Chair of any such Committee by mail or electronically.

Correspondence may be sent by:

Mail:

BlackRock, Inc.
Attn: Board of Directors
c/o Corporate Secretary
40 East 52nd Street
New York, New York 10022

Online:

Go to the BlackRock website at ***www.blackrock.com***. Under the headings *“Our Company and Sites / Investor Relations / Corporate Governance / Governance Overview / Contact Our Board of Directors”*, you will find a link that may be used for writing an electronic message to the Board, the Lead Independent Director, any individual director or any group or committee of directors.

BlackRock's Corporate Communications, Investor Relations and Legal and Compliance Departments will review all communications received to determine whether the contents represent a message or matter for our directors' review. Requests for a meeting with any member of the Board will also be reviewed accordingly and, if appropriate, arranged by Investor Relations and the Corporate Secretary. Concerns relating to accounting, internal controls or auditing matters are brought to the attention of the Chairperson of the Audit Committee and handled in accordance with procedures established for reporting certain matters to the Audit Committee.

Shareholders are encouraged to visit the "*Our Firm / Investor Relations / Corporate Governance / Governance Overview*" page of the BlackRock website at ***www.blackrock.com*** to see the Corporate Governance Guidelines, Code of Business Conduct and Ethics, Code of Ethics for Chief Executive and Senior Financial Officers and additional information about BlackRock's Board and its Committees and corporate governance policies.

The charters for each of the Audit Committee, the Compensation Committee, the Governance Committee, the Risk Committee and the Executive Committee can be found at the same website address. BlackRock intends to satisfy any disclosure requirements regarding any amendment to, or waiver from, a provision of the Code of Ethics for Chief Executive and Senior Financial Officers by posting such information on its corporate website.

BlackRock will provide a copy of these documents without charge to each shareholder upon written request. Requests for copies should be addressed to the Corporate Secretary, BlackRock, Inc., 40 East 52nd Street, New York, New York 10022.

2018 Director Compensation

Directors receive compensation, including retainers and reimbursements of expenses, for their service and dedication to our Company. We recognize the substantial time and effort required to serve as a director of a large global investment firm. The goal of our director compensation program is to help attract, motivate and retain directors capable of making significant contributions to the long-term success of our Company. In order to align the interest of our directors with the interests of our shareholders, our independent directors are required to own a minimum target number of shares, having a value equivalent to $375,000 (over four times the annual board retainer) within five years of being elected to the Board.

The Compensation Committee is responsible for reviewing director compensation periodically and making recommendations to the Board. The Compensation Committee also reviews the director compensation practices of peer corporations. For more information on these peer groups, please refer to *"Role of the Compensation Consultant"* on page 64.

How Our Director Compensation Program Aligns with Long-Term Shareholder Interests

FOCUS ON EQUITY COMPENSATION

The largest portion of independent director compensation is the annual equity grant, payable in deferred stock units.

STOCK/EQUITY OWNERSHIP REQUIREMENT

All independent directors are required to own shares valued at a minimum of $375,000 (over four times the annual board retainer) within five years of being elected to the Board. All directors have met or are on track to meet this requirement.

Director Compensation – Changes for 2018

The Compensation Committee engaged its independent compensation consulting firm, Semler Brossy, to conduct a competitive market study of its director compensation program for 2018. Based on the study's findings, and in light of increasing demands and engagement from our Board, the Compensation Committee determined it was appropriate to simplify and modify its director compensation program effective as of the 2018 Annual Meeting of Shareholders. The compensation program changes included:

- Increasing the Annual Retainer to $85,000, while no longer requiring a portion be received in common stock;
- Increasing the Annual Equity Grant of deferred stock units to $240,000 (beginning with the 2019 Annual Equity Grant);
- Increasing the annual fee for service as Lead Independent Director to $100,000;
- Eliminating fees paid for attendance at Board and Committee meetings; and
- Adjusting the payments awarded for Committee service. The Committee Annual Retainers for 2018 were approved as follows:
  - $40,000 for the Chair and $25,000 for the members of the Audit Committee; and
  - $30,000 for the Chairs and $15,000 for the members of Compensation, Governance and Risk Committees.

The modifications to total director compensation preserve our program's emphasis on deferred equity compensation, which aligns the interests of our directors with the performance of the firm in addition to promoting long-term shareholder interests.

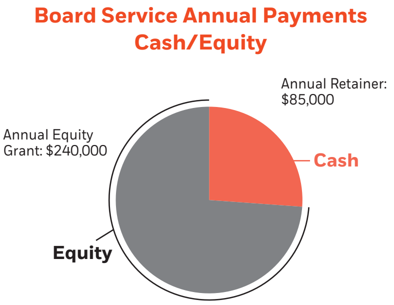
2018 Elements of Director Compensation

For services provided in 2018 prior to the date of the 2018 Annual Meeting of Shareholders, each independent director received an Annual Retainer paid quarterly in arrears at an annualized rate of $75,000, as well as Committee Annual Retainers paid quarterly in arrears at the following annualized rates: $30,000 for Chair, and $15,000 for members, of the Audit Committee; $20,000 for Chair, and $10,000 for members, of the Compensation Committee; and $15,000 for Chairs, and $5,000 for members, of the Governance and Risk Committees. Our Lead Independent Director received an additional Annual Retainer paid quarterly in arrears at an annualized rate of $40,000. Each independent director also received Board and Committee Meeting Fees of $1,500 and $1,000 respectively, paid quarterly in arrears. At least one-third ($25,000 at the annualized rate) of the Annual Retainer for services provided through the 2018 Annual Meeting of Shareholders was required to be paid in the form of BlackRock common stock. In addition, each independent director had the right to elect to receive BlackRock common stock valued at an equivalent fair market value in lieu of all or a portion of his or her Annual Retainer and Committee Annual Retainers in excess of such amount.

For services provided in 2018 on and after the date of the 2018 Annual Meeting of Shareholder, each independent director received an Annual Retainer paid quarterly in arrears at an annualized rate of $85,000, as well as Committee Annual Retainers paid quarterly in arrears at the following annualized rates: $40,000 for Chair, and $25,000 for members of, the Audit Committee; and $30,000 for Chairs, and $15,000 for members of, the Compensation, Governance and Risk Committees. Our Lead Independent director received an additional Annual Retainer paid quarterly in arrears at an annualized rate of $100,000. In addition, each independent Director had the right to elect to receive BlackRock common stock valued at an equivalent fair market value in lieu of all or a portion of his or her Annual Retainer and Committee Annual Retainers.

In addition, deferred stock units valued at $175,000 were granted on the last business day of the first quarter of 2018. Beginning with the 2019 Annual Equity Grant, the deferred stock units will be valued at $240,000. These deferred stock units are fully vested on the date of grant and are generally settled in shares of BlackRock common stock on the earlier of the third anniversary of the date of grant and the date the director ceases to be a member of the Board. Directors also have a right to elect, no later than December of the prior calendar year, to receive their annual retainers or annual equity grant in the form of deferred stock units that are fully vested on the date of grant and are settled in shares of BlackRock common stock in a lump sum on the date the director ceases to be a member of the Board or in five equal installments beginning on the date the director ceases to be a member of the Board and continuing on each of the next four anniversaries of such date. Dividend equivalents accrue with respect to deferred stock units and are paid in the form of cash on the settlement date.

The following table shows the elements of director compensation provided by BlackRock for services on and after the date of the 2018 Annual Meeting of Shareholders.

Director Compensation Element[1]	Payment or Value of Equity		
Board Service(2)			 Board Service Annual Payments Cash/Equity
Annual Retainer(3)	$ 85,000		
Annual Equity Grant(4)	$240,000	deferred stock units	
Lead Independent Director	$100,000		
Committee Service(2)			
Committee Annual Retainers	**Chair**	**Member**	
Audit Committee	$ 40,000	$ 25,000	
Compensation Committee	$ 30,000	$ 15,000	
Governance Committee	$ 30,000	$ 15,000	
Risk Committee	$ 30,000	$ 15,000	

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(1) Director Compensation elements reflect the changes to the compensation program effective as of the 2018 Annual Meeting of Shareholders, provided that the requirement to receive one-third ($25,000 at the annual rate) of the annual retainer in stock continued through the 2018 Annual Meeting of Shareholders.

(2) Directors have the right to elect to receive their annual retainers in the form of BlackRock common stock. Directors also have a right to elect, no later than December of the prior calendar year, to receive their annual retainers or annual equity grant in the form of deferred stock units that are fully vested on the date of grant and are settled in shares of BlackRock common stock in a lump sum on the date the director ceases to be a member of the Board or in five equal installments beginning on the date the director ceases to be a member of the Board and continuing on each of the next four anniversaries of such date.

(3) Retainers are paid in January, April, July and October, based on service during the prior quarter. New Board members rotating through Committees receive one general Committee retainer. From time to time, the Company also makes available, as an accommodation to all of its directors upon request, basic office space at its existing locations and administrative support, as needed.

(4) Annual award granted on the last business day of the first quarter of each year to all directors serving on that date and delivered on the earlier of (i) the third anniversary of the date of grant and (ii) the date such director ceases to be a member of the Board. The 2018 award was valued at $175,000, as it was granted prior to the changes effective as of the 2018 Annual Meeting of Shareholders. Beginning with the award granted on the last business day of the first quarter in 2019, the annual equity grant will be valued at $240,000.

2018 Total Director Compensation

Directors in 2018 who were also employees of BlackRock or designees of PNC are not listed in the below table because they did not receive compensation for serving as directors or Committee members. In 2018, directors who were not employees of BlackRock or PNC each received the amounts set forth in the below table and were also reimbursed for reasonable travel and related expenses. Each director who received compensation had the right to elect to receive BlackRock common stock valued at an equivalent fair market value in lieu of all or a portion of his or her annual retainer. In addition, each director who received compensation had the right to elect to receive their annual retainer or annual equity grant in the form of deferred stock units that settle in a lump sum on the date the director ceases to be a member of the Board or in five equal installments beginning on the date the director ceases to be a member of the Board and continuing on each of the next four anniversaries of such date.

2018 Total Director Compensation Table

Name	Fees Earned or Paid in Cash ($)(1)	Stock Awards ($)(2)(3)	Total ($)
Abdlatif Y. Al-Hamad(4)	29,325	187,422	216,747
Mathis Cabiallavetta	120,174	187,422	307,596
Pamela Daley	129,556	187,422	316,978
Jessica P. Einhorn	105,021	187,422	292,443
William E. Ford(5)	90,092	187,422	277,514
Fabrizio Freda	86,676	187,422	274,098
Murry S. Gerber	195,133	187,422	382,555
James Grosfeld(4)	33,859	187,422	221,281
Margaret Johnson(5)	93,863	187,422	281,285
Deryck Maughan	130,916	187,422	318,338
Cheryl D. Mills	105,624	187,422	293,046
Gordon M. Nixon	125,034	187,422	312,456
Charles H. Robbins	87,175	187,422	274,597
Ivan G. Seidenberg	133,274	187,422	320,696
Marco Antonio Slim Domit	118,278	187,422	305,700
Susan L. Wagner	94,483	187,422	281,905
Mark Wilson(5)	81,287	187,422	268,709

(1) Includes fees paid in cash and shares of common stock granted on March 31, June 30, September 30 and December 31, 2018, respectively, based on closing market prices on such dates of $541.72, $499.04, $471.33 and $392.82, respectively, awarded at the election of the director in lieu of all or a portion of his or her board annual retainer. Each of the following directors elected to receive common stock in lieu of the following amounts: Mr. Al-Hamad – $29,325; Mr. Cabiallavetta – $31,967; Ms. Daley – $129,556; Ms. Einhorn – $19,353; Mr. Ford – $90,092; Mr. Freda – $86,676; Mr. Grosfeld – $33,859; Ms. Johnson – $20,975; Mr. Maughan – $130,916; Mr. Nixon – $125,034; Mr. Robbins – $87,175; Mr. Seidenberg – $133,274; Mr. Slim – $118,278; Ms. Wagner – $19,353; and Mr. Wilson – $16,733.

(2) Includes the annual grants to each director of 323 deferred stock units of BlackRock with a grant date fair value of $175,000 pursuant to FASB ASC Topic 718. For complete valuation assumptions of the awards, see Note 14 to the consolidated financial statements in our 2018 Form 10-K. As of December 31, 2018, each non-employee director held the following outstanding deferred stock units: 1,443 deferred stock units for Mr. Seidenberg; 1,431 deferred stock units for Ms. Daley; 1,359 deferred stock units for Mr. Slim; 1,333 deferred stock units for Mr. Nixon; 1,244 deferred stock units for Mr. Gerber;1,219 deferred stock units for each of Messrs. Cabiallavetta, Freda, Maughan, Ms. Einhorn, Ms. Mills and Ms. Wagner; 466 deferred stock units for Mr. Ford; 344 deferred stock units for Mr. Wilson; and 323 deferred stock units for Ms. Johnson and Mr. Robbins. Messrs. Al-Hamad and Grosfeld did not have any deferred stock units outstanding as their units were settled upon retirement from the Board.

(3) Prior to the 2018 Annual Meeting of Shareholders, all directors were required to receive $25,000 of their annual retainer in the form of common stock. This includes the fees granted in shares of common stock on March 31 and June 30, 2018 based on closing market prices on such dates of $541.72 and $499.04, respectively, awarded in respect of the requirement. The entire expense for these awards was recorded on the date of grant. For retainers paid on and after the date of the 2018 Annual Meeting of Shareholders. there is no requirement for a portion to be delivered in common stock.

(4) Messrs. Al-Hamad and Grosfeld retired from the Board effective May 23, 2018.

(5) Messrs. Ford and Wilson and Ms. Johnson joined the Board effective March 15, 2018.

Other Executive Officers

In addition to Messrs. Fink and Kapito, whose biographical information is included on pages 15 and 18, respectively, the following is a list of individuals serving as executive officers of BlackRock as of the date of this Proxy Statement, each of whom also serves on BlackRock's GEC. All of BlackRock's executive officers serve at the discretion of the Board and CEO.

Geraldine Buckingham age 41	Senior Managing Director, has been Head of Asia Pacific since February 2019. From 2014 to 2019, Ms. Buckingham served as Global Head of Corporate Strategy. In this role, Ms. Buckingham was responsible for helping BlackRock develop and implement long-term goals, and respond to the competitive financial services landscape. Prior to joining BlackRock in 2014, Ms. Buckingham was a partner with McKinsey & Company's financial services practice based in New York.
Robert L. Goldstein age 45	Senior Managing Director, has been Chief Operating Officer since 2014 and has been the Head of *BlackRock Solutions*, which leverages the Company's unique risk analytics capabilities and capital markets insights to deliver unbiased advice and expertise to other institutions, since 2009. Mr. Goldstein led BlackRock's Institutional Client Business from 2012 to 2014. Mr. Goldstein has spent his entire career at BlackRock, beginning in 1994 as an analyst in the Company's Portfolio Analytics Group.
J. Richard Kushel age 52	Senior Managing Director, has been Global Head of Multi-Asset Strategies and Global Fixed Income since 2018. Mr. Kushel was the Head of Multi-Asset Strategies from 2016 to 2018, the Chief Product Officer and Head of Strategic Product Management from 2014 to 2016, the Deputy Chief Operating Officer of BlackRock from 2012 to 2014, the Head of the Portfolio Management Group of BlackRock from 2010 to 2012, and the Chairman of BlackRock's International platform from 2009 to 2010. Mr. Kushel has been with BlackRock since 1991.
Rachel Lord age 53	Senior Managing Director, has been Head of EMEA since 2017. Ms. Lord also chairs the EMEA Executive Committee and is the Global Executive Sponsor of the Women's Initiative Network. From 2013 to 2017, she was EMEA Head of *iShares* and Head of Global Clients, ETF and Index Investments. Ms. Lord joined BlackRock in November 2013 from Citigroup where she was the Global Head of Corporate Equity Derivatives.
Mark S. McCombe age 53	Senior Managing Director, has been Head of Americas since 2017. Previously, he served as Global Head of BlackRock Alternative Investors. Mr. McCombe served as the Global Head of BlackRock's Institutional Client Business from 2014 to 2016 and as the Chairman of BlackRock Alternative Investors from 2014 to 2017. He was the Chairman of BlackRock's Asia Pacific region from 2012 to 2014. Before joining BlackRock, Mr. McCombe served as Chief Executive Officer in Hong Kong for HSBC from 2010 to 2012.
Christopher J. Meade age 50	Senior Managing Director, has been Chief Legal Officer of BlackRock since 2016 and General Counsel since 2015. Before joining BlackRock in 2015, Mr. Meade was the General Counsel of the U.S. Department of the Treasury. Previously, he was a partner with the law firm of Wilmer Cutler Pickering Hale and Dorr. Earlier in his career, Mr. Meade served as a law clerk to Justice John Paul Stevens on the U.S. Supreme Court and Judge Harry T. Edwards of the U.S. Court of Appeals for the D.C. Circuit.
Gary S. Shedlin age 55	Senior Managing Director, has been Chief Financial Officer of BlackRock since 2013. Prior to joining BlackRock, Mr. Shedlin was Vice Chairman, Investment Banking and a Managing Director in the Financial Institutions Group at Morgan Stanley from 2010 to 2013. Prior to that, Mr. Shedlin worked at Citigroup from 2004 to 2010, where he most recently served as Chairman of the Financial Institutions Group. Previously, Mr. Shedlin served as the Co-Head of the Financial Institutions Group at Lazard Ltd.
Jeffrey A. Smith, Ph.D. age 48	Senior Managing Director, has been Global Head of Human Resources of BlackRock since 2009. In this capacity, Mr. Smith supports and advises the business, and the Board, on all aspects of its investment in people and culture and the management of organizational change. Mr. Smith's service with the firm dates back to 2006, including his years with Barclays Global Investors ("BGI"), which merged with BlackRock in 2009. At BGI, Mr. Smith was Global Head of Human Resources.
Mark Wiedman age 48	Senior Managing Director, has been Head of International and of Corporate Strategy since January 2019. From 2011 to 2019, Mr. Wiedman served as Global Head of iShares and Index Investments. Mr. Wiedman joined BlackRock in 2004 to help start what became the Financial Markets Advisory Group. Prior to joining BlackRock, he was Senior Advisor to the Under Secretary for Domestic Finance at the U.S. Treasury and a management consultant at McKinsey & Company.

Ownership of BlackRock Common and Preferred Stock

Common Stock

The following table includes certain information about the beneficial ownership of BlackRock's voting securities as of March 31, 2019 by:

- Each person who is known by BlackRock to own beneficially more than 5% of any class of outstanding voting securities of BlackRock;
- Each of BlackRock's directors and nominees;
- Each of the executive officers named in the 2018 Summary Compensation Table; and
- All of BlackRock's executive officers and directors as a group.

Except as otherwise noted, each individual exercises sole voting power or investment power over the shares of voting securities shown. The number of shares of voting securities shown in the following Security Ownership Table as beneficially owned by each director and executive officer is determined under the rules of the SEC. The information is not necessarily indicative of beneficial ownership for any other purpose. For purposes of the Security Ownership Table, beneficial ownership includes any shares of voting securities as to which the individual has sole or shared voting power or investment power and also any shares of common stock which the individual has the right to acquire within 60 days of March 31, 2019, through the exercise of any option, warrant or right. All fractional shares have been rounded to the nearest whole number.

As of March 31, 2019, there were 154,500,315 shares of BlackRock's common stock outstanding.

	Amount of beneficial ownership of common stock(1)	Percent of common stock outstanding	Deferred/ Restricted Stock Units(2)	Total
The PNC Financial Services Group, Inc. and affiliates One PNC Plaza 249 Fifth Avenue Pittsburgh, PA 15222	34,047,710(3)	21.59%	–	34,047,710(3)
The Vanguard Group, Inc. 100 Vanguard Blvd. Malvern, PA 19355	8,888,309(4)	5.63%	–	8,888,309(4)
Capital World Investors (U.S.) 333 South Hope Street 55th Floor Los Angeles, CA 90071	8,053,967(5)	5.10%	–	8,053,967(5)
Bader M. Alsaad	–	*	–	–
Mathis Cabiallavetta(6)	6,297	*	1,337	7,634
Pamela Daley	3,068	*	1,337	4,405
William S. Demchak	1,200	*	0	1,200
Jessica P. Einhorn	2,415	*	1,337	3,752
Laurence D. Fink	987,046	*	19,459	1,006,505
William E. Ford	9,299	*	881	10,180
Fabrizio Freda	3,716	*	1,337	5,053
Murry S. Gerber	39,604	*	1,337	40,941
Robert L. Goldstein	34,184	*	9,299	43,483
Margaret L. Johnson	100	*	881	981
Robert S. Kapito(6)	369,823	*	15,517	385,340
J. Richard Kushel(6)	163,157	*	8,017	171,174
Sir Deryck Maughan	15,177	*	1,337	16,514
Cheryl D. Mills	2,252	*	1,337	3,589
Gordon M. Nixon	825	*	1,337	2,162
Charles H. Robbins	418	*	881	1,299
Ivan G. Seidenberg	12,817	*	1,337	14,154
Gary S. Shedlin	17,497	*	7,021	24,518
Marco Antonio Slim Domit	3,520	*	1,337	4,857
Susan L. Wagner	476,765	*	1,337	478,102
Mark Wilson	59	*	881	940
All directors and executive officers as a group (28 persons)(6)	2,196,318	1.42%	110,836	2,307,154

* The number of shares of common stock held by such individual is less than 1.0% of the outstanding shares of common stock.

(1) Does not include unvested/unsettled RSUs and unvested stock options.

(2) Does not include BPIP awards.

(3) Based on the Schedule 13G of The PNC Financial Services Group, Inc. and affiliates filed on February 1, 2019.

(4) Based on the Schedule 13G of The Vanguard Group, Inc. filed on February 11, 2019.

(5) Based on the Schedule 13G of Capital World Investors filed on February 13, 2019.

(6) Includes shares of BlackRock common stock held jointly, indirectly and/or in trust (other than shares the beneficial ownership of which has been disclaimed).

Preferred Stock

As of March 31, 2019, there were 823,188 shares of BlackRock's Series B non-voting convertible participating preferred stock issued and outstanding, which has a liquidation preference of $0.01 per share (the "Series B Preferred Stock"). As of March 31, 2019, PNC owned all issued and outstanding shares of our Series B Preferred Stock.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 (the "Exchange Act") requires our directors, Section 16 officers and persons who own more than 10% of a registered class of BlackRock's equity securities to file reports of holdings of, and transactions in, BlackRock shares with the SEC and the NYSE. To the best of BlackRock's knowledge, based on copies of such reports and representations from these reporting persons, we believe that in 2018, our directors, Section 16 officers and 10% holders met all applicable SEC filing requirements.

