



CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT and AFFIDAVIT
Related to Contract/Amendment/Solicitation
EDS # 150521

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:	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. - 11.5%
- The Vanguard Group, Inc. - 11.45%

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 Ave
Elmhurst, IL 60126 United States
Relationship: Subcontractor - MWDBE
Fees (\$\$ or %): 6% (Dependent Upon Request)
Estimated/Paid: Estimated

Name: Quantum Crossings
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
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

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

No

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?

No

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

No

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

APPENDIX C-PROHIBITION ON WAGE & SALARY HISTORY SCREENING

This Appendix is to be completed only by an Applicant that is completing this EDS as a "contractor" as defined in [MCC Section 2-92-385](#). That section, which should be consulted (www.amlegal.com), generally covers a party to any agreement pursuant to which they: (i) receive City of Chicago funds in consideration for services, work or goods provided (including for legal or other professional services), or (ii) pay the City money for a license, grant or concession allowing them to conduct a business on City premises.

On behalf of an Applicant that is a contractor pursuant to [MCC Section 2-92-385](#), I hereby certify that the Applicant is in compliance with [MCC Section 2-92-385\(b\)\(1\)](#) and (2), which prohibit: (i) screening job applicants based on their wage or salary history, or (ii) seeking job applicants' wage or salary history from current or former employers. I also certify that the Applicant has adopted a policy that includes those prohibitions.

This certification shall serve as the affidavit required by [MCC Section 2-92-385\(c\)\(1\)](#).

Yes

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

Motorola Solutions 10K
Vanguard EDS
Blackrock EDS
BlackRock Proxy Statement
BlackRock 10K

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/ 04/21/2020
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.

Section 1: 10-K (10-K)

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, 2019
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
(State of Incorporation)

36-1115800
(I.R.S. Employer Identification No.)

500 W. Monroe Street, Chicago, Illinois 60661
(Address of principal executive offices)

(847) 576-5000
Registrant's telephone number, including area code:

Securities registered pursuant to Section 12(b) of the Act:

None

Title of Each Class			Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock	\$0.01	Par Value	MSI	New York Stock Exchange

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 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 June 29, 2019 (the last business day of the Registrant's most recently completed second quarter) was approximately \$21.4 billion.

The number of shares of the registrant's Common Stock, \$.01 par value per share, outstanding as of January 31, 2020 was 170,579,096.

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 11, 2020, are incorporated by reference into Part III.

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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

Motorola Solutions is a global leader in mission critical communications and analytics. Our technology platforms in mission critical communications, command center software and video security, bolstered by managed and support services, make cities safer and help communities and businesses thrive. We serve more than 100,000 public safety and commercial customers in over 100 countries and have a rich heritage of innovation spanning more than 90 years.

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 St., Chicago, Illinois 60661.

Business Organization

Products and Systems Integration Segment

The Products and Systems Integration segment offers an extensive portfolio of devices, including land mobile radio (“LMR”) handsets, infrastructure and accessories, as well as video security devices and infrastructure. The segment also includes the implementation and integration of such systems, devices and applications. The primary customers of the Products and Systems Integration segment are government, public safety and first responder agencies and municipalities. We also sell to commercial and industrial customers who use private radio networks and video security in the course of their operations. In 2019, the segment’s net sales were \$5.3 billion, representing 68% of our consolidated net sales. The Products and Systems Integration segment has the following two principal product lines:

Devices: Devices includes two-way portable and vehicle-mounted radios, fixed and mobile video cameras and accessories. Devices represented 65% of the net sales of the Products and Systems Integration segment in 2019.

Systems and Systems Integration: Systems and Systems Integration include the infrastructure related to customized radio networks and video solutions and the implementation and integration associated with the systems. Systems and Systems Integration represented 35% of the net sales of the Products and Systems Integration segment in 2019.

Software and Services Segment

As of December 31, 2019, we changed the name of the “Services and Software” segment to “Software and Services.” The change is to the name only and no other financial information has been reclassified from previous periods presented or for the year ended December 31, 2019.

The Software and Services segment provides a broad range of solutions for government, public safety and commercial customers. In 2019, the segment’s net sales were \$2.6 billion, representing 32% of our consolidated net sales. The Software and Services segment has the following principal product lines:

Software: Software includes a public safety and enterprise command center software suite, unified communications applications, and video software solutions, delivered both on-premise and “as a service” and represented 26% of the net sales of the Software and Services segment in 2019.

Services: Services includes a continuum of service offerings beginning with repair, technical support, and maintenance. More advanced offerings include monitoring, software updates, and cybersecurity services. Managed services range from partial or full operation of customer-owned networks to operation of Motorola Solutions-owned networks. Services represented 74% of the net sales of the Software and Services segment in 2019.

Strategy and Focus Areas

We offer comprehensive solutions in mission critical communications, command center software and video security and analytics, bolstered by managed and support services that help our customers work safely and efficiently. These solutions are designed to be “purpose-built” for the unique needs of our customers, which include customers in the government, public safety and commercial verticals.

Our strategy for long-term growth and the evolution of our business includes organic and inorganic investments in the following four areas:

(i) Innovation in a standards-based mission critical voice and data solutions market, which is made up of LMR and Long-Term Evolution ("LTE") technologies. Our dedication, focus, and innovation for public safety and commercial solutions built the foundation of our LMR business, which is reflected in an install base of over 13,000 systems deployed in 100+ countries around the world. These systems often have multi-year or multi-decade life spans that help drive 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, public safety 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) Service offerings that leverage our large global install base and allow our customers to improve performance across their systems, devices and applications for greater safety and productivity. Our comprehensive suite of services, ranging 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 capital expenditure investments in customer-owned and operated solutions with long-term contracts. As communication networks have become increasingly complex, software-centric and data-driven, we have expanded our services offerings and accordingly, we expect the deeper penetration of service sales into existing LMR customers to be a driver in our Services business growth.

(iii) Video analytics, network video management software and hardware, video cameras, and access control solutions for government and commercial customers. We have video solutions installed at thousands of customer sites, including school campuses, transportation systems, healthcare centers, public venues, critical infrastructure, prisons, factories, casinos, airports, financial institutions, government facilities, and retailers. We have invested in go-to-market resources to increase coverage and drive share gains in the video market. In addition, our strategy is to utilize the relationships we have as a leader in mission critical communications to expand our video security offerings further in the government and public safety verticals.

(iv) Command center software solutions to support public safety workflow from calling 9-1-1 and dispatching first responders to communicating with personnel in the field and managing records and evidence. Today, the public safety workflow is addressed by a variety of point solutions. We have built an end-to-end command center software offering that provides a unified suite of solutions across the public safety workflow which differentiates us from much of the competition. As the public safety market continues to embrace software offerings to enhance their workflows, we are able to sell cloud-based software as a service ("SaaS") offerings in addition to on-premise solutions with ancillary implementation and managed services.

Our Customers and Contracts

We serve government agencies, state and local public safety and first-responder agencies, as well as commercial and industrial customers. 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 tend 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. 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 2019, 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. 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."

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 competitive landscape in each platform varies across the markets we serve. The mission critical communications platform has a high barrier to entry due to the technological standards and requirements driven by customers resulting in less competitive turnover. The command center software and video analytics and security markets have a lower barrier to entry due to the fewer technological requirements needed to enter the market. The command center software market has many competitors who provide point solutions for pieces of the command center workflow. The video and security market has become

increasingly competitive as video technology has advanced, incorporating artificial intelligence and machine learning, which provide richer solutions to customers. Key competitive factors include: performance, features, quality, warranty, price, vendor financing, availability of service, company 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. As demand for fully integrated voice, data, broadband systems and video solutions continues to grow, we may face additional competition from public telecommunications carriers and telecommunications equipment providers to small video solutions start-ups.

As we continue to evolve our services strategy, we may subcontract work to other companies to fulfill customer needs in geographical areas that we do not have coverage or additional services that we do not provide.

Some of our major competitors within LMR, command center software, and video security are below:

Platform	Competitor
LMR	L3Harris Technologies, Inc., Hytera, Airbus SE, and Kenwood Corporation
Command center software	Central Square Technologies, Axon Enterprise, Inc., Tyler Technologies, Inc., West Corporation, Intergraph Corporation, and Zetron
Video security	Axis Communications, Hikvision, Dahua Technology Company, Hanwha Group, Genetec Inc., Axon Enterprise, Inc.

Other Information

Backlog

Our backlog includes orders that have been received and are believed to be firm. As of December 31, 2019 and December 31, 2018, our backlog was as follows:

(In millions)	December 31	
	2019	2018
Products and Systems Integration	\$ 3,158	\$ 3,199
Software and Services	8,101	7,401
	\$ 11,259	\$ 10,600

Approximately 47% of the Products and Systems Integration segment backlog and 21% of the Software and Services segment backlog is expected to be recognized as revenue during 2020. The firmness of such orders is subject to future events that may cause the amount recognized to change.

Recent Acquisitions

On October 16, 2019, we acquired a data solutions business for vehicle location information for a purchase price of \$85 million, net of cash acquired. The acquisition enhances our video security platform by adding data to our existing license plate recognition ("LPR") database within our Software and Services segment.

On July 11, 2019, we acquired WatchGuard, Inc. ("WatchGuard"), a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million of cash, net of cash acquired. The acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 11, 2019, we acquired Avtec, Inc. ("Avtec"), a provider of dispatch communications for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands our commercial portfolio with new capabilities, allowing us to offer an enhanced platform for customers to communicate, coordinate resources and secure their facilities. The business is part of both the Product and Systems Integration segment and the Software and Services segment.

On January 7, 2019, we announced that we acquired VaaS International Holdings ("VaaS"), a company that is a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million. This acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 28, 2018, we completed the acquisition of Avigilon Corporation ("Avigilon"), a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions, for a purchase price of \$974 million. The acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 7, 2018, we completed the acquisition of Plant Holdings, Inc. ("Plant"), the parent company of Airbus DS Communications, for a purchase price of \$237 million. This acquisition expands our command center software portfolio with additional solutions for next generation 9-1-1 within our Software and Services segment.

On August 28, 2017, we completed the acquisition of Kodiak Networks, a provider of broadband push-to-talk for commercial customers, for a purchase price of \$225 million. The business is part of the Software and Services segment.

On March 13, 2017, we completed the acquisition of Interexport, a managed service provider of communications systems to public safety and commercial customers in Chile, for a purchase price of 98 billion Chilean pesos, or approximately \$147 million. The business is part of the Software and Services segment.

Research and Development

We continue to prioritize investments in R&D to expand and improve our products through both new product introductions and continuous enhancements to our core products. Our R&D programs are focused on the development of: (i) mission critical communications (ii) command center software and (iii) video security.

R&D expenditures were \$687 million in 2019, \$637 million in 2018, and \$568 million in 2017. As of December 31, 2019, we had approximately 6,000 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 developments in radio frequency technology and circuits, wireless network technologies, over-the-air protocols, mission critical communications, software and services, video security and next-generation public safety. We also file 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 is not a significant source of revenue for our business. 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, technological 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 when it is necessary to protect our innovation, or in some cases where attempts to negotiate mutually-agreeable licenses are not successful.

We seek to obtain patents, copyright registrations, and trademark registrations to protect our proprietary positions whenever possible and wherever practical. As of December 31, 2019, we owned approximately 5,700 granted patents in the U.S. and in foreign countries. As of December 31, 2019, we had approximately 1,475 U.S. and foreign patent applications pending. Foreign patents and patent applications are mostly counterparts of our U.S. patents. During 2019, we were granted approximately 575 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 Group Limited.

Inventory and Raw Materials

Our practice is to carry reasonable amounts of inventory to meet customers delivery requirements. We provide custom products that 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 supplier 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. In addition, we import materials and components that are subject to import duties, including tariffs in connection with products procured in China. The duties and tariffs we are subject to do not have a significant impact on our financial results. 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 significant cost increases, could affect our financial results.

Environmental Quality

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 2018, compliance with these U.S. federal, state and local, and international laws did not have a material effect on our capital expenditures or competitive position; however, we recorded a \$57 million charge once we became aware of additional remediation requirements for the designated Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act (commonly known as the "Superfund Act") incurred by a legacy business.

Regulatory Matters

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 is allocated to wireless services and specifically to public safety users. We manufacture and market products in spectrum bands already allocated 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 by regulatory agencies. 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 (e.g., the sharing of previously dedicated or other spectrum) may also provide opportunities or may require modifications to some of our products so they can continue to be manufactured and marketed.

The U.S. federal government and many state and local governments have adopted or are considering laws or regulations governing the use of artificial intelligence, biometrics, facial recognition and license plate recognition technology, primarily based on concerns about privacy or bias. (References to privacy-related legislation or laws in this document encompass all of these technologies.) Similar laws and regulations are being considered in some countries outside the U.S. Based on growing demands for broadband, regulators continue to consider repurposing narrowband spectrum to broadband. There are calls for more stringent health and safety requirements for occupational equipment for public safety and commercial users. There is also increasing attention in the U.S. on supply chain vulnerabilities related to country of origin and national security. Our entrance into new service offerings could present new or additional regulatory burdens and compliance issues.

Employees

At December 31, 2019 and December 31, 2018 we had approximately 17,000 and 16,000 employees, respectively.

Material Dispositions

None.

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—2019 Compared to 2018" and "Results of Operations—2018 Compared to 2017" 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 <http://investors.motorolasolutions.com/AnnualReports> and may also be requested in hardcopy by completing the on-line request form at the top of this page. 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 are subject to laws and regulations regarding privacy, data protection and information security, and our actual or perceived failure to comply with such legal obligations could adversely affect our business.

The European Union ("E.U.") adopted the General Data Protection Regulation ("GDPR") which took effect on May 25, 2018 harmonizing data protection laws across the E.U. The GDPR strengthens individual privacy rights and enhances data protection obligations for processors and controllers of personal data. This includes expanded disclosures about how personal information is to be used, limitations on retention of information and mandatory data breach notification requirements. Noncompliance with the GDPR can trigger significant fines.

Also, U.S. federal, state and other foreign governments and agencies have adopted or are considering adopting laws and regulations regarding the collection, storage, use, processing and disclosure of personal data. State governments within the U.S. are starting to enact their own versions of "GDPR- like" privacy legislation which will create additional compliance challenges, risk, and administrative burden e.g. the California Consumer Protection Act ("CCPA") which went into effect on January 1, 2020. Even though comprehensive U.S. Federal Privacy legislation is being discussed seriously by lawmakers and other stakeholders, it is possible that a one-size fits all compliance program may be difficult to achieve/manage globally.

Because the interpretation and application of privacy and data protection laws are still uncertain, it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our existing practices or the features of our products, software and services.

Any failure or perceived failure by us, our business partners, or third party service providers to comply with GDPR, CCPA, other privacy-related or data protection laws and regulations, or the privacy commitments in contracts could result in proceedings against us by governmental entities or others and significant fines, which could have a material adverse effect on our business and operating results and harm our reputation.

In addition, some countries have or are considering legislation requiring local storage and processing of data that, if enacted, could increase the cost and complexity of offering our products, software and services or maintaining our business operations in those jurisdictions.

Existing or future privacy-related legislation and regulations pertaining to artificial intelligence that apply to us or to our customers may require us to change our current products and services and/or result in additional expenses, which could adversely affect our business and results of operations. We could suffer reputational damage from negative publicity related to products and services that utilize artificial intelligence, which could also adversely affect our business and results of operations.

Current or future privacy-related legislation and governmental regulations pertaining to artificial intelligence may affect how our business is conducted. Legislation and governmental regulations related to artificial intelligence may also influence our current and prospective customers' activities, as well as their expectations and needs in relation to our products and services. Compliance with these laws and regulations may be onerous and expensive, and may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance. Any such increase in costs as a result of changes in these laws and regulations or in their interpretation could individually or in the aggregate make our products and services that use artificial intelligence technologies less attractive to our customers, delay the introduction of new products, in one or more regions, cause us to change or limit our business practices or affect our financial condition and operating results.

We envision a future in which artificial intelligence operating in our products and services will help our public safety and private sector customers build safer communities with stronger communication platforms. Artificial intelligence may be flawed and datasets may be insufficient or contain biased information. As we work to responsibly meet our customers' needs for products and services that use artificial intelligence, we could suffer reputational damage as a result of any inconsistencies in the application of the technology or ethical concerns both of which may generate negative publicity.

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 or as a software-based service, 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. 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, audits, and utilization of commercial information security threat-sharing networks to protect against such attacks, the sophistication of these threats continues to grow and the complexity and scale of the systems to be protected continues to increase as well. We cannot guarantee that all threat attempts will be successfully thwarted even with these countermeasures despite significant investment and focus on the security of our products, services, and corporate environment. If we fail to effectively manage our investment in cybersecurity, our business, products, and services could suffer from the resulting weaknesses in our infrastructure, systems or controls. 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, including the hosts of our cloud infrastructure on top of which our cloud-based solutions are built. 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. Although we maintain insurance related to cybersecurity risks, there can be no assurance that our insurance coverage will cover the particular cyber incident at issue or that such coverage will be sufficient.

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 cybersecurity 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 without adequate indemnification from our suppliers, 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 continued global trend to enforce data sovereignty and negate legitimate cross border data flows increases the risk that we, directly or through some third party service provider, may inappropriately transfer 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 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, Trade Agreements Act, Buy America Act, 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. For contracts covered by the Cost Accounting Standards, 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 can be terminated for convenience by the government at any time.

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 narrowband and broadband systems or reduce barriers to entry for new competitors.

Radio spectrum is required to provide wireless voice, data, and video communications service. The allocation of frequencies is regulated in the U.S. and other countries and limited spectrum is allocated to wireless services, including to public safety users. The global demand for wireless communications has grown exponentially, and spurred competition for access among various networks and users. In response, regulators are reassessing the allocations of spectrum among users, including public safety users, and considering whether to change the allocation of certain bands from narrowband to broadband use, or to require sharing of spectrum bands. Our results could be positively or negatively affected by the rules and regulations adopted by regulators. 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 (e.g., the sharing of previously dedicated or other spectrum) may also provide opportunities or may require modifications to some of our products so they can continue to be manufactured and

marketed. Opportunities in the public safety broadband market may also be impacted by the First Responder Network Authority which was authorized by Congress to develop, build, and operate a nationwide broadband network for first responders.

The expansion of our video security and software businesses creates a greater risk than we have been exposed to in the past that we may not be able to properly assess or mitigate.

The process of developing new video security and software products and enhancing existing products is complex, costly and uncertain, and any failure by us to anticipate customers' changing needs and emerging technological trends accurately could significantly harm our market share, results of operations and financial condition. Any failure to accurately predict technological and business trends, control research and development costs or execute our innovation strategy could harm our business and financial performance. Our research and development initiatives may not be successful in whole or in part, including research and development projects which we have prioritized with respect to funding and/or personnel.

As part of our growth strategy, we may seek to acquire new technologies. The process of integrating acquired assets into our operations may result in unforeseen operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for the ongoing development of our business. We may allocate a significant portion of our available operating cash flow to finance all or a portion of the purchase price relating to possible acquisitions. Any future acquisition or investment opportunity may require us to obtain additional financing to complete the transaction. The anticipated benefits of any acquisitions may not be realized. In addition, future acquisitions by us could result in potentially dilutive issuances of equity securities, the incurrence of debt and contingent liabilities and amortization expenses related to intangible assets, any of which could materially adversely affect our operating results and financial position.

The expansion of our services business creates increased areas of risk that we may not be able to properly assess or mitigate.

We plan to continue to expand our 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 multi-year projects. Additionally, our managed services business includes 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 face increasing competition from traditional system integrators, the defense industry, commercial software companies, and commercial telecommunication carriers as 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.

Additionally, as our portfolio of products increases, we may be subject to new regulatory and statutory requirements and could result in additional compliance obligations and liabilities for our business. For example, in the United States we may be a provider of Next Generation 911 services which may be subject to Federal and state regulation.

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. In addition, new technologies such as voice over LTE and 5G or push-to-talk clients over LTE and 5G could reduce sales of our traditional products. The shift to smart public safety and the prevalence of data in our customer 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 and video security 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, including country specific proprietary technology requirements, 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.

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 principal 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 license 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.

As our business grows, the breadth and value of our intellectual property, including patents, trade secrets, and source code, may become a target from internal threats, business partners who assist in the development of products and our intellectual property, and external third party actors. Our intellectual property protection may be inadequate to protect against these threats of misappropriation, thereby allowing competitors to unfairly use our intellectual property to compete against us.

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 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 and emerging markets, has remained low or declined, currency fluctuations have impacted profitability, credit markets have remained tight for certain counterparties of ours and some of our customers are 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, including in response to financial challenges surrounding state and local governments. 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, increases in interest rates, 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 (including the impact of Brexit discussed below), Asia, Latin America, 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.

We face uncertainty in the global geopolitical landscape that may impede the implementation of our strategy outside the United States.

Following a referendum in 2016, the United Kingdom (the “U.K.”) formally left the E.U. on January 31, 2020. There is now a transition period until December 31, 2020, when current UK-EU relationships will continue unchanged. During this period, the U.K. and E.U. will seek to negotiate their long-term economic relations. Failure to reach agreement during 2020 could risk significant disruption to U.K./E.U. trade which could prolong stock market volatility and currency exchange rate fluctuations that resulted in strengthening of the U.S. dollar. There may be broader uncertainty over U.S. treaty and trade relations with other countries. This could impact the ability or willingness of non-U.S. companies to transact business in the U.S., regulation and trade agreements affecting U.S. companies, and global economic conditions. All these factors are outside our control, but may cause us to adjust strategy so as to compete effectively in global markets, and could adversely affect our business, financial condition, operating results 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.

A significant amount of our sales and operations are conducted outside the United States and 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 and capital controls enforced by certain jurisdictions may limit our ability to convert foreign currency or repatriate cash. As a result of having a lower amount of cash and cash equivalents in the U.S., our financial flexibility may be reduced.

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.

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, including ensuring proper integration of acquired businesses’ legal and regulatory compliance programs, (ii) risks associated with integrating financial reporting and internal control systems, (iii) difficulties in integrating information technology systems and other business processes to accommodate the acquired businesses, (iv) challenges in integrating acquired businesses to create the operating platform for public safety, (v) the challenges in achieving strategic objectives, cost savings and other benefits from acquisitions, (vi) the risk that our contractual relationships or the markets served do not evolve as anticipated and that the technologies acquired do not prove to be those needed to be successful in those markets, (vii) the potential loss of key employees of the acquired businesses, (viii) the risk of diverting the attention of senior management from our operations, (ix) the risks of entering new markets in which we have limited experience, 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 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 competitive bidding processes, which result in greater competition and increased pricing pressure. These competitive bidding processes involve 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 awarded 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 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. Furthermore, 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 are 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) issue commercial paper (iii) provide performance bonds, bid bonds, standby letters of credit and surety bonds, (iv) hedge foreign exchange risk, (v) fund our foreign affiliates, and (vi) 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 software and services, 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 software and services from our suppliers. In addition, certain supplies, including for some of our critical components, software and services solutions, 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 supply or a significant increase in the price of supply, 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 or services. 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.

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 or local employment laws. 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 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.

Our customers and suppliers are located throughout the world. In 2019, 33% 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 53% of our employees are employed outside the U.S. Most of our suppliers' operations are outside the U.S. and a significant portion of our products are manufactured outside the U.S., both internally and by third-parties.

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.

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, labor and employment, 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, 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 impacted 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, (iv) our third party providers fail to comply with legal or regulatory requirements, or (v) 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 services contracts that may negatively impact our business.

We enter into large, multi-year system 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) cybersecurity 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.

We completed a number of large divestitures in the past and 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.

We are singularly focused on mission critical communications for public safety and commercial customers, and accordingly 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.

The accounting for convertible debt securities that may be settled in cash or in shares of common stock could have a material effect on our reported financial results.

Under U.S. GAAP, an entity must separately account for the debt component and the embedded conversion option of convertible debt instruments that may be settled entirely or partially in cash or in shares of common stock upon conversion, such as our 1.75% senior convertible notes ("New Senior Convertible Note"). The fair value of the embedded conversion option is classified as an addition to stockholder's equity. The difference between book carrying cost and face value of the debt represents a non-cash discount. This difference will be amortized into interest expense over the estimated life of the New Senior Convertible Notes. As a result, we will be required to record a greater amount of non-cash interest expense as a result of the amortization of the discount over the expected term of the New Senior Convertible Notes. Accordingly, we will report lower net income because of the recognition of both the current period's discount amortization and the New Senior Convertible Notes' coupon interest, which could adversely affect the trading price of our shares of common stock and the trading price (if any) of the New Senior Convertible Notes.

Convertible debt instruments (such as the New 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 New Senior Convertible Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the New 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 New Senior Convertible Notes, if any, over the principal amounts of the New Senior Convertible Notes (which would be settled in cash). The conversion value of the New Senior Convertible Notes will exceed the principal amount of the notes to the extent the trading price of a share of our stock exceeds \$203.50. We intend to settle the principal amount of the convertible notes in cash. However, we may not have access to the capital markets for financing on acceptable terms and conditions, particularly if our credit ratings are downgraded. Accordingly, we may be forced to fully settle the New Senior Convertible Notes in shares of common stock upon conversion, the effect of which would cause the dilutive impact to earnings per share to be significantly in excess of the dilutive impact reflected by the treasury stock method.

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 non-deductible expenses, or (vii) repatriating cash held abroad.

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 Organization 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 U.S., 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 restructuring activities, or cost reductions or divestitures, 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.

Returns on pension and retirement plan assets and interest rate changes could affect our earnings and cash flows in future periods.

Although we made a voluntary contribution into the U.S. pension plan in early 2018, and completed a lump sum offer for certain participants in the U.S. pension plan in 2019, 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 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, (iv) the use and transportation of batteries continue to expand significantly and (v) debt collection and other consumer finance matters. Laws pertaining to accessibility features of electronic products, standardization of connectors and power supplies, the use and 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, use of products with video 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 2019 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 E.U. 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 a 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, cybersecurity 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. While we have significantly reduced our reliance on a number of older legacy information systems that are harder to maintain we 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.

Increasing attention globally on supply chain vulnerabilities related to country of origin and national security could have an impact on our sales and operating results.

Governments in the U.S. and around the world are considering and taking action to address threats to national security vulnerabilities linked to country of origin. In the U.S., the National Defense Authorization Act for Fiscal Year 2019 ("NDAA") implemented prohibitions on the use of federal funds to purchase and/or the use of telecommunications equipment and services and video surveillance equipment and services from Chinese vendors including Huawei, ZTE, Hytera, Hikvision, and Dahua. There currently exists some ambiguity with regard to the scope of the prohibitions, and, therefore, the final rules implementing these prohibitions could impact the Company.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

Motorola Solutions' global headquarters is 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, 2019, we: (i) owned three facilities: one manufacturing facility in Europe, an office in Europe and an office in the U.S., (ii) leased 232 facilities, 128 of which were located in the Americas region and 104 of which were located in other countries and (iii) primarily utilized six major facilities for the manufacturing and distribution of our products, located in: Penang, Malaysia; Elgin, Illinois; Plano, Texas; McAllen, Texas; Vancouver, BC, Canada; and Gatineau, Quebec, Canada.

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 2019, approximately 19% of our products were manufactured in Illinois and approximately 59% 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 Penang 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 or liquidity. However, an unfavorable resolution could have a material adverse effect on our 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.

Information about our Executive Officers

The following are the persons who were the executive officers of Motorola Solutions, their ages, and their current titles as of February 14, 2020 and the positions they have held during the last five years with the Company or as otherwise noted:

Gregory Q. Brown; age 59; Chairman and Chief Executive Officer since May 3, 2011.

Gino A. Bonanotte; age 55; Executive Vice President and Chief Financial Officer since November 13, 2013.

Mark S. Hacker; age 48; Executive Vice President, General Counsel and Chief Administrative Officer since January 21, 2015.

Kelly S. Mark; age 48; Executive Vice President, Software and Services since August 28, 2018; Senior Vice President, Managed and Support Services from July 2017 to August 2018; Corporate Vice President, Managed and Support Services from August 2015 to July 2017; and Corporate Vice President, Strategy from May 2011 to August 2015.

John P. "Jack" Molloy; age 48; Executive Vice President, Products and Sales since August 28, 2018; Executive Vice President, Worldwide Sales and Services from July 2017 to August 2018; Executive Vice President, Worldwide Sales from January 2016 to July 2017; Executive Vice President, Americas Sales and Services from November 2015 to January 2016; Senior Vice President, Americas Sales and Marketing from September 2015 to November 2015; and Senior Vice President, North America Sales from January 2014 to August 2015.

Rajan S. Naik; age 48; Senior Vice President, Strategy and Ventures, since December 2017; Corporate Vice President, Chief Strategy Officer from March 2016 to December 2017; and Senior Vice President, Chief Strategy Officer, Advanced Micro Devices, Inc. from January 2012 to February 2015.

Daniel G. Pekofske; age 43; Corporate Vice President and Chief Accounting Officer since September 10, 2018; Vice President and Treasurer from January 2016 to September 2018; Vice President and Assistant Treasurer from March 2015 to January 2016; and Vice President and Assistant Controller from February 2014 to March 2015.

Cynthia M. Yazdi; age 55; Senior Vice President, Chief of Staff, Marketing and Communications and Motorola Solutions Foundation since August 28, 2018; Corporate Vice President, Chief of Staff to the Chairman and CEO, Global Marketing and Communications from February 2018 to August 2018; Vice President, Chief of Staff, Global Marketing and Communications from September 2016 to February 2018; Vice President, Chief of Staff from August 2015 to September 2016; and Senior Director, Sales Operations for Asia Pacific from January 2013 to August 2015.

The above executive officers will serve as executive officers of Motorola Solutions until the regular meeting of the Board of Directors in May 2020 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 January 31, 2020 was 24,266.

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 2020 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, 2019.

ISSUER PURCHASES OF EQUITY SECURITIES

<i>Period</i>	<i>(a) Total Number of Shares Purchased</i>	<i>(b) Average Price Paid per Share ⁽¹⁾</i>	<i>(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program ⁽²⁾</i>	<i>(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Program ⁽²⁾</i>
09/26/19 to 10/23/19	—	\$ —	—	\$ 1,406,799,929
10/24/19 to 11/20/19	599,930	\$ 159.71	599,930	\$ 1,310,984,815
11/21/19 to 12/27/19	306,782	\$ 161.60	306,782	\$ 1,261,407,490
Total	<u>906,712</u>	<u>\$ 160.35</u>	<u>906,712</u>	

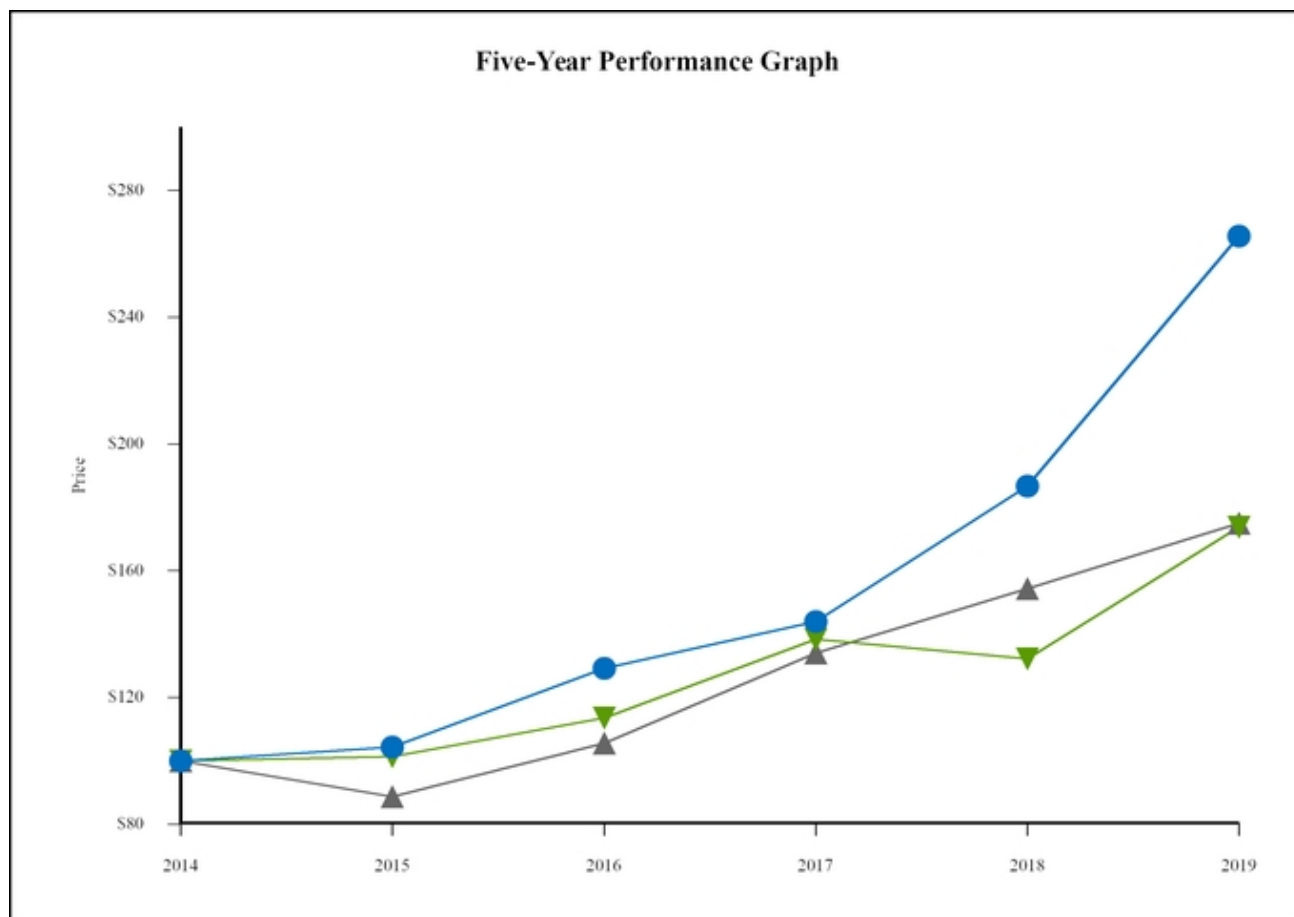
(1) Average price paid per share of common stock repurchased is the execution price, including commissions paid to brokers.

(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, 2019, the Company had used approximately \$12.7 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, 2014 and reflects the payment of dividends.



	2014	2015	2016	2017	2018	2019
Motorola Solutions	\$100.00	\$104.31	\$129.24	\$144.04	\$186.72	\$265.49
S&P 500	\$100.00	\$101.37	\$113.49	\$138.26	\$132.19	\$173.80
S&P Communications	\$100.00	\$88.67	\$105.45	\$134.04	\$154.25	\$174.93

Item 6: Selected Financial Data

(In millions, except per share amounts)	Years Ended December 31				
	2019	2018	2017	2016	2015
Operating Results					
Net sales	\$ 7,887	\$ 7,343	\$ 6,380	\$ 6,038	\$ 5,695
Operating earnings	1,581	1,255	1,284	1,048	916
Earnings (loss) attributable to Motorola Solutions, Inc.	868	966	(155)	560	640
Per Share Data (in dollars)					
Diluted earnings (loss) from continuing operations per common share*	\$ 4.95	\$ 5.62	\$ (0.95)	\$ 3.24	\$ 3.17
Earnings (loss) per diluted common share*	4.95	5.62	(0.95)	3.24	3.02
Diluted weighted average common shares outstanding (in millions)	175.6	172.0	162.9	173.1	201.8
Dividends declared per share	\$ 2.35	\$ 2.13	\$ 1.93	\$ 1.70	\$ 1.43
Balance Sheet					
Total assets	\$ 10,642	\$ 9,409	\$ 8,208	\$ 8,463	\$ 8,346
Total debt	5,129	5,320	4,471	4,396	4,349
Other Data					
Capital expenditures	\$ 248	\$ 197	\$ 227	\$ 271	\$ 175
% of sales	3.1%	2.7%	3.6%	4.5%	3.1%
Research and development expenditures	\$ 687	\$ 637	\$ 568	\$ 553	\$ 620
% of sales	8.7%	8.7%	8.9%	9.2%	10.9%

* 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, 2019 and 2018 and results of operations for each of the three years in the period ended December 31, 2019. 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

Motorola Solutions is a leading global provider of mission critical communications and analytics. Our technology platforms in communications, software, video, and services make cities safer and help communities and businesses thrive. We serve our customers with a global footprint of sales in more than 100 countries and 17,000 employees worldwide utilizing our industry leading innovation and a deep portfolio of products and services.

We conduct our business globally and manage it by two segments (as mentioned, we changed the name order of the segment to Software and Services):

Products and Systems Integration: The Products and Systems Integration segment offers an extensive portfolio of infrastructure, devices, accessories, video security devices and infrastructure, and the implementation, and integration of such systems, devices, and applications, including the Company's: (i) "ASTRO" products, which meet the Association of Public Safety Communications Officials Project 25 standard, (ii) "Dimetra" products which meet the European Telecommunications Standards Institute Terrestrial Trunked Radio ("TETRA") standard, (iii) Professional and Commercial Radio ("PCR") products, (iv) broadband technology products, such as Long-Term Evolution ("LTE"), and (v) video solutions, such as video cameras. The primary customers of the Products and Systems Integration segment are government, public safety and first-responder agencies, municipalities, and commercial and industrial customers who operate private communications networks and video solutions typically managing a mobile workforce. In 2019, the segment's net sales were \$5.3 billion, representing 68% of our consolidated net sales.

Software and Services: The Software and Services segment provides a broad range of solution offerings for government, public safety and commercial customers. Software includes a public safety and enterprise command center software suite, unified communications applications, and video software solutions, delivered both on-premise and "as a service." Services includes a continuum of service offerings beginning with repair, technical support and maintenance. More advanced offerings include monitoring, software updates and cybersecurity services. Managed services range from partial to full operation of customer or Motorola Solutions-owned networks. In 2019, the segment's net sales were \$2.6 billion, representing 32% of our consolidated net sales.

2019 Financial Results

- Net sales were \$7.9 billion in 2019 compared to \$7.3 billion in 2018 and driven by growth in the Americas.
- Operating earnings were \$1.6 billion in 2019 compared to \$1.3 billion in 2018.
- Earnings attributable to Motorola Solutions, Inc. were \$868 million, or \$4.95 per diluted common share in 2019, compared to earnings of \$966 million, or \$5.62 per diluted common share in 2018.
- Our operating cash flow increased \$748 million to \$1.8 billion in 2019.
- We returned \$694 million of capital in the form of \$315 million in share repurchases and \$379 million in dividends in 2019.
- We increased our quarterly dividend by 12% to \$0.64 per share in November 2019.
- Ended 2019 with a backlog position of \$11.3 billion, up \$659 million compared to 2018.

Segment Financial Highlights

- In the Products and Systems Integration segment, net sales were \$5.3 billion in 2019, an increase of \$229 million, or 5%, compared to \$5.1 billion in 2018. On a geographic basis, net sales increased in the Americas, partially offset by declines in EMEA and AP. Operating earnings were \$994 million in 2019, compared to \$854 million in 2018. Operating margin increased in 2019 to 18.7% from 16.7% in 2018 driven by higher sales and gross margin, as well as an environmental reserve charge of \$40 million taken in 2018.
- In the Software and Services segment, net sales were \$2.6 billion in 2019, an increase of \$315 million, or 14%, compared to \$2.2 billion in 2018. On a geographic basis, net sales increased in the Americas and EMEA, partially offset by declines in AP. Operating earnings were \$587 million in 2019, compared to \$401 million in 2018. Operating margin increased in 2019 to 22.9% from 17.9% in 2018 driven by higher sales and gross margin, as well as an environmental reserve charge of \$17 million taken in 2018.

Recent Acquisitions and Developments

On October 16, 2019, we acquired a data solutions business for vehicle location information for a purchase price of \$85 million, net of cash acquired. The acquisition enhances our video security platform by adding data to our existing license plate recognition ("LPR") database within our Software and Services segment.

On July 11, 2019, we acquired WatchGuard, Inc. ("WatchGuard"), a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million of cash, net of cash acquired. The acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 11, 2019, we acquired Avtec, Inc. ("Avtec"), a provider of dispatch communication equipment for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands our commercial portfolio with new capabilities, allowing us to offer an enhanced platform for customers to communicate, coordinate resources, and secure their facilities. The business is part of both the Product and Systems Integration segment and the Software and Services segment.

On January 7, 2019, we announced that we acquired VaaS International Holdings ("VaaS"), a company that is a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million. This acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 28, 2018, we completed the acquisition of Avigilon Corporation ("Avigilon"), a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions for a purchase price of \$974 million. The acquisition expands our video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 7, 2018, we completed the acquisition of Plant Holdings, Inc. ("Plant"), the parent company of Airbus DS Communications for a purchase price of \$237 million. This acquisition expands our software portfolio in the command center with additional solutions for Next Generation 9-1-1 within our Software and Services segment.

On August 28, 2017, we completed the acquisition of Kodiak Networks, a provider of broadband push-to-talk for commercial customers, for a purchase price of \$225 million. The business is part of our Software and Services segment.

On March 13, 2017, we completed the acquisition of Interexport, a managed service provider of communications systems to public safety and commercial customers in Chile, for a purchase price of 98 billion Chilean pesos, or approximately \$147 million. The business is part of our Software and Services segment.

Looking Forward

We continue to further leverage our position as a leader in mission critical communications into additional growth opportunities in our video security and command center software platforms. Specifically, we view drivers of these growth opportunities as follows: (i) video cross-selling opportunities, where we have traditionally sold video into commercial verticals, we are now seeking opportunities into the government and public safety verticals; (ii) potential share gains in video from customers seeking domestic vendors; (iii) accelerating traction with command center software suite sales; and (iv) a deeper penetration of service into existing LMR customers as communication networks become more complex, software-centric and data-driven.

As the Company pursues these growth opportunities, we continue to expect to gain operating leverage as we scale our businesses. Specifically, we've made go-to-market investments in both video security and our command center software platforms with growth in mind. We've made a number of acquisitions since 2016 and we see opportunity to continue to rationalize costs within both segments of our business, further driving gains in the operating margins of our businesses.

Lastly, we remain committed to our capital deployment model, which is a framework in which we allocate cash flow from operations as follows: (i) 50% for acquisitions and share repurchases, (ii) 30% for dividends, and (iii) 20% for investments in capital expenditures. We expect to continue a balanced approach in capital allocation through this framework.

Results of Operations

(Dollars in millions, except per share amounts)	Years ended December 31					
	2019	% of Sales **	2018	% of Sales **	2017	% of Sales **
Net sales from products	\$ 4,746		\$ 4,463		\$ 3,772	
Net sales from services	3,141		2,880		2,608	
Net sales	7,887		7,343		6,380	
Costs of product sales	2,049	43.2 %	2,035	45.6 %	1,686	44.7 %
Costs of services sales	1,907	60.7 %	1,828	63.5 %	1,670	64.0 %
Costs of sales	3,956	50.2 %	3,863	52.6 %	3,356	52.6 %
Gross margin	3,931	49.8 %	3,480	47.4 %	3,024	47.4 %
Selling, general and administrative expenses	1,403	17.8 %	1,254	17.1 %	1,025	16.1 %
Research and development expenditures	687	8.7 %	637	8.7 %	568	8.9 %
Other charges	260	3.3 %	334	4.5 %	147	2.3 %
Operating earnings	1,581	20.0 %	1,255	17.1 %	1,284	20.1 %
Other income (expense):						
Interest expense, net	(220)	(2.8)%	(222)	(3.0)%	(201)	(3.2)%
Gains on sales of investments and businesses, net	5	0.1 %	16	0.2 %	3	— %
Other	(365)	(4.6)%	53	0.7 %	(10)	(0.2)%
Total other expense	(580)	(7.4)%	(153)	(2.1)%	(208)	(3.3)%
Net earnings before income taxes	1,001	12.7 %	1,102	15.0 %	1,076	16.9 %
Income tax expense	130	1.6 %	133	1.8 %	1,227	19.2 %
Net earnings (loss)	871	11.0 %	969	13.2 %	(151)	(2.4)%
Less: Earnings attributable to noncontrolling interests	3	— %	3	— %	4	0.1 %
Net earnings (loss)*	\$ 868	11.0 %	\$ 966	13.2 %	\$ (155)	(2.4)%
Earnings (loss) per diluted common share*	\$ 4.95		\$ 5.62		\$ (0.95)	

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

** Percentages may not add due to rounding.

Geographic Market Sales by Locale of End Customer

	2019	2018	2017
Americas	72%	69%	68%
EMEA	20%	22%	21%
AP	8%	9%	11%
	100%	100%	100%

Results of Operations—2019 Compared to 2018

Net Sales

(In millions)	Years ended December 31		
	2019	2018	% Change
Net sales from Products and Systems Integration	\$ 5,329	\$ 5,100	5%
Net sales from Software and Services	2,558	2,243	14%
Net sales	\$ 7,887	\$ 7,343	7%

The Products and Systems Integration segment's net sales represented 68% of our consolidated net sales in 2019, compared to 69% in 2018. The Software and Services segment's net sales represented 32% of our consolidated net sales in 2019, compared to 31% in 2018.

Net sales were up \$544 million, or 7%, compared to 2018. The increase in net sales was driven by the Americas, partially offset by sales declines in EMEA and AP, with a 14% increase in the Software and Services segment and a 5% increase in the Products and Systems Integration segment. Net sales includes:

- growth in Devices, Software, and Services due to strong demand in Americas, inclusive of acquisitions;
- \$312 million of incremental revenue from acquisitions; and
- partially offset by \$113 million from unfavorable currency rates.

Regional results include:

- the Americas grew 12% across video security, LMR and command center software within both the Products and Systems Integration and the Software and Services segments, inclusive of incremental revenue from acquisitions;
- EMEA was down 3%, with a 14% decrease in Products and Systems Integration, partially offset by a 9% growth in the Software and Services segments, inclusive of incremental revenue from acquisitions. EMEA experienced \$61 million of unfavorable foreign currency effects in 2019 compared to 2018; and
- AP was down 3% with declines of 4% in the Products and Systems Integration segment and 2% in the Software and Services segment. AP experienced \$28 million of unfavorable foreign currency effects in 2019 compared to 2018.

Products and Systems Integration

The 5% growth in the Products and Systems Integration segment was driven by:

- \$157 million of incremental revenue from acquisitions; and
- partially offset by \$54 million foreign currency headwinds;
- Devices were up \$251 million reflecting strong demand for both LMR and video security devices; and
- Systems and Systems Integration decreased 1% driven primarily by EMEA, which had two large system deployments completed in the Middle East and Africa in 2018.

Software and Services

The 14% growth in the Software and Services segment was driven by the following:

- \$155 million of incremental revenue from acquisitions; and
- partially offset by \$59 million of foreign currency headwinds;
- Software was up \$234 million, or 55%, driven by growth in both our video software solutions portfolio and command center software sales, inclusive of acquisitions; and
- Services were up \$81 million, or 4%, driven by growth in both maintenance and managed service revenues, inclusive of acquisitions.

Gross Margin

(In millions)	Years ended December 31		
	2019	2018	% Change
Gross margin	\$ 3,931	\$ 3,480	13%

Gross margin was 49.8% of net sales in 2019 and 47.4% in 2018. The increase was driven by:

- higher margins in the Products and Systems Integration segment primarily driven by a favorable mix in Devices; and
- higher margins within the Software and Services segment primarily driven by higher Software sales, inclusive of acquisitions.

Selling, General and Administrative Expenses

(In millions)	Years ended December 31		
	2019	2018	% Change
Selling, general and administrative expenses	\$ 1,403	\$ 1,254	12%

SG&A expenses increased 12% compared to 2018. SG&A expenses were 17.8% of net sales compared to 17.1% of net sales in 2018. The increase in SG&A expenditures is primarily due to increased expenses associated with acquired businesses, including the deployment of additional sales resources to support video security growth initiatives.

Research and Development Expenditures

(In millions)	Years ended December 31		
	2019	2018	% Change
Research and development expenditures	\$ 687	\$ 637	8%

R&D expenditures increased 8%. R&D expenditures were 8.7% of net sales in 2019 and 2018. The increase in R&D is primarily due to acquired businesses, specifically in our video security platform, as well as new product launches.

Other Charges

(In millions)	Years ended December 31		
	2019	2018	
Other charges	\$ 260	\$ 334	

The decrease in Other charges in 2019 as compared to 2018 can be summarized as follows:

- a \$57 million charge in 2018 related to ongoing remediation efforts for an environmental clean-up incurred by a legacy business (see Note 4 of our consolidated financial statements);
- \$40 million of net reorganization of business charges in 2019 as compared to \$61 million in 2018 (See Note 14 of our consolidated financial statements);
- \$3 million of charges for acquisition-related transaction fees in 2019 as compared to \$24 million in 2018; partially offset by
- \$208 million of amortization of intangibles in 2019 compared to \$188 million in 2018.

Operating Earnings

(In millions)	Years ended December 31	
	2019	2018
Operating earnings from Products and Systems Integration	\$ 994	\$ 854
Operating earnings from Software and Services	587	401
Operating earnings	\$ 1,581	\$ 1,255

Operating earnings were up \$326 million, or 26%, compared to 2018. The increase in Operating earnings was due to:

- Software and Services segment was up \$186 million from 2018 to 2019 due to higher sales and gross margin, as well as lower operating expenses driven by: (i) \$17 million lower environmental reserve expenses, (ii) \$11 million lower acquisition-related transaction fees, (iii) \$5 million lower reorganization of business expenses, and partially offset by (iv) \$4 million higher intangible amortization driven by acquisitions.
- Products and Systems Integration was up \$140 million from 2018 to 2019 due to higher sales and gross margin, as well as lower operating expenses driven by: (i) \$40 million lower environmental reserve expenses, (ii) \$15 million lower reorganization of business expenses, (iii) \$10 million lower acquisition-related transaction fees, and partially offset by (iv) \$16 million higher intangible amortization driven by acquisitions.

Net Interest Expense

(In millions)	Years ended December 31	
	2019	2018
Interest expense, net	\$ (220)	\$ (222)

Interest expense, net in 2019 compared to 2018 remained relatively consistent given the similar average outstanding debt balance.

Gains (losses) on Sales of Investments and Businesses, net

(In millions)	Years ended December 31	
	2019	2018
Gains on sales of investments and businesses, net	\$ 5	\$ 16

The net gains in 2019 and 2018 were primarily related to the sales of various equity investments.

Other

(In millions)	Years ended December 31	
	2019	2018
Other income (expense)	\$ (365)	\$ 53

The change in net Other expense in 2019 as compared to 2018 was primarily comprised of:

- \$359 million U.S. pension settlement loss in 2019 (See Note 8 of our consolidated financial statements);
- \$46 million of net losses from repurchases of long term debt as compared to a gain of \$6 million in 2018 (See Note 5 of our consolidated financial statements).

Effective Tax Rate

(In millions)	Years ended December 31	
	2019	2018
Income tax expense	\$ 130	\$ 133

Income tax expense decreased by \$3 million for an effective tax rate of 13.0%, which is lower than the current U.S. federal statutory rate of 21% primarily due to:

- a \$77 million benefit due to the partial release of a valuation allowance to our U.S. foreign tax credit carryforward (see Note 7 of our consolidated financial statements); and
- \$27 million of benefits due to the recognition of excess tax benefits on share-based compensation.

Our effective tax rate in 2018 was 12.1% primarily related to:

- \$79 million benefit related to updates of the provisional amounts on the impact of the Tax Act; and
- \$30 million of benefits due to the recognition of excess tax benefits on share-based compensation.

Results of Operations—2018 Compared to 2017

Net Sales

(In millions)	Years ended December 31		
	2018	2017	% Change
Net sales from Products and Systems Integration	\$ 5,100	\$ 4,513	13%
Net sales from Software and Services	2,243	1,867	20%
Net sales	\$ 7,343	\$ 6,380	15%

The Products and Systems Integration segment's net sales represented 69% of our consolidated net sales in 2018, compared to 71% in 2017. The Software and Services segment's net sales represented 31% of our consolidated net sales in 2018, compared to 29% in 2017.

Net sales were up \$963 million, or 15%, compared to 2017. The increase in net sales was driven by the Americas and EMEA with a 13% increase in the Products and Systems Integration segment and a 20% increase in the Software and Services segment. The growth includes:

- \$507 million of incremental revenue from the acquisitions of Avigilon and Plant in 2018 and Kodiak Networks and Interexport which were acquired during 2017;
- \$83 million from the adoption of Accounting Standards Codification ("ASC") 606 (see Note 1 of our consolidated financial statements); and
- \$32 million from favorable currency rates.

Regional results include:

- the Americas grew 17% across major categories within both the Products and Systems Integration and the Software and Services segments, inclusive of incremental revenue from acquisitions;
- EMEA grew 18% on broad-based growth within all offerings within our Products and Systems Integration and Software and Services segments, inclusive of incremental revenue from acquisitions; and
- AP was relatively flat with growth in the Software and Services segment offset by lower Products and Systems Integration revenue.

Products and Systems Integration

The 13% growth in the Products and Systems Integration segment was driven by the following:

- \$318 million of incremental revenue from the acquisitions of Avigilon in 2018 and Interexport during 2017;
- \$78 million from the adoption of ASC 606;
- Devices revenues were up significantly due to the acquisition of Avigilon along with strong demand in the Americas and EMEA; and
- Systems and Systems Integration revenues increased 10% in 2018, as compared to 2017 driven by incremental revenue from Avigilon, as well as system deployments in EMEA and AP.

Software and Services

The 20% growth in the Software and Services segment was driven by the following:

- \$189 million of incremental revenue primarily from the acquisitions of Plant and Avigilon in 2018 and Kodiak Networks and Interexport during 2017;
- \$5 million from the adoption of ASC 606;
- Services were up \$174 million, or 9%, driven by growth in both maintenance and managed service revenues, and incremental revenue from the acquisitions of Interexport and Plant; and
- Software was up \$202 million, or 89%, driven primarily by incremental revenue from the acquisitions of Plant, Avigilon, and Kodiak Networks, and growth in our command center software suite.

Gross Margin

(In millions)	Years ended December 31		
	2018	2017	% Change
Gross margin	\$ 3,480	\$ 3,024	15%

Gross margin was 47.4% of net sales in both 2018 and 2017 due to:

- higher margins within the Software and Services segment primarily driven by operational improvements and efficiencies in service delivery costs of our Services portfolio and higher margin contribution within our Software portfolio from acquisitions;
- lower margins in the Products and Systems Integration segment primarily driven by lower margin in Systems and Systems Integration due to certain large projects where we have taken an integrator role, partially offset by higher Devices volumes; and
- \$50 million of additional reorganization of business charges (see further detail in "Reorganization of Businesses" section) primarily associated with costs related to the closure of certain supply chain operations in Europe in 2018 as compared to 2017.

Selling, General and Administrative Expenses

(In millions)	Years ended December 31		
	2018	2017	% Change
Selling, general and administrative expenses	\$ 1,254	\$ 1,025	22%

SG&A expenses increased 22% compared to 2017. SG&A expenses were 17.1% of net sales compared to 16.1% of net sales in 2017.

The increase in SG&A expenses is primarily due to increased expenses associated with acquired businesses, \$72 million related to the change in classification of our third-party sales commissions from the adoption of ASC 606, and higher incentive compensation.

Research and Development Expenditures

(In millions)	Years ended December 31		
	2018	2017	% Change
Research and development expenditures	\$ 637	\$ 568	12%

R&D expenditures increased 12%. R&D expenditures were 8.7% of net sales compared to 8.9% of net sales in 2017. The increase in R&D expenditures is primarily due to increased expenses associated with acquired businesses.

Other Charges

(In millions)	Years ended December 31	
	2018	2017
Other charges	\$ 334	\$ 147

The Other charges in 2018 as compared to 2017 can be summarized as follows:

- \$188 million of amortization of intangibles in 2018 compared to \$151 million in 2017, driven by 2018 acquisitions;
- \$61 million of reorganization of business charges in 2018 as compared to \$33 million in 2017, driven by acquisitions (see further detail in "Reorganization of Businesses" section);
- a \$57 million charge in 2018 related to ongoing remediation efforts for an environmental clean-up incurred by a legacy business;
- a gain of \$47 million in 2017 related to the recovery of receivables owed to us by a former customer of a legacy business;
- \$24 million of charges for acquisition related transaction fees in 2018 as compared to \$1 million in 2017.

Operating Earnings

(In millions)	Years ended December 31	
	2018	2017
Operating earnings from Products and Systems Integration	\$ 854	\$ 969
Operating earnings from Software and Services	401	315
Operating earnings	\$ 1,255	\$ 1,284

Operating earnings were down \$29 million, or 2%, compared to 2017. The decrease in Operating earnings was due to the following:

- Products and Systems Integration was down \$115 million from 2017 to 2018, driven by: (i) \$69 million more reorganization of business expenses, (ii) environmental reserve expenses of \$40 million in 2018, (iii) \$28 million more intangible amortization driven by acquisitions, and (iv) \$12 million of acquisition-related transaction fees; and
- partially offset by the Software and Services segment, which was up \$86 million from 2017 to 2018, driven by higher sales and partially offset by: (i) environmental reserve expenses of \$17 million in 2018, (ii) \$9 million more reorganization of business expenses, (iii) \$9 million more intangible amortization from 2018 acquisitions, and (iv) \$11 million more of acquisition-related transactions fees.

Net Interest Expense

(In millions)	Years ended December 31	
	2018	2017
Interest expense, net	\$ (222)	\$ (201)

The increase in net interest expense in 2018 compared to 2017 was a result of increases in outstanding debt:

- \$500 million of senior notes due in 2028, that were used to make a voluntary contribution to the U.S. pension plan, issued during the first quarter of 2018;
- \$400 million term loan due in 2021 ("the Term Loan") that was issued during the first quarter of 2018 and was used to complete the acquisition of Avigilon;
- \$400 million borrowed under our revolving credit facility at the end of the first quarter of 2018 and repaid throughout the year; and
- \$200 million of follow-on senior notes due in 2028, issued in the third quarter of 2018, which were used to repurchase \$200 million of 2.00% senior convertible notes.

Gains (losses) on Sales of Investments and Businesses, net

(In millions)	Years ended December 31	
	2018	2017
Gains on sales of investments and businesses, net	\$ 16	\$ 3

The net gains in 2018 and 2017 were primarily related to the sales of various equity investments.

Other

(In millions)	Years ended December 31	
	2018	2017
Other income (expense)	\$ 53	\$ (10)

The net Other income in 2018 as compared to 2017 was primarily comprised of:

- \$75 million of net periodic pension and postretirement benefit in 2018 as compared to \$46 million in 2017;
- \$48 million of losses on settlements within our U.K. defined benefit plan during 2017 with no activity in 2018;
- \$11 million of favorable fair value adjustments to investments;

- a \$6 million gain from the repurchase of \$200 million of our 2.00% senior convertible notes in 2018;
- foreign currency losses of \$24 million in 2018 as compared to \$31 million of losses in 2017; and
- a \$14 million loss on derivative instruments in 2018 compared to a \$15 million gain in 2017.

Effective Tax Rate

(In millions)	Years ended December 31	
	2018	2017
Income tax expense	\$ 133	\$ 1,227

Income tax expense decreased by \$1.1 billion compared to 2017, for an effective tax rate of 12%. Our effective tax rate for 2018 was lower than the current U.S. federal statutory rate of 21% primarily due to:

- a \$79 million benefit related to updates of the provisional amounts on the impact of the Tax Act; and
- a \$30 million benefit due to the recognition of excess tax benefits on share-based compensation.

Our effective tax rate in 2017 was 114% primarily due to the implementation of Tax Act. As a result of the Tax Act we recorded \$874 million of non-recurring charges, primarily related to:

- a \$471 million valuation allowance 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 2017 U.S. statutory tax rate of 35% (see Note 7 of our consolidated financial statements).

Reorganization of Businesses

In 2019, we recorded net reorganization of business charges of \$57 million relating to the separation of 700 employees, of which 500 were indirect employees and 200 were direct employees. The \$57 million of charges included \$17 million recorded to Cost of sales and \$40 million recorded to Other charges. Included in the aggregate \$57 million are charges of \$64 million for employee separation costs, \$5 million for exit costs, partially offset by \$12 million of reversals for accruals no longer needed.

During 2018, we recorded net reorganization of business charges of \$120 million relating to the separation of 1,200 employees, of which 700 were indirect employees and 500 were direct employees. The \$120 million of charges included \$59 million recorded to Cost of sales and \$61 million recorded to Other charges. Included in the aggregate \$120 million are charges of \$122 million for employee separation costs and \$16 million for exit costs, partially offset by \$18 million of reversals for accruals no longer needed. Also, included in the \$120 million of charges for 2018 was a \$44 million charge that related to the announcement of our plan to close our Europe manufacturing facility which impacted 165 employees primarily within the Products and Systems Integration segment. The remainder of the initiatives impacted both of our segments and affected employees located in all geographic regions.

During 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: (i) \$43 million for employee separation costs and (ii) \$8 million for exit costs, partially offset by \$9 million of reversals for accruals no longer needed.

The following table displays the net charges incurred by business segment:

Years ended December 31	2019	2018	2017
Products and Systems Integration	\$ 45	\$ 101	\$ 32
Software and Services	12	19	10
	\$ 57	\$ 120	\$ 42

Cash payments for employee severance in connection with the reorganization of business plans were \$63 million, \$65 million, and \$93 million in 2019, 2018, and 2017, respectively. The reorganization of business accruals for employee separation costs at December 31, 2019 were \$78 million that are expected to be paid within one year.

Liquidity and Capital Resources

	Years Ended December 31		
	2019	2018	2017
Cash flows provided by (used for):			
Operating activities	\$ 1,823	\$ 1,075	\$ 1,346
Investing activities	(934)	(1,266)	(448)
Financing activities	(1,144)	220	(722)
Effect of exchange rates on cash and cash equivalents	(1)	(40)	62
Increase (decrease) in cash and cash equivalents	\$ (256)	\$ (11)	\$ 238

Cash and Cash Equivalents

At December 31, 2019, \$495 million of the \$1.0 billion cash and cash equivalents balance was held in the U.S. and \$506 million was held in other countries, with \$143 million held in the United Kingdom. Restricted cash was \$2 million at December 31, 2019 and \$11 million at December 31, 2018.

In 2019, we repatriated \$434 million in cash to the U.S. from international jurisdictions. We routinely repatriate a portion of non-U.S. earnings each year. We have recorded income tax expense for foreign withholding tax and distribution taxes on such earnings and, under current U.S. tax laws, do not expect to incur material incremental U.S. tax on repatriation.

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 due to local country approvals.

Operating Activities

The increase in operating cash flows from 2018 to 2019 was driven by:

- a \$500 million debt-funded voluntary contribution to our U.S. pension plan in 2018 compared to no material contributions to our U.S. pension plan in 2019;
- higher operating earnings in 2019 as compared to 2018;
- a \$51 million settlement arising from a legacy business in 2018; and
- partially offset by \$19 million of higher tax payments and \$17 million of higher interest payments in 2019 compared to 2018.

The decrease in operating cash flows from 2017 to 2018 was driven by:

- a \$500 million debt-funded voluntary contribution to our U.S. pension plan in the first quarter of 2018, compared to no material contributions to our U.S. pension plans in 2017;
- a \$51 million payment out of restricted cash related to a settlement arising from a legacy business in 2018, as compared to the recovery of \$47 million of receivables owed to us by a former customer of a legacy business in 2017;
- \$28 million of higher interest payments driven by additional debt issued in 2018 as compared to 2017; and
- partially offset by higher earnings in 2018 as compared to 2017.

We do not expect to make any material contributions to our pension plans in 2020.

Investing Activities

The decrease in net cash used by investing activities from 2018 to 2019 was primarily due to:

- \$455 million decrease in acquisitions and investments, primarily driven by acquisitions of \$709 million in 2019 as compared to \$1.2 billion in 2018;
- \$79 million of lower proceeds from sales of investments and businesses, driven by \$60 million of excess cash received from company-sponsored life insurance investments in 2018; and
- partially offset by \$51 million higher capital expenditures in 2019 as compared 2018, due to higher spend associated with revenue-generating networks within our Software and Services segment.

The increase in net cash used by investing activities from 2017 to 2018 was primarily due to:

- a \$760 million increase in acquisitions and investments, primarily driven by acquisitions of \$1.2 billion in 2018 as compared to \$404 million in 2017; and

- \$88 million of lower proceeds from sales of investments and businesses, driven by the \$60 million of excess cash withdrawn from company-sponsored life insurance investments in 2018, as compared to \$183 million of cash received from short-term government securities that were previously maintained in foreign countries in 2017; and
- partially offset by \$30 million lower capital expenditures in 2018 as compared 2017, due to lower information technology ("IT") spend as we completed our ERP implementation in 2017, as well as lower facilities spend.

Financing Activities

The increase in cash used by financing activities in 2019 as compared to cash from financing activities in 2018 was driven by (also see further discussion in "Debt," "Credit Facilities," "Share Repurchase Program" and "Dividends" below):

- \$1.1 billion used for the settlement of the 2.00% senior convertible notes, inclusive of the \$326 million conversion premium compared to the settlement of \$369 million during 2018, inclusive of the \$169 million conversion premium;
- \$400 million used in 2019 for the repayment of the term loan, compared to the \$400 million of proceeds received from the issuance of the term loan in 2018;
- \$379 million of cash used for the payment of dividends in 2019 as compared to \$337 million in 2018;
- \$315 million used for purchases under our share repurchase program in 2019 as compared to \$132 million in 2018; and partially offset by
- \$1.0 billion received from the issuance of 1.75% senior convertible notes due 2024 in 2019;
- \$700 million of proceeds received from the issuance of 4.6% senior notes due 2028 in 2018;
- \$645 net proceeds from the issuance of \$650 million of 4.6% senior notes due 2029 in the second quarter of 2019, of which proceeds were used to repurchase \$654 million of outstanding long term debt;
- \$159 net proceeds from the issuance of \$150 million of 4.6% senior notes due 2029 in the third quarter of 2019, which was subsequently used to repurchase \$155 million of the 3.5% senior notes due in 2021; and
- \$114 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans in 2019, as compared to \$168 million in 2018.

The increase in cash from financing activities in 2018, as compared to cash used in 2017 was driven by:

- the issuance of \$500 million of 4.60% senior notes due 2028 in the first quarter of 2018, of which the proceeds were contributed to our U.S. pension plan;
- we entered into a term loan for \$400 million in the first quarter of 2018 with a maturity date of March 26, 2021 to complete the acquisition of Avigilon;
- \$400 million borrowing from our revolving credit facility in the first quarter of 2018 to complete the acquisition of Avigilon, repaying the full \$400 million throughout 2018;
- in the third quarter of 2018, we issued an additional \$200 million on the outstanding 4.60% Senior notes due in 2028, of which the proceeds were used to repurchase \$200 million of our outstanding 2.00% senior convertible note with Silver Lake Partners;
- \$169 million of cash was used during the third quarter of 2018 to pay the conversion premium on the repurchase of our 2.00% senior convertible note with Silver Lake Partners;
- \$76 million used in the fourth quarter of 2018 to pay a contractually-defined deferred purchase price of Airwave;
- \$168 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans in 2018, as compared to \$82 million in 2017;
- \$337 million of cash used for the payment of dividends in 2018 as compared to \$307 million in 2017; and
- partially offset by \$132 million used for purchases under our share repurchase program in 2018 as compared to \$483 million in 2017.

Sales of Receivables

We may choose to 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.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2019, 2018, and 2017:

<i>Years ended December 31</i>	2019	2018	2017
Accounts receivable sales proceeds	\$ 34	\$ 77	\$ 193
Long-term receivables sales proceeds	265	270	284
Total proceeds from receivable sales	\$ 299	\$ 347	\$ 477

The proceeds of our receivable sales are included in "Operating Activities" within our Consolidated Statements of Cash Flows.

At December 31, 2019, the Company had retained servicing obligations for \$984 million of long-term receivables, compared to \$970 million of long-term receivables at December 31, 2018. Servicing obligations are limited to collection activities related to the sales of accounts receivables and long-term receivables.

Debt

We had outstanding long-term debt of \$5.1 billion and \$5.3 billion, including the current portions of \$16 million and \$31 million, at December 31, 2019 and December 31, 2018, respectively.

In February of 2018, we issued \$500 million of 4.60% senior notes due 2028. After debt issuance costs and debt discounts, we recognized net proceeds of \$497 million. These proceeds were then used to make a \$500 million contribution to our U.S. pension plan. In October of 2018, we issued an additional \$200 million on the outstanding 4.6% senior notes bringing the total outstanding principal to \$700 million. We recognized net proceeds of \$196 million after debt issuance costs and debt discounts.

To complete the acquisition of Avigilon during the quarter ended March 31, 2018, we entered into a term loan for \$400 million with a maturity date of March 26, 2021 (the "Term Loan"). The interest on the Term Loan was variable, indexed to the London Inter-bank Offered Rate ("LIBOR"), and paid monthly. The weighted average borrowing rate for amounts outstanding during the year ended December 31, 2019 was 3.68%. We repaid all amounts borrowed under the Term Loan during the year ended December 31, 2019.

In May of 2019, we issued \$650 million of 4.60% senior notes due 2029. We received proceeds of \$645 million after debt issuance costs and debt discounts. These proceeds were then used to repurchase \$614 million in principal amount of our outstanding long-term debt for a purchase price of \$654 million, excluding approximately \$3 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, we recognized a loss of approximately \$43 million related to this repurchase in Other within Other income (expense) in the Consolidated Statements of Operations.

In August of 2019, we issued a follow-on \$150 million to the outstanding 4.60% senior notes due 2029 bringing the total outstanding principal to \$800 million. We recognized net proceeds of \$159 million after debt premiums and debt issuance costs. These proceeds were then used to repurchase the remaining \$150 million principal amount of the 3.5% senior notes due 2021 for a purchase price of \$155 million, excluding approximately \$2 million of accrued interest. After accelerating the amortization of debt issuance costs, we recognized a loss of approximately \$7 million related to this repurchase in Other, net within Other income (expense) in the Consolidated Statements of Operations.

In 2015, we entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 2.00% senior convertible notes which mature in September 2020 ("Senior Convertible Notes"). The notes became fully convertible as of August 25, 2017. The notes were convertible based on a conversion rate that may be adjusted for dividends declared and automatically adjusts the exercise price. In October of 2018, we repurchased \$200 million in principal amount of the Senior Convertible Notes for aggregate consideration of \$369 million in cash, inclusive of the conversion premium.

As of the third quarter of 2019, the remaining notes were convertible based on a conversion rate of rate of 14.9186, adjusted for dividends declared, per \$1,000 principal amount (equal to a conversion price of \$67.03 per share). On September 5, 2019, we entered into an agreement with Silver Lake Partners to settle the remaining \$800 million in principal amount of the Senior Convertible Notes in two installments: (i) \$200 million of notes were repurchased during the third quarter for an aggregate consideration of \$526 million in cash, inclusive of the conversion premium and (ii) \$600 million of principal paid in cash on October 7, 2019, and delivered 5.5 million shares of common stock on September 5, 2019 to settle the conversion premium. We recognized a gain of \$4 million from the extinguishment of the 2.00% senior convertible notes in Other, net within other income (expense) in the Consolidated Statement of Operations.

On September 5, 2019, we entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 1.75% senior convertible notes which mature in September 2024 ("New Senior Convertible Notes"). Interest on these notes is payable semiannually. The notes are convertible anytime on or after two years from their issuance date, except in certain limited circumstances. The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, we intend to settle the principal amount of the New Senior Convertible Notes in cash. We recorded a debt liability associated with the New Senior Convertible Notes by determining the fair value of an equivalent debt instrument without a conversion option. Using a discount rate of 2.45%, which was

determined based on a review of relevant market data, we calculated the debt liability to be \$986 million, indicating a \$14 million discount to be amortized over the expected life of the debt instrument. The remaining proceeds of \$14 million were allocated to the conversion option and accordingly, increased Additional paid-in capital.

During the third quarter of 2019, we established an unsecured commercial paper program, backed by the revolving credit facility, under which we may issue unsecured commercial paper notes up to a maximum aggregate principal amount of \$2.2 billion outstanding at any one time. Proceeds from the issuances of the notes are expected to be used for general corporate purposes. As of December 31, 2019 we had no outstanding debt under the commercial paper program.

We believe that we hold sufficient liquidity to cover the day-to-day operations of our business as well as any future volatility or uncertainty that may arise in the capital markets.

Credit Facilities

As of December 31, 2019, 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"). As of March 31, 2018, we borrowed \$400 million under the facility to complete the Avigilon acquisition. The entire \$400 million was re-paid during the year ended December 31, 2018. 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 LIBOR, 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, 2019. No letters of credit were issued under the revolving credit facility as of December 31, 2019.

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, 2019, we have used approximately \$12.7 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving approximately \$1.3 billion of authority available for future repurchases.

Our share repurchases, including transaction costs, for 2019, 2018, and 2017 can be summarized as follows:

<i>Year</i>	<i>Shares Repurchased (in millions)</i>	<i>Average Price</i>	<i>Aggregate Amount (in millions)</i>
2019	2.3	\$ 137.35	\$ 315
2018	1.2	112.42	132
2017	5.7	85.32	483

Dividends

We paid cash dividends to holders of our common stock of \$379 million in 2019, \$337 million in 2018, and \$307 million in 2017. On January 15, 2020, we paid an additional \$109 million in cash dividends to holders of our common stock.

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 commercial paper program backed by the \$2.2 billion revolving credit facility.

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, 2019.

	Payments Due by Period							
(in millions)	Total	2020	2021	2022	2023	2024	Uncertain Timeframe	Thereafter
Long-term debt obligations, gross	\$ 5,189	\$ 16	\$ 4	\$ 562	\$ 603	\$ 1,600	\$ —	\$ 2,404
Lease obligations	713	143	129	114	62	55	—	210
Purchase obligations*	142	95	32	8	5	2	—	—
Tax obligations	70	7	—	—	—	—	63	—
Total contractual obligations	\$ 6,114	\$ 261	\$ 165	\$ 684	\$ 670	\$ 1,657	\$ 63	\$ 2,614

*Amounts included represent firm, non-cancelable commitments.

Lease Obligations: We lease certain office, factory and warehouse space, land, and other equipment, principally under non-cancelable operating leases. Our future minimum lease obligations totaled \$713 million. Rental expense, net of sublease income, was \$133 million in 2019, \$108 million in 2018, and \$94 million in 2017.

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 license agreements which are firm commitments and are not cancelable. We had entered into firm, non-cancelable, and unconditional commitments under such arrangements through 2024. The total payments expected to be made under these agreements are \$142 million. 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 \$70 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 \$7 million tax charge to a \$27 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 2023. Our remaining payments under these contracts are approximately \$48 million over the remaining life of the contracts; however, these contracts can be terminated. Termination would result in penalties 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. Outstanding Performance Bonds totaled approximately \$2.5 billion as of December 31, 2019 and December 31, 2018. 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, 2019, we had no significant off-balance sheet arrangements other than our obligation to settle the conversion option under the New Senior Convertible Notes described in Note 5 to the consolidated financial statements.

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 or liquidity. However, an unfavorable resolution could have a material adverse effect on our 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.

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 \$78 million at December 31, 2019, compared to \$62 million at December 31, 2018.

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

We enter into arrangements which consist of multiple promises to our customers. We evaluate whether the promised goods and services are distinct or a series of distinct goods or services. Where contracts contain multiple performance obligations, we generally allocate the total estimated consideration to each performance obligation based on applying an estimated selling price ("ESP") as our best estimate of standalone selling price. We determine ESP by: (i) collecting all reasonably available data points including sales, cost and margin analyses of the product or services, 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 of customer, geographic market, and sales volume.

We account for certain system contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. The selection of the measurement of progress using estimated costs was based on a thorough consideration of alternatives of various output and input measures, including contract milestones and labor hours. However, we have determined that other input and output measures are not an appropriate measure of progress as they do not accurately align with the transfer of control on our customized systems. The selection of costs incurred as a measure of progress aligns the transfer of control to the overall production of the customized system.

For system contracts accounted for over time using estimated costs as a measure of performance completed, we rely on estimates around 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 efforts required to be performed to meet the underlying performance obligation, determining Estimated Costs at Completion may be 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 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 work to be performed, the availability and cost of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustment to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. 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 in which the loss is determined.

Retirement Benefits

Our benefit obligations and net periodic pension costs (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 costs (benefits) 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 6.85% in 2019 and 6.95% 2018. Our investment return assumption for the Postretirement Health Care Benefits Plan was 6.90% in 2019 and 7.00% 2018. Our weighted average investment return assumption for the Non-U.S. Plans was 5.23% in 2019 and 5.18% in 2018.

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 3.32% and 4.47% at December 2019 and 2018, respectively. Our weighted average discount rates for measuring our Non-U.S. Plans were 1.82% and 2.67% at December 2019 and 2018, respectively. Our discount rates for measuring the Postretirement Health Care Benefits Plan obligation were 3.15% and 4.29% at December 31, 2019 and 2018, 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 ten to thirty-one years. Prior service costs are being amortized over periods ranging from two to five years. Benefits under all pension plans are valued based on the projected unit credit cost method.

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 Systems Integration and Software and Services segments are comprised of three and two reporting units, respectively. 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 2019, 2018, and 2017, 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 use the asset and liability method of accounting for income taxes. Under this method, income tax expense is recognized for the amount of taxes payable or refundable for the current year. In addition, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carryforwards. Management makes assumptions, judgments and estimates to determine our current and deferred tax provision and also the deferred tax assets and liabilities. We evaluate our deferred tax assets quarterly to determine if adjustments to our valuation allowance are required based on the consideration of all available positive and negative evidence.

Our assumptions, judgments and estimates for computing the income tax provision takes into account current tax laws, our interpretation of current tax law and possible outcomes of current and future audits conducted by foreign and domestic tax authorities. We believe such estimates to be reasonable; however, the final determination of certain audits could significantly impact the amounts provided for income taxes in our financial statements.

Recent Accounting Pronouncements

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes (Topic 740)," which simplifies the accounting for income taxes by removing certain exceptions and simplifying other areas of accounting for income taxes. The ASU is effective for the Company on January 1, 2021 with early adoption permitted. Portions of the amendment within the ASU require retrospective, modified retrospective or prospective adoption methods. We are still evaluating the impact of adoption on its financial statements and disclosures.

In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20) - Changes to the Disclosure Requirements for Defined Benefit Plans," which modifies the disclosure requirements for the defined benefit pension plans and other postretirement plans. The ASU is effective for us on January 1, 2021 with early adoption permitted. The ASU requires a retrospective adoption method. We do not believe the ASU will have a material impact on our financial statement disclosures.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments," which requires the Company to measure and recognize expected credit losses for financial assets held and not accounted for at fair value through net income. In November 2018, April 2019, May 2019 and November 2019, the FASB issued ASU No. 2018-19, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," ASU No. 2019-04, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," "Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments," ASU No. 2019-05, "Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief," and ASU No. 2019-11, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," which provided additional implementation guidance on the previously issued ASU. The ASU is effective for us on January 1, 2020. We do not believe there will be a material impact to the financial statements as a result of adoption.

Recently Adopted Accounting Pronouncements

We adopted ASU No. 2016-02, "Leases," and all the related amendments (collectively "ASC 842") on January 1, 2019. ASC 842 establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with an initial term longer than twelve months. Leases are classified as finance or operating, with classification affecting the pattern and presentation of expense recognition in the income statement.