Certain Relationships and Related Transactions

PNC and its Subsidiaries

As of March 31, 2019, PNC beneficially owned approximately 22.0% of BlackRock's common stock outstanding and 22.4% of BlackRock's capital stock, which includes outstanding common stock and non-voting preferred stock.

William S. Demchak, Chairman, President and Chief Executive Officer of PNC, serves as a director of BlackRock. Although PNC has a right to, and reserves the right to do so under the PNC Stockholder Agreement, PNC has elected not to appoint a second director to the Board at this time. In addition, PNC has been permitted to invite a non-voting observer to attend Board meetings. Gregory B. Jordan, General Counsel & Chief Administrative Officer of PNC, is the PNC observer.

BlackRock provides investment advisory and administration services to certain PNC subsidiaries and separate accounts for a fee based on assets under management. The amount of investment advisory and administration fees earned from PNC and its affiliates in relation to these services in 2018 totaled $2.1 million.

BlackRock provides risk management advisory and technology services to PNC's corporate and line of business asset/liability management committees, for which it received an annual fee of $9.2 million for 2018. BlackRock also recorded revenue of $2.7 million related to non-discretionary trading services.

BlackRock incurred expenses of $1.6 million to PNC affiliates in 2018 for service fees related to certain retail and institutional clients.

Transactions between BlackRock Funds and Client Accounts and PNC and its Subsidiaries

From time to time in the ordinary course of our business, acting predominantly as agent for its clients, BlackRock effects transactions in securities and other financial assets with PNC and its subsidiaries. The amount of compensation or other value received by PNC in connection with those transactions is dependent on the capacity in which it participates in each of them, as principal or agent for other principals, and the type of security or financial asset involved. PNC may also act as the underwriter of securities purchased by BlackRock-managed funds and accounts. We principally engage in fixed income transactions with PNC. PNC (including its subsidiaries) was among one of BlackRock's many fixed income trading counterparties in 2018. Fixed income transactions are typically not traded on a commission basis and, accordingly, the amounts earned by PNC and its subsidiaries on such transactions cannot be determined.

PNC may, from time to time in the ordinary course of business, make loans to funds or separately managed accounts or commit to make future loans on substantially the same terms as those prevailing at the time for comparable loans to third parties and may enter into caps, hedges or swaps in connection with these loans. BlackRock may be an investor in or co-investor alongside these funds and accounts. BlackRock products and client accounts also enter into a variety of other arrangements with PNC and its subsidiaries on an arm's length basis in the ordinary course of business. Such arrangements include, but are not limited to, serving as custodian or transfer agent or providing principal protection warranties as well as book value protection and co-administration, sub-administration, fund accounting, networking, leases of office space to PNC or its subsidiaries, bank account arrangements, derivative transactions, letters of credit, securities lending, loan servicing and other administrative services for BlackRock-managed funds and accounts. In certain instances, the fees that may be incurred by BlackRock funds or other products are capped at a fixed amount. In these cases, BlackRock may be responsible for payment of fees incurred in excess of these caps and amounts would be reflected in the fees for administrative services described above. Additionally, PNC or its subsidiaries or affiliates may invest in BlackRock funds or other products or buy or sell assets to or from BlackRock funds and separate accounts.

PNC Stockholder Agreement

BlackRock is a party to the PNC Stockholder Agreement, which governs PNC's ownership interests in and relationship with BlackRock. BlackRock and PNC are also parties to a registration rights agreement. The following table describes certain key provisions of the PNC Stockholder Agreement as amended and restated.

Share Ownership	The PNC Stockholder Agreement provides for a limit on the percentage of BlackRock capital stock that may be owned by PNC at any time (the "PNC ownership cap"). Due to the PNC ownership cap, PNC is generally not permitted to acquire any additional capital stock of BlackRock if, after such acquisition, it would hold greater than 49.9% of the total voting power of the capital stock of BlackRock issued and outstanding at such time or 38% of the sum of the total voting securities and participating preferred stock of BlackRock issued and outstanding at such time and issuable upon the exercise of any options or other rights outstanding at that time. In addition, PNC may not acquire any shares of BlackRock from any person other than BlackRock or a person that owns 20% or more of the total voting power of the capital stock of BlackRock (other than itself) if, after such acquisition, it would hold capital stock of BlackRock representing more than 90% of the PNC voting ownership cap.
Prohibited Actions	PNC is prohibited from taking part in, soliciting, negotiating with, providing information to or making any statement or proposal to any person, or making any public announcement, with respect to: • An acquisition which would result in PNC holding more than the PNC ownership cap, or holding any equity securities of any controlled affiliate of BlackRock; • Any business combination or extraordinary transaction involving BlackRock or any controlled affiliate of BlackRock, including a merger, tender or exchange offer or sale of any substantial portion of the assets of BlackRock or any controlled affiliate of BlackRock; • Any restructuring, recapitalization or similar transaction with respect to BlackRock or any controlled affiliate of BlackRock; • Any purchase of the assets of BlackRock or any controlled affiliate of BlackRock, other than in the ordinary course of its business; • Being a member of a "group", as defined in Section 13(d)(3) of the Exchange Act, for the purpose of acquiring, holding or disposing of any shares of capital stock of BlackRock or any controlled affiliate of BlackRock; • Selling any BlackRock capital stock in an unsolicited tender offer that is opposed by the BlackRock Board; • Any proposal to seek representation on the Board of BlackRock except as contemplated by the PNC Stockholder Agreement; • Any proposal to seek to control or influence the management, Board or policies of BlackRock or any controlled affiliate of BlackRock except as contemplated by the PNC Stockholder Agreement; or • Any action to encourage or act in concert with any third party to do any of the foregoing.
Additional Purchase of Voting Securities	The PNC Stockholder Agreement gives PNC the right, in any issuance of BlackRock voting stock, (1) to purchase an amount of such stock or, at PNC's option, Series B Preferred Stock, upon such issuance that would result in PNC holding the lesser of (a) the PNC ownership cap or (b) an ownership percentage in BlackRock equal to what it held prior to the issuance, and (2) if as a result of such stock issuance PNC's beneficial ownership of the total voting power of BlackRock capital stock decreases to less than 38%, to exchange such number of shares of Series B Preferred Stock for shares of common stock on a one-for-one basis such that following the stock issuance, PNC will beneficially own shares of voting securities representing not more than 38% of the total voting power of BlackRock capital stock, unless such issuance constitutes a public offering and would not, together with any stock issuance constituting a public offering since September 29, 2006, after taking into account any share repurchases by BlackRock since September 29, 2006 and transfers by PNC, decrease PNC's total voting power to 90% or less of the PNC ownership cap.
Share Repurchase	If BlackRock engages in a share repurchase, BlackRock may require PNC to sell an amount of securities to BlackRock that will cause its beneficial ownership of BlackRock capital stock not to exceed its total ownership cap or voting ownership cap.

Transfer Restrictions	PNC may not transfer any capital stock of BlackRock beneficially owned by it, except for transfers to its respective affiliates and transfers in certain other specified categories of transactions, which would result in the beneficial ownership, by any person, of more than 10% of the total voting power of issued and outstanding BlackRock capital stock with respect to transfers to persons who would be eligible to report their holdings of BlackRock capital stock on Schedule 13G or of more than 5% of the total voting power of issued and outstanding capital stock with respect to any other persons.
Right of Last Refusal	PNC must notify BlackRock if it proposes to sell shares of BlackRock capital stock in a privately negotiated transaction. Upon receipt of such notice, BlackRock will have the right to purchase all of the stock being offered, at the price and terms described in the notice. These notification requirements and purchase rights do not apply in the case of tax-free transfers to charitable organizations or foundations and tax-deferred transfers.
Corporate Governance	**Board Designation:** The PNC Stockholder Agreement provides that BlackRock will use its best efforts to cause the election at each annual meeting of shareholders such that the Board will consist of no more than 19 directors: • Not less than two nor more than four directors who will be members of BlackRock management; • Two directors who will be designated by PNC, provided, however, that if for any period greater than 90 consecutive days PNC and its affiliates shall beneficially own less than 10% of the BlackRock capital stock issued and outstanding, PNC shall promptly cause one of such PNC designees to resign and the number of PNC designees shall be reduced to one; and provided further, that, if for any period greater than 90 consecutive days PNC and its affiliates shall beneficially own less than 5% of the BlackRock capital stock issued and outstanding, PNC shall promptly cause the second PNC designee to resign and the number of PNC designees shall be reduced to zero; and • The remaining directors who will be independent for purposes of the rules of the NYSE and will not be designated by or on behalf of PNC or any of its affiliates. Of the current directors, William S. Demchak was designated by PNC. PNC has elected not to appoint a second director to the Board at this time, though it reserves the right to do so. In addition, PNC has been permitted to invite a non-voting observer to attend Board meetings. Gregory B. Jordan, General Counsel & Chief Administrative Officer of PNC, is the PNC observer. **Voting Agreement:** PNC has agreed to vote all of its voting shares in accordance with the recommendation of the Board on all matters to the extent consistent with the provisions of the PNC Stockholder Agreement, including the election of directors. **Approvals:** Under the PNC Stockholder Agreement, the following may not be done without prior approval of all of the independent directors, or at least two-thirds of the directors, then in office: • Appointment of a new Chief Executive Officer of BlackRock; • Any merger, issuance of shares or similar transaction in which beneficial ownership of a majority of the total voting power of BlackRock capital stock would be held by persons different from those currently holding such majority of the total voting power, or any sale of all or substantially all assets of BlackRock; • Any acquisition of any person or business that has a consolidated net income after taxes for its preceding fiscal year that equals or exceeds 20% of BlackRock's consolidated net income after taxes for its preceding fiscal year if such acquisition involves the current or potential issuance of BlackRock capital stock constituting more than 10% of the total voting power of BlackRock capital stock issued and outstanding immediately after completion of such acquisition; • Any acquisition of any person or business constituting a line of business that is materially different from the lines of business BlackRock and its controlled affiliates are engaged in at that time if such acquisition involves consideration in excess of 10% of the total assets of BlackRock on a consolidated basis; • Except for repurchases otherwise permitted under their respective stockholder agreements, any repurchase by BlackRock or any subsidiary of shares of BlackRock capital stock such that, after giving effect to such repurchase, BlackRock and its subsidiaries shall have repurchased more than 10% of the total voting power of BlackRock capital stock within the 12-month period ending on the date of such repurchase; • Any amendment to BlackRock's certificate of incorporation or Bylaws;

	• Any matter requiring shareholder approval pursuant to the rules of the NYSE; or • Any amendment, modification or waiver of any restriction or prohibition on any significant shareholder (other than PNC or its affiliates) provided for under its stockholder agreement. **Committees:** Consistent with applicable laws, rules and regulations, the Audit Committee, the Compensation Committee and the Governance Committee are to be composed solely of independent directors. The Risk Committee and Executive Committee are not subject to any similar laws, rules or regulations, and as such, are composed of a mix of independent and non-independent directors. The PNC Stockholder Agreement provides that the Executive Committee will consist of not less than five members, of which one must be designated by PNC.
Significant Stockholder Transactions	The PNC Stockholder Agreement prohibits BlackRock or its affiliates from entering into any transaction with PNC or its affiliates, unless such transaction was in effect as of September 29, 2006, is in the ordinary course of business of BlackRock or has been approved by a majority of the directors of BlackRock, excluding those appointed by the party wishing to enter into the transaction.
Termination of the PNC Stockholder Agreement	The PNC Stockholder Agreement will terminate on the first day on which PNC and its affiliates own less than 5% of the capital stock of BlackRock, unless PNC sends a notice indicating its intent to increase its beneficial ownership above such threshold within 10 business days after it has fallen below such threshold, and PNC buys sufficient capital stock of BlackRock within 20 business days after PNC has notice that it has fallen below 5% of BlackRock capital stock such that it continues to own greater than 5% of BlackRock capital stock.

Transactions with BlackRock Directors, Executive Officers and Other Related Parties

From time to time, certain directors, their family members and related charitable foundations may have investments in various BlackRock investment vehicles or accounts. For certain types of products and services offered by BlackRock's subsidiaries, BlackRock directors may receive discounts that are available to our employees generally. In addition, certain of the companies or affiliates of the companies that employ BlackRock's independent directors may have investments in various BlackRock investment vehicles or accounts or may receive advisory, technology and risk management services. These investments and services are entered into in the ordinary course of business on substantially the same terms as those prevailing at the time for comparable transactions with similarly situated customers and eligible employees.

How We Review, Approve or Ratify Transactions with Related Persons

On February 27, 2007, the Board adopted a written policy regarding related person transactions, which governs and establishes procedures for approving and ratifying related person transactions.

The policy defines a related person transaction as any transaction or arrangement in which the amount involved exceeds $120,000, where BlackRock or any of its subsidiaries is a participant and a related person has a direct or indirect material interest. For purposes of the policy, a "related person" is any person who is, or was during the last fiscal year, a BlackRock director or executive officer, or a director nominee, or any person who is a beneficial owner of more than 5% of any class of BlackRock's voting securities, or any immediate family member of any of the foregoing persons.

Related person transactions must be approved by a majority of the uninterested members of the Governance Committee or the Board. In the event it is not practicable for BlackRock to wait for approval until the next meeting of the Governance Committee or the Board, the Chairperson of the Governance Committee may approve the transaction. In reviewing any related person transaction, all of the relevant facts and circumstances must be considered, including:

- The related person's relationship to BlackRock and his or her interest in the transaction;
- The benefits to BlackRock;
- The impact on a director's independence in the event the related person is a director, an immediate family member of a director or an entity in which a director is a partner, shareholder or executive officer;
- The availability of comparable products or services that would avoid the need for a related person transaction; and
- The terms of the transaction and the terms available to unrelated third parties or to employees generally.

PNC Approval Process

The policy provides that transactions (other than transactions in the ordinary course of business) with PNC are governed by the special approval procedures detailed in the PNC Stockholder Agreement. Those approval procedures prohibit BlackRock or its affiliates from entering into any transaction (other than any transaction in the ordinary course of business) with PNC or its affiliates unless such transaction was in effect as of September 29, 2006 or has been approved by a majority of the directors of BlackRock, excluding those designated for appointment by the party wishing to enter into the transaction. Of the current directors, William S. Demchak was designated by PNC.

Prior to the adoption of this policy, related person transactions, including certain of the transactions described above under *"— PNC and its Subsidiaries"* and *"— PNC Stockholder Agreement"*, were reviewed with the Board at the time of entering into such transactions.

Management Development & Compensation Committee Interlocks and Insider Participation

The members of the Compensation Committee during 2018 were Mses. Einhorn, Johnson and Mills and Messrs. Ford, Gerber (until June 30, 2018), Grosfeld (until May 23, 2018), Maughan, Nixon, Seidenberg (Chairperson) and Slim. No member of the Compensation Committee was, during the fiscal year, an officer or employee, or formerly an officer or employee, involved in any related person transactions requiring disclosure in this Proxy Statement.

No executive officer of BlackRock served as a:

- Member of the Compensation Committee (or other Board committee performing equivalent functions or, in the absence of any such committee, the entire Board) of another entity, one of whose executive officers served on the Compensation Committee of BlackRock;
- Director of another entity, one of whose executive officers served on the Compensation Committee of BlackRock; or
- Member of the Compensation Committee (or other Board committee performing equivalent functions or, in the absence of any such committee, the entire Board) of another entity, one of whose executive officers served as a director of BlackRock.

Item 2:

Approval, in a Non-Binding Advisory Vote, of the Compensation for Named Executive Officers

We are asking our shareholders to approve the compensation of our NEOs as disclosed in this Proxy Statement.

While this vote is advisory, and not binding on the Company, it will provide information to us regarding investor sentiment about our executive compensation philosophy, policies and practices. We value the opinions of our shareholders and, to the extent there is any significant vote against the compensation of our NEOs as disclosed in this Proxy Statement, we will consider our shareholders' concerns and the Compensation Committee will evaluate whether any actions are necessary to address those concerns.

Before You Vote

In considering your vote, we encourage shareholders to review the information on BlackRock's compensation policies and decisions regarding our NEOs presented in the summary of our executive compensation practices on page 74, as well as our "*Compensation Discussion and Analysis*" beginning on page 53.

Our pay-for-performance compensation philosophy is structured to align management's interests with our shareholders' interests. A significant portion of total compensation for executives is closely linked to BlackRock's financial and operational performance as well as BlackRock's common stock price performance. BlackRock has adopted strong governance practices for its employment and compensation programs. Compensation programs are reviewed annually to ensure that they do not promote excessive risk taking.

Board Recommendation

The Board of Directors unanimously recommends you vote **"FOR"** the approval of the compensation of our NEOs.

Management Development & Compensation Committee Report

Management Development & Compensation Committee Report on Executive Compensation for Fiscal Year 2018

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with management and has recommended to the Board that the Compensation Discussion and Analysis be included in this Proxy Statement.

MEMBERS OF THE MANAGEMENT DEVELOPMENT & COMPENSATION COMMITTEE

Ivan G. Seidenberg, Chair
Jessica P. Einhorn
William E. Ford
Margaret L. Johnson
Cheryl D. Mills
Gordon M. Nixon
Marco Antonio Slim Domit

Executive Compensation

Compensation Discussion and Analysis

BlackRock's executive compensation program is designed to align management incentives with the long-term interests of our shareholders. Our total annual compensation structure embodies our commitment to align pay with performance. This Compensation Discussion and Analysis ("CD&A") provides shareholders with information about BlackRock's business and 2018 financial performance, our disciplined compensation approach and 2018 compensation decisions for our NEOs, listed below.

Laurence D. Fink	**Robert S. Kapito**	**Robert L. Goldstein**	**J. Richard Kushel**	**Gary S. Shedlin**
Chairman and Chief Executive Officer	President	Chief Operating Officer	Global Head of Multi-Asset Strategies and Global Fixed Income	Chief Financial Officer

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1.

Introduction

Shareholder Engagement on Executive Compensation

Our Board recognizes the importance of executive compensation decisions to our shareholders. The annual say-on-pay advisory vote provides our shareholders with the opportunity to:

- Evaluate our executive compensation philosophy, policies and practices;
- Evaluate the alignment of the compensation of BlackRock's NEOs with BlackRock's results; and
- Cast an advisory vote to approve the compensation of BlackRock's NEOs.

At the 2018 Annual Meeting of Shareholders, the say-on-pay advisory vote received majority support, with 89% of the votes cast in favor of our executive compensation policies, practices and determinations. Our Board encourages an open and constructive dialogue with shareholders on compensation to ensure alignment on policies and practices.

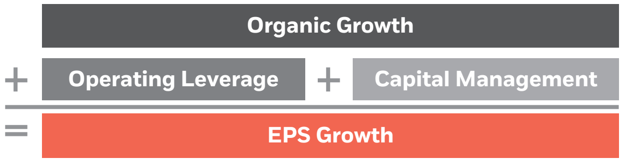
As in prior years, we engaged shareholders in advance of this year's annual meeting to incorporate their views as we continue to enhance our compensation programs.

BlackRock Shareholder Value Framework

BlackRock is committed to delivering long-term shareholder value. While our financial results can be affected by global capital market conditions that are beyond our control, management has the ability to influence key drivers of shareholder value.

As described below, BlackRock's framework for long-term value creation is based on our ability to:

- Generate differentiated organic growth;
- Leverage our scale for the benefit of clients and shareholders; and
- Return capital to shareholders on a consistent and predictable basis.



BlackRock's commitment to delivering shareholder value is aligned with the way we manage our business. By putting clients' interests first and delivering investment, portfolio construction and technology solutions to help meet their objectives, we are able to build our business by adding new assets under management ("AUM") and technology offerings, resulting in **Organic Revenue growth**.(1)

BlackRock's scale is one of the firm's key strategic advantages and is an important driver of **operating leverage that benefits clients and shareholders**. We take advantage of scale in numerous areas of our business including through our index-based investment strategies, brand spend, technology platform, including our *Aladdin* business, and our external vendor relationships.

Investing for the long-term is a key element of our strategy. Our diversified platform, in terms of styles, products, client types and geographies, enables us to generate **stable cash flow through market cycles**, positioning BlackRock to invest for future growth and consistently return capital to our shareholders. For more details, refer to *"Business Outlook"* on page 34 of our 2018 Form 10-K.

During 2018, **we returned $3.6 billion to our shareholders through a combination of share repurchases and dividends**.

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(1) Organic Revenue growth is a measure of the expected annual revenue impact of BlackRock's total net new business in a given year, including net new *Aladdin* revenue, excluding the effect of market appreciation/(depreciation) and foreign exchange. Organic Revenue is not directly correlated with the actual revenue earned in such given year.

BlackRock 2018 Performance(1),(2)

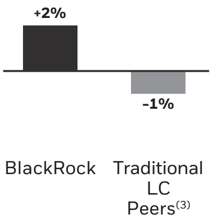
BlackRock's 2018 results reflect the investments we have made over time to leverage our scale and optimize our strategic positioning. We generated $124 billion of net inflows for the full year, representing 2% organic growth, delivered revenue growth, expanded our operating margin and returned $3.6 billion to shareholders, despite meaningful headwinds in the asset management industry. Long-term investment performance results across our alpha-seeking and index strategies as of December 31, 2018 remain strong and are detailed in Part I, Item 1 — *Business* of our 2018 Form 10-K.

Differentiated Organic Growth

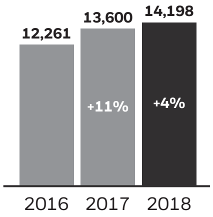
Organic asset growth of 2% and record technology services revenue in 2018 contributed to continued revenue growth

- Total net inflows of $124 billion, despite meaningful headwinds for the asset management industry. Long-term net inflows of $123 billion reflected 2% organic asset growth, compared to large cap asset management peers who saw on average -1% organic asset decay;
- Technology services revenue grew 19% year-over-year to a record $785 million, led by continued momentum in *Aladdin* and our digital wealth technology; and
- Total revenue increased 4% from 2017 to $14,198 million.

2018 Organic Asset Growth



Revenue ($M)

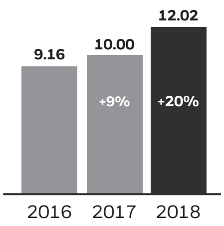


Consistent Capital Return

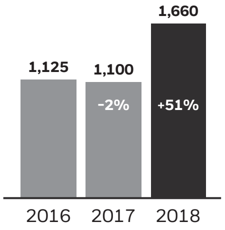
$3.6 billion returned to shareholders in 2018, up 30% from 2017

- Annual dividend of $12.02 per share reflected an increase of 20% from $10.00 in 2017; and
- $1.7 billion of outstanding shares were repurchased in 2018, driving a reduction in net share count of 3.5 million shares.

Cash Dividend Per Share ($)



Share Buyback ($M)

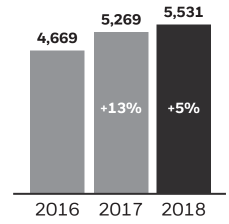


Operating Leverage

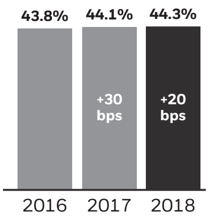
We continued to strategically invest in our business, targeting areas where we see the highest future growth potential, while simultaneously expanding our Operating Margin by 20 bps

- Operating income, as adjusted, of $5,531 million was up 5% versus 2017, reflecting our commitment to optimize organic growth in the most efficient way possible; and
- Compensation and benefits expense, as adjusted, as a percent of net revenue was 34.4%, representing a decrease of 110 bps from 2017, while G&A expense increased 13% year-over-year, reflecting higher planned levels of technology, data, and marketing spend as well as "non-core" items detailed on page 46 of our 2018 Form 10-K.

Operating Income (as adjusted) ($M)



Operating Margin (as adjusted)

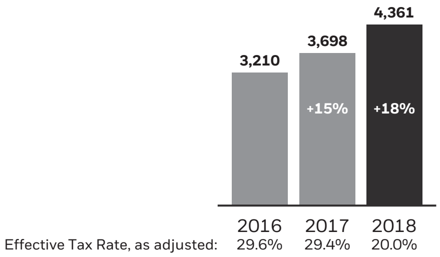


Earnings Growth

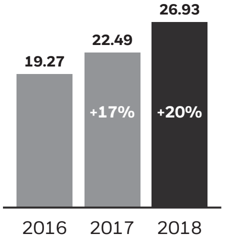
Diluted earnings per share, as adjusted, of $26.93 increased 20% versus 2017

- Execution of our shareholder value framework—differentiated organic growth, Operating Margin expansion and consistent repurchases—in 2018, and a lower effective tax rate, drove a 20% increase in earnings per share.

Net Income (as adjusted) ($M)



Earnings Per Share (as adjusted)



(1) Amounts in this section, where noted, are shown on an "as adjusted" basis. For a reconciliation with GAAP, please see Annex A.

(2) Results for 2016 and 2017 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, *Significant Accounting Policies*, in the consolidated financial statements in our 2018 Form 10-K.

(3) Traditional LC Peers refers to Alliance Bernstein, Affiliated Managers Group, Franklin Resources, Eaton Vance, Invesco, Legg Mason and T. Rowe Price.

Our Compensation Framework

Our compensation program for NEOs includes base salary, annual incentive awards (cash and deferred equity), and long-term performance-based incentive awards.

Pay and Performance Alignment for NEOs – Total Incentive Award Determination

In 2018, the Compensation Committee extended our total compensation framework, that in previous years applied only to our CEO and President, to cover all NEOs. Under this program, the Compensation Committee assesses each NEO's performance individually, based on the three categories below. Each category is assigned a weighting factor, with 50% of the award opportunity dependent on BlackRock's financial performance, 30% dependent on BlackRock's business strengths, and 20% dependent on BlackRock's organizational strengths.

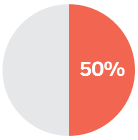
At the beginning of the year, the Compensation Committee and management engaged in a rigorous review and approval of objectives for the CEO, President, and other NEOs. The objectives deliver on BlackRock's shareholder value framework and commitment to serving client needs holistically and through market cycles. Throughout the year, the Compensation Committee received updates on the performance against these goals and objectives. At the end of the year, the Compensation Committee assesses each NEO's performance against the objectives, while considering internal performance measures and peer group comparisons.

The Compensation Committee's performance assessment is directly related to each NEO's total incentive outcome, which includes all variable pay (annual discretionary cash award, annual discretionary deferred equity award, and long-term equity awards). Based on the Compensation Committee's performance assessment, total incentive awards can range from 0% to 125% of the prior year's total incentive pay.

Once the total incentive award is determined, the Compensation Committee determines the appropriate mix between cash, deferred equity, and long-term equity. For all NEOs, at least half of their total incentive award is delivered through equity. Additionally, for Messrs. Fink and Kapito, at least half of their equity awards are delivered through the BPIP Awards, which are contingent on future financial or other business performance requirements in addition to share price performance.

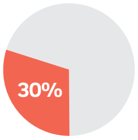
Each NEO, through their various roles and responsibilities, contributes to the firm-wide objectives summarized below. For the NEO performance assessments, please refer to the section *"2018 NEO Compensation and Performance Summaries"* on page 66.

Financial Performance



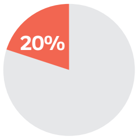
- Net New Business
- Net New Base Fees
- Organic Revenue Growth
- Operating Income, as adjusted(1)
- Operating Margin, as adjusted(1)
- Diluted EPS, as adjusted(1)
- Total Shareholder Return and P/E Multiple

Business Strength



- Deliver Superior Client Experience
- Drive Organization Discipline
- Lead in a Changing World

Organizational Strength



- Drive High Performance
- Build a More Diverse and Inclusive Culture
- Develop Great Managers and Leaders

Performance Assessment	Total Incentive Percentage Outcome(2),(3)
Far Exceeds	110%-125%
Meets/Exceeds	90%-110%
Partially Meets	60%-90%
Does Not Achieve	0%-60%

(1) For reconciliation with GAAP, please see Annex A.

(2) Total incentive includes the NEO's annual discretionary cash award, annual discretionary deferred equity award and long-term equity award.

(3) 2018 total incentive compensation is calculated using 2017 total incentive outcome multiplied by performance incentive percentage.

NEO Total Annual Compensation Summary

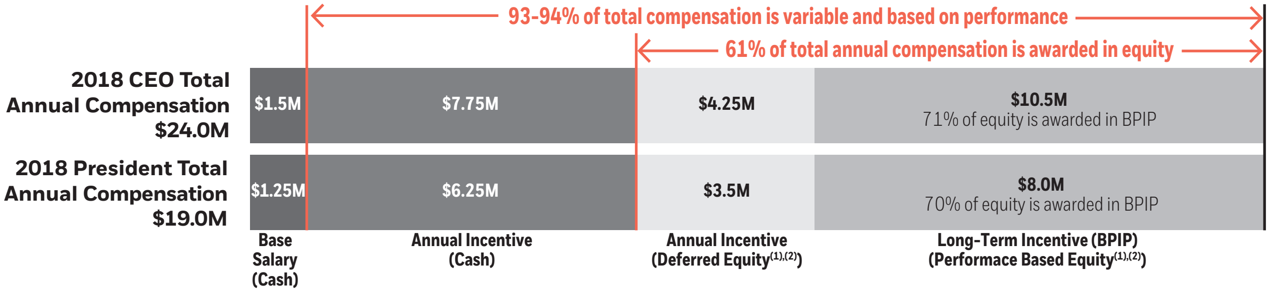
Following a review of full-year business and individual NEO performance, the Compensation Committee determined 2018 total annual compensation outcomes for each NEO, as outlined in the table below.

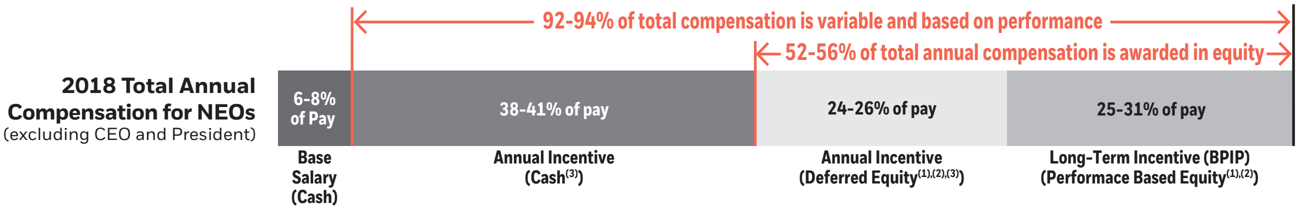
		2018 Total Incentive Award					
Name	**Base Salary**	**Cash**	**Deferred Equity**	**Long-Term Incentive Award (BPIP)**	**Total Annual Compensation (TAC)**	**% change in TAC vs. 2017**	**Performance Assessment**
Laurence D. Fink	$1,500,000	$7,750,000	$4,250,000	$10,500,000	$24,000,000	(14%)	Partially Meets
Robert S. Kapito	$1,250,000	$6,250,000	$3,500,000	$ 8,000,000	$19,000,000	(14%)	Partially Meets
Robert L. Goldstein	$ 500,000	$2,950,000	$2,000,000	$ 2,400,000	$ 7,850,000	(4%)	Meets/Exceeds
J. Richard Kushel	$ 500,000	$2,712,500	$1,762,500	$ 1,700,000	$ 6,675,000	(5%)	Meets/Exceeds
Gary S. Shedlin	$ 500,000	$2,475,000	$1,525,000	$ 1,950,000	$ 6,450,000	(5%)	Meets/Exceeds

The amounts listed above as "*2018 Annual Incentive Award: Deferred Equity*" and "*Long-Term Incentive Award (BPIP)*" were granted in January 2019 in the form of equity and are separate from the cash award amounts listed above as "*2018 Annual Incentive Award: Cash.*" In conformance with SEC requirements, the *2018 Summary Compensation Table* on page 77 reports equity in the year granted, but cash in the year earned.

Pay-for-Performance Compensation Structure for NEOs

Our total annual compensation structure embodies our commitment to align pay with performance. More than 90% of our regular annual executive compensation is performance based and "at risk." Compensation mix percentages shown below are based on 2018 year-end compensation decisions for individual NEOs by the Compensation Committee.





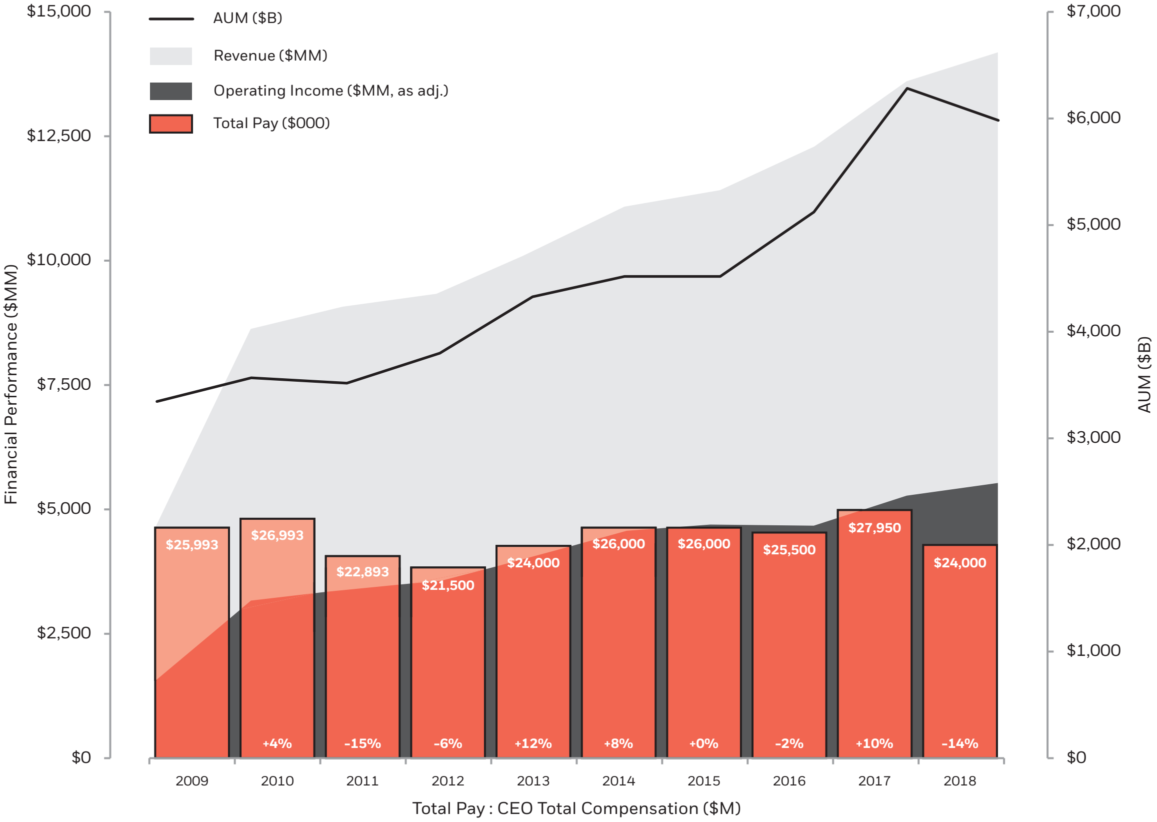
(1) All grants of BlackRock equity (including the portion of the annual incentive awards granted in RSUs and the portion granted under the BPIP Awards) are approved by the Compensation Committee under the Stock Plan, which has been previously approved by shareholders. The Stock Plan allows multiple types of awards to be granted.

(2) The value of the 2018 long-term incentive BPIP Awards and the value of the equity portion of the bonus for 2018 annual incentive awards was converted into RSUs by dividing the award value by $410.315, which represented the average of the high and low prices per share of common stock of BlackRock on January 17, 2019.

(3) For NEOs other than the CEO and President, higher annual incentive awards are subject to higher deferral percentages, in accordance with the Company-wide deferral policy, as detailed on page 59.

Pay-for-Performance - CEO

The graph below reflects BlackRock's financial growth as well as CEO total compensation decisions during the period from 2009 to 2018. We strive to keep pay decisions aligned with performance.



2.

Our Compensation Program

Compensation Program Objectives

Our compensation program is designed to:

- Appropriately allocate BlackRock's profitability between shareholders and employees;
- Determine overall compensation based on a combination of firm, business area and individual employee performance;
- Align the interests of our senior-level employees, including NEOs, with those of shareholders through the use of long-term performance-based equity awards and accumulation of meaningful share ownership positions;
- Discourage excessive risk-taking; and
- Attract, motivate and retain high-performing employees.

Compensation Elements

Element/How it is Paid	Purpose	Description
Base Salary **Cash**	To provide competitive fixed compensation based on knowledge, skills, experience, and responsibilities.	Base salary is a relatively small portion of total annual compensation for NEOs and other senior-level employees; this approach allows BlackRock to effectively manage its fixed expenses. Base salary levels are reviewed periodically in light of market practices and changes in responsibilities. In 2018, with the assistance of the Compensation Committee's independent compensation consultant, Semler Brossy, a competitive review of our CEO and President base salaries was completed. It was determined that the base salary amounts, as part of total compensation, were low compared to peers and large financial services firms. As a result, Mr. Fink's base salary was increased to $1,500,000 and Mr. Kapito's base salary was increased to $1,250,000. These adjusted salaries make up less than 10% of their 2018 total compensation.
Annual Incentive Award **Cash and Deferred Equity** (Time-vested RSUs) **Terms:** The deferred equity portion of the annual incentive award is converted into a fixed number of RSUs using a conversion price.(1) The deferred equity portion of the annual incentive award vests in equal installments over the three years following grant. Dividend equivalents accumulate during the vesting period and are paid following delivery of shares. Expense is recognized over the vesting period.	To reward achievement of goals and objectives. Aligns with Company-wide performance and business unit / function performance. Deferred equity component aligns compensation with multi-year shareholder outcomes.	Annual incentive award determinations do not rely on a specific formula. A variety of factors are considered to determine the size of the CEO, President and other NEOs' annual incentive awards. The Compensation Committee considers absolute and/or relative performance outcomes against Company, business and individual NEO goals and objectives, as well as the context in which they were achieved. These goals and objectives are set in the first quarter of each year and performance against them is assessed at year-end. See "*Compensation Determination Process*" beginning on page 63. For Messrs. Fink and Kapito, the Compensation Committee determines the appropriate pay mix between cash and equity for their annual incentive awards. For the other NEOs, annual incentive awards are subject to deferral percentages, in accordance with the Company-wide deferral policy. Deferral amounts follow a step-function approach, starting at 15% of the total award and increasing to 70% of the total award for the portion of the bonus in excess of $10 million.

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(1) For 2018 deferred equity, the award value was converted into a number of RSUs by dividing the award value by $410.315, which represented the average of the high and low prices per share of common stock of BlackRock on January 17, 2019.

Element/How it is Paid	Purpose	Description
Long-Term Incentive Award **BlackRock Performance Incentive Plan (BPIP)** (Performance-Based RSUs) **Terms:** The target BPIP Award value is converted into a base number of RSUs using a conversion price.(1) The final number of RSUs delivered at settlement is variable based on certain financial metrics achieved over a three-year performance period. Dividend equivalents accumulate during the vesting period and are paid in cash after the performance period with respect to the number of shares that are delivered in settlement of the award. Expense, based on the expected number of awards to be delivered, is recognized over the vesting period.	To recognize the scope of an individual employee's role, business expertise and leadership skills. To recognize prior year performance and anticipate continued performance and long-term focus over a multi-year period. Aligns the interests of senior-level employees with those of shareholders by aligning compensation with long-term drivers of shareholder value.	While no specific formulas or weights are used to determine the size of long-term incentive awards, the Compensation Committee considers the role and influence of the NEO on setting long-term strategy and in executing long-term objectives in determining individual award amounts. See "*Compensation Determination Process*" beginning on page 63. The performance-based RSUs are settled in a number of shares of common stock that is determined based on the level of attainment of pre-established Organic Revenue and operating margin, as adjusted, targets over a three-year performance period. The maximum number of shares that may be earned under the program is equal to 165% of the base number of RSUs granted. No shares will be earned in the event of negative Organic Revenue and operating margin, as adjusted, below a threshold level of performance over a three-year performance period.

(1) For 2018 BPIP Awards, the award value was converted into a number of RSUs by dividing the award value by $410.315, which represented the average of the high and low prices per share of BlackRock common stock on January 17, 2019.

BlackRock Performance Incentive Plan (BPIP)

BlackRock believes in aligning the interests of our senior-level employees, including our NEOs, with those of our shareholders and in closely aligning compensation with long-term performance.

In January 2015, the Compensation Committee approved BPIP Awards, following a comprehensive review of future performance goals and expectations, potential pay outcomes for employees, shareholder input, and market trends. BPIP was designed to further align compensation with management's long-term creation of shareholder value.

Each NEO was granted a BPIP Award in January 2016, 2017 and 2018 as part of the individual's incentive compensation for their 2015, 2016 and 2017 performance, respectively. Similarly, a portion of each NEO's incentive compensation for 2018 was in the form of a BPIP Award granted in January 2019. In addition to recognizing an NEO's performance in the prior year, the BPIP Awards are intended to incentivize continued performance and long-term focus over a multi-year period. The January 2019 BPIP grants (for 2018 performance) are described in further detail below. BlackRock is focused on achieving the right balance of investing to drive future growth in Organic Revenue, and the impact those investments have on our expense base and operating margin, as adjusted.

BPIP Awards are granted in the form of RSUs that vest after three years. The number of shares vesting under BPIP is based on the attainment of specified levels of Organic Revenue and operating margin, as adjusted, over a three-year performance period.

BPIP Financial Metrics

BPIP is tied to two key drivers of shareholder value – Organic Revenue and Operating Margin, as adjusted, over a three-year performance period – that are directly influenced by BlackRock's senior-level employees across market cycles.

- **Organic Revenue growth** is a measure of the expected annual revenue impact of BlackRock's total net new business in a given year, including net new *Aladdin* revenue, excluding the effect of market appreciation/(depreciation) and foreign exchange. Organic Revenue is not directly correlated with the actual revenue earned in such given year.
- **Operating Margin, as adjusted**, is a measure of BlackRock's ability to efficiently manage our expense base in the context of the revenue we generate.

Similar to previous BPIP Awards, the January 2019 BPIP Awards have a three-year performance period that commenced on January 1, 2019 and end on December 31, 2021. Each BPIP Award consists of a "base" number of RSUs granted to the recipient. Distributions will be in the form of common stock.

BPIP Award Determination

For the January 2019 BPIP Awards, the number of shares that a recipient ultimately receives upon settlement will be equal to the base number of RSUs granted, multiplied by a percentage determined in accordance with the January 2019 BPIP Award Determination Matrix below. The percentage will be determined by BlackRock's annual average Organic Revenue and Operating Margin, as adjusted, during the performance period; performance between two adjacent points on the matrix will be extrapolated.

A summary version of the matrix for the January 2019 BPIP Awards is set forth below.

2018 BPIP Award Determination Matrix

	3-yr Average Organic Revenue ($M)					
3-yr Average Op Margin, as Adjusted	**<=0**	**250**	**450**	**650**	**>=850**	
>=49.0%	100%	118%	133%	149%	165%	
47%	83%	107%	122%	138%	154%	
45.0%	67%	94%	111%	127%	143%	
43.0%	50%	78%	100%	116%	133%	**Target Level**
41.0%	33%	61%	83%	105%	122%	
39.0%	17%	44%	67%	92%	111%	
<=37.0%	0%	28%	50%	75%	100%	

If target level performance is achieved (i.e., during the three-year performance period, BlackRock has average annual Organic Revenue equal to $450 million and average annual Operating Margin, as adjusted, equal to 43.0%), then a participant will receive a number of shares equal to 100% of the base number of units granted to the participant.

If during the three-year performance period, BlackRock has zero or negative average Organic Revenue and average Operating Margin, as adjusted, of 37.0% or less, then the participant will not be entitled to a distribution of any shares under his or her 2019 BPIP Award.

If during the three-year performance period, BlackRock were to deliver average Organic Revenue of $550 million and average Operating Margin, as adjusted, of 43.0%, then a participant receiving a BPIP Award valued at $2 million in January 2019 would receive a distribution of 5,264 shares, or 108% of the base number of RSUs granted. Outlined below is an example of how this above-target level achievement would be calculated.