ASC 842 provides for a number of optional practical expedients in transition. We elected the practical expedients, which permit us to not reassess prior conclusions about lease identification, lease classification and initial direct costs under ASC 842. We did not elect the "use-of hindsight" practical expedient to determine the lease term or in assessing the likelihood that a lease purchase option will be exercised, allowing us to carry forward the lease term as determined prior to adoption of ASC 842. Finally, we also elected the practical expedient related to land easements, which enabled us to continue our accounting treatment for land easements on existing agreements as of January 1, 2019.

ASC 842 also provides practical expedients for an entity's ongoing accounting. We elected the short-term lease recognition exemption for all leases that qualify. A short-term lease is one with a term of 12 months or less, including any optional periods that are reasonably certain of exercise. For those leases that qualify, the exemption allows us to not recognize ROU assets or lease liabilities, including not recognizing ROU assets or lease liabilities for existing short-term leases at transition. Short-term lease costs are recognized as rent expense on a straight-line basis over the lease term consistent with our prior accounting. We also elected the practical expedient to not separate lease and non-lease components for all current lease categories.

As of January 1, 2019, we recognized operating lease liabilities of \$648 million based on the present value of the remaining minimum rental payments determined under prior lease accounting standards and corresponding ROU assets of \$588 million. The \$60 million difference between operating lease liabilities and ROU assets recognized is due to deferred rent and exit cost accruals recorded under prior accounting standards. ASC 842 requires such balances to be reclassified against ROU assets at transition.

For arrangements where we are the lessor, the adoption of ASC 842 did not have a material impact on our financial statements as the majority of our leases are operating leases embedded within managed services contracts. ASC 842 provides a practical expedient for lessors in which the lessor may elect, by class of underlying asset, to not separate non-lease

components from the associated lease component and, instead, to account for these components as a single component if both of the following are met: (i) the timing and pattern of transfer of the non-lease component(s) and associated lease component are the same and (ii) the lease component, if accounted for separately, would be classified as an operating lease. The accounting under the practical expedient depends on which component(s) is predominant in the contract. If the non-lease component is predominant, the single component is accounted under ASC Topic 606 "Revenue from Contracts with Customers" and accounting and disclosure under ASC 842 is not applicable. We have elected the above practical expedient and determined that non-lease components are predominant and, accordingly, are accounting for the single components as managed service contracts under ASC Topic 606.

We adopted ASU No. 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities" on December 1, 2018, using the modified retrospective method of adoption. The ASU requires a cumulative effect adjustment to the opening balance of retained earnings as of the beginning of the fiscal year of adoption for the previously recorded ineffectiveness included in retained earnings related to existing net investment hedges as of the date of adoption. We did not record a cumulative effect adjustment to retained earnings as no net investment hedges existed as of the ASU adoption date. New hedging relationships entered after the adoption date have been presented in the financial statements using the guidance of the ASU. There were no material changes to our financial statements from the adoption of the ASU.

We adopted ASU No. 2016-16, "Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory" on January 1, 2018 using the modified retrospective method of adoption. This ASU eliminates the prior 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. Under the ASU, we recognize tax expense when intra-entity transfers of assets other than inventory occur. We recognized \$31 million related to the cumulative effect of applying the ASU as an adjustment to our opening retained earnings balance. During the three months ended December 31, 2019, we identified an error in the amounts originally recorded when adopting ASU 2016-16. We recorded an out-of-period correction of \$30 million to deferred income tax assets in the Consolidated Balance Sheets and retained earnings in the Consolidated Statements of Stockholders' Equity. The adjustment did not have a material impact on the Consolidated Balance Sheets or Consolidated Statements of Stockholders' Equity for any period presented.

We adopted ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost" on January 1, 2018 using the retrospective method of adoption. The amendments in the ASU 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. We have restated our comparative period results to reflect the application of the presentation guidance of the ASU. As a result of the ASU, the presentation of net periodic cost (benefit) has been updated to classify all components of our net periodic benefit, with the exception of the service cost component, within Other in Other income (expense) on the statement of operations. We reclassified \$78 million of benefits, \$75 million of benefit, and \$2 million of expense in the years ended December 31, 2019, 2018 and 2017, respectively, within Other in Other income (expense) accordingly.

We adopted ASU No. 2014-09, "Revenue from Contracts with Customers," and all the related amendments (collectively "ASC 606") on January 1, 2018 using the modified retrospective method. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to our opening retained earnings. The comparative information has not been restated and continues to be reported under the accounting standards in effect in those periods.

We have retained much of the same accounting treatment used to recognize revenue under ASC 606 as under accounting standards in effect in prior periods. Revenue on a significant portion of our Systems and Systems Integration contracts continues to be recognized under percentage of completion accounting, applying a cost-to-cost method. Services contracts continue to be recognized ratably over relevant contract terms as we stand ready to perform. Finally, revenue on equipment sales continues to be recognized based on delivery terms as aligned with the transfer of control.

Under the new standard, we identified distinct promises to transfer goods and services within our contracts. For system contracts that are recognized under percentage-of-completion accounting, 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, the adoption of the new standard impacts our system contracts, with the result being revenue recognized earlier as control of 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 system contracts, we 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.

Under the new standard, revenue recognition for software sales is accelerated based on when control of software licenses and related support services are transferred to the customer. Amounts deferred under previous software accounting rules due to lack of vendor-specific objective evidence have been recognized as an adjustment through opening retained earnings in 2018.

In 2017, we presented transactions that involved a third-party sales representative on a net basis. After considering the control concept and the remaining three indicators of gross presentation under the new standard, we have determined that we are the principal in contracts that involve a third-party sales representative. Thus, under the new standard, we present associated revenues on a gross basis, with the affect being an equal increase to selling, general and administrative expenses for our cost of third-party commissions.

Under prior accounting standards, we expensed sales commissions and other costs to obtain a contract as incurred. However, under the new standard, we capitalize sales commissions and certain other costs as incremental costs to obtain a contract. Such costs are classified as non-current contract cost assets within Other assets and amortized over a period that approximates the timing of revenue recognition on the underlying contracts.

The new standard clarified the definition of a receivable and requires us to present our net position in a contract with a customer on the balance sheet. The position is presented as either a receivable, contract asset, or a contract liability. Under the new definition, accounts receivable are unconditional rights to consideration from a customer. Contract assets represent rights to consideration from a customer in exchange for transferred goods and services that are conditional on events other than the passage of time. Contract liabilities represent obligations to transfer goods and services for which we have received, or are due, consideration from a customer. We reclassified our customer positions to align with the new definitions and presentation guidance.

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) growth of services sales with existing LMR customers (d) customer spending, (e) the impact of our strategy and focus areas, (f) the impact from the loss of key customers, (g) competitive position and our ability to maintain a leadership position in our core products, (h) increased competition, (i) the impact of regulatory matters, (j) the impact from the allocation and regulation of spectrum, particularly with respect to broadband spectrum, (k) the firmness of each segment's backlog, (l) the competitiveness of the patent portfolio, (m) the impact of research and development, (n) the availability of materials and components, energy supplies and labor, and (o) 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) expected improvements in operating leverage and operating margins, (f) the growth of sales opportunities in our video security ,command center software suite and services offerings with existing LMR customers, (g) the return of capital to shareholders through dividends and/or repurchasing shares, (h) our ability to invest in capital expenditures and R&D, (i) the success of our business strategy and portfolio, (j) future payments, charges, use of accruals and expected cost-saving and profitability benefits associated with our reorganization of business programs and employee separation costs, (k) our ability and cost to repatriate funds, (l) future cash contributions to pension plans or retiree health benefit plans, (m) the liquidity of our investments, (n) our ability and cost to access the capital markets, (o) our ability to borrow and the amount available under our credit facilities, (p) our ability to settle the principal amount of the New Senior Convertible Notes in cash, (q) our ability and cost to obtain Performance Bonds, (r) adequacy of internal resources to fund expected working capital and capital expenditure measurements, (s) expected payments pursuant to commitments under long-term agreements, (t) the ability to meet minimum purchase obligations, (u) our ability to sell accounts receivable and the terms and amounts of such sales, (v) the outcome and effect of ongoing and future legal proceedings, (w) the impact of the loss of key customers, (x) the expected effective tax rate and deductibility of certain items, and (y) 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, 2019, we have \$5.1 billion of long-term debt, including the current portion, which is primarily priced at long-term, fixed interest rates.

Foreign Currency Risk

We are exposed to foreign currency risk as a result of buying and selling in various currencies, our net investments in foreign entities, and monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity holding the instrument. 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.

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, net investments or monetary assets and liabilities 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. Our policy permits us to use forward contracts and options to hedge these currency exposures. In addition, we enter into derivative contracts for some forecasted transactions or net investments in some of our overseas entities, 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, 2019, we had outstanding foreign exchange contracts totaling \$1.1 billion, compared to \$819 million outstanding at December 31, 2018. 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, 2019 and the corresponding positions as of December 31, 2018:

<i>Net Buy (Sell) by Currency</i>	<i>Notional Amount</i>	
	2019	2018
Euro	\$ 134	\$ 89
British pound	107	139
Australian dollar	(123)	(105)
Chinese renminbi	(79)	(55)
Brazilian real	(47)	(41)

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. Currently, our derivative financial instruments consist primarily of currency forward contracts. Other monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity consist primarily of cash, cash equivalents, accounts payable and accounts receivable. 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 \$59 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.

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Item 8: Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Motorola Solutions, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of Motorola Solutions, Inc. and its subsidiaries (the "Company") as of December 31, 2019, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders' equity and of cash flows for the year then ended, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audit of the consolidated financial statements 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 regarding the amounts and disclosures in the consolidated financial statements. Our audit 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. 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 opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated, or required to be communicated, to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or

complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Estimated Costs to Complete Systems and Systems Integration Contracts

As described in Notes 1 and 2 to the consolidated financial statements, \$1,862 million of the Company's total revenues for the year ended December 31, 2019 was generated from Systems and Systems Integration contracts. The Company recognizes revenue on a significant portion of Systems and Systems Integration contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. For contracts accounted for over time using estimated costs as a measure of performance completed, the Company relies on estimates of 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 efforts required to meet the underlying performance obligation, determining Estimated Costs at Completion may be complex and subject to many variables. As disclosed by management, 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 costs. The risks and opportunities include management's judgments about the ability and the cost to achieve the project schedule, technical requirements, and other contract requirements.

The principal considerations for our determination that performing procedures relating to the Estimated Costs at Completion for Systems and Systems Integration contracts is a critical audit matter are that there was significant judgment by management when developing the Estimated Costs at Completion, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures to evaluate management's estimates, including management's judgments about the cost to achieve the project schedule, technical requirements, and other contract requirements.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls over the determination of Estimated Costs at Completion. These procedures also included, among others, evaluating and testing management's process for determining the Estimated Costs at Completion for a sample of contracts. Management's process for determining the Estimated Costs at Completion was evaluated for reasonableness by (i) performing a comparison of the originally estimated and actual costs incurred on completed contracts; (ii) evaluating the timely identification of circumstances that may warrant a modification to Estimated Costs at Completion, including actual costs in excess of estimates; and (iii) analyzing contracts and project schedules that support those estimates.

/s/ PricewaterhouseCoopers LLP

Chicago, Illinois

February 14, 2020

We have served as the Company's auditor since 2018.

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 sheet of Motorola Solutions, Inc. and subsidiaries (the Company) as of December 31, 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the two-year period ended December 31, 2018, 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, 2018, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for revenue recognition in 2018 due to the adoption of ASU No. 2014-09, "Revenue from Contracts with Customers."

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 Public Company Accounting Oversight Board (United States) (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 regarding 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.

KPMG LLP

We served as the Company's auditor from 1959 to 2019.

Chicago, Illinois
February 15, 2019

Consolidated Statements of Operations

(In millions, except per share amounts)	Years ended December 31		
	2019	2018	2017
Net sales from products	\$ 4,746	\$ 4,463	\$ 3,772
Net sales from services	3,141	2,880	2,608
Net sales	7,887	7,343	6,380
Costs of products sales	2,049	2,035	1,686
Costs of services sales	1,907	1,828	1,670
Costs of sales	3,956	3,863	3,356
Gross margin	3,931	3,480	3,024
Selling, general and administrative expenses	1,403	1,254	1,025
Research and development expenditures	687	637	568
Other charges	260	334	147
Operating earnings	1,581	1,255	1,284
Other income (expense):			
Interest expense, net	(220)	(222)	(201)
Gains on sales of investments and businesses, net	5	16	3
Other	(365)	53	(10)
Total other expense	(580)	(153)	(208)
Net earnings before income taxes	1,001	1,102	1,076
Income tax expense	130	133	1,227
Net earnings (loss)	871	969	(151)
Less: Earnings attributable to noncontrolling interests	3	3	4
Net earnings (loss) attributable to Motorola Solutions, Inc.	\$ 868	\$ 966	\$ (155)
Earnings (loss) per common share:			
Basic:	\$ 5.21	\$ 5.95	\$ (0.95)
Diluted:	4.95	5.62	(0.95)
Weighted average common shares outstanding:			
Basic	166.6	162.4	162.9
Diluted	175.6	172.0	162.9
Dividends declared per share	\$ 2.35	\$ 2.13	\$ 1.93

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Loss)

(In millions)	Years ended December 31		
	2019	2018	2017
Net earnings (loss)	\$ 871	\$ 969	\$ (151)
Other comprehensive income (loss), net of tax (Note 4):			
Foreign currency translation adjustments	34	(91)	141
Marketable securities	—	(6)	6
Defined benefit plans	291	(106)	(392)
Total other comprehensive income (loss), net of tax	325	(203)	(245)
Comprehensive income (loss)	1,196	766	(396)
Less: Earnings attributable to noncontrolling interests	3	3	4
Comprehensive income (loss) attributable to Motorola Solutions, Inc. common shareholders	\$ 1,193	\$ 763	\$ (400)

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

(In millions, except par value)	December 31	
	2019	2018
ASSETS		
Cash and cash equivalents	\$ 1,001	\$ 1,257
Accounts receivable, net	1,412	1,293
Contract assets	1,046	1,012
Inventories, net	447	356
Other current assets	272	354
Total current assets	4,178	4,272
Property, plant and equipment, net	992	895
Operating lease assets	554	—
Investments	159	169
Deferred income taxes	943	985
Goodwill	2,067	1,514
Intangible assets, net	1,327	1,230
Other assets	422	344
Total assets	\$ 10,642	\$ 9,409
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current portion of long-term debt	\$ 16	\$ 31
Accounts payable	618	592
Contract liabilities	1,449	1,263
Accrued liabilities	1,356	1,210
Total current liabilities	3,439	3,096
Long-term debt	5,113	5,289
Operating lease liabilities	497	—
Other liabilities	2,276	2,300
Preferred stock, \$100 par value	—	—
Common stock, \$.01 par value:	2	2
Authorized shares: 600.0		
Issued shares: 12/31/19—171.0; 12/31/18—164.0		
Outstanding shares: 12/31/19—170.5; 12/31/18—163.5		
Additional paid-in capital	499	419
Retained earnings	1,239	1,051
Accumulated other comprehensive loss	(2,440)	(2,765)
Total Motorola Solutions, Inc. stockholders' equity (deficit)	(700)	(1,293)
Noncontrolling interests	17	17
Total stockholders' equity (deficit)	(683)	(1,276)
Total liabilities and stockholders' equity	\$ 10,642	\$ 9,409

See accompanying notes to consolidated financial statements.

Consolidated Statements of Stockholders' Equity

<i>(In millions, except per share amounts)</i>	<i>Shares</i>	<i>Common Stock and Additional Paid-in Capital</i>	<i>Accumulated Other Comprehensive Income (Loss)</i>	<i>Retained Earnings</i>	<i>Noncontrolling Interests</i>
Balance as of January 1, 2017	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 in subsidiary common stock					(1)
Dividends declared				(313)	
Balance as of December 31, 2017	161.6	\$ 353	\$ (2,562)	\$ 467	\$ 15
Net earnings				966	3
Other comprehensive loss			(203)		
Issuance of common stock and stock options exercised	3.6	168			
Share repurchase program	(1.2)			(132)	
ASU 2016-16 modified retrospective adoption				(31)	
Share-based compensation expense		73			
ASU 2014-09 modified retrospective adoption				127	
Dividends paid to noncontrolling interest in subsidiary common stock					(1)
Dividends declared				(346)	
Repurchase of senior convertible notes		(173)			
Balance as of December 31, 2018	164.0	\$ 421	\$ (2,765)	\$ 1,051	\$ 17
Net earnings				868	3
ASU 2016-16 beginning balance adjustment (Note 1)				30	
Other comprehensive income			325		
Issuance of common stock and stock options exercised	2.4	122			
Share repurchase program	(2.3)			(315)	
Issuances of common stock for acquisition	1.4	160			
Share-based compensation expense		118			
Issuance of common stock for 2.00% senior convertible notes	5.5	988			
Dividends paid to noncontrolling interest in subsidiary common stock					(3)
Equity component of 1.75% senior convertible notes		10			
Dividends declared				(395)	
Repurchase of 2.00% senior convertible notes		(1,318)			
Balance as of December 31, 2019	171.0	\$ 501	\$ (2,440)	\$ 1,239	\$ 17

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

(In millions)	Years ended December 31		
	2019	2018	2017
Operating			
Net earnings (loss) attributable to Motorola Solutions, Inc.	\$ 868	\$ 966	\$ (155)
Earnings attributable to noncontrolling interests	3	3	4
Net earnings (loss)	871	969	(151)
Adjustments to reconcile Net earnings (loss) to Net cash provided by operating activities:			
Depreciation and amortization	394	360	343
Non-cash other charges	35	56	32
Pension settlement losses	359	—	48
Gain from the extinguishment of 2.00% senior convertible notes	(4)	(6)	—
Share-based compensation expense	118	73	66
Gains on sales of investments and businesses, net	(5)	(16)	(3)
Losses from the extinguishment of long-term debt	50	—	—
Changes in assets and liabilities, net of effects of acquisitions, dispositions, and foreign currency translation adjustments:			
Accounts receivable	(79)	62	(60)
Inventories	(74)	71	(46)
Other current assets and contract assets	49	(251)	(99)
Accounts payable, accrued liabilities, and contract liabilities	198	271	160
Other assets and liabilities	(5)	(523)	(44)
Deferred income taxes	(84)	9	1,100
Net cash provided by operating activities	1,823	1,075	1,346
Investing			
Acquisitions and investments, net	(709)	(1,164)	(404)
Proceeds from sales of investments	16	95	183
Capital expenditures	(248)	(197)	(227)
Proceeds from sales of property, plant and equipment	7	—	—
Net cash used for investing activities	(934)	(1,266)	(448)
Financing			
Repayment of debt	(2,039)	(723)	(21)
Net proceeds from issuance of debt	1,804	1,490	10
Issuances of common stock	114	168	82
Purchases of common stock	(315)	(132)	(483)
Settlement of conversion premium on 2.00% senior convertible notes	(326)	(169)	—
Payment of dividends	(379)	(337)	(307)
Payment of dividends to noncontrolling interest	(3)	(1)	(1)
Deferred acquisition costs	—	(76)	(2)
Net cash provided by (used for) financing activities	(1,144)	220	(722)
Effect of exchange rate changes on cash and cash equivalents	(1)	(40)	62
Net increase (decrease) in cash and cash equivalents	(256)	(11)	238
Cash and cash equivalents, beginning of period	1,257	1,268	1,030
Cash and cash equivalents, end of period	\$ 1,001	\$ 1,257	\$ 1,268
<i>Supplemental Cash Flow Information</i>			
Cash paid during the period for:			
Interest, net	\$ 221	\$ 204	\$ 176
Income and withholding taxes, net of refunds	138	119	122

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, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017, 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.

As of December 31, 2019, the Company changed the name of the "Services and Software" segment to "Software and Services." The change is to the name only and no other financial information has been reclassified from previous periods presented or for the year ended December 31, 2019.

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 goods and services including the delivery of devices, systems and system integration and a full set of software and service offerings. The Company recognizes revenue to reflect the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for goods or services.

The Products and Systems Integration segment is comprised of Systems, Devices and Systems Integration. Direct customers of the Products and Systems Integration segment are typically government, public safety and first-responder agencies, procuring at state, local, and federal levels as well as large commercial customers with secure mission critical needs. Indirect customers are defined as customers purchasing professional commercial radios and video security, which are primarily sold through the Company's reseller partners to an end-customer base, composed of various industries where private communications networks and video security are used to secure operations and enable a mobile workforce. Contracts with the Company's customers are typically fixed fee, with consideration measured net of associated sales taxes, and, as it relates to our direct customers, funded through government appropriations. For Products and Systems Integration sales, the Company records consideration from shipping and handling on a gross basis within Net sales.

Devices includes two-way portable and vehicle-mounted radios, fixed and mobile video cameras and accessories. Devices are considered capable of being distinct and distinct within the context of our contracts. Revenue is recognized upon the transfer of control of the devices to the customer at a point in time, typically consistent with delivery under the applicable shipping terms. Devices are sold by both the direct sales force and through reseller partners. Revenue is generally recognized upon transfer of devices to reseller partners, rather than the end-customer, except for limited consignment arrangements. Provisions for returns and reseller discounts are made on a portfolio basis using historical data.

Systems and Systems Integration include customized radio network, video solutions and implementation, and integration of networks, devices, software, and applications. The radio network includes the aggregation of promises to the customer to provide the radio network core and central processing software, base stations, consoles, and repeaters. These individual promises are not distinct in the context of the contract, as the Company provides a significant service of integrating and customizing the goods and services promised. The radio network represents a distinct performance obligation for which revenue is recognized over time, as the Company creates an asset with no alternative use and has an enforceable right to payment for work performed. The Company's revenue recognition over time is based on an input measure of costs incurred, which depicts the transfer of control to its customers under its contracts. Systems and Systems Integration revenue is recognized over an average duration of approximately one to two years.

Systems also include video security including: video analytics, network video management hardware and software, and access control solutions, which are capable of being distinct and distinct in the context of the contract. Video security solutions are traditionally sold through reseller partners, with contracts negotiated under fixed pricing. Provisions for returns are determined on a portfolio basis using historical data. Revenue is recognized upon the transfer of control of the video solution to the reseller partners, typically upon shipment.

The Software and Services segment provides a full set of offerings for government, public safety and commercial communication networks. Direct customers of the Software and Services segment are typically government, public safety and first-responder agencies and municipalities. Indirect customers are commercial customers who distribute broadband push-to-talk services to a final end customer base. Contracts with our customers are typically fixed fee, with consideration measured net of associated sales taxes, and, as it relates to our direct customers, funded through government appropriations.

Software offerings include public safety and enterprise command solutions, unified communications applications, and video security software solutions delivered either "as a service" or on-premise. Solutions delivered as a service consist of a range of promises including hosted software, technical support and the right to unspecified future software enhancements. Software is

not distinct from the hosting service since the customer does not have the right to take possession of the software at any time during the term of the arrangement. The hosted software, technical support, and right to unspecified future software enhancements each represent a series of distinct services that are delivered concurrently using the same over-time method. As such, the promises are accounted for as a single performance obligation with revenue recognized on a straight-line basis.

On-premise offerings consist of multiple promises primarily including software licenses and post-contract customer support. The promises are each distinct and distinct within the context of the contract as the customer benefits from each promise individually without any significant integration or interrelationship between the promises. On-premise software revenue is recognized at the point in time when the customer can benefit from the software which generally aligns with the beginning of the license period. Revenue for post-contract customer support is recognized over time as the customer simultaneously receives and consumes the services on a straight-line basis.

Services includes a continuum of service offerings beginning with repair, technical support and maintenance. More advanced offerings include: monitoring, software updates and cybersecurity services. Managed service offerings range from partial to full operation of customer or Motorola Solutions-owned networks. Services are provided across all radio network technologies. Services are both distinct and capable of being distinct in the context of the contract, representing a series of recurring services that the Company stands ready to perform over the contract term. Since services contracts typically allow for customers to terminate for convenience or for non-appropriations of fiscal funding, the contract term is generally considered to be limited to a monthly or annual basis, subject to customer renewal. While contracts with customers are typically fixed fee, certain managed services contracts may be subject to variable consideration related to the achievement of service level agreement performance measurements. The Company has not historically paid significant penalties under service level agreements, and accordingly, it does not constrain its contract price. Certain contracts may also contain variable consideration driven by the number of users. Revenue is typically recognized on services over time as a series of services performed over the contract term on a straight-line basis.

Significant Judgments

The Company enters into arrangements which consist of multiple promises to our customers. The Company evaluates whether the promised goods and services are distinct or a series of distinct goods or services. Where contracts contain multiple performance obligations, the Company generally allocates the total estimated consideration to each performance obligation based on applying an estimated selling price ("ESP") as our best estimate of standalone selling price. The Company determines ESP by: (i) collecting all reasonably available data points including sales, cost and margin analyses of the product or services, 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.

The Company accounts for certain system contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. The selection of the measurement of progress using estimated costs was based on a thorough consideration of alternatives of various output and input measures, including contract milestones and labor hours. However, the Company has determined that other input and output measures are not an appropriate measure of progress as they do not accurately align with the transfer of control on its customized systems. The selection of costs incurred as a measure of progress aligns the transfer of control to the overall production of the customized system.

For system contracts accounted for over time using estimated costs as a measure of performance completed, the Company relies on estimates around 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 efforts required to be performed to meet the underlying performance obligation, determining Estimated Costs at Completion may be 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 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 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 work to be performed, the availability and cost of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustment to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. 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 in which the loss is determined.

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 \$2 million at December 31, 2019 and \$11 million at December 31, 2018.

Investments: Investments in debt securities classified as available-for-sale are carried at fair value with changes in fair value recorded in other comprehensive income. 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 debt securities and equity method 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.

Equity securities with readily determinable fair values are carried at fair value with changes in fair value recorded in Other within Other income (expense). Equity securities without readily determinable fair values are carried at cost, less impairments, if any, and adjusted for observable price changes for the identical or a similar investment of the same issuer. The Company performs a qualitative impairment assessment to determine if such investments are impaired. The qualitative assessment considers all available information, including declines in the financial performance of the issuing entity, the issuing entity's operating environment, and general market conditions. Impairments of equity securities without readily determinable fair values are recorded in Other within Other income (expense).

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 (leasehold improvements, five to twenty years; machinery and equipment, two to ten years) and commences once the assets are ready for their intended use. When certain events or changes in operating conditions occur, useful lives of the assets may be adjusted or an impairment assessment may be performed on the recoverability of the carrying value.

Goodwill and Intangible Assets: Goodwill is assessed for impairment at least annually at the reporting unit, or more frequently if events or circumstances occur that would more likely than not reduce the fair value of a reporting unit below its carrying value level. The Company performs its annual assessment of goodwill for impairment in the fourth quarter of each fiscal year, typically through a qualitative assessment. Indicators of impairment include: (i) macroeconomic conditions, (ii) industry and market conditions, (iii) cost factors, including product and SG&A costs, (iv) overall financial performance of the Company, (v) changes in share price, and (vi) other relevant company-specific events. If it is determined that it is more-likely-than-not that the fair value of the reporting unit is less than its carrying amount, the Company will perform the first step of the impairment process, which compares the fair value of the reporting unit to its book value. 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 twenty years. The Company has no intangible assets with indefinite useful lives.

Leases: The Company recognizes if an arrangement is a lease at the inception of the contract. The Company determines which party has the right to control an asset during the contract term and recognizes a Right of Use ("ROU") asset and operating lease liability based on the present value of the future minimum lease payments over the term of the lease. Refer to Note 3 for further discussion of the Company's accounting policy for leases.

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 expenses 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.

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.

Environmental Liabilities: The Company maintains a liability related to ongoing remediation efforts of environmental media such as groundwater, soil, and soil vapor, as well as related legal fees for a designated Superfund site under the

Comprehensive Environmental Response, Compensation and Liability Act (commonly known as the “Superfund Act”) incurred by a legacy business. It is the Company’s policy to re-evaluate the reserve when certain events become known that will impact the future cash payments. When the timing and amount of the future cash payments are fixed or reliably determinable, the Company discounts the future cash flows used in estimating the accrual using a risk-free treasury rate. The current portion of the estimated environmental liability is included in the “Accrued liabilities” statement line and the non-current portion is included in the “Other liabilities” statement line within the Company’s Consolidated Balance Sheet.

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 Sheet. 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.

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.

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, net investments or monetary assets and liabilities 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 or net investments in some of its overseas entities, 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.

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 other comprehensive income (loss). Components excluded from the assessment of hedge ineffectiveness in net investment hedges are included in Accumulated other comprehensive income (loss) at their initial value and amortized into Interest expense, net on a straight-line basis.

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 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.

Defined Benefit Plans: The Company records annual expenses relating to its defined benefit 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 Acquisitions:

On October 16, 2019, the Company acquired a data solutions business for vehicle location information for a purchase price of \$85 million, net of cash acquired. The acquisition enhances the Company's video security platform by adding data to the Company's existing license plate recognition ("LPR") database within the Software and Services segment.

On July 11, 2019, the Company acquired WatchGuard, Inc. ("WatchGuard"), a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million of cash, net of cash acquired. The acquisition expands the Company's video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 11, 2019, the Company acquired Avtec, Inc. ("Avtec"), a provider of dispatch communication equipment for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands the Company's commercial portfolio with new capabilities, allowing it to offer an enhanced platform for customers to communicate, coordinate resources, and secure their facilities. The business is part of both the Product and Systems Integration segment and the Software and Services segment.

On January 7, 2019, the Company announced that it acquired VaaS International Holdings ("VaaS"), a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million. This acquisition expands the Company's video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 28, 2018, the Company completed the acquisition of Avigilon Corporation ("Avigilon"), a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions for a purchase price of \$974 million. The acquisition expands the Company's video security platform within both the Product and Systems Integration segment and the Software and Services segment.

On March 7, 2018, the Company completed the acquisition of Plant Holdings, Inc. ("Plant"), the parent company of Airbus DS Communications for a purchase price of \$237 million. This acquisition expands the Company's software portfolio in the command center with additional solutions for Next Generation 9-1-1 within our Software and Services segment.

On August 28, 2017, the Company completed the acquisition of Kodiak Networks, a provider of broadband push-to-talk for commercial customers, for a purchase price of \$225 million. The business is part of the Software and Services segment.

On March 13, 2017, the Company completed the acquisition of Interexport, a managed service provider of communications systems to public safety and commercial customers in Chile, for a purchase price of 98 billion Chilean pesos, or approximately \$147 million. The business is part of the Software and Services segment.

Recent Accounting Pronouncements:

In December 2019, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2019-12, "Income Taxes (Topic 740)," which simplifies the accounting for income taxes by removing certain exceptions and streamlining other areas of accounting for income taxes. The ASU is effective for the Company on January 1, 2021 with early adoption permitted. Portions of the amendment within the ASU require retrospective, modified retrospective or prospective adoption methods. The Company is still evaluating the impact of adoption on its financial statements and disclosures.

In August 2018, the FASB issued ASU No. 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20) - Changes to the Disclosure Requirements for Defined Benefit Plans," which modifies the disclosure requirements for the defined benefit pension plans and other postretirement plans. The ASU is effective for the Company on January 1, 2021 with early adoption permitted. The ASU requires a retrospective adoption method. The Company does not believe the ASU will have a material impact on its financial statement disclosures.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments," which requires the Company to measure and recognize expected credit losses for financial assets held and not accounted for at fair value through net income. In November 2018, April 2019, May 2019 and November 2019, the FASB issued ASU No. 2018-19, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," "ASU No. 2019-04, Codification Improvements to Topic 326, Financial Instruments - Credit Losses," "Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments," "ASU No. 2019-05, Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief," and "ASU No. 2019-11, Codification Improvements to Topic 326, Financial Instruments - Credit Losses," which provided additional implementation guidance on the previously issued ASU. The ASU is effective for the Company on January 1, 2020. The Company does not believe there will be a material impact on its financial statements as a result of the adoption.

Recently Adopted Accounting Pronouncements:

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. This was subsequently amended by ASU No. 2018-01, "Land Easement Practical Expedient for Transition to Topic 842," ASU No. 2018-10, "Codification Improvements to

Topic 842, Leases," and ASU No. 2018-11, "Targeted Improvements" (collectively "ASC 842"). ASC 842 establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with an initial term longer than twelve months. Leases are classified as finance or operating, with classification affecting the pattern and presentation of expense recognition in the income statement.

The Company adopted ASC 842 as of January 1, 2019 using a modified retrospective transition approach for all leases existing at January 1, 2019, the date of the initial application. Consequently, financial information will not be updated and disclosures required under ASC 842 will not be provided for dates and periods before January 1, 2019.

ASC 842 provides for a number of optional practical expedients in transition. The Company elected the practical expedients, which permit the Company to not reassess prior conclusions about lease identification, lease classification and initial direct costs under ASC 842. The Company did not elect the "use-of hindsight" practical expedient to determine the lease term or in assessing the likelihood that a lease purchase option will be exercised, allowing it to carry forward the lease term as determined prior to adoption of ASC 842. Finally, the Company also elected the practical expedient related to land easements, which enabled it to continue its accounting treatment for land easements on existing agreements as of January 1, 2019.

ASC 842 also provides practical expedients for an entity's ongoing accounting. The Company elected the short-term lease recognition exemption for all leases that qualify. A short-term lease is one with a term of twelve months or less, including any optional periods that are reasonably certain of exercise. For those leases that qualify, the exemption allows the Company to not recognize ROU assets or lease liabilities, including not recognizing ROU assets or lease liabilities for existing short-term leases at transition. Short-term lease costs are recognized as rent expense on a straight-line basis over the lease term consistent with the Company's prior accounting. The Company also elected the practical expedient to not separate lease and non-lease components for all current lease categories.

As of January 1, 2019, the Company recognized operating lease liabilities of \$648 million based on the present value of the remaining minimum rental payments determined under prior lease accounting standards and corresponding ROU assets of \$588 million. The \$60 million difference between operating lease liabilities and ROU assets recognized is due to deferred rent and exit cost accruals recorded under prior lease accounting standards. ASC 842 requires such balances to be reclassified against ROU assets at transition. In future periods such balances will not be presented separately.

For arrangements where the Company is the lessor, the adoption of ASC 842 did not have a material impact on its financial statements as the majority of its leases are operating leases embedded within managed services contracts. ASC 842 provides a practical expedient for lessors in which the lessor may elect, by class of underlying asset, to not separate non-lease components from the associated lease component and, instead, to account for these components as a single component if both of the following are met: (i) the timing and pattern of transfer of the non-lease component(s) and associated lease component are the same and (ii) the lease component, if accounted for separately, would be classified as an operating lease. The accounting under the practical expedient depends on which component(s) is predominant in the contract. If the non-lease component is predominant, the single component is accounted under ASC Topic 606, "Revenue from Contract with Customers" and accounting and disclosure under ASC 842 is not applicable. The Company has elected the above practical expedient and determined that non-lease components are predominant and is accounting for the single components as managed service contracts under ASC Topic 606.

The Company adopted ASU No. 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities" on December 1, 2018, using the modified retrospective method of adoption. The ASU requires a cumulative effect adjustment to the opening balance of retained earnings as of the beginning of the fiscal year of adoption for the previously recorded ineffectiveness included in retained earnings related to existing net investment hedges as of the date of adoption. The Company did not record a cumulative effect adjustment to retained earnings as no net investment hedges existed as of the ASU adoption date. New hedging relationships entered after the adoption date have been presented in the financial statements using the guidance of the ASU. There were no material changes to the Company's financial statements from the adoption of the ASU.

The Company adopted ASU No. 2016-16, "Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory" on January 1, 2018 using the modified retrospective method of adoption. This ASU eliminates the prior 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. Under the ASU, the Company recognizes tax expense when intra-entity transfers of assets other than inventory occur. The Company recognized \$31 million related to the cumulative effect of applying the ASU as an adjustment to its opening retained earnings balance as of January 1, 2018. During the three months ended December 31, 2019, the Company identified an error in the amounts originally recorded when adopting ASU 2016-16. The Company recorded an out-of-period correction of \$30 million to deferred income tax assets in the Consolidated Balance Sheets and retained earnings in the Consolidated Statements of Stockholders' Equity. The adjustment did not have a material impact on the Consolidated Balance Sheets or Consolidated Statements of Stockholders' Equity for any period presented.

The Company adopted ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost" on January 1, 2018 using the retrospective method of adoption. The amendments in the ASU 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 Company has restated its comparative period results to reflect the application of the presentation guidance of the ASU. As a result of the ASU, the presentation of net periodic cost (benefit) has been updated to classify all components of the Company's

net periodic benefit, with the exception of the service cost component, within Other in Other income (expense) on the statement of operations. Accordingly, the Company reclassified \$78 million of benefits, \$75 million of benefit, and \$2 million of expense in the years ended 2019, 2018 and 2017, respectively, within Other in Other income (expense).

The Company adopted ASU No. 2014-09, "Revenue from Contracts with Customers," and all the related amendments (collectively "ASC 606") on January 1, 2018 using the modified retrospective method. The Company recognized the cumulative effect of initially applying the new revenue standard as an adjustment to its opening retained earnings. The comparative information has not been restated and continues to be reported under the accounting standards in effect in those periods.

The Company has retained much of the same accounting treatment used to recognize revenue under ASC 606 as under accounting standards in effect in prior periods. Revenue on a significant portion of its Systems and Systems Integration contracts continues to be recognized under percentage-of-completion accounting, applying a cost-to-cost method. Services contracts continue to be recognized ratably over relevant contract terms as the Company stands ready to perform. Finally, revenue on equipment sales continues to be recognized based on delivery terms as aligned with the transfer of control.

Under the new standard, the Company identified distinct promises to transfer goods and services within its contracts. For system contracts that are recognized under percentage of completion accounting, 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 impacts the Company's system contracts, with the result being revenue recognized earlier as control of 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 system contracts, it continues to recognize revenue on these contracts using a cost-to-cost method based on the continuous transfer of control to the customer over time.

Under the new standard, revenue recognition for software sales is accelerated based on when control of software licenses and related support services are transferred to the customer. Amounts deferred under previous software accounting rules due to lack of vendor-specific objective evidence recognized an adjustment through opening retained earnings as of January 1, 2018.

Historically, the Company presented transactions that involved a third-party sales representative on a net basis. After considering the control concept and the remaining three indicators of gross presentation under the new standard, the Company has determined that it is the principal in contracts that involve a third-party sales representative. Thus, under the new standard, the Company presents associated revenues on a gross basis, with the affect being an equal increase to selling, general and administrative expenses for its cost of third-party commissions.

Under prior accounting standards, the Company expensed sales commissions and other costs to obtain a contract as incurred. However, under the new standard, the Company capitalizes sales commissions and certain other costs as incremental costs to obtain a contract. Such costs are classified as non-current contract cost assets within Other assets and amortized over a period that approximates the timing of revenue recognition on the underlying contracts.

The new standard clarified the definition of a receivable and requires the Company to present its net position in a contract with a customer on the balance sheet. The position is presented as either a receivable, contract asset, or a contract liability. Under the new definition, accounts receivable are unconditional rights to consideration from a customer. Contract assets represent rights to consideration from a customer in exchange for transferred goods and services that are conditional on events other than the passage of time. Contract liabilities represent obligations to transfer goods and services for which the Company has received, or is due, consideration from a customer.

2. Revenue from Contracts with Customers

Disaggregation of Revenue

The following table summarizes the disaggregation of our revenue by segment, geography, major product and service type and customer type for the year ended December 31, 2019, consistent with the information reviewed by our chief operating decision maker for evaluating the financial performance of reportable segments:

(in millions)	Years Ended			
	2019		2018	
	Products and Systems Integration	Software and Services	Products and Systems Integration	Software and Services
Regions				
Americas	\$ 4,107	\$ 1,572	\$ 3,743	\$ 1,320
EMEA	730	821	845	755
Asia Pacific	492	165	512	168
	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>
Major Products and Services				
Devices	\$ 3,467	\$ —	\$ 3,216	\$ —
Systems and Systems Integration	1,862	—	1,884	—
Services	—	1,896	—	1,815
Software	—	662	—	428
	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>
Customer Type				
Direct	\$ 3,441	\$ 2,395	\$ 3,317	\$ 2,134
Indirect	1,888	163	1,783	109
	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>

Remaining Performance Obligations

Remaining performance obligations represent the revenue that is expected to be recognized in future periods related to performance obligations that are unsatisfied, or partially unsatisfied, as of the end of a period. The transaction value associated with remaining performance obligations which are not yet satisfied as of December 31, 2019 is \$7.3 billion. A total of \$3.2 billion is from Products and Systems Integration performance obligations that are not yet satisfied, of which \$1.5 billion is expected to be recognized in the next twelve months. The remaining amounts will generally be satisfied over time as systems are implemented. A total of \$4.1 billion is from Software and Services performance obligations that are not yet satisfied as of December 31, 2019. The determination of Software and Services performance obligations that are not satisfied takes into account a contract term that may be limited by the customer's ability to terminate for convenience. Where termination for convenience exists in the Company's Services contracts, its disclosure of the remaining performance obligations that are unsatisfied assumes the contract term is limited until renewal. The Company expects to recognize \$1.3 billion from unsatisfied Software and Services performance obligations over the next twelve months, with the remaining performance obligations to be recognized over time as services are performed and software is implemented.

Payment terms on system contracts are typically tied to implementation milestones associated with progress on contracts, while revenue recognition is over time based on a cost-to-cost method of measuring performance. The Company may recognize a contract asset or contract liability, depending on whether revenue has been recognized in excess of billings or billings in excess of revenue. Services contracts are typically billed in advance, generating Contract liabilities until the Company has performed the services. The Company does not record a financing component to contracts when it expects, at contract inception, that the period between the transfer of a promised good or service and related payment terms are less than a year.

Contract Balances

(in millions)	2019	2018
Accounts receivable, net	\$ 1,412	\$ 1,293
Contract assets	1,046	1,012
Contract liabilities	1,449	1,263
Non-current contract liabilities	274	214

Revenue recognized during the year ended December 31, 2019 which was previously included in Contract liabilities as of January 1, 2019 is \$854 million, compared to \$836 million of revenue recognized during the year ended December 31, 2018 which was previously included in Contract liabilities as of January 1, 2018. Revenue of \$50 million was reversed during the year ended December 31, 2019 related to performance obligations satisfied, or partially satisfied, in previous periods, primarily driven by changes in the estimates of progress on system contracts, compared to \$15 million during the year ended December 31, 2018.

There have been no material impairment losses recognized on contract assets during the year ended December 31, 2019.

Contract Cost Balances

(in millions)	2019	2018
Current contract cost assets	24	30
Non-current contract cost assets	107	98

Contract cost assets represent incremental costs to obtain a contract, primarily related to the Company's sales incentive plans, and certain costs to fulfill contracts. Contract cost assets are amortized into expense over a period that follows the passage of control to the customer over time. Incremental costs to obtain a contract with the Company's sales incentive plans are accounted for under a portfolio approach, with amortization ranging from one to four years to approximate the recognition of revenues over time. Where incremental costs to obtain a contract will be recognized in one year or less, the Company applies a practical expedient around expensing amounts as incurred. Amortization of contract cost assets was \$42 million for the year ended December 31, 2019, compared to \$44 million as of the year ended December 31, 2018.

3. Leases

The Company leases certain office, factory and warehouse space, land and other equipment, principally under non-cancelable operating leases.

The Company determines if an arrangement is a lease at inception of the contract. The Company's key considerations in determining whether a contract is or contains a lease include establishing whether the supplier has the ability to use other assets to fulfill its service or whether the terms of the agreement enable the Company to control the use of a dedicated asset during the contract term. In the majority of the Company's contracts where it must identify whether a lease is present, it is readily determinable that the Company controls the use of the assets and obtains substantially all of the economic benefit during the term of the contract. In those contracts where identification is not readily determinable, the Company has determined that the supplier has either the ability to use another asset to provide the service or the terms of the contract give the supplier the right to operate the asset at its discretion during the term of the contract.

ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at the commencement date. The Company's lease payments are typically fixed or contain fixed escalators. The Company has elected to not separate lease and non-lease components for all of its current lease categories and therefore, all consideration is included in lease payments. For the Company's leases consisting of land and other equipment (i.e. "communication network sites"), future payments are subject to variability due to changes in indices or rates. The Company values its ROU assets and lease liabilities based on the index or rate in effect at lease commencement. Future changes in the indices or rates are accounted for as variable lease costs. Other variable lease costs include items that are not fixed at lease commencement including property taxes, insurance, and operating charges that vary based on usage. ROU assets also include lease payments made in advance and are net of lease incentives.

As the majority of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rates based on the information available at the commencement date in determining the present value of future payments. The Company's incremental borrowing rates are based on the term of the lease, the economic environment of the lease, and the effect of collateralization.

The Company's lease terms range from one to twenty-one years and may include options to extend the lease by one to ten years or terminate the lease after the initial non-cancelable term. The Company does not include options in the determination of

the lease term for the majority of leases as sufficient economic factors do not exist that would compel it to continue to use the underlying asset beyond the initial non-cancelable term. However, for the Company's communication network site leases that are necessary to provide services to customers under managed service arrangements, the Company includes options in the lease term to the extent of the customer contracts to which those leases relate.

The components of lease expense are as follows:

<i>(in millions)</i>	<i>December 31, 2019</i>
Lease expense:	
Operating lease cost	\$ 133
Finance lease cost	
Amortization of right-of-use assets	12
Interest on lease liabilities	2
Total finance lease cost	14
Short-term lease cost	4
Variable cost	35
Sublease income	(4)
Net lease expense	\$ 182

Rental expense, net of sublease income, for the year ended December 31, 2019, 2018 and 2017 were \$133 million, \$108 million and \$93 million, respectively.

Lease assets and liabilities consist of the following:

<i>(in millions)</i>	<i>Statement Line Classification</i>	<i>December 31, 2019</i>
Assets:		
Operating lease assets	Operating lease assets	\$ 554
Finance lease assets	Property, plant, and equipment, net	41
		\$ 595
Current liabilities:		
Operating lease liabilities	Accrued liabilities	\$ 122
Finance lease liabilities	Current portion of long-term debt	13
		\$ 135
Non-current liabilities:		
Operating lease liabilities	Operating lease liabilities	\$ 497
Finance lease liabilities	Long-term debt	16
		\$ 513

Other information related to leases is as follows:

<i>(in millions)</i>	<i>December 31, 2019</i>
Supplemental cash flow information:	
Net cash used for operating activities related to operating leases	\$ 140
Net cash used for operating activities related to finance leases	2
Net cash used for financing activities related to finance leases	14
Assets obtained in exchange for lease liabilities:	
Operating leases	\$ 86

*(in millions)**December 31, 2019*

Weighted average remaining lease terms (years):	
Operating leases	7
Finance leases	2
Weighted average discount rate:	
Operating leases	3.61%
Finance leases	4.28%

Future lease payments as of December 31, 2019 are as follows:

<i>(in millions)</i>	<i>Operating Leases</i>	<i>Finance Leases</i>	<i>Total</i>
2020	\$ 143	\$ 14	\$ 157
2021	129	12	141
2022	114	5	119
2023	62	1	63
2024	55	—	55
Thereafter	210	—	210
Total lease payments	\$ 713	\$ 32	\$ 745
Less: Interest	94	3	97
Present value of lease liabilities	\$ 619	\$ 29	\$ 648

4. Other Financial Data

Statement of Operations Information

Other Charges (Income)

Other charges (income) included in Operating earnings consist of the following:

<i>Years ended December 31 (in millions)</i>	2019	2018	2017
Other charges (income):			
Intangibles amortization (Note 15)	\$ 208	\$ 188	\$ 151
Reorganization of businesses (Note 14)	40	61	33
Loss (gain) on legal settlements	3	3	(1)
Asset impairments	—	1	10
Environmental reserve expense	—	57	—
Gain on the recovery of long-term receivables	—	—	(47)
Operating lease ROU asset impairment	5	—	—
Acquisition-related transaction fees	3	24	1
Other	1	—	—
	\$ 260	\$ 334	\$ 147

During 2018, the Company recorded an environmental reserve charge of \$57 million due to: (i) changing the expected timeline of the remediation activities to 30 years and (ii) additional costs for further remediation efforts, increasing the reserve to \$107 million.

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 long-term 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 of \$10 million of fees owed to third parties for their involvement in the recovery.

Other Income (Expense)

Interest expense, net, and Other both included in Other income (expense) consist of the following:

<i>Years ended December 31 (in millions)</i>	2019	2018	2017
Interest expense, net:			
Interest expense	\$ (237)	\$ (240)	\$ (215)
Interest income	17	18	14
	<u>\$ (220)</u>	<u>\$ (222)</u>	<u>\$ (201)</u>
Other:			
Net periodic pension and postretirement benefit (Note 8)	\$ 78	\$ 75	\$ 46
Non-U.S. pension settlement loss (Note 8)	—	—	(48)
Losses from the extinguishment of long-term debt (Note 5)	(50)	—	—
Gain from the extinguishment of 2.00% senior convertible notes (Note 5)	4	6	—
Investment impairments	(18)	(5)	—
Foreign currency loss	(22)	(24)	(31)
Gain (loss) on derivative instruments	(8)	(14)	15
Gains on equity method investments	3	1	1
Fair value adjustments to equity investments	(3)	11	—
U.S. pension settlement (Note 8)	(359)	—	—
Other	10	3	7
	<u>\$ (365)</u>	<u>\$ 53</u>	<u>\$ (10)</u>

Earnings Per Common Share

Basic and diluted earnings per common share from net earnings attributable to Motorola Solutions, Inc. are computed as follows:

<i>Years ended December 31</i>	<i>Amounts attributable to Motorola Solutions, Inc. common stockholders</i>		
	<i>Net Earnings (loss)</i>		
	2019	2018	2017
Basic earnings per common share:			
Earnings (loss)	\$ 868	\$ 966	\$ (155)
Weighted average common shares outstanding	166.6	162.4	162.9
Per share amount	<u>\$ 5.21</u>	<u>\$ 5.95</u>	<u>\$ (0.95)</u>
Diluted earnings per common share:			
Earnings (loss)	\$ 868	\$ 966	\$ (155)
Weighted average common shares outstanding	166.6	162.4	162.9
Add effect of dilutive securities:			
Share-based awards	4.7	4.2	—
2.00% senior convertible notes	4.3	5.4	—
1.75% senior convertible notes	—	—	—
Diluted weighted average common shares outstanding	<u>175.6</u>	<u>172.0</u>	<u>162.9</u>
Per share amount	<u>\$ 4.95</u>	<u>\$ 5.62</u>	<u>\$ (0.95)</u>

In the computation of diluted earnings per common share for the year ended December 31, 2019, the assumed exercise of 0.3 million options, including 0.1 million subject to market-based contingent option agreements, were excluded because their inclusion would have been antidilutive. In the computation of diluted earnings per common share for the year ended December 31, 2018, the assumed exercise of 0.8 million options, including 0.6 million subject to market-based contingent option agreements, were excluded because their inclusion would have been antidilutive. In the computation of diluted earnings per common share for the year ended December 31, 2017, the Company recorded a net loss 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 8.7 million stock options and the assumed vesting of 1.4 million RSUs, and 3.1 million shares related to the 2.00% senior convertible notes.

On September 5, 2019, the Company issued \$1.0 billion of 1.75% senior convertible notes which mature on September 15, 2024 ("New Senior Convertible Notes"). The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, the Company intends to settle the principal amount of the New Senior Convertible Notes in cash. Because of the Company's intention to settle the par value of the New Senior Convertible Notes in cash, Motorola Solutions does not reflect any shares underlying the New Senior Convertible Notes in its diluted weighted average shares outstanding until the average stock price per share for the period exceeds the conversion price. Only the number of shares that would be issuable (under the treasury stock method of accounting for share dilution) will be included, which is based upon the amount by which the average stock price exceeds the conversion price of \$203.50. For the period ended December 31, 2019, there was no dilutive effect of the New Senior Convertible Notes on diluted earnings per share attributable to Motorola Solutions, Inc. as the average stock price for the period outstanding was below the conversion price. See further discussion in Note 5.

Balance Sheet Information

Accounts Receivable, Net

Accounts receivable, net, consists of the following:

<i>December 31</i>	2019	2018
Accounts receivable	\$ 1,475	\$ 1,344
Less allowance for doubtful accounts	(63)	(51)
	<u>\$ 1,412</u>	<u>\$ 1,293</u>

Inventories, Net

Inventories, net, consist of the following:

<i>December 31</i>	2019	2018
Finished goods	\$ 209	\$ 206
Work-in-process and production materials	374	293
	<u>583</u>	<u>499</u>
Less inventory reserves	(136)	(143)
	<u>\$ 447</u>	<u>\$ 356</u>

Other Current Assets

Other current assets consist of the following:

<i>December 31</i>	2019	2018
Current contract cost assets (Note 2)	\$ 24	\$ 30
Tax-related deposits	77	138
Other	<u>171</u>	<u>186</u>
	<u>\$ 272</u>	<u>\$ 354</u>

Property, Plant and Equipment, Net

Property, plant and equipment, net, consist of the following:

<i>December 31</i>	2019	2018
Land	\$ 15	\$ 10
Leasehold improvements	410	362
Machinery and equipment	<u>2,051</u>	<u>1,886</u>
	<u>2,476</u>	<u>2,258</u>
Less accumulated depreciation	(1,484)	(1,363)
	<u>\$ 992</u>	<u>\$ 895</u>

Depreciation expense for the years ended December 31, 2019, 2018, and 2017 was \$186 million, \$172 million and \$192 million, respectively.

Investments

Investments consist of the following:

<i>December 31</i>	2019	2018
Corporate bonds	\$ —	\$ 1
Common stock	25	19
Strategic investments, at cost	40	62
Company-owned life insurance policies	74	75
Equity method investments	20	12
	<u>\$ 159</u>	<u>\$ 169</u>

The Company's common stock portfolio reflects investments in publicly-traded companies within the communications services sector and is valued utilizing active market prices for similar instruments. During the year ended December 31, 2019, the Company recognized \$3 million in Other income (expense) related to a decrease in the fair value of the investments.

Strategic investments include investments in non-public technology-driven startup companies. Strategic investments do not have a readily determinable fair value and are recorded at cost, less any impairment, and adjusted for changes resulting from observable, orderly transactions for identical or similar securities. The Company did not recognize any significant adjustments to the recorded cost basis during the year ended December 31, 2019.

Gains on the sale of investments and businesses were \$5 million, \$16 million and \$3 million for the years ended 2019, 2018, 2017, respectively. During the year ended December 31, 2019, the Company received \$6 million in cash for the sale of \$3 million of net assets related to a two-way communications rental business, resulting in the gain on sale of a business of \$3 million. During the year ended December 31, 2019, the Company recorded investment impairment charges of \$18 million, compared to \$5 million during the year ended December 31, 2018, representing other-than-temporary declines in the value of the Company's strategic 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:

<i>December 31</i>	2019	2018
Defined benefit plan assets (Note 8)	\$ 223	\$ 135
Tax receivable	—	39
Non-current contract cost assets (Note 2)	107	98
Other	92	72
	<u>\$ 422</u>	<u>\$ 344</u>

Accrued Liabilities

Accrued liabilities consist of the following:

<i>December 31</i>	2019	2018
Compensation	347	324
Tax liabilities (Note 7)	95	111
Dividend payable	110	93
Trade liabilities	161	185
Operating lease liabilities (Note 3)	122	—
Other	521	497
	<u>\$ 1,356</u>	<u>\$ 1,210</u>

Other Liabilities

Other liabilities consist of the following:

December 31	2019	2018
Defined benefit plans (Note 8)	\$ 1,524	\$ 1,557
Non-current contract liabilities (Note 2)	274	214
Unrecognized tax benefits (Note 7)	53	51
Deferred income taxes (Note 7)	184	201
Other	241	277
	\$ 2,276	\$ 2,300

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, 2019, the Company had used approximately \$12.7 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving \$1.3 billion of authority available for future repurchases.

The Company's share repurchases, including transaction costs, for 2019, 2018, and 2017 can be summarized as follows:

Year	Shares Repurchased (in millions)	Average Price	Aggregate Amount (in millions)
2019	2.3	\$ 137.35	\$ 315
2018	1.2	112.42	132
2017	5.7	85.32	483

Payment of Dividends: On November 14, 2019, the Company announced that its board of directors approved an increase in the quarterly cash dividend from \$0.57 per share to \$0.64 per share of common stock. During the years ended December 31, 2019, 2018, and 2017 the Company paid \$379 million, \$337 million, and \$307 million, respectively, in cash dividends to holders of its common stock. On January 15, 2020, we paid an additional \$109 million in cash dividends to holders of our 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, 2019, 2018, and 2017:

	Years ended December 31		
	2019	2018	2017
Foreign Currency Translation Adjustments:			
Balance at beginning of period	\$ (444)	\$ (353)	\$ (494)
Other comprehensive income (loss) before reclassification adjustment	35	(94)	133
Tax benefit (expense)	(1)	3	8
Other comprehensive income (loss), net of tax	34	(91)	141
Balance at end of period	\$ (410)	\$ (444)	\$ (353)
Available-for-Sale Securities:			
Balance at beginning of period	\$ —	\$ 6	\$ —
Other comprehensive income (loss) before reclassification adjustment	—	(8)	8
Tax benefit (expense)	—	2	(2)
Other comprehensive income (loss), net of tax	—	(6)	6
Balance at end of period	\$ —	\$ —	\$ 6
Defined Benefit Plans:			
Balance at beginning of period	\$ (2,321)	\$ (2,215)	\$ (1,823)
Other comprehensive income (loss) before reclassification adjustment	337	(200)	(260)
Tax benefit (expense)	(85)	46	(213)
Other comprehensive income (loss) before reclassification adjustment, net of tax	252	(154)	(473)
Reclassification adjustment - Actuarial net losses into Other income (expense)	65	76	65
Reclassification adjustment - Prior service benefits into Other income (expense)	(15)	(15)	(18)
Reclassification adjustment - Non-U.S. pension settlement loss into Other income (expense)	—	—	48
Tax benefit	(11)	(13)	(14)
Reclassification adjustments into Net earnings, net of tax	39	48	81
Other comprehensive income (loss), net of tax	291	(106)	(392)
Balance at end of period	\$ (2,030)	\$ (2,321)	\$ (2,215)
Total Accumulated other comprehensive loss	\$ (2,440)	\$ (2,765)	\$ (2,562)

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 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 been adjusted through equity.

5. Debt and Credit Facilities

Long-Term Debt

December 31	2019	2018
2.0% senior convertible notes due 2020	\$ —	\$ 800
Term Loan due 2021	—	399
3.5% senior notes due 2021	—	397
3.75% senior notes due 2022	550	748
3.5% senior notes due 2023	597	596
4.0% senior notes due 2024	593	591
1.75% senior convertible notes due 2024	988	—
6.5% debentures due 2025	72	118
7.5% debentures due 2025	254	346
4.6% senior notes due 2028	691	690
6.5% debentures due 2028	24	36
4.6% senior notes due 2029	804	—
6.625% senior notes due 2037	37	54
5.5% senior notes due 2044	396	396
5.22% debentures due 2097	91	91
Other long-term debt	35	62
	5,132	5,324
Adjustments for unamortized gains on interest rate swap terminations	(3)	(4)
Less: current portion	(16)	(31)
Long-term debt	\$ 5,113	\$ 5,289

In February of 2018, the Company issued \$500 million of 4.60% senior notes due 2028. The Company recognized net proceeds of \$497 million after debt issuance costs and debt discounts. These proceeds were then used to make a \$500 million contribution to the Company's U.S. pension plan. In October of 2018, the Company issued an additional \$200 million on the outstanding 4.6% senior notes bringing the total outstanding principal to \$700 million. The Company recognized net proceeds of \$196 million after debt issuance costs and debt discounts.

To complete the acquisition of Avigilon during the quarter ended March 31, 2018, the Company entered into a term loan for \$400 million with a maturity date of March 26, 2021 (the "Term Loan"). The interest on the Term Loan was variable, indexed to the London Inter-bank Offered Rate ("LIBOR"), and paid monthly. The weighted average borrowing rate for amounts outstanding during the year ended December 31, 2019 was 3.68%. The Company repaid all amounts borrowed under the Term Loan during the year ended December 31, 2019.

In May of 2019, the Company issued \$650 million of 4.60% senior notes due 2029. The Company received proceeds of \$645 million after debt issuance costs and debt discounts. These proceeds were then used to repurchase \$614 million in principal amount of its outstanding long-term debt for a purchase price of \$654 million, excluding approximately \$3 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, the Company recognized a loss of approximately \$43 million related to this repurchase in Other within Other income (expense) in the Consolidated Statements of Operations.

In August of 2019, the Company issued a follow-on \$150 million to the outstanding 4.60% senior notes due 2029 bringing the total outstanding principal to \$800 million. The Company recognized net proceeds of \$159 million after debt premiums and debt issuance costs. These proceeds were then used to repurchase the remaining \$150 million principal amount of the 3.5% senior notes due 2021 for a purchase price of \$155 million, excluding approximately \$2 million of accrued interest. After accelerating the amortization of debt issuance costs, the Company recognized a loss of approximately \$7 million related to this repurchase in Other, net within Other income (expense) in the Consolidated Statements of Operations.

In 2015, the Company entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 2.00% senior convertible notes which were scheduled to mature in September 2020 ("Senior Convertible Notes"). The notes became fully convertible as of August 25, 2017. The notes were convertible based on a conversion rate that may be adjusted for dividends declared and automatically adjusts the exercise price. In October of 2018, the Company settled \$200 million in principal amount of the Senior Convertible Notes for aggregate consideration of \$369 million in cash, inclusive of the conversion premium.

During the third quarter of 2019, the remaining notes were convertible based on a conversion rate of rate of 14.9186, adjusted for dividends declared, per \$1,000 principal amount (equal to a conversion price of \$67.03 per share). On September 5, 2019, the Company entered into an agreement with Silver Lake Partners to settle the remaining \$800 million in principal amount of the Senior Convertible Notes in two installments: (i) \$200 million of notes were repurchased during the third quarter for an

aggregate consideration of \$526 million in cash, inclusive of the conversion premium and (ii) \$600 million of principal paid in cash on October 7, 2019, and 5.5 million shares of common stock delivered on September 5, 2019 to settle the conversion premium. The Company recognized a gain of \$4 million from the extinguishment of the 2.00% senior convertible notes in Other, net within other income (expense) in the Consolidated Statement of Operations.

On September 5, 2019, the Company entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 1.75% senior convertible notes which mature in September 2024 ("New Senior Convertible Notes"). Interest on these notes is payable semiannually. The notes are convertible anytime on or after two years from their issuance date, except in certain limited circumstances. The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, the Company intends to settle the principal amount of the New Senior Convertible Notes in cash. The Company recorded a debt liability associated with the New Senior Convertible Notes by determining the fair value of an equivalent debt instrument without a conversion option. Using a discount rate of 2.45%, which was determined based on a review of relevant market data, the Company calculated the debt liability to be \$986 million, indicating a \$14 million discount to be amortized over the expected life of the debt instrument. The remaining proceeds of \$14 million were allocated to the conversion option and accordingly, increased Additional paid-in capital.

During the year ended December 31, 2019, the Company established an unsecured commercial paper program, backed by the revolving credit facility, under which we may issue unsecured commercial paper notes up to a maximum aggregate principal amount of \$2.2 billion outstanding at any one time. At maturity, the notes are paid back in full including the interest component. The notes are not redeemable prior to maturity. As of December 31, 2019, the Company had no outstanding debt under the commercial paper program. During the year ended December 31, 2019, the average borrowing rate was 2.54%.

Aggregate requirements for long-term debt maturities during the next five years are as follows: 2020—\$16 million; 2021—\$4 million; 2022—\$562 million; 2023—\$603 million; and 2024—\$1.6 billion.

Credit Facilities

As of December 31, 2019, 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"). As of March 31, 2018, the Company borrowed \$400 million under the facility to complete the Avigilon acquisition. The entire \$400 million was re-paid during the year ended December 31, 2018. 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 ("LIBOR"), 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, 2019. There were no borrowings outstanding or letters of credit issued under the revolving credit facility as of December 31, 2019.

6. Risk Management

Foreign Currency Risk

At December 31, 2019, the Company had outstanding foreign exchange contracts with notional amounts totaling \$1.1 billion, compared to \$819 million outstanding at December 31, 2018. 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, 2019 and the corresponding positions as of December 31, 2018:

Net Buy (Sell) by Currency	Notional Amount	
	2019	2018
Euro	\$ 134	\$ 89
British pound	107	139
Australian dollar	(123)	(105)
Chinese renminbi	(79)	(55)
Brazilian real	(47)	(41)

Net Investment Hedges

The Company uses foreign exchange forward contracts with contract terms of 12 to 15 months to hedge against the effect of the British pound and the Euro exchange rate fluctuations against the U.S. dollar on a portion of its net investment in certain European operations. The Company recognizes changes in the fair value of the net investment hedges as a component of foreign currency translation adjustments within other comprehensive income to offset a portion of the change in translated value of the net investment being hedged, until the investment is sold or liquidated. The Company has elected to exclude the difference between the spot rate and the forward rate of the forward contract from its assessment of hedge effectiveness. The

effect of the excluded components will be amortized on a straight-line basis and recognized through interest expense. As of December 31, 2019, the Company had €94 million of net investment hedges in certain Euro functional subsidiaries and £100 million of net investment hedges in certain British pound functional subsidiaries. During the year ended December 31, 2019, the Company amortized \$6 million of income from the excluded components through interest expense.

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, 2019, all of the counterparties have investment grade credit ratings. As of December 31, 2019, the credit risk with all counterparties was approximately \$4 million.

Derivative Financial Instruments

The following tables summarize the fair values and location in the Consolidated Balance Sheet of all derivative financial instruments held by the Company at December 31, 2019 and 2018:

	<i>Fair Values of Derivative Instruments</i>			
	<i>Assets</i>		<i>Liabilities</i>	
	<i>Fair Value</i>	<i>Balance Sheet Location</i>	<i>Fair Value</i>	<i>Balance Sheet Location</i>
December 31, 2019				
Derivatives designated as hedging instruments:				
Foreign exchange contracts	\$ 3	Other assets	\$ —	Accrued liabilities
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	\$ 1	Other assets	\$ 5	Accrued liabilities

	<i>Fair Values of Derivative Instruments</i>			
	<i>Assets</i>		<i>Liabilities</i>	
	<i>Fair Value</i>	<i>Balance Sheet Location</i>	<i>Fair Value</i>	<i>Balance Sheet Location</i>
December 31, 2018				
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	\$ 5	Other assets	\$ 4	Accrued liabilities

The following table summarizes the effect of derivatives designated as hedging instruments, for the years ended December 31, 2019, 2018 and 2017:

<i>Gain (Loss) on Derivative Instruments</i>	<i>December 31</i>			<i>Financial Statement Location</i>
	2019	2018	2017	
Foreign exchange contracts	\$ 8	\$ —	\$ (3)	Other comprehensive income (loss)

The following table summarizes the effect of derivatives not designated as hedging instruments, for the years ended December 31, 2019, 2018 and 2017:

<i>Gain (Loss) on Derivative Instruments</i>	<i>December 31</i>			<i>Financial Statement Location</i>
	2019	2018	2017	
Foreign exchange contracts	(8)	(14)	15	Other income (expense)

7. Income Taxes

Components of Income Tax Expense

Components of earnings before income taxes are as follows:

Years ended December 31	2019	2018	2017
United States	\$ 714	\$ 980	\$ 959
Other nations	287	122	117
	<u>\$ 1,001</u>	<u>\$ 1,102</u>	<u>\$ 1,076</u>

Components of income tax expense (benefit) are as follows:

Years ended December 31	2019	2018	2017
United States	\$ 94	\$ 16	\$ 43
Other nations	93	88	75
States (U.S.)	27	20	9
Current income tax expense	<u>214</u>	<u>124</u>	<u>127</u>
United States	(61)	39	1,078
Other nations	(22)	(18)	(8)
States (U.S.)	(1)	(12)	30
Deferred income tax expense (benefit)	<u>(84)</u>	<u>9</u>	<u>1,100</u>
Total income tax expense	<u>\$ 130</u>	<u>\$ 133</u>	<u>\$ 1,227</u>

Differences between income tax expense computed at the U.S. federal statutory tax rate of 21% and income tax expense as reflected in the Consolidated Statements of Operations are as follows:

Years ended December 31	2019			2018		2017			
Income tax expense at statutory rate	\$	210	21.0 %	\$	231	21.0 %	\$	377	35.0 %
State income taxes, net of federal benefit		32	3.2 %		11	1.0 %		39	3.6 %
U.S. tax on undistributed non-U.S. earnings		6	0.6 %		6	0.5 %		20	1.9 %
Non-U.S. tax expense (benefit) on non-U.S. earnings		4	0.4 %		7	0.6 %		(28)	(2.6)%
U.S. tax reform		—	— %		(79)	(7.2)%		874	81.2 %
Section 199 deduction		—	— %		—	— %		(18)	(1.7)%
Loss on the sale of investment		—	— %		—	— %		(21)	(2.0)%
Reserve for uncertain tax positions		(3)	(0.3)%		2	0.2 %		3	0.3 %
Other provisions		(3)	(0.3)%		8	0.7 %		7	0.7 %
Research credits		(10)	(1.0)%		(9)	(0.8)%		(4)	(0.4)%
Stock compensation		(27)	(2.7)%		(30)	(2.7)%		(14)	(1.3)%
Valuation allowances		(79)	(7.9)%		(14)	(1.3)%		(8)	(0.7)%
	\$	130	13.0 %	\$	133	12.0 %	\$	1,227	114.0 %

The effective tax rate for 2019 is below the current U.S. federal statutory rate of 21% primarily due to the partial release of the valuation allowance recorded on the U.S. foreign tax credit carryforward and the recognition of excess tax benefits of share-based compensation.

Deferred tax balances that were recorded within Accumulated other comprehensive loss in the Company's Consolidated Balance Sheet, rather than Income tax expense, are the result of retirement benefit adjustments, currency translation adjustments, and fair value adjustments to available-for-sale securities. The adjustments were charges of \$97 million for the year ended December 31, 2019, charges of \$38 million for the year ended December 31, 2018 and benefits of \$49 million for the years ended December 31, 2017.

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 2017 U.S. Tax Cuts and Jobs Act ("the Tax Act"), dividends from foreign subsidiaries are now exempt or the earnings have been previously subject to U.S. tax. As a result, the tax accrual for undistributed foreign earnings is limited

primarily to foreign withholding taxes and tax on inherent capital gains that would result from distribution of foreign earnings which are not permanently reinvested, and such earnings may be distributed without an additional charge.

Undistributed foreign earnings that the Company intends to reinvest indefinitely, aggregate to \$1.7 billion at December 31, 2019. It is impracticable to determine the exact amount of unrecognized deferred tax liabilities on such earnings; however, due to the above-mentioned changes made under the Tax Act, the Company believes that the additional U.S. or foreign income tax charge with respect to such earnings, if distributed, would be immaterial.

Under the Tax Act, the Company is now subjected to the global intangible low-taxed income ("GILTI") provision which requires an incremental U.S. tax on foreign income. The Company is allowed to make an accounting policy election of either recognizing deferred taxes for temporary differences expected to reverse as GILTI in future years or recognizing such taxes as a current period expense when incurred. The Company has elected to treat the tax effect of GILTI as a current period expense when incurred. As such, there are no deferred tax assets or liabilities with respect to the GILTI provisions.

Gross deferred tax assets were \$2.0 billion for both December 31, 2019 and December 31, 2018. Deferred tax assets, net of valuation allowances, were \$1.6 billion at December 31, 2019 and December 31, 2018. Gross deferred tax liabilities were \$854 million and \$771 million at December 31, 2019 and 2018, respectively.

Significant components of deferred tax assets (liabilities) are as follows:

<i>December 31</i>	2019	2018
Inventory	\$ 45	\$ 28
Accrued liabilities and allowances	65	84
Employee benefits	392	402
Capitalized items	(129)	(68)
Tax basis differences on investments	2	(2)
Depreciation tax basis differences on fixed assets	68	47
Undistributed non-U.S. earnings	(27)	(26)
Tax attribute carryforwards	471	613
Business reorganization	10	10
Warranty and customer liabilities	33	19
Deferred revenue and costs	165	147
Valuation allowances	(349)	(461)
Operating lease assets	(125)	—
Operating lease liabilities	139	—
Other	(1)	(9)
	\$ 759	\$ 784

At December 31, 2019, 2018, and 2017 the Company had valuation allowances of \$349 million, \$461 million and \$604 million, respectively, against its deferred tax assets, including \$85 million, \$86 million and \$90 million, respectively, relating to deferred tax assets for non-U.S. subsidiaries. The Company's U.S. valuation allowance decreased \$111 million during 2019 primarily due to a change in the Company's ability to utilize U.S. foreign tax credits and the expiration of tax attributes. The Company's U.S. valuation allowance decreased \$139 million during 2018 as a result of changes to the 2017 Tax Act enactment-date provision amounts and foreign tax credits expiring in 2018. The Company's U.S. valuation increased \$481 million during 2017 primarily related to the new limitations imposed on the utilization of foreign tax 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 attribute carryforwards are as follows:

<i>December 31, 2019</i>	<i>Gross Tax Loss</i>	<i>Tax Effected</i>	<i>Expiration Period</i>
United States:			
U.S. tax losses	\$ 73	\$ 15	2022-2036
Foreign tax credits	—	300	2020-2023
General business credits	—	1	2026-2037
State tax losses	—	28	2019-2030
State tax credits	—	20	2019-2031
Non-U.S. subsidiaries:			
Japan tax losses	104	32	2020-2027
Germany tax losses	10	3	Unlimited
United Kingdom tax losses	84	14	Unlimited
Singapore tax losses	17	3	Unlimited
Canada tax losses	16	4	2034-2038
Other subsidiaries tax losses	102	17	Various
Spain tax credits	—	24	2020-2028
Other subsidiaries tax credits	—	10	Various
	\$	471	

The Company had unrecognized tax benefits of \$70 million and \$76 million at December 31, 2019 and December 31, 2018, respectively, of which approximately \$66 million and \$30 million, if recognized, would have affected the effective tax rate for 2019 and 2018, respectively.

A roll-forward of unrecognized tax benefits is as follows:

	2019	2018
Balance at January 1	\$ 76	\$ 76
Additions based on tax positions related to current year	4	4
Additions for tax positions of prior years	3	1
Reductions for tax positions of prior years	(8)	—
Settlements and agreements	(1)	(2)
Lapse of statute of limitations	(4)	(3)
Balance at December 31	\$ 70	\$ 76

The Company recorded \$53 million and \$51 million of unrecognized tax benefits in other liabilities at December 31, 2019 and December 31, 2018, respectively.

The Internal Revenue Service ("IRS") is currently examining the Company's 2014 and 2015 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:

<i>Jurisdiction</i>	<i>Tax Years</i>
United States	2014-2019
Australia	2015-2019
Canada	2015-2019
Germany	2014-2019
India	1997-2019
Israel	2016-2019
Poland	2015-2019
Malaysia	2012-2019
United Kingdom	2018-2019

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 or liquidity. However, an unfavorable resolution of the Company's global tax disputes could have a material adverse effect on the Company's 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 \$7 million tax charge to a \$27 million tax benefit, with cash payments not to exceed \$20 million.

At December 31, 2019, the Company had \$29 million accrued for interest and \$16 million accrued for penalties on unrecognized tax benefits. At December 31, 2018, the Company had \$30 million and \$17 million accrued for interest and penalties, respectively, on unrecognized tax benefits. The Company's policy is to classify the interest and penalty as a component of interest expense and other expense, respectively.

8. Retirement Benefits

Pension and Postretirement Health Care Benefits Plans

U.S. Pension Benefit Plans

The Company's non-contributory U.S. defined benefit 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 non-contributory 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. In December 2008, the Company amended the U.S. Pension Plan and MSPP (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.

In December 2019, the Company completed a voluntary lump-sum election window offered to certain participants of the U.S. Pension Plan. The aggregate dollar amount of lump-sum elections by approximately 6,300 participants was \$836 million, and accordingly, this amount was paid out of plan assets prior to December 31, 2019. These actions resulted in a reduction of our projected benefit obligation, absent of actuarial losses experienced from decreases in interest rates, of \$1.0 billion and a settlement loss of \$359 million recorded within "Other charges" on the Consolidated Statement of Operations.

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. After a series of amendments, 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. All eligible retirees over the age of 65 are entitled to one fixed-rate subsidy capped at \$560 per participant.

These series of amendments to the Postretirement Health Care Benefits Plan resulted 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 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 U.K. 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.

During the years ended December 31, 2017, 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 in 2017, respectively, which are recorded within Other income (expense) within the Consolidated Statement of Operations.

During 2019, the Motorola Solutions United Kingdom defined benefit plan trustees decided to exercise their discretion on early retirement benefit reductions. This action resulted in a reduction of the projected benefit obligation of approximately \$83 million related to prior service credits that will be amortized as a credit to the Consolidated Statements of Operations over approximately twenty-nine years, or the period in which the remaining employees eligible for the plan qualify for benefits under the plan.

Net Periodic Cost (Benefit)

The net periodic cost (benefit) for pension and Postretirement Health Care Benefits plans was as follows:

Years ended December 31	U.S. Pension Benefit Plans			Non U.S. Pension Benefit Plans			Postretirement Health Care Benefits Plan		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Service cost	\$ —	\$ —	\$ —	\$ 2	\$ 3	\$ 3	\$ —	\$ —	\$ —
Interest cost	202	186	185	36	38	40	3	2	3
Expected return on plan assets	(275)	(270)	(229)	(85)	(92)	(92)	(10)	(10)	(10)
Amortization of:									
Unrecognized net loss	46	57	44	15	15	16	4	4	5
Unrecognized prior service benefit	—	—	—	—	—	—	(15)	(15)	(18)
Settlement loss	359	—	—	—	—	48	—	—	—
Net periodic cost (benefit)	\$ 332	\$ (27)	\$ —	\$ (32)	\$ (36)	\$ 15	\$ (18)	\$ (19)	\$ (20)

The status of the Company's plans is as follows:

	<i>U.S. Pension Benefit Plans</i>		<i>Non U.S. Pension Benefit Plans</i>		<i>Postretirement Health Care Benefits Plan</i>	
	2019	2018	2019	2018	2019	2018
Change in benefit obligation:						
Benefit obligation at January 1	\$ 4,864	\$ 5,235	\$ 1,654	\$ 1,844	\$ 72	\$ 85
Service cost	—	—	2	3	—	—
Interest cost	202	186	36	38	3	2
Plan amendments	—	—	(83)	10	—	—
Actuarial loss (gain)	609	(452)	207	(97)	4	(8)
Foreign exchange valuation adjustment	—	—	44	(98)	—	—
Benefit payments	(948)	(105)	(46)	(46)	(6)	(7)
Benefit obligation at December 31	\$ 4,727	\$ 4,864	\$ 1,814	\$ 1,654	\$ 73	\$ 72
Change in plan assets:						
Fair value at January 1	\$ 3,673	\$ 3,614	\$ 1,438	\$ 1,590	\$ 133	\$ 151
Return on plan assets	873	(339)	188	(28)	33	(12)
Company contributions	3	503	8	8	—	—
Foreign exchange valuation adjustment	—	—	53	(88)	—	—
Benefit payments	(948)	(105)	(46)	(44)	(6)	(6)
Fair value at December 31	\$ 3,601	\$ 3,673	\$ 1,641	\$ 1,438	\$ 160	\$ 133
Funded status of the plan	\$ (1,126)	\$ (1,191)	\$ (173)	\$ (216)	\$ 87	\$ 61
Unrecognized net loss	1,935	2,329	648	543	42	74
Unrecognized prior service benefit	—	—	(84)	11	(20)	(35)
Prepaid pension cost	\$ 809	\$ 1,138	\$ 391	\$ 338	\$ 109	\$ 100
Components of prepaid (accrued) pension cost:						
Current benefit liability	\$ (3)	\$ (3)	\$ —	\$ —	\$ —	\$ —
Non-current benefit liability	(1,123)	(1,188)	(299)	(265)	—	—
Non-current benefit asset	—	—	126	49	87	61
Deferred income taxes	463	561	60	55	9	10
Accumulated other comprehensive loss	1,472	1,768	504	499	13	29
Prepaid pension cost	\$ 809	\$ 1,138	\$ 391	\$ 338	\$ 109	\$ 100

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, 2019. 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, the Company amortizes gains and losses over periods ranging from ten to thirty-one years. Prior service costs will be amortized over periods ranging from two to five years. Benefits under all pension plans are valued based on the projected unit credit cost method.