January 2019 BPIP Grant: Example

BPIP Award Value *For Performance Year 2018 and in anticipation of continued performance and long-term focus over a multi-year period*	**$2,000,000**
Conversion Price *The average of the high and low prices per share of common stock of BlackRock on January 17, 2019 (the grant date)*	**$410.315**
Base number of units granted *Determined by dividing the dollar value of the recipient's award by the conversion price*	**4,874** ($2,000,000 / $410.315)
Hypothetical Performance Results *Jan 1, 2019 to Dec 31, 2021 (3-year) average Organic Revenue* *Jan 1, 2019 to Dec 31, 2021 (3-year) average Operating Margin, as adjusted*	**$550M** (i.e., above target) **43.0%** (i.e., at target)
Resulting Award Payout (%) **Based on Award Determination Matrix**	**108%**
Resulting Award Payout (Number of units) *Base number of units granted x Award Payout (%)*	**5,264** (4,874 x 108%)

If maximum level performance is achieved, then a participant will receive the maximum number of shares (meaning that during the performance period, BlackRock delivered average Organic Revenue equal to or greater than $850 million and average Operating Margin, as adjusted, equal to or greater than 49.0%). **The maximum number of shares a participant may receive under BPIP is equal to 165% of the base number of units.**

Performance-Based Stock Options

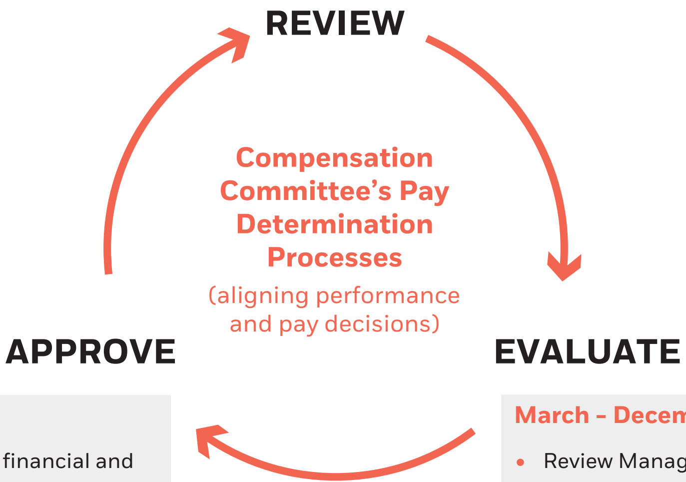
BlackRock has a robust leadership plan that is reviewed regularly by the Compensation Committee and the full Board, including ongoing succession planning and development initiatives for the senior leadership team. In the fourth quarter of 2017, BlackRock implemented a key strategic part of our long-term management succession plans by granting long-term incentive awards in the form of performance-based stock options to a select group of senior leaders, excluding the CEO and President, who we believe will play critical roles in BlackRock's future. We did not grant performance-based stock options to any of our NEOs in 2018 and we do not consider these awards to be part of our regular annual compensation determinations.

3.

Compensation Determination Process

Compensation Timeline and Process

The Compensation Committee structures the timing and process for determining individual NEO compensation so that compensation is appropriately aligned with the financial performance of BlackRock. This also ensures recognition of individual NEO leadership and operating contributions toward achieving our overall strategic priorities.



January – March

- Review annual budget and operating goals.
- **Engage with management in a rigorous review and approval of annual objectives for the CEO, President and other NEOs, which include financial performance objectives, business strengths objectives and organizational strength objectives.**
- Determine BPIP award determination matrix for new three-year performance cycle.

REVIEW

Compensation Committee's Pay Determination Processes

(aligning performance and pay decisions)

EVALUATE

March – December

- Review Management's reporting of year-to-date financial performance relative to peers, goals and market context.
- Review Management's reporting of progress toward business and organizational objectives.
- Review market compensation trends and other intelligence, including Compensation Consultant reports.
- **Assess CEO, President and other NEOs' performance based on financial performance (50%), business strengths (30%) and organizational strengths (20%).**

APPROVE

January of following year

- Review Company year-end financial and operating performance, with reference to goals, peers, and market context.
- **Determine and approve total incentive award amounts (0-125% of total incentive from the previous year) for the CEO, President and other NEOs based on performance assessment.**
- Ensure compensation outcomes reflect a commitment to aligning pay with performance, and to awarding pay packages that are performance-based and "at risk".

Competitive Pay Positioning – Market Data

Management engages McLagan Partners ("McLagan"), a compensation consultant that specializes in conducting proprietary compensation surveys and interpreting compensation trends. Management used McLagan surveys to evaluate BlackRock's competitive position overall, as well as by functional business and by title and make comparisons on an individual NEO basis, where survey data was available and appropriate.

Survey results were analyzed to account for differences in the scale and scope between BlackRock and other survey participants.

Survey participants include both stand-alone, publicly traded asset management companies as well as a broader set of privately held or subsidiary asset management organizations for which publicly available compensation data is not available. Confidentiality obligations to McLagan and to its survey participants prevent BlackRock from disclosing the companies included in the surveys.

The Compensation Committee reviews market data to understand compensation practices and trends in the broader marketplace. Individual NEO compensation decisions are primarily based on assessments of individual NEO and Company performance.

Role of the Compensation Consultant

In 2018, the Compensation Committee continued to engage Semler Brossy for objective advice on compensation practices and the competitive landscape for the compensation of BlackRock's executive officers.

Semler Brossy reports directly to the Compensation Committee and interacts with BlackRock management when necessary and appropriate. Semler Brossy provides services only to the Compensation Committee as an independent consultant and does not have any other consulting engagements with, or provide any other services to, BlackRock. The independence of Semler Brossy has been assessed according to factors stipulated by the SEC and the Compensation Committee concluded that no conflict of interest exists that would prevent Semler Brossy from independently advising the Compensation Committee.

A representative from Semler Brossy met with the Compensation Committee in formal Committee meetings and at key points throughout the year to provide objective advice to the Compensation Committee on existing and emerging compensation practices among financial services companies, as well as companies in the asset management sector. The representative from Semler Brossy also meets with the Compensation Committee in executive sessions throughout the year to discuss compensation practices and industry pay trends.

Peer Group Composition

The Compensation Committee, with assistance from Semler Brossy, reviews the composition of our peer group to ensure the group continues to serve as an appropriate market reference for executive compensation purposes. In considering the composition of our peer group, the Compensation Committee considers companies that are in our industry or have similar lines of business, are competitors for our executive talent, are large, complex organizations with global reach and/or are similarly sized from a revenue and market cap perspective. Our peer group reflects our current scale, business and strategic priorities.

2018 PEER GROUP

- Affiliated Managers Group
- Ameriprise Financial
- Bank of New York Mellon
- Charles Schwab
- Franklin Resources
- Goldman Sachs
- Invesco
- Morgan Stanley
- Northern Trust
- State Street
- T. Rowe Price Group

As previously noted, the McLagan analyses, which include both publicly traded companies as well as private companies in a variety of industries and sectors, offer additional comparisons through which BlackRock can understand the competitiveness of its executive compensation programs overall, by functional business and by title/individual. Semler Brossy independently reviewed the results and the companies included in the McLagan analyses. BlackRock does not engage in formal benchmarking in setting executive compensation levels.

Risk Assessment of Compensation Plans

Our employee compensation program is structured to discourage excessive and unnecessary risk taking. The Board recognizes that potential risks to BlackRock may be inherent in compensation programs. The Board reviews BlackRock's executive compensation program annually to ensure that it is structured so as not to unintentionally promote excessive risk taking. As a result of this annual review, we believe that the compensation plans are appropriately structured and do not pose risks that could have a materially adverse effect on BlackRock.

The Compensation Committee considers the following when evaluating whether employee compensation plans and policies encourage BlackRock employees to take unreasonable risks:

- Performance goals that are reasonable in light of past performance and market conditions;
- Longer-term expectations for earnings and growth;
- The base salary component of compensation does not encourage risk taking because it is a fixed amount;
- A greater portion of annual compensation is deferred at higher annual incentive award levels; and
- Deferred compensation is delivered in the form of equity, vests over time, and the value is therefore dependent on the future performance of BlackRock.

Essential to the success of BlackRock's business model is the ability to both understand and manage risk. These fundamentals are inherent in the design of our compensation programs, which reward employees for strong performance in their management of client assets and in managing risk within the risk profiles appropriate to each BlackRock client. As such, employees are not rewarded for engaging in high-risk transactions outside of established parameters.

Our compensation practices reinforce the fundamentals of BlackRock's business model in that they:

- Do not provide undue incentives for short-term planning or action toward short-term financial rewards;
- Do not reward unreasonable risk-taking; and
- Provide a reasonable balance between the risks that are inherent in the business of investment management, risk management, and advisory services.

The Company's operating income, as adjusted, on which compensation is primarily based, does not include net investment income or gains/losses on BlackRock's seed or co-investments. While BlackRock may make seed or co-investments in its various funds alongside clients, it does not engage in proprietary trading.

4.

2018 NEO Compensation and Performance Summaries

Linking Pay and Performance

Here we provide the 2018 NEO performance assessments and total incentive award decisions

As outlined in "*Our Compensation Framework*" on page 56, the Compensation Committee extended the total compensation framework, that in previous years applied to only our CEO and President, to include all NEOs for 2018. Under this revised framework, each NEO is assessed against financial performance objectives (50%), business strength objectives (30%) and organizational strength objectives (20%). The performance assessments have a direct link to the total incentive outcome (annual discretionary cash award, annual discretionary deferred equity award, and long-term equity awards) for each NEO.

Laurence D. Fink

Chairman and CEO

2018 Compensation (Thousands)	
Base Salary	**$ 1,500**
Annual Incentive Award – Cash	**$ 7,750**
Annual Incentive Award – Equity	**$ 4,250**
Long-Term Incentive Award	**$10,500**
Total Annual Compensation	**$24,000**

Responsibilities:

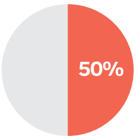
Mr. Fink develops and guides BlackRock's long-term strategic direction to deliver value for clients and shareholders.

He is responsible for senior leadership development and succession planning, defining and reinforcing BlackRock's mission and culture, and engaging with key strategic clients, industry leaders, regulators and policy makers.

Overall Assessment: Partially Meets

In 2018, BlackRock expanded operating margin, executed on key strategic initiatives, made significant progress towards inclusion and diversity objectives, and outperformed our Traditional LC Peers,(2) in light of a difficult market environment. Nonetheless, due to BlackRock's financial performance relative to expectations and underperformance in alpha-generating products, the Compensation Committee's assessment resulted in a Partially Meets determination. Based on the performance assessment, the Compensation Committee set Mr. Fink's 2018 total compensation at $24 million, down 14% from 2017.

Compensation Scorecard

Performance Category	Performance Highlights	Assessment
Financial Performance  50%	• Under Mr. Fink's leadership, BlackRock generated organic growth, increased year-over-year revenue, expanded operating margin and grew EPS in 2018, despite meaningful headwinds in the asset management industry. • Deep client relationships and a solutions-based approach drove long-term organic asset growth of 2% in 2018, compared to large cap asset management peers, which saw organic decay on average. • Under Mr. Fink's leadership, BlackRock was able to generate consistent growth and financial results despite market volatility, once again resulting in a 50% P/E multiple premium versus large cap asset management peers at 2018 year end.	**Partially Meets**

Measures	BlackRock Performance 2017	BlackRock Performance 2018
Net New Base Fee Growth	7%	2%
Operating Income, as adjusted(1) ($m)	$5,269	$5,531
Year-over-year change	+13%	+5%
Operating Margin, as adjusted(1)	44.1%	44.3%
Year-over-year change	+30bps	+20bps
Diluted Earnings Per Share, as adjusted(1)	$22.49	$26.93
Year-over-year change	+17%	+20%
Share Price Data	**BlackRock**	**Traditional LC Peers(2) Average**
NTM P/E Multiple(3)	14.2x	9.3x
Annual appreciation/depreciation	-24%	-31%

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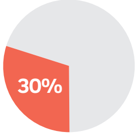
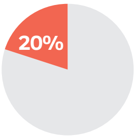
(1) Amounts are shown on an "as adjusted" basis. For a reconciliation with GAAP, please see Annex A.

(2) Traditional LC Peers refers to Alliance Bernstein, Affiliated Managers Group, Franklin Resources, Eaton Vance, Invesco, Legg Mason and T. Rowe Price.

(3) Next Twelve Months ("NTM") P/E multiple refers to the Company's share price as of December 31, 2018 divided by the consensus estimate of the Company's expected earnings over the next 12 months. Sourced from Factset.

Performance Category	Performance Highlights	Assessment
Business Strength 	**Deliver Superior Client Experience** • Long-term performance remains strong over the 3-yr and 5-yr period, although there were 1-year performance pressures across the alpha-seeking investments platform. • In a difficult market environment, Mr. Fink led BlackRock's increased focus on providing holistic, client-centric solutions through innovative portfolio construction across its diverse platform. • Mr. Fink met with over 300 strategic clients, sharing insights from his engagements with institutions, governments and central banks around the world. He oversaw the progress against strategic initiatives, through both organic and inorganic investments, to position BlackRock for long-term growth. He continues to serve BlackRock and its clients as a thought leader in the broader financial services industry.	**Partially Meets**
	Drive Organization Discipline • Mr. Fink oversaw progress of our strategic initiatives, through both organic and inorganic investment, that support BlackRock's long-term growth drivers and innovative investment solutions, including the acquisitions of Citibanamex Asset Management and Tennenbaum Capital Partners. • With Mr. Fink's engagement, BlackRock Global iShares generated 10% organic growth for 2018 and maintained the #1 market share of ETF AUM and net flows globally.	
	Lead in a Changing World • In partnership with Mr. Goldstein, Mr. Fink advanced BlackRock's tech2020 strategy and delivered a 19% increase in technology services revenue year-over-year. • He oversaw the expansion of BlackRock's technology portfolio with minority investments in Acorns and Envestnet and continued investment in Aladdin Wealth and digital distribution tools like Advisor Center, iRetire and Cachematrix. • Mr. Fink continued to exemplify strong execution of long-term strategy and sustainability standards, overseeing the expansion of the BlackRock Investment Stewardship team to adapt to a variety of political, economic, and regulatory changes shaping the financial services industry on behalf of our clients.	
Organizational Strength 	**Drive High Performance** • As Chairman and CEO, Mr. Fink drove performance excellence through the Global Executive Committee, emphasizing the importance of differentiation and meritocracy. • Mr. Fink led the ongoing build out of the BlackRock Academies, a suite of tailored learning platforms designed to build mastery of key subject areas among employees, to improve talent development, and better serve clients.	**Meets/Exceeds**
	Build a More Diverse and Inclusive Culture • Mr. Fink fostered a collaborative and inclusive culture through employee engagement initiatives such as the firm's Knowing BlackRock program and diverse range of affinity networks. • He drove expanded representation of female and ethnically diverse employees across BlackRock in 2018. • Under Mr. Fink's leadership, as measured by BlackRock's 2018 Employee Opinion Survey, employee engagement remains strong, with strong positive scores in engagement (83%), enablement (71%), and satisfaction (79%).	
	Develop Great Managers and Leaders • Mr. Fink continued to drive the Company's succession planning, refreshing succession plans for more than 100 key roles through a robust, peer-reviewed process and further deepened focus on executive development.	

Robert S. Kapito

President

2018 Compensation (Thousands)	
Base Salary	$ 1,250
Annual Incentive Award – Cash	$ 6,250
Annual Incentive Award – Equity	$ 3,500
Long-Term Incentive Award	$ 8,000
Total Annual Compensation	$19,000

Responsibilities:

Mr. Kapito is responsible for executing BlackRock's strategic plans and overseeing the global business operations of the Company.

He ensures connectivity and coordination of operating processes across all groups in the organization, in part through his leadership, along with Mr. Goldstein, of the Global Operating Committee.

He is also responsible for spearheading initiatives to drive investment performance and the results within each of BlackRock's businesses.

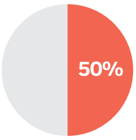
Overall Assessment: Partially Meets

Mr. Kapito's assessment reflects the same positive overall firm performance as Mr. Fink's with the additional emphasis on operational processes across the firm, as well as investment performance and diversity objectives. Nonetheless, due to BlackRock's financial performance relative to expectations and underperformance in alpha-generating products, the Compensation Committee's assessment resulted in a Partially Meets determination. Based on the performance assessment, the Compensation Committee set Mr. Kapito's 2018 total compensation at $19 million, down 14% from 2017.

Compensation Scorecard

Performance Category	Performance Highlights	Assessment
Financial Performance	(see below)	**Partially Meets**
Business Strength	(see below)	**Partially Meets**

Financial Performance

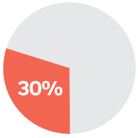


- Mr. Kapito's operational responsibility for BlackRock's distribution channels and client-facing businesses contributed to BlackRock's positive organic growth. His day-to-day oversight of the firm was instrumental in expanding BlackRock's Operating Margin.
- Mr. Kapito's operational responsibility for BlackRock's distribution channels and client-facing businesses contributed to BlackRock's positive organic asset growth of 2%.
- His day-to-day oversight of the firm was instrumental in expanding BlackRock's operating margin.

Measures	2017	2018
Operating Income, as adjusted(1) ($m)	$5,269	$5,531
Year-over-year change	+13%	+5%
Operating Margin, as adjusted(1)	44.1%	44.3%
Year-over-year change	+30bps	+20bps
Diluted Earnings Per Share, as adjusted(1)	$22.49	$26.93
Year-over-year change	+17%	+20%

Assessment: **Partially Meets**

Business Strength



Deliver Superior Client Experience

- Mr. Kapito continued to oversee initiatives to drive investment performance. Despite more recent underperformance in the alpha-generating platform, delivered strong long-term performance over the 3-yr and 5-yr period.
- Mr. Kapito's deep relationships with intermediary partners resulted in several strategic alliances with distribution partners to expand investment offerings to clients.

Actively managed AUM above benchmark or peer median	1-Yr	3-Yr	5-Yr
Taxable Fixed Income	48%	69%	82%
Tax-Exempt Fixed Income	47%	71%	76%
Fundamental Equity	50%	67%	78%
Systematic Equity	32%	83%	93%

Drive Organization Discipline

- Mr. Kapito, in partnership with Mr. Kushel, created the Client Portfolio Solutions group to deliver holistic investment outcomes for clients.
- Mr. Kapito played a pivotal role in driving BlackRock's investment growth strategy, including the acquisition of Tennenbaum Capital Partners to enhance BlackRock's private credit capabilities.

Lead in a Changing World

- Mr. Kapito emphasized the importance of leveraging data and analytics to develop differentiated solutions across BlackRock's alpha-seeking and index strategies. He led the focus on developing differentiated sustainable investment solutions, with BlackRock now managing approximately $500bn of AUM and positioned as the largest provider of sustainable ETFs.

Assessment: **Partially Meets**

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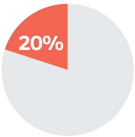
(1) Amounts are shown on an "as adjusted" basis. For a reconciliation with GAAP, please see Annex A.

Performance Category	Performance Highlights	Assessment
Organizational Strength  	**Drive High Performance** • Mr. Kapito exemplified BlackRock's high performance culture by emphasizing the importance of differentiation through performance assessments and appropriately rewarding individuals for their impact.	**Meets/Exceeds**
	Build a More Diverse and Inclusive Culture • Mr. Kapito helped drive the increased representation of female and ethnically diverse employees across BlackRock, launching a firm-wide initiative to broaden the talent pool of diverse investors, build inclusive teams, and grow world class investment professionals.	
	Develop Great Managers and Leaders • Mr. Kapito drove a strong and diverse pipeline of BlackRock leaders, launching new cohorts of Enterprise Leadership Acceleration at BlackRock and the Women's Leadership Forum, internal development programs designed to build a strong and diverse pipeline of BlackRock leaders.	

Robert L. Goldstein

COO

2018 Compensation
(Thousands)

Base Salary	**$ 500**
Annual Incentive Award – Cash	**$2,950**
Annual Incentive Award – Equity	**$2,000**
Long-Term Incentive Award	**$2,400**
Total Annual Compensation	**$7,850**

Responsibilities:

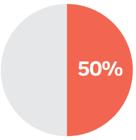
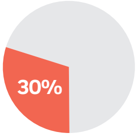
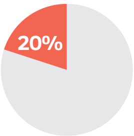
As COO, Mr. Goldstein is responsible for ensuring that the Company's investment, client, risk analytics, technology and operating functions have the necessary connectivity, coordination and scalable processes in place to succeed.

Mr. Goldstein also leads the *BlackRock Solutions* business, delivering investment and risk analytics technology to clients.

Along with Mr. Kapito, Mr. Goldstein co-chairs the BlackRock Global Operating Committee. With Mr. Shedlin, he also co-chairs the Planning, Budgeting and Alignment Committee, which is responsible for developing the Company's budget, evaluating new initiatives aimed at driving growth and achieving strategic objectives of the firm.

Overall Assessment: Meets/Exceeds

Mr. Goldstein played a critical role in driving BlackRock's financial results in 2018. As COO, he contributed to the expansion of BlackRock's operating margin by 20 basis points, and as Head of *BlackRock Solutions*, drove record technology services revenue. The Compensation Committee's assessment resulted in a Meets/Exceeds determination, and based on the performance assessment, the Compensation Committee set Mr. Goldstein's total compensation at $7.85 million, down 4% from 2017.

Performance Category	Performance Highlights	Assessment
Financial Performance 	• In his role as COO, Mr. Goldstein played a pivotal role in expanding BlackRock's operating margin by 20 basis points, while continuing to invest in strategic growth areas. • He continued to lead and streamline the business review and budgeting processes, while reducing organizational tax and driving connectivity. • As the Head of *BlackRock Solutions*, Mr. Goldstein's leadership resulted in full-year technology services revenue of $785 million, representing a 19% increase year-over-year. • He continued to invest in expanding technology solutions, positioning BlackRock as the most comprehensive partner to wealth managers. • Mr. Goldstein established multiple strategic partnerships to explore innovative technology and retirement solutions.	**Meets/Exceeds**
Business Strength 	• As COO, Mr. Goldstein played a pivotal role in several firm-wide strategic initiatives, driving efficiencies through improvements to our Data platform, Alternatives platform, and internalizing research. • As the Head of *BlackRock Solutions*, Mr. Goldstein drove material progress through tech2020 projects, including the establishment of Data Science Core and the Lab for Artificial Intelligence. • He continued to make significant investments in digital wealth and distribution technologies, including the launch of *Aladdin:Next* focused on re-architecting *Aladdin's* foundation and core platform. • In partnership with Mr. Fink, Mr. Goldstein led the expansion of our technology portfolio with minority investments in Acorns, the country's fastest growing micro investing tool, and Envestnet, a leading provider of technology-enabled, web-based investment solutions and services to financial advisors.	**Meets/Exceeds**
Organizational Strength 	• Mr. Goldstein successfully drove inclusion and diversity in the *BlackRock Solutions* business, exceeding the female representation target for 2018 through new hires and promotions. • He upgraded the firm's technology talent through several key senior hires to oversee the long-term focus on Digital Wealth, Data Science and Artificial Intelligence. • Mr. Goldstein continued to elevate the technology platform through organizational changes and development of key talent, re-organizing *Aladdin* to focus on Platform and Product Engineering.	**Meets/Exceeds**

J. Richard Kushel

Head of Multi-Asset Strategies and Global Fixed Income

2018 Compensation (Thousands)

Base Salary	**$ 500**
Annual Incentive Award – Cash	**$2,713**
Annual Incentive Award – Equity	**$1,763**
Long-Term Incentive Award	**$1,700**
Total Annual Compensation	**$6,675**

Responsibilities:

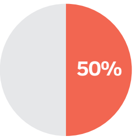
As Global Head of Multi-Asset Strategies ("MAS") and Global Fixed Income ("GFI"), Mr. Kushel is responsible for the firm's multi-asset and global fixed income products, asset allocation, and client portfolio solutions capabilities.

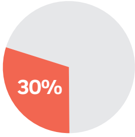
As Global Head of MAS and GFI, Mr. Kushel oversees management of a variety of balanced funds and bespoke mandates for a diversified client base that leverages broad investment expertise in global equities, bonds, currencies and commodities and BlackRock's extensive risk management capabilities.

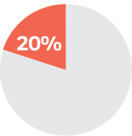
He was previously Chief Product Officer and Global Head of Strategic Product Management from 2012 to 2016.

Overall Assessment: Meets/Exceeds

Mr. Kushel played a critical role in driving BlackRock's financial results in 2018. Mr. Kushel assumed leadership of the GFI business, in addition to his responsibilities as Global Head of MAS. He improved net new business in each of the businesses he led, and in partnership with Mr. Kapito, created the BlackRock Client Portfolio Solutions group. The Compensation Committee's assessment resulted in a Meets/Exceeds determination, and based on the performance assessment, the Compensation Committee set Mr. Kushel's total compensation at $6.68 million, down 5% from 2017.

Performance Category	Performance Highlights	Assessment
Financial Performance 	• Mr. Kushel successfully led the MAS and GFI businesses, improving net new business versus large cap asset management peers, particularly in Municipal Bonds, Unconstrained Funds, and Factor Investing. • He continued to drive strong growth for GFI and MAS, with each business generating $79bn and $17bn in net new business, respectively (representing 4% organic growth in each). • He oversaw strong long-term performance in fixed income, with 82% and 76% of taxable and tax-exempt assets, respectively, above benchmark or peer median for the 5-year period.	**Meets/Exceeds**

Business Strength

	• Mr. Kushel continued to develop a vision for the MAS and GFI businesses, focusing on institutional opportunities and expanded product offerings.
	  • Mr. Kushel grew the Multi-Asset income franchise, particularly in the Global Tactical Asset Allocation strategies business, where BlackRock tactically allocates across global markets and asset classes while deploying risk to thematic insights.
	  • Upon assuming leadership of the GFI team, Mr. Kushel simplified the organizational structure along four core business lines - Fundamental Fixed Income, Systematic Fixed Income, Municipal Fixed Income, and CorePM / Index.
	• In partnership with Mr. Kapito and Mark McCombe, Head of Americas, Mr. Kushel led the creation of BlackRock's Client Portfolio Solutions group to bring together BlackRock's full platform and expertise to construct holistic portfolios for clients.
	• Mr. Kushel oversaw progress in Factor-Based investments, a strategic focus area for BlackRock, and deepened the integration across the investments platform.
		Meets/Exceeds

Organizational Strength 	• Mr. Kushel successfully enhanced the organizational and leadership structure, while continuing to focus on making progress in inclusion and diversity across the groups. He continues to play a leadership role in advancing BlackRock's culture and diversity agenda through small-group roundtables and sponsoring the Black Professionals Network. • Mr. Kushel drove a high performance culture, and upgraded talent across MAS, GFI, and the newly formed Client Portfolio Solutions groups.	**Meets/Exceeds**

Gary S. Shedlin

CFO

2018 Compensation
(Thousands)

Base Salary	$ 500
Annual Incentive Award – Cash	$2,475
Annual Incentive Award – Equity	$1,525
Long-Term Incentive Award	$1,950
Total Annual Compensation	$6,450

Responsibilities:

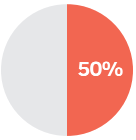
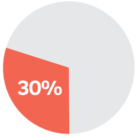
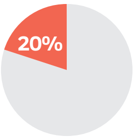
As CFO, Mr. Shedlin is responsible for managing BlackRock's overall financial condition, including resource and capital allocation, and expense discipline.

He is also responsible for overseeing all corporate finance functions, including financial planning and analysis, accounting, finance operations and controls, tax, treasury, investor relations, and corporate development.

Mr. Shedlin also co-chairs, along with Mr. Goldstein, the Planning, Budgeting and Alignment Committee, which is responsible for developing the Company's budget, evaluating new initiatives aimed at driving growth, and achieving strategic objectives of the Company.

Overall Assessment: Meets/Exceeds

Mr. Shedlin played a critical role in driving BlackRock's financial results in 2018. As CFO, he contributed to the expansion of BlackRock's operating margin by 20 basis points and executed several targeted transactions to drive future growth. The Compensation Committee's assessment resulted in a Meets/Exceeds determination, and based on the performance assessment, the Compensation Committee set Mr. Shedlin's total compensation at $6.45 million, down 5% from 2017.

Performance Category	Performance Highlights	Assessment
Financial Performance  	• Mr. Shedlin played a pivotal role in strategic and financial planning that resulted in expansion of BlackRock's operating margin, while simultaneously investing for future growth. • He drove BlackRock's capital management strategy, including returning approximately $3.6 billion of cash to shareholders in 2018, an increase of over 30% relative to 2017. • Mr. Shedlin oversaw the allocation of balance sheet capital to position BlackRock for future growth. BlackRock allocated $1.2 billion of new seed or co-investment capital to products in 2018, resulting in a net increase to the total portfolio of approximately $500 million. • Mr. Shedlin oversaw the successful adoption of three new accounting standards, including a new revenue recognition standard which resulted in a $1 billion gross up to revenue and expenses.	**Meets/Exceeds**
Business Strength  	• Mr. Shedlin executed several targeted transactions to drive future growth, including the completion of the Citibanamex Asset Management and Tennenbaum Capital Partners acquisitions, selling BlackRock's minority interest in the DSP businesses, and executing minority investments in Acorns and Envestnet. • He successfully partnered with enterprise leaders to drive strategic initiatives and optimize resource allocation across the firm. • Mr. Shedlin optimized a variety of treasury and tax management projects, including the repatriation of non-US cash, Brexit planning, and the annual share repurchase program. • Mr. Shedlin led BlackRock's outreach to key investors and financing partners, including hosting BlackRock's 2018 Investor Day, with nearly 200 in-person attendees (covering 43% of total shares outstanding); and 250+ shareholders and other external constituents via webcast.	**Meets/Exceeds**
Organizational Strength  	• Mr. Shedlin continued to raise the bar for performance and emphasized inclusion across the Finance organization. • Mr. Shedlin continued to strengthen the leadership bench and provide growth opportunities for high potential talent. • He improved enablement across the Finance organization, emphasizing the importance for increased recognition and feedback from managers. • Mr. Shedlin expanded representation of female and ethnically diverse employees within the Finance function, and drove gender diversity of the Finance leadership team through upward mobility and key hires.	**Meets/Exceeds**

5.

Compensation Policies and Practices

Summary of Executive Compensation Practices

Our compensation program reflects our commitment to responsible financial and risk management and is exemplified by the following policies and practices:

What We Do

- Review pay and performance alignment;
- Balance short- and long-term incentives, cash and equity and fixed and variable pay elements;
- Maintain a clawback policy that allows for the recoupment of annual and long-term performance-based compensation in the event that financial results require a significant restatement due to the actions of an employee;
- Require a one-year minimum vesting for awards granted under our Stock Plan, subject to limited exceptions;
- Maintain robust stock ownership and retention guidelines for GEC members;
- Maintain trading policies that:
  - Prohibit all employees from short selling BlackRock securities;
  - Prohibit Section 16 officers and directors from pledging BlackRock securities as collateral for a loan (among other items);
  - Prohibit Section 16 officers and directors from engaging in any transactions that have the effect of hedging the economic risks and rewards of BlackRock securities;
- Limit perquisites;
- Assess and mitigate risk in compensation plans, as described in *"Risk Assessment of Compensation Plans"* on page 65;
- Solicit an annual advisory vote on executive compensation in order to provide shareholders with a frequent opportunity to give feedback on compensation programs; and
- Annually review the independence of the Compensation Committee's independent compensation consultant.

What We Don't Do

- No employment agreements or guaranteed compensation arrangements with our NEOs;
- No arrangements with our NEOs providing for automatic single trigger vesting of equity awards upon a change-in-control or transaction bonus payments upon a change-in-control;
- No dividends or dividend equivalents on unearned Restricted Stock ("RS") or RSUs;
- No dividend equivalents on stock options or stock appreciation rights;
- No repricing of stock options;
- No cash buyouts of underwater stock options;
- No tax reimbursements for perquisites or tax gross-ups for excise taxes incurred due to the application of Section 280G of the Internal Revenue Code;
- No supplemental retirement benefit arrangements with our NEOs; and
- No supplemental severance benefit arrangements with our NEOs outside of the standard severance benefits under BlackRock's Severance Pay Plan (the "Severance Plan").

Stock Ownership Guidelines

Our stock ownership guidelines require the Company's GEC members to own a target number of shares (i.e., shares owned outright, not including unvested shares or unexercised stock options), the dollar amount of which is set out below. Until these stock ownership guidelines are met, GEC members must retain 50% of the net (after-tax) shares delivered from BlackRock equity awards. The Compensation Committee monitors the progress made by our GEC in achieving their stock ownership guidelines and, if circumstances warrant, may modify the guidelines and/or time frames for one or more members of our GEC.

- $10 million for the CEO;
- $5 million for the President; and
- $2 million for all other GEC members.

As of December 31, 2018, all of our NEOs exceeded the stock ownership guidelines.

Prohibition on Hedging and Pledging BlackRock Securities

BlackRock has a policy that prohibits the hedging or pledging of BlackRock securities by BlackRock's Section 16 officers and Directors. Pursuant to this policy, BlackRock's Section 16 officers and directors are prohibited from:

- Using BlackRock securities as collateral in a margin account;
- Pledging BlackRock securities as collateral; or
- Engaging in any transactions that have the effect of hedging the economic risks and rewards of BlackRock securities held by such Section 16 officer or director.

Clawback Policy

All performance-based compensation (including annual and long-term incentive awards and all equity compensation) is subject to BlackRock's Clawback Policy and is subject to recoupment if an employee is found to have engaged in fraud or willful misconduct that caused the need for a significant restatement of BlackRock's financial statements.

Benefits

BlackRock provides medical, dental, life and disability benefits, and retirement savings vehicles in which all eligible employees may participate. Our NEOs also have the option to participate in a comprehensive health exam offered to our executives. BlackRock makes contributions to 401(k) accounts of our NEOs on a basis consistent with other employees. None of our NEOs participate in any Company-sponsored defined benefit pension program.

Other benefits include voluntary deferrals of all or a portion of the cash element of our NEOs' annual incentive awards pursuant to the Amended and Restated BlackRock, Inc. Voluntary Deferred Compensation Plan (the "VDCP").

Severance

Our NEOs are eligible for standard severance benefits under the Severance Plan in the event of involuntary termination of employment without cause (as defined under the Severance Plan) by BlackRock. The Severance Plan provides a lump sum cash payment equal to two weeks of salary per year of service, with a minimum of 12 weeks and a maximum of 54 weeks, to all U.S.-based employees who are involuntarily terminated without cause in conjunction with a reduction in force or position elimination.

Perquisites

Perquisites and other benefits available to our NEOs, such as financial planning, investment opportunities and personal use of travel services are considered a reasonable part of the executive compensation program. A financial planning perquisite is offered to our NEOs. In addition, investment offerings may be provided without charging management or performance fees consistent with the terms offered to other employees who meet the same applicable legal requirements.

Messrs. Fink and Kapito are required by the Board to utilize private airplane services for all business and personal travel in the interest of protecting their personal security. Our NEOs reimburse BlackRock for a portion of the cost of personal airplane services.

Transportation services are provided by BlackRock and/or third-party suppliers and are made available to our NEOs for business and personal use. The compensation attributed to each of our NEOs for 2018 for perquisites is described in footnote (4) to the *"2018 Summary Compensation Table"* on page 77.

Tax Reimbursements

BlackRock did not provide tax reimbursements for any perquisites or other compensation paid to our NEOs.

Tax Deductibility of Compensation

Section 162(m) of the Internal Revenue Code generally limits the tax deductibility of compensation paid to any executive officers subject to Section 162(m) (the "Covered Employees") to $1 million during any fiscal year unless such compensation qualifies as "performance-based" (although this exception was severely limited beginning in 2018, as described below). Historically, the Company administered its incentive compensation arrangements in a manner that would comply with these tax rules. However, the Compensation Committee maintained the flexibility to pay non-deductible incentive compensation if it determines it is in the best interest of the Company and its shareholders.

The Tax Cuts and Jobs Act, enacted on December 22, 2017, substantially modified Section 162(m) and, among other things, eliminated the performance-based exception to the $1 million deduction limit effective as of January 1, 2018. As a result, beginning in 2018, compensation paid to Covered Employees in excess of $1 million is generally nondeductible, whether or not it is performance-based. In addition, beginning in 2018, the Covered Employees include any individual who served as the CEO or CFO at any time during the taxable year and the three other most highly compensated officers (other than the CEO and CFO) for the taxable year. Once an individual becomes a Covered Employee for any taxable year beginning after December 31, 2016, that individual will remain a Covered Employee for all future years, including following any termination of employment.

The Tax Cuts and Jobs Act includes a transition relief rule under which the changes to Section 162(m) described above will not apply to compensation payable pursuant to a written binding contract that was in effect on November 2, 2017 and is not materially modified after that date. To the extent applicable to our existing contracts and awards, the Company may avail itself of this transition relief rule. To maintain flexibility in compensating executive officers in a manner designed to promote varying corporate goals in the best interest of the Company and its shareholders, the Compensation Committee does not limit its actions with respect to executive compensation to preserve deductibility under Section 162(m) if the Compensation Committee determines that doing so is in the best interests of the Company and its shareholders.

Executive Compensation Tables

The following 2018 Summary Compensation Table contains information concerning compensation provided by BlackRock for the years indicated to the NEOs. Pursuant to SEC rules, the compensation table below includes only those equity-based awards granted in a particular year and not any awards granted after year-end, even if awarded for services in that year. It additionally discloses any cash compensation earned in a particular year, even if such payments are made after year-end.

2018 Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Bonus ($)[1]	Stock Awards (Fair Value of Awards) ($)[2]	Performance-Based Option Awards (Fair Value Awards) ($)[3]	All Other Compensation ($)[4]	Total ($)
Laurence D. Fink Chairman and Chief Executive Officer	2018	$1,500,000	$ 7,750,000	$17,049,844	—	$243,500	$26,543,344
	2017	$ 900,000	$10,000,000	$16,599,733	—	$243,500	$27,743,233
	2016	$ 900,000	$ 8,000,000	$16,379,581	—	$193,250	$25,472,831
Robert S. Kapito President	2018	$1,250,000	$ 6,250,000	$13,140,275	—	$201,694	$20,841,969
	2017	$ 750,000	$ 8,125,000	$12,834,775	—	$274,675	$21,984,450
	2016	$ 750,000	$ 6,500,000	$12,149,508	—	$224,425	$19,623,933
Robert L. Goldstein Senior Managing Director and Chief Operating Officer	2018	$ 500,000	$ 2,950,000	$ 4,425,029	—	$ 55,280	$ 7,930,309
	2017	$ 500,000	$ 3,275,000	$ 3,999,470	$10,460,528	$ 54,500	$18,289,498
	2016	$ 500,000	$ 2,850,000	$ 3,899,900	—	$ 49,425	$ 7,299,325
J. Richard Kushel Global Head of Multi-Asset Strategies and Global Fixed Income	2018	$ 500,000	$ 2,712,500	$ 3,600,293	—	$ 50,455	$ 6,863,248
	2017	$ 500,000	$ 2,950,000	$ 3,509,763	$ 7,845,347	$ 49,425	$14,854,535
	2016	$ 500,000	$ 2,490,000	$ 3,429,662	—	$ 49,425	$ 6,469,087
Gary S. Shedlin Senior Managing Director and Chief Financial Officer	2018	$ 500,000	$ 2,475,000	$ 3,599,726	—	$ 18,500	$ 6,593,226
	2017	$ 500,000	$ 2,700,000	$ 3,249,781	$ 7,845,347	$ 18,500	$14,313,628
	2016	$ 500,000	$ 2,350,000	$ 3,149,532	—	$ 18,250	$ 6,017,782

(1) **Bonus Column.** These amounts represent the cash portion of discretionary annual bonuses for the respective periods awarded pursuant to BlackRock's annual incentive compensation program. The amount of incentive compensation awarded to each NEO in January 2019 (for fiscal year 2018) was based on subjective criteria, as more fully described on pages 67 to 73 of the *"Compensation Discussion and Analysis."*

As described on page 57 of the "*Compensation Discussion and Analysis*", on January 17, 2019, Messrs. Fink, Kapito, Goldstein, Kushel and Shedlin were awarded RSUs as part of their discretionary annual bonuses for the 2018 fiscal year. In accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 718, these awards had grant date values of $4,250,000, $3,500,000, $2,000,000, $1,762,500 and $1,525,000, respectively, based on the average of the high and low prices per share of BlackRock common stock on January 17, 2019, which was calculated to be $410.315. Additionally, Messrs. Fink, Kapito, Goldstein, Kushel and Shedlin received discretionary BPIP Awards consisting of performance-based RSU awards with grant date values of $10,500,000, $8,000,000, $2,400,000, $1,700,000 and $1,950,000, respectively. The base number of units granted pursuant to BPIP Awards was determined by dividing the individual's award value by the average of the high and low prices per share of BlackRock common stock on January 17, 2019.

(2) **Stock Awards Column.** Reflects the grant date fair value of awards made during each calendar year as determined pursuant to FASB ASC Topic 718. For complete valuation assumptions of the awards, see Note 16 to the consolidated financial statements in our Form 10-K filed on February 28, 2019. The amount included with respect to the BPIP Awards granted in January 2018 is based on the grant date fair value assuming target level of performance. If maximum level of performance had been assumed, the grant date fair value of the BPIP Awards would have been (i) $20,541,947 for Mr. Fink, (ii) $15,882,978 for Mr. Kapito, (iii) $3,464,347 for Mr. Goldstein, (iv) $2,640,177 for Mr. Kushel, and (v) $3,051,979 for Mr. Shedlin.

(3) **2017 Performance Based Option Awards.** In the fourth quarter of 2017, BlackRock implemented a key strategic part of our long-term management succession plans by granting long-term incentive awards in the form of performance-based stock options to a select group of senior leaders, excluding the CEO and President, who we believe will play critical roles in BlackRock's future. Amounts reflect the grant date fair value of performance-based option awards made during the calendar year as determined pursuant to FASB ASC Topic 718. For complete valuation assumptions of the awards, see Note (16) to the consolidated financial statements in our Form 10-K filed on February 28, 2019.

(4) **All Other Compensation.** For each of the NEOs, $18,500 was attributable to contributions made by BlackRock under its tax-qualified defined contribution (401(k)) plan in 2018. In 2018, $4,825 was attributable to an executive health benefit used by Mr. Goldstein. For Messrs. Fink, Kapito, Goldstein, Kushel and Shedlin, $0, $31,955, $31,955, $31,955 and $0, respectively, was attributable to financial planning services. In 2018, for Messrs. Fink and Kapito, $225,000 and $151,239, respectively, was attributable to personal use of the company-provided aircraft services. These amounts reflect the incremental cost to BlackRock to provide the aircraft services. Aircraft incremental cost is based on, as applicable, (i) variable operating cost per flight hour for the BlackRock corporate aircraft (including fuel and variable maintenance expenses) plus any trip-specific incremental costs (such as crew expenses, catering expenses and fees associated with landing, parking and flight planning) or (ii) actual charter cost, in each case, less reimbursement received from the NEO. Messrs. Fink and Kapito are required by the Board to utilize these airplane services for all business and personal travel in the interest of protecting their personal security. For more information regarding perquisites, see "*Perquisites.*" on page 75. No nonqualified deferred compensation earnings were determined to be above-market. None of the NEOs participate in any BlackRock-sponsored defined benefit pension plans.

2018 Grants of Plan-Based Awards

The following table sets forth information concerning equity incentive plan-based compensation provided by BlackRock in 2018 to our NEOs.

			Estimated Future Payouts Under Equity Incentive Plan Awards				
Name	**Grant Date(1)**	**Date of Committee Action**	**Threshold (#)**	**Target (#)**	**Maximum (#)**	**All Other Stock Awards: Number of Shares or Units (#)**	**Grant Date Fair Value of Stock and Option Awards($)(4)**
Laurence D. Fink	1/16/2018	1/10/2018(2)				8,121	$ 4,600,059
	1/16/2018	1/10/2018(3)	—	21,979	36,265		$12,449,785
Robert S. Kapito	1/16/2018	1/10/2018(2)				6,204	$ 3,514,194
	1/16/2018	1/10/2018(3)	—	16,994	28,040		$ 9,626,081
Robert L. Goldstein	1/16/2018	1/10/2018(2)				4,105	$ 2,325,236
	1/16/2018	1/10/2018(3)	—	3,707	6,117		$ 2,099,793
J. Richard Kushel	1/16/2018	1/10/2018(2)				3,531	$ 2,000,100
	1/16/2018	1/10/2018(3)	—	2,825	4,661		$ 1,600,193
Gary S. Shedlin	1/16/2018	1/10/2018(2)				3,089	$ 1,749,733
	1/16/2018	1/10/2018(3)	—	3,266	5,389		$ 1,849,993

(1) **Grant Date.** Grant date is the date on which approved award values were converted to a number of RSUs based on the average of the high and low prices of BlackRock common stock on that date.