The net periodic cost for 2020 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 \$58 million and \$12 million, respectively. It is estimated that the 2020 net periodic expense for the Postretirement Health Care Benefits Plan will include amortization of net periodic benefits of \$11 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.

The Company uses a full yield curve approach to estimate interest and service cost components of net periodic cost (benefit) for defined pension benefit pension and other post-retirement benefit plans. The full yield curve approach requires the application of the specific spot rate along the yield curve used in the determination of the projected benefit obligation to the relevant projected cash flows.

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	
	2019	2018	2019	2018	2019	2018
Discount rate	4.25%	3.57%	2.37%	2.08%	3.85%	3.16%
Investment return assumption	6.85%	6.95%	5.23%	5.18%	6.90%	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	
	2019	2018	2019	2018	2019	2018
Discount rate	3.32%	4.47%	1.82%	2.67%	3.15%	4.29%
Future compensation increase rate	n/a	n/a	0.52%	0.52%	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	2019	2018	2019	2018
Accumulated benefit obligation	\$ 4,727	\$ 4,864	\$ 1,809	\$ 1,649

The Company used "Mortality Improvement Scale MP-2018" to calculate the 2019 U.S. projected benefit obligations and the "Mortality Improvement Scale MP-2017" to calculate the 2018 U.S. 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:

December 31	All Pension Benefit Plans		Postretirement Health Care Benefits Plan	
	2019	2018	2019	2018
Target Mix:				
Equity securities	25%	30%	28%	32%
Fixed income securities	56%	51%	52%	49%
Cash and other investments	19%	19%	20%	19%
Actual Mix:				
Equity securities	24%	28%	29%	31%
Fixed income securities	57%	50%	54%	48%
Cash and other investments	19%	22%	17%	21%

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 and \$503 million of contributions to its U.S. Pension Benefit Plans during 2019 and 2018, respectively. The Company contributed \$8 million to its Non U.S. Pension Benefit Plans during 2019 and 2018. The Company made no contributions to its Postretirement Health Care Benefits Plan in 2019 or 2018.

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
2020	\$ 133	\$ 48	\$ 7
2021	150	48	6
2022	169	49	6
2023	184	51	5
2024	201	52	5
2025-2029	1,261	276	22

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, 2019, 2018 and 2017. The Company has recorded a liability representing the actuarial present value of the future death benefits as of the employees' expected retirement date of \$67 million and \$61 million as of December 31, 2019 and December 31, 2018, 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, 2019, 2018 and 2017 were \$32 million, \$31 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, 2019, 2018, and 2017 the Company made no discretionary contributions.

9. Share-Based Compensation 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 and stock appreciation right 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 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 ("RS") grants consist of shares or the rights to shares of the Company's common stock which are awarded to certain employees. The grants are restricted in such that they are subject to vesting conditions; however, restricted stock holders have voting rights, and the rights to earn dividends on unvested shares.

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"), market stock units ("MSUs"), and performance stock units ("PSUs") 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. PSUs have been granted as a portion of the Long Range Incentive Plan ("LRIP") awards issued to certain Company executive officers. The PSUs have a three-year performance period and were granted at a target number of units subject to adjustment based on company performance. The number of PSUs earned will be based on the actual total shareholder return ("TSR") compared to the S&P 500 over the three-year performance period.

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 which were fully vested as of December 31, 2019. 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, 2019, 2018 and 2017, employees purchased 0.6 million, 0.8 million and 0.8 million shares, respectively, at purchase prices of \$108.96 and \$120.12, \$72.96 and \$88.84, and \$63.96 and \$72.11, 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 2019, 2018 and 2017 was \$29.14, \$23.31 and \$15.16, respectively, using the following weighted-average assumptions:

	2019	2018	2017
Expected volatility	23.8%	24.7%	24.0%
Risk-free interest rate	2.3%	2.7%	2.1%
Dividend yield	2.5%	2.4%	3.5%
Expected life (years)	6.0	5.9	5.9

The Company calculates the value of each performance option, MSU, PSU, and PCSO using a Monte Carlo simulation option pricing model, estimated on the date of grant. The fair values of performance options, MSUs, and PSUs granted during 2019 were \$46.15, \$138.00 and \$203.61, respectively. The fair values of performance options and MSUs granted during 2018 were \$42.19 and \$125.33, respectively. The fair value of performance options, MSUs, and PCSOs granted during 2017 was \$21.47, \$85.74 and \$7.76, respectively. The following assumptions were used for the calculations.

	2019 Performance Options	2018 Performance Options	2017 Performance Options
Expected volatility of common stock	22.4%	25.0%	24.1%
Expected volatility of the S&P 500	25.1%	25.3%	25.6%
Risk-free interest rate	2.3%	2.7%	2.4%
Dividend yield	2.7%	3.1%	3.7%
Expected life (years)	6.5	6.5	6.5

	2019 Market Stock Units	2018 Market Stock Units	2017 Market Stock Units
Expected volatility of common stock	22.4%	25.0%	24.1%
Risk-free interest rate	2.2%	2.4%	1.7%
Dividend yield	2.0%	2.2%	2.9%

	2019 PSUs
Expected volatility of common stock	20.6%
Expected volatility of the S&P 500	25.0%
Risk-free interest rate	2.2%
Dividend yield	1.6%
Expected life (years)	3

	2017 PCSOs	2015 PCSOs
Expected volatility	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, PSUs, 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. At the conclusion of each three-year PSU and performance option cycle, the Company uses the historical volatility as the expected volatility to calculate the actual TSR compared to the S&P 500.

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% to the stock option fair values calculated by the Black-Scholes option pricing model and 15% to RSUs. 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, at December 31, 2019 (in thousands, except exercise price and years):

Exercise price range	Options Outstanding			Options Exercisable		
	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 \$50	1,192	\$ 38	1	1,186	\$ 39	1
\$51-\$60	646	54	3	646	54	3
\$61-\$70	1,610	68	3	1,610	68	3
\$71-\$80	489	72	6	480	71	6
\$81-\$90	433	82	7	70	83	7
\$91-\$100	8	93	7	5	93	8
\$101 and over	773	126	9	53	114	8
	5,151			4,050		

As of December 31, 2019, the weighted average contractual life for options outstanding and exercisable was four and three years, respectively.

Current Year Activity

Total share-based compensation activity was as follows (in thousands, except exercise price):

	Stock Options		Restricted Stock Units		Restricted Stock	
	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, 2019	3,411	\$ 57	1,097	\$ 84	—	\$ —
Granted	266	137	591	132	440	119
Releases/Exercised	(650)	56	(566)	82	—	—
Forfeited/Canceled	(44)	107	(75)	104	—	—
Balance as of December 31, 2019	2,983	\$ 63	1,047	\$ 111	440	\$ 119
Awards exercisable	2,460	52	—	—	—	—

	Performance Options*		Market Stock Units		Performance Stock Units	
	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, 2019	2,159	\$ 74	122	\$ 102	—	\$ —
Granted	158	139	53	138	84	204
Releases/Exercised	(512)	74	(105)	91	(57)	137
Adjustment for payout factor	363	71	42	86	—	—
Balance as of December 31, 2019	2,168	\$ 78	112	\$ 123	27	\$ 204
Awards exercisable	1,590	69	—	—	—	—

* Inclusive of PCSO awards

At December 31, 2019 and 2018, 7.2 million and 8.6 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	2019	2018	2017
Share-based compensation expense included in:			
Costs of sales	\$ 14	\$ 11	\$ 9
Selling, general and administrative expenses	62	45	43
Research and development expenditures	42	17	14
Share-based compensation expense included in Operating earnings	118	73	66
Tax benefit	22	18	22
Share-based compensation expense, net of tax	\$ 96	\$ 55	\$ 44
Decrease in basic earnings per share	\$ (0.57)	\$ (0.34)	\$ (0.27)
Decrease in diluted earnings per share	\$ (0.55)	\$ (0.32)	\$ (0.27)

At December 31, 2019, the Company had unrecognized compensation expense related to all share based awards of \$122 million, net of estimated forfeitures, expected to be recognized over the weighted average period of approximately three years and \$5 million of unrecognized compensation expense related to the employee stock purchase plan that will be recognized over the remaining purchase period. The aggregate fair value of outstanding share based awards as of December 31, 2019 was \$264 million.

Cash received from stock option exercises and the employee stock purchase plan was \$114 million, \$168 million, and \$82 million for the years ended December 31, 2019, 2018, and 2017, respectively. The total intrinsic value of options exercised during the years ended December 31, 2019, 2018, and 2017 was \$113 million, \$125 million, and \$31 million, respectively. The aggregate intrinsic value for options outstanding and exercisable as of December 31, 2019 was \$471 million and \$415 million, respectively, based on a December 31, 2019 stock price of \$160.96 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, 2019, 2018 and 2017 was \$146 million, \$143 million and \$122 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, 2019, 2018 and 2017 was \$21 million, \$31 million and \$9 million, respectively.

10. 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, 2019 and December 31, 2018 were as follows:

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Assets:			
Foreign exchange derivative contracts	\$ —	\$ 4	\$ 4
Common stock and equivalents	25	—	25
Liabilities:			
Foreign exchange derivative contracts	\$ —	\$ 5	\$ 5

<i>December 31, 2018</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Assets:			
Foreign exchange derivative contracts	\$ —	\$ 5	\$ 5
Available-for-sale securities:			
Corporate bonds	1	—	1
Common stock and equivalents	19	—	19
Liabilities:			
Foreign exchange derivative contracts	\$ —	\$ 4	\$ 4

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, 2019 and 2018 were as follows:

U.S. Pension Benefit Plans

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 12	\$ —	\$ 12
Commingled funds	1,320	555	1,875
Government fixed income securities	—	529	529
Corporate fixed income securities	—	959	959
Short-term investment funds	179	—	179
Total investment securities	\$ 1,511	\$ 2,043	\$ 3,554
Accrued income receivable			20
Cash			27
Fair value plan assets			\$ 3,601

<i>December 31, 2018</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 10	\$ —	\$ 10
Commingled funds	2,074	—	2,074
Government fixed income securities	13	340	353
Corporate fixed income securities	—	964	964
Short-term investment funds	243	—	243
Total investment securities	\$ 2,340	\$ 1,304	\$ 3,644
Accrued income receivable			16
Cash			13
Fair value plan assets			\$ 3,673

Non-U.S. Pension Benefit Plans

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 69	\$ —	\$ 69
Commingled funds	217	181	398
Government fixed income securities	4	899	903
Short-term investment funds	170	—	170
Total investment securities	\$ 460	\$ 1,080	\$ 1,540
Cash			4
Accrued income receivable			48
Insurance contracts			49
Fair value plan assets			\$ 1,641

<i>December 31, 2018</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 140	\$ —	\$ 140
Commingled funds	476	16	492
Government fixed income securities	4	647	651
Short-term investment funds	60	—	60
Total investment securities	\$ 680	\$ 663	\$ 1,343
Cash			3
Accrued income receivable			42
Insurance contracts			50
Fair value plan assets			\$ 1,438

Postretirement Health Care Benefits Plan

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Commingled funds	\$ 59	\$ 25	\$ 84
Government fixed income securities	—	24	24
Corporate fixed income securities	—	43	43
Short-term investment funds	8	—	8
Total investment securities	\$ 67	\$ 92	\$ 159
Accrued income receivable			\$ 1
Fair value plan assets			\$ 160

<i>December 31, 2018</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Commingled funds	74	—	74
Government fixed income securities	—	12	12
Corporate fixed income securities	—	34	34
Short-term investment funds	9	—	9
Total investment securities	\$ 83	\$ 46	\$ 129
Cash			4
Fair value plan assets			\$ 133

The following is a description of the categories of investments:

Equities — A diversified portfolio of corporate common stock and preferred stock.

Commingled funds — A diversified portfolio of assets that includes corporate common stock, preferred stock, emerging market and high-yield fixed income securities among others.

Government fixed income securities — Securities issued by municipal, domestic and foreign government agencies, index-linked government bonds as well as interest rate derivatives.

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, 2019, the Company had \$322 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 \$734 million at December 31, 2018. 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, 2019 was \$5.5 billion (Level 2), compared to a face value of \$5.1 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.

11. 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:

<i>December 31</i>	2019	2018
Long-term receivables, gross	\$ 62	\$ 33
Less allowance for losses	(2)	(2)
Long-term receivables	\$ 60	\$ 31
Less current portion	(19)	(7)
Non-current long-term receivables	\$ 41	\$ 24

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 Sheet. The Company recognized Interest income on long-term receivables of \$1 million for each of the years ended December 31, 2019, 2018 and 2017.

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 \$78 million at December 31, 2019, compared to \$62 million at December 31, 2018.

Sales of Receivables

From time to time, the Company sells accounts receivable and long-term receivables to third-parties under one-time arrangements.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2019, 2018 and 2017.

Years ended December 31	2019	2018	2017
Accounts receivable sales proceeds	\$ 34	\$ 77	\$ 193
Long-term receivables sales proceeds	265	270	284
Total proceeds from receivable sales	\$ 299	\$ 347	\$ 477

The Company may or may not retain the obligation to service the sold accounts receivable and long-term receivables.

At December 31, 2019, the Company had retained servicing obligations for \$984 million of long-term receivables, compared to \$970 million of long-term receivables at December 31, 2018. Servicing obligations are limited to collection activities of sold accounts receivables and long-term receivables.

Credit Quality of Long-Term Receivables and Allowance for Credit Losses

An aging analysis of financing receivables at December 31, 2019 and December 31, 2018 is as follows:

December 31, 2019	Total Long-term Receivable	Current Billed Due	Past Due Under 90 Days	Past Due Over 90 Days
Municipal leases secured tax exempt	\$ 31	\$ 1	\$ 1	\$ —
Commercial loans and leases secured	31	3	—	5
Long-term receivables, including current portion	\$ 62	\$ 4	\$ 1	\$ 5

December 31, 2018	Total Long-term Receivable	Current Billed Due	Past Due Under 90 Days	Past Due Over 90 Days
Municipal leases secured tax exempt	\$ 22	\$ 1	\$ —	\$ —
Commercial loans and leases secured	11	—	—	2
Long-term receivables, including current portion	\$ 33	\$ 1	\$ —	\$ 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.

12. Commitments and Contingencies

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 it 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, 2019, the Company had entered into firm, non-cancelable, and unconditional commitments under such arrangements through 2024. The Company expects to make total payments of \$142 million under these arrangements as follows: \$95 million in 2020, \$32 million in 2021, \$8 million in 2022, \$5 million in 2023, and \$2 million in 2024.

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 2023. The remaining payments under these contracts are approximately \$48 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 or liquidity. However, an unfavorable resolution could have a material adverse effect on the Company's 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, 2019.

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.

13. Information by Segment and Geographic Region

The Company conducts its business globally and manages it through the following two segments:

Products and Systems Integration: The Products and Systems Integration segment offers an extensive portfolio of infrastructure, devices, accessories, video security devices and infrastructure, and the implementation and integration of such systems, devices, and applications, including the Company's: (i) "ASTRO" products, which meet the Association of Public Safety Communications Officials Project 25 standard, (ii) "Dimetra" products which meet the European Telecommunications Standards Institute Terrestrial Trunked Radio "TETRA" standard, (iii) Professional and Commercial Radio ("PCR") products, (iv) broadband technology products, such as Long-Term Evolution ("LTE"), and (v) video security solutions, including video cameras. The primary customers of the Products and Systems Integration segment are government, public safety and first-responder agencies, municipalities, and commercial and industrial customers who operate private communications networks and video security solutions and typically managing a mobile workforce. In 2019, the segment's net sales were \$5.3 billion, representing 68% of the Company's consolidated net sales.

Software and Services: The Software and Services segment provides a broad range of solution offerings for government, public safety and commercial customers. Software includes a public safety and enterprise command center software suite, unified communications applications, and video software solutions, delivered both on-premise and "as a service." Services includes a continuum of service offerings beginning with repair, technical support and maintenance. More advanced platforms include monitoring, software updates and cybersecurity services. Managed services range from partial to full operation of customer or Motorola Solutions-owned networks. In 2019, the segment's net sales were \$2.6 billion, representing 32% of the Company's consolidated net sales.

For the years ended December 31, 2019, 2018 and 2017, 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:

Years ended December 31	Net Sales			Operating Earnings		
	2019	2018	2017	2019	2018	2017
Products and Systems Integration	\$ 5,329	\$ 5,100	\$ 4,513	\$ 994	\$ 854	\$ 969
Software and Services	2,558	2,243	1,867	587	401	315
	<u>\$ 7,887</u>	<u>\$ 7,343</u>	<u>\$ 6,380</u>	<u>1,581</u>	<u>1,255</u>	<u>1,284</u>
Total other expense				(580)	(153)	(208)
Net earnings before income taxes				<u>\$ 1,001</u>	<u>\$ 1,102</u>	<u>\$ 1,076</u>

The following table summarizes the Company's capital expenditures and depreciation expense by segment:

Years ended December 31	Capital Expenditures			Depreciation Expense		
	2019	2018	2017	2019	2018	2017
Products and Systems Integration	\$ 98	\$ 72	\$ 113	\$ 82	\$ 71	\$ 69
Software and Services	150	125	114	104	101	123
	\$ 248	\$ 197	\$ 227	\$ 186	\$ 172	\$ 192

The Company's "chief operating decision maker" does not review or allocate resources based on segment assets.

Geographic Area Information

Years ended December 31	Net Sales			Assets		
	2019	2018	2017	2019	2018	2017
United States	\$ 5,006	\$ 4,361	\$ 3,725	\$ 6,749	\$ 5,441	\$ 5,138
United Kingdom	692	638	558	2,460	2,284	2,329
Canada	270	303	251	1,040	1,014	97
Other, net of eliminations	1,919	2,041	1,846	393	670	644
	\$ 7,887	\$ 7,343	\$ 6,380	\$ 10,642	\$ 9,409	\$ 8,208

Net sales attributed to geographic area are predominately based on the ultimate destination of the Company's products and services.

14. 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 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 2019, 2018, and 2017 the Company continued to implement various productivity improvement plans aimed at achieving long-term, sustainable profitability by driving efficiencies and reducing operating costs. As a result, the Company communicated its plan to close one of its manufacturing facilities in Europe during the fourth quarter of 2018 resulting in a charge of \$44 million and impacting 165 employees, primarily within the Products and Systems Integration segment. The remainder of the initiatives impacted both of the Company's segments and affected employees located in all geographic regions.

2019 Charges

During 2019, the Company recorded net reorganization of business charges of \$57 million, including \$17 million of charges in Costs of sales and \$40 million of charges in Other charges in the Company's Consolidated Statements of Operations. Included in the \$57 million were charges of \$64 million for employee separation costs, \$5 million for exit costs, partially offset by \$12 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

Year ended December 31	2019
Products and Systems Integration	\$ 45
Software and Services	12
	\$ 57

The following table displays a rollforward of the reorganization of businesses accruals established January 1, 2019 to December 31, 2019:

	<i>Accruals at January 1</i>	<i>Additional Charges</i>	<i>Adjustments</i>	<i>Amount Used</i>	<i>Accruals at December 31</i>
Reorganization costs	84	69	(12)	(63)	78

Employee Separation Costs

At January 1, 2019, the Company had an accrual of \$84 million for employee separation costs. The 2019 additional charges of \$69 million include severance costs for approximately 700 employees, of which 200 were direct employees and 500 were indirect employees. The adjustments of \$12 million reflect reversals of accruals no longer needed. The \$63 million used in 2019 reflects cash payments to severed employees. The remaining accrual of \$78 million, which is included in Accrued liabilities in the Company's Consolidated Balance Sheet at December 31, 2019, 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 2020.

As of January 1, 2019, accruals for exit costs are included in Operating lease liabilities with an offsetting impairment to the Company's ROU assets (see Note 3).

2018 Charges

During 2018, the Company recorded net reorganization of business charges of \$120 million, including \$59 million of charges in Costs of sales and \$61 million of charges under Other charges in the Company's Consolidated Statements of Operations. Included in the aggregate \$120 million were charges of \$122 million for employee separation costs and \$16 million for exit costs, partially offset by \$18 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

<i>Year ended December 31</i>	2018
Products and Systems Integration	\$ 101
Software and Services	19
	<u>\$ 120</u>

The following table displays a rollforward of the reorganization of businesses accruals established for exit costs and employee separation costs from January 1, 2018 to December 31, 2018:

	<i>Accruals at January 1</i>	<i>Additional Charges</i>	<i>Adjustments</i>	<i>Amount Used</i>	<i>Accruals at December 31</i>
Exit costs	\$ 9	\$ 16	\$ —	\$ (4)	\$ 21
Employee separation costs	41	122	(18)	(61)	84
	<u>\$ 50</u>	<u>\$ 138</u>	<u>\$ (18)</u>	<u>\$ (65)</u>	<u>\$ 105</u>

Exit Costs

At January 1, 2018, the Company had \$9 million accrual for exit costs. There were \$16 million of additional charges in 2018. The \$4 million used in 2018 reflects cash payments. The remaining accrual of \$21 million, which the current portion was included in Accrued liabilities and the non-current portion was included in Other liabilities in the Company's Consolidated Balance Sheet at December 31, 2018, primarily represented future cash payments for lease obligations.

Employee Separation Costs

At January 1, 2018, the Company had an accrual of \$41 million for employee separation costs. The additional 2018 charges of \$122 million represent severance costs for approximately an additional 1,200 employees, of which 500 were direct employees and 700 were indirect employees. The adjustments of \$18 million reflect reversals of accruals no longer needed. The \$61 million used in 2018 reflects cash payments to severed employees. The remaining accrual of \$84 million was included in Accrued liabilities in the Company's Consolidated Balance Sheet at December 31, 2018.

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 aggregate \$42 million are charges of \$43 million for employee separation costs and \$8 million of charges for exit costs, partially offset by \$9 million of reversals for accruals no longer needed.

The following table displays the net charges incurred by segment:

<i>Year ended December 31</i>	<i>2017</i>
Products and Systems integration	\$ 32
Software and Services	10
	<u>\$ 42</u>

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:

	<i>Accruals at January 1</i>	<i>Additional Charges</i>	<i>Adjustments</i>	<i>Amount Used</i>	<i>Accruals at December 31</i>
Exit costs	\$ 7	\$ 8	\$ —	\$ (6)	\$ 9
Employee separation costs	94	43	(9)	(87)	41
	<u>\$ 101</u>	<u>\$ 51</u>	<u>\$ (9)</u>	<u>\$ (93)</u>	<u>\$ 50</u>

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 the current portion was included in Accrued liabilities and the non-current portion was included in Other liabilities in the Company's Consolidated Balance Sheet at December 31, 2017, primarily represented future cash payments for lease obligations.

Employee Separation Costs

At January 1, 2017, the Company had an accrual of \$94 million for employee separation costs. The additional 2017 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 of reversals of accruals no longer needed. The \$87 million used in 2017 reflects cash payments to these severed employees. The remaining accrual of \$41 million was included in Accrued liabilities in the Company's Consolidated Balance Sheet at December 31, 2017.

15. 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 Acquisitions

On October 16, 2019, the Company acquired a data solutions business for vehicle location information for a purchase price of \$85 million in cash, net of cash acquired. The acquisition enhances the Company's video security platform by adding data to the Company's existing license plate recognition ("LPR") database within the Software and Services segment. The Company recognized \$54 million of goodwill, \$28 million of identifiable intangible assets, and \$3 million of net assets. The goodwill is deductible for tax purposes. The identifiable intangible assets were classified as \$22 million of customer relationships and \$6 million of developed technology and will be amortized over a period of sixteen years and five years, respectively. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On July 11, 2019, the Company acquired WatchGuard, Inc. ("WatchGuard"), a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million, net of cash acquired. The acquisition expands the Company's video security platform. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$156 million of goodwill, \$63 million of identifiable intangible assets, and \$31 million of net assets. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$33 million of customer relationships and \$30 million of completed technology that will be amortized over a period of thirteen years and seven years, respectively. The purchase accounting is not yet complete and as such the final allocation between deferred income tax accounts and goodwill may be subject to change.

On March 11, 2019, the Company acquired Avtec, Inc. ("Avtec"), a provider of dispatch communication equipment for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands the Company's commercial portfolio with new capabilities, allowing it to offer an enhanced platform for customers to communicate, coordinate resources, and secure their facilities. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$68 million of goodwill, \$64 million of identifiable intangible assets, and \$4 million of net assets. The goodwill is deductible for tax purposes. The identifiable intangible assets were classified as \$43 million of completed technology and \$21 million of customer relationship intangibles and will be amortized over a period of fifteen years. The purchase accounting has been completed as of the third quarter of 2019.

On January 7, 2019, the Company announced that it acquired VaaS International Holdings ("VaaS"), a company that is a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million to be utilized in the purchase price allocation. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$261 million of goodwill, \$141 million of identifiable intangible assets, and \$11 million of net liabilities. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$99 million of completed technology that will be amortized over a period of ten years and \$42 million of customer relationship intangibles that will be amortized over a period of fifteen years. The purchase accounting is not yet complete and as such the final allocation between deferred income tax accounts and goodwill may be subject to change.

On March 28, 2018, the Company completed the acquisition of Avigilon Corporation, a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions. The business is part of both the Product and Systems Integration segment and the Software and Services segment. The purchase price of \$974 million, consisted of cash payments of \$980 million for outstanding common stock, restricted stock units and employee held stock options, net of cash acquired of \$107 million, debt assumed of \$75 million and transaction costs of \$26 million. The Company recognized \$498 million of identifiable intangible assets, \$434 million of goodwill, and \$42 million of net assets. Acquired intangible assets consist of \$110 million of customer relationships, \$380 million of developed technology and \$8 million of trade names and will have useful lives of two to twenty years. The fair values of all intangible assets were estimated using the income approach. Customer relationships and developed technology 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 goodwill is not deductible for tax purposes.

On March 7, 2018, the Company completed the acquisition of Plant Holdings, Inc., the parent company of Airbus DS Communications for a purchase price of \$237 million, net of cash acquired. This acquisition expands the Company's software portfolio in the command center with additional solutions for Next Generation 9-1-1. The business is part of the Software and Services segment. As of December 31, 2018, the Company recognized \$151 million of goodwill, \$80 million of identifiable intangible assets and \$6 million of net assets. During 2019, the Company recorded an adjustment related to the allocation between goodwill and deferred income taxes of approximately \$9 million, bringing the total goodwill acquired to \$160 million. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$41 million of customer-related intangibles, \$27 million of completed technology and \$12 million of trade names. The identifiable intangible assets will be amortized over a period of ten to twenty years.

On August 28, 2017, the Company completed the acquisition of Kodiak Networks, a provider of broadband push-to-talk for commercial customers, for a purchase price of \$225 million. The business is part of the Software and Services segment. 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 thirteen to sixteen years.

On March 13, 2017, the Company completed the acquisition of Interexport, a managed service provider for communications systems to public safety and commercial customers in Chile, for a 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. The business is part of the Software and Services segment.

The results of operations for these acquisitions have been included in the Company's 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:

	2019		2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
December 31				
Intangible assets:				
Completed technology	\$ 738	\$ 148	\$ 558	\$ 92
Patents	2	2	2	2
Customer-related	1,222	518	1,085	364
Other intangibles	75	42	74	31
	<u>\$ 2,037</u>	<u>\$ 710</u>	<u>\$ 1,719</u>	<u>\$ 489</u>

Amortization expense on intangible assets, which is included within Other charges in the Consolidated Statements of Operations, was \$208 million, \$188 million, and \$151 million for the years ended December 31, 2019, 2018, and 2017, respectively. As of December 31, 2019, future amortization expense is estimated to be \$212 million in 2020, \$210 million in 2021, \$207 million in 2022, \$107 million in 2023, and \$82 million in 2024.

Amortized intangible assets, excluding goodwill, were comprised of the following by segment:

	2019		2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Products and Systems Integration	\$ 652	\$ 82	\$ 510	\$ 38
Software and Services	1,385	628	1,209	451
	<u>\$ 2,037</u>	<u>\$ 710</u>	<u>\$ 1,719</u>	<u>\$ 489</u>

Goodwill

The following table displays a rollforward of the carrying amount of goodwill, net of impairment losses, by segment from January 1, 2018 to December 31, 2019:

	Products and Systems Integration	Software and Services	Total
Balance as of January 1, 2018	\$ 362	\$ 576	\$ 938
Goodwill acquired	360	225	585
Purchase accounting adjustments	—	1	1
Foreign currency translation	—	(10)	(10)
Balance as of December 31, 2018	\$ 722	\$ 792	\$ 1,514
Goodwill acquired	251	288	539
Purchase accounting adjustments	—	9	9
Foreign currency translation	—	5	5
Balance as of December 31, 2019	\$ 973	\$ 1,094	\$ 2,067

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 which is an operating segment or one level below an operating segment.

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 2019, 2018, and 2017. 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 2019, 2018, and 2017, 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.

16. Valuation and Qualifying Accounts

The following table presents the valuation and qualifying account activity for the years ended December 31, 2019, 2018, and 2017:

	<i>Balance at January 1</i>	<i>Charged to Earnings</i>	<i>Used</i>	<i>Adjustments*</i>	<i>Balance at December 31</i>
2019					
Allowance for doubtful accounts	\$ 51	\$ 39	\$ (26)	\$ (1)	\$ 63
2018					
Allowance for doubtful accounts	45	37	(30)	(1)	51
2017					
Allowance for doubtful accounts	44	16	(16)	1	45

* Adjustments include translation adjustments

17. Quarterly and Other Financial Data (unaudited)

	2019				2018			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Operating Results								
Net sales	\$ 1,657	\$ 1,860	\$ 1,994	\$ 2,377	\$ 1,468	\$ 1,760	\$ 1,862	\$ 2,254
Costs of sales	884	929	987	1,157	799	938	961	1,166
Gross margin	\$ 773	\$ 931	\$ 1,007	\$ 1,220	\$ 669	\$ 822	\$ 901	\$ 1,088
Selling, general and administrative expenses	327	351	359	368	279	316	323	337
Research and development expenditures	162	170	172	182	152	162	158	165
Other charges	55	61	63	80	67	71	126	70
Operating earnings	\$ 229	\$ 349	\$ 413	\$ 590	\$ 171	\$ 273	\$ 294	\$ 516
Net earnings*	151	207	267	244	117	180	247	423
Per Share Data (in dollars)								
Net earnings*:								
Basic earnings per common share	\$ 0.92	\$ 1.25	\$ 1.60	\$ 1.43	\$ 0.73	\$ 1.11	\$ 1.52	\$ 2.58
Diluted earnings per common share	0.86	1.18	1.51	1.39	0.69	1.05	1.43	2.44
Dividends declared	\$ 0.57	\$ 0.57	\$ 0.57	\$ 0.64	\$ 0.52	\$ 0.52	\$ 0.52	\$ 0.57
Dividends paid	0.57	0.57	0.57	0.57	0.52	0.52	0.52	0.52
Stock prices								
High	\$ 144.94	\$ 169.30	\$ 182.28	\$ 176.95	\$ 110.29	\$ 118.37	\$ 130.34	\$ 133.97
Low	\$ 110.61	\$ 139.21	\$ 160.81	\$ 154.02	\$ 89.18	\$ 103.18	\$ 114.95	\$ 108.25

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

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 December 31, 2019, 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.

The Company's 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, 2019, 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, 2019.

The Company's independent registered public accounting firm, PricewaterhouseCoopers 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.

Effective January 1, 2019, we adopted the new lease accounting standard ASU No. 2016-02. We have implemented new accounting processes related to lease accounting and related disclosures, including related control activities. There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2019, that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Item 9B. Other Information

None.

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 "Our Board - Who We Are" of Motorola Solutions' Proxy Statement for the 2020 Annual Meeting of Shareholders (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 "Committees of the Board" and "Audit Committee Matters - Report of Audit Committee" of the Proxy Statement.

The response to this Item also incorporates by reference the information under the caption "Important Dates for the 2021 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 "How We Determine Director Compensation," "How Our 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: "2019 Summary Compensation Table," "Grants of Plan-Based Awards in 2019," "Outstanding Equity Awards at 2019 Fiscal Year-End," "Option Exercises and Stock Vested in 2019," "Nonqualified Deferred Compensation in 2019," "Retirement Plans," "Pension Benefits in 2019," "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 "Related Person Transaction Policy and Procedures" and "Independence" 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

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 10.56, 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 Arrangement Agreement, dated February 1, 2018, between Motorola Solutions, Inc., Motorola Solutions Canada Holdings Inc. and Avigilon Corporation (incorporated by reference to Exhibit 2.1 to Motorola Solutions' Current Report on Form 8-K filed on March 28, 2018 (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)).
- 4.1 (e) Indenture dated as of September 5, 2019 between Motorola Solutions, Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee, related to the 1.75% Convertible Senior Notes Due 2024 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Current Report on Form 8-K filed on September 5, 2019 (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.

*4.1 (f) Description of Securities

- 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 February 14, 2019 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019 (File No. 1-7221)).
- 10.9 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Section 16 Officers from March 9, 2015 to February 13, 2019 (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)).
- 10.10 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)).
- 10.11 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 29, 2013 (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 2015 for grants on or after February 15, 2018 incorporated by reference to Exhibit 10.4 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018 (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 2015 for grants from March 9, 2017 to February 14, 2018 (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)).
- 10.14 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)).
- 10.15 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)).
- 10.16 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 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)).
- 10.17 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 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)).

10.22 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)).

- 10.23 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)).
- 10.24 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 29, 2013 (File No. 1-7221)).
- 10.25 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 February 15, 2018 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018 (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 from March 9, 2017 to February 14, 2018 (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 February 15, 2018 (incorporated by reference to Exhibit 10.3 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018 (File No. 1-7221)).
- 10.29 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Employees from March 9, 2017 to February 14, 2018 (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)).
- 10.30 Form of Motorola Solutions, Inc. Performance Stock Unit Award Agreement for grants to Section 16 Officers on or after May 13, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019 (File No. 1-7221)).
- 10.31 Form of Motorola Solutions, Inc. Performance Stock Unit Award Agreement for grants to Gregory Q. Brown on or after May 13, 2019 (incorporated by reference to Exhibit 10.2 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019 (File No. 1-7221)).
- 10.32 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 exhibit 10.5 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 2, 2011 (File No. 1-7221)).
- 10.33 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)).
- 10.34 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)).
- 10.35 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)).
- 10.36 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)).
- 10.37 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)).
- 10.38 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)).
- 10.39 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)).

- 10.40 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)).
- 10.41 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)).
- 10.42 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)).
- 10.43 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)).
- 10.44 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)).
- 10.45 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)).
- 10.46 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)).
- 10.47 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)).
- 10.48 Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated February 11, 2015, applicable to 2017-2019 and 2018-2020 cycles (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)).
- 10.49 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)).
- 10.50 2018-2020 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 15, 2018 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018 (File No. 1-7221)).
- 10.51 Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated May 13, 2019 (incorporated by reference to Exhibit 10.3 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019 (File No. 1-7221)).
- 10.52 2019-2021 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 14, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019 (File No. 1-7221)).
- 10.53 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)).
- 10.54 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)).
- 10.55 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)).
- 10.56 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)).
- 10.57 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 13, 2019 ("Motorola Solutions' Proxy Statement")).
- 10.58 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)).

- 10.59 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)).
- 10.60 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)).
- 10.61 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)).
- 10.62 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)).
- 10.63 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)).
- 10.64 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))**
- 10.65 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)).
- 10.66 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)).
- 10.67 Amendment dated as of September 5, 2019, to 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 10.4 to Motorola Solutions' Current Report on Form 8-K filed on September 5, 2019 (file No. 1-7221)).
- 10.68 Investment Agreement by and among Motorola Solutions, Inc., Silver Lake Alpine, L.P. and Silver Lake Alpine (Offshore Master) L.P., dated as of September 5, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions' Current Report on Form 8-K filed on September 5, 2019 (file No. 1-7221)).
- *12 Statement regarding Computation of Ratio of Earnings to Fixed Charges.
- *21 Subsidiaries of Motorola Solutions, Inc.
- 23.1 Consent of Independent Registered Public Accounting Firm, see page 106 of the Annual Report on Form 10-K of which this Exhibit Index is a part.
- 23.2 Consent of Independent Registered Public Accounting Firm, see page 107 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

104 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* 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

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-53120, 333-123879, 333-133736, 333-142845, 333-160137, and 333-204324) and Form S-3 (Nos. 333-223828 and 333-230136) of Motorola Solutions, Inc. of our report dated February 14, 2020 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Chicago, Illinois

February 14, 2020

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. 333-53120, 333-123879, 333-133736, 333-142845, 333-160137, and 333-204324) and Form S-3 (Nos. 333-223828 and 333-230136) of Motorola Solutions, Inc. of our report dated February 15, 2019, with respect to the consolidated balance sheet of Motorola Solutions, Inc. as of December 31, 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the two-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), which report appears in the December 31, 2019 annual report on Form 10-K of Motorola Solutions, Inc.

Our report refers to a change to the revenue recognition accounting principle as a result of the adoption of ASU 2014-09, "Revenue from Customers with Contracts."

KPMG LLP

Chicago, Illinois
February 14, 2020

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 14, 2020

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.

<i>Signature</i>	<i>Title</i>	<i>Date</i>
<u>/S/ GREGORY Q. BROWN</u> Gregory Q. Brown	Chairman and Chief Executive Officer and Director (Principal Executive Officer)	February 14, 2020
<u>/S/ GINO A. BONANOTTE</u> Gino A. Bonanotte	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 14, 2020
<u>/S/ DAN PEKOFKSKE</u> Dan Pekofske	Corporate Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 14, 2020
<u>/S/ KENNETH D. DENMAN</u> Kenneth D. Denman	Director	February 14, 2020
<u>/S/ EGON P. DURBAN</u> Egon P. Durban	Director	February 14, 2020
<u>/S/ CLAYTON M. JONES</u> Clayton M. Jones	Director	February 14, 2020
<u>/S/ JUDY C. LEWENT</u> Judy C. Lewent	Director	February 14, 2020
<u>/S/ GREGORY K. MONDRE</u> Gregory K. Mondre	Director	February 14, 2020
<u>/S/ ANNE R. PRAMAGGIORE</u> Anne R. Pramaggiore	Director	February 14, 2020
<u>/S/ JOSEPH M. TUCCI</u> Joseph M. Tucci	Director	February 14, 2020

Section 2: EX-4.1 (F) (EXHIBIT 4.1 (F))

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following summary of the capital stock of Motorola Solutions, Inc. does not purport to be complete and is qualified in its entirety by reference to our restated certificate of incorporation (as amended, our “charter”), our amended and restated bylaws (our “bylaws”, and together with our charter, our “organizational documents”), each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K of which this Exhibit is a part, and certain provisions of Delaware law. Unless the context requires otherwise, all references to “we”, “us,” “our” and “MSI” in this section refer solely to Motorola Solutions, Inc. and not to our subsidiaries.

General

Under our charter, our authorized capital stock consists of 600,000,000 shares of common stock, par value \$0.01 per share and 500,000 shares of preferred stock, par value \$100 per share, issuable in series. As of January 31, 2020, there were 170,579,096 shares of common stock outstanding and no shares of preferred stock outstanding.

Common Stock

The holders of shares of our common stock are entitled to one vote for each share held and each share of our common stock is entitled to participate equally in dividends out of funds legally available therefor, as and when declared by our board of directors, and in the distribution of assets in the event of liquidation. The shares of our common stock have no preemptive or conversion rights, redemption provisions or sinking fund provisions. The outstanding shares of our common stock are duly and validly issued, fully paid and nonassessable, and any shares of our common stock issued in a conversion of the notes will be duly and validly issued, fully paid and nonassessable. Our common stock is listed on the New York Stock Exchange under the symbol “MSI.” The Transfer Agent and Registrar for our common stock is EQ Shareowner Services, 1110 Centre Pointe Curve, Suite 101, Mendota Heights, Minnesota 55120.

Preferred Stock

Our board of directors is authorized to create and issue one or more series of preferred stock and to determine the rights and preferences of each series, to the extent permitted by our charter. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could also adversely affect the voting power and dividend and liquidation rights of the holders of common stock. The issuance of preferred stock could also, under certain circumstances, have the effect of making it more difficult for a third party to acquire, or discouraging a third party from acquiring, a majority of our outstanding voting stock or otherwise adversely affect the market price of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights of that series of preferred stock.

You should refer to the certificate of designations establishing a particular series of preferred stock which will be filed with the Secretary of State of the State of Delaware and the Securities and Exchange Commission in connection with any offering of preferred stock.

Each prospectus relating to a series of preferred stock may describe material U.S. federal income tax considerations applicable to the purchase, holding and disposition of such series of preferred stock.

Provisions of the Certificate of Incorporation and Bylaws that May Have an Anti-Takeover Effect

Certain provisions of our charter, our bylaws and Delaware General Corporation Law (the “DGCL”) may have anti-takeover effects. The provisions are designed to reduce, or have the effect of reducing, our vulnerability to unsolicited takeover attempts. For example, the additional shares of authorized common stock and preferred stock available for issuance under our charter could be issued at such times, under such circumstances, and with such terms and conditions as to impede a change in control. We are subject to the provisions of Section 203 of the DGCL, which prohibits a publicly held Delaware corporation from engaging in a “business combination” with an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to specified exceptions, an “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation’s voting stock.

Elimination of Liability in Certain Circumstances

Our charter eliminates the liability of our directors to us or our stockholders for monetary damages resulting from breaches of their fiduciary duties as directors. Directors remain liable for breaches of their duty of loyalty to us or our stockholders, as well as for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, and transactions from which a director derives improper personal benefit. Our charter does not absolve directors of liability for payment of dividends or stock purchases or redemptions by us in violation of Section 174 (or any successor provision) of the DGCL.

The effect of this provision is to eliminate the personal liability of directors for monetary damages for actions involving a breach of their fiduciary duty of care, including any such actions involving gross negligence. We do not believe that this provision eliminates the liability of our directors to

us or our stockholders for monetary damages under the federal securities laws. The charter and bylaws also provide indemnification for the benefit of our directors and officers to the fullest extent permitted by the DGCL as it may be amended from time to time, including most circumstances under which indemnification otherwise would be discretionary.

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Section 3: EX-12 (EXHIBIT 12)

Exhibit 12

Motorola Solutions, Inc. and Subsidiaries Computation of Ratio of Earnings to Fixed Charges

	Years Ended December 31				
	2019	2018	2017	2016	2015
<i>(In Millions)</i>					
Pretax income (1)	\$997	\$1,098	\$1,079	\$839	\$930
Fixed charges (as calculated below)	281	276	246	253	200
Earnings (2) (3)	<u>\$1,278</u>	<u>\$1,374</u>	<u>\$1,325</u>	<u>\$1,091</u>	<u>\$1,130</u>
Fixed charges:					
Interest expense	\$237	\$240	\$215	\$225	\$186
Rent expense interest factor	44	36	31	28	14
Total fixed charges (2)	<u>\$281</u>	<u>\$276</u>	<u>\$246</u>	<u>\$253</u>	<u>\$200</u>
Ratio of earnings to fixed charges	<u>4.5</u>	<u>5.0</u>	<u>5.4</u>	<u>4.3</u>	<u>5.7</u>

Notes

(1) After adjustments required by Item 503 (d) of SEC Regulation S-K.

(2) As defined in Item 503 (d) of SEC Regulation S-K.

(3) The Company has no capitalized interest.

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Section 4: EX-21 (EXHIBIT 21)

Motorola Solutions Australia Pty. Limited	Australia
Vesta Solutions, Inc.	California, U.S.
Avigilon Corporation	Canada
Motorola Solutions Canada Inc.	Canada
Vesta Solutions Communications Corp.	Canada
Interexport Telecomunicaciones y Servicios S.A.	Chile
Quorum II	Chile
Mobilink S.A.	Chile
Interexport Telecomunicaciones e Integracion de Sistemas S.A.	Chile
Motorola Solutions (China) Co. Ltd.	China
VaaS International Holdings, Inc.	Delaware, U.S.
Kodiak Networks, Inc.	Delaware, U.S.
WatchGuard Video, Inc.	Delaware, U.S.
Avtec, LLC	Delaware, U.S.
Motorola Solutions Credit Company LLC	Delaware, U.S.
Network Ventures I, Inc.	Delaware, U.S.
Motorola Solutions Funding Corporation	Delaware, U.S.
Digital Recognition Network, Inc.	Delaware, U.S.
Vigilant Solutions, LLC	Delaware, U.S.
Motorola Solutions UK Limited	England
Motorola Solutions UK acquisition Company Limited	England
Guardian Digital Communications Limited	England
Motorola Solutions UK Two LP	England
Motorola Solutions International Holding Limited	England
Motorola Solutions UK One LP	England
Airwave Solutions Limited	England
Motorola Solutions Germany GmbH	Germany
Vigilant Solutions India Private Limited	India
Kodiak Networks India Private Limited	India
Motorola Solutions Israel Limited	Israel
Motorola Solutions Malaysia Sdn Bhd	Malaysia
Edesix Limited	Scotland
Plate Recon, LLC	Texas, U.S.
420 E Exchange Parkway, LLC	Texas, U.S.
Vigilant Video Co., Ltd	Vietnam
Twisted Pair Solutions, Inc.	Washington, U.S.

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Section 5: EX-31.1 (EXHIBIT 31.1)

Exhibit 31.1

CERTIFICATION

I, Gregory Q. Brown, Chairman and Chief Executive Officer, Motorola Solutions, Inc., certify that:

1. I have reviewed the annual report on Form 10-K of Motorola Solutions, 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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: February 14, 2020

/s/ GREGORY Q. BROWN

Gregory Q. Brown

Chairman and Chief Executive Officer

Motorola Solutions, Inc.

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Section 6: EX-31.2 (EXHIBIT 31.2)

Exhibit 31.2

CERTIFICATION

I, Gino A. Bonanotte, Executive Vice President and Chief Financial Officer, Motorola Solutions, Inc., certify that:

1. I have reviewed this annual report on Form 10-K of Motorola Solutions, 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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: February 14, 2020

/s/ GINO A. BONANOTTE

Gino A. Bonanotte

Executive Vice President and Chief Financial Officer

Motorola Solutions, Inc.

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Section 7: EX-32.1 (EXHIBIT 32.1)

Exhibit 32.1

CERTIFICATION

I, Gregory Q. Brown, Chairman and Chief Executive Officer, Motorola Solutions, Inc., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), that, to my knowledge:

- (1) the annual report on Form 10-K for the period ended December 31, 2019 (the "Annual Report"), which this statement accompanies fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 (15 U.S.C. 78m); and
- (2) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of

operations of Motorola Solutions, Inc.

This certificate is being furnished solely for purposes of Section 906.

Dated: February 14, 2020

/s/ GREGORY Q. BROWN

Gregory Q. Brown

Chairman and Chief Executive Officer

Motorola Solutions, Inc.

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Section 8: EX-32.2 (EXHIBIT 32.2)

Exhibit 32.2

CERTIFICATION

I, Gino A. Bonanotte, Executive Vice President and Chief Financial Officer, Motorola Solutions, Inc., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (“Section 906”), that, to my knowledge:

- (1) the annual report on Form 10-K for the period ended December 31, 2019 (the “Annual Report”), which this statement accompanies fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 (15 U.S.C. 78m); and
- (2) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of Motorola Solutions, Inc.

This certificate is being furnished solely for purposes of Section 906.

Dated: February 14, 2020

/s/ GINO A. BONANOTTE

Gino A. Bonanotte

Executive Vice President and Chief Financial Officer

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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 December 31, 2019, 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 March 31, 2020 from <https://reports.adviserinfo.sec.gov/reports/ADV/105958/PDF/105958.pdf>)

FORM ADV

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

Primary Business Name: VANGUARD GROUP INC	CRD Number: 105958
Annual Amendment - All Sections	Rev. 10/2017
3/30/2020 7:16:59 PM	

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:
100 VANGUARD BLVD
City:
MALVERN

State:
Pennsylvania

Number and Street 2:
V26
Country:
United States

ZIP+4/Postal Code:
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?
3

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

Number and Street 1:

City:

State:

Number and Street 2:

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:

City:

State:

Number and Street 2:

Country:

ZIP+4/Postal Code:

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)?

Yes

No

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:

Telephone number:

Number and Street 1:

City:

Other titles, if any:

Facsimile number, if any:

Number and Street 2:

Country:

State:

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:

Telephone number:

Number and Street 1:

City:

Titles:

Facsimile number, if any:

Number and Street 2:

Country:

State:

ZIP+4/Postal Code:

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

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*?

Yes

No

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

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

Yes

No

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.

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

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:
14321 NORTHSIGHT BLVD

City:
SCOTTSDALE

State:
Arizona

Number and Street 2:

Country:
United States

ZIP+4/Postal Code:
85260

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

Telephone Number:
480-713-8456

Facsimile Number, if any:

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

155468

How many *employees* perform investment advisory functions from this office location?
12

Are other business activities conducted at this office location? (check all that apply)

☒ (1) Broker-dealer (registered or unregistered)

☐ (2) Bank (including a separately identifiable department or division of a bank)

☐ (3) Insurance broker or agent

☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)

☐ (5) Registered municipal advisor

☐ (6) Accountant or accounting firm

☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:
4TH FLOOR, THE WALBROOK BUILDING

City:
LONDON

State:

Number and Street 2:
25 WALBROOK

Country:
United Kingdom

ZIP+4/Postal Code:
EC4N8AF

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

Telephone Number:
442037535600

Facsimile Number, if any:

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?
72

Are other business activities conducted at this office location? (check all that apply)
☐ (1) Broker-dealer (registered or unregistered)
☐ (2) Bank (including a separately identifiable department or division of a bank)
☐ (3) Insurance broker or agent
☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
☐ (5) Registered municipal advisor
☐ (6) Accountant or accounting firm
☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:
2 SOUTHBANK BOULEVARD

City:
SOUTHBANK VICTORIA

State:

Country:
Australia

Number and Street 2:
LEVEL 34

ZIP+4/Postal Code:
3006

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

Telephone Number:
61 3 8888 3888

Facsimile Number, if any:

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?
63

Are other business activities conducted at this office location? (check all that apply)

☐ (1) Broker-dealer (registered or unregistered)

☐ (2) Bank (including a separately identifiable department or division of a bank)

☐ (3) Insurance broker or agent

☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)

☐ (5) Registered municipal advisor

☐ (6) Accountant or accounting firm

☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

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://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	
Address of Website/Account on Publicly Available Social Media Platform:		HTTP://INSTAGRAM.COM/VANGUARDGROUP	
Address of Website/Account on Publicly Available Social Media Platform:		HTTP://WWW.INSTAGRAM.COM/LIFEATVANGUARD	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://WWW.YOUTUBE.COM/VANGUARD	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://WWW.LINKEDIN.COM/COMPANY/VANGUARD-INSTITUTIONAL-INVESTING	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://WWW.LINKEDIN.COM/IN/MORTIMERJBUCKLEY	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://TWITTER.COM/VANGUARD_PR	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://PRESSROOM.VANGUARD.COM/#/	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://WWW.VANGUARDJOBS.COM	
Address of Website/Account on Publicly Available Social Media Platform:		HTTPS://WWW.LINKEDIN.COM/COMPANY/VANGUARD-ADVISOR-SERVICES	

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: 2500 HENDERSON DRIVE		Number and Street 2:	
City: SHARON HILL	State: Pennsylvania	Country: United States	ZIP+4/Postal Code: 19079

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

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

- 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.

Name of entity where books and records are kept:
AMAZON.COM, INC.

Number and Street 1:
410 TERRY AVENUE NORTH

Number and Street 2:

City:
SEATTLE

State:
Washington

Country:
United States

ZIP+4/Postal Code:
98109

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

Telephone Number:
206-266-1000

Facsimile number, if any:

- 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

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

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?

StateCountry

PennsylvaniaUnited 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

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)?

YesNo

☐☒

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

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

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.

650
- B.

(1)

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

570

(2)

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

170

(3)

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

0

(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?

27%

- 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 <i>Client</i>	(1) Number of <i>Client(s)</i>	(2) Fewer than 5 <i>Clients</i>	(3) Amount of Regulatory Assets under Management
(a) Individuals (other than <i>high net worth individuals</i>)	0	<input type="checkbox"/>	\$ 0

(b) <i>High net worth individuals</i>	0	<input type="checkbox"/>	\$ 0
(c) Banking or thrift institutions	0	<input type="checkbox"/>	\$ 0
(d) Investment companies	175		\$ 5,695,286,950,000
(e) Business development companies	0		\$ 0
(f) Pooled investment vehicles (other than investment companies and business development companies)	65		\$ 20,836,479,434
(g) Pension and profit sharing plans (but not the plan participants or government pension plans)	0	<input type="checkbox"/>	\$ 0
(h) Charitable organizations	0	<input type="checkbox"/>	\$ 0
(i) State or municipal <i>government entities</i> (including government pension plans)	0	<input type="checkbox"/>	\$ 0
(j) Other investment advisers	0	<input type="checkbox"/>	\$ 0
(k) Insurance companies	0	<input type="checkbox"/>	\$ 0
(l) Sovereign wealth funds and foreign official institutions	0	<input type="checkbox"/>	\$ 0
(m) Corporations or other businesses not listed above	0	<input type="checkbox"/>	\$ 0
(n) Other:	0	<input type="checkbox"/>	\$ 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): ALLOCATED SHARE OF VANGUARD'S TOTAL COST OF OPERATIONS

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) \$ 5,716,123,429,434	(d) 240
Non-Discretionary:	(b) \$ 0	(e) 0
Total:	(c) \$ 5,716,123,429,434	(f) 240

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*?

\$ 20,836,479,434

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.

YesNo

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).

YesNo

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*

YesNo

(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 - 01766

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 - 0296899

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

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	%	%
(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"

(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 Borrowingsand 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%	\$	\$	0 %	0 %	0 %	0 %	0 %	0 %
10-149%	\$	\$ 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%	\$ 0	\$ 0	0 %	0 %	0 %	0 %	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%	\$ 0	\$ 0
10-149%	\$ 0	\$ 0
150% or more	\$ 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.

- ☒

(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*:
VGIM, S.A. DE C.V., ASESOR EN INVERSIONES INDEPENDIENTE

2. Primary Business Name of *Related Person*:
VANGUARD MÉXICO

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

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:City:State:If this address is a private residence, check this box:

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

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

Mexico - National Commission for Banking and Securities

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 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

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:

City:

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

Number and Street 2:

Country:

ZIP+4/Postal Code:

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?

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:

City:

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

State:

Number and Street 2:

Country:

ZIP+4/Postal Code:

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?

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)

SEC 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

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:

City:

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

State:

Number and Street 2:

Country:

ZIP+4/Postal Code:

9.

(a)

If the *related person* is an investment adviser, is it exempt from registration?

(b)

If the answer is yes, under what exemption?

Yes

No

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 <i>Foreign Financial Regulatory Authority</i>
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?

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

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:

City:

State:

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

Number and Street 2:

Country:

ZIP+4/Postal Code:

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.

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

☐☒

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

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: ☐

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?

☐☒

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

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

Yes

No

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?

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

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

Yes

No

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

Yes

No

8.

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

Yes

No

(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?

Yes

No

(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:

City:

State:

Country:

ZIP+4/Postal Code:

Number and Street 2:

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?

Yes

No

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

10.

(a) Is the related person registered with a foreign financial regulatory authority ?

Yes

No

(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?

Yes

No

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

Yes

No

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?

☐ ☒

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
1. The company has a clear vision and mission statement.		
2. The company has a strong leadership team.		
3. The company has a solid financial foundation.		
4. The company has a diverse and talented workforce.		
5. The company has a strong reputation in the market.		
6. The company has a clear strategy for growth.		
7. The company has a strong commitment to social responsibility.		
8. The company has a strong focus on innovation.		
9. The company has a strong customer base.		
10. The company has a strong competitive advantage.		

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
1. The company has a policy on the use of social media.		
2. The company has a policy on the use of mobile devices.		
3. The company has a policy on the use of email.		
4. The company has a policy on the use of instant messaging.		
5. The company has a policy on the use of video conferencing.		
6. The company has a policy on the use of cloud storage.		
7. The company has a policy on the use of virtual reality.		
8. The company has a policy on the use of artificial intelligence.		
9. The company has a policy on the use of blockchain.		
10. The company has a policy on the use of quantum computing.		

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 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) CLK 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

- Yes No

Number and Street 2:

Country:

ZIP+4/Postal Code:

Yes No



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VANGUARD FIDUCIARY TRUST COMPANY

VANGUARD FIDUCIARY TRUST COMPANY

—

or

Other

028-11554


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


No Information Filed

(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

- 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: ☐

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? ☒ ☐

Item 7 *Private Fund Reporting*

B. Are you an adviser to any *private fund*? ☒ Yes ☐ No

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
VGMI 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*:

\$ 31,161,689

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:

STATE STREET BANK AND TRUST

(c)

Primary business name of custodian:

STATE STREET BANK AND TRUST

(d)

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

City:

State:

Country:

BOSTON

Massachusetts

United States

(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)

Yes

No

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:

CSF PRIVATE FUND

(b) Private fund identification number:

(include the "805-" prefix also)

805-1178567505

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:

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.

8.

(a)

Is this *private fund* a "fund of funds"?

Yes

No
- 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*?
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*:

\$ 48,137,074
- 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%

(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*?

Yes

No

16.

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

0%
- Your Advisory Services
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

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

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

YesNo

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

No Information Filed

B. SERVICE PROVIDERS

Auditors

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

YesNo

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

YesNo

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

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

YesNo

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

YesNoReport 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?

YesNo

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?

YesNo

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 BANK & TRUST COMPANY

(c) Primary business name of custodian:
STATE STREET BANK & TRUST COMPANY

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

City:

BOSTON

State:

Massachusetts

Country:

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

SECTION 7.B.(2) Private Fund Reporting

1. Name of the *private fund*:

VANGUARD ACTIVE GLOBAL CREDIT BOND FUND

2. *Private fund* identification number:

(include the "805-" prefix also)

805-1151209233

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 AUSTRALIA LIMITED

SEC File Number:

801 - 107761

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.

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 WINDSOR U.S. VALUE FUND

2. *Private fund* identification number:

(include the "805-" prefix also)

805-9011610986

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

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*:

(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*:

(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:

(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?

☐

☒

G.

(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?

☐

☒

H.

(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*ˆ:

(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*ˆ:

(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*?

(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:

A.

In the past ten years, have you or any *advisory affiliate*:

Yes

No

(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*?

For purposes of this Item 12 only:

- | | Yes | No |
|---|-----------------------|-----------------------|
| A. Did you have total assets of \$5 million or more on the last day of your most recent fiscal year? | <input type="radio"/> | <input type="radio"/> |
| <i>If "yes," you do not need to answer Items 12.B. and 12.C.</i> | | |
| B. Do you: | | |
| (1) <i>control</i> 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? | <input type="radio"/> | <input type="radio"/> |
| (2) <i>control</i> another <i>person</i> (other than a natural person) that had total assets of \$5 million or more on the last day of its most recent fiscal year? | <input type="radio"/> | <input type="radio"/> |
| C. Are you: | | |
| (1) <i>controlled</i> by or under common <i>control</i> 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? | <input type="radio"/> | <input type="radio"/> |
| (2) <i>controlled</i> by or under common <i>control</i> with another <i>person</i> (other than a natural person) that had total assets of \$5 million or more on the last day of its most recent fiscal year? | <input type="radio"/> | <input type="radio"/> |

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/	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.
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 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	CHAIRMAN OF THE BOARD, CHIEF EXECUTIVE OFFICER, AND PRESIDENT	01/2019	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 OFFICER	03/2013	NA	Y	N	2366586
RAMPULLA, THOMAS, MARK	I	MANAGING DIRECTOR	07/2015	NA	Y	N	1816948
RISI, KARIN, ANN	I	MANAGING DIRECTOR	07/2015	NA	Y	N	3209445
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
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
SCHADL, JOHN	I	CHIEF COMPLIANCE OFFICER	03/2019	NA	Y	N	6931790
BRENNAN, JOSEPH, PATRICK	I	MANAGING DIRECTOR AND CHIEF RISK OFFICER	09/2018	NA	Y	N	2193881

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.

Section 7. We have affiliates that are not listed having met one or more of the exceptions of the SEC's guidance regarding on related persons. A list of affiliates can be provided upon request. 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.D(1)☐ 11.E(1)☐ 11.F.

☐ 11.C(2)☐ 11.D(2)☒ 11.E(2)☐ 11.G.

☐ 11.C(3)☐ 11.D(3)☐ 11.E(3)

☐ 11.C(4)☐ 11.D(4)☐ 11.E(4)

☐ 11.C(5)☐ 11.D(5)

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](#)

Registered:

☒ Yes ☐ No

Name:

VANGUARD MARKETING CORPORATION
(For individuals, Last, First, Middle)

This *advisory affiliate* is

☒ a Firm ☐ an Individual

- ☐ 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*)
FINRA

2. Principal Sanction:

Other
Other Sanctions:
NA

3. Date Initiated (MM/DD/YYYY):

03/06/2016 ☒ Exact ☐ Explanation
If not exact, provide explanation:

4. Docket/Case Number:

2013038325801

5. *Advisory Affiliate* Employing Firm when activity occurred which led to the regulatory action (if applicable):

6. Principal Product Type:

No Product
Other Product Types:
NA

7. Describe the allegations related to this regulatory action (your response must fit within the space provided):

WITHOUT ADMITTING OR DENYING THE FINDINGS, THE FIRM CONSENTED TO THE SANCTIONS AND TO THE ENTRY OF FINDINGS THAT IT FAILED TO ESTABLISH AND MAINTAIN AN ADEQUATE SUPERVISORY SYSTEM, INCLUDING WRITTEN PROCEDURES, TO ENSURE THAT IT DISCLOSE UNSATISFIED JUDGMENTS AND LIENS OF REGISTERED REPRESENTATIVES ON UNIFORM APPLICATIONS FOR SECURITIES INDUSTRY REGISTRATION OR TRANSFER ("FORM U4S"), IN INSTANCES WHERE

THE FIRMS' PAYROLL DEPARTMENT HAD NOTICE OF SUCH LIENS AND JUDGMENTS AS A RESULT OF GARNISHMENT ORDERS IT HAD RECEIVED. THE FINDINGS STATED THAT THE FIRM DID NOT HAVE ANY SUPERVISORY PROCEDURES IN PLACE TO ENSURE THAT THE PAYROLL DEPARTMENT NOTIFIED THE COMPLIANCE DEPARTMENT OF GARNISHMENTS, AND THE FIRM DID NOT REVIEW THE GARNISHMENTS TO DETERMINE WHETHER THEY TRIGGERED A REPORTABLE EVENT FOR REGISTERED REPRESENTATIVES. AS A RESULT, THE FIRM FAILED TO DISCLOSE OR TIMELY DISCLOSE UNSATISFIED JUDGMENTS AND LIENS OF WHICH IT HAD NOTICE BY REASON OF THE GARNISHMENT ORDERS. ALSO THE FIRM BECAME AWARE OF THE DEFICIENCY IN ITS SUPERVISORY SYSTEM AND VOLUNTARILY UNDERTOOK STEPS TO AMEND ITS WRITTEN SUPERVISORY PROCEDURES AND PUT A PROCESS IN PLACE FOR ITS PAYROLL DEPARTMENY TO NOTIFY ITS COMPLIANCE DEPARTMENT OF GARNISHMENT ORDERS. HOWEVER, THE FIRM FAILED TO PROPERLY IMPLEMENT THE AMENDED PROCEDURES. AS A RESULT, THE FIRM CONTINUED TO NOT DISCLOSE OR TIMELY DISCLOSE JUDGMENTS AND LIENS OF WHICH IT HAD RECEIVED NOTICE. IN TOTAL THE FIRM RECEIVED 80 GARNISHMENT ORDERS THAT TRIGGERED REPORTABLE EVENTS ON THE FORM U4. IT FAILED TO FILE AMENDMENTS TO ITS REGISTERED REPRESENTATIVES' FORM U4S FOR 60 OF THESE REPORTABLE EVENTS AND FAILED TO TIMELY FILE FORM U4 AMENDMENTS FOR 20 REPORTABLE EVENTS.

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:
Consent

11. Resolution Date (MM/DD/YYYY):
03/06/2016 ☒ 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: \$ 350,000.00
- ☐ Revocation/Expulsion/Denial
- ☒ Censure
- ☐ Bar
- ☐ Disgorgement/Restitution
- ☒ Cease and Desist/Injunction
- ☐ Suspension

B. Other Sanctions *Ordered*:
UNDERTAKING.

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:
THE FIRM WAS CENSURED, FINED \$350,000 AND REQUIRED TO RETAIN AN INDEPENDENT CONSULTANT TO REVIEW AND SUGGEST REVISIONS TO ITS POLICIES, PROCEDURES, AND INTERNAL CONTROLS RELATING TO REPORTING DISCLOSURES ON FORM U4S FOR ITS REGISTERED REPRESENTATIVES.
FINE PAID IN FULL ON MARCH 23, 2015.

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).

WITHOUT ADMITTING OR DENYING THE ALLEGATIONS OR FINDINGS, VMC (AFFILIATE) AGREED TO THE IMPOSITION OF A CENSURE, A FINE IN THE AMOUNT OF \$350,000, THE PRODUCTION OF A VMC RETAINED INDEPENDENT CONSULTANT'S REPORT, AND THE CERTIFICATION OF VMC'S IMPLEMENTATION OF THE IMPROVEMENTS OUTLINED IN THE INDEPENDENT CONSULTANT'S REPORT. VMC'S LETTER OF ACCEPTANCE, WAIVER AND CONSENT WAS ACCEPTED BY FINRA ON MARCH 6, 2015.

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*)
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF BANKING AND SECURITIES

2. Principal Sanction:

Other
Other Sanctions:
ADMINISTRATIVE ASSESSMENT

3. Date Initiated (MM/DD/YYYY):

10/10/2017 ☐ Exact ☒ Explanation
If not exact, provide explanation:
DATE INITIAL INQUIRY RELATED TO THIS MATTER WAS RECEIVED.

4. Docket/Case Number:

17-0077

5. *Advisory Affiliate* Employing Firm when activity occurred which led to the regulatory action (if applicable):

6. Principal Product Type:

No Product
Other Product Types:

7. Describe the allegations related to this regulatory action (your response must fit within the space provided):

FROM FEBRUARY 2017 UNTIL DECEMBER 2017, VANGUARD ADVISERS, INC., DUE TO ADMINISTRATIVE ERROR, EMPLOYED AN INVESTMENT ADVISER REPRESENTATIVE WHO, ALTHOUGH REGISTERED AS AN INVESTMENT ADVISER REPRESENTATIVE IN ARIZONA, WAS NOT REGISTERED AS AN INVESTMENT ADVISER REPRESENTATIVE IN PENNSYLVANIA.

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:
Consent

11. Resolution Date (MM/DD/YYYY):
12/20/2017 ☒ 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: \$ 23,480.00
☐ 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:
AN ADMINISTRATIVE ASSESSMENT OF \$23,480 WAS LEVIED AGAINST VAI. PAYMENT WAS MADE JANUARY 9, 2018.

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).
AN INVESTMENT ADVISER REPRESENTATIVE ("IAR") CHANGED HIS PERSONAL RESIDENCE FROM ARIZONA TO PENNSYLVANIA. AS A RESULT OF AN ADMINISTRATIVE ERROR, VANGUARD ADVISERS, INC. DID NOT IMMEDIATELY UPDATE HIS REGISTRATION TO REFLECT PENNSYLVANIA AS HIS NEW PLACE OF EMPLOYMENT. VANGUARD ADVISERS, INC. SELF IDENTIFIED THE ISSUE.

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.

Are you exempt from delivering a brochure to all of your clients under these rules?

Yes No

☐ ☒

If no, complete the ADV Part 2 filing below.

Amend, retire or file new brochures:

Brochure ID	Brochure Name	Brochure Type(s)
47940	VANGUARD GROUP, INC.	Government/municipal, Private funds or pools, Other

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:	Date: MM/DD/YYYY
JOHN E. SCHADL	03/30/2020
Printed Name:	Title:
JOHN E. SCHADL	PRINCIPAL, CHIEF COMPLIANCE OFFICER
Adviser <i>CRD</i> 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 <i>CRD</i> 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, 2019, 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-K. Accordingly, attached hereto is BlackRock, Inc. Form 10-K (which was downloaded March 31, 2020 from https://s24.q4cdn.com/856567660/files/doc_financials/2019/q4/BlackRock-10-K-2019.pdf)

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.

April 12, 2019

To Our Shareholders:



“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

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

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
Corporate Secretary
April 12, 2019

BlackRock, Inc.
55 East 52nd Street,
New York, New York 10055

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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

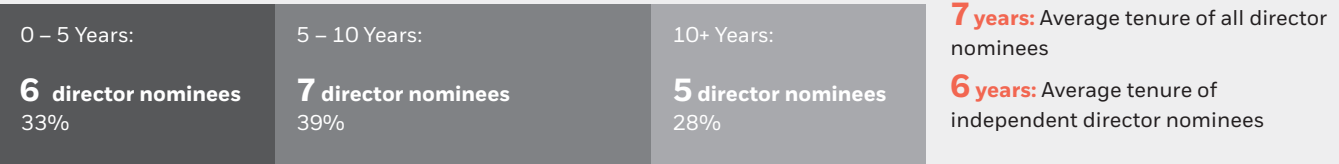
Board Composition

(18 director nominees)

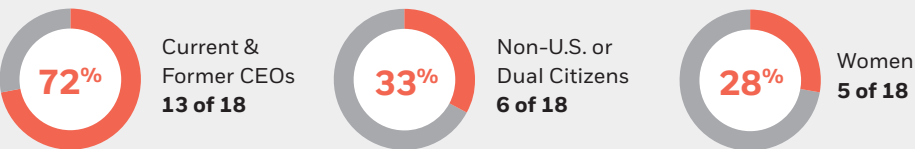
The Governance Committee regularly reviews the overall composition of the Board and its Committees to assess whether they reflect the appropriate mix of skills, experience, backgrounds and qualifications that are relevant to BlackRock's current and future global strategy and business. The Governance 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.

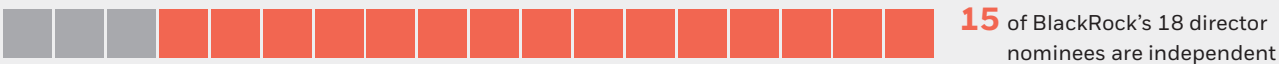


Board Profile



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.



Our Director Nominees

Nominee	Age at Record Date	Primary Occupation	Director since	Committee Memberships (effective May 23, 2019)				
				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 Blacklvy 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

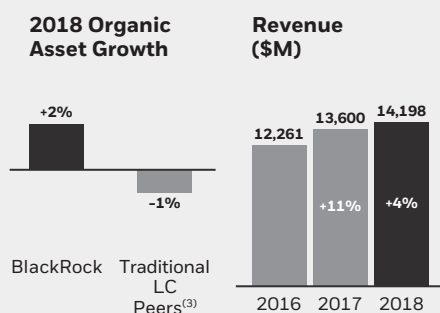
- No ongoing employment agreements or guaranteed compensation arrangements for NEOs;
- No automatic single trigger vesting of equity awards or transaction bonus payments upon a change-in-control;
- No dividends or dividend equivalents on unearned restricted stock, restricted stock units, stock options 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.

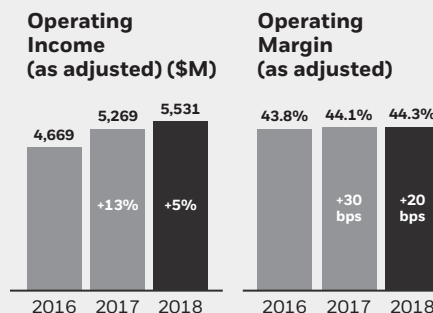
Differentiated Organic Growth

Organic asset **growth of 2%** and record technology services revenue in 2018 contributed to continued revenue growth



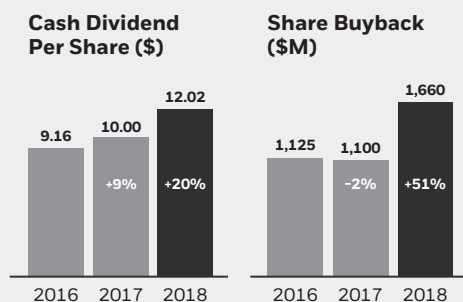
Operating Leverage

Operating Margin, as adjusted, of 44.3% was **up 20 bps** from 2017



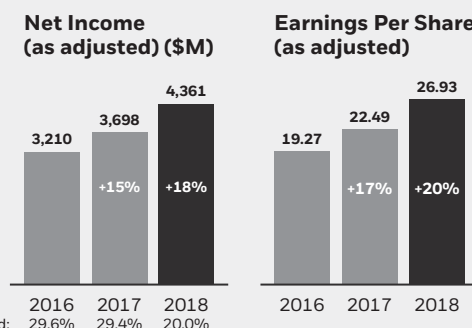
Consistent Capital Return

\$3.6 billion returned to shareholders in 2018 through a combination of dividends and **\$1.7 billion** of share repurchases



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



(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.

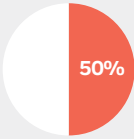


(3) Traditional LC Peers refers to Alliance Bernstein, Affiliated Managers Group, Franklin Resources, Eaton Vance, Invesco, Legg Mason and T. Rowe Price.

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
Business Strength 	Annual appreciation/depreciation	- 24%	- 31%
	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.	
	Drive organization discipline through execution of our strategic initiatives	Maintained #1 global share in our ETF business and gained market share in our global Retail and Institutional client businesses.	
	Lead in a changing world	Demonstrated successful execution across most of our Strategic Initiatives, highlighted by illiquid alternatives and private credit.	
Organizational Strength 	Drive high performance	Sustained progress on key long-term growth drivers, particularly in Technology, with related revenue up 19% year-over-year.	
	Build a more diverse and inclusive culture	Launched Growing More Great Investors initiative and continued to build out the BlackRock Academies, aimed to build mastery in key subject areas amongst employees.	
	Develop great managers and leaders	Expanded representation of female and ethnically diverse employees at the managing director and director levels.	
		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

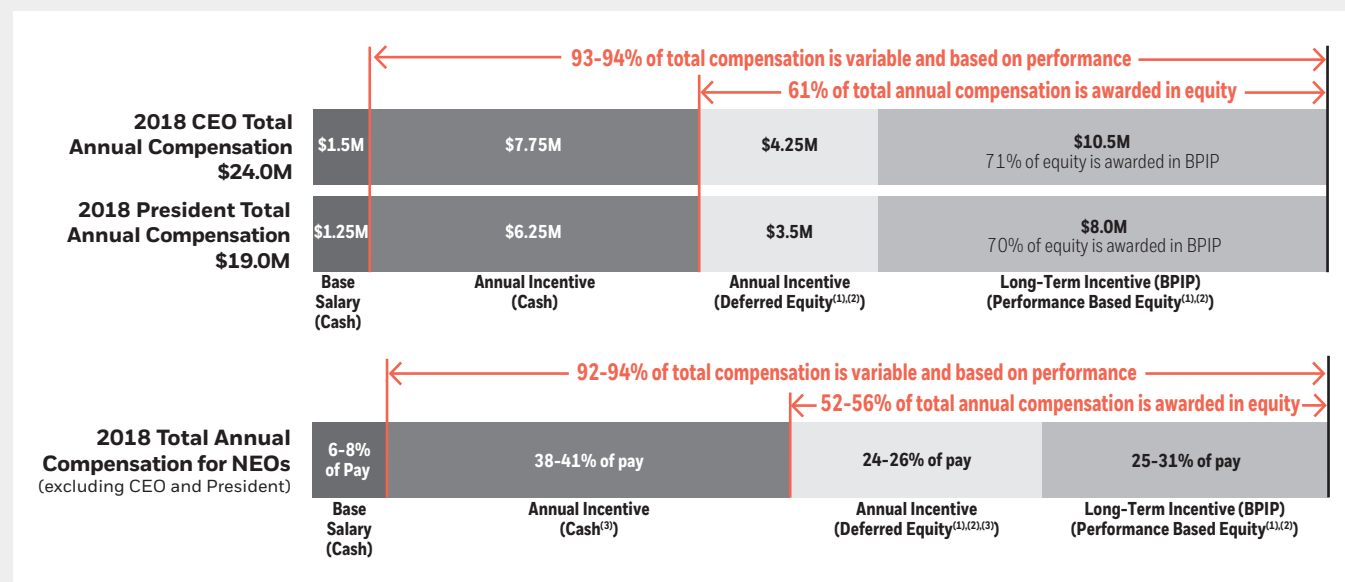
Following a review of full-year business and individual NEO performance, the Compensation Committee determined 2018 total annual compensation outcomes for each NEO, as outlined in the table below.

Name	Base Salary	2018 Total Incentive Award			Total Annual Compensation ("TAC")	% change in TAC vs. 2017
		Cash	Deferred Equity	Long-Term Incentive Award ("BPIP")		
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.



(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

18 of 18 nominees

Directors bring valuable senior executive experience on matters relating to corporate governance, management, operations and compensation.

Public Company & Financial Reporting

10 of 18 nominees

Directors have experience in the oversight of internal controls and reporting of public company financial and operating results.

Global Business

16 of 18 nominees

Directors bring international business strategy, operations and substantive expertise in international matters relevant to BlackRock's global business.

Public Policy & Government/Regulatory Affairs

10 of 18 nominees

Directors possess insight and expertise in managing governmental and regulatory affairs relevant to BlackRock's business operations

Risk Management & Compliance

13 of 18 nominees

Directors have experience in risk management and compliance oversight relevant to exercising corporate and fiduciary responsibilities.

Branding & Marketing

7 of 18 nominees

Directors bring expertise in brand development, marketing and sales in local markets at a global scale relevant to BlackRock's global business.

Financial Services

12 of 18 nominees

Directors possess in-depth knowledge of the financial services industry or asset management and provide valuable perspectives on issues faced by BlackRock.

Technology

5 of 18 nominees

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

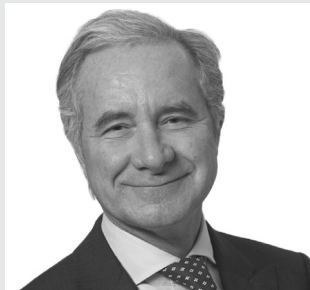
Mr. Ford is the Chief Executive Officer of General Atlantic, a position he has held since 2007. He also serves as Chairman of General Atlantic's Management Committee and is a member of the firm's Investment and Portfolio Committees. Mr. Ford is actively involved with a number of educational and not-for-profit 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

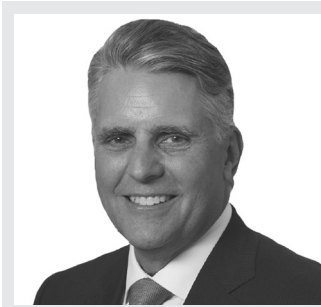
Mr. Freda has served as President and Chief Executive Officer of The Estée Lauder Companies Inc. (Estée Lauder) since July 2009, and is also a member of its board of directors. Mr. Freda previously served as Estée Lauder's President and Chief Operating Officer from March 2008 to July 2009. Estée Lauder 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

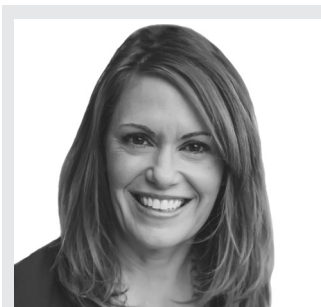
Mr. Gerber served as Executive Chairman of EQT Corporation, an integrated energy production company, from 2010 until May 2011, as its Chairman from 2000 to 2010, as its President from 1998 to 2007 and as its Chief Executive Officer from 1998 to 2000. Murry Gerber currently serves as BlackRock's Lead 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 Blacklvy 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

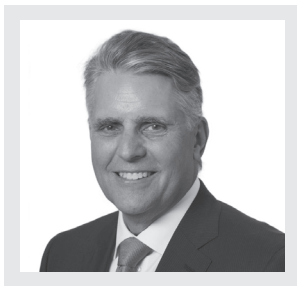
Why our Board leadership structure is right for BlackRock

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

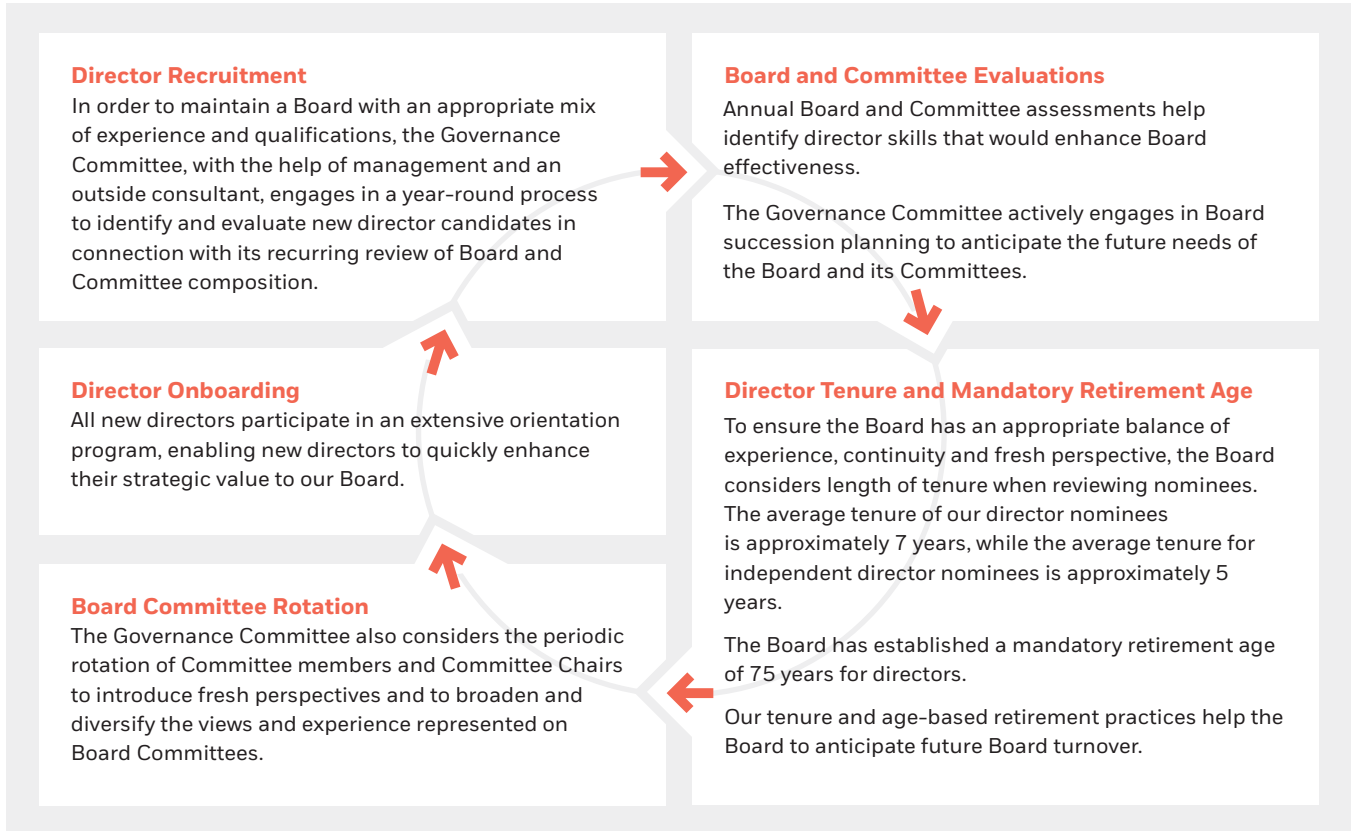
The Chair of the Governance Committee along with the Chairman of the Board and Lead Independent Director provide the Board with a summary of the questionnaires and additional feedback received from individual directors annually in the fall or winter.

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:



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
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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.

(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
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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
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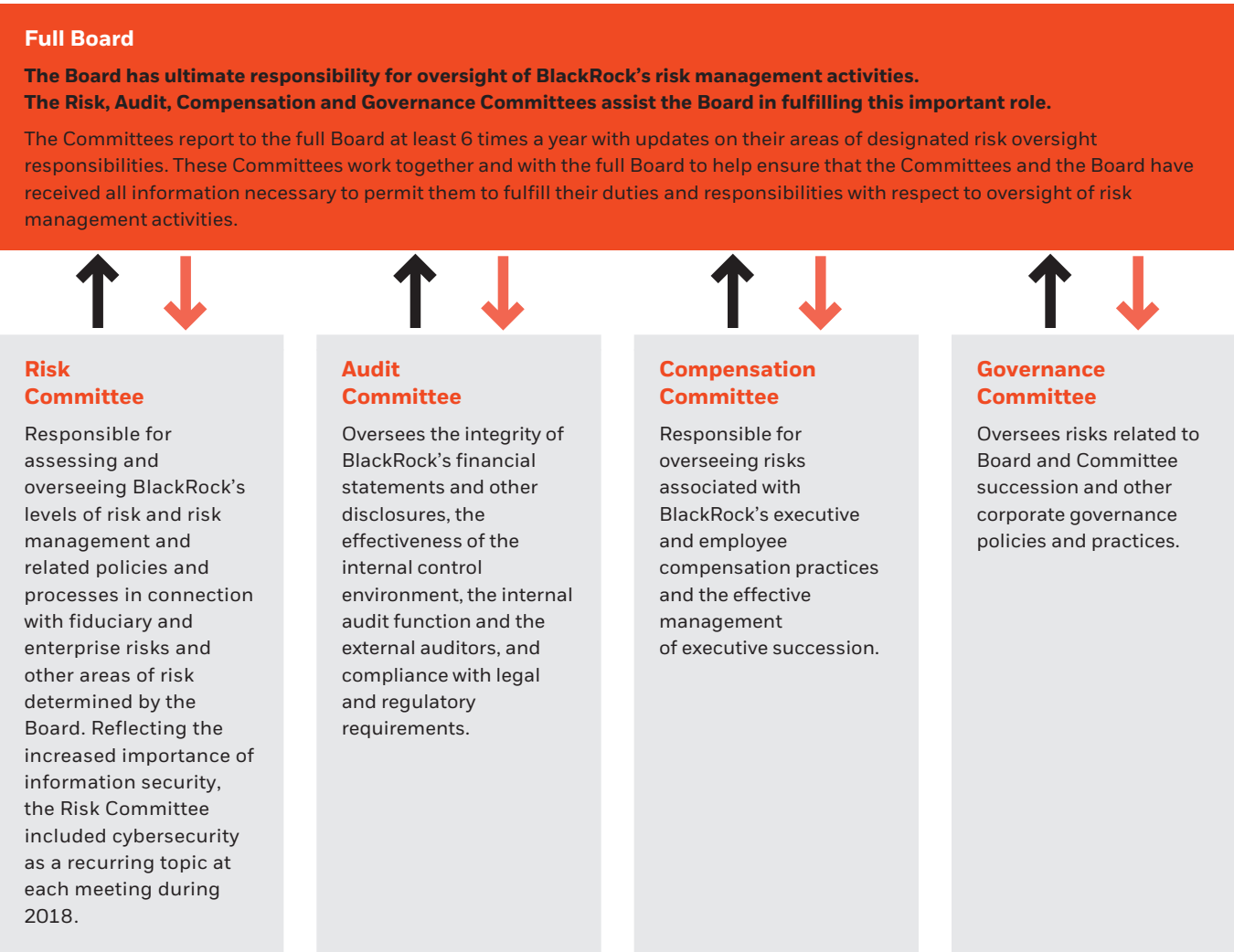
Role and Responsibilities

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



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 Messrs. Alsaad, Caballavetta, 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.

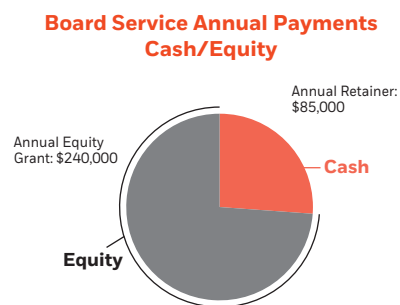
The following table shows the elements of director compensation provided by BlackRock for services on and after the date of the 2018 Annual Meeting of Shareholders.

Director Compensation Element ¹	Payment or Value of Equity	
Board Service⁽²⁾		
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

Board Service Annual Payments Cash/Equity

A pie chart illustrating the breakdown of Board Service Annual Payments. The chart is divided into two segments: a red segment representing 'Cash' at \$85,000, and a larger grey segment representing 'Equity' at \$240,000. The total value is \$325,000. Labels with leader lines point to each segment: 'Annual Retainer: \$85,000' points to the red segment, and 'Annual Equity Grant: \$240,000' points to the grey segment.

Category	Amount
Cash	\$85,000
Equity	\$240,000



(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 <i>BlackRock Solutions</i> , 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 <i>iShares</i> 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 <i>iShares</i> 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 55 th 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 Kushe⁽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	<p>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.</p> <p>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.</p>
Prohibited Actions	<p>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:</p> <ul style="list-style-type: none"> • 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	<p>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.</p>
Share Repurchase	<p>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.</p>

Transfer Restrictions	<p>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.</p>
Right of Last Refusal	<p>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.</p>
Corporate Governance	<p>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:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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;

	<ul style="list-style-type: none"> 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. <p>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.</p>
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
Chairman and Chief
Executive Officer

Robert S. Kapito
President

Robert L. Goldstein
Chief Operating Officer

J. Richard Kushel
Global Head of Multi-
Asset Strategies and
Global Fixed Income

Gary S. Shedlin
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.

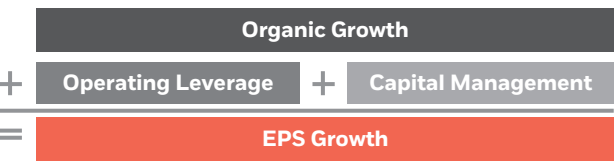
As in prior years, we engaged shareholders in advance of this year’s annual meeting to incorporate their views as we continue to enhance our compensation programs.

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**.

(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.

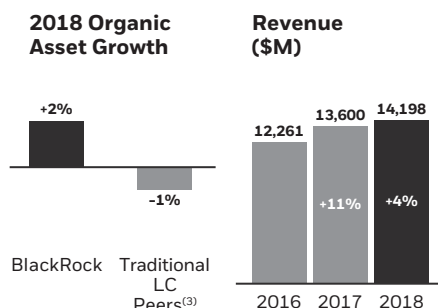
BlackRock 2018 Performance^{(1),(2)}

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

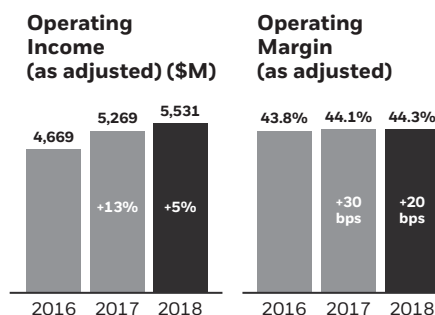
- Total net inflows of \$124 billion, despite meaningful headwinds for the asset management industry. Long-term net inflows of \$123 billion reflected 2% organic asset growth, compared to large cap asset management peers who saw on average -1% organic asset decay;
- Technology services revenue grew 19% 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.



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

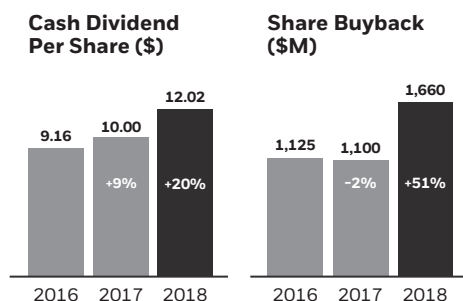
- Operating income, as adjusted, of \$5,531 million was up 5% versus 2017, reflecting our commitment to optimize organic growth in the most efficient way possible; and
- Compensation and benefits expense, as adjusted, as a percent of net revenue was 34.4%, representing a decrease of 110 bps from 2017, 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.



Consistent Capital Return

\$3.6 billion returned to shareholders in 2018, up 30% from 2017

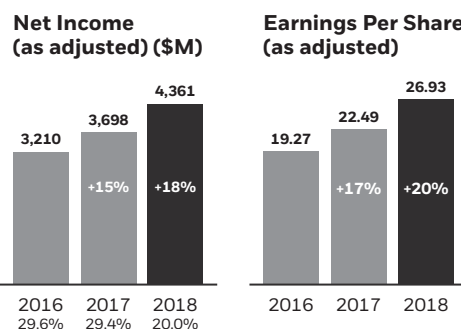
- Annual dividend of \$12.02 per share reflected an increase of 20% from \$10.00 in 2017; and
- \$1.7 billion of outstanding shares were repurchased in 2018, driving a reduction in net share count of 3.5 million shares.



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.



(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.

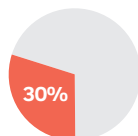
Each NEO, through their various roles and responsibilities, contributes to the firm-wide objectives summarized below. For the NEO performance assessments, please refer to the section "2018 NEO Compensation and Performance Summaries" on page 66.

Financial Performance



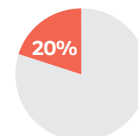
- Net New Business
- Net New Base Fees
- Organic Revenue Growth
- Operating Income, as adjusted⁽¹⁾
- Operating Margin, as adjusted⁽¹⁾
- Diluted EPS, as adjusted⁽¹⁾
- Total Shareholder Return and P/E Multiple

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

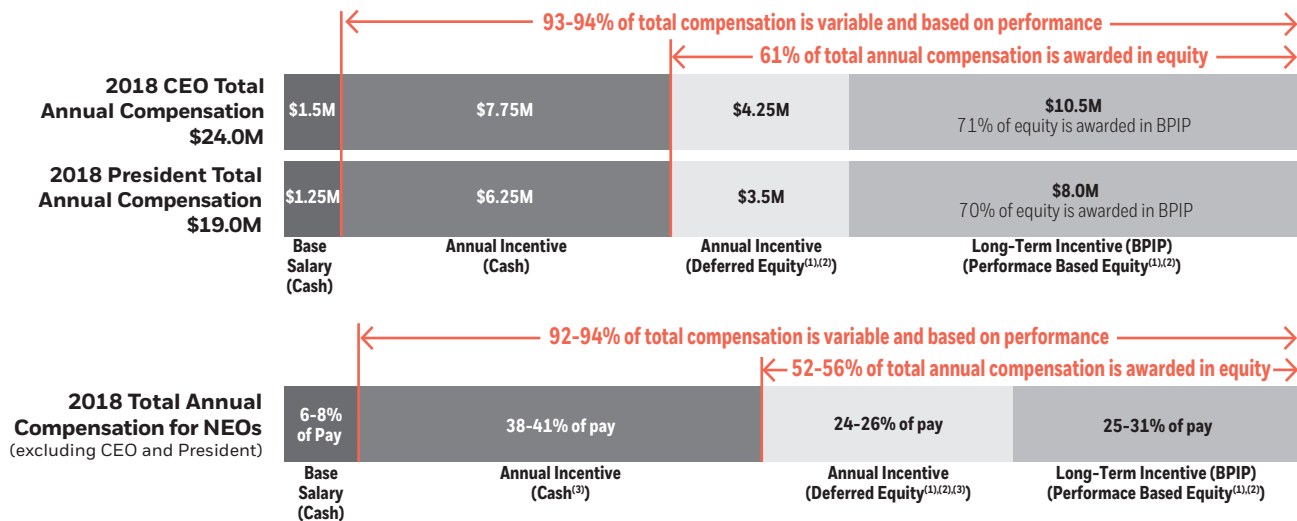
Following a review of full-year business and individual NEO performance, the Compensation Committee determined 2018 total annual compensation outcomes for each NEO, as outlined in the table below.

Name	Base Salary	2018 Total Incentive Award			Total Annual Compensation (TAC)	% change in TAC vs. 2017	Performance Assessment
		Cash	Deferred Equity	Long-Term Incentive Award (BPIP)			
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

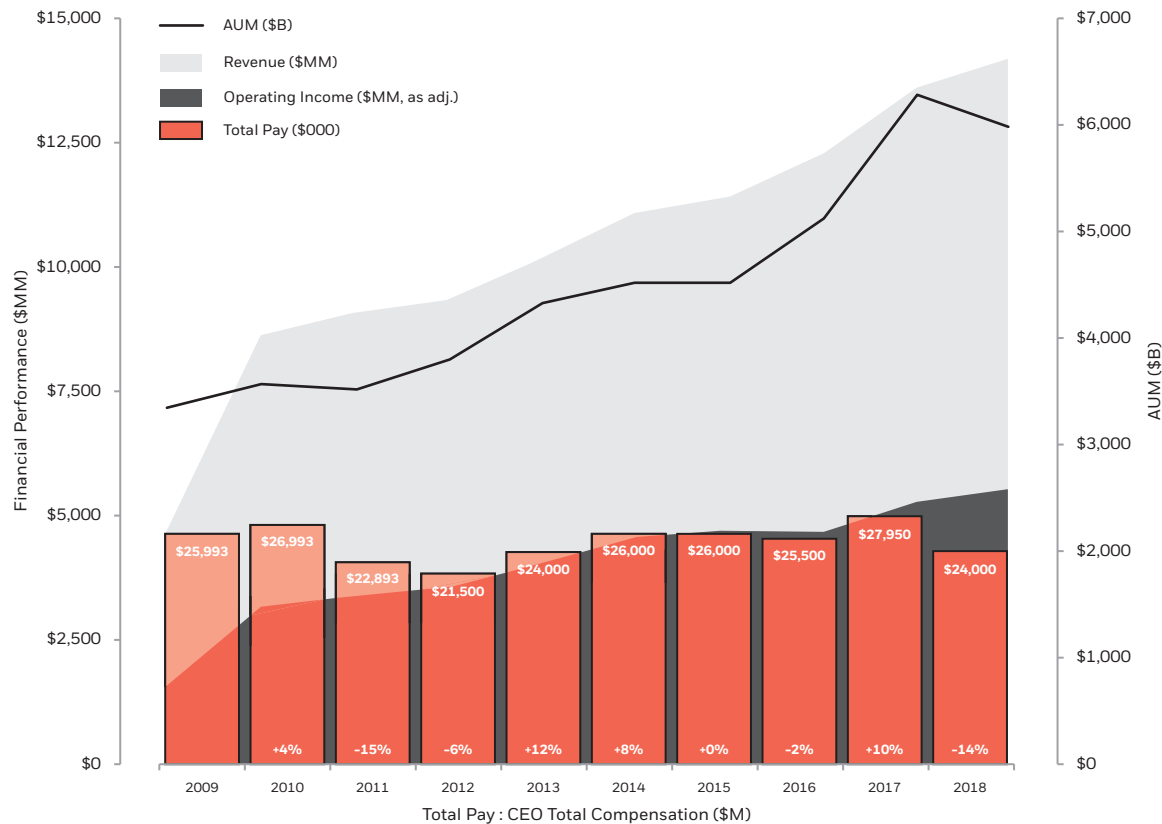
Our total annual compensation structure embodies our commitment to align pay with performance. More than 90% of our regular annual executive compensation is performance based and “at risk.” Compensation mix percentages shown below are based on 2018 year-end compensation decisions for individual NEOs 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.	<p>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.</p> <p>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.</p>
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.	<p>To reward achievement of goals and objectives.</p> <p>Aligns with Company-wide performance and business unit / function performance.</p> <p>Deferred equity component aligns compensation with multi-year shareholder outcomes.</p>	<p>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.</p> <p>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.</p>

(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
<p>Long-Term Incentive Award</p> <p>BlackRock Performance Incentive Plan (BPIP)</p> <p>(Performance-Based RSUs)</p> <p>Terms:</p> <p>The target BPIP Award value is converted into a base number of RSUs using a conversion price.⁽¹⁾</p> <p>The final number of RSUs delivered at settlement is variable based on certain financial metrics achieved over a three-year performance period.</p> <p>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.</p> <p>Expense, based on the expected number of awards to be delivered, is recognized over the vesting period.</p>	<p>To recognize the scope of an individual employee's role, business expertise and leadership skills.</p> <p>To recognize prior year performance and anticipate continued performance and long-term focus over a multi-year period.</p> <p>Aligns the interests of senior-level employees with those of shareholders by aligning compensation with long-term drivers of shareholder value.</p>	<p>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.</p> <p>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.</p> <p>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.</p>

(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 Op Margin, as Adjusted	3-yr Average Organic Revenue (\$M)				
	<=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%
41.0%	33%	61%	83%	105%	122%
39.0%	17%	44%	67%	92%	111%
<=37.0%	0%	28%	50%	75%	100%

Target Level

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	\$2,000,000
<i>For Performance Year 2018 and in anticipation of continued performance and long-term focus over a multi-year period</i>	
Conversion Price	\$410.315
<i>The average of the high and low prices per share of common stock of BlackRock on January 17, 2019 (the grant date)</i>	
Base number of units granted	4,874
<i>Determined by dividing the dollar value of the recipient's award by the conversion price</i>	
	<i>(\$2,000,000 / \$410.315)</i>
Hypothetical Performance Results	\$550M
<i>Jan 1, 2019 to Dec 31, 2021 (3-year) average Organic Revenue</i>	
	<i>(i.e., above target)</i>
<i>Jan 1, 2019 to Dec 31, 2021 (3-year) average Operating Margin, as adjusted</i>	
	43.0%
	<i>(i.e., at target)</i>
Resulting Award Payout (%)	108%
Based on Award Determination Matrix	
Resulting Award Payout (Number of units)	5,264
<i>Base number of units granted x Award Payout (%)</i>	
	<i>(4,874 x 108%)</i>

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.



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	Franklin Resources	Northern Trust
Ameriprise Financial	Goldman Sachs	State Street
Bank of New York Mellon	Invesco	T. Rowe Price Group
Charles Schwab	Morgan Stanley	

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																																			
<div>Financial Performance</div> <div><div></div><div>50%</div></div>	<ul style="list-style-type: none">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																																			
	<table><tr><th rowspan="2">Measures</th><th colspan="2">BlackRock Performance</th></tr><tr><th>2017</th><th>2018</th></tr><tr><td>Net New Base Fee Growth</td><td>7%</td><td>2%</td></tr><tr><td>Operating Income, as adjusted⁽¹⁾ (\$m)</td><td>\$5,269</td><td>\$5,531</td></tr><tr><td>Year-over-year change</td><td>+13%</td><td>+5%</td></tr><tr><td>Operating Margin, as adjusted⁽¹⁾</td><td>44.1%</td><td>44.3%</td></tr><tr><td>Year-over-year change</td><td>+30bps</td><td>+20bps</td></tr><tr><td>Diluted Earnings Per Share, as adjusted⁽¹⁾</td><td>\$22.49</td><td>\$26.93</td></tr><tr><td>Year-over-year change</td><td>+17%</td><td>+20%</td></tr><tr><td>Share Price Data</td><td>BlackRock</td><td>Traditional LC Peers⁽²⁾ Average</td></tr><tr><td>NTM P/E Multiple⁽³⁾</td><td>14.2x</td><td>9.3x</td></tr><tr><td>Annual appreciation/depreciation</td><td>-24%</td><td>-31%</td></tr></table>		Measures	BlackRock Performance		2017	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%
	Measures			BlackRock Performance																																	
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Annual appreciation/depreciation	-24%	-31%																																			

(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 	<p>Deliver Superior Client Experience</p> <ul style="list-style-type: none"> 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. <p>Drive Organization Discipline</p> <ul style="list-style-type: none"> 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. <p>Lead in a Changing World</p> <ul style="list-style-type: none"> 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. 	Partially Meets
Organizational Strength 	<p>Drive High Performance</p> <ul style="list-style-type: none"> 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. <p>Build a More Diverse and Inclusive Culture</p> <ul style="list-style-type: none"> 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%). <p>Develop Great Managers and Leaders</p> <ul style="list-style-type: none"> 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. 	Meets/Exceeds

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																					
<div>Financial Performance</div> <div><div></div><div>50%</div></div>	<div><ul style="list-style-type: none">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.</div> <table><tr><th>Measures</th><th>2017</th><th>2018</th></tr><tr><td>Operating Income, as adjusted⁽¹⁾ (\$m)</td><td>\$5,269</td><td>\$5,531</td></tr><tr><td>Year-over-year change</td><td>+13%</td><td>+5%</td></tr><tr><td>Operating Margin, as adjusted⁽¹⁾</td><td>44.1%</td><td>44.3%</td></tr><tr><td>Year-over-year change</td><td>+30bps</td><td>+20bps</td></tr><tr><td>Diluted Earnings Per Share, as adjusted⁽¹⁾</td><td>\$22.49</td><td>\$26.93</td></tr><tr><td>Year-over-year change</td><td>+17%</td><td>+20%</td></tr></table>	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%	Partially Meets
Measures	2017	2018																					
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Year-over-year change	+17%	+20%																					
<div>Business Strength</div> <div><div></div><div>30%</div></div>	<div><div>Deliver Superior Client Experience</div><div><ul style="list-style-type: none">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.</div><table><tr><th>Actively managed AUM above benchmark or peer median</th><th>1-Yr</th><th>3-Yr</th><th>5-Yr</th></tr><tr><td>Taxable Fixed Income</td><td>48%</td><td>69%</td><td>82%</td></tr><tr><td>Tax-Exempt Fixed Income</td><td>47%</td><td>71%</td><td>76%</td></tr><tr><td>Fundamental Equity</td><td>50%</td><td>67%</td><td>78%</td></tr><tr><td>Systematic Equity</td><td>32%</td><td>83%</td><td>93%</td></tr></table><div><div>Drive Organization Discipline</div><div><ul style="list-style-type: none">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.</div></div><div><div>Lead in a Changing World</div><div><ul style="list-style-type: none">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.</div></div></div>	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%	Partially Meets	
Actively managed AUM above benchmark or peer median	1-Yr	3-Yr	5-Yr																				
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Fundamental Equity	50%	67%	78%																				
Systematic Equity	32%	83%	93%																				

(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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 <i>BlackRock Solutions</i>, 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 	<ul style="list-style-type: none"> 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 <i>BlackRock Solutions</i>, 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 <i>Aladdin:Next</i> focused on re-architecting <i>Aladdin</i>'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 	<ul style="list-style-type: none"> Mr. Goldstein successfully drove inclusion and diversity in the <i>BlackRock Solutions</i> 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 <i>Aladdin</i> 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:


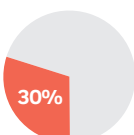

As Global Head of Multi-Asset Strategies (“MAS”) and Global Fixed Income (“GFI”), Mr. Kushel is responsible for the firm’s multi-asset and global fixed income products, asset allocation, and client portfolio solutions capabilities.

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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Mr. Kushel continued to develop a vision for the MAS and GFI businesses, focusing on institutional opportunities and expanded product offerings. <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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:



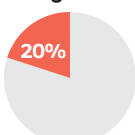
As CFO, Mr. Shedlin is responsible for managing BlackRock's overall financial condition, including resource and capital allocation, and expense discipline.

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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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.

Name	Grant Date ⁽¹⁾	Date of Committee Action	Estimated Future Payouts Under Equity Incentive Plan Awards			All Other Stock Awards: Number of Shares or Units (#)	Grant Date Fair Value of Stock and Option Awards ⁽⁴⁾
			Threshold (#)	Target (#)	Maximum (#)		
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

Name	Grant Date	Performance-Based Option Awards			Stock Awards	
		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.

Name	Option Awards		Stock Awards	
	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.	<p>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.</p> <p>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.</p>	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.	<p>Qualified Retirement: Unvested awards are forfeited; vested but unexercised awards remain exercisable for a 90-day period following separation.</p> <p>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.</p>	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 corporate 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.

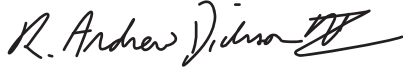
Address to Submit Proposals and Nominations

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,

A handwritten signature in black ink, appearing to read "R. Andrew Dickson, III", with a stylized flourish at the end.

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.

(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.

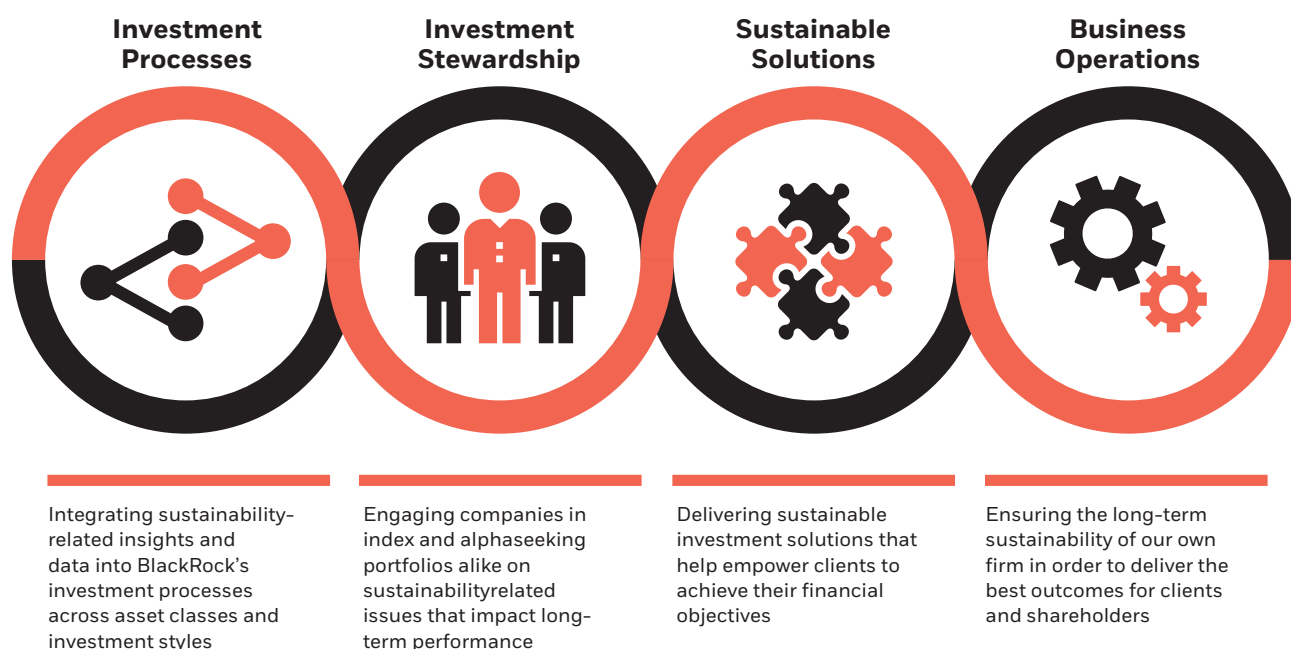
See aforementioned discussion regarding operating income, as adjusted, and operating margin, as adjusted, for information on the PNC LTIP funding obligation and restructuring charge.

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

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.

**We are a
fiduciary to
our clients.**

**We are
passionate about
performance.**

**Our
Principles**

**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.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

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 No. 001-33099

BlackRock

BlackRock, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

32-0174431
(I.R.S. Employer
Identification No.)

55 East 52nd Street, New York, NY 10055

(Address of Principal Executive Offices)

(212) 810-5300

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$.01 par value	BLK	New York Stock Exchange
1.250% Notes due 2025	BLK25	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 Section 15(d) of the Act. 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 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 ☒ 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 ☒

Accelerated filer ☐

Non-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 ☒

The aggregate market value of the voting common stock and nonvoting common stock equivalents held by nonaffiliates of the registrant as of June 30, 2019 was approximately \$71.9 billion.

As of January 31, 2020, there were 154,827,534 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents are incorporated by reference herein:

Portions of the definitive Proxy Statement of BlackRock, Inc. to be filed pursuant to Regulation 14A of the general rules and regulations under the Securities Exchange Act of 1934, as amended, for the 2020 annual meeting of stockholders to be held on May 21, 2020 ("Proxy Statement") are incorporated by reference into Part III of this Form 10-K.

BlackRock, Inc.

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PART I

Item 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 with \$7.43 trillion of assets under management (“AUM”) at December 31, 2019. With approximately 16,200 employees in more than 30 countries who serve clients in over 100 countries across the globe, BlackRock provides a broad range of investment and technology services to institutional and retail clients worldwide.

Our 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*, *eFront*, *Cachematrix* and *FutureAdvisor*, as well as advisory services and solutions to a broad base of institutional and wealth management clients. The Company is highly regulated and manages its clients’ assets as a fiduciary. We do not engage in proprietary trading activities that could conflict with the interests of our 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.

BlackRock is an independent, publicly traded company, with no single majority shareholder and over two-thirds of its Board of Directors consisting of independent directors. At December 31, 2019, The PNC Financial Services Group, Inc. (“PNC”) held 22.0% of BlackRock’s voting common stock and 22.4% of BlackRock’s capital stock, which includes outstanding common and nonvoting preferred stock.

Management seeks to deliver value for stockholders over time by, among other things, capitalizing on BlackRock’s differentiated competitive position, including:

- the Company’s focus on strong performance providing alpha for active products and limited or no tracking error for index products;
- the Company’s global reach and commitment to best practices around the world, with approximately 50% of employees outside the United States serving clients locally and supporting local investment capabilities. Approximately 40% of total AUM is managed for clients domiciled outside the United States;
- the Company’s breadth of investment strategies, including market-cap weighted index, factors, systematic active, traditional fundamental active, high conviction alpha and illiquid alternative product offerings, which enhance its ability to tailor single- and multi-asset investment solutions to address specific client needs;
- the Company’s differentiated client relationships and fiduciary focus, which enable effective positioning toward changing client needs and macro trends including the secular shift to index investing and ETFs, a focus on income and retirement, increasing demand for sustainable investment strategies and barbell investing using index, active and illiquid alternatives products; and
- the Company’s longstanding commitment to innovation, technology services and the continued development of, and increased interest in, BlackRock technology products and solutions, including *Aladdin*, *Aladdin Wealth*, *eFront*, *Cachematrix*, and *FutureAdvisor*. This commitment is further extended by minority investments in distribution technologies including Scalable Capital, iCapital, Acorns and Envestnet.

BlackRock operates in a global marketplace impacted by changing market dynamics and economic uncertainty, factors that can significantly affect earnings and stockholder returns in any given period.

The Company’s ability to increase revenue, earnings and stockholder value over time is predicated on its ability to generate new business, including business in *Aladdin* and other technology products and services. New business efforts depend on BlackRock’s ability to achieve clients’ investment objectives, in a manner consistent with their risk preferences, to deliver excellent client service and to innovate in technology to serve clients’ evolving needs. All of these efforts require the commitment and contributions of BlackRock employees. Accordingly, the ability to attract, develop and retain talented professionals is critical to the Company’s long-term success.

FINANCIAL HIGHLIGHTS

(in millions, except per share data)

GAAP:	2019	2018	2017(4)	2016(4)	2015(4)
Total revenue	\$ 14,539	\$ 14,198	\$ 13,600	\$ 12,261	\$ 11,401
Operating income	\$ 5,551	\$ 5,457	\$ 5,254	\$ 4,565	\$ 4,664
Operating margin	38.2%	38.4%	38.6%	37.2%	40.9%
Nonoperating income (expense)(1)	\$ 186	\$ (76)	\$ (32)	\$ (108)	\$ (69)
Net income attributable to BlackRock, Inc.	\$ 4,476	\$ 4,305	\$ 4,952	\$ 3,168	\$ 3,345
Diluted earnings per common share	\$ 28.43	\$ 26.58	\$ 30.12	\$ 19.02	\$ 19.79

(in millions, except per share data)

As adjusted(2):	2019	2018	2017(4)	2016(4)	2015(4)
Operating income	\$ 5,551	\$ 5,531	\$ 5,269	\$ 4,669	\$ 4,695
Operating margin	43.7%	44.3%	44.1%	43.8%	42.9%
Nonoperating income (expense)(1)	\$ 186	\$ (76)	\$ (32)	\$ (108)	\$ (70)
Net income attributable to BlackRock, Inc.(3)	\$ 4,484	\$ 4,361	\$ 3,698	\$ 3,210	\$ 3,313
Diluted earnings per common share(3)	\$ 28.48	\$ 26.93	\$ 22.49	\$ 19.27	\$ 19.60

- (1) Net of net income (loss) attributable to noncontrolling interests ("NCI") (redeemable and nonredeemable).
(2) BlackRock reports its financial results in accordance with accounting principles generally accepted in the United States ("GAAP"); however, management believes evaluating the Company's ongoing operating results may be enhanced if investors have additional non-GAAP financial measures.

See "Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations — Non-GAAP Financial Measures", for further information on non-GAAP financial measures and for as adjusted items for 2019 and 2018.

In 2016, a restructuring charge, primarily comprised of severance and accelerated amortization expense of previously granted compensation awards, has been excluded to provide more meaningful analysis of BlackRock's ongoing operations and to ensure comparability among periods presented. In 2015, compensation expense associated with appreciation (depreciation) on investments related to certain BlackRock deferred compensation plans has been excluded as returns on investments set aside for these plans, which substantially offset this expense, are reported in nonoperating income (expense). In 2017, 2016 and 2015, 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 did not impact BlackRock's book value.

- (3) Net income attributable to BlackRock, Inc., as adjusted, and diluted earnings per common share, as adjusted exclude the after-tax impact of the items referred to above and exclude the effect on deferred income tax expense resulting from certain income tax matters. In 2017, \$1.2 billion of net tax benefit related to The 2017 Tax Cuts and Jobs Act was excluded from net income attributable to BlackRock, Inc., as adjusted, and diluted earnings per common share, as adjusted.
(4) Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. Results for 2015 reflect accounting guidance prior to the adoption of the new revenue recognition standard.

ASSETS UNDER MANAGEMENT

The Company's AUM by product type for the years 2015 through 2019 is presented below.

	December 31,						5-Year CAGR(1)
(in millions)	2019	2018	2017	2016	2015		
Equity	\$ 3,820,329	\$ 3,035,825	\$ 3,371,641	\$ 2,657,176	\$ 2,423,772		9%
Fixed income	2,315,392	1,884,417	1,855,465	1,572,365	1,422,368		11%
Multi-asset	568,121	461,884	480,278	395,007	376,336		8%
Alternatives	178,072	143,358	129,347	116,938	112,839		10%
Long-term	6,881,914	5,525,484	5,836,731	4,741,486	4,335,315		10%
Cash management	545,949	448,565	449,949	403,584	299,884		13%
Advisory	1,770	1,769	1,515	2,782	10,213		(39)%
Total	\$ 7,429,633	\$ 5,975,818	\$ 6,288,195	\$ 5,147,852	\$ 4,645,412		10%

- (1) Percentage represents CAGR over a five-year period (2014-2019).

Component changes in AUM by product type for the five years ended December 31, 2019 are presented below.

(in millions)	December 31, 2014	Net inflows (outflows)	Adjustment/ acquisitions and dispositions ⁽¹⁾	Market change	FX impact	December 31, 2019	5-Year CAGR ⁽²⁾
Equity	\$ 2,451,111	\$ 277,866	\$ 2,590	\$ 1,134,325	\$ (45,563)	\$ 3,820,329	9%
Fixed income	1,393,653	718,376	18,539	232,306	(47,482)	2,315,392	11%
Multi-asset	377,837	77,525	1,048	123,068	(11,357)	568,121	8%
Alternatives	111,240	48,035	10,121	11,255	(2,579)	178,072	10%
Long-term	4,333,841	1,121,802	32,298	1,500,954	(106,981)	6,881,914	10%
Cash management	296,353	168,051	81,321	6,583	(6,359)	545,949	13%
Advisory	21,701	(18,149)	—	174	(1,956)	1,770	(39)%
Total	\$ 4,651,895	\$ 1,271,704	\$ 113,619	\$ 1,507,711	\$ (115,296)	\$ 7,429,633	10%

(1) Amounts include AUM acquired in the acquisition of certain assets of BlackRock Kelso Capital Advisors LLC ("BKCA") in March 2015, AUM acquired from Infraestructura Institucional and FutureAdvisor in October 2015, AUM acquired in the BofA® Global Capital Management transaction in April 2016, AUM acquired in the acquisition of the equity infrastructure franchise of First Reserve ("First Reserve Transaction") in June 2017, net AUM from the acquisitions of Tennenbaum Capital Partners in August 2018 ("TCP Transaction") and the asset management business of Citibanamex in September 2018 ("Citibanamex Transaction"), AUM reclassifications and net dispositions related to the transfer of BlackRock's UK Defined Contribution Administration and Platform business to Aegon N.V. in July 2018 ("Aegon Transaction"), and net AUM dispositions related to the sale of BlackRock's minority interest in DSP BlackRock Investment Managers Pvt. Ltd. to the DSP Group in August 2018 ("DSP Transaction"). In addition, amounts include other reclassifications to conform to current period combined AUM policy and presentation.

(2) Percentage represents CAGR over a five-year period (2014-2019).

AUM represents the broad range of financial assets we manage for clients on a discretionary basis pursuant to investment management 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). Reported AUM does not include assets for which we provide risk management or other forms of nondiscretionary advice, or assets that we are retained to manage on a short-term, temporary basis.

Investment management fees are typically earned as a percentage of AUM. We also earn performance fees on certain portfolios relative to an agreed-upon benchmark or return hurdle. On some products, we also may earn securities lending revenue. In addition, BlackRock offers its proprietary *Aladdin* investment system as well as risk management, outsourcing, advisory and other technology services, to institutional investors and wealth management intermediaries. Revenue for these services may be based on several criteria including value of positions, number of users or accomplishment of specific deliverables.

At December 31, 2019, total AUM was \$7.43 trillion, representing a CAGR of 10% over the last five years. AUM growth during the period was achieved through the combination of net market valuation gains, net inflows and acquisitions, including BKCA, Infraestructura Institucional and FutureAdvisor, which collectively added \$2.2 billion of AUM in 2015, BofA Global Capital Management, which added \$80.6 billion of AUM in 2016, the First Reserve Transaction, which added \$3.3 billion of AUM in 2017 and the net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction, which added \$27.5 billion of AUM in 2018. Our AUM mix encompasses a broadly diversified product range, as described below.

The Company considers the categorization of its AUM by client type, product type, investment style, and client region useful to understanding its business. The following discussion of the Company's AUM will be organized as follows:

Client Type	Product Type	Investment Style	Client Region
• Retail	• Equity	• Active	• Americas
• iShares ETFs	• Fixed Income	• Index and iShares ETFs	• Europe, the Middle East and Africa ("EMEA")
• Institutional	• Multi-asset		• Asia-Pacific
	• Alternatives		
	• Cash Management		

CLIENT TYPE

BlackRock serves a diverse mix of institutional and retail clients across the globe, with a regionally focused business model. BlackRock leverages the benefits of scale across global investment, risk and technology platforms while at the same time using local distribution presence to deliver solutions for clients. Furthermore, our structure facilitates strong teamwork globally across both functions and regions in order to enhance our ability to leverage best practices to serve our clients and continue to develop our talent.

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.

iShares ETFs are a growing component of both institutional and retail client portfolios. However, as *iShares* ETFs are traded on exchanges, complete transparency on the ultimate end-client is unavailable. Therefore, *iShares* ETFs are presented as a separate client type below, with investments in *iShares* ETFs by institutions and retail clients excluded from figures and discussions in their respective sections.

AUM by investment style and client type at December 31, 2019 is presented below.

(in millions)	Retail		<i>iShares</i> ETFs		Institutional		Total
Active	\$	608,552	\$	—	\$	1,338,670	\$ 1,947,222
Non-ETF Index		94,745		—		2,599,882	2,694,627
<i>iShares</i> ETFs		—		2,240,065		—	2,240,065
Long-term		703,297		2,240,065		3,938,552	6,881,914
Cash management		10,842		—		535,107	545,949
Advisory		—		—		1,770	1,770
Total	\$	714,139	\$	2,240,065	\$	4,475,429	\$ 7,429,633

Retail

BlackRock serves retail investors globally through a wide array of vehicles across the investment spectrum, including separate accounts, open-end and closed-end funds, unit trusts and private investment funds. Retail investors are served principally through intermediaries, including broker-dealers, banks, trust companies, insurance companies and independent financial advisors. Technology solutions, digital distribution tools and a shift toward portfolio construction are increasing the number of financial advisors and end-retail clients using BlackRock products. Retail represented 10% of long-term AUM at December 31, 2019 and 31% of long-term base fees for 2019.

iShares ETFs have a significant retail component but is shown separately below. With the exclusion of *iShares* ETFs, retail AUM is predominantly comprised of active mutual funds. Mutual funds totaled \$565.1 billion, or 80%, of retail long-term AUM at year-end, with the remainder invested in private investment funds and separately managed accounts. 87% of retail long-term AUM is invested in active products.

Component changes in retail long-term AUM for 2019 are presented below.

(in millions)	December 31, 2018		Net inflows (outflows)		Market change		FX impact		December 31, 2019
Equity	\$	205,714	\$	(652)	\$	45,820	\$	1,531	\$ 252,413
Fixed income		271,588		21,222		11,882		573	305,265
Multi-asset		113,417		(9,291)		16,138		175	120,439
Alternatives		20,131		4,531		506		12	25,180
Total	\$	610,850	\$	15,810	\$	74,346	\$	2,291	\$ 703,297

The retail client base is diversified geographically, with 70% of long-term AUM managed for investors based in the Americas, 25% in EMEA and 5% in Asia-Pacific at year-end 2019.

- US retail long-term net inflows of \$23.4 billion were led by fixed income net inflows of \$22.7 billion. Fixed income net inflows were diversified across exposures and products, with strong flows into municipal, total return, high yield and short duration bond offerings. Equity net inflows of \$3.9 billion included the successful close of the \$1.4 billion BlackRock Science & Technology Trust II, BlackRock's largest closed-end fund launch in the last seven years. Alternatives net inflows of \$2.7 billion were driven by flows into the BlackRock Global Event Driven fund. Multi-asset net outflows of \$5.9 billion were primarily due to outflows from world allocation strategies.
- International retail long-term net outflows of \$7.6 billion resulted from net outflows from equity, multi-asset and fixed income, partially offset by alternatives net inflows. Alternatives net inflows of \$1.8 billion were driven by flows into the BlackRock Global Event Driven fund. Equity net outflows of \$4.5 billion were primarily due to outflows from European equities, as political and market uncertainty contributed to a risk-off environment in the region. Multi-asset net outflows of \$3.4 billion were primarily due to outflows from world allocation strategies.

iShares ETFs

iShares is the leading ETF provider in the world with \$2.2 trillion of AUM at December 31, 2019 and was the top asset gatherer globally in 2019¹ with net inflows of \$183.5 billion driving an organic growth rate of 11%. iShares fixed income net inflows of \$112.4 billion were diversified across exposures and product lines, led by flows into Core, treasuries and mortgage-backed securities funds. iShares equity net inflows of \$64.7 billion were driven by flows into Core funds and factor-based ETFs. iShares ETF multi-asset and alternative funds contributed a combined \$6.4 billion of net inflows, primarily into commodities funds. iShares ETFs represented 33% of long-term AUM at December 31, 2019 and 41% of long-term base fees for 2019.

Component changes in iShares ETFs AUM for 2019 are presented below.

(in millions)	December 31, 2018	Net inflows	Market change	FX impact	December 31, 2019
Equity	\$ 1,274,262	\$ 64,705	\$ 292,840	\$ 1,165	\$ 1,632,972
Fixed income	427,596	112,345	25,878	(29)	565,790
Multi-asset	4,485	113	601	11	5,210
Alternatives ⁽¹⁾	25,082	6,329	4,664	18	36,093
Total	\$ 1,731,425	\$ 183,492	\$ 323,983	\$ 1,165	\$ 2,240,065

(1) Amounts include commodity iShares ETFs.

Our broad iShares ETF product range offers investors a precise, transparent and efficient way to gain exposure to a full range of asset classes and global markets that have been difficult for many investors to access, as well as the liquidity required to make adjustments to their exposures quickly and cost-efficiently.

- US iShares ETF² AUM ended 2019 at \$1.7 trillion with \$117.9 billion of net inflows driven by strong demand for a diverse range of fixed income products, Core funds and factor-based ETFs.
- International iShares ETF² AUM ended 2019 at \$549.0 billion with net inflows of \$65.6 billion led by fixed income and equity net inflows of \$45.8 billion and \$17.1 billion, respectively.

¹Source: BlackRock; Bloomberg

²Regional iShares ETF amounts based on jurisdiction of product, not underlying client.

Institutional

BlackRock serves institutional investors on six continents in sub-categories including: pensions, endowments and foundations, official institutions, and financial institutions; institutional AUM is diversified across product and region.

Component changes in institutional long-term AUM for 2019 are presented below.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact	December 31, 2019
Active:					
Equity	\$ 110,976	\$ 1,852	\$ 27,547	\$ 743	\$ 141,118
Fixed income	538,961	55,006	55,358	2,043	651,368
Multi-asset	336,237	28,785	68,410	801	434,233
Alternatives	93,805	13,813	3,852	481	111,951
Active subtotal	1,079,979	99,456	155,167	4,068	1,338,670
Index:					
Equity	1,444,873	(37,552)	380,101	6,404	1,793,826
Fixed income	646,272	75,006	55,969	15,722	792,969
Multi-asset	7,745	(718)	1,203	9	8,239
Alternatives	4,340	166	272	70	4,848
Index subtotal	2,103,230	36,902	437,545	22,205	2,599,882
Total	\$ 3,183,209	\$ 136,358	\$ 592,712	\$ 26,273	\$ 3,938,552

Institutional active AUM ended 2019 at \$1.3 trillion, reflecting \$99.5 billion of net inflows, positive across all asset classes. Fixed income net inflows of \$55.0 billion included two sizable client wins in the second quarter of 2019. Multi-asset strategies saw continued growth, with net inflows of \$28.8 billion reflecting ongoing demand for solutions offerings and the LifePath® target-date suite.

Alternatives net inflows of \$13.8 billion were led by inflows into infrastructure, private equity and real estate. Excluding return of capital and investment of \$5.1 billion, alternatives net inflows were \$18.9 billion. In addition, 2019 was another strong fundraising year for illiquid alternatives, and at year-end 2019 we had approximately \$24 billion of committed capital to deploy for institutional clients.

In total, Institutional active represented 19% of long-term AUM and 19% of long-term base fees.

Institutional index AUM totaled \$2.6 trillion at December 31, 2019, reflecting \$36.9 billion of net inflows. Fixed income net inflows of \$75.0 billion were driven by demand for liability-driven investment solutions. Equity net outflows of \$37.6 billion resulted from client de-risking, re-allocating, re-balancing and seeking liquidity in a more uncertain market environment. Institutional index represented 38% of long-term AUM at December 31, 2019 and accounted for 9% of long-term base fees for 2019.

BlackRock's institutional franchise generated 5% long-term organic base fee growth in 2019 reflecting strength in higher-fee illiquid alternatives, multi-asset solutions and liability-driven investment strategies.

The Company's institutional clients consist of the following:

- **Pensions, Foundations and Endowments.** BlackRock is among the world's largest managers of pension plan assets with \$2.6 trillion, or 67%, of long-term institutional AUM managed for defined benefit, defined contribution and other pension plans for corporations, governments and unions at December 31, 2019. The market landscape continues to shift from defined benefit to defined contribution, driving strong flows in our defined contribution channel, which had \$16.7 billion of long-term net inflows for the year, driven by continued demand for our *LifePath* target-date suite. Defined contribution represented \$1.1 trillion of total pension AUM, and we remain well positioned to capitalize on the on-going evolution of the defined contribution market and demand for outcome-oriented investments. An additional \$78.7 billion, or 2%, of long-term institutional AUM was managed for other tax-exempt investors, including charities, foundations and endowments.
- **Official Institutions.** BlackRock managed \$234.4 billion, or 6%, of long-term institutional AUM for official institutions, including central banks, sovereign wealth funds, supranationals, multilateral entities and government ministries and agencies at year-end 2019. These clients often require specialized investment advice, the use of customized benchmarks and training support.
- **Financial and Other Institutions.** BlackRock is a top independent manager of assets for insurance companies, which accounted for \$380.0 billion, or 10%, of institutional long-term AUM at year-end 2019. Assets managed for other taxable institutions, including corporations, banks and third-party fund sponsors for which we provide sub-advisory services, totaled \$605.0 billion, or 15%, of long-term institutional AUM at year-end.

CLIENT TYPE AND PRODUCT TYPE

Component changes in AUM by product type and investment style for 2019 are presented below.

<i>(in millions)</i>	December 31, 2018	Net inflows (outflows)	Market change	FX impact	December 31, 2019
Retail:					
Equity	\$ 205,714	\$ (652)	\$ 45,820	\$ 1,531	\$ 252,413
Fixed income	271,588	21,222	11,882	573	305,265
Multi-asset	113,417	(9,291)	16,138	175	120,439
Alternatives	20,131	4,531	506	12	25,180
Retail subtotal	610,850	15,810	74,346	2,291	703,297
iShares ETFs:					
Equity	1,274,262	64,705	292,840	1,165	1,632,972
Fixed income	427,596	112,345	25,878	(29)	565,790
Multi-asset	4,485	113	601	11	5,210
Alternatives	25,082	6,329	4,664	18	36,093
iShares ETFs subtotal	1,731,425	183,492	323,983	1,165	2,240,065
Institutional:					
Active:					
Equity	110,976	1,852	27,547	743	141,118
Fixed income	538,961	55,006	55,358	2,043	651,368
Multi-asset	336,237	28,785	68,410	801	434,233
Alternatives	93,805	13,813	3,852	481	111,951
Active subtotal	1,079,979	99,456	155,167	4,068	1,338,670
Index:					
Equity	1,444,873	(37,552)	380,101	6,404	1,793,826
Fixed income	646,272	75,006	55,969	15,722	792,969
Multi-asset	7,745	(718)	1,203	9	8,239
Alternatives	4,340	166	272	70	4,848
Index subtotal	2,103,230	36,902	437,545	22,205	2,599,882
Institutional subtotal	3,183,209	136,358	592,712	26,273	3,938,552
Long-term	5,525,484	335,660	991,041	29,729	6,881,914
Cash management	448,565	93,074	3,054	1,256	545,949
Advisory	1,769	2	(19)	18	1,770
Total	\$ 5,975,818	\$ 428,736	\$ 994,076	\$ 31,003	\$ 7,429,633

Long-term product offerings include alpha-seeking active and index strategies. Our alpha-seeking active strategies seek to earn attractive returns in excess of a market benchmark or performance hurdle while maintaining an appropriate risk profile and leverage fundamental research and quantitative models to drive portfolio construction. In contrast, index strategies seek to closely track the returns of a corresponding index, generally by investing in substantially the same underlying securities within the index or in a subset of those securities selected to approximate a similar risk and return profile of the index. Index strategies include both our non-ETF index products and *iShares* ETFs.

Although many clients use both alpha-seeking active and index strategies, the application of these strategies may differ. For example, clients may use index products to gain exposure to a market or asset class or may use a combination of index strategies to target active returns. In addition, institutional non-ETF index assignments tend to be very large (multi-billion dollars) and typically reflect low fee rates. Net flows in institutional index products generally have a small impact on BlackRock's revenues and earnings.

Equity

Year-end 2019 equity AUM totaled \$3.8 trillion, reflecting net inflows of \$28.4 billion. Net inflows included \$64.7 billion into *iShares* ETFs, driven by net inflows into Core funds and factor-based ETFs, partially offset by non-ETF index and active net outflows of \$33.4 billion and \$2.9 billion, respectively.

BlackRock's effective fee rates fluctuate due to changes in AUM mix. Approximately half of BlackRock's equity AUM is tied to international markets, including emerging markets, which tend to have higher fee rates than US equity strategies. Accordingly, fluctuations in international

equity markets, which may not consistently move in tandem with US markets, have a greater impact on BlackRock's equity revenues and effective fee rate.

Fixed Income

Fixed income AUM ended 2019 at \$2.3 trillion, reflecting net inflows of \$263.6 billion. *iShares* ETFs net inflows of \$112.3 billion were led by flows into Core, treasuries and mortgage-backed securities funds. Non-ETF index net inflows of \$76.3 billion were driven by demand for liability-driven investment solutions. Active net inflows of \$75.0 billion included two sizable institutional client wins in the second quarter of 2019, in addition to strong flows in municipal, total return, high yield and short duration bond offerings.

Multi-Asset

BlackRock's multi-asset team manages a variety of balanced funds and bespoke mandates for a diversified client base that leverages our broad investment expertise in global equities, bonds, currencies and commodities, and our extensive risk management capabilities. Investment solutions might include a combination of long-only portfolios and alternative investments as well as tactical asset allocation overlays.

Component changes in multi-asset AUM for 2019 are presented below.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact	December 31, 2019
Asset allocation and balanced	\$ 174,636	\$ (13,792)	\$ 23,641	\$ 599	\$ 185,084
Target date/risk	206,334	23,454	46,180	1,110	277,078
Fiduciary	80,402	9,404	16,496	(713)	105,589
FutureAdvisor ⁽¹⁾	512	(177)	35	—	370
Total	\$ 461,884	\$ 18,889	\$ 86,352	\$ 996	\$ 568,121

(1) FutureAdvisor amounts do not include AUM held in *iShares* ETFs.

Multi-asset net inflows reflected ongoing institutional demand for our solutions-based advice with \$28.1 billion of net inflows coming from institutional clients. Defined contribution plans of institutional clients remained a significant driver of flows and contributed \$18.9 billion to institutional multi-asset net inflows in 2019, primarily into target date and target risk product offerings. Retail net outflows of \$9.3 billion were primarily due to outflows from world allocation strategies.

The Company's multi-asset strategies include the following:

- Asset allocation and balanced products represented 33% of multi-asset AUM at year-end. These strategies combine equity, fixed income and alternative components for investors seeking a tailored solution relative to a specific benchmark and within a risk budget. In certain cases, these strategies seek to minimize downside risk through diversification, derivatives strategies and tactical asset allocation decisions. Flagship products in this category include our Global Allocation and Multi-Asset Income fund families.
- Target date and target risk products grew 11% organically in 2019, with net inflows of \$23.5 billion. Institutional investors represented 90% of target date and target risk AUM, with defined contribution plans representing 84% of AUM. Flows were driven by defined contribution investments in our *LifePath* offerings. *LifePath* products utilize a proprietary active asset allocation overlay model that seeks to balance risk and return over an investment horizon based on the investor's expected retirement timing. Underlying investments are primarily index products.
- Fiduciary management services are complex mandates in which pension plan sponsors or endowments and foundations retain BlackRock to assume responsibility for some or all aspects of investment management, often with BlackRock acting as outsourced chief investment officer ("OCIO"). These customized services require strong partnership with the clients' investment staff and trustees in order to tailor investment strategies to meet client-specific risk budgets and return objectives. In 2019, BlackRock saw \$9.4 billion of net inflows, or 12% organic growth, in fiduciary mandates.
- FutureAdvisor is a digital wealth management platform that provides financial institutions with technology-enabled investment advisory capabilities to manage their clients' investments. As consumers increasingly engage with technology to invest, BlackRock and FutureAdvisor are positioned to empower distribution partners to better serve their clients by combining FutureAdvisor's technology-enabled advice with BlackRock's multi-asset investment capabilities, proprietary technology and risk analytics. FutureAdvisor AUM does not include underlying *iShares* ETF investments.

Alternatives

BlackRock alternatives focus on sourcing and managing high-alpha investments with lower correlation to public markets and developing a holistic approach to address client needs in alternatives investing. Our alternatives products fall into three main categories — 1) illiquid alternatives, 2) liquid alternatives, and 3) currency and commodities. Illiquid alternatives include offerings in alternative solutions, private equity, opportunistic and credit, real estate and infrastructure. Liquid alternatives include offerings in direct hedge funds and hedge fund solutions (funds of funds).

In 2019, alternatives generated \$24.8 billion of net inflows, or \$30.8 billion excluding return of capital/investment of \$6.0 billion. The largest contributors to return of capital/investment were private equity solutions, opportunistic and credit strategies, real estate and infrastructure. Net inflows were driven by infrastructure, direct hedge funds, real estate, and private equity and opportunistic strategies. At year-end, we had approximately \$24 billion of non-fee paying, unfunded, uninvested commitments, which are expected to be deployed in future years; these commitments are not included in AUM or flows until they are fee-paying.

We believe that as alternatives become more conventional and investors adapt their asset allocation strategies, investors will further increase their use of alternative investments to complement core holdings. Our highly diversified alternatives franchise is well positioned to meet growing demand from both institutional and retail investors.

Component changes in alternatives AUM for 2019 are presented in the table below.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact	December 31, 2019	Memo: return of capital/ investment(1)	Memo: committed capital(2)
Illiquid alternatives:							
Alternative solutions	\$ 3,498	\$ 273	\$ 180	\$ 29	\$ 3,980	\$ (536)	\$ 3,287
Private equity and opportunistic:							
Private equity solutions	13,308	1,095	(16)	(13)	14,374	(2,009)	5,268
Opportunistic and credit strategies	8,671	2,408	51	(21)	11,109	(1,095)	5,228
Long Term Private Capital	—	2,430	—	—	2,430	—	—
Private equity and opportunistic subtotal	21,979	5,933	35	(34)	27,913	(3,104)	10,496
Real assets:							
Real estate	20,262	2,472	1,457	239	24,430	(982)	1,384
Infrastructure	14,088	5,425	(571)	84	19,026	(936)	7,373
Real assets subtotal	34,350	7,897	886	323	43,456	(1,918)	8,757
Total illiquid alternatives	59,827	14,103	1,101	318	75,349	(5,558)	22,540
Liquid alternatives:							
Direct hedge fund strategies	29,330	4,337	2,426	141	36,234	—	—
Hedge fund solutions	22,388	(380)	798	8	22,814	(434)	955
Total Liquid alternatives	51,718	3,957	3,224	149	59,048	(434)	955
Currency and commodities	31,813	6,779	4,969	114	43,675	—	—
Total	\$ 143,358	\$ 24,839	\$ 9,294	\$ 581	\$ 178,072	\$ (5,992)	\$ 23,495

(1) Return of capital/investment is included in outflows.

(2) Amount represents client assets that are uninvested commitments, which are currently non-fee paying and are not included in AUM. These commitments are expected to generate fees and will be counted in AUM and flows as the capital is deployed over time.

Illiquid Alternatives

The Company's illiquid alternatives strategies include the following:

- Alternative Solutions represents highly customized portfolios of alternative investments. In 2019, alternative solutions portfolios had \$0.3 billion of net inflows.
- Private Equity and Opportunistic included \$14.4 billion in private equity solutions, \$11.1 billion in opportunistic and credit offerings, and \$2.4 billion in Long Term Private Capital ("LTPC"). LTPC was launched in 2019, and is a perpetual, direct private equity fund designed to create value for the long-term, limit re-investment risk and operate with lower volatility than comparable vehicles. Net inflows of \$5.9 billion into private equity and opportunistic strategies included \$2.4 billion of net inflows into both LTPC and opportunistic and credit offerings, and \$1.1 billion of net inflows into private equity solutions.
- Real Assets, which includes infrastructure and real estate, totaled \$43.5 billion, reflecting net inflows of \$7.9 billion, led by infrastructure deployments.

Liquid Alternatives

The Company's liquid alternatives products' net inflows of \$4.0 billion were due to net inflows of \$4.3 billion from direct hedge funds, partially offset by \$0.3 billion of net outflows from hedge fund solutions. Direct hedge fund AUM includes a variety of single- and multi-strategy offerings.

Currency and Commodities

The Company's currency and commodities products include a range of active and index products.

Currency and commodities products had \$6.8 billion of net inflows, primarily driven by *iShares* ETFs. *iShares* ETFs commodities products represented \$36.1 billion of AUM and are not eligible for performance fees.

Cash Management

Cash management AUM totaled \$545.9 billion at December 31, 2019, reflecting \$93.1 billion of net inflows. Cash management products include taxable and tax-exempt money market funds, short term investment funds and customized separate accounts. Portfolios are denominated in US dollars, Canadian dollars, Australian dollars, Euros, Swiss Francs, New Taiwan Dollars or British pounds. Strong growth in cash management reflects BlackRock's success in leveraging scale for clients and delivering innovative digital distribution and risk management solutions.

CLIENT REGION

Our footprints in the Americas, EMEA and Asia-Pacific regions reflect strong relationships with intermediaries and an established ability to deliver our global investment expertise in funds and other products tailored to local regulations and requirements.

AUM by product type and client region at December 31, 2019 is presented below.

(in millions)	Americas	EMEA	Asia-Pacific	Total
Equity	\$ 2,708,870	\$ 876,590	\$ 234,869	\$ 3,820,329
Fixed income	1,315,748	777,121	222,523	2,315,392
Multi-asset	388,931	153,067	26,123	568,121
Alternatives	92,145	61,041	24,886	178,072
Long-term	4,505,694	1,867,819	508,401	6,881,914
Cash management	403,742	133,846	8,361	545,949
Advisory	1,518	252	—	1,770
Total	\$ 4,910,954	\$ 2,001,917	\$ 516,762	\$ 7,429,633

Component changes in AUM by client region for 2019 are presented below.

(in millions)	December 31, 2018 ⁽¹⁾	Net inflows (outflows)	Market change	FX impact	December 31, 2019
Americas	\$ 3,931,771	\$ 280,069	\$ 691,361	\$ 7,753	\$ 4,910,954
EMEA	1,615,140	122,787	243,226	20,764	2,001,917
Asia-Pacific	428,907	25,880	59,489	2,486	516,762
Total	\$ 5,975,818	\$ 428,736	\$ 994,076	\$ 31,003	\$ 7,429,633

(1) 2018 AUM reflects the reclassification of \$16.0 billion of aggregate AUM in the Iberia region (primarily Spain) from the Americas to EMEA.

Americas

Net inflows of \$280.1 billion were positive across all asset classes, with net inflows into fixed income, cash, equity, multi-asset and alternatives of \$168.0 billion, \$62.4 billion, \$21.1 billion, \$15.2 and \$13.4 billion, respectively. During the year, we served clients through offices in 32 states in the United States as well as Canada, Mexico, Brazil, Chile and Colombia.

EMEA

EMEA net inflows of \$122.8 billion reflected net inflows into fixed income, cash, equity, alternatives and multi-asset of \$64.7 billion, \$29.4 billion, \$15.9 billion, \$9.3 and \$3.5 billion, respectively. Our offerings include fund families in the United Kingdom, the Netherlands, Luxembourg and Dublin and *iShares* ETFs listed on stock exchanges throughout Europe, as well as separate accounts and pooled investment products.

Asia-Pacific

Asia-Pacific net inflows of \$25.9 billion were primarily due to fixed income net inflows of \$30.9 billion, partially offset by equity net outflows of \$8.6 billion. Clients in the Asia-Pacific region are served through offices in Japan, Australia, Hong Kong, Singapore, Taiwan, Korea, China, and India.

INVESTMENT PERFORMANCE

Investment performance across active and index products as of December 31, 2019 was as follows:

	One-year period	Three-year period	Five-year period
Fixed income:			
Actively managed AUM above benchmark or peer median			
Taxable	87%	86%	89%
Tax-exempt	61%	79%	77%
Index AUM within or above applicable tolerance	95%	98%	91%
Equity:			
Actively managed AUM above benchmark or peer median			
Fundamental	71%	76%	82%
Systematic	54%	84%	82%
Index AUM within or above applicable tolerance	97%	98%	99%

Performance Notes. Past performance is not indicative of future results. Except as specified, the performance information shown is as of December 31, 2019 and is based on preliminary data available at that time. The performance data shown reflects information for all actively and passively managed equity and fixed income accounts, including US registered investment companies, European-domiciled retail funds and separate accounts for which performance data is available, including performance data for high net worth accounts available as of November 30, 2019. The performance data does not include accounts terminated prior to December 31, 2019 and accounts for which data has not yet been verified. If such accounts had been included, the performance data provided may have substantially differed from that shown.

Performance comparisons shown are gross-of-fees for institutional and high net worth separate accounts, and net-of-fees for retail funds. The performance tracking shown for index accounts is based on gross-of-fees performance and includes all institutional accounts and all *iShares* funds globally using an index strategy. AUM information is based on AUM available as of December 31, 2019 for each account or fund in the asset class shown without adjustment for overlapping management of the same account or fund. Fund performance reflects the reinvestment of dividends and distributions.

Performance shown is derived from applicable benchmarks or peer median information, as selected by BlackRock, Inc. Peer medians are based in part on data either from Lipper, Inc. or Morningstar, Inc. for each included product.

TECHNOLOGY SERVICES

BlackRock offers investment management technology systems, risk management services, wealth management and digital distribution tools on a fee basis. *Aladdin* is our proprietary technology platform, which serves as the investment and risk management system for both BlackRock and a growing number of institutional investors around the world. BlackRock offers risk reporting capabilities via the *Aladdin* Risk offering, as well as investment accounting capabilities. *Aladdin* Provider is a tool used by BlackRock's custodial partners, connecting them to the platform to add operational efficiency. BlackRock also offers a number of wealth management technology tools offering digital advice, portfolio construction capabilities and risk analytics for retail distributors. These tools include *Aladdin* Wealth, which provides wealth management firms and their financial professionals with institutional-quality business management, portfolio construction, modeling and risk analytics capabilities, *FutureAdvisor*, a digital wealth management platform that provides financial institutions with technology-enabled investment advisory capabilities to manage their clients' investments, and *Cachematrix*, a leading provider of financial technology which simplifies the cash management process for banks and their corporate clients in a streamlined, open-architecture platform. In 2019, BlackRock completed the acquisition of *eFront*, a leading end-to-end alternative investment management software and solutions provider. *eFront* will continue to be offered on a standalone basis, and, in combination with *Aladdin*, will provide clients with an ability to manage portfolios and risk across public and private asset classes on a single platform.

Technology services revenue of \$974 million was up 24% year-over-year, reflecting the impact of the *eFront* acquisition and continued growth in *Aladdin*. *Aladdin*, which represented the majority of technology services revenue for the year, continues to benefit from trends favoring global investment platform consolidation and multi-asset risk solutions. *Aladdin* assignments are typically long-term contracts that provide recurring revenue.

At year-end, BlackRock technology services clients included banks, insurance companies, official institutions, pension funds, asset managers, asset servicers, retail distributors and other investors across North America, South America, Europe, Asia and Australia.

In addition, BlackRock has made minority investments in the digital distribution companies Scalable Capital and iCapital, Acorns, a micro-investing tool, and Envestnet, a leading independent provider of technology-enabled, web-based investment solutions and services to financial advisors. BlackRock records its share of income related to minority investments accounted for under the equity method in other revenue. BlackRock records gains and losses related to changes in value of other minority investments in nonoperating income (expense).

SECURITIES LENDING

Securities lending is managed by a dedicated team, supported by quantitative analysis, proprietary technology and disciplined risk management. BlackRock receives both cash (primarily for US domiciled portfolios) and noncash collateral under securities lending arrangements. The cash management team invests the cash we receive as collateral for securities on loan in other portfolios. Fees for securities lending for US domiciled portfolios can be structured as a share of earnings, or as a management fee based on a percentage of the value of the cash collateral or both. The value of the securities on loan and the revenue earned are captured in the corresponding asset class being managed. The value of the collateral is not included in AUM.

Outstanding loan balances ended the year at approximately \$290 billion, up from \$267 billion at year-end 2018. On average, relative to 2018, intrinsic lending spreads were slightly lower, while average cash reinvestment rates remained roughly flat. However, continued asset gathering in lending products resulted in increased balances compared to 2018.

BlackRock employs a conservative investment style for cash and securities lending collateral that emphasizes quality, liquidity and interest rate risk management. Disciplined risk management, including a rigorous credit surveillance process, is an integral part of the investment process. BlackRock's Cash Management Credit Committee has established risk limits, such as aggregate issuer exposure limits and maturity limits, across many of the products BlackRock manages, including over all of its cash management products. In the ordinary course of our business, there may be instances when a portfolio may exceed an internal risk limit or when an internal risk limit may be changed. No such instances, individually or in the aggregate, have been material to the Company. To the extent that daily evaluation and reporting of the profile of the portfolios identify that a limit has been exceeded, the relevant portfolio will be adjusted. To the extent a portfolio manager would like to obtain a temporary waiver of a risk limit, the portfolio manager must obtain approval from the credit research team, which is independent from the cash management portfolio managers. While a risk limit may be waived temporarily, such waivers are infrequent.

RISK & QUANTITATIVE ANALYSIS

Across all asset classes, in addition to the efforts of the portfolio management teams, the Risk & Quantitative Analysis ("RQA") group at BlackRock draws on extensive analytical systems and proprietary and third-party data to identify, measure and manage a wide range of risks. RQA provides risk management advice and independent risk oversight of the investment management processes, identifies and helps manage counterparty and enterprise risks, coordinates standards for firm wide investment performance measurement and determines risk management-related analytical and information requirements. Where appropriate, RQA will work with portfolio managers and developers to facilitate the development or improvement of risk models and analytics.

COMPETITION

BlackRock competes with investment management firms, mutual fund complexes, insurance companies, banks, brokerage firms and other financial institutions that offer products that are similar to, or alternatives to, those offered by BlackRock. In order to grow its business, BlackRock must be able to compete effectively for AUM. Key competitive factors include investment performance track records, the efficient delivery of beta for index products, investment style and discipline, price, client service and brand name recognition. Historically, the Company has competed principally on the basis of its long-term investment performance track record, its investment process, its risk management and analytic capabilities and the quality of its client service.

EMPLOYEES

At December 31, 2019, BlackRock had a total of approximately 16,200 employees, including approximately 8,600 located in offices outside the United States.

REGULATION

Virtually all aspects of BlackRock's business are subject to various laws and regulations around the world, some of which are summarized below. These laws and regulations are primarily intended to protect investment advisory clients, investors in registered and unregistered investment companies, and trust and other fiduciary clients of BlackRock Institutional Trust Company, N.A. ("BTC"). Under these laws and regulations, agencies that regulate investment advisers, investment funds and trust banks and other individuals and entities have broad administrative powers, including the power to limit, restrict or prohibit the regulated entity or person from carrying on business if it fails to comply with such laws and regulations. Possible sanctions for significant compliance failures include the suspension of individual employees, limitations on engaging in certain lines of business for specified periods of time, revocation of investment adviser and other registrations or bank charters, censures and fines both for individuals and BlackRock.

The rules governing the regulation of financial institutions and their holding companies and subsidiaries are very detailed and technical. Accordingly, the discussion below is general in nature, does not purport to be complete and is current only as of the date of this report.

GLOBAL REGULATORY REFORM

BlackRock's business may be impacted by numerous regulatory reform initiatives occurring around the world. Any such initiative, or any new laws or regulations or changes to, or in the enforcement of, existing laws or regulations, could materially and adversely impact the scope or profitability of BlackRock's business activities, lead to business disruptions, require BlackRock to alter its business or operating activities and expose BlackRock to additional costs (including compliance and legal costs) as well as reputational harm. BlackRock's profitability also could be materially and adversely affected by modification of the rules and regulations that impact the business and financial communities in general, including changes to the laws governing banking, taxation, antitrust regulation and electronic commerce.

Dodd-Frank Wall Street Reform and Consumer Protection Act

In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") was signed into law in the United States. Dodd-Frank is expansive in scope and requires the adoption of extensive regulations and numerous regulatory decisions, many of which have been adopted. BlackRock has implemented a conformance program to address certain regulations adopted under Dodd-Frank, as well as financial reforms that have been introduced as part of the Securities and Exchange Commission's ("SEC") investment company modernization initiatives. The cost of these conformance activities has been substantially absorbed by BlackRock; however, as certain limited aspects of Dodd-Frank and other rules are still being adopted, it is not yet possible to predict the ultimate effects that any implementation of these rules and regulations will have upon BlackRock's business, financial condition, and operating activities.

Systemically Important Financial Institution ("SIFI") Review

The Financial Stability Oversight Council ("FSOC") has the authority to designate nonbank financial institutions as SIFIs in the United States. In July 2014, the FSOC pivoted from its previous entity-specific approach to designation and indicated that it would focus on a products and activities-based approach to designation in connection with addressing potential risks in the financial system related to asset management. In December 2019, the FSOC re-affirmed this approach when it voted to change its methodology for assessing financial stability to a products and activities-based approach. This reduces the risk of entity-level designation, however the FSOC retains the authority to designate an entity if an activities-based approach does not adequately address potential risks. In the event that BlackRock is designated as a SIFI under Dodd-Frank, it could become subject to enhanced regulatory requirements and direct supervision by the Board of Governors of the Federal Reserve (the "Federal Reserve").

Taxation

BlackRock's businesses may be directly or indirectly affected by tax legislation and regulation, or the modification of existing tax laws, by US or non-US tax authorities. In the US, legislation has been proposed in the House and Senate to enact a financial transaction tax ("FTT") on stocks, bonds and a broad range of financial instruments and derivative transactions. In the European Union ("EU"), certain Member States have also enacted similar FTTs and the European Commission has proposed legislation to harmonize these taxes and provide for the adoption of EU-level legislation applicable to some (but not all) EU Member States. If enacted as proposed, FTTs could have an adverse effect on BlackRock's financial results and clients' performance results.

The application of tax regulations involves numerous uncertainties and, in the normal course of business, US and non-US tax authorities may review and challenge tax positions adopted by BlackRock. These challenges may result in adjustments to, or impact the timing or amount of, taxable income, deductions or other tax allocations, which may adversely affect BlackRock's effective tax rate and overall financial condition. Similarly, the Company manages assets in products and accounts that have investment objectives which may conform to tax positions adopted by BlackRock or to specific tax rules. To the extent there are changes in tax law or policy, or regulatory challenges to tax positions adopted by BlackRock, the value or attractiveness of such investments may be diminished and BlackRock may suffer financial or reputational harm.

Regulation of Swaps and Derivatives

The SEC, Federal Reserve, the Internal Revenue Service ("IRS") and the Commodity Futures Trading Commission ("CFTC") each continue to review practices and regulations relating to the use of futures, swaps and other derivatives. Such reviews could result in regulations that restrict or limit the use of such products by funds or accounts. If adopted, these limitations could require BlackRock to change certain business practices or implement new compliance processes, which could result in additional costs and/or restrictions.

In November 2019, the SEC proposed a rule designed to enhance the regulation of the use of derivatives by registered investment companies, including mutual funds (other than money market funds), ETFs and closed-end funds, as well as business development companies. The proposed rule would permit such funds to use derivatives, such as forwards, futures, swaps and written options, that create future payment obligations, provided that the funds comply with certain conditions including adopting a derivatives risk management program and complying with a limit on the amount of leverage-related risk that a fund may obtain, based on value-at-risk. If adopted without change, the proposed rule would increase BlackRock's disclosure and compliance obligations and may impact certain funds' usage of derivatives and investment strategy.