(2) These January 16, 2018 awards represent grants of RSUs awarded to Messrs. Fink, Kapito, Goldstein, Kushel and Shedlin as part of their 2017 bonus awards and represent the stock portion of such annual bonuses. These awards vest one-third on each of the first three anniversaries beginning on January 31, 2019. At the time of vesting, the NEOs are entitled to payment of accrued dividends with respect to the shares underlying the vested RSUs.

(3) These January 16, 2018 awards represent BPIP Awards granted to Messrs. Fink, Kapito, Goldstein, Kushel and Shedlin in respect of services performed in 2017. To determine the base number of RSUs comprising each BPIP Award, the award value was divided by the grant price ($566.44). The grant price represents an average of the high and low price of BlackRock common stock on January 16, 2018 (two trading days following the release of earnings for the fourth quarter of 2017). The BPIP Awards will be eligible to vest on January 31, 2021, subject to the Company's attainment of the applicable financial targets during the three-year performance period commencing on January 1, 2018 and ending on December 31, 2020. The number of shares of common stock each NEO will receive upon settlement of the award will be equal to the base number of RSUs, multiplied by a percentage determined by application of the award determination matrix set forth in the NEO's award agreement. The percentage multiplier is determined by the Company's average annual Operating Margin, as adjusted, and Organic Revenue during the performance period. If performance is below the minimum thresholds set forth on the award determination matrix for both performance metrics, the award payout will be zero. If the Company attains the maximum (or greater) level of performance for both performance metrics, the award payout will be equal to 165% of the base number. Performance at target would result in the NEO receiving 100% of the base number.

(4) **Grant Date Fair Value of Stock Awards**. Reflects the grant date fair value of awards as determined pursuant to FASB ASC Topic 718. For complete valuation assumptions of the awards, see Note 16 to the consolidated financial statements in our 2018 Form 10-K. The amount included with respect to the BPIP Awards is based on the grant date fair value assuming target level of performance.

2018 Outstanding Equity Awards at Fiscal Year-End

		Performance-Based Option Awards			Stock Awards	
Name	Grant Date	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(1)
Laurence D. Fink	1/19/2016	—	—	—	4,610(2)	$ 1,810,900
	1/19/2016	—	—	—	41,734(3)	$16,393,950
	1/17/2017	—	—	—	7,374(2)	$ 2,896,655
	1/17/2017	—	—	—	36,962(3)	$14,519,413
	1/16/2018	—	—	—	8,121(2)	$ 3,190,091
	1/16/2018	—	—	—	19,957(3)	$ 7,839,509
Robert S. Kapito	1/19/2016	—	—	—	3,419(2)	$ 1,343,052
	1/19/2016	—	—	—	30,956(3)	$12,160,136
	1/17/2017	—	—	—	5,702(2)	$ 2,239,860
	1/17/2017	—	—	—	28,578(3)	$11,226,010
	1/16/2018	—	—	—	6,204(2)	$ 2,437,055
	1/16/2018	—	—	—	15,431(3)	$ 6,061,605
Robert L. Goldstein	1/19/2016	—	—	—	2,139(2)	$ 840,242
	1/19/2016	—	—	—	6,794(3)	$ 2,668,819
	1/17/2017	—	—	—	3,376(2)	$ 1,326,160
	1/17/2017	—	—	—	6,233(3)	$ 2,448,447
	12/4/2017	108,190	513.5	12/4/2026(4)	—	$ —
	1/16/2018	—	—	—	4,105(2)	$ 1,612,526
	1/16/2018	—	—	—	3,366(3)	$ 1,322,232
J. Richard Kushel	1/19/2016	—	—	—	1,734(2)	$ 681,150
	1/19/2016	—	—	—	6,420(3)	$ 2,521,904
	1/17/2017	—	—	—	2,736(2)	$ 1,074,756
	1/17/2017	—	—	—	5,848(3)	$ 2,297,211
	12/4/2017	81,142	513.5	12/4/2026(4)	—	$ —
	1/16/2018	—	—	—	3,531(2)	$ 1,387,047
	1/16/2018	—	—	—	2,825(3)	$ 1,109,717
Gary S. Shedlin	1/19/2016	—	—	—	1,576(2)	$ 619,084
	1/19/2016	—	—	—	5,944(3)	$ 2,334,922
	1/17/2017	—	—	—	2,488(2)	$ 977,336
	1/17/2017	—	—	—	5,492(3)	$ 2,157,367
	12/4/2017	81,142	513.5	12/4/2026(4)	—	$ —
	1/16/2018	—	—	—	3,089(2)	$ 1,213,421
	1/16/2018	—	—	—	2,966(3)	$ 1,165,104

(1) **Market Value of Shares or Units of Stock that have not vested.** Amounts reflect the year-end value of RS, RSUs and BPIP Awards, based on the closing price of $392.82 per share of BlackRock common stock on December 31, 2018. With respect to the BPIP Awards, the value shown is based on the number of shares that the NEO would receive upon settlement of the award assuming actual performance through December 31, 2018 and 100% of target for the remainder of the performance period.

(2) One-third of these RS/RSUs vest on each of the first three anniversaries after the year in which the grant date occurs (beginning on January 31 following the year of grant).

(3) These BPIP Awards vest subject to the Company's attainment of certain financial targets during the three-year performance period commencing with the year of grant. The number of units shown reflects the number of shares that the NEO would receive upon settlement of the award assuming actual performance relative to the performance targets through December 31, 2018 and target-level performance for the remainder of the performance period (which equals 100.6% of target for the BPIP Awards granted January 19, 2016, 111% of target for the BPIP Awards granted January 17, 2017, and 91% of target for the BPIP Awards granted January 16, 2018). See "*Potential Payments Upon Termination of Employment or a Change in Control*" on page 82 for additional details regarding these awards.

(4) In the fourth quarter of 2017, BlackRock implemented a key strategic part of our long-term management succession plans by granting long-term incentive awards in the form of performance-based stock options to a select group of senior leaders, excluding the CEO and President, who we believe will play critical roles in BlackRock's future. These awards represent performance-based option awards granted to Messrs. Goldstein, Kushel and Shedlin in connection with the strategic initiative. One-third of these performance-based stock options will vest on each of the fifth, sixth and seventh anniversaries of the date of grant, provided a stock price hurdle of at least 25% growth from the strike price of $513.50 (the closing stock price on the date of grant) is met and maintained for 20 consecutive trading days within five years of grant and positive Organic Revenue growth during the performance period is achieved. The term of the stock options is nine years. Consistent with the intent of these grants, if a participant voluntarily terminates employment for any reason, including retirement, all unvested awards are forfeited.

2018 Option Exercises and Stock Vested

The following table sets forth information concerning the number of shares acquired and the value realized by our NEOs during the fiscal year ended December 31, 2018 on the exercise of options or the vesting and/or settlement of RS and RSUs.

	Option Awards		Stock Awards	
Name	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise ($)(1)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)(1)
Laurence D. Fink	—	—	74,655	$41,977,760
Robert S. Kapito	—	—	57,774	$32,485,742
Robert L. Goldstein	—	—	21,117	$11,873,878
J. Richard Kushel	—	—	19,444	$10,933,167
Gary S. Shedlin	—	—	17,612	$ 9,903,051

(1) Value realized reflects (i) the closing price per share of BlackRock common stock on the day prior to the vesting date, multiplied by (ii) the number of RS or RSUs that vested.

2018 Nonqualified Deferred Compensation

Name	Executive Contributions in Last Fiscal Year ($)	Registrant Contributions in Last Fiscal Year ($)	Aggregate Earnings (Losses) in Last Fiscal Year ($)(1)	Aggregate Withdrawals/ Distributions ($)	Aggregate Balance at Last Fiscal Year End ($)
Laurence D. Fink	—	—	$ (139,259)	—	$2,306,976
Robert S. Kapito	—	—	$ 1,474	—	$ 222,873
Robert L. Goldstein	—	—	$(1,838,054)	$1,726,878	$9,909,028
J. Richard Kushel	$295,000(2)	—	$ (74,266)	—	$2,159,973
Gary S. Shedlin	—	—	—	—	—

(1) Represents earnings on balances in the VDCP (as defined below), none of which were determined to be above-market.

(2) The amount of Mr. Kushel's contribution to the VDCP is included in the $2,950,000 shown for 2017 for Mr. Kushel in the Bonus column of the 2018 Summary Compensation Table.

Voluntary Deferred Compensation Plan

BlackRock maintains the VDCP, which allows participants to elect to defer between 1% and 100% of the cash element of their annual incentive compensation that is not mandatorily deferred under another arrangement. The participants must specify a deferral period of up to 10 years and distributions may be in up to 10 installments. The benchmark investments available for the NEOs are the same as those for all other participants. Deferred amounts and any benchmark returns are vested at the time of deferral or crediting, as applicable, under the VDCP.

Potential Payments Upon Termination or Change in Control

As described previously, the NEOs do not have individual employment, severance or change in control agreements with BlackRock.

Pursuant to the terms of the applicable equity award agreements, an NEO whose employment is terminated may be entitled to accelerated vesting and payment (or continued eligibility for vesting and payment) with respect to such NEO's outstanding awards. In addition, upon a termination of employment by the Company without cause, an NEO may be eligible to receive severance benefits under the Severance Plan. The applicable terms and estimated payment amounts with respect to the foregoing are set forth in the tables on pages 81 and 82, in each case assuming a termination of employment of the NEO on December 31, 2018.

Upon a change in control of BlackRock or a termination (with respect to deferrals prior to the 2016 plan year) of an NEO's employment for any reason, such NEO's VDCP balance would be paid out. Upon a termination of an NEO's employment for any reason with respect to deferrals for the 2016 plan year and beyond, such NEO's VDCP balance would be paid in accordance with their deferral election. All outstanding VDCP balances were fully vested as of December 31, 2018. Accordingly, no amounts have been included in the table on page 82 with respect to VDCP balances. For additional information, please refer to the *"2018 Nonqualified Deferred Compensation"* table above.

Treatment of Outstanding Equity Awards Upon Termination of Employment or a Change in Control

Type of Award	Voluntary Resignation	Termination For Cause	Involuntary Termination Without Cause[1]	Qualified Retirement / Disability	Death
RS/RSUs Granted as Part of Annual Incentive Awards ("Year-End Awards")	Unvested awards are forfeited.	Unvested awards are forfeited.	Awards will continue to vest in accordance with their schedule following termination. Any portion of the award that remains unvested on the one-year anniversary of termination will become fully vested on that date. For awards granted after 2016, if termination occurs within the one-year period following a change in control of BlackRock, the awards will vest at the time of termination.	Awards will continue to vest in accordance with their schedule following termination. Any portion of the award that remains unvested on the one-year anniversary of termination will become fully vested on that date.	Immediate vesting and settlement.
RSUs Granted as BPIP Awards	Unvested awards are forfeited.	Unvested awards are forfeited.	Awards granted in January 2016 and January 2017 will be eligible to vest on a pro rata basis (based on length of service during the performance period), subject to attainment of the applicable performance targets. If termination occurs within the 12-month period following a change in control, awards granted will fully vest at target level. Awards granted after January 2017 will continue to be eligible to fully vest following the end of the performance period, subject to attainment of the applicable performance targets and non-engagement in any Competitive Activity prior to the vesting date. If termination occurs within the 12-month period following a change in control, awards granted will fully vest at target level.	Awards will continue to be eligible to fully vest following the end of the performance period, subject to attainment of the applicable performance targets and non-engagement in any Competitive Activity prior to the vesting date.	Awards will continue to be eligible to fully vest following the end of the performance period, subject to attainment of the applicable performance targets.
Performance-Based Option Awards	Unvested awards are forfeited; vested but unexercised awards remain exercisable for a 90-day period following separation.	Unvested awards are forfeited; vested and unexercised awards are cancelled.	Awards will vest on a pro rata basis with respect to each tranche (based on length of service during the vesting period) plus a one-year service credit, and will remain exercisable through the full term, subject to achievement of the applicable performance conditions. If such termination occurs within the 12-month period following a change in control, awards will fully vest and remain exercisable through the full term.	**Qualified Retirement:** Unvested awards are forfeited; vested but unexercised awards remain exercisable for a 90-day period following separation. **Disability:** Awards will continue to be eligible to fully vest on each vesting date, subject to achievement of the applicable performance conditions. Any vested options will remain exercisable through the full term.	Awards will continue to be eligible to fully vest on each vesting date, subject to achievement of the applicable performance conditions. Any vested options will remain exercisable through the full term.

(1) Treatment described in the event of a termination without cause following a change in control applies if outstanding awards are assumed or substituted by the acquirer. If outstanding awards are not assumed or substituted, such awards would become vested at the time of the change in control (at target level for performance-based awards).

Potential Payments Upon Termination of Employment or a Change in Control

The amounts in the table below reflect an assumed termination of employment on December 31, 2018 and are based on the closing price of BlackRock common stock on December 31, 2018, which was $392.82. Any amounts payable upon or due to an NEO's termination by BlackRock other than for cause, due to the NEO's disability or upon a qualified retirement (as such terms are defined in the applicable award agreements) are subject to the NEO's (i) execution of a release of claims against BlackRock and (ii) continued compliance with covenants restricting the NEO's solicitation of clients or employees of BlackRock for the one-year period following termination.

Name	Involuntary Termination Without Cause	Involuntary Termination Without Cause Following a Change in Control	Death /Disability	Qualified Retirement	Voluntary Resignation / Termination for Cause
Laurence D. Fink					
Year-End Awards(1)	$ 7,897,646	$ 7,897,646	$ 7,897,646	$ 7,897,646	—
BPIP Awards(2), (3), (4)	$33,913,067	$38,061,508	$38,752,871	$ 38,752,871	—
Severance(9)	$ 1,557,692	$ 1,557,692	—	—	—
Total(10)	$43,368,405	$47,516,846	$46,650,518	$ 46,650,518	—
Robert S. Kapito					
Year-End Awards(1)	$ 6,019,967	$ 6,019,967	$ 6,019,967	$ 6,019,967	—
BPIP Awards(2), (3), (4)	$25,705,748	$28,913,123	$29,447,751	$ 29,447,751	—
Severance(9)	$ 1,298,077	$ 1,298,077	—	—	—
Total(10)	$33,023,791	$36,231,167	$35,467,718	$ 35,467,718	—
Robert L. Goldstein					
Year-End Awards(1)	$ 3,778,928	$ 3,778,928	$ 3,778,928	$ 3,778,928	—
BPIP Awards(2), (3), (4)	$ 4,301,117	$ 6,323,224	$ 6,439,498	$ 6,439,498	—
Option Awards(5), (6), (7), (8)	—	—	—	—	—
Severance(9)	$ 480,769	$ 480,769	—	—	—
Total(10)	$ 8,560,815	$10,582,921	$10,218,427	$ 10,218,427	—
J. Richard Kushel					
Year-End Awards(1)	$ 3,142,953	$ 3,142,953	$ 3,142,953	$ 3,142,953	—
BPIP Awards(2), (3), (4)	$ 4,053,379	$ 5,693,926	$ 5,826,699	$ 5,826,699	—
Option Awards(5), (6), (7), (8)	—	—	—	—	—
Severance(9)	$ 519,231	$ 519,231	—	—	—
Total(10)	$ 7,715,562	$ 9,356,110	$ 8,969,652	$ 8,969,652	—
Gary S. Shedlin					
Year-End Awards(1)	$ 2,809,841	$ 2,809,841	$ 2,809,841	$ 2,809,841	—
BPIP Awards(2), (3), (4)	$ 3,773,167	$ 5,554,475	$ 5,657,394	$ 5,657,394	—
Option Awards(5), (6), (7), (8)	—	—	—	—	—
Severance(9)	$ 115,385	$ 115,385	—	—	—
Total(10)	$ 6,698,394	$ 8,479,701	$ 8,467,235	$ 8,467,235	—

(1) This reflects an amount equal to (i) the number of unvested RS/RSUs awarded as Year-End Awards outstanding as of December 31, 2018, multiplied by (ii) $392.82 (the closing price of BlackRock common stock on December 31, 2018). For additional detail on the Year-End Awards, please refer to the "*2018 Outstanding Equity Awards at Fiscal Year-End*" table on page 79 and the *"Treatment of Outstanding Equity Awards Upon Termination of Employment or a Change in Control"* table on page 81.

(2) **BPIP Awards upon an involuntary termination without cause (other than following a change in control):** This row reflects the sum of the value attributable to the January 2016 BPIP Awards, January 2017 BPIP Awards, and January 2018 BPIP Awards. For the January 2016 BPIP Awards, the value reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award, assuming actual performance relative to the performance targets through December 31, 2018 multiplied by (ii) $392.82 (the closing price of BlackRock common stock on December 31, 2018). For January 2017 BPIP Awards the value reflects an amount equal to the product of (i) the number of shares that the NEO would receive upon settlement of the award, assuming actual performance relative to the performance targets through

December 31, 2018 and target-level performance for the remainder of the applicable performance period, multiplied by $392.82, and (ii), a fraction, the numerator of which is the number of completed months of service during the performance period as of December 31, 2018, and the denominator of which is the total number of months during the performance period. For January 2018 BPIP Awards, the value reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award, assuming actual performance relative to the performance targets through December 31, 2018 and target-level performance for the remainder of the applicable performance period, multiplied by (ii) $392.82. The actual number of shares that an NEO would receive following the end of the three-year performance period will be based on the Company's actual performance over the duration of the performance period. For additional detail on the BPIP awards, please refer to the "*2018 Grants of Plan-Based Awards*" table on page 78, the "*2018 Outstanding Equity Awards at Fiscal Year-End*" table on page 79 and the "*Treatment of Outstanding Equity Awards Upon Termination of Employment or a Change in Control*" table on page 81.

(3) **BPIP Awards upon an involuntary termination without cause within 12 months following a change in control:** This row reflects the sum of the value attributable to the January 2016 BPIP Awards, January 2017 BPIP Awards, and January 2018 BPIP Awards. For the January 2016 BPIP Awards, the table reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award, assuming actual performance relative to the performance targets through December 31, 2018 multiplied by (ii) $392.82 (the closing price of BlackRock common stock on December 31, 2018). For the January 2017 and 2018 BPIP Awards, the table reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award at target-level performance during the performance period, multiplied by (ii) $392.82. Under the terms of the Stock Plan, any outstanding awards that are not assumed by the acquirer in the event of a change in control would become fully vested (at target level for performance-based awards).

(4) **BPIP Awards upon a termination due to death, disability or qualified retirement:** For January 2016 BPIP Awards, the value shown reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award, assuming actual performance relative to the performance targets through December 31, 2018 multiplied by (ii) $392.82 (the closing price of BlackRock common stock on December 31, 2018). For both January 2017 BPIP Awards and January 2018 BPIP Awards, the value shown reflects an amount equal to (i) the number of shares that the NEO would receive upon settlement of the award, assuming (A) actual performance relative to the performance targets through December 31, 2018 and (B) target-level performance for the remainder of the applicable performance period, multiplied by (ii) $392.82.

(5) In the fourth quarter of 2017, we implemented a key strategic part of our long-term management succession plans by creating equity incentive grants of performance-based stock options for a select group of senior leaders, excluding the CEO and President, who we believe will play critical roles in BlackRock's future. These awards were part of a strategic initiative and we do not consider them to be part of our regular annual compensation.

(6) **Option Awards upon an involuntary termination without cause:** Assuming a termination date of December 31, 2018, the closing price of BlackRock common stock was $392.82 as of such date and, therefore, the stock price hurdle would not have been met. The amounts shown represent the value of a pro rata portion of unvested options as of December 31, 2018, at the closing price on that date. The pro rata portion (with respect to each tranche) which can be earned based on, and subject to, the achievement of the performance conditions is determined by multiplying the unvested options at termination of employment by a fraction, the numerator of which is the number of full months, rounded down, the executive was employed from the date of grant through the termination date plus 12 months, and the denominator of which is the number of full months elapsed from the grant date through the applicable vesting date.

(7) **Option Awards upon a termination without cause within 12 months following a change in control or due to death or disability:** Assuming a termination date of December 31, 2018, the closing price of BlackRock common stock was $392.82 as of such date and, therefore, the stock price hurdle would not have been met. The amounts shown represent the value of unvested options as of December 31, 2018.

(8) **Option Awards upon qualified retirement:** all unvested options will be forfeited.

(9) Reflects the amount that would have been payable to the NEO in a lump sum pursuant to the Severance Plan, assuming the NEO's termination of employment by BlackRock other than for cause on December 31, 2018.

(10) Values for Year-End Awards, BPIP Awards, Option Awards and Severance are rounded to the nearest whole number and, as a result of such rounding, the sum of such amounts may differ slightly from the amounts set forth in the line item titled "*Total*".

CEO Pay Ratio for 2018

As required by Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and Item 402(u) of Regulation S-K, we are providing the following information about the relationship of the annual total compensation of our employees and the annual total compensation our CEO:

For 2018, our last completed fiscal year:

- The median of the annual total compensation of all employees of our Company (other than our CEO) was $136,313; and
- The annual total compensation of our CEO, as reported in the Summary Compensation Table included in this Proxy Statement, was $26,543,344.

Based on this information, the ratio of our CEO's annual total compensation to the median of the annual total compensation of all employees was 195:1. This result is broadly consistent with our historical pay practices.

2018 CEO Pay Ratio = 195:1

Methodology

To identify the median of the annual total compensation of all our employees, as well as to determine the annual total compensation of our median employee and our CEO, we took the following steps:

1. **Selection of Determination Date.** We determined that, as of December 31, 2018, our employee population consisted of approximately 14,900 employees globally (as reported in Item 1, *Business*, in our Annual Report on Form 10-K filed on February 28, 2019 (our "Annual Report")). This population included all of our full-time and part-time employees.

2. **Identification of Median Employee.** To identify the "median employee" from our employee population, we reviewed the 2018 total compensation of our employees. Total compensation includes base salary, overtime, 2018 annual incentive award, direct incentives, commission payments and long-term equity incentive grants as reflected in the 2018 annual compensation statements provided to each employee as part of the year-end compensation process.

   We identified our median employee using this compensation measure, which was consistently applied to all our employees included in the calculation. We did not make any cost-of-living adjustments in identifying the "median employee."

3. **Calculation of Annual Total Compensation.** Once we identified our median employee, we combined all the elements of such employee's compensation for 2018 in accordance with the requirements of Item 402(c)(2)(x) of Regulation S-K, resulting in annual total compensation of $136,313. The difference between such employee's total compensation and the reported amount for the ratio calculation is the contributions made by BlackRock under its tax qualified defined contribution (401(k)) plan for 2018 to such employee, which totaled $6,313.