Jurisdictions outside the US in which BlackRock operates have adopted and implemented, or are in the process of considering, adopting or implementing, more pervasive regulation of many elements of the financial services industry, which could further impact BlackRock and the broader markets. For example, various global rules and regulations applicable to the use of financial products by funds, accounts and counterparties that have been adopted or proposed will require BlackRock to build and implement new compliance monitoring procedures to address the enhanced level of oversight to which it and its clients will be subject. These rules impose requirements such as mandatory central clearing of certain swaps transactions, requiring execution of certain swaps transactions on or through registered electronic trading venues (as opposed to over the phone or other execution methods), reporting transactions to central data repositories, mandating certain documentation standards, requiring the posting and collection of initial and/or variation margin for bilateral swap transactions and subjecting certain types of listed and/or over-the-counter transactions to position limit or position reporting requirements.

In the US, certain interest rate swaps and certain index credit default swaps are subject to Dodd-Frank central clearing and electronic trading venue execution requirements, with additional products and asset classes potentially becoming subject to these requirements in the future. In the EU, central clearing and trading venue requirements for certain swap transactions have become effective for certain types of BlackRock funds and accounts. On March 1, 2017, most derivatives transactions that are not centrally cleared, including non-deliverable foreign exchange forward transactions and currency option transactions, became subject to requirements in the US, EU and numerous other jurisdictions to post or collect mark-to-market margin payments. For certain BlackRock funds and accounts, initial margin requirements may apply in the future in addition to such mark-to-market margin payments. These rules and regulations have the potential to increase the complexity and cost of trading non-cleared derivatives for BlackRock's clients, and may produce regulatory inconsistencies in global derivatives trading rules and increase BlackRock's operational and legal risks.

Regulation of Exchange-Traded Funds

As part of a focus on financial stability issues and due to the significant growth of this product class over the last few years, regulators globally are examining the implications of an increased presence of ETFs in the markets, including those related to transparency, liquidity and structural resiliency. BlackRock and other sponsors of ETFs are working with market participants and regulators to address certain of these issues but there can be no assurance that structural or regulatory reforms will be implemented in a manner favorable to BlackRock, or at all. Depending on the outcome of this renewed regulatory analysis, or any associated structural reforms, ETF products may become subject to increased regulatory scrutiny or restrictions, which may require BlackRock to incur additional compliance and reporting expenses and adversely affect the Company's business.

In addition, in September 2019, the SEC adopted rule 6c-11 under the Investment Company Act of 1940 (the "Investment Company Act") known as the "ETF Rule". The ETF Rule will allow ETFs that satisfy certain conditions to operate without first obtaining individual exemptive relief from the SEC. The ETF Rule is designed to create a clear and consistent regulatory framework for most ETFs operating today and will impact all BlackRock ETFs registered under the Investment Company Act (including *iShares* ETFs). The ETF Rule and related form amendments became effective in December 2019. The form amendments will have a transition period of one year following the effective date. In addition, the ETF Rule rescinds, one year after its effective date, the existing exemptive relief for all eligible ETFs (including *iShares* ETFs).

Volcker Rule

Provisions of Dodd-Frank referred to as the "Volcker Rule" created a new section of the Bank Holding Company Act of 1956 (the "Bank Holding Company Act") that places limitations on the ability of banks and their subsidiaries to engage in proprietary trading and to invest in and transact with certain private investment funds, including hedge funds, private equity funds and funds of funds (collectively "covered funds"). The Bank Holding Company Act by its terms does not currently apply to BlackRock. The Federal Reserve has taken the position that PNC's ownership interest in BlackRock, which is approximately 22%, in combination with certain other factors, causes BlackRock to be treated as a nonbank subsidiary of PNC for the purpose of the Bank Holding Company Act and that BlackRock is subject to banking regulation. Based on this interpretation of the Bank Holding Company Act, the Federal Reserve could initiate a process to formally determine that PNC controls BlackRock under the terms of the Bank Holding Company Act. Any such determination, if successful, would subject BlackRock to current and future regulatory requirements under the Bank Holding Company Act, including the Volcker Rule. Conformance with the Volcker Rule may require BlackRock to sell certain seed and co-investments that it holds in its covered funds, which may occur at a discount to existing carrying value depending on market conditions.

Standards of Conduct Rulemaking

In June 2019, the SEC adopted a package of rulemakings and interpretations addressing investment adviser and broker-dealer standards of conduct. The package includes new rules requiring registered advisers and registered broker-dealers to provide a relationship summary to retail investors, a new rule establishing a standard of conduct for broker-dealers when making recommendations to retail customers and two new interpretations under the Investment Advisers Act of 1940 (the "Advisers Act"). The rulemakings and interpretations could increase BlackRock's disclosure obligations, impact distribution arrangements between BlackRock and its distribution partners, create compliance and operational challenges for BlackRock's distribution partners and limit BlackRock's ability to provide certain other services to its clients. The Department of Labor ("DoL") has also indicated it intends to propose a standards of conduct rule in 2020.

SEC Guidance on Proxy Voting Responsibilities of Investment Advisors

In August 2019, the SEC published guidance to assist investment advisers with their proxy voting responsibilities under the Advisers Act. The guidance confirmed that investment advisers' fiduciary duties of care and loyalty to their clients apply to proxy voting and encouraged advisors with voting authority to review their policies and procedures in detail and consider whether more analysis may be required under certain circumstances, including when a proxy advisory firm's services are retained. This guidance could impact voting arrangements between BlackRock and its clients, and lead to additional compliance, operational and disclosure obligations for BlackRock.

Financial Crimes Enforcement Network Proposed Rulemaking for Registered Investment Advisers

In 2015, the Financial Crime Enforcement Network ("FinCEN") issued a Notice of Proposed Rulemaking ("Proposed Rule") that would extend to a number of BlackRock's subsidiaries, which are registered or required to be registered as investment advisers with the SEC under the Advisers Act, the requirement to establish written risk-based anti-money laundering programs and report suspicious activity to FinCEN under the Bank Secrecy Act of 1970 (the "Bank Secrecy Act"). The Proposed Rule would include investment advisers within the Bank Secrecy Act's definition of "financial institutions", which would require them to comply with the Bank Secrecy Act reporting and recordkeeping requirements. If adopted in its current form, the Proposed Rule would expose BlackRock to additional compliance costs.

Securities and Exchange Commission Rulemakings for US Registered Funds and Investment Advisers

BlackRock's business may also be impacted by SEC regulatory initiatives. The SEC and its staff are engaged in various initiatives and reviews that seek to improve and modernize the regulatory structure governing the asset management industry, and registered investment companies in particular. These efforts relate to, among other things, embedded leverage through the use of derivatives and other trading practices, cybersecurity, liquidity, enhanced regulatory and public reporting requirements and the evaluation of systemic risks. The SEC has adopted rules that include (i) new monthly and annual reporting requirements for certain US registered funds; (ii) enhanced reporting regimes for investment advisers; and (iii) implementing liquidity risk management programs for ETFs and open-end funds, other than money market funds. These rules increase, and any additional rules or regulatory initiatives resulting from the SEC's efforts may increase, BlackRock's public reporting and disclosure requirements, which could be costly and may impede BlackRock's growth.

US Executive Order

On February 3, 2017, an executive order (the "Executive Order") was issued articulating certain core principles for regulating the US financial system and directing the Secretary of the US Treasury to report on the extent to which existing laws, treaties, rules, regulations and policies promote, support or inhibit the federal regulation of the US financial system in a manner consistent with the core principles. Treasury has issued four reports in response to the Executive Order (the "Treasury Reports"), which include a number of recommendations, the majority of which require further legislative or regulatory action in order to be implemented, that may affect BlackRock's business or operations. BlackRock will continue to monitor the potential impact of the Executive Order, as well as the Treasury Reports and any consequential legislative or regulatory action, on its business.

British Exit from the EU

Following the June 2016 vote to exit the EU, commonly referred to as Brexit, the United Kingdom ("UK") left the EU on January 31, 2020 and entered an eleven-month transition period during which the UK, and UK-based entities, will retain the rights and obligations of EU membership.

Substantial uncertainty remains surrounding the future relationship between the UK and EU, but the UK government has indicated its preference for negotiating a trade deal with the EU before the end of the transition period rather than continuing Single Market or Customs Union membership. BlackRock is implementing a number of steps to prepare for various outcomes, including there being no agreement in place when the transition period expires. These steps, many of which are time consuming and costly, include effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications, and are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the future relationship between the UK and the EU, BlackRock may experience further organizational and operational challenges and incur additional costs in connection with its European operations during the transition period and post-Brexit, which may impede the Company's growth or impact its financial performance.

Reform of Investment Markets

BlackRock is subject to numerous regulatory reform initiatives that may affect the Company's provision of investment services globally. In Europe, the Markets in Financial Instruments Directive ("MiFID") governing the provision of investment services has been revised and is accompanied by an associated Regulation (together with certain secondary regulation, "MiFID II"). The Regulation's requirements generally apply consistently across the EU. The MiFID II reforms, which came into force in January 2018, are substantive, materially changing market transparency requirements, enhancing protections afforded to investors, and increasing operational complexity for the Company. New disclosure and reporting obligations have been introduced, together with restrictions on how research may be funded and the nature of payments that may be provided to distributors. MiFID II, together with other market structure reforms, force more derivatives to be traded on-exchange, introduce new commodity derivatives position limits and significantly enhance reporting obligations associated with individual trades. The broad nature of the MiFID II reforms impact BlackRock's product development, client servicing and distribution models. In particular, additional disclosures are required to be made in respect of costs and fees BlackRock charges to certain of its clients. MiFID II also impacts the ability of certain of BlackRock's distribution partners to accept commissions from BlackRock for distributing BlackRock funds. Similar reforms have been introduced in Switzerland and Australia.

EU Market Access

The European Commission and certain EU Member States have recently advanced a more restrictive approach to the need for a third country (i.e. non-EU country) to obtain “equivalence,” which is the process by which the legal, regulatory, and/or supervisory system in non-EU Member States is recognised by the European Commission as comparably effective to that in the EU, thereby allowing firms established in such non-EU Member States a degree of access to the EU single market in financial services. In addition, in 2019, the European Commission commenced a review of the Alternative Investment Fund Managers Directive to assess, among other things, the effectiveness of regulation on third country fund marketing passports and the continuation of national private placement regimes. To the extent the review results in formal legislation that limits the scope of existing permitted activities and EU market access rights for asset management firms with non-EU operations, BlackRock’s ability to access EU-based clients may be adversely affected.

Cessation of LIBOR

The Financial Conduct Authority (“FCA”), which regulates the administrator of the London Interbank Offered Rate (LIBOR) has announced that it will no longer compel panel banks to submit rates for LIBOR after year-end 2021. As a result, sterling LIBOR and certain other indices which are utilized as benchmarks may no longer be published. The disappearance, or change in the manner of administration, of these benchmarks could result in adverse consequences to the return on, value of and market for any BlackRock investments in instruments and securities linked to such benchmarks. BlackRock may also face operational challenges adopting successor benchmarks.

Revised EU Capital Requirements for Investment Firms

In December 2017, the European Commission published a proposal for a new Directive and Regulation on prudential requirements for MiFID investment firms. The proposal passed the EU legislative process and the final texts of the Regulation and Directive were published in December 2019. The new legislative package, which comes into effect in 2021, will result in changes to the amount of regulatory capital BlackRock is required to hold in the EU and how such capital is calculated, as well as introduce revised disclosure obligations for large investment firms.

UK Asset Management Market Study

The FCA has adopted requirements for UK fund managers to assess whether the retail collective investments they manage offer “value” to investors. Beginning in 2020, BlackRock will be required annually to disclose the conclusions of its assessment based upon various factors including cost, performance and comparable services. If “value” has not been provided to consumers, BlackRock will need to address any identified deficiencies. The FCA also requested that the UK’s Competition and Markets Authority (“CMA”) assess the investment consultant and fiduciary markets. The CMA’s final report identified a number of competition issues in such markets and the UK regulatory regime will be revised in 2020 to introduce mandatory tendering of investment consultancy and fiduciary management services, and new standards of disclosure of fees and performance. The CMA’s remedies could have a significant impact on BlackRock’s ability to enter into fiduciary and investment management mandates with UK pension fund clients.

Macroprudential Policies for Asset Managers

Certain European policymakers continue to raise concerns about liquidity and leverage risks in the asset management industry and wider market-based finance sector. These concerns may lead to macroprudential policy measures being applied to open-ended investment funds broadly, or regulation being introduced that requires changes to the structural features of certain open-ended investment funds. Either eventuality could limit BlackRock’s ability to offer products to certain clients and/or result in clients altering their investment strategies or allocations in a manner that is adverse to BlackRock.

Senior Managers and Certification Regime

In the UK, the FCA extended the Senior Managers and Certification Regime (“SMCR”) to all financial services firms in December 2019. The regime imposes greater accountability and responsibility across the senior management of UK financial services firms by making individuals in impacted firms more accountable for conduct and competence. SMCR impacts nearly all staff of the Company in the UK, and requires extensive documentation to support senior managers and evidence the discharge of their responsibilities.

EU Shareholder Rights Directive

The European Commission has revised the Shareholder Rights Directive to enhance engagement between companies and their long-term shareholders. The revisions, which became effective in June 2019, require investment managers to provide EU institutional investors with enhanced disclosures on shareholder engagement and voting, and information on how the manager’s investment strategy contributes to such investors’ medium to long-term performance.

EU Sustainability Regulation

In 2018, the European Commission introduced a number of regulatory proposals to underpin sustainable investment products; require disclosure of sustainability-related information by market participants, investments products, and issuers; and require the integration of sustainability considerations into the investment and risk management processes of asset managers and other institutional investors. Rules arising from the reform proposals will come into effect beginning in 2021.

EXISTING US REGULATION - OVERVIEW

BlackRock and certain of its US subsidiaries are currently subject to extensive regulation, primarily at the federal level, by the SEC, the DoL, the Federal Reserve, the Office of the Comptroller of the Currency (“OCC”), the Financial Industry Regulatory Authority (“FINRA”), the National Futures Association (“NFA”), the CFTC and other federal government agencies and regulatory bodies.

Certain of BlackRock’s US subsidiaries are also subject to various anti-terrorist financing, privacy, anti-money laundering and economic sanctions laws and regulations established by various agencies. In addition, the Advisers Act imposes numerous obligations on registered investment advisers such as BlackRock, including record-keeping, operational and marketing requirements, disclosure obligations and prohibitions on fraudulent activities. State level regulation through Attorneys General, Insurance Commissioners and other state level agencies also applies to certain BlackRock activities.

The Investment Company Act imposes stringent governance, compliance, operational, disclosure and related obligations on registered investment companies and their investment advisers and distributors, such as BlackRock and its affiliates. The SEC is authorized to institute proceedings and impose sanctions for violations of the Advisers Act and the Investment Company Act, ranging from fines and censure to termination of an investment adviser’s registration. Investment advisers also are subject to certain state securities laws and regulations. Non-compliance with the Advisers Act, the Investment Company Act or other federal and state securities laws and regulations could result in investigations, sanctions, disgorgement, fines and reputational damage.

BlackRock’s trading and investment activities for client accounts are regulated under the Securities Exchange Act of 1934 (the “Exchange Act”), as well as the rules of various securities exchanges and self-regulatory organizations, including laws governing trading on inside information, market manipulation and a broad number of technical requirements (e.g., short sale limits, volume limitations and reporting obligations) and market regulation policies. Violation of any of these laws and regulations could result in fines or sanctions, as well as restrictions on BlackRock’s activities and damage to its reputation. Furthermore, one of BlackRock’s subsidiaries, BTC, was required to register as a municipal advisor (as that term is defined in the Exchange Act) with the SEC and Municipal Securities Rulemaking Board (“MSRB”) as a result of SEC rules giving effect to a section of Dodd-Frank requiring such registration. The rules subject BTC to new and additional regulation by the SEC and MSRB.

BlackRock manages a variety of private pools of capital, including hedge funds, funds of hedge funds, private equity funds, collateralized debt obligations, collateralized loan obligations (“CLOs”), real estate funds, collective investment trusts, managed futures funds and hybrid funds. Congress, regulators, tax authorities and others continue to explore, on their own and in response to demands from the investment community and the public, increased regulation related to private pools of capital, including changes with respect to investor eligibility, certain limitations on trading activities, record-keeping and reporting, the scope of anti-fraud protections, safekeeping of client assets and a variety of other matters. BlackRock may be materially and adversely affected by new legislation, rule-making or changes in the interpretation or enforcement of existing rules and regulations imposed by various regulators in this area.

Certain BlackRock subsidiaries are subject to the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and to regulations promulgated thereunder by the DoL, insofar as they act as a “fiduciary” under ERISA with respect to benefit plan clients that are subject to ERISA. ERISA and applicable provisions of the Internal Revenue Code impose certain duties on persons who are fiduciaries under ERISA, prohibit certain transactions involving ERISA plan clients and impose excise taxes for violations of these prohibitions, mandate certain required periodic reporting and disclosures and require certain BlackRock entities to carry bonds insuring against losses caused by fraud or dishonesty. ERISA also imposes additional compliance, reporting and operational requirements on BlackRock that otherwise are not applicable to clients that are not subject to ERISA.

BlackRock has seven subsidiaries that are registered as commodity pool operators (“CPOs”) and/or commodity trading advisors (“CTAs”) with the CFTC and are members of the NFA. The CFTC and NFA each administer a comparable regulatory system covering futures contracts and various other financial instruments, including swaps as a result of Dodd-Frank, in which certain BlackRock clients may invest. Two of BlackRock’s subsidiaries are registered with the SEC as broker-dealers and are member-firms of FINRA. Each broker-dealer has a membership agreement with FINRA that limits the scope of such broker-dealer’s permitted activities. One of the broker-dealers is also an approved person with the New York Stock Exchange and a member of the MSRB, subject to MSRB rules.

Certain of BlackRock’s business activity in California is subject to the California Consumer Privacy Act (“CCPA”), which became effective in January 2020 and which provides for enhanced consumer protections for California residents. The CCPA imposes new obligations on BlackRock for the handling, disclosure and deletion of personal information for California residents. Any failure by BlackRock to comply with the CCPA may result in fines, enhanced regulatory scrutiny and/or reputational harm.

US Banking Regulation

One of BlackRock’s subsidiaries, BTC, is organized as a nationally-chartered limited purpose trust company that does not accept deposits or make commercial loans. Accordingly, BTC is examined and supervised by the OCC and is subject to various banking laws and regulations enforced by the OCC, such as laws and regulations governing capital adequacy, fiduciary activities, conflicts of interest, self-dealing, and the prevention of financial crime, including money laundering. BTC is also a member of the Federal Reserve System and is subject to various Federal Reserve regulations applicable to member institutions, such as regulations restricting transactions with affiliates. Many of these laws and regulations are meant for the protection of BTC and/or BTC’s customers rather than BlackRock, its affiliates or stockholders.

As described in “Item 1-Business”, as of December 31, 2019 PNC owned approximately 22% of BlackRock’s capital stock, which may subject BlackRock to banking regulation as a nonbank subsidiary of PNC. The Bank Holding Company Act by its terms does not currently apply to BlackRock. The Federal Reserve has taken the position that this ownership interest, in combination with certain other factors, causes BlackRock to be treated as a nonbank subsidiary of PNC for the purpose of the Bank Holding Company Act and that BlackRock is subject to banking regulation. Based on this interpretation of the Bank Holding Company Act, the Federal Reserve could initiate a process to formally determine that PNC controls BlackRock under the terms of the Bank Holding Company Act. Any such determination, if successful, would subject BlackRock to current and future regulatory requirements under the Bank Holding Company Act, including the Volcker Rule, that are

more restrictive than those the Company is subject to under other applicable laws, as well as the enforcement authority of the Federal Reserve, which includes the power to impose substantial fines and other penalties for violations. Any effort by BlackRock to contest a control determination by the Federal Reserve may be costly and complex, and may not result in a reversal of such determination.

Regulation of Securities Financing Transactions

In its 2014 Annual Report, FSOC identified securities lending indemnification by asset managers who act as lending agents as a potential systemic risk that required further review and monitoring. The Federal Reserve is also considering whether to impose specific margin or minimum haircut requirements for securities financing transactions. In addition, in November 2015, the EU introduced a regulation on the reporting and transparency of securities financing transactions and total return swaps ("SFTR"). The SFTR aims to improve the transparency surrounding securities financing transactions and total return swaps by, among other things, requiring reporting of securities financing transactions to a trade repository and requiring disclosure of the use of securities financing transactions and total return swaps to investors. The regulation is being implemented in phases and more detailed rules and guidance, including in respect of reporting obligations, is in process. As these rules and guidance become clearer, BlackRock may be required to introduce further compliance measures, which will subject BlackRock to additional expenses and could lead to modifications in BlackRock's securities financing transaction activities, including potential adjustments to its activities as agent lender for its clients.

Regulation of Money Market Funds

In October 2016, rules were implemented to reform the regulatory structure governing US money market funds to address perceived systemic risks of money market funds. The rules require institutional prime and institutional municipal money market funds to employ a floating net asset value per share method of pricing, which allows the daily share prices of these funds to fluctuate along with changes in the market-based value of fund assets. Retail money market funds continue operating with a constant net asset value per share. The rules additionally provide for tools for institutional and retail money market funds' boards designed to address market shocks, including the ability to impose liquidity fees and redemption gates under certain circumstances.

EXISTING INTERNATIONAL REGULATION — OVERVIEW

BlackRock's international operations are subject to the laws and regulations of a number of international jurisdictions, as well as oversight by numerous regulatory agencies and bodies in those jurisdictions. In some instances, these operations are also affected by US laws and regulations that have extra-territorial application.

Below is a summary of certain international regulatory standards to which BlackRock is subject. It is not meant to be comprehensive as there are parallel legal and regulatory arrangements in force in many jurisdictions where BlackRock's subsidiaries conduct business.

Of note among the various other international regulations to which BlackRock is subject, are the extensive and complex regulatory reporting requirements that necessitate the monitoring and reporting of issuer exposure levels (thresholds) across the holdings of managed funds and accounts and those of the Company.

European Regulation

The FCA currently regulates certain BlackRock subsidiaries in the UK. It also prudentially regulates those UK subsidiaries' branches established in other EU countries and is also responsible for the conduct of business regulation of the UK branches of certain of BlackRock's US subsidiaries. In addition, the Prudential Regulation Authority ("PRA") regulates one BlackRock UK insurance subsidiary. Authorization by the FCA and (where relevant) the PRA is required to conduct certain financial services-related business in the UK under the Financial Services and Markets Act 2000 (the "FSMA"). The FCA's rules adopted under the FSMA govern the majority of a firm's capital resources requirements, senior management arrangements, conduct of business, interaction with clients, and systems and controls, whereas the rules of the PRA focus solely on the prudential requirements that apply to BlackRock's UK-based insurance subsidiary. The FCA supervises BlackRock's UK-regulated subsidiaries through a combination of proactive engagement, event-driven and reactive supervision and theme-based reviews in order to monitor BlackRock's compliance with regulatory requirements. Breaches of the FCA's rules may result in a wide range of disciplinary actions against BlackRock's UK-regulated subsidiaries and/or its employees.

In addition, BlackRock has regulated entities in France, Germany, Ireland, Jersey, Luxembourg, the Netherlands and Switzerland. Each of these entities is required to comply with regulatory rules in the country in which it has been established.

BlackRock's UK-regulated subsidiaries and other European subsidiaries and branches must comply with the pan-European regulatory regime established by MiFID II, which regulates the provision of investment services and activities throughout the EU. MiFID II sets out detailed requirements governing the organization and conduct of business of investment firms and regulated markets. It also includes pre- and post-trade transparency requirements for equity and non-equity markets and extensive transaction reporting requirements. Certain BlackRock European subsidiaries must also comply with the Consolidated Life Directive and Insurance Distribution Directive. In addition, relevant entities must comply with revised obligations on capital resources for banks and certain investment firms (the Capital Requirements Directive and Capital Requirements Regulation). These include requirements on capital, as well as matters of governance and remuneration. Relevant BlackRock entities must also comply with the requirements of the Alternative Investment Fund Managers Directive, which imposes obligations on the authorization and capital, conduct of business, organization, transparency and marketing of alternative investment funds that are sold in, or marketed to, the EU. The obligations introduced through these regulations and directives will have a direct effect on some of BlackRock's European operations.

BlackRock's EU-regulated subsidiaries are also subject to the European Market Infrastructure Regulation ("EMIR"), an EU regulation governing derivatives, central counterparties and trade repositories, which requires (i) the central clearing of standardized over-the-counter ("OTC") derivatives, (ii) the application of risk-mitigation techniques to non-centrally cleared OTC derivatives (including the exchange of collateral with

certain counterparties) and (iii) the reporting of all derivative contracts to a European Securities and Markets Authority registered or recognized derivatives trade repository.

The EU has also adopted directives on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities ("UCITS"). The latest initiative in this area, UCITS V, aligns the UCITS depositary regime, UCITS remuneration rules and regulators' power to sanction for breaches of the UCITS Directive with the requirements of the Alternative Investment Fund Managers Directive. Compliance with the UCITS directive subjects BlackRock to additional expenses associated with depositary oversight and other organizational requirements.

Most EU Member States and other non-US jurisdictions have adopted statutes and/or regulations concerning data privacy and security and requiring notification of data breaches. For example, in May 2018, the EU Data Protection Directive was replaced by a more extensive General Data Protection Regulation ("GDPR"). GDPR, as well as other statutes and/or regulations concerning data privacy and security, increase compliance obligations, affect BlackRock's collection, processing and retention of personal data and reporting of data breaches, and provide for increased penalties for non-compliance.

Regulation in the Asia-Pacific Region

In Japan, a BlackRock subsidiary is subject to the Financial Instruments and Exchange Act ("FIEA") and the Act on Investment Trusts and Investment Corporations. These laws are administered and enforced by the Japanese Financial Services Agency ("JFSA"), which establishes standards for compliance, including capital adequacy and financial soundness requirements, customer protection requirements and conduct of business rules. The JFSA is empowered to conduct administrative proceedings that can result in censure, fines, cease and desist orders or the suspension or revocation of registrations and licenses granted under the FIEA. This Japanese subsidiary also holds a license for real estate brokerage activities which subjects it to the regulations set forth in the Real Estate Brokerage Act.

In Australia, BlackRock's subsidiaries are subject to various Australian federal and state laws, and certain subsidiaries are regulated by the Australian Securities and Investments Commission ("ASIC"). ASIC regulates companies and financial services activities in Australia and is responsible for promoting investor, creditor and consumer protection.

The activities of certain BlackRock subsidiaries in Hong Kong are subject to the Securities and Futures Ordinance ("SFO"), which governs the securities and futures markets and regulates, among others, offers of investments to the public and provides for the licensing of intermediaries. The SFO is administered by the Securities and Futures Commission ("SFC"). The SFC is also empowered to establish standards for compliance as well as codes and guidelines. The relevant BlackRock subsidiaries and the employees conducting any of the regulated activities specified in the SFO are required to be licensed with the SFC, and are subject to the rules, codes and guidelines issued by the SFC. BlackRock's operations in Taiwan are regulated by the Taiwan Financial Supervisory Commission, which is responsible for regulating securities markets (including the Taiwan Stock Exchange and the Taiwan Futures Exchange), the banking industry and the insurance sector.

Other financial regulators oversee BlackRock subsidiaries, branches, and representative offices across the Asia-Pacific region, including in Singapore and South Korea. Regulators in all of these jurisdictions have authority with respect to financial services including, among other things, the authority to grant, suspend or cancel required licenses or registrations. In addition, these regulators may subject certain BlackRock subsidiaries to net capital requirements.

AVAILABLE INFORMATION

BlackRock files annual, quarterly and current reports, proxy statements and all amendments to these reports and other information with the SEC. BlackRock makes available free-of-charge, on or through its website at <http://www.blackrock.com>, the Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements and all amendments to those filings, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. The Company also makes available on its website the charters for the Audit Committee, Management Development and Compensation Committee, Nominating and Governance Committee and Risk Committee of the Board of Directors, its Code of Business Conduct and Ethics, its Code of Ethics for Chief Executive and Senior Financial Officers and its Corporate Governance Guidelines. Further, BlackRock will provide, without charge, upon written request, a copy of the Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements and all amendments to those filings as well as the committee charters, its Code of Business Conduct and Ethics, its Code of Ethics for Chief Executive and Senior Financial Officers and its Corporate Governance Guidelines. Requests for copies should be addressed to Investor Relations, BlackRock, Inc., 55 East 52nd Street, New York, New York 10055. Reports, proxy statements and other information regarding issuers that file electronically with the SEC, including BlackRock's filings, are also available to the public from the SEC's website at <http://www.sec.gov>.

Item 1A. Risk Factors

As a global investment management firm, risk is an inherent part of BlackRock's business. Global markets, by their nature, are prone to uncertainty and subject participants to a variety of risks. While BlackRock devotes significant resources across all of its operations to identify, measure, monitor, manage and analyze market, operating, legal, compliance, fiduciary and investment risks, BlackRock's business, financial condition, operating results and nonoperating results could be materially adversely affected and the Company's stock price could decline as a result of any of these risks and uncertainties, including the ones discussed below.

MARKET AND COMPETITION RISKS

Changes in the value levels of equity, debt, real assets, commodities, foreign exchange or other asset markets may cause assets under management ("AUM"), revenue and earnings to decline.

BlackRock's investment management revenue is primarily comprised of fees based on a percentage of the value of AUM and, in some cases, performance fees which are normally expressed as a percentage of returns to the client. Numerous factors, including price movements in the equity, debt or currency markets, or in the price of real assets, commodities or alternative investments in which BlackRock invests, could cause:

- the value of AUM, or the returns BlackRock realizes on AUM, to decrease;
- the withdrawal of funds from BlackRock's products in favor of products offered by competitors;
- the rebalancing or reallocating of assets into BlackRock products that yield lower fees;
- an impairment to the value of intangible assets and goodwill; or
- a decrease in the value of seed or co-investment capital.

The occurrence of any of these events may cause the Company's AUM, revenue and earnings to decline.

Changes in interest or foreign exchange rates and/or divergent beta may cause BlackRock's AUM and base fees to fluctuate and introduce volatility to the Company's net income and operating cash flows.

In recent years, there have been prolonged periods of historically low interest rates, interspersed with periods in which certain central banks globally began increasing rates. BlackRock's business is directly and indirectly affected by changes in global interest rates. Similarly, due to the global nature of BlackRock's operations, a portion of its business is conducted in currencies other than the U.S. dollar. Any failure by BlackRock to manage movements in foreign exchange rates relative to the U.S. dollar or its exposure to interest rates may cause BlackRock's AUM to fluctuate and introduce volatility to the Company's base fees, net income and operating cash flows.

In addition, beta divergence between equity markets, where certain markets perform differently than others, may lead to an increase in the proportion of BlackRock AUM weighted toward lower fee equity products, resulting in a decline in BlackRock's effective fee rate. Divergent market factors may also erode the correlation between the growth rates of AUM and base fees.

BlackRock's investment advisory contracts may be terminated or may not be renewed by clients or fund boards on favorable terms and the liquidation of certain funds may be accelerated at the option of investors.

BlackRock derives a substantial portion of its revenue from providing investment advisory services. The advisory or management contracts BlackRock has entered into with its clients, including the agreements that govern many of BlackRock's investment funds, provide investors or, in some cases, the independent directors of applicable investment funds, with significant latitude to terminate such contracts, withdraw funds or liquidate funds by simple majority vote with limited notice or penalty, or to remove BlackRock as a fund's investment advisor (or equivalent). BlackRock also manages its US mutual funds, closed-end and exchange-traded funds under management contracts that must be renewed and approved annually by the funds' respective boards of directors, a majority of whom are independent from the Company. BlackRock's fee arrangements under any of its advisory or management contracts may be reduced (including at the behest of a fund's board of directors). In addition, if a number of BlackRock's clients terminate their contracts, or otherwise remove BlackRock from its advisory roles, liquidate funds or fail to renew management contracts on favorable terms, the fees or carried interest BlackRock earns could be reduced, which may cause BlackRock's AUM, revenue and earnings to decline.

The failure or negative performance of products offered by competitors may cause AUM in similar BlackRock products to decline irrespective of BlackRock's performance.

Many competitors offer similar products to those offered by BlackRock and the failure or negative performance of competitors' products could lead to a loss of confidence in similar BlackRock products, irrespective of the performance of such products. Any loss of confidence in a product type could lead to withdrawals, redemptions and liquidity issues in such products, which may cause the Company's AUM, revenue and earnings to decline.

Increased competition may cause BlackRock's AUM, revenue and earnings to decline.

The investment management industry is highly competitive and BlackRock competes based on a number of factors including: investment performance, its technology and portfolio construction offerings, the level of fees charged, the quality and breadth of services and products provided, name recognition and reputation, and the ability to develop new investment strategies and products to meet the changing needs of investors. In addition, the introduction of new technologies, as well as regulatory changes, have altered the competitive landscape for investment managers, which may lead to additional fee compression or require BlackRock to spend more to modify or adapt its product offerings to attract and retain customers and remain competitive with products and services offered by other financial institutions, technology companies, trading, advisory or asset management firms. Increased competition on the basis of any of these factors, including competition leading to fee reductions on existing or new business, may cause the Company's AUM, revenue and earnings to decline.

Failure to maintain Aladdin's competitive position in a dynamic market could lead to a loss of clients and could impede BlackRock's productivity and growth.

The sophisticated risk analytics, portfolio management, trade execution and investment operations that BlackRock provides via its technology platform to support investment advisory and *Aladdin* clients are important elements of BlackRock's competitive success. *Aladdin*'s competitive position is based in part on its ability to combine risk analytics with portfolio management, trading and operations tools on a single platform. Increased competition from risk analytics and investment management technology providers, including as a result of growing industry consolidation giving rise to competitors with increasingly sophisticated and comprehensive product offerings, or a shift in client demand away to standalone or internally developed solutions, whether due to price competition, perceived client market share, platform flexibility or market-based or regulatory factors, may weaken *Aladdin*'s competitive position and may cause the Company's revenue and earnings to decline. In addition, to the extent that *Aladdin* competitors are able to innovate more effectively than BlackRock or leverage delivery models that provide clients faster time to market, lower costs or the ability to more seamlessly combine or bundle with other service offerings, BlackRock may lose existing clients or fail to capture future market share, which may impede its productivity and growth. Moreover, although BlackRock takes steps to safeguard against infringements of its intellectual property, there can be no assurance that the Company will be able to effectively protect and enforce its intellectual property rights in *Aladdin*.

BlackRock may be unable to develop new products and services and the development of new products and services may expose BlackRock to reputational harm, additional costs or operational risk.

BlackRock's financial performance depends, in part, on its ability to react to changes in the asset management industry, respond to evolving client demands and develop, market and manage new investment products and services. Conversely, the development and introduction of new products and services, including the creation of products with a focus on environmental, social and governance ("ESG") matters, requires continued innovative effort on the part of BlackRock and may require significant time and resources as well as ongoing support and investment. Substantial risk and uncertainties are associated with the introduction of new products and services, including the implementation of new and appropriate operational controls and procedures, shifting client and market preferences, the introduction of competing products or services and compliance with regulatory requirements. There can be no assurance that BlackRock will be able to innovate effectively in order to develop new products or services that address the needs of its clients on the timescale they require. Any failure to develop new products and services, or successfully manage associated operational risks, could harm BlackRock's reputation and expose the Company to additional costs, which may cause its AUM, revenue and earnings to decline.

Changes in the value of seed and co-investments that BlackRock owns could affect its income and could increase the volatility of its earnings.

At December 31, 2019, BlackRock's net economic investment exposure of approximately \$2.7 billion in its investments (see "Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations-Investments") primarily resulted from co-investments and seed investments in its sponsored investment funds. Movements in the equity, debt or currency markets, or in the price of real assets, commodities or other alternative investments, could lower the value of these investments as well as other minority investments, increase the volatility of BlackRock's earnings and cause earnings to decline.

BlackRock indemnifies certain securities lending clients for specified losses as a result of a borrower default.

BlackRock provides borrower default indemnification to certain of its securities lending clients. In the event of a borrower default, BlackRock would use the collateral pledged by the borrower to repurchase securities out on loan in order to replace them in a client's account. Borrower default indemnification is limited to the shortfall that occurs in the event the collateral available at the time of the borrower's default is insufficient to repurchase those securities out on loan. BlackRock requires all borrowers to mark to market their pledged collateral daily to levels in excess of the value of the securities out on loan to mitigate the likelihood of the indemnity being triggered. Where the collateral is in the form of cash, the indemnities BlackRock provides do not guarantee, assume or otherwise insure the investment performance or return of any cash collateral vehicle into which that cash collateral is invested. The amount of securities on loan as of December 31, 2019 and subject to this type of indemnification was \$210 billion. In the Company's capacity as lending agent, cash and securities totaling \$226 billion was held as collateral for indemnified securities on loan at December 31, 2019. Significant borrower defaults occurring simultaneously with rapid declines in the value of collateral pledged and/or increases in the value of the securities loaned may create collateral shortfalls, which could result in material liabilities under these indemnities and may cause the Company's revenue and earnings to decline.

BlackRock's decision to provide support to particular products from time to time, or the inability to provide support, may cause AUM, revenue and earnings to decline.

While not legally mandated, BlackRock may, at its option, from time to time choose to support investment products through capital or credit support for commercial or other reasons. Such support may utilize capital and liquidity that would otherwise be available for other corporate purposes. Losses on such support, as well as regulatory restrictions on the Company's ability to provide such support or the failure to have available or devote sufficient capital or liquidity to support products, may cause AUM, revenue and earnings to decline.

Increased geopolitical unrest and other events outside of BlackRock's control could adversely affect the global economy or specific international, regional and domestic markets, which may cause BlackRock's AUM, revenue and earnings to decline.

Geopolitical risks, including those arising from trade tension, European fragmentation, unrest in the Middle East, Brexit negotiations and terrorist activity, as well as acts of civil or international hostility, are increasing. Similarly, other events outside of BlackRock's control, including natural disasters, pandemics or health crises (such as the coronavirus), may arise from time to time. Any such events, and responses thereto, may cause significant volatility and declines in the global markets, disruptions to commerce (including to economic activity, travel and supply chains), loss of life and property damage, and may adversely affect the global economy or capital markets, as well as the Company's products, clients, vendors and employees, which may cause BlackRock's AUM, revenue and earnings to decline.

RISKS RELATED TO INVESTMENT PERFORMANCE

Poor investment performance could lead to the loss of clients and may cause AUM, revenue and earnings to decline.

The Company's management believes that investment performance, including the efficient delivery of beta, is one of the most important factors for the growth and retention of AUM. Poor investment performance relative to applicable portfolio benchmarks, aggregate fee levels or competitors may cause AUM, revenue and earnings to decline as a result of:

- client withdrawals in favor of better performing products offered by competitors;
- client shifts to products that charge lower fees;
- the diminishing ability to attract additional funds from existing and new clients;
- reduced, minimal or no performance fees;
- an impairment to the value of intangible assets and goodwill; or
- a decrease in the valuations of seed and co-investment capital.

Performance fees may increase volatility of both revenue and earnings.

A portion of BlackRock's revenue is derived from performance fees on investment advisory assignments. Performance fees represented \$450 million, or 3%, of total revenue for the year ended December 31, 2019. Generally, the Company is entitled to a performance fee only if the agreement under which it is managing the assets provides for one and if returns on the related portfolio exceed agreed-upon periodic or cumulative return targets. If these targets are not exceeded, a performance fee for that period will not be earned and, if targets are based on cumulative returns, the Company may not earn performance fees in future periods. The volatility of the Company's future revenue and earnings may also be affected due to illiquid alternatives becoming an increasing component of the overall composition of the Company's performance fee generating assets. In particular, as BlackRock takes on more advisory assignments for illiquid investments, performance fees will generally be recognized over substantially longer multi-year periods than those associated with more liquid products.

Failure to identify errors in the quantitative models BlackRock utilizes to manage its business could adversely affect product performance and client relationships.

BlackRock employs various quantitative models to support its investment processes, including those related to risk assessment, portfolio management, trading and hedging activities and product valuations. Any errors in the underlying models or model assumptions, as well as any failure of BlackRock's governance, approval, testing and validation standards in respect of such models or model assumptions, could have unanticipated and adverse consequences on BlackRock's business and reputation.

TECHNOLOGY AND OPERATIONAL RISKS

A failure in, or disruption to, BlackRock's operational systems or infrastructure, including business continuity plans, could adversely affect operations, damage the Company's reputation and cause BlackRock's AUM, revenue and earnings to decline.

BlackRock's infrastructure, including its technological capacity, data centers and office space, is vital to the competitiveness of its business. Moreover, a significant portion of BlackRock's critical business operations are concentrated in a limited number of geographic areas, including San Francisco, New York, London, Budapest and Gurgaon. The failure to maintain an infrastructure commensurate with the size and scope of BlackRock's business, or the occurrence of a business outage or event outside BlackRock's control, including a major earthquake, hurricane, fire, terrorist act, pandemic, health crisis (such as the coronavirus) or other catastrophic event, or the actions of individuals or groups seeking to disrupt BlackRock's operations in any location at which BlackRock maintains a major presence, could materially impact operations, result in disruption to the business or impede its growth.

In addition, despite BlackRock's efforts to ensure business continuity, if it fails to keep business continuity plans up-to-date or if such plans, including secure back-up facilities and systems and the availability of back-up employees, are improperly implemented or deployed during a disruption, the Company's ability to operate could be adversely impacted which may cause AUM, revenue and earnings to decline or impact the Company's ability to comply with regulatory obligations leading to reputational harm, regulatory fines and/or sanctions.

A cyber-attack or a failure to implement effective information and cybersecurity policies, procedures and capabilities could disrupt operations and lead to financial losses and reputational harm, which may cause BlackRock's AUM, revenue and earnings to decline.

BlackRock is dependent on the effectiveness of the information and cybersecurity policies, procedures and capabilities it maintains to protect its computer and telecommunications systems and the data that resides on or is transmitted through them. An externally caused information security incident, such as a cyber-attack including a phishing scam, malware, or denial-of-service attack, or an internally caused incident, such as failure to control access to sensitive systems, could materially interrupt business operations or cause disclosure or modification of sensitive or confidential client or competitive information. Moreover, developments in BlackRock's use of process automation, as well as the increased use of mobile and cloud technologies, could heighten these and other operational risks, as certain aspects of the security of such technologies may be complex, unpredictable or beyond BlackRock's control. BlackRock's growing exposure to the public Internet, as well as reliance on mobile or cloud technology or any failure by mobile technology and cloud service providers to adequately safeguard their systems and prevent cyber-attacks, could disrupt BlackRock's operations and result in misappropriation, corruption or loss of personal, confidential or proprietary information. In addition, there is a risk that encryption and other protective measures may be circumvented, particularly to the extent that new computing technologies increase the speed and computing power available.

There have been a number of recent highly publicized cases involving financial services and consumer-based companies reporting the unauthorized disclosure of client or customer information and the unauthorized transfer of customer funds, as well as cyber-attacks involving the dissemination, theft and destruction of corporate information or other assets, as a result of failure to follow procedures by employees or contractors or as a result of actions by third parties, including nation state actors and terrorist organizations. BlackRock has been the target of attempted cyber-attacks, as well as the co-opting of its brand, and must monitor and develop its systems to protect its technology infrastructure and data from misappropriation or corruption, as the failure to do so could disrupt BlackRock's operations and cause financial losses. Although BlackRock has implemented policies and controls, and takes protective measures involving significant expense, to strengthen its computer systems, processes, software, technology assets and networks to prevent and address potential data breaches, inadvertent disclosures, increasingly sophisticated cyber-attacks and cyber-related fraud, there can be no assurance that any of these measures prove effective. Moreover, due to the complexity and interconnectedness of BlackRock's systems, the process of upgrading or patching the Company's protective measures could itself create a risk of security issues or system disruptions for the Company, as well as for clients who rely upon, or have exposure to, BlackRock's systems.

In addition, due to BlackRock's interconnectivity with third-party vendors, advisors, central agents, exchanges, clearing houses and other financial institutions, BlackRock may be adversely affected if any of them is subject to a successful cyber-attack or other information security event, including those arising due to the use of mobile technology or a third-party cloud environment. BlackRock also routinely transmits and receives personal, confidential or proprietary information by email and other electronic means. The Company collaborates with clients, vendors and other third parties to develop secure transmission capabilities and protect against cyber-attacks. However, BlackRock cannot ensure that it or such third parties have all appropriate controls in place to protect the confidentiality of such information.

Any information security incident or cyber-attack against BlackRock or third parties with whom it is connected, including any interception, mishandling or misuse of personal, confidential or proprietary information, could result in material financial loss, loss of competitive position, regulatory fines and/or sanctions, breach of client contracts, reputational harm or legal liability, which, in turn, may cause BlackRock's AUM, revenue and earnings to decline.

Failure or unavailability of third-party dependencies may adversely affect Aladdin operations, which could cause reputational harm, lead to a loss of clients and impede BlackRock's productivity and growth.

BlackRock must maintain effective infrastructure, including a robust and secure technological framework, in order to maximize the benefit of the *Aladdin* platform. In so doing, it relies in part on certain third-party service providers. For example, *Aladdin's* data architecture depends on third-party providers of technology solutions, including the ability of such parties to scale and perform in response to *Aladdin's* growth. In addition, the analytical capabilities of *Aladdin* depend on the ability of a number of third parties to provide data and other information as inputs into *Aladdin's* analytical calculations. Although BlackRock has implemented internal controls and procedures, and maintains a robust vendor management program designed to perform diligence and monitor third parties that support the *Aladdin* platform, there can be no assurance that these measures will prove effective. Any failure by third parties to maintain infrastructure that is commensurate with *Aladdin's* size and growth, or provide the data or information required to support its varying capabilities, could compromise *Aladdin's* resilience, result in operational difficulties, cause reputational harm and adversely impact BlackRock's ability to provide services to its investment advisory and *Aladdin* clients.

Continuing enhancements to Aladdin's capabilities, as well as the expansion of the Aladdin platform into new markets and geographies, have led to significant growth in Aladdin's processing scale, which may expose BlackRock to reputational harm, increased regulatory scrutiny and heightened operational, data management, cyber- and information-security risks.

The operation of BlackRock's *Aladdin* platform routinely involves updating existing capabilities, developing, testing and rolling out new functionalities and expanding coverage into new markets and geographies, including in connection with inorganic transactions or to address client or regulatory requirements. These updates and expansion initiatives, which have led to significant growth in *Aladdin's* processing scale, frequently occur on accelerated time frames and may expose BlackRock to additional cyber- and information-security risks, as well as increased execution, operational and data management risks. If BlackRock is unable to manage the pace of, or provide the operational resiliency and stability for, the expansion of *Aladdin* and associated growth of its processing scale, BlackRock may experience client attrition, reduced business, reputational harm or regulatory fines and/or sanctions, which may cause BlackRock's AUM, revenue and earnings to decline.

In addition, the highly regulated business activities of many *Aladdin* clients may expose BlackRock to heightened regulatory scrutiny. For example, the changing political and regulatory environment in certain jurisdictions in which *Aladdin* clients are based has required BlackRock to open new data centers in those jurisdictions in order to host client data in the client's home location. Operating new data centers in foreign jurisdictions may expose BlackRock to increased operational complexity, as well as additional regulatory risks associated with the compliance requirements of such jurisdictions.

Failure to maintain adequate corporate and contingent liquidity may cause BlackRock's AUM, liquidity and earnings to decline, as well as harm its prospects for growth.

BlackRock's ability to meet anticipated cash needs depends upon a number of factors, including its creditworthiness and ability to generate operating cash flows. Failure to maintain adequate liquidity could lead to unanticipated costs and force BlackRock to revise existing strategic and business initiatives. BlackRock's access to equity and debt markets and its ability to issue public or private debt, or secure lines of credit or commercial paper back-up lines, on reasonable terms may be limited by adverse market conditions, a reduction in its long- or short-term credit ratings, or changes in government regulations, including tax and interest rates. Failure to obtain funds and/or financing, or any adverse change to the cost of obtaining such funds and/or financing, may cause BlackRock's AUM, liquidity and earnings to decline, curtail its operations and limit or impede its prospects for growth.

Operating risks associated with BlackRock's securities lending program may result in client losses.

BlackRock lends securities to banks and broker-dealers on behalf of certain of its clients. 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 must manage this process and is charged with mitigating the associated operational risks. The failure of BlackRock's controls to mitigate such operational risks could result in financial losses for the Company's clients that participate in its securities lending programs (separate from the risks of collateral investments), and BlackRock may be held liable for any failure to manage such risks.

Inorganic transactions may harm the Company's competitive or financial position if they are not successful.

BlackRock employs a variety of organic and inorganic strategies intended to enhance earnings, increase product offerings, access new clients, leverage advances in technology and expand into new geographies. Inorganic strategies have included hiring smaller-sized investment teams, making minority investments in early- to mid-stage technological and other ventures and acquiring investment management and technology businesses. Inorganic transactions involve a number of financial, accounting, tax, regulatory, geographical and operational challenges and uncertainties, including in some cases the assumption of pre-existing liabilities, which must be managed in order for BlackRock to realize the benefit of such transactions. The success of BlackRock's inorganic strategy also depends in large part on its ability to integrate the workforce, operations, strategies, technologies and other components of a target business following the completion of an acquisition. BlackRock may be required to commit significant management time, as well as create new, or grow existing, operational and support functions, to facilitate the integration of acquired businesses, manage combined future growth and maintain a cohesive corporate culture. There can be no assurance that BlackRock will be able to successfully integrate acquired businesses, retain associated talent, scale support functions or realize other intended benefits of its inorganic strategy. Moreover, the challenges associated with BlackRock's inorganic strategy may be heightened when acquired businesses are in new geographic locations, involve new markets, products or business lines or are delivered via technology that differs from that employed by BlackRock. Any failure to identify and mitigate the risks associated with acquisitions through due diligence, indemnification provisions and/or operational expertise, or to manage the integration of acquisitions effectively, could have an adverse effect on BlackRock's reputation or cause its AUM, revenue and earnings to decline, which may harm the Company's competitive position in the investment management industry.

Client investments in real assets, such as real estate, infrastructure and energy assets, may expose BlackRock and its funds and accounts to new or increased risks and liabilities, as well as reputational harm.

BlackRock makes investments on behalf of its clients in real assets, including real estate, infrastructure and energy assets, that may expose BlackRock and its funds and accounts to increased risks and liabilities that are inherent in the ownership and management of such assets. These may include:

- construction risks, including labor disputes or work stoppages, shortages of material or interruptions to the availability of necessary equipment;
- accidents, adverse weather, force majeure or catastrophic events, such as explosions, fires or terrorist activity beyond BlackRock's control;
- personal injury or property damage;
- failures on the part of third-party managers or sub-contractors appointed in connection with investments or projects to adequately perform their contractual duties or operate in accordance with applicable laws;
- exposure to stringent and complex foreign, federal, state and local laws, ordinances and regulations, including those related to financial crime, permits, government contracting, conservation, exploration and production, tenancy, occupational health and safety, foreign investment and environmental protection;
- environmental hazards, such as natural gas leaks, product and waste spills, pipeline and tank ruptures, and unauthorized discharges of products, wastes and other pollutants;
- changes to the supply and demand for properties and/or tenancies or fluctuations in the price of commodities;
- the financial resources of tenants; and
- contingent liabilities on disposition of assets.

The above risks may expose BlackRock's funds and accounts to additional expenses and liabilities, including costs associated with delays or remediation costs, and increased legal or regulatory costs, all of which could impact the returns earned by BlackRock's clients. These risks could also result in direct liability for BlackRock by exposing BlackRock to losses, regulatory sanction or litigation, including claims for compensatory or punitive damages. Similarly, market conditions may change during the course of developments or projects in which BlackRock invests that make such development or project less attractive than at the time it was commenced and potentially harm the investment returns of BlackRock's clients. The occurrence of any such events may expose BlackRock to reputational harm, divert management's attention away from BlackRock's other business activities or cause its AUM, revenue and earnings to decline.

Operating in international markets increases BlackRock's operational, political, regulatory and other risks.

As a result of BlackRock's extensive international operations, the Company faces associated operational, regulatory, reputational, political and foreign exchange rate risks, many of which are outside of the Company's control. Operating outside the United States ("US") may also expose BlackRock to increased compliance risks, as well as higher compliance costs to comply with US and non-US anti-corruption, anti-money laundering and sanctions laws and regulations. The failure of the Company's systems of internal control to mitigate such risks, or of its operating infrastructure to support its global activities, could result in operational failures and regulatory fines and/or sanctions, which may cause the Company's AUM, revenue and earnings to decline.

RISKS RELATED TO HUMAN CAPITAL

The potential for human error in connection with BlackRock's operational systems could disrupt operations, cause losses, lead to regulatory fines or damage the Company's reputation and may cause BlackRock's AUM, revenue and earnings to decline.

Many of BlackRock's operations are highly complex and are dependent on the Company's ability to process and monitor a large number of transactions, many of which occur across numerous markets and currencies at high volumes and frequencies. Although BlackRock expends considerable resources on systemic controls, supervision, technology and training in an effort to ensure that such transactions do not violate client guidelines and applicable rules and regulations or adversely affect clients, counterparties or the Company, BlackRock's operations are dependent on its employees. From time-to-time, employees make mistakes that are not always immediately detected by systems, controls, policies and procedures intended to prevent and detect such errors. These can include calculation errors, errors in software implementation or development, failure to ensure data security, follow processes, patch systems or report issues, or errors in judgment. Human errors, even if promptly discovered and remediated, may disrupt operations or result in regulatory fines and/or sanctions, breach of client contracts, reputational harm or legal liability, which, in turn, may cause BlackRock's AUM, revenue and earnings to decline.

Fraud, the circumvention of controls or the violation of risk management and workplace policies could have an adverse effect on BlackRock's reputation, which may cause the Company's AUM, revenue and earnings to decline.

Although BlackRock seeks to foster a positive workplace culture, has adopted a comprehensive risk management process and continues to enhance various controls, procedures, policies and systems to monitor and manage risks, it cannot ensure that its workplace culture or such controls, procedures, policies and systems will successfully identify and manage internal and external risks. BlackRock is subject to the risk that its employees, contractors or other third parties may deliberately or recklessly seek to circumvent established controls to commit fraud, pay or solicit bribes or otherwise act in ways that are inconsistent with the Company's controls, policies, procedures, workplace culture or principles. Persistent attempts to circumvent policies and controls or repeated incidents involving fraud, conflicts of interests or transgressions of policies and controls could have an adverse effect on BlackRock's reputation, which could cause adverse publicity, regulatory inquiries, fines and/or sanctions and may cause the Company's AUM, revenue and earnings to decline.

The failure to recruit and retain employees and develop and implement effective executive succession could lead to the loss of clients and may cause AUM, revenue and earnings to decline.

BlackRock's success is largely dependent on the talents and efforts of its highly skilled workforce and the Company's ability to plan for the future long-term growth of the business by identifying and developing those employees who can ultimately transition into key roles within BlackRock. The global market for qualified fund managers, investment analysts, technology and risk specialists and other professionals is competitive, and factors that affect BlackRock's ability to attract and retain such employees include the Company's reputation and workplace culture, the immigration policies in the jurisdictions in which BlackRock has offices, the compensation and benefits it provides, and its commitment to effectively managing executive succession, including the development and training of qualified individuals.

In addition, a percentage of the deferred compensation that BlackRock pays to its employees is tied to the Company's share price. As such, if BlackRock's share price were to decrease, the retention value of such deferred compensation would decrease. There can be no assurance that the Company will continue to be successful in its efforts to recruit and retain employees and effectively manage executive succession. If BlackRock is unable to offer competitive compensation or otherwise attract and retain talented individuals, or if it fails to effectively manage executive succession, the Company's ability to compete effectively and retain its existing clients may be materially impacted.

RISKS RELATED TO KEY THIRD-PARTY RELATIONSHIPS

The impairment or failure of third parties may negatively impact the performance of products and accounts that BlackRock manages, which may cause BlackRock's AUM, revenue and earnings to decline.

BlackRock's investment management activities expose the products and accounts it manages for its clients to many different industries and counterparties, including distributors, brokers and dealers, commercial and investment banks, clearing organizations, mutual and hedge funds, and other institutional clients. Transactions with counterparties expose BlackRock's clients to credit risk in the event the applicable counterparty defaults. Although BlackRock maintains a robust vendor management program and regularly assesses risks posed by its counterparties, such counterparties may be subject to sudden swings in the financial and credit markets that may impair their ability to perform or they may fail to meet their obligations. In addition, the concentration of certain financial institutions that BlackRock uses to facilitate securities and derivatives transactions for its clients, including clearing organizations, exchanges and central agents, increases the risk that a technical or operational issue at, or default by, one such institution could introduce operational issues or delays impacting multiple BlackRock clients. Any such operational issue, impairment or failure could negatively impact the performance of products or accounts that BlackRock manages for its clients, which may lead to client attrition and, in turn, cause BlackRock's AUM, revenue and earnings to decline.

The failure of a key vendor to BlackRock to fulfill its obligations or a failure by BlackRock to maintain its relationships with key vendors could have a material adverse effect on BlackRock's growth, reputation or business, which may cause the Company's AUM, revenue and earnings to decline.

BlackRock depends on a number of key vendors for various fund administration, accounting, custody, market data, market indices, technology and transfer agent roles and other distribution and operational needs. BlackRock relies upon a relatively concentrated group of third-party index providers to deliver services that are integral to its clients' investment decisions. The index provider industry is characterized by large vendors and the use of long-term contracts remains the market standard. This industry structure may limit BlackRock's ability to renegotiate its index provider contracts on favorable terms or at all. While BlackRock performs focused diligence on its vendors in an effort to ensure they operate in accordance with expectations, to the extent any significant deficiencies are uncovered, there may be few, or no, alternative vendors available. Moreover, in situations where BlackRock has limited access to alternative vendors, or where the nature of BlackRock's arrangement with a

vendor requires a long term-commitment, BlackRock may be dependent on such vendor for continuous operational reliability and may be unable to avoid incurring costs if such vendor introduces required upgrades to its services.

BlackRock may from time to time transfer key contracts from one vendor to another. Key contract transfers may be costly and complex, and expose BlackRock to heightened operational risks. Any failure to mitigate such risks could result in reputational harm, as well as financial losses to BlackRock and its clients. The failure or inability of BlackRock to diversify its sources for key services or the failure of any key vendor to fulfill its obligations could result in activities inconsistent with clients' investment management agreements, have an adverse financial impact on BlackRock products or lead to operational and regulatory issues for the Company, which could result in reputational harm or legal liability, fines and/or sanctions and may cause BlackRock's AUM, revenue and earnings to decline.

Any disruption to the Company's distribution channels may cause BlackRock's AUM, revenue and earnings to decline.

BlackRock relies on a number of third parties to provide distribution, portfolio administration and servicing for certain BlackRock investment management products and services through their various distribution channels. BlackRock's ability to maintain strong relationships with its distributors may impact the Company's future performance, and its relationships with distributors are subject to periodic renegotiation that may result in increased distribution costs and/or reductions in the amount of BlackRock products and services being marketed or distributed. Moreover, new fiduciary regulations could lead to significant shifts in distributors' business models and more limited product offerings, potentially resulting in reduced distribution and/or marketing of certain of the Company's products and services and fee compression. If BlackRock is unable to distribute its products and services successfully or if it is unable to replace or renew existing distribution arrangements, BlackRock's AUM, revenue and earnings may decline. In addition, improper activities, as well as inadequate anti-money laundering diligence conducted by third-party distributors, could create reputational and regulatory harm to BlackRock.

Disruption to the operations of third parties whose functions are integral to BlackRock's Exchange-Traded Fund ("ETF") platform may adversely affect the prices at which ETFs trade, particularly during periods of market volatility.

BlackRock is the largest provider of ETFs globally. Shares of ETFs trade on stock exchanges at prices at, above or below the ETF's most recent net asset value. The net asset value of an ETF is calculated at the end of each business day and fluctuates with changes in the market value of the ETF's holdings. The trading price of the ETF's shares fluctuates continuously throughout trading hours. While an ETF's creation/redemption feature and the arbitrage mechanism are designed to make it more likely that the ETF's shares normally will trade at prices close to the ETF's net asset value, exchange prices may deviate significantly from the ETF's net asset value. ETF market prices are subject to numerous potential risks, including trading halts invoked by a stock exchange, inability or unwillingness of market makers, authorized participants, settlement systems or other market participants to perform functions necessary for an ETF's arbitrage mechanism to function effectively, or significant market volatility. Although BlackRock and other large issuers of ETFs are working with market participants to seek to enhance US equity market resiliency, there can be no assurance that structural reforms will be implemented in a timely or effective fashion, or at all. Moreover, if market events lead to incidences where ETFs trade at prices that deviate significantly from an ETF's net asset value, or trading halts are invoked by the relevant stock exchange or market, investors may lose confidence in ETF products and redeem their holdings, which may cause BlackRock's AUM, revenue and earnings to decline.

LEGAL AND REGULATORY RISKS

BlackRock is subject to extensive regulation around the world.

BlackRock's business is subject to extensive regulation around the world. These regulations subject BlackRock's business activities to an array of increasingly detailed operational requirements, compliance with which is costly and complex. In addition, many of BlackRock's legal entities may be subject to laws and regulations aimed at preventing corruption, money laundering, inappropriate employment practices, illegal payments and engaging in business activities with certain individuals, countries or groups, including but not limited to the US Foreign Corrupt Practices Act, the USA PATRIOT Act, the Bank Secrecy Act, the UK Bribery Act, sanctions imposed by the US Treasury's Office of Foreign Assets Control, the United Nations and the European Union ("EU") and its member states, as well as those imposed by other countries in which BlackRock operates. BlackRock is also subject to certain risk retention rules and regulation, as well as regulatory capital requirements, which require the Company to maintain capital to support certain of its businesses. Furthermore, many jurisdictions in which BlackRock operates have laws and regulations relating to data privacy, cybersecurity and protection of personal information, including the General Data Protection Regulation, which expands data protection rules for individuals within the EU and for personal data exported outside the EU. Any determination of a failure to comply with any such laws or regulations could result in fines and/or sanctions against the Company, as well as reputational harm. Moreover, to the extent that these laws and regulations become more stringent, or if BlackRock is required to hold increased levels of capital to support its businesses, the Company's financial performance or plans for growth may be adversely impacted.

BlackRock may also be adversely affected by a failure to comply with existing laws and regulations or by changes in the interpretation or enforcement of such laws and regulations, including those discussed above. Challenges associated with interpreting regulations issued in numerous countries in a globally consistent manner may add to such risks, if regulators in different jurisdictions have inconsistent views or provide only limited regulatory guidance. In particular, violation of applicable laws or regulations could result in fines and/or sanctions, temporary or permanent prohibition of certain activities, reputational harm and related client terminations, suspensions of employees or revocation of their licenses, suspension or termination of investment adviser, broker-dealer or other registrations, or suspension or termination of BlackRock's bank charter or other sanctions, which could have a material adverse effect on BlackRock's reputation or business and may cause the Company's AUM, revenue and earnings to decline. For a more extensive discussion of the laws, regulations and regulators to which BlackRock is subject and regulated by, see "Item 1 – Business – Regulation."

Regulatory reforms in the United States expose BlackRock to increasing regulatory scrutiny, as well as regulatory uncertainty.

In recent years a number of regulatory reforms have been proposed or fully or partially implemented in the United States, and the level of regulatory scrutiny to which BlackRock is subject has increased. Further changes to financial services regulation may arise, including in connection with the executive order issued in February 2017 (the “Executive Order”) directing the US Department of the Treasury (“Treasury”) to identify laws, treaties, regulations and other policies that promote or inhibit certain core principles for financial regulation, that may directly or indirectly impact BlackRock’s business or operating activities. BlackRock, as well as its clients, vendors and distributors, have expended resources and altered certain of their business or operating activities to prepare for, address and meet the requirements that such regulatory reforms impose. While BlackRock is, or may become, subject to numerous reform initiatives in the United States, see “Item 1 – Business – Regulation,” key regulatory reforms that may impact the Company include:

- **Securities and Exchange Commission (“SEC”) Rulemakings for US Registered Funds and Investment Advisers:** The SEC and its staff are engaged in various initiatives and reviews that seek to improve and modernize the regulatory structure governing the asset management industry, and registered investment companies in particular. These efforts relate to, among other things, embedded leverage through the use of derivatives and other trading practices, cybersecurity, liquidity, enhanced regulatory and public reporting requirements and the evaluation of systemic risks. The SEC has adopted rules that include (i) new monthly and annual reporting requirements for certain US registered funds; (ii) enhanced reporting regimes for investment advisers; and (iii) implementing liquidity risk management programs for ETFs and open-end funds, other than money market funds. These rules increase, and any additional rules or regulatory initiatives resulting from the SEC’s efforts may increase, BlackRock’s public reporting and disclosure requirements, which could be costly and may impede BlackRock’s growth.
- **SEC ETF Rule:** In September 2019, the SEC adopted rule 6c-11 under the Investment Company Act of 1940 (the “Investment Company Act”) known as the “ETF Rule”. The ETF Rule will allow ETFs that satisfy certain conditions to operate without first obtaining individual exemptive relief from the SEC. The ETF Rule is designed to create a clear and consistent regulatory framework for most ETFs operating today and will impact all BlackRock ETFs registered under the Investment Company Act (including *iShares* ETFs). The ETF Rule and related form amendments became effective in December 2019. The form amendments will have a transition period of one year following the effective date. In addition, the ETF Rule rescinds, one year after its effective date, the existing exemptive relief for all eligible ETFs (including *iShares* ETFs).
- **Standards of Conduct Rulemaking:** In June 2019, the SEC adopted a package of rulemakings and interpretations addressing investment adviser and broker-dealer standards of conduct. The package includes new rules requiring registered advisers and registered broker-dealers to provide a relationship summary to retail investors, a new rule establishing a standard of conduct for broker-dealers when making recommendations to retail customers, and two new interpretations under the Investment Advisers Act of 1940 (the “Advisers Act”). The rulemakings and interpretations could increase BlackRock’s disclosure obligations, impact distribution arrangements between BlackRock and its distribution partners, create compliance and operational challenges for BlackRock’s distribution partners and limit BlackRock’s ability to provide certain other services to its clients. The Department of Labor (“DoL”) has also indicated it intends to propose a standards of conduct rule in 2020.
- **SEC Derivatives Rule for US Registered Funds:** In November 2019, the SEC proposed a rule designed to enhance the regulation of the use of derivatives by registered investment companies, including mutual funds (other than money market funds), ETFs and closed-end funds, as well as business development companies. The proposed rule would permit such funds to use derivatives, such as forwards, futures, swaps and written options, that create future payment obligations, provided that the funds comply with certain conditions including adopting a derivatives risk management program and complying with a limit on the amount of leverage-related risk that a fund may obtain, based on value-at-risk. If adopted without change, the proposed rule would increase BlackRock’s disclosure and compliance obligations and may impact certain funds’ usage of derivatives and investment strategy.
- **SEC Guidance on Proxy Voting Responsibilities of Investment Advisers:** In August 2019, the SEC published guidance to assist investment advisers with their proxy voting responsibilities under the Advisers Act. The guidance confirmed that investment advisers’ fiduciary duties of care and loyalty to their clients apply to proxy voting and encouraged advisers with voting authority to review their policies and procedures in detail and consider whether more analysis may be required under certain circumstances, including when a proxy advisory firm’s services are retained. This guidance could impact voting arrangements between BlackRock and its clients, and lead to additional compliance, operational and disclosure obligations for BlackRock.
- **The Volcker Rule:** Provisions of Dodd-Frank referred to as the “Volcker Rule” created a new section of the Bank Holding Company Act that places limitations on the ability of banks and their subsidiaries to engage in proprietary trading and to invest in and transact with certain private investment funds, including hedge funds, private equity funds and funds of funds (collectively “covered funds”). The Bank Holding Company Act by its terms does not currently apply to BlackRock. The Federal Reserve has taken the position that PNC’s ownership interest in BlackRock, which is approximately 22%, in combination with certain other factors, causes BlackRock to be treated as a nonbank subsidiary of PNC for the purpose of the Bank Holding Company Act and that BlackRock is subject to banking regulation. Based on this interpretation of the Bank Holding Company Act, the Federal Reserve could initiate a process to formally determine that PNC controls BlackRock under the terms of the Bank Holding Company Act. Any such determination, if successful, would subject BlackRock to current and future regulatory requirements under the Bank Holding Company Act, including the Volcker Rule. Conformance with the Volcker Rule may require BlackRock to sell certain seed and co-investments that it holds in its covered funds, which may occur at a discount to existing carrying value depending on market conditions.
- **Designation as a systemically important financial institution (“SIFI”):** The Financial Stability Oversight Council (“FSOC”) has the authority to designate nonbank financial institutions as SIFIs. In July 2014, the FSOC pivoted from its previous entity-specific approach to designation and indicated that it would focus on a products and activities-based approach to designation in connection with addressing potential risks in the financial system related to asset management. In December 2019, the FSOC re-affirmed this approach when it voted to change its methodology for assessing financial stability to a products and activities-based approach. This reduces the risk of an entity-level designation, however the FSOC retains the authority to designate an entity if an activities-based approach does not adequately address potential risks. In the event that BlackRock is designated as a SIFI under Dodd-Frank, it could become subject to enhanced regulatory requirements and direct supervision by the Federal Reserve.

Regulatory reforms in the United States could require BlackRock to alter its future business or operating activities, which could be costly, impede the Company's growth and cause its AUM, revenue and earnings to decline. Regulatory reform may also impact BlackRock's banking, insurance company and pension fund clients, which could cause them to change their investment strategies or allocations in manners that may be adverse to BlackRock.

International regulatory reforms expose BlackRock and its clients to increasing regulatory scrutiny, as well as regulatory uncertainty.

BlackRock's business and operating activities are subject to increasing regulatory oversight outside of the United States and the Company may be affected by a number of proposed or fully or partially implemented reform initiatives in EMEA and the Asia-Pacific region, as well as volatility associated with international regulatory uncertainty, including:

- ***British Exit from the EU:*** The UK left the EU on January 31, 2020 and entered an eleven-month transition period during which the UK, and UK-based entities, will retain the rights and obligations of EU membership. Substantial uncertainty remains surrounding the future relationship between the UK and EU, but the UK government has indicated its preference for negotiating a trade deal with the EU before the end of the transition period rather than continuing Single Market or Customs Union membership. BlackRock is implementing a number of steps to prepare for various outcomes, including there being no agreement in place when the transition period expires. These steps, many of which are time consuming and costly, include effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications, and are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the future relationship between the UK and the EU, BlackRock may experience further organizational and operational challenges and incur additional costs in connection with its European operations during the transition period and post-Brexit, which may impede the Company's growth or impact its financial performance.
- ***Reform of investment markets:*** In Europe, the Markets in Financial Instruments Directive ("MiFID") governing the provision of investment services has been revised and is accompanied by an associated Regulation (together with certain secondary regulation, "MiFID II"). The Regulation's requirements generally apply consistently across the EU. The MiFID II reforms, which came into force in January 2018, are substantive, materially changing market transparency requirements, enhancing protections afforded to investors, and increasing operational complexity for the Company. New disclosure and reporting obligations have been introduced, together with restrictions on how research may be funded and the nature of payments that may be provided to distributors. MiFID II, together with other market structure reforms, force more derivatives to be traded on-exchange, introduce new commodity derivatives position limits and significantly enhance reporting obligations associated with individual trades. The broad nature of the MiFID II reforms impact BlackRock's product development, client servicing and distribution models. In particular, additional disclosures are required to be made in respect of costs and fees BlackRock charges to certain of its clients. MiFID II also impacts the ability of certain of BlackRock's distribution partners to accept commissions from BlackRock for distributing BlackRock funds. Similar reforms have been introduced in Switzerland and Australia.
- ***Revised EU capital requirements for investment firms:*** In December 2017, the European Commission published a proposal for a new Directive and Regulation on prudential requirements for MiFID investment firms. The proposal passed the EU legislative process and the final texts of the Regulation and Directive were published in December 2019. The new legislative package, which comes into effect in 2021, will result in changes to the amount of regulatory capital BlackRock is required to hold in the EU and how such capital is calculated, as well as introduce revised disclosure obligations for large investment firms.
- ***EU market access:*** In 2019, the European Commission commenced a review of the Alternative Investment Fund Managers Directive to assess, among other things, the effectiveness of regulation on third country fund marketing passports and the continuation of national private placement regimes. To the extent the review results in formal legislation that limits the scope of existing permitted activities and EU market access rights for asset management firms with non-EU operations, BlackRock's ability to access EU-based clients may be adversely affected.
- ***Senior Managers and Certification Regime:*** In the UK, the FCA extended the Senior Managers and Certification Regime ("SMCR") to all financial services firms in December 2019. The regime imposes greater accountability and responsibility across the senior management of UK financial services firms by making individuals in impacted firms more accountable for conduct and competence. SMCR impacts nearly all staff of the Company in the UK, and requires extensive documentation to support senior managers and evidence the discharge of their responsibilities.
- ***UK asset management market study:*** The FCA has adopted requirements for UK fund managers to assess whether the retail collective investments they manage offer "value" to investors. Beginning in 2020, the Company will be required annually to disclose the conclusions of its assessment based upon various factors including cost, performance and comparable services. If "value" has not been provided to consumers, the Company will need to address any identified deficiencies. The FCA also requested that the UK's Competition and Markets Authority ("CMA") assess the investment consultant and fiduciary markets. The CMA's final report identified a number of competition issues in such markets and the UK regulatory regime will be revised in 2020 to introduce mandatory tendering of investment consultancy and fiduciary management services, and new standards of disclosure of fees and performance. The CMA's remedies could have a significant impact on the Company's ability to enter into fiduciary and investment management mandates with UK pension fund clients.
- ***EU Sustainability Regulation:*** In 2018, the European Commission introduced a number of regulatory proposals to underpin sustainable investment products; require disclosure of sustainability-related information by market participants, investments products, and issuers; and require the integration of sustainability considerations into the investment and risk management processes of asset managers and other institutional investors. Rules arising from the reform proposals will come into effect beginning in 2021.
- ***Macroprudential policies for asset managers:*** Certain European policymakers continue to raise concerns about liquidity and leverage risks in the asset management industry and wider market-based finance sector. These concerns may lead to macroprudential policy measures being applied to open-ended investment funds broadly, or regulation being introduced that requires changes to the

structural features of certain open-ended investment funds. Either eventuality could limit BlackRock's ability to offer products to certain clients and/or result in clients altering their investment strategies or allocations in a manner that is adverse to BlackRock.

International regulatory reforms could require BlackRock to alter its future business or operating activities, which could be time-consuming and costly, impede the Company's growth and cause its AUM, revenue and earnings to decline. Regulatory reform may also impact BlackRock's internationally-based clients, which could cause them to change their investment strategies or allocations in manners that may be adverse to BlackRock.

Legal proceedings may cause the Company's AUM, revenue and earnings to decline.

BlackRock is subject to a number of sources of potential legal liability and the Company, certain of the investment funds it manages and certain of its subsidiaries and employees have been named as defendants in various legal actions, including arbitrations, class actions and other litigation arising in connection with BlackRock's activities. Certain of BlackRock's subsidiaries and employees are also subject to periodic examination, special inquiries and potential proceedings by regulatory authorities, including the Securities Exchange Commission, Office of the Comptroller of the Currency ("OCC"), DoL, Commodity Futures Trading Commission, Financial Conduct Authority and Federal Reserve. Similarly, from time to time, BlackRock receives subpoenas or other requests for information from various US and non-US governmental and regulatory authorities in connection with certain industry-wide, company-specific or other investigations, proceedings or litigations. These examinations, inquiries and proceedings have in the past and could in the future, if compliance failures or other violations are found, cause the relevant governmental or regulatory authority to institute proceedings and/or impose sanctions for violations. Any such action may also result in litigation by investors in BlackRock's funds, other BlackRock clients or BlackRock's shareholders, which could harm the Company's reputation and may cause its AUM, revenue and earnings to decline, potentially harm the investment returns of the applicable fund, or result in the Company being liable for damages.

In addition, when clients retain BlackRock to manage their assets or provide them with products or services, they typically specify contractual requirements or guidelines that BlackRock must observe in the provision of its services. A failure to comply with these guidelines or requirements could expose BlackRock to lawsuits, harm its reputation or cause clients to withdraw assets or terminate contracts.

As BlackRock's business continues to grow, the Company must routinely address conflicts of interest, as well as the perception of conflicts of interest, between itself and its clients, employees or vendors. In addition, the SEC and other regulators have increased their scrutiny of potential conflicts. BlackRock has procedures and controls in place that are designed to detect and address these issues. However, appropriately dealing with conflicts of interest is complex and if the Company fails, or appears to fail, to deal appropriately with any conflict of interest, it may face reputational damage, litigation, regulatory proceedings, or penalties, fines and/or sanctions, any of which may cause BlackRock's AUM, revenue and earnings to decline.

BlackRock is subject to US banking regulations that may limit its business activities.

BlackRock's trust bank subsidiary, which is a national banking association chartered by the OCC, is subject to OCC regulation and capital requirements. The OCC has broad supervisory and enforcement authority over BlackRock's trust bank. Being subject to banking regulation may put BlackRock at a competitive disadvantage because certain of its competitors are not subject to these limitations. In addition, as described in "Item 1-Business-Regulation", as of December 31, 2019, PNC owned approximately 22% of BlackRock's capital stock, which may subject BlackRock to banking regulation as a nonbank subsidiary of PNC. The Bank Holding Company Act by its terms does not currently apply to BlackRock. The Federal Reserve has taken the position that this ownership interest, in combination with certain other factors, causes BlackRock to be treated as a nonbank subsidiary of PNC for the purpose of the Bank Holding Company Act and that BlackRock is subject to banking regulation. Based on this interpretation of the Bank Holding Company Act, the Federal Reserve could initiate a process to formally determine that PNC controls BlackRock under the terms of the Bank Holding Company Act. Any such determination, if successful, would subject BlackRock to current and future regulatory requirements under the Bank Holding Company Act, including the Volcker Rule, that are more restrictive than those the Company is subject to under other applicable laws, as well as the enforcement authority of the Federal Reserve, which includes the power to impose substantial fines and other penalties for violations. Any effort by BlackRock to contest a control determination by the Federal Reserve may be costly and complex and may not result in a reversal of such determination.

Failure to comply with ownership reporting requirements could result in harm to BlackRock's reputation and may cause its AUM, revenue and earnings to decline.

Of note among the various international regulations to which BlackRock is subject are the extensive and increasingly stringent regulatory reporting requirements that necessitate the monitoring and reporting of issuer exposure levels (thresholds) across the holdings of managed funds and accounts and those of the Company. The specific triggers and the reporting methods that these threshold filings entail vary significantly by regulator and across jurisdictions. BlackRock continues to invest in technology, training and its employees to further enhance its monitoring and reporting functions. Despite these investments, the complexity of the various threshold reporting requirements combined with the breadth of the assets managed by the Company and high volume of securities trading have caused errors and omissions to occur in the past, and pose a risk that errors or omissions may occur in the future. Any such errors may expose BlackRock to monetary penalties, which could have an adverse effect on BlackRock's reputation and may cause its AUM, revenue and earnings to decline.

BlackRock has been the subject of commentary citing concerns about index investing and common ownership.

As a leader in the index investing and asset management industry, BlackRock has been the subject of commentary citing concerns about the growth of index investing, as well as perceived competition issues associated with asset managers managing stakes in multiple companies within certain industries, known as "common ownership". The commentators argue that index funds have the potential to distort investment flows, create stock price bubbles, or conversely, exacerbate a decline in market prices. Additional commentary focuses on competition issues associated with common ownership and purports to link aggregated equity positions in certain concentrated industries managed by asset managers with higher consumer prices and executive compensation, among other things. In the US, the FTC over the course of late 2018 held hearings on Competition and Consumer Protection in the 21st Century, one of which included a discussion of common ownership. The hearings may be the subject of a report in 2020. In the EU, the European Parliament Committee on Economic and Monetary Affairs is expected to publish a report on common ownership, and the European Commission may do so in 2020. There is substantial literature highlighting the

benefits of index investing, as well as casting doubt on the assumptions, data, methodology and conclusions associated with common ownership arguments. Some commentators have proposed remedies, including limits on stakes managed by asset managers that, if enacted into policy measures, could have a negative impact on the capital markets, increase transaction costs and limit the availability of products for investors. This may, in turn, adversely affect BlackRock.

New tax legislation or changes to existing US and non-US tax laws, treaties and regulations or challenges to BlackRock's historical taxation practices may adversely affect BlackRock's effective tax rate, business and overall financial condition.

BlackRock's businesses may be directly or indirectly affected by tax legislation and regulation, or the modification of existing tax laws, by US or non-US tax authorities.

In the US, legislation has been proposed in the House and Senate to enact a financial transaction tax ("FTT") on stocks, bonds and a broad range of financial instruments and derivative transactions. In the EU, certain Member States have also enacted similar FTTs and the European Commission has proposed legislation to harmonize these taxes and provide for the adoption of EU-level legislation applicable to some (but not all) EU Member States. If enacted as proposed, FTTs could have an adverse effect on BlackRock's financial results and clients' performance results.

The application of tax regulations involves numerous uncertainties, and in the normal course of business US and non-US tax authorities may review and challenge tax positions adopted by BlackRock. These challenges may result in adjustments to, or impact the timing or amount of, taxable income, deductions or other tax allocations, which may adversely affect BlackRock's effective tax rate and overall financial condition. Similarly, the Company manages assets in products and accounts that have investment objectives which may conform to tax positions adopted by BlackRock or to specific tax rules. To the extent there are changes in tax law or policy, or regulatory challenges to tax positions adopted by BlackRock, the value or attractiveness of such investments may be diminished and BlackRock may suffer financial or reputational harm.

RISKS RELATED TO BLACKROCK'S SIGNIFICANT SHAREHOLDER

PNC owns 22% of BlackRock's capital stock. Future sales or distributions of BlackRock's common stock in the public market by the Company or PNC could adversely affect the trading price of BlackRock's common stock.

As of December 31, 2019, PNC owned 22% of the Company's capital stock. Sales or distributions of a substantial number of shares of BlackRock's common stock in the public market, or the perception that these sales or distributions might occur, may cause the market price of BlackRock's common stock to decline.

PNC has agreed to vote as a stockholder in accordance with the recommendation of BlackRock's Board of Directors, and certain actions will require special board approval or the prior approval of PNC.

As discussed in BlackRock's proxy statement, PNC has agreed to vote all of its voting shares in accordance with the recommendation of BlackRock's Board of Directors in accordance with the provisions of its stockholder agreement with BlackRock. As a consequence, if the shares held by PNC constitute a substantial portion of the outstanding voting shares, matters submitted to a stockholder vote that require a majority or a plurality of votes for approval, including elections of directors, will have a substantial number of shares voted in accordance with the determination of the BlackRock Board of Directors. This arrangement has the effect of concentrating a significant block of voting control over BlackRock in its Board of Directors, whether or not stockholders agree with any particular determination of the Board.

As discussed in BlackRock's proxy statement, pursuant to BlackRock's stockholder agreement with PNC, 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 than the persons holding such majority of the total voting power prior to the occurrence of any such merger, issuance of shares or similar transaction, or any sale of all or substantially all assets of BlackRock;
- any acquisition of any person or business which 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 the stockholder agreement, 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; or
- any matter requiring stockholder approval pursuant to the rules of the New York Stock Exchange.

Additionally, BlackRock may not enter into any of the following transactions without the prior approval of PNC:

- any sale of any subsidiary of BlackRock, the annualized revenue of which, together with the annualized revenue of any other subsidiaries disposed of within the same year, are more than 20% of the annualized revenue of BlackRock for the preceding fiscal year on a consolidated basis;
- for so long as BlackRock is deemed a subsidiary of PNC for purposes of the Bank Holding Company Act, entering into any business or activity that is prohibited for any such subsidiary under the Bank Holding Company Act;
- any amendment of any provision of a stockholder agreement between BlackRock and any stockholder beneficially owning greater than 20% of BlackRock capital stock that would be viewed by a reasonable person as being adverse to PNC or materially more favorable to the rights of any stockholder beneficially owning greater than 20% of BlackRock capital stock than to PNC;
- any amendment, modification, repeal or waiver of BlackRock's certificate of incorporation or bylaws that would be viewed by a reasonable person as being adverse to the rights of PNC or more favorable to the rights of any stockholder beneficially owning greater than 20% of BlackRock capital stock, or any settlement or consent in a regulatory enforcement matter that would be reasonably likely to cause PNC or any of its affiliates to suffer regulatory disqualification, suspension of registration or license or other material adverse regulatory consequences; or
- a voluntary bankruptcy or similar filing by BlackRock.

Item 1B. Unresolved Staff Comments

The Company has no unresolved comments from the SEC staff relating to BlackRock's periodic or current reports filed with the SEC pursuant to the Exchange Act.

Item 2. Properties

BlackRock's principal office, which is leased, is located at 55 East 52nd Street, New York, New York. BlackRock leases additional office space in New York City at 40 East 52nd Street and 49 East 52nd Street, and throughout the world, including Atlanta, Belgrade (Serbia), Boston, Edinburgh, Mumbai (India), Gurgaon (India), Hong Kong, London, Melbourne (Australia), Mexico City, Munich, Princeton (New Jersey), San Francisco, Seattle, Frankfurt (Germany), Santa Monica, Budapest, Singapore, Sydney, Taipei and Tokyo. The Company also owns an 84,500 square foot office building in Wilmington (Delaware) and a 43,000 square foot data center in Amherst (New York).

Item 3. Legal Proceedings

From time to time, BlackRock receives subpoenas or other requests for information from various US federal and state governmental and regulatory authorities and international governmental and regulatory authorities in connection with industry-wide or other investigations or proceedings. It is BlackRock's policy to cooperate fully with such matters. The Company, certain of its subsidiaries and employees 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 US 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 trial on the remaining issues was completed on August 29, 2018. On February 8, 2019, the court issued an order dismissing the claims in their entirety. The plaintiffs filed a notice of appeal on March 8, 2019, which remains pending. The defendants believe the claims in this lawsuit are without merit.

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." The plaintiffs seek unspecified monetary and rescission damages. The plaintiffs' complaint was dismissed in December 2016 and on January 6, 2017, the 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 and, on January 23, 2020, the California Court of Appeal affirmed the trial court's dismissal. The defendants believe the claims in this lawsuit are without merit.

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 US 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 unaffiliated 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 the plaintiffs claim were excessive. The Amended Complaint also alleged that BlackRock took undue risks in its management of securities lending cash reinvestment vehicles during the financial crisis. On August 23, 2018, the court granted permission to the plaintiffs to file a Second Amended Complaint ("SAC") which 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, and on June 3, 2019, the plaintiffs filed a motion seeking to certify both the Plan and the CTF classes. On September 3, 2019, the court granted BlackRock's motion to dismiss part of the plaintiffs' claim seeking to recover alleged losses in the securities lending vehicles but denied the motion to dismiss in all other respects. On February 11, 2020, the court denied the plaintiffs' motion to certify the CTF class and granted their motion to certify the Plan class. On February 25, 2020, the plaintiffs requested permission from the appeals court to immediately appeal the class certification ruling. The defendants believe the claims in this lawsuit are without merit.

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 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

BlackRock's common stock is listed on the NYSE and is traded under the symbol "BLK". At the close of business on January 31, 2020, there were 219 common stockholders of record. Common stockholders include institutional or omnibus accounts that hold common stock for many underlying investors.

The following table sets forth for the periods indicated the dividends declared per share for the common stock as reported on the NYSE:

		Cash Dividend Declared
2019		
First Quarter	\$	3.30
Second Quarter	\$	3.30
Third Quarter	\$	3.30
Fourth Quarter	\$	3.30
2018		
First Quarter	\$	2.88
Second Quarter	\$	2.88
Third Quarter	\$	3.13
Fourth Quarter	\$	3.13

BlackRock's closing common stock price as of February 27, 2020 was \$475.82.

DIVIDENDS

On January 29, 2020, the Board of Directors approved BlackRock's quarterly dividend of \$3.63 per share to be paid on March 23, 2020 to stockholders of record at the close of business on March 5, 2020.

PNC receives dividends on shares of nonvoting participating preferred stock, which are equivalent to the dividends received by common stockholders.

ISSUER PURCHASES OF EQUITY SECURITIES

During the three months ended December 31, 2019, 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 ⁽¹⁾	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
October 1, 2019 through October 31, 2019	7,813	\$ 446.13	—	5,836,665
November 1, 2019 through November 30, 2019	3,681	\$ 466.94	—	5,836,665
December 1, 2019 through December 31, 2019	4,402	\$ 496.90	—	5,836,665
Total	15,896	\$ 465.01	—	

(1) Consists of 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.

Item 6. Selected Financial Data

The selected financial data presented below have been derived in part from, and should be read in conjunction with, the consolidated financial statements of BlackRock and Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* included in this Form 10-K. Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. Results for 2015 reflect accounting guidance prior to the adoption of the new revenue recognition standard.

(in millions, except per share data)

Income statement data:

	2019	2018	2017	2016	2015
Revenue					
Related parties ⁽¹⁾	\$ 8,522	\$ 8,412	\$ 7,903	\$ 7,010	\$ 7,084
Other third parties	6,017	5,786	5,697	5,251	4,317
Total revenue	14,539	14,198	13,600	12,261	11,401
Expense					
Restructuring charge	—	60	—	76	—
Other operating expenses	8,988	8,681	8,346	7,620	6,737
Total expense	8,988	8,741	8,346	7,696	6,737
Operating income	5,551	5,457	5,254	4,565	4,664
Total nonoperating income (expense)	236	(79)	5	(110)	(62)
Income before income taxes	5,787	5,378	5,259	4,455	4,602
Income tax expense ⁽²⁾	1,261	1,076	270	1,289	1,250
Net income	4,526	4,302	4,989	3,166	3,352
Less: Net income (loss) attributable to noncontrolling interests	50	(3)	37	(2)	7
Net income attributable to BlackRock, Inc.	\$ 4,476	\$ 4,305	\$ 4,952	\$ 3,168	\$ 3,345
<u>Per share data:</u>⁽³⁾					
Basic earnings	\$ 28.69	\$ 26.86	\$ 30.54	\$ 19.27	\$ 20.10
Diluted earnings	\$ 28.43	\$ 26.58	\$ 30.12	\$ 19.02	\$ 19.79
Book value ⁽⁴⁾	\$ 216.15	\$ 204.23	\$ 197.45	\$ 178.32	\$ 172.12
Cash dividends declared and paid per share	\$ 13.20	\$ 12.02	\$ 10.00	\$ 9.16	\$ 8.72

- (1) BlackRock's related party revenue includes fees for services provided to registered investment companies that it manages, which include mutual funds and exchange-traded funds, as a result of the Company's advisory relationship. In addition, fees for management services to equity method investments are considered related parties due to the Company's influence over the financial and operating policies of the investee. See Note 20, *Related Party Transactions*, to the consolidated financial statements for more information.
- (2) Income tax expense for 2017 reflected \$1.2 billion of net tax benefit related to the 2017 Tax Cuts and Jobs Act.
- (3) Participating preferred stock is considered to be a common stock equivalent for purposes of earnings per share calculations.
- (4) Book value amounts reflect total BlackRock stockholders' equity divided by total common and preferred shares outstanding at December 31 of the respective year-end.

		December 31,				
(in millions)		2019	2018	2017	2016	2015
Statement of financial condition data:						
Cash and cash equivalents ⁽¹⁾	\$	4,829	\$ 6,488	\$ 7,038	\$ 6,175	\$ 6,231
Goodwill and intangible assets, net		32,931	31,365	30,609	30,481	30,495
Total assets ⁽²⁾		168,622	159,573	220,241	220,198	225,261
Less:						
Separate account assets ⁽³⁾		102,844	90,285	149,937	149,089	150,851
Collateral held under securities lending agreements ⁽³⁾		15,466	20,655	24,190	27,792	31,336
Consolidated sponsored investment products ⁽⁴⁾		1,692	2,209	580	375	678
Adjusted total assets	\$	48,620	\$ 46,424	\$ 45,534	\$ 42,942	\$ 42,396
Borrowings		4,955	4,979	5,014	4,915	4,930
Total BlackRock, Inc. stockholders' equity	\$	33,547	\$ 32,374	\$ 31,798	\$ 29,088	\$ 28,503
Assets under management:						
Equity:						
Active	\$	316,145	\$ 258,205	\$ 311,209	\$ 275,033	\$ 281,319
iShares ETFs		1,632,972	1,274,262	1,329,610	951,252	823,156
Non-ETF index		1,871,212	1,503,358	1,730,822	1,430,891	1,319,297
Equity subtotal		3,820,329	3,035,825	3,371,641	2,657,176	2,423,772
Fixed income:						
Active		939,275	795,985	815,135	749,996	719,653
iShares ETFs		565,790	427,596	395,252	314,707	254,190
Non-ETF index		810,327	660,836	645,078	507,662	448,525
Fixed income subtotal		2,315,392	1,884,417	1,855,465	1,572,365	1,422,368
Multi-asset		568,121	461,884	480,278	395,007	376,336
Alternatives:						
Illiquid alternatives		75,349	59,827	47,270	41,340	40,917
Liquid alternatives		59,048	51,718	51,263	47,290	51,168
Currency and commodities ⁽⁵⁾		43,675	31,813	30,814	28,308	20,754
Alternatives subtotal		178,072	143,358	129,347	116,938	112,839
Long-term		6,881,914	5,525,484	5,836,731	4,741,486	4,335,315
Cash management		545,949	448,565	449,949	403,584	299,884
Advisory ⁽⁶⁾		1,770	1,769	1,515	2,782	10,213
Total	\$	7,429,633	\$ 5,975,818	\$ 6,288,195	\$ 5,147,852	\$ 4,645,412

- (1) Amounts include cash and cash equivalents held by consolidated variable interest entities of \$131 million, \$186 million, \$144 million, \$84 million and \$148 million at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.
- (2) Includes separate account assets that are segregated funds held for purposes of funding individual and group pension contracts and collateral held under securities lending agreements related to these assets that have equal and offsetting amounts recorded in liabilities and ultimately do not impact BlackRock's stockholders' equity or cash flows.
- (3) Equal and offsetting amounts, related to separate account assets and collateral held under securities lending agreements, are recorded in liabilities.
- (4) Amounts include assets held by consolidated sponsored investment products.
- (5) Amounts include commodity iShares ETFs.
- (6) Advisory AUM represents long-term portfolio liquidation assignments.

Item 7. 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) BlackRock's ability to develop new products and services that address client preferences; (5) the impact of increased competition; (6) the impact of future acquisitions or divestitures; (7) BlackRock's ability to integrate acquired businesses successfully; (8) the unfavorable resolution of legal proceedings; (9) the extent and timing of any share repurchases; (10) the impact, extent and timing of technological changes and the adequacy of intellectual property, information and cyber security protection; (11) attempts to circumvent BlackRock's operational control environment or the potential for human error in connection with BlackRock's operational systems; (12) 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"); (13) changes in law and policy and uncertainty pending any such changes; (14) 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; (15) the ability to attract and retain highly talented professionals; (16) fluctuations in the carrying value of BlackRock's economic investments; (17) 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; (18) BlackRock's success in negotiating distribution arrangements and maintaining distribution channels for its products; (19) the failure by a key vendor of BlackRock to fulfill its obligations to the Company; (20) any disruption to the operations of third parties whose functions are integral to BlackRock's exchange-traded funds ("ETF") platform; (21) 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 (22) 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 \$7.43 trillion of AUM at December 31, 2019. With approximately 16,200 employees in more than 30 countries, BlackRock provides a broad range of investment and technology services to institutional and retail clients in more than 100 countries across the globe. For further information see Note 1, *Business Overview*, and Note 27, *Segment Information*, in the notes to the consolidated financial statements contained in Part II, Item 8.

The following discussion includes a comparison of BlackRock's results for 2019 and 2018. For a discussion of BlackRock's results for 2017, see "Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations" of the Company's Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 28, 2019.

Certain prior period presentations and disclosures, while not required to be recast, were reclassified to ensure comparability with current period classifications.

United Kingdom Exit from European Union

Following the June 2016 vote to exit the European Union ("EU"), commonly referred to as Brexit, the United Kingdom ("UK") left the EU on January 31, 2020 and entered an eleven-month transition period during which the UK, and UK-based entities, will retain the rights and obligations of EU membership.

Substantial uncertainty remains surrounding the future relationship between the UK and EU, but the UK government has indicated its preference for negotiating a trade deal with the EU before the end of the transition period rather than continuing Single Market or Customs Union membership. BlackRock is implementing a number of steps to prepare for various outcomes, including there being no agreement in place when the transition period expires. These steps, many of which are time consuming and costly, include effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications, and are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the future relationship between the UK and the EU, BlackRock may experience further organizational and operational challenges and incur additional costs in connection with its European operations during the transition period and post-Brexit, which may impede the Company's growth or impact its financial performance.

Acquisition

On May 10, 2019, the Company acquired 100% of the equity interests of eFront Holding SAS (“eFront Transaction” or “eFront”), a leading alternative investment management software and solutions provider for approximately \$1.3 billion, excluding the settlement of eFront’s outstanding debt. The acquisition of eFront expands *Aladdin*’s illiquid alternative capabilities and enables BlackRock to provide individual alternative or whole-portfolio technology solutions to clients.

Business Outlook

BlackRock’s framework for long-term value creation is predicated on generating differentiated organic growth, leveraging scale to increase operating margins over time, and returning capital to shareholders on a consistent basis. BlackRock’s diversified platform, in terms of style, product, client and geography, enables it to generate more stable cash flows through market cycles, positioning BlackRock to invest for the long-term by striking an appropriate balance between investing for future growth and prudent discretionary expense management.

BlackRock’s investment management revenue is primarily comprised of fees earned as a percentage of AUM and, in some cases, performance fees, which are normally expressed as a percentage of fund returns to the client. Numerous factors, including price movements in the equity, debt or currency markets, or in the price of real assets, commodities or alternative investments in which BlackRock invests on behalf of clients, could impact BlackRock’s AUM, revenue and earnings.

BlackRock manages \$3.8 trillion of equity assets across markets globally. Beta divergence between equity markets, where certain markets perform differently than others, may lead to an increase in the proportion of BlackRock AUM weighted toward lower fee equity products, resulting in a decline in BlackRock’s effective fee rate. Divergent market factors may also erode the correlation between the growth rates of AUM and base fees.

BlackRock’s highly diversified multi-product platform was created to meet client needs in all market environments. BlackRock is positioned to provide alpha-seeking active, index and cash management investment strategies across asset classes and geographies. In addition, BlackRock leverages its world-class risk management, analytics and technology capabilities, including the *Aladdin* platform, on behalf of clients. BlackRock serves a diverse mix of institutional and retail clients across the globe, including investors in *iShares* ETFs, maintaining differentiated client relationships and a fiduciary focus. The diversity of BlackRock’s platform facilitates the generation of organic growth in various market environments, and as client preferences evolve. Client demand continues for ETFs and illiquid alternatives, which are two areas of focus for BlackRock.

The index investing industry has been growing rapidly – with ETFs as a major beneficiary – driven by structural tailwinds including the migration from commission-based to fee-based wealth management, clients’ focus on value for money, the use of ETFs as alpha tools and the growth of all-to-all networked trading. *iShares* ETFs’ growth strategy is centered on increasing scale and pursuing global growth themes in client and product segments, including Core, Strategic, which includes Fixed Income, Factors, Sustainable and Megatrends ETFs, and Precision Exposures.

As the wealth management landscape shifts globally from individual product selection to a whole-portfolio approach, BlackRock’s retail strategy is focused on creating outcome-oriented client solutions. This includes having a diverse platform of alpha-seeking active, index and alternative products, as well as enhanced distribution and portfolio construction technology offerings. Digital wealth tools are an important component of BlackRock’s retail strategy, as BlackRock scales and customizes model portfolios, extends *Aladdin* Wealth and digital wealth partnerships globally, and helps advisors build better portfolios through portfolio construction and risk management, powered by *Aladdin*.

BlackRock continues to invest in technology services offerings, which enhance the ability to manage portfolios and risk, effectively serve clients and operate efficiently. Anticipated industry consolidation and regulatory requirements should continue to drive demand for holistic and flexible technology solutions. In 2019, BlackRock completed the acquisition of eFront, a leading end-to-end alternative investment management software and solutions provider. eFront, in combination with *Aladdin*, will provide clients with an ability to manage portfolios and risk across public and private asset classes on a single platform.

Across BlackRock, more clients are focusing on the impact of sustainability on their portfolios. This shift has been driven by an increased understanding of how sustainability-related factors can affect economic growth, asset values, and financial markets as a whole. As a fiduciary, BlackRock is committed to helping clients build more resilient portfolios. Since sustainable investment options have the potential to offer clients better outcomes, we are making sustainability integral to the way BlackRock manages risk, constructs portfolios, designs products, and engages with companies. Over the past several years, BlackRock has been deepening the integration of sustainability into technology, risk management, and product choice across BlackRock, and plans to accelerate those efforts.

EXECUTIVE SUMMARY

(in millions, except shares and per share data)

	2019	2018
GAAP basis:		
Total revenue	\$ 14,539	\$ 14,198
Total expense	8,988	8,741
Operating income	\$ 5,551	\$ 5,457
Operating margin	38.2%	38.4%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	186	(76)
Income tax expense	(1,261)	(1,076)
Net income attributable to BlackRock	\$ 4,476	\$ 4,305
Diluted earnings per common share	\$ 28.43	\$ 26.58
Effective tax rate	22.0%	20.0%
As adjusted(1):		
Operating income	\$ 5,551	\$ 5,531
Operating margin	43.7%	44.3%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	\$ 186	\$ (76)
Net income attributable to BlackRock	\$ 4,484	\$ 4,361
Diluted earnings per common share	\$ 28.48	\$ 26.93
Effective tax rate	21.9%	20.0%
Other:		
Assets under management (end of period)	\$ 7,429,633	\$ 5,975,818
Diluted weighted-average common shares outstanding(2)	157,459,546	161,948,732
Common and preferred shares outstanding (end of period)	155,198,968	158,520,147
Book value per share(3)	\$ 216.15	\$ 204.23
Cash dividends declared and paid per share	\$ 13.20	\$ 12.02

(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 December 31 of the respective year-end.

2019 COMPARED WITH 2018

GAAP. Operating income of \$5,551 million increased \$94 million from 2018. Operating income growth reflected higher base fees and technology services revenue, partially offset by higher compensation and benefits expense and higher general and administration expense. Operating income for 2019 also included \$61 million of product launch costs associated with the close of the \$1.4 billion BlackRock Science and Technology Trust II, a closed-end active equity fund. Operating income for 2018 included a restructuring charge of \$60 million from an initiative to modify the size and shape of the workforce. Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests ("NCI"), increased \$262 million from 2018 driven by higher marks on unhedged seed capital investments and the revaluation of certain minority investments. Nonoperating results for 2018 included a \$40 million pre-tax gain related to the sale of the Company's minority interest in DSP BlackRock Investment Managers Pvt. Ltd. to The DSP Group ("DSP Transaction").

Income tax expense for 2019 included \$28 million of discrete tax benefits, primarily related to stock-based compensation awards. Income tax expense for 2018 included \$145 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure and stock-based compensation awards. See *Income Tax Expense* within *Discussion of Financial Results* for more information.

Diluted earnings per common share increased \$1.85, or 7%, from 2018, reflecting higher operating and nonoperating income, and a lower diluted share count, partially offset by a higher effective tax rate in the current year.

As Adjusted. Operating income of \$5,551 million increased \$20 million from 2018. In 2018, the pre-tax restructuring charge of \$60 million described above has been excluded from as adjusted results. Diluted earnings per common share increased \$1.55, or 6%, from 2018, driven primarily by higher nonoperating income and a lower diluted share count, partially offset by a higher effective tax rate.

See *Non-GAAP Financial Measures* for further information on as adjusted items.

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 accounting principles generally accepted in the United States ("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 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. Management believes that operating margin, as adjusted, reflects the Company's long-term ability to manage ongoing costs in relation to its revenues. The Company uses operating margin, as adjusted, to assess the Company's financial performance and to determine the long-term and annual compensation of the Company's senior-level employees. Furthermore, this metric is used to evaluate the Company's relative performance against industry peers, as it eliminates margin variability arising from the accounting of revenues and expenses related to distributing different product structures in multiple distribution channels utilized by asset managers.

(in millions)	2019	2018
Operating income, GAAP basis	\$ 5,551	\$ 5,457
Non-GAAP expense adjustments:		
Restructuring charge	—	60
PNC LTIP funding obligation	—	14
Operating income, as adjusted	5,551	5,531
Product launch costs and commissions	61	13
Operating income used for operating margin measurement	\$ 5,612	\$ 5,544
Revenue, GAAP basis	\$ 14,539	\$ 14,198
Non-GAAP adjustments:		
Distribution fees	(1,069)	(1,155)
Investment advisory fees	(616)	(520)
Revenue used for operating margin measurement	\$ 12,854	\$ 12,523
Operating margin, GAAP basis	38.2%	38.4%
Operating margin, as adjusted	43.7%	44.3%

- **Operating income, as adjusted**, includes non-GAAP expense adjustments. In 2018, 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. In 2018, 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 calculating operating margin, as adjusted, is reduced to exclude all of the Company's distribution fees, which are recorded as a separate line item on the consolidated statements of income, as well as a portion of investment advisory fees received that is used to pay distribution and servicing costs. For certain products, based on distinct arrangements, distribution fees are collected by the Company and then passed-through to third-party client intermediaries. For other products, investment advisory fees are collected by the Company and a portion is passed-through to third-party client intermediaries. However, in both structures, the third-party client intermediary similarly owns the relationship with the retail client and is responsible for distributing the product and servicing the client. The amount of distribution and investment advisory fees fluctuates each period primarily based on a predetermined percentage of the value of AUM during the period. These fees also vary based on the type of investment product sold and the geographic location where it is sold. In addition, the Company may waive fees on certain products that could result in the reduction of payments to the third-party intermediaries.

(2) Net income attributable to BlackRock, Inc., as adjusted:

(in millions, except per share data)

	2019	2018
Net income attributable to BlackRock, Inc., GAAP basis	\$ 4,476	\$ 4,305
Non-GAAP adjustments:		
Restructuring charge, net of tax	—	47
PNC LTIP funding obligation, net of tax	—	12
Other income tax matters	8	(3)
Net income attributable to BlackRock, Inc., as adjusted	\$ 4,484	\$ 4,361
Diluted weighted-average common shares outstanding (3)	157.5	161.9
Diluted earnings per common share, GAAP basis (3)	\$ 28.43	\$ 26.58
Diluted earnings per common share, as adjusted (3)	\$ 28.48	\$ 26.93

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. 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 as a result of tax rate changes. 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 and Product Type

	AUM		Net inflows (outflows)	
(in millions)	2019	2018	2019	2018
Retail	\$ 703,297	\$ 610,850	\$ 15,810	\$ 19,079
iShares ETFs	2,240,065	1,731,425	183,492	167,535
Institutional:				
Active	1,338,670	1,079,979	99,456	(9,583)
Index	2,599,882	2,103,230	36,902	(53,704)
Institutional subtotal	3,938,552	3,183,209	136,358	(63,287)
Long-term	6,881,914	5,525,484	335,660	123,327
Cash management	545,949	448,565	93,074	(21)
Advisory(1)	1,770	1,769	2	323
Total	\$ 7,429,633	\$ 5,975,818	\$ 428,736	\$ 123,629

AUM and Net Inflows (Outflows) by Investment Style and Product Type

	AUM		Net inflows (outflows)	
(in millions)	2019	2018	2019	2018
Active	\$ 1,947,222	\$ 1,617,780	\$ 109,892	\$ 8
Index and iShares ETFs	4,934,692	3,907,704	225,768	123,319
Long-term	6,881,914	5,525,484	335,660	123,327
Cash management	545,949	448,565	93,074	(21)
Advisory(1)	1,770	1,769	2	323
Total	\$ 7,429,633	\$ 5,975,818	\$ 428,736	\$ 123,629

AUM and Net Inflows (Outflows) by Product Type

	AUM		Net inflows (outflows)	
(in millions)	2019	2018	2019	2018
Equity	\$ 3,820,329	\$ 3,035,825	\$ 28,353	\$ 15,167
Fixed income	2,315,392	1,884,417	263,579	79,110
Multi-asset	568,121	461,884	18,889	16,913
Alternatives:				
Illiquid alternatives	75,349	59,827	14,103	7,580
Liquid alternatives	59,048	51,718	3,957	2,010
Currency and commodities(2)	43,675	31,813	6,779	2,547
Alternatives subtotal	178,072	143,358	24,839	12,137
Long-term	6,881,914	5,525,484	335,660	123,327
Cash management	545,949	448,565	93,074	(21)
Advisory(1)	1,770	1,769	2	323
Total	\$ 7,429,633	\$ 5,975,818	\$ 428,736	\$ 123,629

(1) Advisory AUM represents long-term portfolio liquidation assignments.

(2) Amounts include commodity iShares ETFs.

The following table presents the component changes in BlackRock's AUM for 2019 and 2018.

(in millions)	2019	2018
Beginning AUM	\$ 5,975,818	\$ 6,288,195
Net inflows (outflows)		
Long-term	335,660	123,327
Cash management	93,074	(21)
Advisory ⁽¹⁾	2	323
Total net inflows (outflows)	428,736	123,629
Acquisitions and dispositions ⁽²⁾	—	27,500
Market change	994,076	(384,136)
FX impact ⁽³⁾	31,003	(79,370)
Total change	1,453,815	(312,377)
Ending AUM	\$ 7,429,633	\$ 5,975,818

(1) Advisory AUM represents long-term portfolio liquidation assignments.

(2) Amount for 2018 represents \$5.4 billion and \$25.6 billion of net AUM from the acquisitions of Tennenbaum Capital Partners in August 2018 ("TCP Transaction") and the asset management business of Citibanamex in September 2018 ("Citibanamex Transaction"), respectively. In addition, amounts include \$18.6 billion and \$2.3 billion of AUM reclassifications and net dispositions, respectively, related to the transfer of BlackRock's UK Defined Contribution Administration and Platform business to Aegon N.V. in July 2018 ("Aegon Transaction") and \$1.2 billion of net AUM dispositions related to the DSP Transaction.

(3) Foreign exchange reflects the impact of translating non-US dollar denominated AUM into US dollars for reporting purposes.

BlackRock has historically grown AUM through organic growth and acquisitions. Management believes that the Company will be able to continue to grow AUM organically by focusing on strong investment performance, efficient delivery of beta for index products, client service, developing new products and optimizing distribution capabilities.

Component Changes in AUM for 2019

The following table presents the component changes in AUM by client type and product type for 2019.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact ⁽¹⁾	December 31, 2019	Full year average AUM ⁽²⁾
Retail:						
Equity	\$ 205,714	\$ (652)	\$ 45,820	\$ 1,531	\$ 252,413	\$ 229,688
Fixed income	271,588	21,222	11,882	573	305,265	289,632
Multi-asset	113,417	(9,291)	16,138	175	120,439	117,366
Alternatives	20,131	4,531	506	12	25,180	22,384
Retail subtotal	610,850	15,810	74,346	2,291	703,297	659,070
iShares ETFs:						
Equity	1,274,262	64,705	292,840	1,165	1,632,972	1,453,395
Fixed income	427,596	112,345	25,878	(29)	565,790	503,266
Multi-asset	4,485	113	601	11	5,210	4,489
Alternatives	25,082	6,329	4,664	18	36,093	29,767
iShares ETFs subtotal	1,731,425	183,492	323,983	1,165	2,240,065	1,990,917
Institutional:						
Active:						
Equity	110,976	1,852	27,547	743	141,118	124,722
Fixed income	538,961	55,006	55,358	2,043	651,368	611,383
Multi-asset	336,237	28,785	68,410	801	434,233	385,495
Alternatives	93,805	13,813	3,852	481	111,951	103,369
Active subtotal	1,079,979	99,456	155,167	4,068	1,338,670	1,224,969
Index:						
Equity	1,444,873	(37,552)	380,101	6,404	1,793,826	1,640,715
Fixed income	646,272	75,006	55,969	15,722	792,969	733,371
Multi-asset	7,745	(718)	1,203	9	8,239	8,095
Alternatives	4,340	166	272	70	4,848	4,580
Index subtotal	2,103,230	36,902	437,545	22,205	2,599,882	2,386,761
Institutional subtotal	3,183,209	136,358	592,712	26,273	3,938,552	3,611,730
Long-term	5,525,484	335,660	991,041	29,729	6,881,914	6,261,717
Cash management	448,565	93,074	3,054	1,256	545,949	486,636
Advisory ⁽³⁾	1,769	2	(19)	18	1,770	1,766
Total	\$ 5,975,818	\$ 428,736	\$ 994,076	\$ 31,003	\$ 7,429,633	\$ 6,750,119

(1) Foreign exchange reflects the impact of translating non-US dollar denominated AUM into US dollars for reporting purposes.

(2) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(3) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for 2019.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact ⁽¹⁾	December 31, 2019	Full year average AUM ⁽²⁾
Active:						
Equity	\$ 258,205	\$ (2,918)	\$ 59,701	\$ 1,157	\$ 316,145	\$ 286,461
Fixed income	795,985	74,972	66,150	2,168	939,275	885,170
Multi-asset	449,654	19,494	84,549	975	554,672	502,860
Alternatives	113,936	18,344	4,357	493	137,130	125,753
Active subtotal	1,617,780	109,892	214,757	4,793	1,947,222	1,800,244
Index and <i>iShares</i> ETFs:						
<i>iShares</i> ETFs:						
Equity	1,274,262	64,705	292,840	1,165	1,632,972	1,453,395
Fixed income	427,596	112,345	25,878	(29)	565,790	503,266
Multi-asset	4,485	113	601	11	5,210	4,489
Alternatives	25,082	6,329	4,664	18	36,093	29,767
<i>iShares</i> ETFs subtotal	1,731,425	183,492	323,983	1,165	2,240,065	1,990,917
Non-ETF Index:						
Equity	1,503,358	(33,434)	393,767	7,521	1,871,212	1,708,664
Fixed income	660,836	76,262	57,059	16,170	810,327	749,216
Multi-asset	7,745	(718)	1,202	10	8,239	8,096
Alternatives	4,340	166	273	70	4,849	4,580
Non-ETF Index subtotal	2,176,279	42,276	452,301	23,771	2,694,627	2,470,556
Index & <i>iShares</i> ETFs subtotal	3,907,704	225,768	776,284	24,936	4,934,692	4,461,473
Long-term	5,525,484	335,660	991,041	29,729	6,881,914	6,261,717
Cash management	448,565	93,074	3,054	1,256	545,949	486,636
Advisory ⁽³⁾	1,769	2	(19)	18	1,770	1,766
Total	\$ 5,975,818	\$ 428,736	\$ 994,076	\$ 31,003	\$ 7,429,633	\$ 6,750,119

The following table presents component changes in AUM by product type for 2019.

(in millions)	December 31, 2018	Net inflows (outflows)	Market change	FX impact ⁽¹⁾	December 31, 2019	Full year average AUM ⁽²⁾
Equity	\$ 3,035,825	\$ 28,353	\$ 746,308	\$ 9,843	\$ 3,820,329	\$ 3,448,520
Fixed income	1,884,417	263,579	149,087	18,309	2,315,392	2,137,652
Multi-asset	461,884	18,889	86,352	996	568,121	515,445
Alternatives:						
Illiquid alternatives	59,827	14,103	1,101	318	75,349	68,030
Liquid alternatives	51,718	3,957	3,224	149	59,048	55,088
Currency and commodities ⁽⁴⁾	31,813	6,779	4,969	114	43,675	36,982
Alternatives subtotal	143,358	24,839	9,294	581	178,072	160,100
Long-term	5,525,484	335,660	991,041	29,729	6,881,914	6,261,717
Cash management	448,565	93,074	3,054	1,256	545,949	486,636
Advisory ⁽³⁾	1,769	2	(19)	18	1,770	1,766
Total	\$ 5,975,818	\$ 428,736	\$ 994,076	\$ 31,003	\$ 7,429,633	\$ 6,750,119

(1) Foreign exchange reflects the impact of translating non-US dollar denominated AUM into US dollars for reporting purposes.

(2) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(3) Advisory AUM represents long-term portfolio liquidation assignments.

(4) Amounts include commodity *iShares* ETFs.

AUM increased \$1.5 trillion to \$7.43 trillion at December 31, 2019 from \$5.98 trillion at December 31, 2018 driven by net market appreciation and positive net flows across all investment styles and product types.

Net market appreciation of \$994.1 billion was driven primarily by higher global equity and fixed income markets.

AUM increased \$31 billion due to the impact of foreign exchange movements, primarily due to the weakening of the US dollar, largely against the British pound.

For further discussion on AUM, see “Part I, Item 1 – Business – Assets Under Management”.

Component Changes in AUM for 2018

The following table presents component changes in AUM by client type and product type for 2018.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions(1)	Market change	FX impact(2)	December 31, 2018	Full year average AUM(3)
Retail:							
Equity	\$ 233,218	\$ 2,090	\$ 2,137	\$ (28,005)	\$ (3,726)	\$ 205,714	\$ 231,556
Fixed income	257,571	11,546	14,070	(8,630)	(2,969)	271,588	268,818
Multi-asset	120,855	2,914	2,519	(12,107)	(764)	113,417	120,907
Alternatives	16,733	2,529	1,628	(590)	(169)	20,131	18,492
Retail subtotal	628,377	19,079	20,354	(49,332)	(7,628)	610,850	639,773
iShares ETFs:							
Equity	1,329,610	112,817	—	(159,433)	(8,732)	1,274,262	1,360,991
Fixed income	395,252	50,930	—	(14,355)	(4,231)	427,596	404,236
Multi-asset	3,761	1,050	—	(317)	(9)	4,485	3,837
Alternatives	23,616	2,738	—	(1,196)	(76)	25,082	24,663
iShares ETFs subtotal	1,752,239	167,535	—	(175,301)	(13,048)	1,731,425	1,793,727
Institutional:							
Active:							
Equity	137,185	(7,895)	(4,296)	(11,485)	(2,533)	110,976	131,474
Fixed income	570,050	(20,701)	2,417	(7,301)	(5,504)	538,961	554,107
Multi-asset	347,825	11,944	(1,593)	(14,650)	(7,289)	336,237	348,342
Alternatives	84,248	7,069	3,374	444	(1,330)	93,805	88,715
Active subtotal	1,139,308	(9,583)	(98)	(32,992)	(16,656)	1,079,979	1,122,638
Index:							
Equity	1,671,628	(91,845)	4,749	(122,252)	(17,407)	1,444,873	1,648,418
Fixed income	632,592	37,335	2,051	(4,835)	(20,871)	646,272	640,733
Multi-asset	7,837	1,005	(243)	(880)	26	7,745	8,031
Alternatives	4,750	(199)	1	(142)	(70)	4,340	4,689
Index subtotal	2,316,807	(53,704)	6,558	(128,109)	(38,322)	2,103,230	2,301,871
Institutional subtotal	3,456,115	(63,287)	6,460	(161,101)	(54,978)	3,183,209	3,424,509
Long-term	5,836,731	123,327	26,814	(385,734)	(75,654)	5,525,484	5,858,009
Cash management	449,949	(21)	686	1,593	(3,642)	448,565	453,883
Advisory(4)	1,515	323	—	5	(74)	1,769	1,381
Total	\$ 6,288,195	\$ 123,629	\$ 27,500	\$ (384,136)	\$ (79,370)	\$ 5,975,818	\$ 6,313,273

(1) Amount represents 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-US dollar denominated AUM into US 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 2018.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions ⁽¹⁾	Market change	FX impact ⁽²⁾	December 31, 2018	Full year average AUM ⁽³⁾
Active:							
Equity	\$ 311,209	\$ (12,439)	\$ (2,160)	\$ (33,819)	\$ (4,586)	\$ 258,205	\$ 300,671
Fixed income	815,135	(12,009)	16,487	(15,869)	(7,759)	795,985	808,997
Multi-asset	468,679	14,858	926	(26,757)	(8,052)	449,654	469,249
Alternatives	100,982	9,598	5,002	(146)	(1,500)	113,936	107,206
Active subtotal	1,696,005	8	20,255	(76,591)	(21,897)	1,617,780	1,686,123
Index and <i>iShares</i> ETFs:							
<i>iShares</i> ETFs:							
Equity	1,329,610	112,817	—	(159,433)	(8,732)	1,274,262	1,360,991
Fixed income	395,252	50,930	—	(14,355)	(4,231)	427,596	404,236
Multi-asset	3,761	1,050	—	(317)	(9)	4,485	3,837
Alternatives	23,616	2,738	—	(1,196)	(76)	25,082	24,663
<i>iShares</i> ETFs subtotal	1,752,239	167,535	—	(175,301)	(13,048)	1,731,425	1,793,727
Non-ETF Index:							
Equity	1,730,822	(85,211)	4,750	(127,923)	(19,080)	1,503,358	1,710,777
Fixed income	645,078	40,189	2,051	(4,897)	(21,585)	660,836	654,661
Multi-asset	7,838	1,005	(243)	(880)	25	7,745	8,031
Alternatives	4,749	(199)	1	(142)	(69)	4,340	4,690
Non-ETF Index subtotal	2,388,487	(44,216)	6,559	(133,842)	(40,709)	2,176,279	2,378,159
Index & <i>iShares</i> ETFs subtotal	4,140,726	123,319	6,559	(309,143)	(53,757)	3,907,704	4,171,886
Long-term	5,836,731	123,327	26,814	(385,734)	(75,654)	5,525,484	5,858,009
Cash management	449,949	(21)	686	1,593	(3,642)	448,565	453,883
Advisory ⁽⁴⁾	1,515	323	—	5	(74)	1,769	1,381
Total	\$ 6,288,195	\$ 123,629	\$ 27,500	\$ (384,136)	\$ (79,370)	\$ 5,975,818	\$ 6,313,273

The following table presents component changes in AUM by product type for 2018.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions ⁽¹⁾	Market change	FX impact ⁽²⁾	December 31, 2018	Full year average AUM ⁽³⁾
Equity	\$ 3,371,641	\$ 15,167	\$ 2,590	\$ (321,175)	\$ (32,398)	\$ 3,035,825	\$ 3,372,439
Fixed income	1,855,465	79,110	18,538	(35,121)	(33,575)	1,884,417	1,867,894
Multi-asset	480,278	16,913	683	(27,954)	(8,036)	461,884	481,117
Alternatives:							
Illiquid alternatives	47,270	7,580	4,968	828	(819)	59,827	52,764
Liquid alternatives	51,263	2,010	27	(857)	(725)	51,718	51,888
Currency and commodities ⁽⁵⁾	30,814	2,547	8	(1,455)	(101)	31,813	31,907
Alternatives subtotal	129,347	12,137	5,003	(1,484)	(1,645)	143,358	136,559
Long-term	5,836,731	123,327	26,814	(385,734)	(75,654)	5,525,484	5,858,009
Cash management	449,949	(21)	686	1,593	(3,642)	448,565	453,883
Advisory ⁽⁴⁾	1,515	323	—	5	(74)	1,769	1,381
Total	\$ 6,288,195	\$ 123,629	\$ 27,500	\$ (384,136)	\$ (79,370)	\$ 5,975,818	\$ 6,313,273

(1) Amount represents 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-US dollar denominated AUM into US 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 decreased \$312.4 billion to \$5.98 trillion at December 31, 2018 from \$6.29 trillion at December 31, 2017 driven by net market depreciation and the impact of foreign exchange movements, partially offset by positive long-term net flows, led by *iShares* ETFs, active multi-asset and illiquid alternatives, and net AUM added from strategic transactions.

Net market depreciation of \$384.1 billion was driven by lower global equity markets.

AUM decreased \$79.4 billion due to the impact of foreign exchange movements, primarily due to the strengthening of the US dollar, largely against the British pound and Euro.

DISCUSSION OF FINANCIAL RESULTS

Introduction

The Company derives a substantial portion of its revenue from investment advisory and administration fees, which are recognized as the services are performed over time because the customer is receiving and consuming the benefits as they are provided by the Company. Fees are primarily based on agreed-upon percentages of AUM and recognized for services provided during the period, which are distinct from services provided in other periods. Such fees are affected by changes in AUM, including market appreciation or depreciation, foreign exchange translation and net inflows or outflows. Net inflows or outflows represent the sum of new client assets, additional fundings from existing clients (including dividend reinvestment), withdrawals of assets from, and termination of, client accounts and distributions to investors representing return of capital and return on investments to investors. Market appreciation or depreciation includes current income earned on, and changes in the fair value of, securities held in client accounts. Foreign exchange translation reflects the impact of translating non-US dollar denominated AUM into US dollars for reporting purposes.

The Company also earns revenue by lending securities on behalf of clients, primarily to highly rated banks and broker-dealers. The securities loaned are secured by collateral in the form of cash or securities, with minimum collateral generally ranging from approximately 102% to 112% of the value of the loaned securities. Generally, the revenue earned is shared between the Company and the funds or accounts managed by the Company from which the securities are borrowed. Historically, securities lending revenue in the second quarter exceeds revenue in the other quarters during the year driven by higher seasonal demand.

Investment advisory agreements for certain separate accounts and investment funds provide for performance fees based upon relative and/or absolute investment performance, in addition to base fees based on AUM. Investment advisory performance fees generally are earned after a given period of time and when investment performance exceeds a contractual threshold. As such, the timing of recognition of performance fees may increase the volatility of the Company's revenue and earnings. The magnitude of performance fees can fluctuate quarterly due to the timing of carried interest recognition on alternative products; however, the third and fourth quarters have a greater number of nonalternative products with performance measurement periods that end on either September 30 or December 31.

The Company offers investment management technology systems, risk management services, wealth management and digital distribution tools, all 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 are primarily 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. Revenue derived from the sale of software licenses is recognized upon the granting of access rights.

The Company earns distribution and service fees for distributing investment products and providing support services to investments portfolios. The fees are based on AUM and are recognized when the amount of fees is known.

The Company advises global financial institutions, regulators, and government entities across a range of risk, regulatory, capital markets and strategic services. Fees earned for advisory services, which are included in advisory and other revenue, are determined using fixed-rate fees and are recognized over time as the related services are completed.

The Company earns fees for transition management services primarily comprised of commissions recognized in connection with buying and selling securities on behalf of its customers. Commissions related to transition management services, which are included in advisory and other revenue, are recorded on a trade-date basis as transactions occur.

The Company also earns revenue related to certain minority investments accounted for as equity method investments.

Operating expense reflects employee compensation and benefits, distribution and servicing costs, direct fund expense, general and administration expense and amortization of finite-lived intangible assets.

- Employee compensation and benefits expense includes salaries, commissions, temporary help, deferred and incentive compensation, employer payroll taxes, severance and related benefit costs.
- Distribution and servicing costs, which are primarily AUM driven, include payments to third parties, primarily associated with distribution and servicing of client investments in certain Company products.
- Direct fund expense primarily consists of third-party nonadvisory expenses incurred by the Company related to certain funds for the use of index trademarks, reference data for indices, custodial services, fund administration, fund accounting, transfer agent services, shareholder reporting services, legal expense, and audit and tax services as well as other fund-related expenses directly attributable to the nonadvisory operations of the fund. These expenses may vary over time with fluctuations in AUM, number of shareholder accounts, or other attributes directly related to volume of business.
- General and administration expense includes marketing and promotional, occupancy and office-related costs, portfolio services (including clearing expense related to transition management services), technology, professional services, communications, contingent consideration fair value adjustments, product launch costs, the impact of foreign currency remeasurement, and other general and administration expense. Foreign currency remeasurement losses were \$31 million and \$16 million for 2019 and 2018, respectively.

Approximately 75% of the Company's revenue is generated in US dollars. The Company's revenue and expense generated in foreign currencies (primarily the Euro and British pound) are impacted by foreign exchange rates. Any effect of foreign exchange rate change on revenue is partially offset by a change in expense driven by the Company's considerable non-dollar expense base related to its operations outside the United States.

Nonoperating income (expense) includes the effect of changes in the valuations on investments and earnings on equity method investments as well as interest and dividend income and interest expense. The Company primarily holds seed and co-investments in sponsored investment products that invest in a variety of asset classes, including private equity, hedge funds and real assets. Investments generally are made for co-investment purposes, to establish a performance track record or for regulatory purposes, including Federal Reserve Bank stock. The Company does not engage in proprietary trading activities that could conflict with the interests of its clients.

In addition, nonoperating income (expense) includes the impact of changes in the valuations of consolidated sponsored investment funds. The portion of nonoperating income (expense) not attributable to the Company is allocated to NCI on the consolidated statements of income.

Revenue

The following table presents detail of revenue for 2019 and 2018 and includes the product type mix of investment advisory, administration fees and securities lending revenue (collectively “base fees”) and performance fees.

(in millions)	2019	2018
Investment advisory, administration fees and securities lending revenue:		
Equity:		
Active	\$ 1,554	\$ 1,654
<i>iShares</i> ETFs	3,495	3,549
Non-ETF index	667	685
Equity subtotal	5,716	5,888
Fixed income:		
Active	1,918	1,840
<i>iShares</i> ETFs	963	825
Non-ETF index	405	387
Fixed income subtotal	3,286	3,052
Multi-asset	1,148	1,176
Alternatives:		
Illiquid alternatives	488	348
Liquid alternatives	413	384
Currency and commodities (1)	108	98
Alternatives subtotal	1,009	830
Long-term	11,159	10,946
Cash management	618	607
Total base fees	11,777	11,553
Investment advisory performance fees:		
Equity	36	91
Fixed income	10	8
Multi-asset	19	19
Alternatives:		
Illiquid alternatives	136	70
Liquid alternatives	249	224
Alternatives subtotal	385	294
Total performance fees	450	412
Technology services revenue	974	785
Distribution fees:		
Retrocessions	658	709
12b-1 fees (US mutual fund distribution fees)	358	406
Other	53	40
Total distribution fees	1,069	1,155
Advisory and other revenue:		
Advisory	99	113
Other	170	180
Total advisory and other revenue	269	293
Total revenue	\$ 14,539	\$ 14,198

(1) Amounts include commodity *iShares* ETFs.

The table below lists base fees and mix of average AUM by product type:

	Mix of Base Fees		Mix of Average AUM ⁽¹⁾	
	2019	2018	2019	2018
Equity:				
Active	13%	14%	4%	5%
<i>iShares</i> ETFs	30%	31%	22%	22%
Non-ETF index	6%	6%	25%	26%
Equity subtotal	49%	51%	51%	53%
Fixed income:				
Active	16%	17%	13%	13%
<i>iShares</i> ETFs	8%	7%	7%	6%
Non-ETF index	3%	3%	11%	10%
Fixed income subtotal	27%	27%	31%	29%
Multi-asset	10%	10%	8%	8%
Alternatives:				
Illiquid alternatives	4%	3%	1%	1%
Liquid alternatives	4%	3%	1%	1%
Currency and commodities (2)	1%	1%	1%	1%
Alternatives subtotal	9%	7%	3%	3%
Long-term	95%	95%	93%	93%
Cash management	5%	5%	7%	7%
Total excluding Advisory AUM	100%	100%	100%	100%

(1) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(2) Amounts include commodity *iShares* ETFs.

2019 Compared with 2018

Revenue increased \$341 million, or 2%, from 2018, primarily driven by higher base fees and 24% growth in technology services revenue.

Investment advisory, administration fees and securities lending revenue of \$11,777 million in 2019 increased \$224 million from \$11,553 million in 2018, reflecting the positive impact of market beta and foreign exchange movements, organic growth and acquisitions, partially offset by the negative impact of strategic price changes to certain products. Securities lending revenue of \$617 million in 2019 compared with \$627 million in 2018.

Investment advisory performance fees of \$450 million in 2019 increased \$38 million from \$412 million in 2018, primarily reflecting higher revenue from illiquid and liquid alternative products, partially offset by lower revenue from long-only equity products.

Technology services revenue of \$974 million for 2019 increased \$189 million from \$785 million in 2018, primarily reflecting the impact of the eFront Transaction and higher revenue from *Aladdin*.

Advisory and other revenue of \$269 million in 2019 decreased \$24 million from \$293 million in 2018, primarily reflecting lower fees from advisory assignments.

Expense

The following table presents expense for 2019 and 2018.

<i>(in millions)</i>	2019	2018
Expense, GAAP:		
Employee compensation and benefits	\$ 4,470	\$ 4,320
Distribution and servicing costs:		
Retrocessions	658	709
12b-1 costs	354	399
Other	673	567
Total distribution and servicing costs	1,685	1,675
Direct fund expense	978	998
General and administration:		
Marketing and promotional	350	361
Occupancy and office related	307	293
Portfolio services	261	271
Technology	289	234
Professional services	161	158
Communications	39	37
Foreign exchange remeasurement	31	16
Contingent consideration fair value adjustments	53	65
Product launch costs	59	12
Other general and administration	208	191
Total general and administration expense	1,758	1,638
Restructuring charge	—	60
Amortization of intangible assets	97	50
Total expense, GAAP	\$ 8,988	\$ 8,741

2019 Compared with 2018

GAAP. Expense increased \$247 million, or 3%, from 2018, primarily driven by higher employee compensation and benefits expense, higher general and administration expense and expense linked to the eFront Transaction.

Employee compensation and benefits expense increased \$150 million, or 3%, to \$4,470 million in 2019 from \$4,320 million in 2018, primarily reflecting higher headcount, higher performance fees and higher deferred compensation expense. Employees at December 31, 2019 totaled approximately 16,200 compared with approximately 14,900 at December 31, 2018.

General and administration expense increased \$120 million from 2018, reflecting higher technology expense, higher product launch costs, the impact of the eFront Transaction and the impact of foreign exchange remeasurement expense, partially offset by lower contingent consideration fair value adjustments related to prior acquisitions and lower marketing and promotional, and portfolio services expense.

Amortization of intangible assets expense increased \$47 million, or 94%, to \$97 million in 2019, primarily reflecting amortization of intangible assets associated with the eFront Transaction.

Nonoperating Results

The summary and reconciliation of GAAP nonoperating income (expense) to nonoperating income (expense), as adjusted for 2019 and 2018 was as follows:

(in millions)	2019		2018	
Nonoperating income (expense), GAAP basis ⁽¹⁾	\$	236	\$	(79)
Less: Net income (loss) attributable to NCI		50		(3)
Nonoperating income (expense), as adjusted, net of NCI ⁽²⁾⁽³⁾	\$	186	\$	(76)

- (1) Amounts included gains of \$210 million and losses of \$105 million attributable to consolidated variable interest entities ("VIEs") for 2019 and 2018, respectively.
- (2) Net of net income (loss) attributable to NCI.
- (3) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing the Company's nonoperating results, which ultimately impact BlackRock's book value. See *Non-GAAP Financial Measures* for further information on non-GAAP financial measures for 2019 and 2018.

The components of nonoperating income (expense), less net income (loss) attributable to NCI for 2019 and 2018 were as follows:

(in millions)	2019		2018	
Net gain (loss) on investments ⁽¹⁾⁽²⁾				
Private equity	\$	47	\$	(5)
Real assets		21		26
Other alternatives ⁽³⁾		19		2
Other investments ⁽⁴⁾		144		(70)
Subtotal		231		(47)
Other gains (losses) ⁽⁵⁾		61		51
Total net gain (loss) on investments ⁽¹⁾⁽²⁾		292		4
Interest and dividend income		97		104
Interest expense		(203)		(184)
Net interest expense		(106)		(80)
Nonoperating income (expense), as adjusted ⁽¹⁾⁽²⁾	\$	186	\$	(76)

- (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 the Company's nonoperating results, which ultimately impact BlackRock's book value. See *Non-GAAP Financial Measures* for further information on non-GAAP financial measures for 2019 and 2018.
- (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) 2019 primarily include noncash pre-tax gains (losses) related to the revaluation of certain minority investments. 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 minority investment.

Income Tax Expense

(in millions)	GAAP		As adjusted	
	2019	2018	2019	2018
Operating income ⁽¹⁾	\$ 5,551	\$ 5,457	\$ 5,551	\$ 5,531
Total nonoperating income (expense) ⁽¹⁾⁽²⁾	\$ 186	\$ (76)	\$ 186	\$ (76)
Income before income taxes ⁽²⁾	\$ 5,737	\$ 5,381	\$ 5,737	\$ 5,455
Income tax expense	\$ 1,261	\$ 1,076	\$ 1,253	\$ 1,094
Effective tax rate	22.0%	20.0%	21.9%	20.0%

- (1) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing the Company's nonoperating results, which ultimately impact BlackRock's book value. See *Non-GAAP Financial Measures* for further information on non-GAAP financial measures for 2019 and 2018.
- (2) Net of net income (loss) attributable to NCI.

The Company's tax rate is affected by tax rates in foreign jurisdictions and the relative amount of income earned in those jurisdictions, which the Company expects to be fairly consistent in the near term. The significant foreign jurisdictions that have different statutory tax rates than the US federal statutory rate of 21% include the United Kingdom, Ireland, Canada and Netherlands.

2019 Income tax expense (GAAP) reflected:

- o a discrete tax benefit of \$28 million primarily related to stock-based compensation awards that vested in 2019.

2018 Income tax expense (GAAP) reflected:

- o \$81 million discrete tax benefits, primarily related to changes in the Company's organization entity structure; and
- o a \$64 million discrete tax benefit related to stock-based compensation awards that vested in 2018.

BALANCE SHEET OVERVIEW

The following table presents a reconciliation of the consolidated statement of financial condition presented on a GAAP basis to the 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, which contains non-GAAP financial measures, 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 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 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 VIEs and voting rights entities ("VREs"), (collectively, "consolidated sponsored investment products"). See Note 2, *Significant Accounting Policies*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing 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.

December 31, 2019				
(in millions)	GAAP Basis	Separate Account Assets/ Collateral ⁽¹⁾	Consolidated Sponsored Investment Products ⁽²⁾	As Adjusted
Assets				
Cash and cash equivalents	\$ 4,829	\$ —	\$ 141	\$ 4,688
Accounts receivable	3,179	—	—	3,179
Investments	5,489	—	1,494	3,995
Separate account assets and collateral held under securities lending agreements	118,310	118,310	—	—
Other assets ⁽³⁾	3,884	—	57	3,827
Subtotal	135,691	118,310	1,692	15,689
Goodwill and intangible assets, net	32,931	—	—	32,931
Total assets	\$ 168,622	\$ 118,310	\$ 1,692	\$ 48,620
Liabilities				
Accrued compensation and benefits	\$ 2,057	\$ —	\$ —	\$ 2,057
Accounts payable and accrued liabilities	1,167	—	—	1,167
Borrowings	4,955	—	—	4,955
Separate account liabilities and collateral liabilities under securities lending agreements	118,310	118,310	—	—
Deferred income tax liabilities ⁽⁴⁾	3,734	—	—	3,734
Other liabilities	3,470	—	310	3,160
Total liabilities	133,693	118,310	310	15,073
Equity				
Total stockholders' equity	33,547	—	—	33,547
Noncontrolling interests	1,382	—	1,382	—
Total equity	34,929	—	1,382	33,547
Total liabilities and equity	\$ 168,622	\$ 118,310	\$ 1,692	\$ 48,620

(1) Amounts represent segregated client assets and related liabilities. 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.

(2) Amounts represent the portion of assets and liabilities of Consolidated Sponsored Investment Products attributable to NCI.

(3) Amount includes property and equipment and other assets.

(4) Amount includes approximately \$4.2 billion of deferred income tax liabilities related to goodwill and intangibles. See Note 25, *Income Taxes*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information.

The following discussion summarizes the significant changes in assets and liabilities on a GAAP basis. Please see the consolidated statements of financial condition as of December 31, 2019 and 2018 contained in Part II, Item 8 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 December 31, 2019 and 2018 included \$141 million and \$245 million, respectively, of cash held by consolidated sponsored investment products (see *Liquidity and Capital Resources* for details on the change in cash and cash equivalents during 2019).

Accounts receivable at December 31, 2019 increased \$522 million from December 31, 2018, primarily due to higher base fees, technology services and performance fee receivables. Investments were \$5,489 million at December 31, 2019 (for more information see *Investments* herein). Goodwill and intangible assets increased \$1,566 million from December 31, 2018, primarily due to the eFront Transaction, partially offset by amortization of intangible assets. Other assets (including operating lease right-of-use (“ROU”) assets and property and equipment) increased \$237 million from December 31, 2018, primarily due to the initial recognition of the operating lease ROU assets related to the adoption of the new lease accounting guidance and an increase in certain corporate minority investments, property and equipment, and unit trust receivables (substantially offset by an increase in unit trust payables recorded within other liabilities), partially offset by a decrease in other assets of consolidated sponsored investment products.

Liabilities. Accrued compensation and benefits at December 31, 2019 increased \$69 million from December 31, 2018, primarily due to higher 2019 deferred compensation accruals. Other liabilities increased \$207 million from December 31, 2018, primarily due to the initial recognition of the operating lease liabilities related to the adoption of the new lease accounting guidance and higher unit trust payables (substantially offset by an increase in unit trust receivables recorded within other assets), partially offset by a decrease in contingent liability in connection with certain prior acquisitions, and restructuring liability payments and a decrease in other liabilities of consolidated sponsored investment products. Net deferred income tax liabilities at December 31, 2019 increased \$163 million from December 31, 2018, primarily due to the effects of temporary differences associated with the eFront Transaction and investment income.

Investments

The Company’s investments were \$5,489 million and \$4,476 million at December 31, 2019 and 2018, respectively. Investments include consolidated investments held by sponsored investment products accounted for as VIEs and VREs. Management reviews BlackRock’s investments on an “economic” basis, which eliminates the portion of 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 investments, as adjusted, to enable investors to understand the portion of 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 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)	December 31, 2019	December 31, 2018
Investments, GAAP	\$ 5,489	\$ 4,476
Investments held by consolidated sponsored investment products	(3,784)	(3,204)
Net interest in consolidated sponsored investment products ⁽¹⁾	2,290	2,109
Investments, as adjusted	3,995	3,381
Federal Reserve Bank stock	(93)	(92)
Deferred compensation investments	(23)	(34)
Hedged investments	(644)	(483)
Carried interest	(528)	(387)
Total “economic” investment exposure	\$ 2,707	\$ 2,385

(1) Amount included \$514 million and \$369 million of carried interest (VIEs) as of December 31, 2019 and 2018, respectively, 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 December 31, 2019 and 2018:

(in millions)	December 31, 2019	December 31, 2018
Private equity	\$ 355	\$ 305
Real assets	322	377
Other alternatives ⁽¹⁾	235	199
Other investments ⁽²⁾	1,795	1,504
Total “economic” investment exposure	\$ 2,707	\$ 2,385

(1) Other alternatives primarily include hedge funds/funds of hedge funds.

(2) Other investments primarily include seed investments in fixed income, equity and multi-asset mutual funds/strategies as well as UK government securities, primarily held for regulatory purposes.

As adjusted investment activity for 2019 and 2018 was as follows:

(in millions)	2019	2018
Investments, as adjusted, beginning balance	\$ 3,381	\$ 3,154
Purchases/capital contributions/acquisitions	975	1,494
Sales/maturities	(617)	(1,124)
Distributions (1)	(226)	(95)
Market appreciation(depreciation)/earnings from equity method investments	333	(107)
Carried interest capital allocations/(distributions)/acquired	141	89
Other	8	(30)
Investments, as adjusted, ending balance	\$ 3,995	\$ 3,381

(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 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 consolidated statements of cash flows presented on a GAAP basis to the 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
Net cash provided by/(used in) operating activities	3,075	(1,181)	4,256
Net cash provided by/(used in) investing activities	(808)	(84)	(724)
Net cash provided by/(used in) financing activities	(2,765)	1,303	(4,068)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(93)	—	(93)
Net increase/(decrease) in cash, cash equivalents and restricted cash	(591)	38	(629)
Cash, cash equivalents and restricted cash, December 31, 2018	\$ 6,505	\$ 245	\$ 6,260
Net cash provided by/(used in) operating activities	2,884	(1,563)	4,447
Net cash provided by/(used in) investing activities	(2,014)	(110)	(1,904)
Net cash provided by/(used in) financing activities	(2,583)	1,569	(4,152)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	54	—	54
Net increase/(decrease) in cash, cash equivalents and restricted cash	(1,659)	(104)	(1,555)
Cash, cash equivalents and restricted cash, December 31, 2019	\$ 4,846	\$ 141	\$ 4,705

Sources of BlackRock's operating cash primarily include investment advisory, administration fees and securities lending revenue, performance fees, technology services revenue, advisory revenue and distribution fees. BlackRock uses its cash to pay for all operating expense, interest and principal on borrowings, income taxes, dividends on BlackRock's capital stock, repurchases of the Company's stock, acquisitions, 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 Consolidated Statements of Cash Flows contained in Part II, Item 8 of this filing.

Cash flows provided by 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 flows used in investing activities, excluding the impact of consolidated sponsored investment products, for 2019 were \$1,904 million and primarily reflected \$1.5 billion of cash outflow related to the eFront Transaction, \$693 million of investment purchases and \$254 million of purchases of property and equipment, partially offset by \$417 million of net proceeds from sales and maturities of certain investments.

Cash flows used in financing activities, excluding the impact of consolidated sponsored investment products, for 2019 were \$4,152 million, primarily resulting from \$1.9 billion of share repurchases, including \$400 million in open market transactions, a \$1.3 billion private transaction and \$245 million of employee tax withholdings related to employee stock transactions, \$2.1 billion of cash dividend payments, and \$1 billion of repayments of long-term borrowings, partially offset by \$992 million of proceeds from long-term borrowings.

The Company manages its financial condition and funding to maintain appropriate liquidity for the business. Liquidity resources at December 31, 2019 and 2018 were as follows:

(in millions)	December 31, 2019	December 31, 2018
Cash and cash equivalents ⁽¹⁾	\$ 4,829	\$ 6,488
Cash and cash equivalents held by consolidated sponsored investment products ⁽²⁾	(141)	(245)
Subtotal	4,688	6,243
Credit facility — undrawn	4,000	4,000
Total liquidity resources ⁽³⁾	\$ 8,688	\$ 10,243

- (1) The percentage of cash and cash equivalents held by the Company's US subsidiaries was approximately 45% and 50% at December 31, 2019 and 2018, 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) Amounts do not reflect a reduction for year-end incentive compensation accruals of approximately \$1.4 billion for both 2019 and 2018, which are paid in the first quarter of the following year.

Total liquidity resources decreased \$1,555 million during 2019, primarily reflecting cash dividend payments of \$2.1 billion, share repurchases of \$1.9 billion, reflecting the impact of a \$1.3 billion private transaction, and approximately \$1.5 billion of cash outflow related to the eFront Transaction, partially offset by cash flows from operating activities.

A significant portion of the Company's \$3,995 million of investments, as adjusted, is illiquid in nature and, as such, cannot be readily convertible to cash.

Share Repurchases. In January 2019, the Board of Directors authorized the repurchase of an additional seven million shares under the Company's existing share repurchase program for a total up to approximately 9.9 million shares of BlackRock common stock.

During 2019, the Company repurchased 4.0 million common shares under the share repurchase program for approximately \$1.7 billion, including a \$1.3 billion private transaction that closed on March 25, 2019. At December 31, 2019, there were 5.9 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 deposits or make commercial loans and whose powers are limited to trust and other fiduciary activities. BTC provides investment management and other fiduciary 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 December 31, 2019 and 2018, the Company was required to maintain approximately \$1.9 billion and \$1.8 billion, respectively, 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.

Undistributed Earnings of Foreign Subsidiaries. As a result of The 2017 Tax Cuts and Jobs Act and the one-time mandatory deemed repatriation tax on untaxed accumulated foreign earnings, US income taxes were provided on the Company's undistributed foreign earnings. The financial statement basis in excess of tax basis of its foreign subsidiaries remains indefinitely reinvested in foreign operations. The Company will continue to evaluate its capital management plans throughout 2020.

Short-Term Borrowings

2019 Revolving Credit Facility. The Company's credit facility has an aggregate commitment amount of \$4 billion and was amended in March 2019 to extend the maturity date to March 2024 (the "2019 credit facility"). The 2019 credit facility permits the Company to request up to an additional \$1 billion of borrowing capacity, subject to lender credit approval, increasing the overall size of the 2019 credit facility to an aggregate principal amount not to exceed \$5 billion. Interest on borrowings outstanding accrues at a rate based on the applicable London Interbank Offered Rate plus a spread. The 2019 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 December 31, 2019. The 2019 credit facility provides back-up liquidity to fund ongoing working capital for general corporate purposes and various investment opportunities. At December 31, 2019, 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 billion. The commercial paper program is currently supported by the 2019 credit facility. At December 31, 2019, BlackRock had no CP Notes outstanding.

Long-Term Borrowings

The carrying value of long-term borrowings at December 31, 2019 included the following:

(in millions)	Maturity Amount		Carrying Value		Maturity
4.25% Notes	\$	750	\$	749	May 2021
3.375% Notes		750		748	June 2022
3.50% Notes		1,000		996	March 2024
1.25% Notes ⁽¹⁾		786		781	May 2025
3.20% Notes		700		695	March 2027
3.25% Notes		1,000		986	April 2029
Total Long-term Borrowings	\$	4,986	\$	4,955	

(1) The carrying value of the 1.25% Notes is calculated using the EUR/USD foreign exchange rate as of December 31, 2019.

In April 2019, the Company issued \$1 billion in aggregate principal amount of 3.25% senior unsecured and unsubordinated notes maturing on April 30, 2029 (the “2029 Notes”). The net proceeds of the 2029 Notes were used for general corporate purposes, which included a portion of the purchase price of the eFront Transaction, repayment of a portion of the \$1 billion 5.00% notes in December 2019 and repayment of borrowings under its commercial paper program. Interest is payable semi-annually on April 30 and October 30 of each year, which commenced on October 30, 2019, and is approximately \$33 million per year. The 2029 Notes may be redeemed prior to January 30, 2029 in whole or in part at any time, at the option of the Company, at a “make-whole” redemption price or at par thereafter. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2029 Notes.

In December 2019, the Company fully repaid \$1 billion of 5.00% notes at maturity.

In January 2020, the Company issued \$1 billion in aggregate principal amount of 2.40% senior unsecured and unsubordinated notes maturing on April 30, 2030 (the “2030 Notes”). The net proceeds of the 2030 Notes will be used for general corporate purposes. Interest of approximately \$24 million per year will be payable semi-annually on April 30 and October 30 of each year, commencing April 30, 2020. The 2030 Notes may be redeemed prior to January 30, 2030 in whole or in part at any time, at the option of the Company, at a “make-whole” redemption price or at 100% of the principal amount of the 2030 Notes thereafter. The discount and debt issuance costs will be amortized over the term of the 2030 Notes.

For more information on Company’s borrowings, see Note 15, *Borrowings*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing.

Contractual Obligations, Commitments and Contingencies

The following table sets forth contractual obligations, commitments and contingencies by year of payment at December 31, 2019:

(in millions)	2020	2021	2022	2023	2024	Thereafter	Total
Contractual obligations and commitments:							
Long-term borrowings ⁽¹⁾ :							
Principal	\$ —	\$ 750	\$ 750	\$ —	\$ 1,000	\$ 2,486	\$ 4,986
Interest	157	141	112	100	82	213	805
Operating leases	158	152	141	125	110	1,682	2,368
Purchase obligations	149	98	37	20	12	—	316
Investment commitments	553	—	—	—	—	—	553
Total contractual obligations and commitments	1,017	1,141	1,040	245	1,204	4,381	9,028
Contingent obligations:							
Contingent payments related to business acquisitions ⁽²⁾	189	19	—	—	—	—	208
Total contractual obligations, commitments and contingent obligations⁽³⁾	\$ 1,206	\$ 1,160	\$ 1,040	\$ 245	\$ 1,204	\$ 4,381	\$ 9,236

(1) The amount of principal and interest payments for the 1.25% Notes (issued in Euros) represents the expected payment amounts using the EUR/USD foreign exchange rate as of December 31, 2019.

(2) The amount of contingent payments reflected for any year represents the expected payments using foreign currency exchange rates as of December 31, 2019. The fair value of the remaining aggregate contingent payments at December 31, 2019 totaled \$193 million and is included in other liabilities on the consolidated statements of financial condition.

(3) At December 31, 2019, the Company had approximately \$618 million of net unrecognized tax benefits. Due to the uncertainty of timing and amounts that will ultimately be paid, this amount has been excluded from the table above.

Operating Leases. The Company leases its primary office locations under agreements that expire on varying dates through 2043. In connection with certain lease agreements, the Company is responsible for escalation payments. The contractual obligations table above includes only guaranteed minimum lease payments for such leases and does not project potential escalation or other lease-related payments.

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). In November 2019, the Company exercised its initial expansion option with respect to two additional floors of approximately 122,000 square feet of office space. The additional space requires approximately \$185 million in base rent over its twenty-year term.

For more information on the Company’s operating leases, see Note 13, *Leases*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing.

Purchase Obligations. In the ordinary course of business, BlackRock enters into contracts or purchase obligations with third parties whereby the third parties provide services to or on behalf of BlackRock. Purchase obligations included in the contractual obligations table above represent executory contracts, which are either noncancelable or cancelable with a penalty. At December 31, 2019, the Company's obligations primarily reflected standard service contracts for portfolio services, market data, office-related services and third-party marketing and promotional services, and obligations for equipment. Purchase obligations are recorded on the consolidated financial statements when services are provided and, as such, obligations for services and equipment not received are not included in the consolidated statement of financial condition at December 31, 2019.

Investment Commitments. At December 31, 2019, the Company had \$553 million of various capital commitments to fund sponsored investment products, including consolidated sponsored investment products. These products 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 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.

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 December 31, 2019 totaled \$193 million, and is included in other liabilities on the consolidated statements of financial condition.

The following items have not been included in the contractual obligations, commitments and contingencies table:

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 investments, or cash and cash equivalents to the extent that it is distributed, and as a deferred carried interest liability on its consolidated statements of financial condition. Carried interest is recorded as performance fees on BlackRock's consolidated statements of income when fees are no longer probable of significant reversal.

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 and, therefore, has not been included in the table above or recorded in the consolidated statement of financial condition at December 31, 2019. See further discussion in Note 16, *Commitments and Contingencies*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing.

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. In connection with securities lending transactions, BlackRock has agreed to indemnify 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. The amount of securities on loan as of December 31, 2019 and subject to this type of indemnification was \$210 billion. In the Company's capacity as lending agent, cash and securities totaling \$226 billion was held as collateral for indemnified securities on loan at December 31, 2019. The fair value of these indemnifications was not material at December 31, 2019.

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.

Compensation and Benefit Obligations. The Company has various compensation and benefit obligations, including bonuses, commissions and incentive payments payable, defined contribution plan matching contribution obligations, and deferred compensation arrangements, that are excluded from the contractual obligations and commitments table above. Accrued compensation and benefits at December 31, 2019 totaled \$2,057 million and included annual incentive compensation of \$1,372 million, deferred compensation of \$399 million and other compensation and benefits related obligations of \$286 million. Substantially all of the incentive compensation liability was paid in the first quarter of 2020, while the deferred compensation obligations are payable over various periods, with the majority payable over periods of up to three years.

CRITICAL ACCOUNTING POLICIES

The preparation of 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 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 consolidated financial statements. For a summary of these and additional accounting policies see Note 2, *Significant Accounting Policies*, in the consolidated financial statements included in Part II, Item 8 of this filing, including information regarding the adoption of Accounting Standards Update 2016-02, *Leases*.

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. Investments that are determined to be VIEs are consolidated if the Company is the primary beneficiary ("PB") of the entity. BlackRock is deemed to be the PB of a VIE if 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 economic interest of 10% or greater and deconsolidates such VIEs once equity ownership falls below 10%. See Note 6, *Consolidated Sponsored Investment Products*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information.

Investments

Equity Method Investments. For equity investments where BlackRock does not control the investee, and where it is not the 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 evaluation of whether the Company exerts control or significant influence over the financial and operational policies of its investees requires significant judgment based on the facts and circumstances surrounding each individual investment. Factors considered in these evaluations may include the type of investment, the legal structure of the investee, the terms and structure of the investment agreement, including investor voting or other rights, the terms of BlackRock's advisory agreement or other agreements with the investee, any influence BlackRock may have on the governing board of the investee, the legal rights of other investors in the entity pursuant to the fund's operating documents and the relationship between BlackRock and other investors in the entity.

BlackRock's equity method investees that are investment companies record their underlying investments at fair value. Therefore, under the equity method of accounting, BlackRock's share of the investee's underlying net income predominantly represents fair value adjustments in the investments held by the equity method investees. BlackRock's share of the investee's underlying net income or loss is based upon the most currently available information and is recorded as nonoperating income (expense) for investments in investment companies, or as advisory and other revenue for certain corporate minority investments, which are recorded in other assets, since such investees are considered to be an extension of BlackRock's core business.

At December 31, 2019, the Company had \$943 million and \$531 million of equity method investments, included in investments and other assets, respectively, and at December 31, 2018, the Company had \$781 million and \$459 million of equity method investments included in investments and other assets, respectively.

Other nonequity method corporate minority investments. Other nonequity method corporate minority investments are recorded within other assets on the consolidated statements of financial condition. At December 31, 2019 and 2018, these investments totaled \$282 million and \$199 million, respectively, and included investments in equity securities, which are generally measured at fair value or under the measurement alternative to fair value for nonmarketable securities. Changes in value of these securities are recorded in nonoperating income (expense) on the consolidated statements of income. See Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing for more information.

Impairments of Investments. Evaluation of impairments involves significant assumptions and management judgments, which could differ from actual results, and these differences could have a material impact on the consolidated statements of income. See Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing 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 consolidated financial statements contained in Part II, Item 8 of this filing for more information on fair value measurements.

Changes in Valuation. Changes in value on \$5,489 million of investments will impact the Company's nonoperating income (expense), \$342 million are held at cost or amortized cost and the remaining \$528 million relates to carried interest, which will not impact nonoperating income (expense). At December 31, 2019, changes in fair value of \$3,270 million of consolidated sponsored investment products will impact BlackRock's net income (loss) attributable to NCI on the consolidated statements of income. BlackRock's net exposure to changes in fair value of consolidated sponsored investment products was \$1,776 million.

Leases

The Company determines if a contract is a lease or contains a lease at inception. The identification of whether a contract contains a lease requires judgment, including determining whether there are identified assets in the contract that the Company has control over for a specified period of time in exchange for consideration.

Fixed lease payments are included in the measurement of ROU assets and lease liabilities on the consolidated statement of financial condition. The Company recognizes ROU assets and lease liabilities based on the present value of these future lease payments over the lease term at the commencement date discounted using the Company's incremental borrowing rate ("IBR"). Management judgment is required in determining the Company's IBR, including assessing the Company's credit rating using various financial metrics, such as revenue, operating margin and revenue growth, and, as appropriate, performing market analysis of yields on publicly traded bonds (secured or unsecured) of comparable companies. See Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing for more information on leases.