   For our CEO's annual total compensation, we used the amount reported in the "Total" column (column (j)) of our *2018 Summary Compensation Table* included in this Proxy Statement on page 77.

Equity Compensation Plan Information

The following table summarizes information, as of December 31, 2018, relating to BlackRock equity compensation plans pursuant to which grants of options, restricted stock, restricted stock units or other rights to acquire shares of BlackRock common stock may be granted from time to time.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities available for issuance under equity compensation plans (excluding securities reflected in first column)
Approved			
BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan	5,081,038(1)	$513.50(2)	8,434,420
Amended and Restated BlackRock, Inc. Employee Stock Purchase Plan	—	N/A	512,215(3)
Total Approved by Shareholders	5,081,038		8,946,635
Not Approved			
None	—	N/A	—
Total Not Approved by Shareholders	—	N/A	—
Total	5,081,038		8,946,635

(1) Includes 2,974,556 shares subject to RSUs (including RSUs which are settled in cash) and BPIP Awards (assuming payout at target levels) and 2,106,482 stock options. On December 31, 2018, 143,458 shares were available for contribution by PNC pursuant to the Share Surrender Agreement between BlackRock and PNC to settle awards outstanding under the Stock Plan and for future BlackRock stock grants under any other plan in accordance with the terms of the Share Surrender Agreement. Since February 2009, these shares were held by PNC as Series C Preferred stock. In January 2019, 143,458 shares were surrendered. As of February 28, 2019, no shares remain available for contribution by PNC. Pursuant to SEC guidance, unvested shares of RS that were issued and outstanding on December 31, 2018 are not included in the first or third column of this table.

(2) Represents the weighted-average exercise price of stock options only.

(3) Includes 512,215 shares remaining available for issuance under the Employee Stock Purchase Plan, of which 10,629 were subject to purchase during the open offering period that included December 31, 2018.

Item 3:

Ratification of the Appointment of the Independent Registered Public Accounting Firm

The Audit Committee is responsible for the appointment, compensation, retention, and oversight of the independent registered public accounting firm retained to audit BlackRock's financial statements. The Audit Committee conducts a comprehensive annual evaluation of the independent registered public accounting firm's qualifications, performance, and independence. The Audit Committee also considers whether, in order to ensure continuing auditor independence, there should be periodic rotation of the independent registered public accounting firm, taking into consideration the advisability and potential costs and impact of selecting a different firm.

At its meeting on March 13, 2019, the Audit Committee appointed Deloitte to serve as BlackRock's independent registered public accounting firm for the 2019 fiscal year. Deloitte or its predecessors have served as BlackRock's independent registered public accounting firm since 2002.

The Audit Committee exercises sole authority to approve all audit engagement fees and terms associated with the retention of Deloitte. In addition to ensuring the regular rotation of the lead audit partner as required by law, the Audit Committee is involved in the selection of, and reviews and evaluates, the lead audit partner.

The Audit Committee and the Board believe that the continued retention of Deloitte to serve as BlackRock's independent registered public accounting firm is in the best interests of the Company and its shareholders, and we are asking shareholders to ratify the appointment of Deloitte. Although ratification is not required by our Bylaws or otherwise, the Board is submitting the appointment of Deloitte to our shareholders for ratification because we value our shareholders' views on this appointment and as a matter of good corporate governance. In the event that shareholders fail to ratify the appointment, it will be considered a recommendation to the Board and the Audit Committee to consider the selection of a different firm. Even if the appointment is ratified, the Audit Committee may in its discretion select a different independent registered public accounting firm at any time during the year if it determines that such a change would be in the best interests of the Company and its shareholders.

Representatives of Deloitte are expected to be present at the Annual Meeting and will have an opportunity to make a statement, if they so desire, and will be available to respond to appropriate questions.

Fees Incurred by BlackRock for Deloitte

Aggregate fees incurred by BlackRock for the fiscal years ended December 31, 2018 and 2017, for BlackRock's independent registered public accounting firm, Deloitte, the member firms of Deloitte Touche Tohmatsu Limited, and their respective affiliates, are set forth below.

	2018	2017
Audit Fees(1)	$17,930,000	$13,922,000
Audit-Related Fees(2)	$ 3,766,000	$ 4,315,000
Tax Fees(3)	$ 948,000	$ 1,277,000
All Other Fees(4)	$ 829,000	$ 1,041,000
Total	$23,473,000	$20,555,000

(1) Audit Fees consisted of fees for the audits of the consolidated financial statements and reviews of the condensed consolidated financial statements filed with the SEC on Forms 10-K and 10-Q, respectively, as well as work generally only the independent registered public accounting firm can be reasonably expected to provide, such as statutory audits and review of documents filed with the SEC. Audit fees also included fees for the audit opinion rendered regarding the effectiveness of internal control over financial reporting and audits of certain sponsored funds.

(2) Audit-Related Fees consisted principally of assurance and related services pursuant to Statement on Standards for Attestation Engagements (SSAE) No. 18 and International Standard on Assurance Engagements (ISAE) 3402, fees for employee benefit plan audits, attestation services for Global Investment Performance Standards (GIPS®) verification and other assurance engagements.

(3) Tax Fees consisted of fees for all services performed by the independent registered public accounting firm's tax personnel, except those services specifically related to the audit and review of the financial statements, and consisted principally of tax compliance and reviews of tax returns for certain sponsored investment funds.

(4) All Other Fees consisted of fees paid to the independent registered public accounting firm other than audit, audit-related or tax services. All Other Fees included services related to regulatory advice, technology subscriptions and translation services.

Deloitte also provides audit, audit-related and tax services directly to certain of our affiliated investment companies, unit trusts and partnerships. Fees paid to Deloitte directly by these funds for services were $22,800,000 and $22,500,000 for the fiscal years ended December 31, 2018 and 2017, respectively. Such fees do not include any fees paid by registered investment companies.

Audit Committee Pre-Approval Policy

In accordance with BlackRock's Audit Committee Pre-Approval Policy (the "Pre-Approval Policy"), all services performed for BlackRock by BlackRock's independent registered public accounting firm were pre-approved by the Audit Committee, which concluded that the provision of such services by Deloitte was compatible with the maintenance of that firm's independence in the conduct of its auditing functions. The responsibility for pre-approval of audit and permitted non-audit services includes pre-approval of the fees for such services. Periodically, the Audit Committee reviews and pre-approves all audit, audit-related, tax and other services that are performed by BlackRock's independent registered public accounting firm for BlackRock. In the intervals between the scheduled meetings of the Audit Committee, the Audit Committee delegates pre-approval authority under the Pre-Approval Policy to the Chair of the Audit Committee. The Chair or designee must report any pre-approval decisions under the Pre-Approval Policy to the Audit Committee at its next scheduled meeting.

Board Recommendation

The Board of Directors unanimously recommends a vote **"FOR"** the ratification of Deloitte LLP as BlackRock's independent registered public accounting firm for the fiscal year 2019.

Audit Committee Report

The Audit Committee's primary responsibilities are to assist the Board with oversight of the integrity of BlackRock's financial statements and public filings, the independent auditor's qualifications and independence, the performance of BlackRock's internal audit function and independent auditor and BlackRock's compliance with legal and regulatory requirements. For more information about our Audit Committee's responsibilities, see "*Board Committees – The Audit Committee*" under "*Item 1 – Election of Directors*" and our Audit Committee Charter.

It is not the duty of the Audit Committee to prepare BlackRock's financial statements, to plan or conduct audits or to determine that BlackRock's financial statements are complete and accurate and are in accordance with GAAP in the United States. BlackRock's management is responsible for preparing BlackRock's financial statements and for maintaining internal control over financial reporting and disclosure controls and procedures. The independent registered public accounting firm is responsible for auditing the financial statements and expressing an opinion as to whether those audited financial statements fairly present, in all material respects, the financial position, results of operations and cash flows of BlackRock in conformity with GAAP in the United States.

In performing our oversight role, we have reviewed and discussed BlackRock's audited financial statements with management and with Deloitte, BlackRock's independent registered public accounting firm for 2018.

We have further discussed with Deloitte the matters required to be discussed under applicable Public Company Accounting Oversight Board ("PCAOB") standards.

We have received from Deloitte the written disclosures required by applicable PCAOB rules regarding Deloitte's independence, discussed with Deloitte its independence and considered whether the non-audit services provided by Deloitte are compatible with maintaining its independence.

Based on the review and discussions referred to above, we recommended to the Board, and the Board approved, inclusion of the audited financial statements in BlackRock's Annual Report on Form 10-K for the year ended December 31, 2018 for filing with the SEC.

MEMBERS OF THE AUDIT COMMITTEE

Pamela Daley, Chair
Mathis Cabiallavetta
William E. Ford
Murry S. Gerber
Margaret L. Johnson
Sir Deryck Maughan
Marco Antonio Slim Domit

Item 4:

Shareholder Proposal – Production of an Annual Report on Certain Trade Association and Lobbying Expenditures

The Unitarian Universalist Association ("UUA"), 24 Farnsworth Street, Boston, MA 02210-1409, the holder of 12 shares of common stock, has advised us that it intends to introduce the following resolution, which is co-sponsored by Reynders McVeigh Capital Management / Fresh Pond Capital, Center for Community Change and School Sisters of Notre Dame Cooperative Investment Fund:

Whereas, we believe in full disclosure of BlackRock's direct and indirect lobbying activities and expenditures to assess whether our company's lobbying is consistent with its expressed goals and in the best interests of stockholders.

Resolved, the stockholders of BlackRock request the preparation of a report, updated annually, disclosing:

1. Company policy and procedures governing lobbying, both direct and indirect, and grassroots lobbying communications.
2. Payments by BlackRock used for (a) direct or indirect lobbying or (b) grassroots lobbying communications, in each case including the amount of the payment and the recipient.
3. BlackRock's membership in and payments to any tax-exempt organization that writes and endorses model legislation.
4. Description of management's and the Board's decision making process and oversight for making payments described in sections 2 and 3 above.

For purposes of this proposal, a "grassroots lobbying communication" is a communication directed to the general public that (a) refers to specific legislation or regulation, (b) reflects a view on the legislation or regulation and (c) encourages the recipient of the communication to take action with respect to the legislation or regulation. "Indirect lobbying" is lobbying engaged in by a trade association or other organization of which BlackRock is a member.

Both "direct and indirect lobbying" and "grassroots lobbying communications" include efforts at the local, state and federal levels.

The report shall be presented to the Audit Committee or other relevant oversight committees and posted on BlackRock's website.

Supporting Statement

We encourage transparency in BlackRock's use of corporate funds to lobby. BlackRock spent $18,570,000 from 2010 – 2017 on federal lobbying. This figure does not include state lobbying expenditures, where BlackRock also lobbies but disclosure is uneven or absent. For example, BlackRock spent $938,394 on lobbying in California from 2011 – 2017. And BlackRock CEO Laurence Fink stated that "lobbying is really good because it is maximizing shareholder value" ("Unusual Debate at Davos: Lobbying, Maximizing Shareholder Value and the Duty of CEO's," *ProMarket,* April 1, 2016).

BlackRock lists memberships in the Investment Company Institute and the Securities Industry and Financial Markets Association, which together spent over $25,434,947 on lobbying in 2016 and 2017. BlackRock is reportedly a member of the Chamber of Commerce ("Is the Most Powerful Lobbyist in Washington Losing Its Grip?" *Washington Post*, July 14, 2017), which spent more than $1.4 billion in lobbying since 1998, and belongs to the Business Roundtable, which is lobbying against the right of shareholders to file resolutions. BlackRock does not comprehensively disclose its memberships in, or payments to, trade associations, nor the amounts used for lobbying.

We are concerned that BlackRock's lack of disclosure presents reputational risks when its lobbying contradicts company public positions. For example, BlackRock believes climate change risk is an investment issue, yet the Chamber undermined the Paris climate accord ("Paris Pullout Pits Chamber against Some of Its Biggest Members," *Bloomberg*, June 9, 2017). We believe that companies should ensure there is alignment between their own positions and their lobbying, including through trade associations.

The Board of Directors' Statement in Opposition

The Board of Directors believes that the actions requested by the Proponent are unnecessary and not in the best interests of our shareholders.

We believe that advocating for public policies that increase financial transparency, protect investors and facilitate responsible growth of capital markets is an important part of our responsibilities to our shareholders and clients. We provide on our website extensive disclosure of our public policy engagement efforts, political activities and the decision-making and oversight associated with these efforts and activities.

We review our public disclosure on our public policy engagements and political activities at least annually to ensure it accurately reflects our activities and policies and provides our shareholders with a clear understanding of our priorities. As part of our process, we consider feedback from our shareholders and other stakeholders.

We received a nearly identical proposal last year from the same proponent. Similar to last year, we engaged with the proponent and this year's co-filers on the issues raised in the proposal. Following this discussion, we enhanced our disclosures to address some of the concerns raised by the proponent. These enhancements included clarifying that BlackRock does not engage in "grassroots lobbying" and updating the link to the government website reporting the federal political contributions made by BlackRock's political action committee so that readers are taken directly to BlackRock's report. Similar to last year, we engaged extensively with this proponent to explain our approach to public policy engagement and took steps to address items where the proponent thought additional clarification and facilitation would be helpful to our shareholders.

We believe that our current disclosures offer the appropriate amount of detail and background on our engagement on public policy issues. A report beyond what has been published on our website and required in our public filings would impose administrative burdens on the Company but provide only minimal additional information to BlackRock's shareholders. As a result, we believe that adoption of the proposal is unnecessary and not in the best interest of BlackRock or our shareholders.

As detailed in our statement of Public Policy Engagement and Political Participation Policies on our website, BlackRock is committed to:

Full Transparency of Positions:

- The comment letters we file, policy papers published through our ViewPoints series and our Public Policy Engagement and Political Participation Policies can all be found on our website at https://www.blackrock.com/corporate/en-us/insights/public-policy/public-policy-engagement-and- political-activities-policies. We are also compliant with all lobbying and political contribution disclosure rules and regulations.

Effective Oversight and Governance:

- BlackRock's Chief Legal Officer and the head of BlackRock's Global Public Policy Group brief the Board's Risk and Nominating and Governance Committees to keep our Directors apprised of, and engaged in, the Company's legislative and regulatory priorities and advocacy initiatives.
- The Global Public Policy Group works closely with the Company's business and legal teams to identify legislative and regulatory priorities that will protect investors, increase shareholder value and facilitate responsible economic growth.
- As an asset manager, BlackRock focuses on issues that impact the asset management industry and the clients for whom we act as agent in managing assets.
- As part of BlackRock's engagement in the public policy process, the Company participates in a number of trade organizations and industry groups, and we publicly disclose our principal trade associations.

Full Compliance with Restrictions on Political Contributions and Filing and Disclosure Obligations:

- In compliance with federal regulations, as well as applicable state and local law, BlackRock does not contribute corporate funds to federal, state or local candidates, political party committees, political action committees or any political organization exempt from federal income taxes under Section 527 of the Internal Revenue Code.
- Although permitted under federal law, BlackRock does not spend corporate funds directly on independent expenditures, including electioneering communications and ballot initiatives, and does not engage in "grassroots lobbying".
- BlackRock's political action committee is funded voluntarily by employees and its contributions are publicly disclosed to the Federal Election Commission.
- BlackRock publicly discloses quarterly all U.S. federal lobbying costs and the issues to which our lobbying efforts relate, as required under the Lobbying Disclosure Act. BlackRock also makes such disclosures at the state or local level to the extent required to do so under applicable lobbying laws.

Board Recommendation

☒ The Board of Directors unanimously recommends that you vote **"AGAINST"** this proposal.

Item 5:

Shareholder Proposal – Simple Majority Vote Requirement

James McRitchie, 9295 Yorkship Court, Elk Grove, CA 95758, the holder of 25 shares of common stock, has advised us that he intends to introduce the following resolution:

Resolved, BlackRock, Inc. ("BlackRock" or "Company") shareholders request that our board take each step necessary so that each voting requirement in our charter and bylaws that calls for a greater than simple majority vote be eliminated, and replaced by a requirement for a majority of the votes cast for and against applicable proposals, or a simple majority in compliance with applicable laws. This means the closest standard to a majority of the votes cast for and against such proposals consistent with applicable laws. It is also important that our company take each step necessary to avoid a failed vote on this proposal topic.

Supporting Statement

Shareowners are willing to pay a premium for shares of companies that have excellent corporate governance. Supermajority voting requirements have been found to be one of the six entrenching mechanisms that are negatively related to company performance according to "What Matters in Corporate Governance" by Lucien Bebchuk, Alma Cohen and Allen Ferrell of the Harvard Law School (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=593423).

Large funds, such as BlackRock, SSgA and Northern Trust generally support the elimination of supermajority requirements, since most view them as an entrenchment device for management. BlackRock's Proxy Voting Guidelines for U.S. Securities (http://www/blackrock.com/corporate /literature/fact-sheet/blk-responsible-investment-guidelines-us.pdf) reads as follows:

> We generally favor a simple majority voting requirement to pass proposals. Therefore, we will support the reduction or the elimination of supermajority voting requirements to the extent that we determine shareholders' ability to protect their economic interest is improved. Nonetheless, in situations where there is a substantial or dominant shareholder, supermajority voting may be protective of public shareholder interests and we may support supermajority requirements in those situations.

This proposal topic won from 59.2% to 90.1% of the vote at Kaman, DuPont, Salesforce.com and Ryder System in early 2018. Prior to that it won 74% to 99% support at Weyerhaeuser, Alcoa, Waste Management, Goldman Sachs, FirstEnergy, McGraw-Hill, Macy's, Ferro Arconic, and Cognizant Technology Solutions.

Currently a 1% special interest minority of shares can frustrate the will of shareholders casting 79% of shares in favor. In other words a 1% special interest minority could have the power to prevent shareholders from improving our cooperate governance.

Please vote again to enhance shareholder value: Simple Majority Vote – Proposal 5

The Board of Directors' Statement in Opposition

The Board of Directors has carefully considered the proposal and believes that the three existing supermajority provisions in the Company's Amended and Restated Certificate of Incorporation (the "Charter") are protective of stockholders and appropriate given the significant ownership stake of The PNC Financial Services Group, Inc. ("PNC") in BlackRock.

BlackRock's Bylaws and Charter apply a majority voting standard consistent with Delaware law to almost all corporate matters to be voted on by our stockholders. Article Thirteen of our Charter includes three limited circumstances where a supermajority standard is required:

1. A supermajority vote of the holders of 75% of the stock entitled to vote is needed to alter, amend or repeal, or adopt a provision inconsistent with, the Charter provision in Article Thirteen stating that the Charter may be amended with approval by BlackRock's Board and at least a majority of the stock entitled to vote. In other words, this supermajority provision benefits stockholders by *protecting the majority voting standard* generally applicable for amending the Company's Charter.
2. A supermajority vote of the holders of 80% of the stock entitled to vote is needed to amend the Charter provision in Article Twelve requiring that the Company's Bylaws may be altered or repealed only by the affirmative vote of at least a majority of (x) the members of the Board or (y) the stock entitled to vote. In other words, this supermajority threshold benefits stockholders by *protecting the majority voting standard* for amending the Company's Bylaws.
3. Finally, a supermajority vote of the holders of 80% of the stock entitled to vote is required to amend Article Nine of the Charter, which regulates and defines the conduct of certain business and affairs between BlackRock and any "Significant Stockholder" of the Company (generally defined as a person who beneficially owns greater than 20% of the issued and outstanding voting stock of the Company). Currently, PNC qualifies as a Significant Stockholder in light of its approximately 21% ownership of the Company's voting stock. Article Nine is important as a legal matter in that it establishes certain norms for the course of conduct between the Company and a Significant Stockholder in areas such as ordinary course business relationships and corporate opportunities. In sum, this supermajority provision *protects the interests of our public stockholders* (as well as Significant Stockholders) by requiring that any amendments to Article Nine receive broader stockholder support than the majority required for other Charter amendments, thereby *preserving clarity in the relationships between BlackRock and any of its Significant Stockholders*.

BlackRock shares a number of the proponent's concerns regarding the inclusion of supermajority provisions in charters and bylaws designed to entrench management. However, supermajority provisions can serve a legitimate purpose and receive investor support when the ownership structure includes a significant stockholder, as is the case here. For example, BlackRock's Investment Stewardship team typically favors a simple majority voting requirement but may support supermajority provisions that serve to protect public stockholder interests where there is a substantial stockholder. We also note that for the past five years, votes cast at BlackRock's annual stockholder meeting have exceeded 88% of the outstanding stock of the Company, signifying that the supermajority voting thresholds in the Charter are achievable votes where stockholder support for an action is widespread.

We believe that the supermajority provisions in BlackRock's Charter do not serve to entrench management, are protective of the majority voting standards of our Charter and Bylaws and are appropriate in light of PNC's status as a Significant Stockholder.

Board Recommendation

☒ The Board of Directors unanimously recommends that you vote **"AGAINST"** this proposal.

Annual Meeting Information

Questions and Answers about the Annual Meeting and Voting

Who is entitled to vote?

Holders of record of BlackRock common stock at the close of business on March 25, 2019 are entitled to receive notice and to vote their shares of BlackRock common stock at the 2019 Annual Meeting of Shareholders. As of March 25, 2019, 154,500,133 shares of BlackRock's common stock, par value $0.01 per share, were outstanding. Holders are entitled to one vote per share.

A list of shareholders entitled to vote at the Annual Meeting will be available at the Annual Meeting. It can also be made available beginning 10 days prior to the Annual Meeting, between the hours of 8:45 a.m. and 4:30 p.m., Eastern Time, at our principal executive offices at 55 East 52nd Street, New York, New York 10055, by writing to the Corporate Secretary of BlackRock at: c/o Corporate Secretary, BlackRock, Inc., 40 East 52nd Street, New York, New York 10022.

How do I vote and what are the voting deadlines?

You may submit a proxy by telephone, via the Internet or by mail.

Submitting a Proxy by Telephone: You can submit a proxy for your shares by telephone until 11:59 p.m. Eastern Time on May 22, 2019 by calling the toll-free telephone number on the attached proxy card, 1-800-690-6903. Telephone proxy submission is available 24 hours a day. Easy-to-follow voice prompts allow you to submit a proxy for your shares and confirm that your instructions have been properly recorded. Our telephone proxy submission procedures are designed to authenticate shareholders by using individual control numbers.