Goodwill and Intangible Assets

The value of advisory contracts acquired in business acquisitions to manage AUM in proprietary open-end investment funds as well as collective trust funds without a specified termination date are classified as indefinite-lived intangible assets. The assignment of indefinite lives to such investment fund contracts is based upon the assumption that there is no foreseeable limit on the contract period to manage these funds due to the likelihood of continued renewal at little or no cost. In addition, trade names/trademarks are considered indefinite-lived intangibles if they are expected to generate cash flows indefinitely. Goodwill represents the cost of a business acquisition in excess of the fair value of the net assets acquired. Indefinite-lived intangible assets and goodwill are not amortized.

Finite-lived management contracts, which relate to acquired separate accounts and funds, investor/customer relationships, and technology related assets that are expected to contribute to the future cash flows of the Company for a specified period of time are amortized over their remaining expected useful lives, which, at December 31, 2019 ranged from 1 to 11 years with a weighted-average remaining estimated useful life of 7.8 years.

Goodwill. The Company assesses its goodwill for impairment at least annually, considering such factors as the book value and the market capitalization of the Company. The impairment assessment performed as of July 31, 2019 indicated no impairment charge was required. The Company continues to monitor its book value per share compared with closing prices of its common stock for potential indicators of impairment. At December 31, 2019, the Company's common stock closed at \$502.70, which exceeded its book value of approximately \$216.15 per share.

Indefinite-lived and finite-lived intangibles. The Company performs assessments to determine if any intangible assets are impaired and whether the indefinite-life and finite-life classifications are still appropriate.

In evaluating whether it is more likely than not that the fair value of indefinite-lived intangibles is less than carrying value, BlackRock performed certain quantitative assessments and assessed various significant qualitative factors including AUM, revenue basis points, projected AUM growth rates, operating margins, tax rates and discount rates. In addition, the Company considered other factors including: (i) macroeconomic conditions such as a deterioration in general economic conditions, limitations on accessing capital, fluctuations in foreign exchange rates, or other developments in equity and credit markets; (ii) industry and market considerations such as a deterioration in the environment in which the Company operates, an increased competitive environment, a decline in market-dependent multiples or metrics, a change in the market for an entity's services, or regulatory, legal or political developments; and (iii) the Company-specific events, such as a change in management or key personnel, overall financial performance and litigation that could affect significant inputs used to determine the fair value of the indefinite-lived intangible asset. If an indefinite-lived intangible is determined to be more likely than not impaired, then the fair value of the asset is compared with its carrying value and any excess of the carrying value over the fair value would be recognized as an expense in the period in which the impairment occurs.

For finite-lived intangible assets, if potential impairment circumstances are considered to exist, the Company will perform a recoverability test, using an undiscounted cash flow analysis. Actual results could differ from these cash flow estimates, which could materially impact the impairment conclusion. If the carrying value of the asset is determined not to be recoverable based on the undiscounted cash flow test, the difference between the book value of the asset and its current fair value would be recognized as an expense in the period in which the impairment occurs.

In addition, management judgment is required to estimate the period over which finite-lived intangible assets will contribute to the Company's cash flows and the pattern in which these assets will be consumed. A change in the remaining useful life of any of these assets, or the reclassification of an indefinite-lived intangible asset to a finite-lived intangible asset, could have a significant impact on the Company's amortization expense, which was \$97 million, \$50 million and \$89 million for 2019, 2018 and 2017, respectively.

In 2019, 2018 and 2017, the Company performed impairment tests, including evaluating various qualitative factors and performing certain quantitative assessments. The Company determined that no impairment charges were required and that the classification of indefinite-lived versus finite-lived intangibles was still appropriate and no changes were required to the expected lives of the finite-lived intangibles. The Company continuously monitors various factors, including AUM, for potential indicators of impairment.

Contingent Consideration Liabilities

In connection with certain acquisitions, BlackRock is required to make contingent payments, subject to achieving specified performance targets. The fair value of this contingent consideration is estimated at the time of acquisition closing and is included in other liabilities on the consolidated statements of financial condition. As the fair value of the expected payments amount subsequently changes, the contingent consideration liability is adjusted, resulting in contingent consideration fair value adjustments recorded within general and administration expense of the consolidated statements of income. Cash payments up to the acquisition date fair value amount of the contingent consideration liability are reflected as financing activities with excess (if any) cash payments classified in operating activities. Any cash payments made soon after the acquisition date will be classified in investing activities.

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 because the customer is receiving and consuming the benefits as they are provided by the Company. Fees are primarily based on agreed-upon percentages of AUM and recognized for services provided during the period, which are distinct from services provided in other periods. 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 values).

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. For 2019, 2018 and 2017, securities lending revenue earned by the Company totaled \$617 million, \$627 million and \$597 million, respectively, and is recorded in investment advisory, administration and securities lending revenue on the consolidated statements of income. Investment advisory, administration fees and securities lending revenue are reported together as the fees for these services often are agreed upon with clients as a bundled fee.

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.

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 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. Carried interest subject to such clawback provisions is recorded in investments or cash and cash equivalents to the extent that it is distributed, on its consolidated statements of financial condition.

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 December 31, 2019 and 2018, the Company had \$483 million and \$293 million, respectively, of deferred carried interest recorded in other liabilities on the 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 17, *Revenue*, in the notes to the consolidated financial statements for detailed changes in the deferred carried interest liability balance for 2019 and 2018.

Fees earned for technology services are primarily recorded as services are performed and are generally determined using the value of positions on the *Aladdin* platform or on a fixed-rate basis. Revenue derived from the sale of software licenses is recognized upon the granting of access rights.

Distribution and service fees earned for distributing investment products and providing support services to investment portfolios, are based on AUM, and are recognized when the amount of fees is known.

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.

Income Taxes

Deferred income tax assets and liabilities are recognized for future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases using currently enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

Significant management judgment is required in estimating the ranges of possible outcomes and determining the probability of favorable or unfavorable tax outcomes and potential interest and penalties related to such unfavorable outcomes. Actual future tax consequences relating to uncertain tax positions may be materially different than the Company's current estimates. At December 31, 2019, BlackRock had \$900 million of gross unrecognized tax benefits, of which \$513 million, if recognized, would affect the effective tax rate.

Management is required to estimate the timing of the recognition of deferred tax assets and liabilities, make assumptions about the future deductibility of deferred income tax assets and assess deferred income tax liabilities based on enacted tax rates for the appropriate tax jurisdictions to determine the amount of such deferred income tax assets and liabilities. At December 31, 2019, the Company had deferred income tax assets of \$175 million and deferred income tax liabilities of \$3,734 million on the consolidated statement of financial condition. Changes in deferred tax assets and liabilities may occur in certain circumstances, including statutory income tax rate changes, statutory tax law changes, changes in the anticipated timing of recognition of deferred tax assets and liabilities or changes in the structure or tax status of the Company.

The Company assesses whether a valuation allowance should be established against its deferred income tax assets based on consideration of all available evidence, both positive and negative, using a more likely than not standard. The assessment considers, among other matters, the nature, frequency and severity of recent losses, forecast of future profitability, the duration of statutory carry back and carry forward periods, the Company's experience with tax attributes expiring unused, and tax planning alternatives.

The Company records income taxes based upon its estimated income tax liability or benefit. The Company's actual tax liability or benefit may differ from the estimated income tax liability or benefit. The Company had current income taxes receivables of approximately \$282 million and current income taxes payables of \$293 million at December 31, 2019.

Accounting Developments

For accounting pronouncements that the Company adopted during the year ended December 31, 2019 and for recent accounting pronouncements not yet adopted, see Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing.

Item 7a. 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 December 31, 2019, 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 December 31, 2019, the Company had outstanding total return swaps with an aggregate notional value of approximately \$644 million. At December 31, 2019, there were no outstanding interest rate swaps.

At December 31, 2019, approximately \$3.8 billion of BlackRock's investments were maintained in consolidated sponsored investment products accounted for as VIEs and VREs. 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 \$2.7 billion. See Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations-Balance Sheet Overview-Investments* for further information on the Company's investments.

Equity Market Price Risk. At December 31, 2019, the Company's net exposure to equity market price risk in its investment portfolio was approximately \$763 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 \$76.3 million in the carrying value of such investments.

Interest-Rate/Credit Spread Risk. At December 31, 2019, the Company was exposed to interest rate risk and credit spread risk as a result of approximately \$1,944 million of 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 \$40 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 \$753 million at December 31, 2019. A 10% adverse change in the applicable foreign exchange rates would result in approximately a \$75.3 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 December 31, 2019, the Company had outstanding forward foreign currency exchange contracts with an aggregate notional value of approximately \$3.4 billion.

Item 8. Financial Statements and Supplemental Data

The report of the independent registered public accounting firm and financial statements listed in the accompanying index are included in Item 15 of this report. See Index to the consolidated financial statements on page F-1 of this Form 10-K.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

There have been no disagreements on accounting and financial disclosure matters. BlackRock has not changed accountants in the two most recent fiscal years.

Item 9a. 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 annual report on Form 10-K. 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 fourth quarter of the fiscal year ending December 31, 2019 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Management of BlackRock, Inc. (the "Company") is responsible for establishing and maintaining effective internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended, as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers, or persons performing similar functions, and effected by the Company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America and includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with the authorizations of management and directors of the Company; and
- 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of effectiveness of the internal control over financial reporting to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that, as of December 31, 2019, the Company's internal control over financial reporting is effective.

The Company's independent registered public accounting firm has issued an attestation report on the effectiveness of the Company's internal control over financial reporting.

February 28, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of BlackRock, Inc.:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of BlackRock, Inc. and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statement of financial condition as of December 31, 2019 and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for the year then ended of the Company and our report dated February 28, 2020, 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. 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 included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and 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.

/s/ Deloitte & Touche, LLP

New York, New York
February 28, 2020

Item 9b. Other Information

The Company is furnishing no other information in this Form 10-K.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information regarding directors and executive officers set forth under the captions “Item 1: Election of Directors – Director Nominee Biographies” and “Item 1: Election of Directors – Corporate Governance – Other Executive Officers” of the Proxy Statement is incorporated herein by reference.

The information regarding compliance with Section 16(a) of the Exchange Act set forth under the caption “Item 1: Election of Directors – Delinquent Section 16(a) Reports” of the Proxy Statement is incorporated herein by reference.

The information regarding BlackRock’s Code of Ethics for Chief Executive and Senior Financial Officers under the caption “Item 1: Election of Directors – Corporate Governance – Our Corporate Governance Framework” of the Proxy Statement is incorporated herein by reference.

The information regarding BlackRock’s Audit Committee under the caption “Item 1: Election of Directors – Corporate Governance – Board Committees” of the Proxy Statement is incorporated herein by reference.

Item 11. Executive Compensation

The information contained in the sections captioned “Management Development & Compensation Committee Interlocks and Insider Participation,” “Item 2: Approval, in a Non-Binding Advisory Vote, of the Compensation for Named Executive Officers – Executive Compensation – Compensation Discussion and Analysis” and “Item 1: Election of Directors – Corporate Governance – 2019 Director Compensation” of the Proxy Statement is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information contained in the sections captioned “Item 1: Election of Directors – Ownership of BlackRock Common and Preferred Stock” and “Item 2 – Approval, in a Non-Binding Advisory Vote, of the Compensation for Named Executive Officers – Executive Compensation – Compensation Discussion and Analysis – 5. Compensation Policies and Practices – Equity Compensation Plan Information” of the Proxy Statement is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information contained in the sections captioned “Item 1: Election of Directors – Certain Relationships and Related Transactions” and “Item 1: Election of Directors – Criteria for Board Membership – Director Independence” of the Proxy Statement is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information regarding BlackRock’s independent auditor fees and services in the section captioned “Item 3: Ratification of the Appointment of the Independent Registered Public Accounting Firm” of the Proxy Statement is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

1. Financial Statements

The Company’s consolidated financial statements are included beginning on page F-1.

2. Financial Statement Schedules

Financial statement schedules have been omitted because they are not applicable, not required or the information required is included in the Company’s consolidated financial statements or notes thereto.

3. Exhibit Index

As used in this exhibit list, “BlackRock” refers to BlackRock, Inc. (formerly named New BlackRock, Inc. and previously, New Boise, Inc.) (Commission File No. 001-33099) and “Old BlackRock” refers to BlackRock Holdco 2, Inc. (formerly named BlackRock, Inc.) (Commission File No. 001-15305), which is the predecessor of BlackRock. The following exhibits are filed as part of this Annual Report on Form 10-K:

Please note that the agreements included as exhibits to this Form 10-K are included to provide information regarding their terms and are not intended to provide any other factual or disclosure information about BlackRock or the other parties to the agreements. The agreements contain representations and warranties by each of the parties to the applicable agreement that have been made solely for the benefit of the other parties to the applicable agreement and may not describe the actual state of affairs as of the date they were made or at any other time.

Exhibit No.	Description
3.1(1)	<u>Amended and Restated Certificate of Incorporation of BlackRock.</u>
3.2(2)	<u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation of BlackRock, Inc.</u>
3.3(3)	<u>Amended and Restated Bylaws of BlackRock.</u>
3.4(1)	<u>Certificate of Designations of Series A Convertible Participating Preferred Stock of BlackRock.</u>
3.5(4)	<u>Certificate of Designations of Series B Convertible Participating Preferred Stock of BlackRock.</u>
3.6(4)	<u>Certificate of Designations of Series C Convertible Participating Preferred Stock of BlackRock.</u>
3.7(5)	<u>Certificate of Designations of Series D Convertible Participating Preferred Stock of BlackRock.</u>
4.1(6)	<u>Specimen of Common Stock Certificate.</u>
4.2(7)	<u>Indenture, dated September 17, 2007, between BlackRock and The Bank of New York, as trustee, relating to senior debt securities.</u>
4.3(8)	<u>Form of 5.00% Notes due 2019.</u>
4.4(9)	<u>Form of 4.25% Notes due 2021.</u>
4.5(10)	<u>Form of 3.375% Notes due 2022.</u>
4.6(11)	<u>Form of 3.500% Notes due 2024.</u>
4.7(12)	<u>Form of 1.250% Notes due 2025.</u>
4.8(13)	<u>Form of 3.200% Notes due 2027.</u>
4.9(14)	<u>Form of 3.250% Notes due 2029.</u>
4.10(12)	<u>Officers' Certificate, dated May 6, 2015, for the 1.250% Notes due 2025 issued pursuant to the Indenture.</u>
4.11	<u>Description of Securities.</u>
10.1(15)	<u>BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.2(16)	<u>Amendment to the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.3(17)	<u>Amended and Restated BlackRock, Inc. 1999 Annual Incentive Performance Plan.+</u>
10.4(18)	<u>Amendment No. 1 to the BlackRock, Inc. Amended and Restated 1999 Annual Incentive Performance Plan.+</u>
10.5(19)	<u>Form of Restricted Stock Unit Agreement under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.6(20)	<u>Form of Performance-Based Restricted Stock Unit Agreement (BPIP) under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.7(1)	<u>Form of Stock Option Agreement expected to be used in connection with future grants of Stock Options under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.8(1)	<u>Form of Restricted Stock Agreement expected to be used in connection with future grants of Restricted Stock under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.9(1)	<u>Form of Directors' Restricted Stock Unit Agreement expected to be used in connection with future grants of Restricted Stock Units under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.10(20)	<u>Form of Performance-Based Stock Option Agreement under the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan.+</u>
10.11(15)	<u>BlackRock, Inc. Amended and Restated Voluntary Deferred Compensation Plan, as amended and restated as of November 16, 2015.+</u>
10.12(21)	<u>Share Surrender Agreement, dated October 10, 2002 (the "Share Surrender Agreement"), among Old BlackRock, PNC Asset Management, Inc. and The PNC Financial Services Group, Inc.+</u>
10.13(22)	<u>First Amendment, dated as of February 15, 2006, to the Share Surrender Agreement.+</u>
10.14(23)	<u>Second Amendment, dated as of June 11, 2007, to the Share Surrender Agreement.+</u>
10.15(4)	<u>Third Amendment, dated as of February 27, 2009, to the Share Surrender Agreement.+</u>
10.16(24)	<u>Fourth Amendment, dated as of August 7, 2012, to the Share Surrender Agreement.+</u>
10.17(25)	<u>Five-Year Revolving Credit Agreement, dated as of March 10, 2011, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender and L/C agent, Sumitomo Mitsui Banking Corporation, as Japanese Yen lender, a group of lenders, Wells Fargo Securities, LLC, Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Barclays Capital, J.P. Morgan Securities LLC and Morgan Stanley Senior Funding, Inc., as joint lead arrangers and joint bookrunners, Citibank, N.A., as syndication agent and Bank of America, N.A., Barclays Bank PLC, JPMorgan Chase Bank, N.A. and Morgan Stanley Senior Funding, Inc., as documentation agents.</u>
10.18(26)	<u>Amendment No. 1, dated as of March 30, 2012, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.19(27)	<u>Amendment No. 2, dated as of March 28, 2013, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.20(28)	<u>Amendment No. 3, dated as of March 28, 2014, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.21(29)	<u>Amendment No. 4, dated as of April 2, 2015, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.22(30)	<u>Amendment No. 5, dated as of April 8, 2016, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.23(31)	<u>Amendment No. 6, dated as of April 6, 2017, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>

10.24(32)	<u>Amendment No. 7, dated as of April 3, 2018, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.25(34)	<u>Amendment No. 8, dated as of March 29, 2019, by and among BlackRock, Inc., certain of its subsidiaries, Wells Fargo Bank, National Association, as administrative agent, swingline lender, issuing lender, L/C agent and a lender, and the banks and other financial institutions referred to therein.</u>
10.26(4)	<u>Amended and Restated Implementation and Stockholder Agreement, dated as of February 27, 2009, between The PNC Financial Services Group, Inc. and BlackRock.</u>
10.27(33)	<u>Amendment No. 1, dated as of June 11, 2009, to the Amended and Restated Implementation and Stockholder Agreement between The PNC Financial Services Group, Inc. and BlackRock.</u>
10.28(35)	<u>Lease Agreement, dated as of February 17, 2010, among BlackRock Investment Management (UK) Limited and Maurant & Co Trustees Limited and Maurant Property Trustees Limited as Trustees of the Drapers Gardens Unit Trust for the lease of Drapers Gardens, 12 Throgmorton Avenue, London, EC2, United Kingdom.</u>
10.29(36)	<u>Lease, by and between BlackRock, Inc. and 50 HYMC Holdings LLC.*</u>
10.30(37)	<u>Letter Agreement, dated February 12, 2013, between Gary S. Shedlin and BlackRock.+</u>
10.31(38)	<u>Amended and Restated Commercial Paper Dealer Agreement between BlackRock and Barclays Capital Inc., dated as of December 23, 2014.</u>
10.32(38)	<u>Amended and Restated Commercial Paper Dealer Agreement between BlackRock and Citigroup Global Markets Inc., dated as of December 23, 2014.</u>
10.33(38)	<u>Amended and Restated Commercial Paper Dealer Agreement between BlackRock and Merrill Lynch, Pierce, Fenner & Smith Incorporated, dated as of January 6, 2015.</u>
10.34(38)	<u>Amended and Restated Commercial Paper Dealer Agreement between BlackRock and Credit Suisse Securities (USA) LLC dated as of January 6, 2015.</u>
10.35	<u>BlackRock, Inc. Leadership Retention Carry Plan.+</u>
10.36(39)	<u>Form of Percentage Points Award Agreement pursuant to the BlackRock, Inc. Leadership Retention Carry Plan.+</u>
21.1	<u>Subsidiaries of Registrant.</u>
23.1	<u>Deloitte & Touche LLP Consent.</u>
31.1	<u>Section 302 Certification of Chief Executive Officer.</u>
31.2	<u>Section 302 Certification of Chief Financial Officer.</u>
32.1	<u>Section 906 Certification of Chief Executive Officer and Chief Financial Officer.</u>
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page formatted as Inline XBRL and contained in Exhibit 101

- (1) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on October 5, 2006.
- (2) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on May 25, 2012.
- (3) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on July 22, 2016.
- (4) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on February 27, 2009.
- (5) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on December 3, 2009.
- (6) Incorporated by reference to BlackRock's Registration Statement on Form S-8 (Registration No. 333-137708) filed on September 29, 2006.
- (7) Incorporated by reference to BlackRock's Annual Report on Form 10-K for the year ended December 31, 2007.
- (8) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on December 10, 2009.
- (9) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on May 25, 2011.
- (10) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on May 31, 2012.
- (11) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on March 18, 2014.
- (12) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on May 6, 2015.
- (13) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on March 28, 2017.
- (14) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 29, 2019.
- (15) Incorporated by reference to BlackRock's Annual Report on Form 10-K for the year ended December 31, 2015.
- (16) Incorporated by reference to BlackRock's Definitive Proxy Statement on Form DEF 14A filed on April 13, 2018
- (17) Incorporated by reference to Old BlackRock's Annual Report on Form 10-K for the year ended December 31, 2002.
- (18) Incorporated by reference to Old BlackRock's Current Report on Form 8-K filed on May 24, 2006.
- (19) Incorporated by reference to BlackRock's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015
- (20) Incorporated by reference to BlackRock's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018
- (21) Incorporated by reference to Old BlackRock's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002.

- (22) Incorporated by reference to Old BlackRock's Current Report on Form 8-K filed on February 22, 2006.
- (23) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on June 15, 2007.
- (24) Incorporated by reference to BlackRock's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012.
- (25) Incorporated by reference to BlackRock's Current Report on Form 8-K/A filed on August 24, 2012.
- (26) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 4, 2012.
- (27) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 3, 2013.
- (28) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on March 28, 2014.
- (29) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 3, 2015.
- (30) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 14, 2016.
- (31) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 11, 2017.
- (32) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on April 6, 2018.
- (33) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on June 17, 2009.
- (34) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on March 29, 2019.
- (35) Incorporated by reference to BlackRock's Annual Report on Form 10-K for the year ended December 31, 2009.
- (36) Incorporated by reference to BlackRock's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017.
- (37) Incorporated by reference to BlackRock's Current Report on Form 8-K filed on February 19, 2013.
- (38) Incorporated by reference to BlackRock's Annual Report on Form 10-K for the year ended December 31, 2014.
- (39) Incorporated by reference to BlackRock's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019.

+ Denotes compensatory plans or arrangements.

* Portions of this exhibit have been omitted pursuant to a confidential treatment order from the SEC

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

By: /s/ LAURENCE D. FINK

Laurence D. Fink
Chairman, Chief Executive Officer and Director

February 28, 2020

Each of the officers and directors of BlackRock, Inc. whose signature appears below, in so signing, also makes, constitutes and appoints Laurence D. Fink, Gary S. Shedlin, Christopher J. Meade, Daniel R. Waltcher and R. Andrew Dickson III, his or her true and lawful attorneys-in-fact, with full power and substitution, for him or her in any and all capacities, to execute and cause to be filed with the Securities and Exchange Commission any and all amendments to the Annual Report on Form 10-K, with exhibits thereto and other documents connected therewith and to perform any acts necessary to be done in order to file such documents, and hereby ratifies and confirms all that said attorney-in-fact or his or her substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/S/ LAURENCE D. FINK</u>		
Laurence D. Fink <u>/S/ GARY S. SHEDLIN</u>	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 28, 2020
Gary S. Shedlin <u>/S/ MARC D. COMERCHERO</u>	Senior Managing Director and Chief Financial Officer (Principal Financial Officer)	February 28, 2020
Marc D. Comerchero <u>/S/ BADER M. ALSAAD</u>	Managing Director and Chief Accounting Officer (Principal Accounting Officer)	February 28, 2020
Bader M. Alsaad <u>/S/ MATHIS CABIALLAVETTA</u>	Director	February 28, 2020
Mathis Cabiallavetta <u>/S/ PAMELA DALEY</u>	Director	February 28, 2020
Pamela Daley <u>/S/ WILLIAM S. DEMCHAK</u>	Director	February 28, 2020
William S. Demchak <u>/S/ JESSICA P. EINHORN</u>	Director	February 28, 2020
Jessica P. Einhorn <u>/S/ WILLIAM E. FORD</u>	Director	February 28, 2020
William E. Ford <u>/S/ FABRIZIO FRED A</u>	Director	February 28, 2020
Fabrizio Freda <u>/S/ MURRY S. GERBER</u>	Director	February 28, 2020
Murry S. Gerber <u>/S/ MARGARET L. JOHNSON</u>	Director	February 28, 2020
Margaret L. Johnson <u>/S/ ROBERT S. KAPITO</u>	Director	February 28, 2020
Robert S. Kapito <u>/S/ CHERYL D. MILLS</u>	Director	February 28, 2020
Cheryl D. Mills <u>/S/ GORDON M. NIXON</u>	Director	February 28, 2020
Gordon M. Nixon <u>/S/ CHARLES H. ROBBINS</u>	Director	February 28, 2020
Charles H. Robbins <u>/S/ IVAN G. SEIDENBERG</u>	Director	February 28, 2020
Ivan G. Seidenberg <u>/S/ MARCO ANTONIO SLIM DOMIT</u>	Director	February 28, 2020
Marco Antonio Slim Domit <u>/S/ SUSAN L. WAGNER</u>	377 of 451 Director	February 28, 2020

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of BlackRock, Inc.:

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial condition of BlackRock, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also 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, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 28, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 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 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 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 regarding the amounts and disclosures in the 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Impairment of indefinite-lived intangible assets — Refer to Notes 2 and 12 to the financial statements

Critical Audit Matter Description

The Company's indefinite-lived intangible assets are comprised of management contracts and trade names/trademarks acquired in business acquisitions. The Company performs its impairment assessment of its indefinite-lived intangible assets at least annually, as of July 31st. In evaluating whether it is more likely than not that the fair value of indefinite-lived intangibles is less than carrying value, the Company performs certain quantitative assessments and assesses various significant qualitative factors. If an indefinite-lived intangible asset is determined to be more likely than not impaired, the fair value of the asset is then compared with its carrying value and any excess of the carrying value over the fair value would be recognized as an expense in the period in which the impairment occurs. The determination of fair value requires management to make estimates and assumptions related to projected assets under management ("AUM") growth rates, revenue basis points, operating margins, tax rates, and discount rates.

Given the significant judgments made by management to estimate the fair value of its indefinite-lived intangible assets, performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to projected AUM growth rates, revenue basis points, operating margins, tax rates, and discount rates, required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the determination of fair value of indefinite-lived intangible assets included the following, among others:

- We tested the design, implementation and operating effectiveness of controls over the Company's indefinite-lived intangible asset impairment analysis, including those related to management's determination of fair value for the indefinite-lived intangible asset. This includes controls related to management's projected AUM growth rates, operating margins, tax rates, and the selection of the discount rates.
- We evaluated the reasonableness of management's projected AUM growth rates, revenue basis points, operating margins, and tax rates by comparing management's projections to:
 - historical amounts,

- internal communications to management and the Board of Directors, and
 - forecasted information included in analyst and industry reports for the Company and certain of its peer companies.
- We evaluated management's ability to accurately project AUM growth rates, operating margins, and tax rates by comparing actual results to management's historical forecasts.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the Company's valuation methodology and assumptions, including the selection of the discount rate by: (1) tested the source information underlying the determination of the discount rate and the mathematical accuracy of the evaluation and (2) developed a range of independent estimates and compared those to the discount rate selected by management.
- We evaluated the impact of changes in management's forecasts from July 31, 2019, the annual impairment assessment date, to December 31, 2019.

/s/ Deloitte & Touche, LLP

New York, New York

February 28, 2020

We have served as the Company's auditor since 2002.

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BlackRock, Inc.

Consolidated Statements of Financial Condition

(in millions, except shares and per share data)		December 31, 2019	December 31, 2018
Assets			
Cash and cash equivalents(1)	\$	4,829	\$ 6,488
Accounts receivable		3,179	2,657
Investments(1)		5,489	4,476
Separate account assets		102,844	90,285
Separate account collateral held under securities lending agreements		15,466	20,655
Property and equipment (net of accumulated depreciation of \$880 and \$750 at December 31, 2019 and 2018, respectively)		715	643
Intangible assets (net of accumulated amortization of \$185 and \$244 at December 31, 2019 and 2018, respectively)		18,369	17,839
Goodwill		14,562	13,526
Other assets(1)		3,169	3,004
Total assets	\$	168,622	\$ 159,573
Liabilities			
Accrued compensation and benefits	\$	2,057	\$ 1,988
Accounts payable and accrued liabilities		1,167	1,292
Borrowings		4,955	4,979
Separate account liabilities		102,844	90,285
Separate account collateral liabilities under securities lending agreements		15,466	20,655
Deferred income tax liabilities		3,734	3,571
Other liabilities(1)		3,470	3,263
Total liabilities		133,693	126,033
Commitments and contingencies (Note 16)			
Temporary equity			
Redeemable noncontrolling interests		1,316	1,107
Permanent equity			
BlackRock, Inc. stockholders' equity			
Common stock, \$0.01 par value;		2	2
Shares authorized: 500,000,000 at December 31, 2019 and 2018;			
Shares issued: 171,252,185 at December 31, 2019 and 2018;			
Shares outstanding: 154,375,780 and 157,553,501 at December 31, 2019 and 2018, respectively			
Series B nonvoting participating preferred stock, \$0.01 par value;		—	—
Shares authorized: 150,000,000 at December 31, 2019 and 2018; Shares issued and outstanding: 823,188 at December 31, 2019 and 2018;			
Series C nonvoting participating preferred stock, \$0.01 par value;		—	—
Shares authorized: 6,000,000 at December 31, 2019 and 2018; Shares issued and outstanding: 0 and 143,458 at December 31, 2019 and 2018, respectively			
Additional paid-in capital		19,186	19,168
Retained earnings		21,662	19,282
Accumulated other comprehensive loss		(571)	(691)
Treasury stock, common, at cost (16,876,405 and 13,698,684 shares held at December 31, 2019 and 2018, respectively)		(6,732)	(5,387)
Total BlackRock, Inc. stockholders' equity		33,547	32,374
Nonredeemable noncontrolling interests		66	59
Total permanent equity		33,613	32,433
Total liabilities, temporary equity and permanent equity	\$	168,622	\$ 159,573

(1) For 2019, cash and cash equivalents, investments, other assets and other liabilities include \$131 million, \$3,301 million, \$68 million, and \$820 million, respectively, related to consolidated variable interest entities ("VIEs"). For 2018, cash and cash equivalents, investments, other assets and other liabilities include \$186 million, \$2,680 million, \$876 million, and \$1,374 million, respectively, related to consolidated VIEs.

See accompanying notes to consolidated financial statements.

BlackRock, Inc.

Consolidated Statements of Income

(in millions, except shares and per share data)

	2019	2018	2017
Revenue			
Investment advisory, administration fees and securities lending revenue:			
Related parties	\$ 8,323	\$ 8,226	\$ 7,692
Other third parties	3,454	3,327	3,176
Total investment advisory, administration fees and securities lending revenue	11,777	11,553	10,868
Investment advisory performance fees	450	412	594
Technology services revenue	974	785	657
Distribution fees	1,069	1,155	1,183
Advisory and other revenue	269	293	298
Total revenue	14,539	14,198	13,600
Expense			
Employee compensation and benefits	4,470	4,320	4,253
Distribution and servicing costs	1,685	1,675	1,663
Direct fund expense	978	998	895
General and administration	1,758	1,638	1,446
Restructuring charge	—	60	—
Amortization of intangible assets	97	50	89
Total expense	8,988	8,741	8,346
Operating income	5,551	5,457	5,254
Nonoperating income (expense)			
Net gain (loss) on investments	342	1	161
Interest and dividend income	97	104	49
Interest expense	(203)	(184)	(205)
Total nonoperating income (expense)	236	(79)	5
Income before income taxes	5,787	5,378	5,259
Income tax expense	1,261	1,076	270
Net income	4,526	4,302	4,989
Less:			
Net income (loss) attributable to noncontrolling interests	50	(3)	37
Net income attributable to BlackRock, Inc.	\$ 4,476	\$ 4,305	\$ 4,952
Earnings per share attributable to BlackRock, Inc. common stockholders:			
Basic	\$ 28.69	\$ 26.86	\$ 30.54
Diluted	\$ 28.43	\$ 26.58	\$ 30.12
Weighted-average common shares outstanding:			
Basic	156,014,343	160,301,116	162,160,601
Diluted	157,459,546	161,948,732	164,415,035

See accompanying notes to consolidated financial statements.

BlackRock, Inc.

Consolidated Statements of Comprehensive Income

<i>(in millions)</i>	2019	2018	2017
Net income	\$ 4,526	\$ 4,302	\$ 4,989
Other comprehensive income (loss):			
Foreign currency translation adjustments ⁽¹⁾	120	(253)	284
Other comprehensive income (loss)	120	(253)	284
Comprehensive income	4,646	4,049	5,273
Less: Comprehensive income (loss) attributable to noncontrolling interests	50	(3)	37
Comprehensive income attributable to BlackRock, Inc.	\$ 4,596	\$ 4,052	\$ 5,236

(1) Amounts for 2019 and 2018 include gains from a net investment hedge of \$11 million (net of tax expense of \$3 million) and \$30 million (net of tax expense of \$10 million), respectively. Amount for 2017 includes a loss from a net investment hedge of \$64 million (net of tax benefit of \$38 million).

See accompanying notes to consolidated financial statements.

BlackRock, Inc.

Consolidated Statements of Changes in Equity

<i>(in millions)</i>	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	—	4,952	—	—	4,952	2	4,954	35
Dividends declared (\$10.00 per share)	—	(1,662)	—	—	(1,662)	—	(1,662)	—
Stock-based compensation	542	—	—	—	542	—	542	—
PNC preferred stock capital contribution	193	—	—	—	193	—	193	—
Retirement of preferred stock	(193)	—	—	—	(193)	—	(193)	—
Issuance of common shares related to employee stock transactions	(626)	—	—	639	13	—	13	—
Employee tax withholdings related to employee stock transactions	—	—	—	(321)	(321)	—	(321)	—
Shares repurchased	—	—	—	(1,100)	(1,100)	—	(1,100)	—
Subscriptions (redemptions/distributions) — noncontrolling interest holders	—	—	—	—	—	(18)	(18)	482
Net consolidations (deconsolidations) of sponsored investment funds	—	—	—	—	—	14	14	(295)
Other comprehensive income (loss)	—	—	284	—	284	—	284	—
Adoption of new accounting pronouncement	3	(1)	—	—	2	—	2	—
December 31, 2017	\$ 19,258	\$ 16,939	\$ (432)	\$ (3,967)	\$ 31,798	\$ 50	\$ 31,848	\$ 416
Net income	—	4,305	—	—	4,305	—	4,305	(3)
Dividends declared (\$12.02 per share)	—	(1,968)	—	—	(1,968)	—	(1,968)	—
Stock-based compensation	564	—	—	—	564	—	564	—
PNC preferred stock capital contribution	58	—	—	—	58	—	58	—
Retirement of preferred stock	(58)	—	—	—	(58)	—	(58)	—
Issuance of common shares related to employee stock transactions	(652)	—	—	667	15	—	15	—
Employee tax withholdings related to employee stock transactions	—	—	—	(427)	(427)	—	(427)	—
Shares repurchased	—	—	—	(1,660)	(1,660)	—	(1,660)	—
Subscriptions (redemptions/distributions) — noncontrolling interest holders	—	—	—	—	—	9	9	1,254
Net consolidations (deconsolidations) of sponsored investment funds	—	—	—	—	—	—	—	(560)
Other comprehensive income (loss)	—	—	(253)	—	(253)	—	(253)	—
Adoption of new accounting pronouncement	—	6	(6)	—	—	—	—	—
December 31, 2018	\$ 19,170	\$ 19,282	\$ (691)	\$ (5,387)	\$ 32,374	\$ 59	\$ 32,433	\$ 1,107
Net income	—	4,476	—	—	4,476	7	4,483	43
Dividends declared (\$13.20 per share)	—	(2,096)	—	—	(2,096)	—	(2,096)	—
Stock-based compensation	567	—	—	—	567	—	567	—
PNC preferred stock capital contribution	60	—	—	—	60	—	60	—
Retirement of preferred stock	(60)	—	—	—	(60)	—	(60)	—
Issuance of common shares related to employee stock transactions	(549)	—	—	566	17	—	17	—
Employee tax withholdings related to employee stock transactions	—	—	—	(245)	(245)	—	(245)	—
Shares repurchased	—	—	—	(1,666)	(1,666)	—	(1,666)	—
Subscriptions (redemptions/distributions) — noncontrolling interest holders	—	—	—	—	—	2	2	1,456
Net consolidations (deconsolidations) of sponsored investment funds	—	—	—	—	—	(2)	(2)	(1,290)
Other comprehensive income (loss)	—	—	120	—	120	—	120	—
December 31, 2019	\$ 19,188	\$ 21,662	\$ (571)	\$ (6,732)	\$ 33,547	\$ 66	\$ 33,613	\$ 1,316

(1) Amounts include \$2 million of common stock at December 31, 2019, 2018, 2017 and 2016.

See accompanying notes to consolidated financial statements.

BlackRock, Inc.

Consolidated Statements of Cash Flows

(in millions)	2019	2018	2017
Operating activities			
Net income	\$ 4,526	\$ 4,302	\$ 4,989
Adjustments to reconcile net income to net cash provided by/(used in) operating activities:			
Depreciation and amortization	405	220	240
Stock-based compensation	567	564	542
Deferred income tax expense (benefit)	17	(226)	(1,221)
Contingent consideration fair value adjustments	53	65	8
Other gains	(30)	(50)	—
Net (gains) losses within consolidated sponsored investment products	(254)	149	(218)
Net (purchases) proceeds within consolidated sponsored investment products	(1,746)	(1,938)	(570)
(Earnings) losses from equity method investees	(116)	(94)	(122)
Distributions of earnings from equity method investees	70	30	35
Changes in operating assets and liabilities:			
Accounts receivable	(433)	4	(521)
Investments, trading	(21)	179	146
Other assets	141	(223)	(173)
Accrued compensation and benefits	58	(230)	276
Accounts payable and accrued liabilities	(111)	43	308
Other liabilities	(242)	280	231
Net cash provided by/(used in) operating activities	2,884	3,075	3,950
Investing activities			
Purchases of investments	(693)	(327)	(489)
Proceeds from sales and maturities of investments	417	449	166
Distributions of capital from equity method investees	136	24	32
Net consolidations (deconsolidations) of sponsored investment funds	(110)	(51)	(60)
Acquisitions, net of cash acquired	(1,510)	(699)	(102)
Purchases of property and equipment	(254)	(204)	(155)
Net cash provided by/(used in) investing activities	(2,014)	(808)	(608)
Financing activities			
Proceeds from long-term borrowings	992	—	697
Repayments of long-term borrowings	(1,000)	—	(700)
Cash dividends paid	(2,096)	(1,968)	(1,662)
Repurchases of common stock	(1,911)	(2,087)	(1,421)
Net proceeds from (repayments of) borrowings by consolidated sponsored investment products	111	40	—
Net (redemptions/distributions paid)/subscriptions received from noncontrolling interest holders	1,458	1,263	464
Other financing activities	(137)	(13)	(8)
Net cash provided by/(used in) financing activities	(2,583)	(2,765)	(2,630)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	54	(93)	192
Net increase (decrease) in cash, cash equivalents and restricted cash	(1,659)	(591)	904
Cash, cash equivalents and restricted cash, beginning of year	6,505	7,096	6,192
Cash, cash equivalents and restricted cash, end of year	\$ 4,846	\$ 6,505	\$ 7,096
Supplemental disclosure of cash flow information:			
Cash paid for:			
Interest	\$ 193	\$ 177	\$ 205
Income taxes (net of refunds)	\$ 1,168	\$ 1,159	\$ 1,124
Supplemental schedule of noncash investing and financing transactions:			
Issuance of common stock	\$ 549	\$ 652	\$ 626
PNC preferred stock capital contribution	\$ 60	\$ 58	\$ 193
Increase (decrease) in noncontrolling interests due to net consolidation (deconsolidation) of sponsored investment funds	\$ (1,292)	\$ (560)	\$ (281)

See accompanying notes to consolidated financial statements.

BlackRock, Inc.

Notes to the Consolidated Financial Statements

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, eFront, Cachematrix and FutureAdvisor, as well as advisory services and solutions to a broad base of institutional and wealth management clients.

At December 31, 2019, The PNC Financial Services Group, Inc. (“PNC”) held 22.0% of the Company’s voting common stock and 22.4% of the Company’s capital stock, which includes outstanding common and nonvoting preferred stock.

2. Significant Accounting Policies

Basis of Presentation

These 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 (“NCI”) on the 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 prior period presentations and disclosures, while not required to be recast, were reclassified to ensure comparability with current period classifications. The prior year amounts related to the Company’s consolidated variable interest entities have been reclassified to cash and cash equivalents, investments, other assets and other liabilities within the Company’s consolidated statement of financial condition for consistency with the current year’s presentation. In addition, conforming changes were made to the prior year amounts within the statements of cash flows and the related notes to the consolidated financial statements. The reclassifications had no effect on the previously reported total stockholders’ equity, results of operations, or cash flows from operating, investing or financing activities.

Accounting Pronouncements Adopted in 2019

Leases. In February 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“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 consolidated statements of financial condition.

The Company adopted ASU 2016-02 on its effective date of January 1, 2019 on a modified retrospective basis and elected not to apply ASU 2016-02 to the comparative periods presented. Under this transition method, any cumulative effect adjustment is recognized in the opening balance of retained earnings in the period of adoption. The Company elected the package of practical expedients to alleviate certain operational complexities related to the adoption, which allowed the Company to carry forward the existing lease classification. The Company elected to account for lease and non-lease components as a single component for its leases. The Company also elected the short-term lease practical expedient. Consequently, leases with an initial term of 12 months or less are not recorded on the consolidated statement of financial condition. Upon adoption of ASU 2016-02, the Company recorded a net increase of approximately \$0.7 billion in its assets and liabilities related to the right-of-use (“ROU”) asset and lease liability for its operating leases. The adoption of ASU 2016-02 did not have a material impact on the consolidated statement of income or cash flows. See Note 13, *Leases*, for more information.

Cash and Cash Equivalents. Cash and cash equivalents primarily consists of cash, money market funds and short-term, highly liquid investments with original maturities of three months or less in which the Company is exposed to market and credit risk. Cash and cash equivalent balances that are legally restricted from use by the Company are recorded in other assets on the consolidated statements of financial condition. Cash balances maintained by consolidated VIEs and voting rights entities (“VREs”) are not considered legally restricted and are included in cash and cash equivalents on the consolidated statements of financial condition.

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 securities are those securities that are not classified as trading or held-to-maturity. Available-for-sale securities include certain investments in collateralized loan obligations (“CLOs”) and are carried at fair value on the consolidated statements of financial condition with changes in fair value recorded in accumulated other comprehensive income (loss) (“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 consolidated statements of income.

Held-to-maturity securities are purchased with the positive intent and ability to be held to maturity and are recorded at amortized cost on the 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 consolidated statements of financial condition with changes in fair value recorded in nonoperating income (expense) on the 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 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 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 consolidated statements of income. Dividends received are recorded as dividend income within nonoperating income (expense).

Equity Method. The Company applies the equity method of accounting for equity investments where the Company does not consolidate the investee, but can exert significant influence over the financial and operating policies of the investee. 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 corporate minority investments since such investees 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 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 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.

Consolidation. 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 VIEs are consolidated if the Company is the primary beneficiary ("PB") of the entity. VREs are typically consolidated if the Company holds the majority voting interest. Upon the occurrence of certain events (such as contributions and redemptions, either by the Company, or third parties, or amendments to the governing documents of the Company's investment products), management reviews and reconsiders its previous conclusion regarding the status of an entity as a VIE or a VRE. Additionally, management continually reconsiders whether the Company is deemed to be a VIE's PB that consolidates such entity.

Consolidation of Variable Interest Entities. Certain investment products for which a controlling financial interest is achieved through arrangements that do not involve or are not directly linked to voting interests are deemed VIEs. BlackRock reviews factors, including whether or not i) the entity has equity at risk that is sufficient to permit the entity to finance its activities without additional subordinated support from other parties and ii) the equity holders at risk have the obligation to absorb losses, the right to receive residual returns, and the right to direct the activities of the entity that most significantly impact the entity's economic performance, to determine if the investment product is a VIE. BlackRock re-evaluates such factors as facts and circumstances change.

The PB of a VIE is defined as the variable interest holder that has a controlling financial interest in the VIE. A controlling financial interest is defined as (i) the power to direct the activities of the VIE that most significantly impact its economic performance and (ii) the obligation to absorb losses of the entity or the right to receive benefits from the entity that potentially could be significant to the VIE. The Company generally consolidates VIEs in which it holds an economic interest of 10% or greater and deconsolidates such VIEs once equity ownership falls below 10%.

Consolidation of Voting Rights Entities. BlackRock is required to consolidate an investee to the extent that BlackRock can exert control over the financial and operating policies of the investee, which generally exists if there is a greater than 50% voting equity interest.

Retention of Specialized Investment Company Accounting Principles. Upon consolidation of sponsored investment funds, the Company retains the specialized investment company accounting principles of the underlying funds. All of the underlying investments held by such consolidated sponsored investment funds are carried at fair value with corresponding changes in the investments' fair values reflected in nonoperating income (expense) on the consolidated statements of income. When the Company no longer controls these funds due to reduced ownership percentage or other reasons, the funds are deconsolidated and accounted for as an equity method investment or equity securities FVTNI if the Company still maintains an investment.

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 BlackRock. These separate account assets and the related equal and offsetting liabilities are recorded as separate account assets and separate account liabilities on the 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 consolidated statements of income. While BlackRock has no economic interest in these separate account assets and liabilities, BlackRock earns policy administration and management fees associated with these products, which are included in investment advisory, administration fees and securities lending revenue on the 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 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 consolidated statements of income. During 2019 and 2018, the Company had not resold or repledged any of the collateral received under these arrangements. At December 31, 2019 and 2018, the fair value of loaned securities held by separate accounts was approximately \$14.4 billion and \$18.9 billion, respectively, and the fair value of the collateral held under these securities lending agreements was approximately \$15.5 billion and \$20.7 billion, respectively.

Property and Equipment. Property and equipment are recorded at cost less accumulated depreciation. Depreciation is generally determined by cost less any estimated residual value using the straight-line method over the estimated useful lives of the various classes of property and equipment. Leasehold improvements are amortized using the straight-line method over the shorter of the estimated useful life or the remaining lease term.

The Company capitalizes certain costs incurred in connection with developing or obtaining software within property and equipment. Capitalized software costs are amortized, beginning when the software product is ready for its intended use, over the estimated useful life of the software of approximately three years.

Goodwill and Intangible Assets. Goodwill represents the cost of a business acquisition in excess of the fair value of the net assets acquired. The Company has determined that it has one reporting unit for goodwill impairment testing purposes, the consolidated BlackRock single operating segment, which is consistent with internal management reporting and management's oversight of operations. In its assessment of goodwill for impairment, the Company considers such factors as the book value and market capitalization of the Company.

On a quarterly basis, the Company considers if triggering events have occurred that may indicate a potential goodwill impairment. If a triggering event has occurred, the Company performs assessments, which may include reviews of significant valuation assumptions, to determine if goodwill may be impaired. The Company performs an impairment assessment of its goodwill at least annually, as of July 31st.

Intangible assets are comprised of indefinite-lived intangible assets and finite-lived intangible assets acquired in a business acquisition. The value of contracts to manage assets in proprietary open-end funds and collective trust funds and certain other commingled products without a specified termination date is generally classified as indefinite-lived intangible assets. The assignment of indefinite lives to such contracts primarily is based upon the following: (i) the assumption that there is no foreseeable limit on the contract period to manage these products; (ii) the Company expects to, and has the ability to, continue to operate these products indefinitely; (iii) the products have multiple investors and are not reliant on a single investor or small group of investors for their continued operation; (iv) current competitive factors and economic conditions do not indicate a finite life; and (v) there is a high likelihood of continued renewal based on historical experience. In addition, trade names/trademarks are considered indefinite-lived intangible assets when they are expected to generate cash flows indefinitely.

Indefinite-lived intangible assets and goodwill are not amortized. Finite-lived management contracts, which relate to acquired separate accounts and funds and investor/customer relationships, and technology-related assets that are expected to contribute to the future cash flows of the Company for a specified period of time, are amortized over their remaining useful lives.

The Company performs assessments to determine if any intangible assets are potentially impaired and whether the indefinite-lived and finite-lived classifications are still appropriate at least annually, as of July 31st. The carrying value of finite-lived assets and their remaining useful lives are reviewed at least annually to determine if circumstances exist which may indicate a potential impairment or revisions to the amortization period.

In evaluating whether it is more likely than not that the fair value of indefinite-lived intangibles is less than its carrying value, BlackRock assesses various significant qualitative factors, including assets under management ("AUM"), revenue basis points, projected AUM growth rates, operating margins, tax rates and discount rates. In addition, the Company considers other factors, including (i) macroeconomic conditions such as a deterioration in general economic conditions, limitations on accessing capital, fluctuations in foreign exchange rates, or other developments in equity and credit markets; (ii) industry and market considerations such as a deterioration in the environment in which the entity operates, an increased competitive environment, a decline in market-dependent multiples or metrics, a change in the market for an entity's services, or regulatory, legal or political developments; and (iii) entity-specific events, such as a change in management or key personnel, overall financial performance and litigation that could affect significant inputs used to determine the fair value of the indefinite-lived intangible asset. If an indefinite-lived intangible is determined to be more likely than not impaired, then the fair value of the asset is compared with its carrying value and any excess of the carrying value over the fair value would be recognized as an expense in the period in which the impairment occurs.

For finite-lived intangible assets, if potential impairment circumstances are considered to exist, the Company will perform a recoverability test using an undiscounted cash flow analysis. Actual results could differ from these cash flow estimates, which could materially impact the impairment conclusion. If the carrying value of the asset is determined not to be recoverable based on the undiscounted cash flow test, the difference between the carrying value of the asset and its current fair value would be recognized as an expense in the period in which the impairment occurs.

Noncontrolling Interests. The Company reports noncontrolling interests as equity, separate from the parent's equity, on the consolidated statements of financial condition. In addition, the Company's consolidated net income on the consolidated statements of income includes the income (loss) attributable to noncontrolling interest holders of the Company's consolidated sponsored investment products. Income (loss) attributable to noncontrolling interests is not adjusted for income taxes for consolidated sponsored investment products that are treated as pass-through entities for tax purposes.

Classification and Measurement of Redeemable Securities. The Company includes redeemable noncontrolling interests related to certain consolidated sponsored investment products in temporary equity on the consolidated statements of financial condition.

Treasury Stock. The Company records common stock purchased for treasury at cost. At the date of subsequent reissuance, the treasury stock account is reduced by the cost of such stock using the average cost method.

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 because the customer is receiving and consuming the benefits as they are provided by the Company. Fees are primarily based on agreed-upon percentages of AUM and recognized for services provided during the period, which are distinct from services provided in other periods. 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.

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 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. Carried interest subject to such clawback provisions is recorded in investments or cash and cash equivalents to the extent that it is distributed, on its consolidated statements of financial condition.

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, all 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 are primarily recorded as services are performed over time and are generally determined using the value of positions on the *Aladdin* platform, or a fixed-rate basis. Revenue derived from the sale of software licenses is recognized upon the granting of access rights.

Distribution Fees. The Company earns distribution and service fees for distributing investment products and providing ongoing shareholder support services to investment portfolios. Distribution fees are passed-through to third-party distributors, which perform various fund distribution services and shareholder servicing of certain funds on the Company's behalf, and are recognized as distribution and servicing costs. The Company presents distribution fees and related distribution and servicing costs incurred on a gross basis.

Distribution fees primarily consist of ongoing distribution fees, shareholder servicing fees and upfront sales commissions for serving as the principal underwriter and/or distributor for certain managed mutual funds. The service of distribution is satisfied at the point in time when an investor makes an investment in a share class of the managed mutual funds. Fees are generally considered variable consideration because they are based on the value of AUM and are uncertain on trade date. Accordingly, the Company recognizes distribution fees over the investment period as the amounts become known and the portion recognized in the current period may relate to distribution services performed in prior periods. Upfront sales commissions are recognized on a trade date basis. Shareholder servicing fees are based on AUM and recognized in revenue as the services are performed.

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 corporate minority investments.

Advisory services fees are determined using fixed-rate fees and are recognized over time as the related services are completed.

Commissions related to transition management services are recorded on a trade-date basis as transactions occur.

Stock-based Compensation. The Company recognizes compensation cost for equity classified awards based on the grant-date fair value of the award. The compensation cost is recognized over the period during which an employee is required to provide service (usually the vesting period) in exchange for the stock-based award.

The Company measures the grant-date fair value of restricted stock units ("RSUs") using the Company's share price on the date of grant. For employee share options and instruments with market conditions, the Company uses pricing models. Stock option awards may have performance, market and/or service conditions. If an equity award is modified after the grant-date, incremental compensation cost is recognized for an amount equal to the excess of the fair value of the modified award over the fair value of the original award immediately before the modification. Awards under the Company's stock-based compensation plans vest over various periods. Compensation cost is recorded by the Company on a straight-line basis over the requisite service period for each separate vesting portion of the award as if the award is, in-substance, multiple awards and is adjusted for actual forfeitures as they occur.

The Company amortizes the grant-date fair value of stock-based compensation awards made to retirement-eligible employees over the requisite service period. Upon notification of retirement, the Company accelerates the unamortized portion of the award over the contractually required retirement notification period.

The Company recognizes all excess tax benefits and deficiencies in income tax expense on the consolidated statements of income, which results in volatility of income tax expense as a result of fluctuations in the Company's stock price. Accordingly, the Company recorded a discrete income tax benefit of \$23 million, \$64 million and \$151 million during 2019, 2018 and 2017, respectively, for vested RSUs where the grant date stock price was lower than the vesting date stock price. The Company accounts for forfeitures as they occur.

Distribution and Servicing Costs. Distribution and servicing costs include payments to third parties, primarily associated with distribution and servicing of client investments in certain BlackRock products. Distribution and servicing costs are expensed when incurred.

Direct Fund Expense. Direct fund expense, which is expensed as incurred, primarily consists of third-party nonadvisory expense incurred by BlackRock related to certain funds for the use of certain index trademarks, reference data for certain indices, custodial services, fund administration, fund accounting, transfer agent services, shareholder reporting services, audit and tax services as well as other fund-related expense directly attributable to the nonadvisory operations of the fund.

Leases. The Company determines if a contract is a lease or contains a lease at inception. The Company accounts for its office facility leases as operating leases, which may include escalation clauses that are based on an index or market rate. The Company accounts for lease and non-lease components as a single component for its leases. The Company elected the short-term lease exception for leases with an initial term of 12 months or less. Consequently, such leases are not recorded on the consolidated statement of financial condition. The Company's lease terms include options to extend or terminate the lease when it is reasonably certain they will be exercised or not, respectively.

Fixed lease payments are included in ROU assets and lease liabilities within other assets and other liabilities, respectively, on the consolidated statement of financial condition. ROU assets and lease liabilities are recognized based on the present value of these future lease payments over the lease term at the commencement date using the Company's incremental borrowing rate as the discount rate. Fixed lease payments made over the lease term are recorded as lease expense on a straight-line basis. Variable lease payments based on usage, changes in an index or market rate are expensed as incurred.

Upon adoption of ASU 2016-02, for existing leases, the Company elected to determine the discount rate based on the remaining lease term as of January 1, 2019 and for lease payments based on an index or rate to apply the rate at commencement date. For new leases, the discount rates are based on the entire noncancelable lease term.

Foreign Exchange. Foreign currency transactions are recorded at the exchange rates prevailing on the dates of the transactions. Monetary assets and liabilities that are denominated in foreign currencies are subsequently remeasured into the functional currencies of the Company's subsidiaries at the rates prevailing at each balance sheet date. Gains and losses arising on remeasurement are included in general and administration expense on the consolidated statements of income. Revenue and expenses are translated at average exchange rates during the period. Gains or losses resulting from translating foreign currency financial statements into US dollars are included in AOCI, a separate component of stockholders' equity, on the consolidated statements of financial condition.

Income Taxes. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases using currently enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred income tax assets and liabilities is recognized on the consolidated statements of income in the period that includes the enactment date.

Management periodically assesses the recoverability of its deferred income tax assets based upon expected future earnings, taxable income in prior carryback years, future deductibility of the asset, changes in applicable tax laws and other factors. If management determines that it is not more likely than not that the deferred tax asset will be fully recoverable in the future, a valuation allowance will be established for the difference between the asset balance and the amount expected to be recoverable in the future. This allowance will result in additional income tax expense. Further, the Company records its income taxes receivable and payable based upon its estimated income tax position.

Excess tax benefits related to stock-based compensation are recognized as an income tax benefit on the consolidated statements of income and are reflected as operating cash flows on the consolidated statements of cash flows.

Earnings per Share ("EPS"). Basic EPS is calculated by dividing net income applicable to common shareholders by the weighted-average number of shares outstanding during the period. Diluted EPS includes the determinants of basic EPS and common stock equivalents outstanding during the period. Diluted EPS is computed using the treasury stock method.

Due to the similarities in terms between BlackRock's nonvoting participating preferred stock and the Company's common stock, the Company considers its nonvoting participating preferred stock to be a common stock equivalent for purposes of EPS calculations. As such, the Company has included the outstanding nonvoting participating preferred stock in the calculation of average basic and diluted shares outstanding.

Business Segments. 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.

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 a consolidated CLO.
- 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 NAV. 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 Assets 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.

Derivatives 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 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 US 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 consolidated statements of financial condition. Amounts excluded from the effectiveness assessment are reported in the consolidated statements of income using a systematic and rational method. The Company reassesses the effectiveness of its net investment hedge at least quarterly.

Recent Accounting Pronouncements Not Yet Adopted in 2019

Measurement of Credit Losses. In June 2016, the FASB issued ASU 2016-13, *Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which significantly changes the accounting and disclosures for credit losses for most financial assets. The new guidance requires an estimate of expected lifetime credit losses and eliminates the existing recognition thresholds under current models. The adoption of ASU 2016-13, which was effective for the Company on January 1, 2020, did not have a material impact on its consolidated financial statements.

3. Acquisition

On May 10, 2019, the Company acquired 100% of the equity interests of eFront Holding SAS ("eFront Transaction" or "eFront"), a leading alternative investment management software and solutions provider for approximately \$1.3 billion, excluding the settlement of eFront's outstanding debt. The acquisition of eFront expands *Aladdin's* illiquid alternative capabilities and enables BlackRock to provide individual alternative or whole-portfolio technology solutions to clients.

The purchase price was funded through a combination of existing cash and issuance of commercial paper (subsequently repaid with existing cash) and long-term notes in April 2019. See Note 15, *Borrowings*, for information on the debt issuance in April 2019.

The purchase price for the eFront Transaction was allocated to the assets acquired and liabilities assumed based upon their estimated fair values at the date of the transaction. The goodwill recognized in connection with the acquisition is non-deductible for tax purposes and is primarily attributable to anticipated synergies from the transaction.

Goodwill, finite-lived intangible assets and deferred income tax liabilities were retrospectively adjusted to reflect new information obtained about facts that existed as of May 10, 2019, the eFront acquisition date. There was no material change to the consolidated statements of income for the year ended December 31, 2019 as a result of these adjustments. A summary of the initial and revised fair values of the assets acquired and liabilities assumed in this acquisition is as follows⁽¹⁾:

<i>(in millions)</i>	Initial Estimate of Fair Value	Revised Estimate of Fair Value
Accounts receivable	\$ 65	\$ 61
Finite-lived intangible assets:		
Customer relationships ⁽²⁾	452	400
Technology-related ⁽³⁾	205	203
Trade name ⁽⁴⁾	21	14
Goodwill	990	1,044
Other assets	31	49
Deferred income tax liabilities	(194)	(146)
Other liabilities assumed	(64)	(125)
Total consideration, net of cash acquired	\$ 1,506	\$ 1,500
Summary of consideration, net of cash acquired:		
Cash paid including settlement of outstanding debt of approximately \$0.2 billion	\$ 1,555	\$ 1,555
Cash acquired	(49)	(55)
Total consideration, net of cash acquired	\$ 1,506	\$ 1,500

- (1) At this time, the Company does not expect additional material changes to the value of the assets acquired or liabilities assumed in conjunction with the transaction.
- (2) The fair value was determined based on the excess earnings method (a Level 3 input), has a weighted-average estimated useful life of approximately 10 years and is amortized using the accelerated amortization method.
- (3) The fair value was determined based upon a relief from royalty method (a Level 3 input), has a weighted-average estimated useful life of approximately eight years and is amortized using the accelerated amortization method.
- (4) The fair value was determined using a relief from royalty method (a Level 3 input), has an estimated useful life of approximately four years and is amortized using the accelerated amortization method.

Finite-lived intangible assets in the table above are amortized over their estimated useful lives, which range from four to 10 years. Amortization expense related to the finite-lived intangible assets was \$38 million for the year ended December 31, 2019. The finite-lived intangible assets had a weighted-average remaining useful life of approximately nine years with remaining amortization expense as follows:

<i>(in millions)</i>	Amount
Year	
2020	\$ 60
2021	64
2022	68
2023	69
2024	71
Thereafter	247
Total	\$ 579

For the year ended December 31, 2019, eFront contributed \$96 million of revenue and did not have a material impact to net income attributable to BlackRock, Inc. Consequently, the Company has not presented pro forma combined results of operations for this acquisition.

4. Cash, Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash and cash equivalents reported within the consolidated statements of financial condition to the cash, cash equivalents, and restricted cash reported within the consolidated statements of cash flows.

<i>(in millions)</i>	December 31, 2019	December 31, 2018
Cash and cash equivalents	\$ 4,829	\$ 6,488
Restricted cash included in other assets	17	17
Total cash, cash equivalents and restricted cash	\$ 4,846	\$ 6,505

5. Investments

A summary of the carrying value of total investments is as follows:

<i>(in millions)</i>	December 31, 2019	December 31, 2018
Debt securities:		
Held-to-maturity investments	\$ 249	\$ 188
Trading securities	1,249	1,660
Total debt securities	1,498	1,848
Equity securities at FVTNI	1,926	1,021
Equity method investments ⁽¹⁾	943	781
Bank loans	204	84
Federal Reserve Bank stock ⁽²⁾	93	92
Carried interest ⁽³⁾	528	387
Other investments ⁽⁴⁾	297	263
Total investments	\$ 5,489	\$ 4,476

(1) Equity method investments primarily include BlackRock's direct investments in certain BlackRock sponsored investment funds.

(2) At both December 31, 2019 and 2018, there were no indicators of impairment of Federal Reserve Bank stock, which is held for regulatory purposes and is restricted from sale.

(3) Carried interest of consolidated sponsored investment funds 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.

(4) Other investments include BlackRock's investments in nonmarketable equity securities, which are measured at cost, adjusted for observable price changes and private equity and real assets investments of consolidated sponsored investment products.

Available-for-Sale Investments

A summary of sale activity of available-for-sale during 2019, 2018 and 2017 is shown below.

<i>(in millions)</i>	Year ended December 31,		
	2019	2018	2017
Sales proceeds	\$ —	\$ 173	\$ —
Net realized gain (loss):			
Gross realized gains	\$ —	\$ —	\$ —
Gross realized losses	—	—	—
Net realized gain (loss)	\$ —	\$ —	\$ —

There were no available-for-sale investments at both December 31, 2019 and 2018.

Held-to-Maturity Investments

The carrying value of held-to-maturity investments was \$249 million and \$188 million at December 31, 2019 and 2018, respectively. Held-to-maturity investments included certain investments in BlackRock sponsored CLOs and foreign government debt held primarily for regulatory purposes. The amortized cost (carrying value) of these investments approximated fair value (primarily a Level 2 input). At December 31, 2019, \$80 million of these investments mature between five years to ten years and \$169 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:

<i>(in millions)</i>	December 31, 2019		December 31, 2018	
	Cost	Carrying Value	Cost	Carrying Value
Trading debt securities:				
Corporate debt	\$ 822	\$ 844	\$ 800	\$ 798
Government debt	268	269	771	756
Asset/mortgage backed debt	141	136	115	106
Total trading debt securities	\$ 1,231	\$ 1,249	\$ 1,686	\$ 1,660
Equity securities at FVTNI:				
Deferred compensation plan mutual funds	\$ 6	\$ 23	\$ 21	\$ 34
Equity securities/multi-asset mutual funds	1,763	1,903	995	987
Total equity securities at FVTNI	\$ 1,769	\$ 1,926	\$ 1,016	\$ 1,021

6. Consolidated Sponsored Investment Products

The Company consolidates certain sponsored investment funds accounted for as VREs because it is deemed to control such funds.

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'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.

The following table presents the balances related to these consolidated sponsored investment products accounted for as VIEs and VREs that were recorded on the consolidated statements of financial condition, including BlackRock's net interest in these products:

(in millions)	December 31, 2019			December 31, 2018		
	VIEs	VREs	Total	VIEs	VREs	Total
Cash and cash equivalents	\$ 131	\$ 10	\$ 141	\$ 186	\$ 59	\$ 245
Investments:						
Trading debt securities	1,059	151	1,210	1,395	233	\$ 1,628
Equity securities at FVTNI	1,330	332	1,662	569	291	860
Bank loans	204	—	204	84	—	84
Other investments	194	—	194	263	—	263
Carried interest	514	—	514	369	—	369
Total investments	3,301	483	3,784	2,680	524	3,204
Other assets	68	5	73	876	8	884
Other liabilities ⁽¹⁾	(820)	(20)	(840)	(1,374)	(53)	(1,427)
Noncontrolling interests	(1,348)	(34)	(1,382)	(1,076)	(90)	(1,166)
BlackRock's net interest in consolidated investment products	\$ 1,332	\$ 444	\$ 1,776	\$ 1,292	\$ 448	\$ 1,740

(1) At December 31, 2019 and 2018, other liabilities of VIEs include \$195 million and \$84 million, respectively, related to borrowings of a consolidated CLO.

BlackRock's total exposure to consolidated sponsored investment products represents the value of its economic ownership interest in these sponsored investment products. Valuation changes associated with investments held at fair value by these consolidated sponsored investment products 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 sponsored investment products to use in its operating activities.

Net gain (loss) related to consolidated VIEs is presented in the following table:

(in millions)	2019	2018	2017
Nonoperating net gain (loss) on consolidated VIEs	\$ 210	\$ (105)	\$ 118
Net income (loss) attributable to NCI on consolidated VIEs	\$ 42	\$ (6)	\$ 33

7. Variable Interest Entities

Nonconsolidated VIEs. At December 31, 2019 and 2018, the Company's carrying value of assets and liabilities included on the 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)	Investments	Advisory Fee Receivables	Other Net Assets (Liabilities)	Maximum Risk of Loss ⁽¹⁾
At December 31, 2019				
Sponsored investment products	\$ 539	\$ 71	\$ (10)	\$ 627
At December 31, 2018				
Sponsored investment products	\$ 348	\$ 43	\$ (6)	\$ 408

(1) At December 31, 2019 and 2018, 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 \$12 billion and \$9 billion at December 31, 2019 and 2018, respectively.

8. Fair Value Disclosures

Fair Value Hierarchy

Assets and liabilities measured at fair value on a recurring basis

December 31, 2019 (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 ⁽¹⁾	Other ⁽²⁾	December 31, 2019
Assets:						
<u>Investments</u>						
Debt securities:						
Held-to-maturity investments	\$ —	\$ —	\$ —	\$ —	\$ 249	\$ 249
Trading securities	—	1,241	8	—	—	1,249
Total debt securities	—	1,241	8	—	249	1,498
Equity securities at FVTNI:						
Deferred compensation plan mutual funds	23	—	—	—	—	23
Equity securities/Multi-asset mutual funds	1,903	—	—	—	—	1,903
Total equity securities at FVTNI	1,926	—	—	—	—	1,926
Equity method:						
Equity and fixed income mutual funds	157	—	—	—	—	157
Hedge funds/funds of hedge funds	—	—	—	220	—	220
Private equity funds	—	—	—	248	—	248
Real assets funds	—	—	—	296	—	296
Other	12	—	—	10	—	22
Total equity method	169	—	—	774	—	943
Bank loans	—	27	177	—	—	204
Federal Reserve Bank Stock	—	—	—	—	93	93
Carried interest	—	—	—	—	528	528
Other investments ⁽³⁾	—	—	9	98	190	297
Total investments	2,095	1,268	194	872	1,060	5,489
Other assets ⁽⁴⁾	173	—	—	—	—	173
Separate account assets	72,515	29,582	—	—	747	102,844
<u>Separate account collateral held under securities lending agreements:</u>						
Equity securities	10,209	—	—	—	—	10,209
Debt securities	—	5,257	—	—	—	5,257
Total separate account collateral held under securities lending agreements	10,209	5,257	—	—	—	15,466
Total	\$ 84,992	\$ 36,107	\$ 194	\$ 872	\$ 1,807	123,972
Liabilities:						
Separate account collateral liabilities under securities lending agreements	\$ 10,209	\$ 5,257	\$ —	\$ —	\$ —	\$ 15,466
Other liabilities ⁽⁵⁾	—	10	388	—	—	398
Total	\$ 10,209	\$ 5,267	\$ 388	\$ —	\$ —	15,864

(1) Amounts are comprised of certain investments measured at fair value using NAV (or its equivalent) as a practical expedient.

(2) Amounts are comprised of investments held at amortized cost and cost, adjusted for observable price changes, 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.

(3) Level 3 amounts primarily include direct investments in private equity companies held by private equity funds.

(4) Amount includes a minority investment in a publicly traded company.

(5) Amounts primarily include contingent liabilities related to certain acquisitions (see Note 16, *Commitments and Contingencies*, for more information) and other liabilities of a consolidated CLO classified based on the significance of unobservable inputs used for calculating the fair value of consolidated CLO assets.

Assets and liabilities measured at fair value on a recurring basis

December 31, 2018 (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(1)	Other(2)	December 31, 2018
Assets:						
<u>Investments</u>						
Debt securities:						
Held-to-maturity investments	\$ —	\$ —	\$ —	\$ —	\$ 188	\$ 188
Trading securities	—	1,656	4	—	—	1,660
Total debt securities	—	1,656	4	—	188	1,848
Equity securities at FVTNI:						
Deferred compensation plan mutual funds	34	—	—	—	—	34
Equity securities/Multi-asset mutual funds	987	—	—	—	—	987
Total equity securities at FVTNI	1,021	—	—	—	—	1,021
Equity method:						
Equity and fixed income mutual funds	122	—	—	—	—	122
Hedge funds/funds of hedge funds	—	—	—	173	—	173
Private equity funds	—	—	—	116	—	116
Real assets funds	—	—	—	353	—	353
Other	—	—	—	14	3	17
Total equity method	122	—	—	656	3	781
Bank loans	—	14	70	—	—	84
Federal Reserve Bank Stock	—	—	—	—	92	92
Carried interest	—	—	—	—	387	387
Other investments(3)	—	—	82	106	75	263
Total investments	1,143	1,670	156	762	745	4,476
Other assets(4)	122	—	—	—	—	122
Separate account assets	63,610	25,810	—	—	865	90,285
<u>Separate account collateral held under securities lending agreements:</u>						
Equity securities	15,066	—	—	—	—	15,066
Debt securities	—	5,589	—	—	—	5,589
Total separate account collateral held under securities lending agreements	15,066	5,589	—	—	—	20,655
Total	\$ 79,941	\$ 33,069	\$ 156	\$ 762	\$ 1,610	\$ 115,538
Liabilities:						
Separate account collateral liabilities under securities lending agreements	\$ 15,066	\$ 5,589	\$ —	\$ —	\$ —	\$ 20,655
Other liabilities(5)	—	6	371	—	—	377
Total	\$ 15,066	\$ 5,595	\$ 371	\$ —	\$ —	\$ 21,032

(1) Amounts are comprised of certain investments measured at fair value using NAV (or its equivalent) as a practical expedient.

(2) 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.

(3) Level 3 amounts include direct investments in private equity companies held by private equity funds.

(4) Amount includes a minority investment in a publicly traded company.

(5) Amounts primarily include contingent liabilities related to certain acquisitions (see Note 16, *Commitments and Contingencies*, for more information) and other liabilities of a consolidated CLO classified based on the significance of unobservable inputs used for calculating the fair value of consolidated CLO assets.

Level 3 Assets. Level 3 assets may include investments in CLOs and bank loans of consolidated CLOs, which were valued based on single-broker nonbinding quotes and direct private equity investments, which were valued using the market or income approach as described below.

Level 3 investments of \$194 million and \$156 million at December 31, 2019 and 2018, respectively, included bank loans of a consolidated CLO, investments in CLOs and direct investments in private equity companies held by consolidated private equity funds.

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 December 31, 2019. 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 December 31, 2019.

Level 3 Liabilities. Level 3 liabilities primarily include contingent liabilities associated with certain acquisitions, which were valued based upon discounted cash flow analyses using unobservable market data inputs and borrowings of a consolidated CLO, which were valued based on the fair value of the assets of the consolidated CLO less the 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 2019

<i>(in millions)</i>	December 31, 2018	Realized and Unrealized Gains (Losses)	Purchases	Sales and Maturities	Issuances and Other Settlements ⁽¹⁾	Transfers into Level 3	Transfers out of Level 3 ⁽²⁾	December 31, 2019	Total Net Unrealized Gains (Losses) Included in Earnings ⁽³⁾
Assets:									
Investments:									
Debt securities:									
Trading	\$ 4	\$ —	\$ 10	\$ —	\$ —	\$ —	\$ (6)	\$ 8	\$ —
Total debt securities	4	—	10	—	—	—	(6)	8	—
Private equity	82	—	—	—	—	—	(73)	9	—
Bank loans ⁽⁴⁾	70	—	107	—	—	—	—	177	—
Total investments	156	—	117	—	—	—	(79)	194	—
Total Level 3 assets	\$ 156	\$ —	\$ 117	\$ —	\$ —	\$ —	\$ (79)	\$ 194	\$ —
Liabilities:									
Other liabilities ⁽⁴⁾	\$ 371	\$ (53)	\$ —	\$ —	\$ (36)	\$ —	\$ —	\$ 388	\$ (53)
Total Level 3 liabilities	\$ 371	\$ (53)	\$ —	\$ —	\$ (36)	\$ —	\$ —	\$ 388	\$ (53)

- (1) Amounts include proceeds from borrowings of a consolidated CLO and contingent liability payments in connection with certain prior acquisitions.
- (2) Amounts include an investment in a consolidated entity that no longer qualifies as an investment company and is no longer accounted for under a fair value measure.
- (3) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.
- (4) Amounts include contingent liabilities in connection with certain acquisitions and bank loans and borrowings related to a consolidated CLO.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis for 2018

<i>(in millions)</i>	December 31, 2017	Realized and Unrealized Gains (Losses)	Purchases	Sales and Maturities	Issuances and Other Settlements(1)	Transfers into Level 3	Transfers out of Level 3	December 31, 2018	Total Net Unrealized Gains (Losses) Included in Earnings(2)
Assets:									
Investments:									
Debt securities									
Available-for-sale securities(3)	\$ —	\$ —	\$ 26	\$ —	\$ —	\$ —	\$ (26)	\$ —	\$ —
Trading	—	—	9	—	—	—	(5)	4	—
Total debt securities	—	—	35	—	—	—	(31)	4	—
Private equity	116	(20)	—	(14)	—	—	—	82	(20)
Bank loans(4)	—	—	—	—	70	—	—	70	—
Total investments	116	(20)	35	(14)	70	—	(31)	156	(20)
Total Level 3 assets	\$ 116	\$ (20)	\$ 35	\$ (14)	\$ 70	\$ —	\$ (31)	\$ 156	\$ (20)
Liabilities:									
Other liabilities(4)	\$ 236	\$ (65)	\$ —	\$ —	\$ 70	\$ —	\$ —	\$ 371	\$ (65)
Total Level 3 liabilities	\$ 236	\$ (65)	\$ —	\$ —	\$ 70	\$ —	\$ —	\$ 371	\$ (65)

- (1) Issuances and other settlements amount includes a contingent liability in connection with an acquisition, partially offset by a contingent liability payment in connection with a prior acquisition.
- (2) Earnings attributable to the change in unrealized gains (losses) relating to assets and liabilities still held at the reporting date.
- (3) Amounts include investments in CLOs.
- (4) Amounts include contingent liabilities in connection with certain acquisitions and bank loans and borrowings related to the consolidation of one additional CLO.

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 consolidated statements of income. A portion of net income (loss) for consolidated sponsored investment funds are 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 December 31, 2019 and 2018, the fair value of the Company's financial instruments not held at fair value are categorized in the table below.

(in millions)	December 31, 2019		December 31, 2018		Fair Value Hierarchy
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value	
Financial Assets⁽¹⁾:					
Cash and cash equivalents	\$ 4,829	\$ 4,829	\$ 6,488	\$ 6,488	Level 1 ⁽²⁾
Other assets	68	68	18	18	Level 1 ⁽³⁾ ⁽²⁾ ⁽⁴⁾
Financial Liabilities:					
Long-term borrowings	4,955	5,254	4,979	5,034	Level 2 ⁽⁵⁾

(1) See Note 5, *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 December 31, 2019 and 2018, approximately \$674 million and \$173 million of money market funds were recorded within cash and cash equivalents on the consolidated statements of financial condition. 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 include restricted cash and cash collateral deposited with certain derivative counterparties. The carrying values of these assets approximate fair value due to their short-term maturities.

(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 determined using market prices at the end of December 2019 and 2018, respectively. See Note 15, *Borrowings*, for the fair value of each of the Company's long-term borrowings.

Investments in Certain Entities that Calculate NAV 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).

December 31, 2019

<i>(in millions)</i>	Ref	Fair Value	Total Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity method:(1)					
Hedge funds/funds of hedge funds	(a)	\$ 220	\$ 120	Daily/Monthly (27%) Quarterly (15%) N/R (58%)	1 – 90 days
Private equity funds	(b)	248	212	N/R	N/R
Real assets funds	(c)	296	120	Quarterly (57%) N/R (43%)	60 days
Other		10	9	N/R	N/R
Consolidated sponsored investment products:					
Private equity funds of funds	(d)	23	9	N/R	N/R
Hedge fund	(a)	3	—	Quarterly	90 days
Real assets funds	(c)	72	83	NR	NR
Total		\$ 872	\$ 553		

December 31, 2018

<i>(in millions)</i>	Ref	Fair Value	Total Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity method:(1)					
Hedge funds/funds of hedge funds	(a)	\$ 173	\$ 96	Daily/Monthly (30%) Quarterly (18%) N/R (52%)	1 – 90 days
Private equity funds	(b)	116	83	N/R	N/R
Real assets funds	(c)	353	93	Quarterly (68%) N/R (32%)	60 days
Other		14	16	Daily (80%) N/R (20%)	5 days
Consolidated sponsored investment products:					
Private equity funds of funds	(d)	48	18	N/R	N/R
Hedge fund	(a)	3	—	Quarterly	90 days
Real assets funds	(c)	55	37	NR	NR
Total		\$ 762	\$ 343		

N/R – not redeemable

- (1) Comprised of equity method investments, which include investment companies that 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 December 31, 2019 and 2018.
- (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 the funds that are not subject to redemption is unknown at both December 31, 2019 and 2018.
- (c) This category includes several real assets funds that invest directly in real estate, real estate related assets and 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 as a result of the liquidation of the underlying assets of the funds. The liquidation period for the investments in the funds that are not subject to redemption is unknown at both December 31, 2019 and December 31, 2018. The total remaining unfunded commitments to other third-party funds were \$203 million and \$130 million at December 31, 2019 and December 31, 2018, respectively. The Company had contractual obligations to the consolidated funds of \$172 million and \$117 million at December 31, 2019 and 2018, respectively.
- (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 investments in the funds that are not subject to redemption is unknown at both December 31, 2019 and December 31, 2018. The total remaining unfunded commitments to other third-party funds were \$9 million and \$18 million at December 31, 2019 and 2018, respectively. The Company had contractual obligations to the consolidated funds of \$22 million at both December 31, 2019 and 2018.