Submitting a Proxy via the Internet: You can submit a proxy via the internet until 11:59 p.m. Eastern Time on May 22, 2019 by accessing the website listed on the Notice of Internet Availability of Proxy Materials and your proxy card, ***www.proxyvote.com***, and by following the instructions on the website. Internet proxy submission is available 24 hours a day. As with the telephone proxy submission, you will be given the opportunity to confirm that your instructions have been properly recorded.

Submitting a Proxy by Mail: Mark your proxy card, date, sign and return it to Broadridge Financial Solutions in the postage-paid envelope provided (if you received your proxy materials by mail) or return it to BlackRock, Inc., c/o Broadridge, 51 Mercedes Way, Edgewood, New York 11717. Proxy cards returned by mail must be received no later than the close of business on May 22, 2019.

By casting your vote in any of the three ways listed above, you are authorizing the individuals listed on the proxy to vote your shares in accordance with your instructions. You may also attend the Annual Meeting and vote in person. See "*What is required to attend the Annual Meeting?*"

What is required to attend the Annual Meeting?

You are entitled to attend the Annual Meeting only if you were, or you hold a valid legal proxy naming you to act as a representative for, a holder of BlackRock common stock at the close of business on March 25, 2019. Shareholders, or their valid legal proxies, planning to attend the Annual Meeting in person must request an admission ticket in advance of the Annual Meeting by visiting www.proxyvote.com and following the instructions provided. You will need the 16-digit "control" number included on your proxy card, voter instruction or form of notice. Tickets will be issued to registered and beneficial owners. Requests for admission tickets will be processed in the order they are received and must be requested no later than May 22, 2019. Please note that seating is limited and requests for tickets will be accepted on a first-come, first-served basis. In addition to your admission ticket, please bring a form of government-issued photo identification, such as a driver's license, state-issued identification card or passport, to gain entry to the Annual Meeting. If you were the beneficial owner of shares held in the name of a bank, broker or other holder of record, you or your representative must also bring proof of your stock ownership as of the close of business on March 25, 2019, such as an account statement or similar evidence of ownership.

The use of electronic devices, including but not limited to mobile phones, photographic equipment, audio or video recording devices, sound amplifying devices, laptops, tablets and/or other computer devices is not permitted at the Annual Meeting.

Meeting attendees will be limited in the number and size of objects they are allowed to bring into the meeting and will only be allowed to sit in designated seating areas. The possession of weapons or other dangerous items is prohibited, and all attendees will be subject to electronic and / or manual security screening. Failure to comply with the direction of security staff may result in ejection from the meeting.

If you are unable to provide valid photo identification or if we are unable to validate that you were a shareholder (or that you are authorized to act as a legal proxy for a shareholder) or you cannot comply with the other procedures outlined above for attending the Annual Meeting in person, we will not be able to admit you to the Annual Meeting. In the event you submit your proxy and you attend the Annual Meeting, you may revoke your proxy and cast your vote personally at the Annual Meeting. If your shares are held in the name of a bank, broker or other holder of record, you must obtain a proxy, executed in your favor, from the holder of record, to be able to vote at the Annual Meeting.

All shares that have been properly voted, and not revoked, will be voted at the Annual Meeting. If you sign and return your proxy card but do not give voting instructions, the shares represented by that proxy will be voted as recommended by the Board.

How will voting on any other business be conducted?

If any other business is properly presented at the Annual Meeting for consideration, the persons named in the proxy will have the discretion to vote on those matters for you. As of the date this Proxy Statement went to press, we did not know of any other business to be raised at the Annual Meeting.

May I revoke my vote?

Proxies may be revoked at any time before they are exercised by:

- Written notice to the Corporate Secretary of BlackRock;
- Submitting a proxy on a later date by telephone or Internet (only your last telephone or Internet proxy will be counted) before 11:59 p.m. Eastern Time on May 22, 2019;
- Timely delivery of a valid, later-dated proxy; or
- Voting by ballot at the Annual Meeting.

What is a quorum?

A quorum is necessary to hold a valid meeting. The presence, in person or by proxy, of the holders of a majority of the votes entitled to be cast by the shareholders entitled to vote at the Annual Meeting is necessary to constitute a quorum.

What is the effect of a broker non-vote or abstention?

Abstentions and broker “non-votes”, if any, are counted as present and entitled to vote for purposes of determining a quorum. A broker “non-vote” occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power for that particular item and has not received instructions from the beneficial owner. If a nominee has not received instructions from the beneficial owner, the nominee may vote these shares only on matters deemed “routine” by the NYSE. The election of directors, approval of NEO compensation and the shareholder proposals are not deemed “routine” by the NYSE and nominees have no discretionary voting power for these matters. The ratification of the appointment of an independent registered accounting firm is deemed a “routine” matter on which nominees have discretionary voting power.

What vote is required in order to approve each of the proposals?

Each share of our common stock outstanding on the record date will be entitled to one vote on each of the 18 director nominees and one vote on each other matter. Directors receiving a majority of votes cast (number of shares voted “for” a director must exceed the number of shares voted “against” that director) will be elected as a director. Abstentions and broker “non-votes” will be disregarded and have no effect on the outcome of the Item 1 vote to elect directors. A majority of the votes of shares of common stock represented and entitled to vote at the Annual Meeting is required for Item 2, the approval of NEO compensation, Item 3, the ratification of Deloitte as BlackRock’s independent registered public accounting firm for the 2019 fiscal year, and Items 4 and 5, the approval of the shareholder proposals. Abstentions will be treated as a vote “against” and “broker non-votes” will have no effect on such matters.

Who will count the votes and how can I find the results of the Annual Meeting?

Broadridge Financial Solutions, our independent tabulating agent, will count the votes. We will publish the voting results in a Form 8-K filed within four business days of the Annual Meeting.

Important Additional Information

Cost of Proxy Solicitation

We will pay the expenses of soliciting proxies. Proxies may be solicited in person or by mail, telephone and electronic transmission on our behalf by directors, officers or employees of BlackRock or its subsidiaries, without additional compensation. We will reimburse brokerage houses and other custodians, nominees and fiduciaries that are requested to forward soliciting materials to the beneficial owners of the stock held of record by such persons.

Multiple Shareholders Sharing the Same Mailing Address or "Householding"

In order to reduce printing and postage costs, we try to deliver only one Notice of Internet Availability of Proxy Materials or, if applicable, one Annual Report and one Proxy Statement to multiple shareholders sharing a mailing address. This delivery method, called "householding", will not be used if we receive contrary instructions from one or more of the shareholders sharing a mailing address. If your household has received only one copy, we will deliver promptly a separate copy of the Notice of Internet Availability of Proxy Materials or, if applicable, the Annual Report and the Proxy Statement to any shareholder who sends a written request to the Corporate Secretary at the address provided in the Notice of 2019 Annual Meeting of Shareholders.

You may also notify us if you would like to receive separate copies of the Notice of Internet Availability of Proxy Materials or, if applicable, BlackRock's Annual Report and Proxy Statement in the future by writing to the Corporate Secretary. Shareholders who participate in householding will continue to be able to access and receive separate proxy cards. If you are submitting a proxy by mail, each proxy card should be marked, signed, dated and returned in the enclosed self-addressed envelope.

If your household has received multiple copies of BlackRock's Annual Report and Proxy Statement, you can request the delivery of single copies in the future by marking the designated box on the attached proxy card.

If you own shares of common stock through a bank, broker or other nominee and receive more than one Annual Report and Proxy Statement, contact the holder of record to eliminate duplicate mailings.

Confidentiality of Voting

BlackRock keeps all proxies, ballots and voting tabulations confidential as a matter of practice. BlackRock allows only Broadridge Financial Solutions to examine these documents. Occasionally, shareholders provide written comments on their proxy cards, which are then forwarded to BlackRock management by Broadridge Financial Solutions.

Available Information

BlackRock makes available free of charge through its website at ***www.blackrock.com***, under the headings "*Our Firm / Investor Relations / SEC Filings*", its Annual Reports to Shareholders, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements and form of proxy and all amendments to these reports no later than the day on which such materials are first sent to security holders or made public.

BlackRock will provide, without charge to each shareholder upon written request, a copy of BlackRock's Annual Reports to Shareholders, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements and form of proxy and all amendments to those reports.

Written requests for copies can be made by:

✉ **Mail:** Corporate Secretary of BlackRock, 40 East 52nd Street, New York, New York 10022

☎ **Telephone:** (212) 810-5300

@ **Email**: *invrel@blackrock.com*

Copies may also be accessed electronically by means of the SEC homepage on the Internet at ***www.sec.gov***. The Annual Report on Form 10-K for the year ended December 31, 2018 is not part of the proxy solicitation materials.

Deadlines for Submission of Proxy Proposals, Nomination of Directors and Other Business of Shareholders

Proposals to be Considered for Inclusion in BlackRock's Proxy Materials

Shareholders who wish to present proposals for inclusion in the proxy materials to be distributed by us in connection with our 2020 Annual Meeting of Shareholders must submit their proposals to BlackRock's Corporate Secretary on or before December 14, 2019.

Director Nominations for Inclusion in BlackRock's Proxy Materials (Proxy Access)

A shareholder (or a group of up to 20 shareholders) who has owned at least 3% of our shares continuously for at least three years and has complied with the other requirements in our Bylaws may nominate and include in BlackRock's proxy materials director nominees constituting up to 25% of our Board. Notice of a proxy access nomination for consideration at our 2020 Annual Meeting must be received no later than December 14, 2019 and no earlier than November 14, 2019.

Other Proposals and Nominations

Apart from Exchange Act Rule 14a-8 and our proxy access bylaw that address the inclusion of shareholder proposals or shareholder nominees in our proxy materials, under our Bylaws, certain procedures must be followed for a shareholder to nominate persons for election as directors or to introduce an item of business at an annual meeting of shareholders.

We must receive the notice of your intention to introduce a nomination or proposed item of business at our 2020 Annual Meeting:

- Not less than 120 days nor more than 150 days prior to the anniversary of the mailing date of BlackRock's proxy materials for the immediately preceding annual meeting of shareholders; or
- Not later than 10 days following the day on which notice of the date of the annual meeting was mailed to shareholders or public disclosure of the date of the annual meeting was made, whichever comes first, in the event that next year's annual meeting is not held within 25 days before or after the anniversary date of the immediately preceding annual meeting.

Assuming that our 2020 Annual Meeting is held within 25 days of the anniversary of the 2019 Annual Meeting, we must receive notice of your intention to introduce a nomination or other item of business at the 2020 Annual Meeting by December 14, 2019 and no earlier than November 14, 2019.

Additional Requirements

Under our Bylaws, any notice of proposed business must include a description of the business and the reasons for bringing the proposed business to the meeting, any material interest of the shareholder in the business and certain other information about the shareholder. Any notice of a nomination or a proxy access nomination for director nominees must provide information about the shareholder and the nominee, as well as the written consent of the proposed nominee to being named in the proxy statement and to serve as a director if elected.

BlackRock's Bylaws specifying the advance notice requirements for proposing business or nominations, and for proposing proxy access nominations, are available at ***www.sec.gov***.

Address to Submit Proposals and Nominations

In each case, proxy proposals, proxy access nominations and nominations for director nominees and/or an item of business to be introduced at an annual meeting of shareholders must be submitted in writing to the Corporate Secretary of BlackRock, 40 East 52nd Street, New York, New York 10022.

Other Matters

The Board of Directors knows of no other business to be presented at the meeting. If, however, any other business should properly come before the meeting, or any adjournment thereof, it is intended that the proxy will be voted in accordance with the best judgment of the persons named in the proxy.

By Order of the Board of Directors,

R. Andrew Dickson III

R. Andrew Dickson, III
Corporate Secretary

Annex A:

Non-GAAP Reconciliation

Non-GAAP Financial Measures

BlackRock reports its financial results in accordance with GAAP in the United States; however, management believes evaluating the Company's ongoing operating results may be enhanced if investors have additional non-GAAP financial measures. Management reviews non-GAAP financial measures to assess ongoing operations and considers them to be helpful, for both management and investors, in evaluating BlackRock's financial performance over time. Management also uses non-GAAP financial measures as a benchmark to compare its performance with other companies and to enhance the comparability of this information for the reporting periods presented. Non-GAAP measures may pose limitations because they do not include all of BlackRock's revenue and expense. BlackRock's management does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP. Non-GAAP measures may not be comparable to other similarly titled measures of other companies.

Management uses both GAAP and non-GAAP financial measures in evaluating BlackRock's financial performance. Adjustments to GAAP financial measures ("non-GAAP adjustments") include certain items management deems nonrecurring or that occur infrequently, transactions that ultimately will not impact BlackRock's book value or certain tax items that do not impact cash flow.

Computations for all periods are derived from the consolidated statements of income as follows:

(1) Operating income, as adjusted, and Operating Margin, as adjusted:

Management believes operating income, as adjusted, and Operating Margin, as adjusted, are effective indicators of BlackRock's financial performance over time and, therefore, provide useful disclosure to investors.

(in millions)	2018	2017[1]	2016[1]
Operating income, GAAP basis	**$ 5,457**	$ 5,254	$ 4,565
Non-GAAP expense adjustments:			
Restructuring charge	**60**	–	76
PNC LTIP funding obligation	**14**	15	28
Operating income, as adjusted	**5,531**	5,269	4,669
Product launch costs and commissions	**13**	–	–
Operating income used for operating margin measurement	**$ 5,544**	$ 5,269	$ 4,669
Revenue, GAAP basis	**$14,198**	$13,600	$12,261
Non-GAAP adjustment:			
Distribution and servicing costs	**(1,675)**	(1,663)	(1,608)
Revenue used for operating margin measurement	**$12,523**	$11,937	$10,653
Operating margin, GAAP basis	**38.4%**	38.6%	37.2%
Operating margin, as adjusted	**44.3%**	44.1%	43.8%

- **Operating income, as adjusted,** includes non-GAAP expense adjustments. In 2018 and 2016, a restructuring charge, primarily comprised of severance and accelerated amortization expense of previously granted deferred compensation awards, has been excluded to provide more meaningful analysis of BlackRock's ongoing operations and to ensure comparability among periods presented. The portion of compensation expense associated with certain long-term incentive plans ("LTIP") funded, or to be funded, through share distributions to participants of BlackRock stock held by PNC has been excluded because it ultimately does not impact BlackRock's book value.

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(1) Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, Significant Accounting Policies, in the consolidated financial statements in our 2018 Form 10-K.

- Operating income used for measuring operating margin, as adjusted, is equal to operating income, as adjusted, excluding the impact of product launch costs (e.g., closed-end fund launch costs) and related commissions. Management believes the exclusion of such costs and related commissions is useful because these costs can fluctuate considerably, and revenue associated with the expenditure of these costs will not fully impact BlackRock's results until future periods.
- Revenue used for operating margin, as adjusted, excludes distribution and servicing costs paid to third parties. Management believes such costs represent a benchmark for the amount of revenue passed through to external parties who distribute the Company's products. BlackRock excludes from revenue used for operating margin, as adjusted, the costs related to distribution and servicing costs as a proxy for such offsetting revenue.

(2) Compensation and benefits expense-to-revenue ratio, as adjusted:

(in millions)	2018	2017(1)	2016(1)
Employee compensation and benefits, GAAP basis	**$ 4,320**	$ 4,253	$ 3,878
Less Non-GAAP expense adjustment:			
PNC LTIP funding obligation	**14**	15	28
Employee compensation and benefits, as adjusted	**$ 4,306**	$ 4,238	$ 3,850
Revenue, GAAP basis	**$14,198**	$13,600	$12,261
Non-GAAP adjustment:			
Distribution and servicing costs	**(1,675)**	(1,663)	(1,608)
Revenue used for operating margin measurement	**$12,523**	$11,937	$10,653
Compensation and benefits expense-to-revenue ratio, GAAP basis	**30.4%**	31.3%	31.6%
Compensation and benefits expense-to-revenue ratio, as adjusted	**34.4%**	35.5%	36.1%

(1) Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, *Significant Accounting Policies,* in the consolidated financial statements in our 2018 Form 10-K.

- **Employee compensation and benefits, as adjusted,** includes non-GAAP expense adjustment. The portion of compensation expense associated with certain LTIP funded, or to be funded, through share distributions to participants of BlackRock stock held by PNC has been excluded because it ultimately does not impact BlackRock's book value.
- **Compensation and benefits expense-to-revenue ratio**, as adjusted, is equal to Employee compensation and benefits, as adjusted, divided by revenue used for operating margin measurement.

(3) Net income attributable to BlackRock, Inc., as adjusted:

(in millions, except per share data)	2018	2017(1)	2016(1)
Net income attributable to BlackRock, Inc., GAAP basis	**$4,305**	$ 4,952	$3,168
Non-GAAP adjustments:			
Restructuring charge, net of tax	**47**	—	53
PNC LTIP funding obligation, net of tax	**12**	11	19
The 2017 Tax Act:			
Deferred tax revaluation (noncash)	**—**	(1,758)	—
Deemed repatriation tax	**—**	477	—
Other income tax matters	**(3)**	16	(30)
Net income attributable to BlackRock, Inc., as adjusted	**$4,361**	$ 3,698	$3,210
Diluted weighted-average common shares outstanding(2)	**161.9**	164.4	166.6
Diluted earnings per common share, GAAP basis(2)	**$26.58**	$ 30.12	$19.02
Diluted earnings per common share, as adjusted(2)	**$26.93**	$ 22.49	$19.27

(1) Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. For further information, refer to Note 2, Significant Accounting Policies, in the consolidated financial statements in our 2018 Form 10-K.

(2) Non-voting participating preferred stock is considered to be a common stock equivalent for purposes of determining basic and diluted earnings per share calculations.

Management believes net income attributable to BlackRock, Inc., as adjusted, and diluted earnings per common share, as adjusted, are useful measures of BlackRock's profitability and financial performance. Net income attributable to BlackRock, Inc., as adjusted, equals net income attributable to BlackRock, Inc., GAAP basis, adjusted for significant nonrecurring items, charges that ultimately will not impact BlackRock's book value or certain tax items that do not impact cash flow.

See aforementioned discussion regarding operating income, as adjusted, and operating margin, as adjusted, for information on the PNC LTIP funding obligation and restructuring charge.

For each period presented, the non-GAAP adjustment related to the restructuring charge and PNC LTIP funding obligation was tax effected at the respective blended rates applicable to the adjustments. The 2017 noncash deferred tax revaluation benefit of $1,758 million and the other income tax matters were primarily associated with the revaluation of certain deferred tax liabilities related to intangible assets and goodwill. Amounts have been excluded from the as adjusted results as these items will not have a cash flow impact and to ensure comparability among periods presented. A deemed repatriation tax expense of $477 million has been excluded from the 2017 as adjusted results due to the one-time nature and to ensure comparability among periods presented.

Per share amounts reflect net income attributable to BlackRock, Inc., as adjusted divided by diluted weighted average common shares outstanding.

BlackRock's Approach to Sustainability

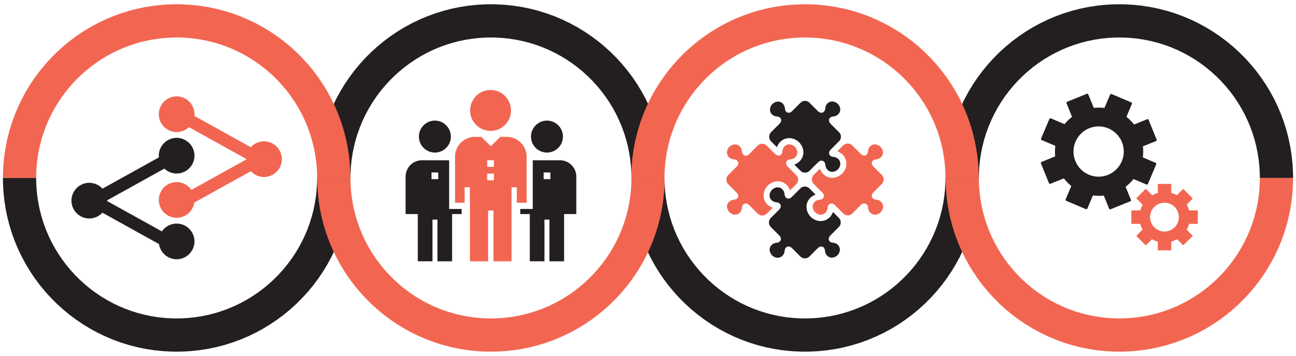
BlackRock believes environmental, social and governance issues have real financial impacts over the long-term. As we work to create better financial futures for clients, we strive to be a leader in the way we incorporate sustainability into our:

Investment Processes

Investment Stewardship

Sustainable Solutions

Business Operations



Integrating sustainability-related insights and data into BlackRock's investment processes across asset classes and investment styles

Engaging companies in index and alphaseeking portfolios alike on sustainabilityrelated issues that impact long-term performance

Delivering sustainable investment solutions that help empower clients to achieve their financial objectives

Ensuring the long-term sustainability of our own firm in order to deliver the best outcomes for clients and shareholders

Investment Processes

From BlackRock's perspective, business-relevant sustainability issues can contribute to a company's long-term financial performance, and thus further incorporating these considerations into the investment research, portfolio construction, and stewardship process can enhance long-term risk adjusted returns.

Investment Stewardship

We undertake all investment stewardship engagements and proxy voting with the goal of protecting and enhancing the long-term value of our clients' assets. In our experience, sustainable financial performance and value creation are enhanced by sound governance practices, including risk management oversight and board accountability. BlackRock's Investment Stewardship team engages with portfolio companies to encourage them to adopt corporate governance and business practices aligned with long-term financial performance.

Sustainable Solutions

We define sustainable investing as the combination of traditional investment approaches with ESG insights to mitigate risk and enhance long-term return. With this in mind, many of our clients turn to BlackRock for sustainable investment solutions. Leveraging BlackRock's investment expertise and research, we help clients understand the various risks and opportunities associated with sustainability factors and provide them with a range of products and solutions that seek to deliver targeted financial and sustainability outcomes.

Business Operations

To deliver the best long-term outcomes for clients and shareholders, we operate and invest in our business with a focus on the long-term. This requires taking into account environmental, social and governance issues that have real and quantifiable impacts over the long-term for our firm, our people, and the communities in which we operate.

BlackRock

Our Principles

We are a fiduciary to our clients.

We are passionate about performance.

We are innovators.

We are one BlackRock.

BlackRock's mission is to create a better financial future for our clients. As we pursue this mission, we are guided by BlackRock's Principles — that is, our shared understanding of who we are, what we stand for and how we conduct ourselves each and every day.

BlackRock, Inc.
55 East 52nd Street,
New York, New York 10055

blackrock.com