Fair Value Option

At December 31, 2019 and 2018, the Company elected the fair value option for certain investments in CLOs of approximately \$37 million and \$32 million, respectively, reported within investments.

In addition, the Company elected the fair value option for bank loans and borrowings of a consolidated CLO, recorded within investments and other liabilities, respectively. The following table summarizes the information related to these bank loans and borrowings at December 31, 2019 and 2018:

(in millions)	December 31, 2019	December 31, 2018
CLO Bank loans:		
Aggregate principal amounts outstanding	\$ 204	\$ 84
Fair value	204	84
Aggregate unpaid principal balance in excess of (less than) fair value	\$ —	\$ —
CLO Borrowings:		
Aggregate principal amounts outstanding	\$ 195	\$ 84
Fair value	\$ 195	\$ 84

At December 31, 2019, the principal amounts outstanding of the borrowings issued by the CLOs mature in 2030.

During the year ended December 31, 2019 and 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 the consolidated statements of income. The change in fair value of the assets and liabilities included interest income and expense, respectively.

9. 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 December 31, 2019 and 2018, the Company had outstanding total return swaps with aggregate notional values of approximately \$644 million and \$483 million, respectively.

At both December 31, 2019 and 2018, the Company had a derivative providing credit protection with a notional amount of approximately \$17 million to a counterparty, representing the Company's maximum risk of loss with respect to the derivative. The Company carries the derivative at fair value based on the expected discounted future cash outflows under the arrangement.

The Company executes forward foreign currency exchange contracts to mitigate the risk of certain foreign exchange movements. At December 31, 2019 and 2018, the Company had outstanding forward foreign currency exchange contracts with aggregate notional values of approximately \$3.4 billion and \$2.2 billion, respectively.

The fair values of the outstanding total return swaps, credit default swap and forward foreign currency exchange contracts were not material to the consolidated statement of financial condition at both December 31, 2019 and 2018.

The following table presents gains (losses) recognized in the consolidated statements of income on derivative instruments:

(in millions)		Gains (Losses)		
Derivative Instruments	Statement of Income Classification	2019	2018	2017
Total return swaps	Nonoperating income (expense)	\$ (106)	\$ 54	\$ (118)
Interest rate swaps	Nonoperating income (expense)	—	—	(2)
Forward foreign currency exchange contracts	General and administration expense	55	(124)	63
Total gain (loss) from derivative instruments		\$ (51)	\$ (70)	\$ (57)

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 2019, 2018 and 2017.

See Note 15, *Borrowings*, for more information on the Company's net investment hedge.

10. Property and Equipment

Property and equipment consists of the following:

(in millions)	Estimated useful life-in years	December 31,	
		2019	2018
Property and equipment:			
Land	N/A	\$ 6	\$ 6
Building	39	33	33
Building improvements	15	30	30
Leasehold improvements	1-15	565	534
Equipment and computer software	3	672	541
Other transportation equipment	10	136	135
Furniture and fixtures	7	70	66
Construction in progress	N/A	83	48
Total		1,595	1,393
Less: accumulated depreciation and amortization		880	750
Property and equipment, net		\$ 715	\$ 643

N/A – Not Applicable

Qualifying software costs of approximately \$93 million, \$77 million and \$60 million have been capitalized within equipment and computer software during 2019, 2018 and 2017, respectively, and are being amortized over an estimated useful life of three years.

Depreciation and amortization expense was \$182 million, \$154 million and \$132 million for 2019, 2018 and 2017, respectively.

11. Goodwill

Goodwill activity during 2019 and 2018 was as follows:

(in millions)	2019	2018
Beginning of year balance	\$ 13,526	\$ 13,220
Acquisitions	1,044	316
Goodwill adjustments related to Quellos and other(1)	(8)	(10)
End of year balance	\$ 14,562	\$ 13,526

(1) Amounts primarily 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 \$106 million and \$137 million at December 31, 2019 and 2018, respectively.

In 2019, the \$1,044 increase in goodwill resulted from the eFront Transaction, which closed on May 10, 2019. See Note 3, *Acquisition*, for information on the eFront Transaction.

In 2018, the \$316 million increase in goodwill included \$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 enhances 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 included \$132 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 estimated contingent consideration at close.

BlackRock assessed its goodwill for impairment as of July 31, 2019, 2018 and 2017 and considered such factors as the book value and the market capitalization of the Company. The impairment assessment indicated no impairment charges were required. The Company continues to monitor its book value per share compared with closing prices of its common stock for potential indicators of impairment. At December 31, 2019, the Company's common stock closed at a market price of \$502.70, which exceeded its book value of approximately \$216.15 per share.

12. Intangible Assets

Intangible assets at December 31, 2019 and 2018 consisted of the following:

<i>(in millions)</i>	Remaining Weighted- Average Estimated Useful Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
At December 31, 2019				
Indefinite-lived intangible assets:				
Management contracts	N/A	\$ 16,169	\$ —	\$ 16,169
Trade names / trademarks	N/A	1,403	—	1,403
License	N/A	6	—	6
Total indefinite-lived intangible assets		17,578	—	17,578
Finite-lived intangible assets:				
Management contracts	4.8	283	135	148
Investor/customer relationships	9.2	476	39	437
Technology-related	7.4	203	9	194
Trade names / trademarks	3.3	14	2	12
Total finite-lived intangible assets	7.8	976	185	791
Total intangible assets		\$ 18,554	\$ 185	\$ 18,369
At December 31, 2018				
Indefinite-lived intangible assets:				
Management contracts	N/A	\$ 16,169	\$ —	\$ 16,169
Trade names / trademarks	N/A	1,403	—	1,403
License	N/A	6	—	6
Total indefinite-lived intangible assets		17,578	—	17,578
Finite-lived intangible assets:				
Management contracts	5.2	439	237	202
Investor/customer relationships	10.7	66	7	59
Total finite-lived intangible assets	6.5	505	244	261
Total intangible assets		\$ 18,083	\$ 244	\$ 17,839

N/A – Not Applicable

The impairment tests performed for intangible assets as of July 31, 2019, 2018 and 2017 indicated no impairment charges were required.

Estimated amortization expense for finite-lived intangible assets for each of the five succeeding years is as follows:

<i>(in millions)</i>	Amount
Year	
2020	\$ 106
2021	107
2022	103
2023	97
2024	92

In 2019, in connection with the eFront Transaction, the Company acquired \$400 million of finite-lived customer relationships, \$203 million of finite-lived technology-related intangible assets and \$14 million of a finite-lived trade name, with weighted-average estimated lives of approximately 10 years, eight years and four years, respectively. See Note 3, *Acquisition*, for information on the eFront Transaction.

In 2018, in connection with the TCP and Citibanamex transactions, the Company acquired \$145 million and \$255 million of indefinite-lived management contracts, respectively, and \$48 million and \$31 million of finite-lived management contracts, respectively, with a weighted-average estimated life of approximately six and eight years, respectively.

13. Leases

The following table presents components of lease cost included in general and administration expense on the consolidated statements of income:

<i>(in millions)</i>	2019
Lease cost (1):	
Operating lease cost (2)	\$ 141
Variable lease cost (3)	39
Total lease cost	\$ 180

- (1) Rent expense and certain office equipment expense under lease agreements amounted to \$135 million and \$132 million in 2018 and 2017, respectively.
- (2) Amount includes short-term leases, which are immaterial for 2019.
- (3) Amount includes operating lease payments, which may be adjusted based on usage, changes in an index or market rate.

The following table presents operating leases included on the consolidated statement of financial condition:

The following table presents operating leases included on the consolidated statement of financial condition:			
(in millions)	Statement of Financial Condition Classification	December 31, 2019	
Statement of Financial Condition information:			
Operating lease ROU assets	Other assets	\$	669
Operating lease liabilities	Other liabilities	\$	776

Supplemental information related to operating leases is summarized below:

(in millions)	December 31, 2019
Supplemental cash flow information:	
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 142
Supplemental noncash information:	
ROU assets in exchange for operating lease liabilities in connection with the adoption of ASU 2016-02	\$ 661
ROU assets in exchange for operating lease liabilities	\$ 117

	December 31, 2019
Lease term and discount rate:	
Weighted-average remaining lease term	9 years
Weighted-average discount rate	3 %

(in millions)	Amount (1)
Maturity of operating lease liabilities at December 31, 2019	
2020	\$ 152
2021	147
2022	142
2023	91
2024	58
Thereafter	294
Total lease payments	\$ 884
Less: imputed interest	108
Present value of lease liabilities	\$ 776

(1) Amount excludes \$1.5 billion of legally binding minimum lease payments for leases signed but not yet commenced.

The table below summarizes BlackRock's future minimum commitments under the operating leases at December 31, 2018, reflecting accounting guidance prior to the adoption of the new lease accounting standard:

(in millions)	Amount
Operating lease commitments at December 31, 2018	
2019	\$ 145
2020	139
2021	130
2022	121
2023	106
Thereafter	1,516
Total	\$ 2,157

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). In November 2019, the Company exercised its initial expansion option with respect to two additional floors of approximately 122,000 square feet of office space. The additional space requires approximately \$185 million in base rent over its twenty-year term.

14. Other Assets

The Company accounts for its interest in PennyMac Financial Services, Inc. ("PennyMac") as an equity method investment. At December 31, 2019 and 2018, the Company's investment in PennyMac is included in other assets on the consolidated statements of financial condition. The carrying value and market value of the Company's interest (approximately 20% or 16 million shares) were approximately \$451 million and \$530 million, respectively, at December 31, 2019 and approximately \$397 million and \$331 million, respectively, at December 31, 2018. The market value of the Company's interest reflected the PennyMac stock price at December 31, 2019 and 2018, respectively (a Level 1 input).

15. Borrowings

Short-Term Borrowings

2019 Revolving Credit Facility. The Company's credit facility has an aggregate commitment amount of \$4 billion and was amended in March 2019 to extend the maturity date to March 2024 (the "2019 credit facility"). The 2019 credit facility permits the Company to request up to an additional \$1 billion of borrowing capacity, subject to lender credit approval, increasing the overall size of the 2019 credit facility to an aggregate principal amount not to exceed \$5 billion. Interest on borrowings outstanding accrues at a rate based on the applicable London Interbank Offered Rate plus a spread. The 2019 credit facility requires the Company not to exceed a maximum leverage ratio (ratio of net debt to EBITDA, 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 December 31, 2019. The 2019 credit facility provides back-up liquidity to fund ongoing working capital for general corporate purposes and various investment opportunities. At December 31, 2019, the Company had no amount outstanding under the 2019 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 billion. The commercial paper program is currently supported by the 2019 credit facility. At December 31, 2019, BlackRock had no CP Notes outstanding.

Long-Term Borrowings

The carrying value and fair value of long-term borrowings determined using market prices and EUR/USD foreign exchange rate at December 31, 2019 included the following:

(in millions)	Maturity Amount	Unamortized Discount and Debt Issuance Costs	Carrying Value	Fair Value
4.25% Notes due 2021	\$ 750	\$ (1)	\$ 749	\$ 775
3.375% Notes due 2022	750	(2)	748	777
3.50% Notes due 2024	1,000	(4)	996	1,062
1.25% Notes due 2025	786	(5)	781	832
3.20% Notes due 2027	700	(5)	695	740
3.25% Notes due 2029	1,000	(14)	986	1,068
Total Long-term Borrowings	\$ 4,986	\$ (31)	\$ 4,955	\$ 5,254

Long-term borrowings at December 31, 2018 had both a carrying value and a fair value of approximately \$5 billion determined using market prices at the end of December 2018.

See Note 29, *Subsequent Events*, for information on the January 2020 debt offering.

2029 Notes. In April 2019, the Company issued \$1 billion in aggregate principal amount of 3.25% senior unsecured and unsubordinated notes maturing on April 30, 2029 (the "2029 Notes"). The net proceeds of the 2029 Notes were used for general corporate purposes, which included a portion of the purchase price of the eFront Transaction, repayment of a portion of the \$1 billion 5.00% notes in December 2019 and repayment of borrowings under its commercial paper program. Interest is payable semi-annually on April 30 and October 30 of each year, which commenced on October 30, 2019, and is approximately \$33 million per year. The 2029 Notes may be redeemed prior to January 30, 2029 in whole or in part at any time, at the option of the Company, at a "make-whole" redemption price or at par thereafter. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2029 Notes.

In December 2019, the Company fully repaid \$1 billion of 5.00% notes at maturity.

2027 Notes. In March 2017, the Company issued \$700 million in aggregate principal amount of 3.20% senior unsecured and unsubordinated notes maturing on March 15, 2027 (the "2027 Notes"). The net proceeds of the 2027 Notes were used to fully repay \$700 million in aggregate principal amount outstanding of 6.25% notes in April 2017 prior to their maturity in September 2017. Interest is payable semi-annually on March 15 and September 15 of each year, and is approximately \$22 million per year. The 2027 Notes may be redeemed prior to maturity at any time in whole or in part at the option of the Company at a "make-whole" redemption price. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2027 Notes.

2025 Notes. In May 2015, the Company issued €700 million of 1.25% senior unsecured notes maturing on May 6, 2025 (the "2025 Notes"). The notes are listed on the New York Stock Exchange. The net proceeds of the 2025 Notes were used for general corporate purposes, including refinancing of outstanding indebtedness. Interest of approximately \$10 million per year based on current exchange rates is payable annually on May 6 of each year. The 2025 Notes may be redeemed in whole or in part prior to maturity at any time at the option of the Company at a "make-whole" redemption price. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2025 Notes.

Upon conversion to US dollars the Company designated the €700 million debt offering as a net investment hedge to offset its currency exposure relating to its net investment in certain euro functional currency operations. A gain of \$11 million (net of tax expense of \$3 million), a gain of \$30 million (net of tax expense of \$10 million), and a loss of \$64 million (net of tax benefit of \$38 million) were recognized in other comprehensive income for 2019, 2018 and 2017, respectively. No hedge ineffectiveness was recognized during 2019, 2018, and 2017.

2024 Notes. In March 2014, the Company issued \$1 billion in aggregate principal amount of 3.50% senior unsecured and unsubordinated notes maturing on March 18, 2024 (the "2024 Notes"). The net proceeds of the 2024 Notes were used to refinance certain indebtedness which matured in the fourth quarter of 2014. Interest is payable semi-annually in arrears on March 18 and September 18 of each year, or approximately \$35 million per year. The 2024 Notes may be redeemed prior to maturity at any time in whole or in part at the option of the Company at a "make-whole" redemption price. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2024 Notes.

2022 Notes. In May 2012, the Company issued \$1.5 billion in aggregate principal amount of unsecured unsubordinated obligations. These notes were issued as two separate series of senior debt securities, including \$750 million of 1.375% notes, which were repaid in June 2015 at maturity, and \$750 million of 3.375% notes maturing in June 2022 (the "2022 Notes"). Net proceeds were used to fund the repurchase of BlackRock's common stock and Series B Preferred from Barclays and affiliates and for general corporate purposes. Interest on the 2022 Notes of approximately \$25 million per year is payable semi-annually on June 1 and December 1 of each year. The 2022 Notes may be redeemed prior to maturity at any time in whole or in part at the option of the Company at a "make-whole" redemption price. The "make-whole" redemption price represents a price, subject to the specific terms of the 2022 Notes and related indenture, that is the greater of (a) par value and (b) the present value of future payments that will not be paid because of an early redemption, which is discounted at a fixed spread over a comparable Treasury security. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2022 Notes.

2021 Notes. In May 2011, the Company issued \$1.5 billion in aggregate principal amount of unsecured unsubordinated obligations. These notes were issued as two separate series of senior debt securities, including \$750 million of 4.25% notes maturing in May 2021 and \$750 million of floating rate notes, which were repaid in May 2013 at maturity. Net proceeds of this offering were used to fund the repurchase of BlackRock's common stock and Series B Preferred from Merrill Lynch & Co., Inc. Interest on the 4.25% notes due in 2021 ("2021 Notes") is payable semi-annually on May 24 and November 24 of each year, and is approximately \$32 million per year. The 2021 Notes may be redeemed prior to maturity at any time in whole or in part at the option of the Company at a "make-whole" redemption price. The unamortized discount and debt issuance costs are being amortized over the remaining term of the 2021 Notes.

16. Commitments and Contingencies

Investment Commitments. At December 31, 2019, the Company had \$553 million of various capital commitments to fund sponsored investment products, including consolidated sponsored investment products. These products 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 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.

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 December 31, 2019 totaled \$193 million, and is included in other liabilities on the consolidated statements of financial condition.

Other Contingent Payments. The Company acts as the portfolio manager in a series of derivative transactions and has a maximum potential exposure of \$17 million between the Company and counterparty. See Note 9, *Derivatives and Hedging*, for further discussion.

Legal Proceedings. From time to time, BlackRock receives subpoenas or other requests for information from various US federal and state governmental and regulatory authorities and international governmental and regulatory authorities in connection with industry-wide or other investigations or proceedings. It is BlackRock's policy to cooperate fully with such matters. The Company, certain of its subsidiaries and employees 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 US 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 trial on the remaining issues was completed on August 29, 2018. On February 8, 2019, the court issued an order dismissing the claims in their entirety. The plaintiffs filed a notice of appeal on March 8, 2019, which remains pending. The defendants believe the claims in this lawsuit are without merit.

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." The plaintiffs seek unspecified monetary and rescission damages. The plaintiffs' complaint was dismissed in December 2016 and on January 6, 2017, the 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 and, on January 23, 2020, the California Court of Appeal affirmed the trial court's dismissal. The defendants believe the claims in this lawsuit are without merit.

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 US 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 unaffiliated 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 the plaintiffs claim were excessive. The Amended Complaint also alleged that BlackRock took undue risks in its management of securities lending cash reinvestment vehicles during the financial crisis. On August 23, 2018, the court granted permission to the plaintiffs to file a Second Amended Complaint ("SAC") which 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, and on June 3, 2019, the plaintiffs filed a motion seeking to certify both the Plan and the CTF classes. On September 3, 2019, the court granted BlackRock's motion to dismiss part of the plaintiffs' claim seeking to recover alleged losses in the securities lending vehicles but denied the motion to dismiss in all other respects. On February 11, 2020, the court denied the plaintiffs' motion to certify the CTF class and granted their motion to certify the Plan class. On February 25, 2020, the plaintiffs requested permission from the appeals court to immediately appeal the class certification ruling. The defendants believe the claims in this lawsuit are without merit.

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 consolidated statements of financial condition.

In connection with securities lending transactions, BlackRock has agreed to indemnify 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. The amount of securities on loan as of December 31, 2019 and subject to this type of indemnification was \$210 billion. In the Company's capacity as lending agent, cash and securities totaling \$226 billion was held as collateral for indemnified securities on loan at December 31, 2019. The fair value of these indemnifications was not material at December 31, 2019.

17. Revenue

The table below presents detail of revenue for 2019, 2018 and 2017 and includes the product mix of investment advisory, administration fees and securities lending revenue (collectively “base fees”) and performance fees.

(in millions)	2019	2018	2017
Investment advisory, administration fees and securities lending revenue:			
Equity:			
Active	\$ 1,554	\$ 1,654	\$ 1,654
<i>iShares</i> ETFs	3,495	3,549	3,220
Non-ETF index	667	685	680
Equity subtotal	5,716	5,888	5,554
Fixed income:			
Active	1,918	1,840	1,717
<i>iShares</i> ETFs	963	825	808
Non-ETF index	405	387	344
Fixed income subtotal	3,286	3,052	2,869
Multi-asset	1,148	1,176	1,157
Alternatives:			
Illiquid alternatives	488	348	281
Liquid alternatives	413	384	358
Currency and commodities (1)	108	98	91
Alternatives subtotal	1,009	830	730
Long-term	11,159	10,946	10,310
Cash management	618	607	558
Total base fees	11,777	11,553	10,868
Investment advisory performance fees:			
Equity	36	91	152
Fixed income	10	8	34
Multi-asset	19	19	33
Alternatives:			
Illiquid alternatives	136	70	62
Liquid alternatives	249	224	313
Alternatives subtotal	385	294	375
Total performance fees	450	412	594
Technology services revenue	974	785	657
Distribution fees:			
Retrocessions	658	709	675
12b-1 fees (US mutual fund distribution fees)	358	406	466
Other	53	40	42
Total distribution fees	1,069	1,155	1,183
Advisory and other revenue:			
Advisory	99	113	128
Other	170	180	170
Total advisory and other revenue	269	293	298
Total revenue	\$ 14,539	\$ 14,198	\$ 13,600

(1) Amounts include commodity *iShares* ETFs.

The tables below present the investment advisory, administration fees and securities lending revenue by client type and investment style:

(in millions)	2019	2018	2017
By client type:			
Retail	\$ 3,411	\$ 3,413	\$ 3,250
<i>iShares</i> ETFs	4,564	4,468	4,113
Institutional:			
Active	2,172	2,044	1,955
Index	1,012	1,021	992
Total institutional	3,184	3,065	2,947
Long-term	11,159	10,946	10,310
Cash management	618	607	558
Total	\$ 11,777	\$ 11,553	\$ 10,868
By investment style:			
Active	\$ 5,510	\$ 5,391	\$ 5,152
Index and <i>iShares</i> ETFs	5,649	5,555	5,158
Long-term	11,159	10,946	10,310
Cash management	618	607	558
Total	\$ 11,777	\$ 11,553	\$ 10,868

Investment advisory and administration fees – remaining performance obligation

The tables below present estimated investment advisory and administration fees expected to be recognized in the future related to the unsatisfied portion of the performance obligations at December 31, 2019 and 2018:

December 31, 2019

(in millions)	2020	2021	2022	Thereafter	Total
Investment advisory and administration fees:					
Alternatives(1)(2)	\$ 98	\$ 88	\$ 74	\$ 107	\$ 367

December 31, 2018

(in millions)	2019	2020	2021	Thereafter	Total
Investment advisory and administration fees:					
Alternatives(1)(2)	\$ 61	\$ 53	\$ 42	\$ 70	\$ 226

- (1) Investment advisory and administration fees include management fees related to certain alternative products, which are based on contractual committed capital outstanding at December 31, 2019 and 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, and (2) variable consideration related to future service periods.

Change in Deferred Carried Interest Liability

The table below presents changes in the deferred carried interest liability, which is included in other liabilities on the consolidated statements of financial condition, for the year ended December 31, 2019 and 2018:

(in millions)	2019	2018
Beginning balance	\$ 293	\$ 219
Net increase (decrease) in unrealized allocations	259	92
Performance fee revenue recognized	(75)	(18)
Other	6	—
Ending balance	\$ 483	\$ 293

Technology services revenue – remaining performance obligation

The tables below present estimated technology services revenue expected to be recognized in the future related to the unsatisfied portion of the performance obligations at December 31, 2019 and 2018:

December 31, 2019

(in millions)	2020	2021	2022	Thereafter	Total
Technology services revenue(1)(2)	\$ 117	\$ 53	\$ 31	\$ 20	\$ 221

December 31, 2018

(in millions)	2019	2020	2021	Thereafter	Total
Technology services revenue(1)(2)	\$ 28	\$ 24	\$ 18	\$ 17	\$ 87

- (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, and (2) variable consideration related to future service periods.

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 December 31, 2019, the estimated fixed minimum fees for 2020 for outstanding contracts approximated \$640 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 year ended December 31, 2019 and 2018, which is included in other liabilities on the consolidated statements of financial condition:

(in millions)	2019	2018
Beginning balance	\$ 70	\$ 62
Additions	86	44
Revenue recognized that was included in the beginning balance	(40)	(36)
Ending balance	\$ 116	\$ 70

18. Stock-Based Compensation

The components of stock-based compensation expense are as follows:

(in millions)	2019	2018	2017
Stock-based compensation:			
Restricted stock and RSUs	\$ 532	\$ 514	\$ 524
Long-term incentive plans to be funded by PNC	—	14	15
Stock options	35	36	3
Total stock-based compensation	\$ 567	\$ 564	\$ 542

Stock Award and Incentive Plan. Pursuant to the BlackRock, Inc. Second Amended and Restated 1999 Stock Award and Incentive Plan (the “Award Plan”), options to purchase shares of the Company’s common stock at an exercise price not less than the market value of BlackRock’s common stock on the date of grant in the form of stock options, restricted stock or RSUs may be granted to employees and nonemployee directors. A maximum of 41,500,000 shares of common stock were authorized for issuance under the Award Plan. Of this amount, 7,197,212 shares remain available for future awards at December 31, 2019. Upon exercise of employee stock options, the issuance of restricted stock or the vesting of RSUs, the Company issues shares out of treasury to the extent available.

Restricted Stock and RSUs. Pursuant to the Award Plan, restricted stock grants and RSUs may be granted to certain employees. Substantially all restricted stock and RSUs vest over periods ranging from one to three years and are expensed using the straight-line method over the requisite service period for each separately vesting portion of the award as if the award was, in-substance, multiple awards. Restricted stock and RSUs are not considered participating securities for purposes of calculating EPS as the dividend equivalents are subject to forfeiture prior to vesting of the award.

Restricted stock and RSU activity for 2019 is summarized below.

Outstanding at	Restricted Stock and RSUs	Weighted-Average Grant Date Fair Value
December 31, 2018	2,139,890	\$ 429.19
Granted	1,226,249	\$ 414.41
Converted	(1,047,423)	\$ 379.85
Forfeited	(82,264)	\$ 434.02
December 31, 2019 ⁽¹⁾	2,236,452	\$ 444.02

(1) At December 31, 2019, approximately 2.0 million awards are expected to vest and 0.2 million awards have vested but have not been converted.

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 2019, 2018 and 2017 was \$508 million, \$492 million and \$421 million, respectively. The total grant-date fair market value of RSUs/restricted stock converted to common stock during 2019, 2018 and 2017 was \$398 million, \$443 million and \$457 million, respectively.

RSUs/restricted stock granted in connection with annual incentive compensation under the Award Plan primarily related to the following:

	2019	2018	2017
Awards granted that vest ratably over three years from the date of grant	674,206	527,337	699,991
Awards granted that cliff vest 100% on:			
January 31, 2020	—	—	277,313
January 31, 2021	—	209,201	—
January 31, 2022	377,291	—	—
	1,051,497	736,538	977,304

In addition, the Company also granted RSUs of 174,752, 155,403 and 126,906 during 2019, 2018 and 2017, respectively, with varying vesting periods.

At December 31, 2019, the intrinsic value of outstanding RSUs was \$1.1 billion, reflecting a closing stock price of \$502.70.

At December 31, 2019, total unrecognized stock-based compensation expense related to unvested RSUs was \$347 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 1.1 years.

In January 2020, the Company granted under the Award Plan:

- 517,129 RSUs or shares of restricted stock to employees as part of annual incentive compensation that vest ratably over three years from the date of grant; and
- 380,335 RSUs or shares of restricted stock to employees that cliff vest 100% on January 31, 2023.

Performance-Based RSUs. Pursuant to the Award Plan, performance-based RSUs may be granted to certain employees. Each performance-based award consists of a “base” number of RSUs granted to the employee. The number of shares that an employee ultimately receives at vesting will be equal to the base number of performance-based RSUs granted, multiplied by a predetermined percentage determined in accordance with the level of attainment of Company performance measures during the performance period and could be higher or lower than the original RSU grant. Performance-based RSUs are not considered participating securities as the dividend equivalents are subject to forfeiture prior to vesting of the award.

In the first quarter of 2019, 2018 and 2017, the Company granted 283,014, 199,068, and 294,584, respectively, performance-based RSUs to certain employees that cliff vest 100% on January 31, 2022, 2021, and 2020 respectively. 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 2019, the Company granted 2,117 additional RSUs to certain employees based on the attainment of Company performance measures during the performance period.

Performance-based RSU activity for 2019 is summarized below.

Outstanding at	Performance-Based RSUs	Weighted-Average Grant Date Fair Value
December 31, 2018	845,285	\$ 386.13
Granted	283,014	\$ 410.32
Additional shares granted due to attainment of performance measures	2,117	\$ 296.57
Converted	(360,927)	\$ 296.57
Forfeited	(26,571)	\$ 435.33
December 31, 2019	742,918	\$ 436.84

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 2019, 2018, and 2017 was \$117 million, \$121 million and \$111 million, respectively.

At December 31, 2019, the intrinsic value of outstanding performance-based RSUs was \$373 million reflecting a closing stock price of \$502.70.

At December 31, 2019, total unrecognized stock-based compensation expense related to unvested performance-based awards was \$107 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 1.1 years.

In January 2020, the Company granted 239,415 performance-based RSUs to certain employees that cliff vest 100% on January 31, 2023. 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.

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. On January 31, 2019, PNC surrendered its remaining 143,458 shares to BlackRock and has completed its share delivery obligation in connection with the agreement.

Performance-based Stock Options. Pursuant to the Award Plan, performance-based stock options may be granted to certain employees. Vesting of the performance-based stock options is contingent upon the achievement of obtaining 125% of BlackRock’s grant-date stock price within five years from the grant date and the attainment of Company performance measures during the four-year performance period. If both hurdles are achieved, the award will vest in three equal installments at the end of years five, six and seven. Vested options can then be exercised up to nine years following the grant date. The awards are generally forfeited if the employee leaves the Company before the respective vesting date. The expense for each tranche is amortized over the respective requisite service period. The Company assumes the performance condition will be achieved. If such condition is not met, no compensation cost is recognized and any recognized compensation cost is reversed. Stock option activity for 2019 is summarized below.

Outstanding at	Shares Under Option	Weighted Average Exercise Price
December 31, 2018	2,106,482	\$ 513.50
Forfeited	(165,337)	\$ 513.50
December 31, 2019	1,941,145	\$ 513.50

The options have a strike price of \$513.50, which was the closing price of the shares on the grant date. The grant-date fair value of the awards issued in 2017 was \$208 million and was estimated using a Monte Carlo simulation with an embedded lattice model using the assumptions included in the following table:

Grant Year	Expected Term (Years)	Expected Stock Volatility	Expected Dividend Yield	Risk-Free Interest Rate
2017	6.56	22.23%	2.16%	2.33%

The expected term was derived using a Monte Carlo simulation with the embedded lattice model and represents the period of time that options granted are expected to be outstanding. The expected stock volatility was based upon an average of historical stock price fluctuations of BlackRock's common stock and an implied volatility at the grant date. The dividend yield was calculated as the most recent quarterly dividend divided by the average three-month stock price as of the grant date. The risk free interest rate is based on the US Treasury Constant Maturities yield curve at date of grant.

At December 31, 2019, total unrecognized stock-based compensation expense related to unvested performance-based stock options was \$108 million. The unrecognized compensation cost is expected to be recognized over the remaining weighted-average period of 3.9 years.

Employee Stock Purchase Plan ("ESPP"). The ESPP allows eligible employees to purchase the Company's common stock at 95% of the fair market value on the last day of each three-month offering period. The Company does not record compensation expense related to employees purchasing shares under the ESPP.

19. Employee Benefit Plans

Deferred Compensation Plans

Voluntary Deferred Compensation Plan. The Company adopted a Voluntary Deferred Compensation Plan ("VDCP") that allows eligible employees in the United States to elect to defer between 1% and 100% of their annual cash incentive compensation. The participants must specify a deferral period of up to 10 years from the year of deferral and additionally, elect to receive distributions in the form of a lump sum or in up to 10 annual installments. The Company may fund the obligation through the rabbi trust on behalf of the plan's participants.

The rabbi trust established for the VDCP, with assets totaling \$23 million and \$34 million at December 31, 2019 and 2018, respectively, is reflected in investments on the consolidated statements of financial condition. Such investments are classified as trading investments. The liability balance of \$80 million and \$71 million at December 31, 2019 and 2018, respectively, is reflected on the consolidated statements of financial condition as accrued compensation and benefits. Earnings in the rabbi trust, including unrealized appreciation or depreciation, are reflected as nonoperating income (expense) and changes in the liability are reflected as employee compensation and benefits expense on the consolidated statements of income.

Leadership Retention Carry Plan. In 2019, the Company adopted a carried interest retention incentive program referred to as the BlackRock Leadership Retention Carry Plan, pursuant to which senior-level employees (but not including the Chief Executive Officer), as may be determined by the Company from time to time, will be eligible to receive a portion of the cash payments, based on their percentage points, in the total carried interest distributions payable to the Company from participating carry funds. Cash payments, if any, with respect to these percentage points will be made following the recipient's termination of employment due to qualified retirement, death or disability, subject to his or her execution of a release of claims and continued compliance with his or her restrictive covenant obligations following termination. There was no impact to the consolidated financial statements.

Other Deferred Compensation Plans. The Company has additional compensation plans for the purpose of providing deferred compensation and retention incentives to certain employees. For these plans, the final value of the deferred amount to be distributed in cash upon vesting is associated with investment returns of certain investment funds. The liabilities for these plans were \$311 million and \$236 million at December 31, 2019 and 2018, respectively, and are reflected in the consolidated statements of financial condition as accrued compensation and benefits. In January 2020, the Company granted approximately \$137 million of additional deferred compensation that will fluctuate with investment returns and will vest ratably over three years from the date of grant.

Defined Contribution Plans

The Company has several defined contribution plans primarily in the United States and United Kingdom.

Certain of the Company's US employees participate in a defined contribution plan. Employee contributions of up to 8% of eligible compensation, as defined by the plan and subject to Internal Revenue Code limitations, are matched by the Company at 50% up to a maximum of \$5,000 annually. In addition, the Company makes an annual retirement contribution to eligible participants equal to 3-5% of eligible compensation. The Company's contribution expense related to this plan was \$66 million in 2019, \$63 million in 2018, and \$78 million in 2017.

Certain UK wholly owned subsidiaries of the Company contribute to defined contribution plans for their employees. The contributions range between 6% and 15% of each employee's eligible compensation. The Company's contribution expense related to these plans was \$41 million in 2019, \$35 million in 2018, and \$29 million in 2017.

In addition, the contribution expense related to defined contribution plans in other regions was \$29 million in 2019, \$22 million in 2018 and \$21 million in 2017.

Defined Benefit Plans. The Company has several defined benefit pension plans primarily in Japan and Germany. All accrued benefits under the Germany defined benefit plan are currently frozen and the plan is closed to new participants. The participant benefits under the Germany plan will not change with salary increases or additional years of service. At December 31, 2019 and 2018, the plan assets for these plans were approximately \$28 million and \$26 million, respectively. The underfunded obligations at December 31, 2019 and 2018 were not material. Benefit payments for the next five years and in aggregate for the five years thereafter are not expected to be material.

20. Related Party Transactions

Determination of Related Parties

PNC. The Company considers PNC, along with its affiliates, to be related parties based on the level of its ownership of BlackRock capital stock. At December 31, 2019, PNC owned approximately 22.0% of the Company's voting common stock and held approximately 22.4% of the total capital stock. Revenue for services provided by the Company to PNC was not material for 2019, 2018 and 2017.

Registered Investment Companies and Equity Method Investments. The Company considers the registered investment companies that it manages, which include mutual funds and exchange-traded funds, to be related parties as a result of the Company's advisory relationship. In addition, equity method investments are considered related parties, due to the Company's influence over the financial and operating policies of the investee.

Revenue from Related Parties

Revenue for services provided by the Company to these and other related parties are as follows:

(in millions)	2019	2018	2017
Investment advisory, administration fees and securities lending revenue ⁽¹⁾	\$ 8,323	\$ 8,226	\$ 7,692
Investment advisory performance fees	131	112	143
Technology services revenue ⁽²⁾	9	9	9
Advisory and other revenue ⁽³⁾	59	65	59
Total revenue from related parties	\$ 8,522	\$ 8,412	\$ 7,903

(1) Amount primarily includes revenue from registered investment companies/and equity method investees.

(2) Amount primarily includes revenue from PNC and affiliates.

(3) Amount primarily includes revenue from equity method investees.

The Company provides investment advisory and administration services to its open- and closed-end funds and other commingled or pooled funds and separate accounts in which related parties invest. The Company also provides investment advisory and administration services for fees based on AUM and risk management services to PNC and its affiliates.

Expenses for Transactions with Related Parties

Expenses for transactions with related parties, which are included within general and administration expense, were \$2 million, \$2 million and \$10 million for 2019, 2018, and 2017, respectively.

Certain Agreements and Arrangements with PNC

PNC. On February 27, 2009, BlackRock entered into an amended and restated implementation and stockholder agreement with PNC, and a fourth amendment to the share surrender agreement with PNC. On January 31, 2019, PNC surrendered its remaining BlackRock Series C Preferred Stock to BlackRock and has completed its share delivery obligation in connection with the agreement.

Receivables and Payables with Related Parties. Due from related parties, which is included within other assets on the consolidated statements of financial condition was \$119 million and \$179 million at December 31, 2019 and 2018, respectively, and primarily represented receivables from certain investment products managed by BlackRock. Accounts receivable at December 31, 2019 and 2018 included \$995 million and \$878 million, respectively, related to receivables from BlackRock mutual funds, including *iShares* ETFs, for investment advisory and administration services.

Due to related parties, which is included within other liabilities on the consolidated statements of financial condition, was \$12 million and \$11 million at December 31, 2019 and 2018, respectively, and primarily represented payables to certain investment products managed by BlackRock.

21. 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.

Banking Regulatory Requirements. BTC, a wholly owned subsidiary of the Company, 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. Federal banking regulators would be required to take certain actions and permitted to take other actions in the event of BTC's failure to meet minimum capital requirements that, if undertaken, could have a direct material effect on the Company's consolidated financial statements.

Quantitative measures established by regulators to ensure capital adequacy require BTC to maintain a minimum Common Equity Tier 1 capital and Tier 1 leverage ratio, as well as Tier 1 and total risk-based capital ratios. Based on BTC's calculations as of December 31, 2019 and 2018, it exceeded the applicable capital adequacy requirements.

(in millions)	Actual		For Capital Adequacy Purposes		To Be Well Capitalized Under Prompt Corrective Action Provisions	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
December 31, 2019						
Total capital (to risk weighted assets)	\$ 686	137.7%	\$ 40	8.0%	\$ 50	10.0%
Common Equity Tier 1 capital (to risk weighted assets)	\$ 686	137.7%	\$ 22	4.5%	\$ 32	6.5%
Tier 1 capital (to risk weighted assets)	\$ 686	137.7%	\$ 30	6.0%	\$ 40	8.0%
Tier 1 capital (to average assets)	\$ 686	72.8%	\$ 38	4.0%	\$ 47	5.0%
December 31, 2018						
Total capital (to risk weighted assets)	\$ 572	131.1%	\$ 35	8.0%	\$ 44	10.0%
Common Equity Tier 1 capital (to risk weighted assets)	\$ 572	131.1%	\$ 20	4.5%	\$ 28	6.5%
Tier 1 capital (to risk weighted assets)	\$ 572	131.1%	\$ 26	6.0%	\$ 35	8.0%
Tier 1 capital (to average assets)	\$ 572	58.0%	\$ 39	4.0%	\$ 49	5.0%

Broker-dealers. BlackRock Investments, LLC and BlackRock Execution Services are registered broker-dealers and wholly owned subsidiaries of BlackRock that are subject to the Uniform Net Capital requirements under the Securities Exchange Act of 1934, which requires maintenance of certain minimum net capital levels.

Capital Requirements. At December 31, 2019 and 2018, the Company was required to maintain approximately \$1.9 billion and \$1.8 billion, respectively, 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.

22. Accumulated Other Comprehensive Income (Loss)

The following table presents changes in AOCI by component for 2019, 2018 and 2017:

(in millions)	2019	2018	2017
Beginning balance	\$ (691)	\$ (432)	\$ (716)
Foreign currency translation adjustments ⁽¹⁾	120	(253)	284
Reclassification as a result of adoption of accounting guidance	—	(6)	—
Ending balance	\$ (571)	\$ (691)	\$ (432)

- (1) Amounts for 2019 and 2018 include gains from a net investment hedge of \$11 million (net of tax expense of \$3 million) and \$30 million (net of tax expense of \$10 million), respectively. Amount for 2017 includes a loss from a net investment hedge of \$64 million (net of tax benefit of \$38 million).

23. Capital Stock

The Company's authorized common stock and nonvoting participating preferred stock, \$0.01 par value, ("Preferred") consisted of the following:

	December 31, 2019	December 31, 2018
Common Stock	500,000,000	500,000,000
Nonvoting Participating Preferred Stock		
Series A Preferred	20,000,000	20,000,000
Series B Preferred	150,000,000	150,000,000
Series C Preferred	6,000,000	6,000,000
Series D Preferred	20,000,000	20,000,000

PNC Capital Contribution. During 2019 and 2018, PNC surrendered to BlackRock 143,458 and 103,064 shares, respectively, of BlackRock Series C Preferred to fund certain LTIP awards and has completed its share delivery obligation in connection with its share surrender agreement.

Cash Dividends for Common and Preferred Shares / RSUs. During 2019, 2018 and 2017, the Company paid cash dividends of \$13.20 per share (or \$2,096 million), \$12.02 per share (or \$1,968 million) and \$10.00 per share (or \$1,662 million), respectively.

Share Repurchases. During 2019, the Company repurchased 4.0 million common shares under the share repurchase program for \$1.7 billion, including a \$1.3 billion private transaction that closed on March 25, 2019. At December 31, 2019, there were 5.9 million shares still authorized to be repurchased.

The Company's common and preferred shares issued and outstanding and related activity consist of the following:

	Shares Issued				Shares Outstanding		
	Common Shares	Treasury Common Shares	Series B Preferred	Series C Preferred	Common Shares	Series B Preferred	Series C Preferred
December 31, 2016	171,252,185	(9,717,742)	823,188	763,660	161,534,443	823,188	763,660
Shares repurchased	—	(2,647,670)	—	—	(2,647,670)	—	—
Net issuance of common shares related to							
employee stock transactions	—	1,090,342	—	—	1,090,342	—	—
PNC LTIP capital contribution	—	—	—	(517,138)	—	—	(517,138)
December 31, 2017	171,252,185	(11,275,070)	823,188	246,522	159,977,115	823,188	246,522
Shares repurchased	—	(3,511,603)	—	—	(3,511,603)	—	—
Net issuance of common shares related to							
employee stock transactions	—	1,087,989	—	—	1,087,989	—	—
PNC LTIP capital contribution	—	—	—	(103,064)	—	—	(103,064)
December 31, 2018	171,252,185	(13,698,684)	823,188	143,458	157,553,501	823,188	143,458
Shares repurchased	—	(4,018,905)	—	—	(4,018,905)	—	—
Net issuance of common shares related to							
employee stock transactions	—	841,184	—	—	841,184	—	—
PNC LTIP capital contribution	—	—	—	(143,458)	—	—	(143,458)
December 31, 2019	171,252,185	(16,876,405)	823,188	—	154,375,780	823,188	—

24. Restructuring Charge

A restructuring charge of \$60 million (\$47 million after-tax), comprised of \$53 million of severance and \$7 million of expense related to the accelerated amortization of previously granted equity compensation awards, was recorded in the fourth quarter of 2018 in connection with an initiative to modify the size and shape of the workforce.

The table below presents a rollforward of the Company's restructuring liability for the year ended December 31, 2019 and 2018, which is included in other liabilities on the consolidated statements of financial condition:

<i>(in millions)</i>		
Liability as of December 31, 2017	\$	—
Additions		60
Accelerated amortization expense of equity-based awards		(7)
Liability as of December 31, 2018	\$	53
Cash payments		(53)
Liability as of December 31, 2019	\$	—

25. Income Taxes

The components of income tax expense for 2019, 2018 and 2017, are as follows:

<i>(in millions)</i>	2019	2018	2017
Current income tax expense:			
Federal	\$ 735	\$ 605	\$ 1,166
State and local	109	97	36
Foreign	400	600	289
Total net current income tax expense	1,244	1,302	1,491
Deferred income tax expense (benefit):			
Federal	15	(71)	(1,382)
State and local	7	(1)	81
Foreign	(5)	(154)	80
Total net deferred income tax expense (benefit)	17	(226)	(1,221)
Total income tax expense	\$ 1,261	\$ 1,076	\$ 270

Income tax expense has been based on the following components of income before taxes, less net income (loss) attributable to NCI:

<i>(in millions)</i>	2019	2018	2017
Domestic	\$ 3,766	\$ 3,536	\$ 3,280
Foreign	1,971	1,845	1,942
Total	\$ 5,737	\$ 5,381	\$ 5,222

The foreign income before taxes includes countries that have statutory tax rates that are different than the US federal statutory tax rate of 21%, such as the United Kingdom, Ireland, Canada and Netherlands.

A reconciliation of income tax expense with expected federal income tax expense computed at the applicable federal income tax rate of 21% for 2019 and 2018 and 35% for 2017 is as follows:

<i>(in millions)</i>	2019			2018			2017		
Statutory income tax expense	\$	1,205	21%	\$	1,130	21%	\$	1,834	35%
Increase (decrease) in income taxes resulting from:									
State and local taxes (net of federal benefit)		96	2		99	2		60	1
Impact of federal, foreign, state, and local tax rate changes on deferred taxes		5	—		0	—		(1,637)	(31)
Mandatory deemed repatriation tax		—	—		0	—		477	9
Stock-based compensation awards		(23)	—		(64)	(1)		(159)	(3)
Effect of foreign tax rates		(76)	(1)		(119)	(2)		(337)	(6)
Other		54	—		30	—		32	—
Income tax expense	\$	1,261	22%	\$	1,076	20%	\$	270	5%

Deferred income taxes are provided for the effects of temporary differences between the tax basis of an asset or liability and its reported amount in the consolidated financial statements. These temporary differences result in taxable or deductible amounts in future years.

The components of deferred income tax assets and liabilities are shown below:

	December 31,	
(in millions)	2019	2018
Deferred income tax assets:		
Compensation and benefits	\$ 282	\$ 267
Loss carryforwards	84	82
Other	481	362
Gross deferred tax assets	847	711
Less: deferred tax valuation allowances	(51)	(68)
Deferred tax assets net of valuation allowances	796	643
Deferred income tax liabilities:		
Goodwill and acquired indefinite-lived intangibles	3,971	3,939
Acquired finite-lived intangibles	179	48
Unrealized investment gains	63	30
Other	142	34
Gross deferred tax liabilities	4,355	4,051
Net deferred tax (liabilities)	\$ (3,559)	\$ (3,408)

Deferred income tax assets and liabilities are recorded net when related to the same tax jurisdiction. At December 31, 2019, the Company recorded on the consolidated statement of financial condition deferred income tax assets, within other assets, and deferred income tax liabilities of \$175 million and \$3,734 million, respectively. At December 31, 2018, the Company recorded on the consolidated statement of financial condition deferred income tax assets, within other assets, and deferred income tax liabilities of \$163 million and \$3,571 million, respectively.

Income tax expense for 2019 included a \$28 million discrete tax benefit, primarily related to stock-based compensation awards that vested in 2019.

Income tax expense for 2018 reflected a reduced tax rate associated with The 2017 Tax Cuts and Jobs Act and \$81 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure and a \$64 million discrete tax benefit, related to stock-based compensation awards that vested in 2018.

At December 31, 2019 and 2018, the Company had available state net operating loss carryforwards of \$1.9 billion and \$2.9 billion, respectively, which will begin to expire in 2020. At December 31, 2019 and 2018, the Company had foreign net operating loss carryforwards of \$110 million and \$76 million, respectively, of which \$3 million will begin to expire in 2021.

At December 31, 2019 and 2018, the Company had \$51 million and \$68 million of valuation allowances for deferred income tax assets, respectively, recorded on the consolidated statements of financial condition.

Goodwill recorded in connection with the Quellos Transaction has been reduced during the period by the amount of tax benefit realized from tax-deductible goodwill. See Note 11, *Goodwill*, for further discussion.

Current income taxes are recorded net on the consolidated statements of financial condition when related to the same tax jurisdiction. At December 31, 2019, the Company had current income taxes receivable and payable of \$282 million and \$293 million, respectively, recorded in other assets and accounts payable and accrued liabilities, respectively. At December 31, 2018, the Company had current income taxes receivable and payable of \$282 million and \$341 million, respectively, recorded in other assets and accounts payable and accrued liabilities, respectively.

The following tabular reconciliation presents the total amounts of gross unrecognized tax benefits:

<i>(in millions)</i>	2019	2018	2017
Balance at January 1	\$ 795	\$ 629	\$ 410
Additions for tax positions of prior years	99	82	161
Reductions for tax positions of prior years	(27)	(15)	(3)
Additions based on tax positions related to current year	47	102	67
Lapse of statute of limitations	(4)	(3)	(6)
Settlements	(10)	—	—
Balance at December 31	\$ 900	\$ 795	\$ 629

Included in the balance of unrecognized tax benefits at December 31, 2019, 2018 and 2017, respectively, are \$513 million, \$462 million and \$316 million of tax benefits that, if recognized, would affect the effective tax rate.

The Company recognizes interest and penalties related to income tax matters as a component of income tax expense. Related to the unrecognized tax benefits noted above, the Company accrued interest and penalties of \$27 million during 2019 and in total, as of December 31, 2019, had recognized a liability for interest and penalties of \$133 million. The Company accrued interest and penalties of \$30 million during 2018 and in total, as of December 31, 2018, had recognized a liability for interest and penalties of \$106 million. The Company accrued interest and penalties of \$17 million during 2017 and in total, as of December 31, 2017, had recognized a liability for interest and penalties of \$76 million.

BlackRock is subject to US federal income tax, state and local income tax, and foreign income tax in multiple jurisdictions. Tax years after 2009 remain open to US federal income tax examination.

In June 2014, the Internal Revenue Service commenced its examination of BlackRock's 2010 through 2012 tax years. During 2019, the Internal Revenue Service commenced its examination of BlackRock's 2013 through 2015 tax years. While the examination impact on the Company's consolidated financial statements is undetermined, it is not expected to be material.

The Company is currently under audit in several state and local jurisdictions. The significant state and local income tax examinations are in New York State for tax years 2012 through 2014, New York City for tax years 2009 through 2011, and California for tax years 2015 through 2016. No state and local income tax audits cover years earlier than 2009. No state and local income tax audits are expected to result in an assessment material to BlackRock's consolidated financial statements.

Upon conclusion of its examination, Her Majesty's Revenue and Customs issued a closure notice during 2017 for various UK BlackRock subsidiaries for tax years 2009 and years after. The Company made a decision to pursue litigation for the tax matters included on such notice. BlackRock does not expect the ultimate resolution to result in a material impact to the consolidated financial statements.

From time to time, BlackRock may receive or be subject to tax authorities' assessments and challenges related to income taxes. BlackRock does not currently expect the ultimate resolution of any existing matters to be material to the consolidated financial statements.

At December 31, 2019, it is reasonably possible the total amounts of unrecognized tax benefits will change within the next twelve months due to completion of tax authorities' exams or the expiration of statutes of limitations. Management estimates that the existing liability for uncertain tax positions could decrease by approximately \$5 million to \$20 million within the next twelve months.

26. Earnings Per Share

The following table sets forth the computation of basic and diluted EPS for 2019, 2018 and 2017 under the treasury stock method:

<i>(in millions, except shares and per share data)</i>	2019	2018	2017
Net income attributable to BlackRock	\$ 4,476	\$ 4,305	\$ 4,952
Basic weighted-average shares outstanding	156,014,343	160,301,116	162,160,601
Dilutive effect of nonparticipating RSUs and stock options	1,445,203	1,647,616	2,254,434
Total diluted weighted-average shares outstanding	157,459,546	161,948,732	164,415,035
Basic earnings per share	\$ 28.69	\$ 26.86	\$ 30.54
Diluted earnings per share	\$ 28.43	\$ 26.58	\$ 30.12

Anti-dilutive RSUs and stock options for 2019, 2018 and 2017 were immaterial. In addition, performance-based RSUs and stock options are excluded from potential dilution until the designated performance conditions are met.

27. 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 2019, 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)					
Revenue	2019		2018		2017
Americas	\$	9,703	\$	9,303	\$ 8,798
Europe		4,158		4,217	4,126
Asia-Pacific		678		678	676
Total revenue	\$	14,539	\$	14,198	\$ 13,600

See Note 17, *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 December 31, 2019 and 2018 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	2019		2018		
Americas	\$	13,830	\$	13,780	
Europe		1,360		303	
Asia-Pacific		87		86	
Total long-lived assets	\$	15,277	\$	14,169	

Americas is primarily comprised of the United States, Latin America and Canada, while Europe is primarily comprised of the United Kingdom, the Netherlands and Luxembourg. Asia-Pacific is primarily comprised of Hong Kong, Australia, Japan and Singapore.

28. Selected Quarterly Financial Data (unaudited)

(in millions, except shares and per share data)

2019	1st Quarter(1)	2nd Quarter	3rd Quarter(2)	4th Quarter(3)
Revenue	\$ 3,346	\$ 3,524	\$ 3,692	\$ 3,977
Operating income	\$ 1,233	\$ 1,278	\$ 1,502	\$ 1,538
Net income	\$ 1,060	\$ 1,013	\$ 1,119	\$ 1,334
Net income attributable to BlackRock, Inc.	\$ 1,053	\$ 1,003	\$ 1,119	\$ 1,301
Earnings per share attributable to BlackRock, Inc. common stockholders:				
Basic	\$ 6.65	\$ 6.46	\$ 7.21	\$ 8.38
Diluted	\$ 6.61	\$ 6.41	\$ 7.15	\$ 8.29
Weighted-average common shares outstanding:				
Basic	158,268,034	155,354,552	155,280,877	155,195,733
Diluted	159,348,431	156,360,741	156,447,387	156,894,201
Dividend declared per share	\$ 3.30	\$ 3.30	\$ 3.30	\$ 3.30
2018				
Revenue	\$ 3,583	\$ 3,605	\$ 3,576	\$ 3,434
Operating income	\$ 1,375	\$ 1,440	\$ 1,396	\$ 1,246
Net income	\$ 1,094	\$ 1,078	\$ 1,203	\$ 927
Net income attributable to BlackRock, Inc.	\$ 1,089	\$ 1,073	\$ 1,216	\$ 927
Earnings per share attributable to BlackRock, Inc. common stockholders:				
Basic	\$ 6.75	\$ 6.67	\$ 7.59	\$ 5.84
Diluted	\$ 6.68	\$ 6.62	\$ 7.54	\$ 5.78
Weighted-average common shares outstanding:				
Basic	161,250,018	160,980,960	160,141,506	158,859,998
Diluted	162,918,961	162,161,937	161,378,217	160,450,266
Dividend declared per share	\$ 2.88	\$ 2.88	\$ 3.13	\$ 3.13

- (1) The first quarter of 2019 and 2018 included \$22 million and \$56 million, respectively, of discrete tax benefit related to stock-based compensation awards that vested in the first quarter of each respective year.
- (2) The third quarter of 2018 benefited from \$90 million of discrete tax items, primarily related to changes in the Company's organizational entity structure.
- (3) The fourth quarter of 2018 included a pre-tax restructuring charge of \$60 million.

29. Subsequent Events

In January 2020, the Company issued \$1 billion in aggregate principal amount of 2.40% senior unsecured and unsubordinated notes maturing on April 30, 2030 (the “2030 Notes”). The net proceeds of the 2030 Notes will be used for general corporate purposes. Interest of approximately \$24 million per year will be payable semi-annually on April 30 and October 30 of each year, commencing April 30, 2020. The 2030 Notes may be redeemed prior to January 30, 2030 in whole or in part at any time, at the option of the Company, at a “make-whole” redemption price or at 100% of the principal amount of the 2030 Notes thereafter. The discount and debt issuance costs will be amortized over the term of the 2030 Notes.

On January 29, 2020, the Board of Directors approved BlackRock’s quarterly dividend of \$3.63 per share to be paid on March 23, 2020 to stockholders of record at the close of business on March 5, 2020.

On February 13, 2020, BlackRock announced the establishment of The BlackRock Foundation (the “Foundation”) and the contribution of its remaining stake in PennyMac Financial Services, Inc. to the new Foundation and the BlackRock Charitable Fund, which BlackRock established in 2013. The contribution will result in an operating expense of \$589 million, which is expected to be offset by an approximately \$125 million noncash, nonoperating pre-tax gain on the contributed shares and a tax benefit of approximately \$241 million. The contribution will provide long-term funding for BlackRock’s philanthropic investments and partnerships.

The Company conducted a review for additional subsequent events and determined that no subsequent events had occurred that would require accrual or additional disclosures.

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES ACT OF 1934**

The following description sets forth certain material terms and provisions of BlackRock's securities that are registered under Section 12 of the Securities Exchange Act of 1934, as amended.

The description below does not purport to be complete and is qualified in its entirety by reference to our Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of Delaware on February 13, 2006 and as amended on May 24, 2012 (the "Amended and Restated Certificate of Incorporation"), our Amended and Restated Bylaws, as in effect since July 20, 2016 and each prospectus, prospectus supplement and indenture which was filed with the U.S. Securities and Exchange Commission ("SEC"), as applicable, at or prior to the time of sale of the related security. If so indicated in the applicable prospectus supplement, the terms of any such security may differ from the terms set forth below. If there are differences between the prospectus supplement relating to a particular security and the applicable prospectus, the prospectus supplement controls. When used in this exhibit, the terms "BlackRock," "we," "our" and "us" refer solely to BlackRock, Inc. and not to its subsidiaries. We urge you to read our amended and restated certificate of incorporation, as amended, our amended and restated by laws and each prospectus, prospectus supplement and indenture applicable to the related security in their entirety.

As of December 31, 2019, we had two classes of registered securities listed on the New York Stock Exchange, our common stock and 1.250% Notes due 2025. Additionally, we had outstanding one series of preferred stock, Series B.

DESCRIPTION OF CAPITAL STOCK

General

Our amended and restated certificate of incorporation provides that we are authorized to issue one billion shares of capital stock, consisting of 500,000,000 shares of common stock, par value \$0.01 per share and 500,000,000 shares of preferred stock, par value \$0.01 per share of which 20,000,000 shares are designated as Series A convertible participating preferred stock, 150,000,000 shares are designated as Series B convertible participating preferred stock, 6,000,000 shares are designated as Series C convertible participating preferred stock and 20,000,000 shares are designated as Series D participating preferred stock.

As of December 31, 2019, we had approximately 171,252,185 shares of common stock issued and approximately 154,375,780 shares of common stock outstanding, no shares of Series A convertible participating preferred stock issued and outstanding, approximately 823,188 shares of Series B convertible participating preferred stock issued and outstanding, no shares of Series C convertible participating preferred stock issued and outstanding and no shares of Series D participating preferred stock issued and outstanding.

Preferred Stock

General. The board of directors is authorized to provide for the issuance of shares of preferred stock in one or more classes or series, to establish from time to time the number of shares to be included in such class or series, and to fix the designations, voting powers (if any), privileges, preferences and relative participating, optional or other special rights of the shares of each such class or series and the qualifications, limitations and restrictions thereon. The authority of the board of directors with respect to each class or series shall include, but not be limited to, determination of the following:

- the designation of the class or series, which may be by distinguishing number, letter or title;
- the number of shares of the class or series, which number the board of directors may thereafter (except where otherwise provided) increase or decrease (but not below the number of shares thereof then outstanding) in the manner permitted by law;
- the rate of any dividends (or method of determining the dividends) payable to the holders of the shares of such class or series, any conditions upon which such dividends are payable, the form of payment thereof (whether cash, our securities, securities of another person or other assets) and the date or dates or the method for determining the date or dates upon which such dividends shall be payable;

- whether dividends, if any, shall be cumulative or non-cumulative and, in the case of shares of any class or series having cumulative dividend rights, the date or dates or method of determining the date or dates from which dividends on the shares of such class or series cumulates;
- if the shares of such class or series may be redeemed by us, the price or prices (or method of determining such price or prices) at which, the form of payment of such price or prices (which may be cash, property or rights, including our securities) for which, the period or periods within which and the other terms and conditions upon which the shares of such class or series may be redeemed, in whole or in part, at our option or at the option of the holder or holders thereof or upon the happening of a specified event or events, if any, including our obligation, if any, to purchase or redeem shares of such class or series pursuant to a sinking fund or otherwise;
- the amount payable out of our assets to the holders of shares of the class or series in the event of any voluntary or involuntary liquidation, dissolution or winding up of our affairs;
- provisions, if any, for the conversion or exchange of the shares of such class or series, at any time or times, at the option of the holder or holder thereof or at our option or upon the happening of a specified event or events, into shares of any other class or classes or any other series of the same class of our capital stock or into any other security, and the price or prices or rate or rates of conversion or exchange and any adjustments applicable thereto, and all other terms and conditions upon which each conversion or exchange may be made;
- restrictions on the issuance of shares of the same class or series or of any other class or series of our capital stock, if any; and
- the voting rights and powers, if any, of the holders of shares of the class or series.

Unless otherwise specifically set forth in the certificate of designations, and summarized in the applicable prospectus supplement, if any, relating to a series of preferred stock, all shares of preferred stock are of equal rank, preference and priority as to dividends; when the stated dividends are not paid in full, the shares of all series of the preferred stock share ratably in any payment thereof; and upon liquidation, dissolution or winding up, if assets are insufficient to pay in full all preferred stock, then such assets shall be distributed among the holders ratably.

Since we are a holding company, our right, and hence the right of our creditors and securityholders, to participate in any distribution of assets of any subsidiary upon its liquidation or reorganization or otherwise is necessarily subject to the prior claims of creditors of our subsidiaries, except to the extent that our claims as a creditor of the subsidiary may be recognized.

Redemption. We have such rights, if any, to redeem shares of preferred stock, and the holders of preferred stock have such rights, if any, to cause us to redeem shares of preferred stock, as may be set forth in the certificate of designations, and summarized in the prospectus supplement, relating to a series of preferred stock.

Conversion or Exchange. The holders of preferred stock will have such rights, if any, to convert such shares into or to exchange such shares for, shares of any other class or classes, or of any other series of any class, of our capital stock and/or any other property or cash, as may be set forth in the certificate of designations, and summarized in the prospectus supplement, relating to a series of preferred stock.

Miscellaneous. The holders of preferred stock, including any preferred stock issued in connection with the applicable prospectus, do not have any preemptive rights to purchase or subscribe for any shares of any class or other securities of any type of ours. When issued, the preferred stock is fully paid and nonassessable. The certificate of designations setting forth the provisions of each series of preferred stock became effective after the date of the applicable prospectus but on or before issuance of the related series of preferred stock.

Series B Convertible Participating Preferred Stock. As of December 31, 2019, approximately 823,188 shares of Series B convertible participating preferred stock (the “Series B Preferred Stock”) were outstanding. The Series B Preferred Stock is entitled to receive any dividend that is paid to holders of common stock, payable in the same consideration and manner as is declared on any share of common stock. Any subdivisions, combinations, consolidations or reclassifications to the common stock must also be made accordingly to the Series B Preferred Stock and any subdivisions, combinations, consolidations or reclassifications to the Series B Preferred Stock must also be made accordingly to the common stock. In the event of a liquidation, dissolution or winding up of BlackRock, the holders of the Series B Preferred Stock are entitled to receive \$0.01 per share of Series B Preferred Stock held, plus any outstanding and unpaid dividends, before any payments are made to holders of common stock. After such payment, the remaining assets of BlackRock are distributed pro rata to the holders of common stock, the holders of the Series B Preferred Stock and the holders of any other series of capital stock entitled to participate in accordance with the terms of their participation. The Series B Preferred Stock has no voting rights except as required by applicable law.

Upon any transfer of the Series B Preferred Stock to any person other than an affiliate of the initial holder, each share of Series B Preferred Stock converts into one share of common stock. No optional conversion is permitted.

Common Stock

The following description of certain rights of our common stock does not purport to be complete and is qualified in its entirety by reference to our amended and restated certificate of incorporation and our amended and restated bylaws.

Voting Rights. The holders of common stock are entitled to one vote for each share on all matters submitted to a vote of stockholders.

Dividends and Liquidation Rights. Subject to the preferential rights of the Series B Preferred Stock and any other outstanding series of preferred stock created by our board of directors from time to time, the holders of common stock are entitled to such dividends as may be declared from time to time by our board of directors from funds available therefor, and, upon liquidation, holders of common stock are entitled to share pro rata in any distribution of our assets after payment, or providing for the payment of, our liabilities.

Miscellaneous. The outstanding shares of our common stock, are fully paid and nonassessable. Our common stock has no preemptive or conversion rights and there are no redemption or sinking fund provisions applicable thereto.

Listing: Our common stock is listed on the New York Stock Exchange under the ticker symbol “BLK.”

The transfer agent and registrar for our common stock is Computershare Investor Services, 480 Washington Boulevard, Jersey City, New Jersey 07310-1900, telephone (800) 903-8567.

Anti-Takeover Considerations

The Delaware General Corporation Law, our certificate of incorporation and our bylaws contain provisions which could serve to discourage or to make more difficult a change in control of us without the support of our board of directors or without meeting various other conditions.

Extraordinary Corporate Transactions

Delaware law provides that the holders of a majority of the shares entitled to vote must approve any fundamental corporate transactions such as mergers, sales of all or substantially all of a corporation’s assets, dissolutions, etc.

State Takeover Legislation

Section 203 of the Delaware General Corporation Law, in general, prohibits a business combination between a corporation and an interested stockholder within three years of the time such stockholder became an interested stockholder, unless (a) prior to such time, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder, (b) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, exclusive of shares owned by directors who are also officers and by certain employee stock plans or (c) at or subsequent to such time, the business combination is approved by the board of directors and authorized by the affirmative vote at a stockholders’ meeting, and not by written consent, of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder. The restrictions of Section 203 of the Delaware General Corporation Law do not apply to certain business combinations or to corporations that have elected, in the manner provided therein, not to be subject to Section 203 of the Delaware General Corporation Law or, with certain exceptions, which do not have a class of voting stock that is listed on a national securities exchange or held of record by more than 2,000 stockholders. We have elected to be governed by Section 203 of the Delaware General Corporation Law.

Rights of Dissenting Stockholders

Delaware law does not afford appraisal rights in a merger transaction to holders of shares that are either listed on a national securities exchange or held of record by more than 2,000 stockholders, *provided* that such shares are converted into stock of the surviving corporation or another corporation, which corporation in either case must also be listed on a national securities exchange or held of record by more than 2,000 stockholders. In addition, Delaware law denies appraisal rights to stockholders of the surviving corporation in a merger if the surviving corporation’s stockholders were not required to approve the merger.

Stockholder Action

Delaware law provides that, unless otherwise stated in the certificate of incorporation, any action which may be taken at an annual meeting or special meeting of stockholders may be taken without a meeting, if a consent in writing is signed by the holders of the outstanding stock having the minimum number of votes necessary to authorize the action at a meeting of stockholders. Our certificate of incorporation provides that stockholders may take action by written consent if such action has been approved in advance by the majority vote of our board of directors.

Meetings of Stockholders

Our amended and restated certificate of incorporation provides that special meetings of the stockholders may be called at any time by the chairman of the board of directors, the president, a majority of the board of directors, or any committee of the board of directors that has the power to call such meetings. No stockholder may call a special meeting.

Cumulative Voting

Delaware law permits stockholders to cumulate their votes and either cast them for one candidate or distribute them among two or more candidates in the election of directors only if expressly authorized in a corporation's certificate of incorporation. Our certificate of incorporation does not authorize cumulative voting.

Removal of Directors

Delaware law provides that, except in the case of a classified board of directors or where cumulative voting applies, a director, or the entire board of directors, of a corporation may be removed, with or without cause, by the affirmative vote of a majority of the shares of the corporation entitled to vote at an election of directors.

Our amended and restated certificate of incorporation provides that any or all of the directors may be removed, with or without cause, by the holders of a majority of the votes of capital stock then entitled to vote in the election of directors at a meeting of stockholders called for that purpose.

Vacancies

Delaware law provides that vacancies and newly created directorships resulting from a resignation or any increase in the authorized number of directors elected by all of the stockholders having the right to vote as a single class may be filled by a majority of the directors then in office, unless the governing documents of a corporation provide otherwise.

Our amended and restated bylaws provide that newly created directorships resulting from an increase in the number of directors and vacancies occurring in the board of directors for any reason, may be filled by vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director or by the stockholders if the vacancy resulted from the action of stockholders.

No Preemptive Rights

Holders of common stock do not have any preemptive rights to subscribe for any additional shares of capital stock or other obligations convertible into or exercisable for shares of capital stock that we may issue in the future.

Board Term

Our directors are elected annually for terms of one year.

Board Composition

Our implementation and stockholder agreement with PNC provides that, subject to certain consents by PNC, we use our best efforts to, at each annual meeting of stockholders, cause the election of directors such that our board of directors consists of no more than 19 directors, not less than two nor more than four directors who are members of our management, two directors who are designated by PNC and the remaining directors being independent for purposes of the rules of the New York Stock Exchange and not designated by or on behalf of PNC or any of its affiliates. PNC has designated one member of the board of directors and retains the right to designate a second director at any time in accordance with the implementation and stockholder agreement. PNC has been permitted to invite an observer to attend meetings of the Board of Directors as a non-voting guest.

DESCRIPTION OF DEBT SECURITIES

The following description is a summary and does not purport to be complete. We have issued debt securities that are senior debt under an indenture, dated September 1, 2007, between us and The Bank of New York Mellon, as trustee (the “indenture”). The following summary of the material provisions of the indenture and the debt securities is not complete and is subject to, and is qualified in its entirety by reference to, all of the provisions of the indenture, which has been filed as an exhibit to the applicable registration statement and prospectus supplement (the “applicable prospectus supplement”). We urge you to read the indenture because it, and not the summary below, defines the rights of holders of our debt securities. The indenture is subject to and governed by the Trust Indenture Act of 1939, as amended.

The Notes

Set forth below is a description of the specific terms of our 1.250% Notes due 2025 (the “notes”). The below description does not describe any other debt securities outstanding under the indenture.

The notes were registered under an effective registration statement on Form S-3ASR (File No.: 333-191157), which was originally filed with the Securities and Exchange Commission (“the SEC”) on September 13, 2013. The notes are listed on the New York Stock Exchange under the ticker symbol “BLK25”.

There are €700,000,000 aggregate principal amount of notes outstanding. The notes issued are in fully registered form only, in denominations of €100,000 and integral multiples of €1,000 in excess thereof. The notes will mature on May 6, 2025.

The notes have been issued as a separate series of senior debt securities under the indenture. The indenture does not limit the amount of other debt that we may incur. We have in the past and may, from time to time, without the consent of the holders of the notes, issue other debt securities under the indenture in addition to the notes. We may also, from time to time, without the consent of the holders of the notes, issue additional debt securities having the same priority and the same interest rate, maturity and other terms (except for the issue date, public offering price and, in some cases, the first interest payment date and the initial interest accrual date) as the notes. Any such additional debt securities, together with the previously issued notes, may constitute a single series of debt securities under the indenture.

The notes are unsecured and unsubordinated obligations of BlackRock and are of equal priority in right of payment to each other and to all our other unsubordinated indebtedness.

The notes do not provide for any sinking fund.

The provisions of the indenture described under “Description of Debt Securities—Discharge, Defeasance and Covenant Defeasance” in the applicable prospectus and below apply to the notes.

Interest

The notes bear interest at the annual rate of 1.250%. Interest on the notes are payable annually in arrears on May 6 of each year, to the persons in whose names the notes are registered at the close of business on the immediately preceding April 20 (whether or not a business day), subject to certain exceptions. Interest on the notes is computed on the basis of the actual number of days in the period for which interest is being calculated and the actual number of days from and including the last date on which interest was paid on the notes, to but excluding the next scheduled interest payment date. This payment convention is referred to as ACTUAL/ACTUAL (ICMA) as defined in the rulebook of the International Capital Market Association.

If any interest payment date, maturity date or redemption date is not a business day, then the related payment for such interest payment date, maturity date or redemption date is made on the next succeeding business day with the same force and effect as if made on such interest payment date, maturity date or redemption date, as the case may be, and no further interest accrues as a result of such delay. The term “business day” means any day, other than a Saturday or Sunday, (1) which is not a day on which banking institutions in the City of New York or the City of London are authorized or required by law or executive order to close and (2) on which the Trans-European Automated Real-time Gross Settlement Express Transfer system (the TARGET2 system), or any successor thereto, operates.

Issuance in Euro; Payment on the Notes

All payments on the notes are payable in euro; provided that if the euro is unavailable to us due to the imposition of exchange controls or other circumstances beyond our control or if the euro is no longer being used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the notes will be made in U.S. dollars until the euro was again available to us or so used. The amount payable on any date in euro will be converted into U.S. dollars at the rate mandated by the U.S. Federal Reserve Board as of the close of business on the second business day prior to the relevant payment date or, in the event the U.S. Federal Reserve Board has not mandated a rate of conversion, on the basis of the most recent U.S. dollar/euro exchange rate published in The Wall Street Journal on or prior to the second business day prior to the relevant payment date. Any payment in respect of the notes so made in U.S. dollars will not constitute an event of default under the notes or the indenture. Neither the trustee nor the paying agent will have any responsibility for any calculation or conversion in connection with the foregoing.

Payment, Paying Agent and Registrar

The Bank of New York Mellon, London Branch, is paying agent for the notes. The Bank of New York Mellon, is security registrar for the notes. Upon notice to the trustee, we may change any paying agent or security registrar.

Unless otherwise indicated in the applicable prospectus supplement:

- payment of interest on the notes on any interest payment date is made to the person in whose name the notes are registered at the close of business on the record date for the interest;
- principal, interest and premium on the notes is payable at the office of such paying agent or paying agents as we may designate for such purpose from time to time. Notwithstanding the foregoing, at our option, payment of any interest may be made by check mailed to the address of the person entitled thereto as such address appears in the security register;
- a paying agent designated by us acts as paying agent for payments with respect to the notes. We may at any time designate additional paying agents or rescind the designation of any paying agent or approve a change in the office through which any paying agent acts, except that we are required to maintain a paying agent in each place of payment for the notes.

All moneys paid by us to a paying agent or held by us in trust for the payment of the principal, interest or premium on any notes which remain unclaimed at the end of two years after such principal, interest or premium has become due and payable are repaid to us upon request, and the holder of such notes thereafter may look only to us for payment thereof.

Optional Redemption of the Notes

The notes are redeemable, in whole or in part, at our option at any time, at a redemption price equal to the greater of (i) 100% of the principal amount of the notes to be redeemed and (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the notes to be redeemed (exclusive of interest accrued to the date of redemption), discounted to the redemption date on an annual basis (ACTUAL/ACTUAL (ICMA)), at the applicable Comparable Government Bond Rate defined below plus 20 basis points, plus, in each case, accrued and unpaid interest on the notes to be redeemed to the date of redemption. We calculate the redemption price.

Notice of any redemption will be mailed at least 30 days but not more than 60 days before the redemption date to each holder of notes to be redeemed. If we elect to redeem fewer than all the notes, the trustee will select the particular notes to be redeemed by such method that the trustee deems fair and appropriate; provided that if the notes are represented by one or more global securities, beneficial interests therein will be selected for redemption by Clearstream and Euroclear in accordance with their respective applicable procedures therefor; and provided, further, that no notes of a principal amount of €100,000 or less will be redeemed in part.

The notes are also subject to redemption prior to maturity if certain changes in U.S. tax law occur. If such changes occur, the notes may be redeemed at a redemption price of 100% of their principal amount plus accrued and unpaid interest to the date of redemption. See “—Redemption for Tax Reasons” described below.

Unless we default in payment of the redemption price, on and after the redemption date interest ceases to accrue on the notes or portions thereof called for redemption.

Priority

The notes are our obligations exclusively and are not obligations of our subsidiaries. We are a holding company and, accordingly, substantially all of our operations are conducted through our subsidiaries. As a result, our cash flow and our ability to service our debt, including the notes, depend upon the earnings of our subsidiaries. In addition, we depend on the distribution of earnings, loans or other payments by our subsidiaries to us.

Our subsidiaries are separate and distinct legal entities. Our subsidiaries have no obligation to pay any amounts due on the notes or to provide us with funds for our payment obligations. In addition, any payment of dividends, distributions, loans or advances by our subsidiaries to us could be subject to statutory or contractual restrictions. Payments due to us by our subsidiaries are also contingent upon our subsidiaries' earnings and business considerations.

Our right to receive any assets of any of our subsidiaries, as an equity holder of such subsidiaries, upon their liquidation or reorganization, and therefore the right of the holders of the notes to participate in those assets, would be structurally subordinated to the claims of that subsidiary's creditors, including trade creditors. The notes do not restrict the ability of our subsidiaries to incur additional indebtedness. In addition, the notes are unsecured. Thus, even if we were a creditor of any of our subsidiaries, our rights as a creditor would be effectively junior to any security interest in the assets of our subsidiaries and structurally subordinated any indebtedness of our subsidiaries senior to that held by us.

Payment of Additional Amounts

Subject to the exceptions and limitations set forth below, we will pay as additional interest on the notes such additional amounts as are necessary in order that the net payment by us or a paying agent of the principal, premium and interest with respect to the notes to a holder that is not a United States person (as defined below), after withholding or deduction for any present or future tax, assessment or other governmental charge imposed by the United States or a taxing authority in the United States, will not be not less than the amount provided in the notes to be then due and payable; provided, however, that the foregoing obligation to pay additional amounts does not apply:

1. to any tax, assessment or other governmental charge that would not have been imposed but for the holder, a fiduciary, settlor, beneficiary, member or shareholder of the holder, or a person holding a power over an estate or trust administered by a fiduciary holder, being treated as:
 - being or having been present in, or engaged in a trade or business in, the United States, being treated as having been present in, or engaged in a trade or business in, the United States, or having or having had a permanent establishment in the United States;
 - having a current or former connection with the United States (other than a connection arising solely as a result of the ownership of the notes, the receipt of any payment in respect of the notes or the enforcement of any rights under the indenture), including being or having been a citizen or resident of the United States or treated as being or having been a resident thereof;
 - being or having been a personal holding company, a passive foreign investment company or a controlled foreign corporation for U.S. federal income tax purposes, a foreign tax exempt organization, or a corporation that has accumulated earnings to avoid United States federal income tax;
 - being or having been a "10-percent shareholder", as defined in section 871(h)(3) of the United States Internal Revenue Code of 1986, as amended (the "Code") or any successor provision, of us; or
 - being a bank receiving payments on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business, within the meaning of section 881(c)(3) of the Code or any successor provision;
2. to any holder that is not the sole beneficial owner of the notes, or a portion of the notes, or that is a fiduciary, partnership or limited liability company, but only to the extent that a beneficiary or settlor with respect to the fiduciary, a beneficial owner or member of the partnership or limited liability company would not have been entitled to the payment of an additional amount had the beneficiary, settlor, beneficial owner or member received directly its beneficial or distributive share of the payment;

3. to any tax, assessment or other governmental charge that would not have been imposed but for the failure of the holder or any other person to comply with certification, identification or information reporting requirements concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of the notes, if compliance is required by statute, by regulation of the United States or any taxing authority therein or by an applicable income tax treaty to which the United States is a party as a precondition to exemption from such tax, assessment or other governmental charge;
4. to any tax, assessment or other governmental charge that is imposed otherwise than by withholding by us or a paying agent from the payment;
5. to any estate, inheritance, gift, sales, excise, transfer, wealth, capital gains or personal property tax or similar tax, assessment or other governmental charge;
6. to any tax, assessment or other governmental charge required to be withheld by any paying agent from any payment of principal, premium or interest with respect to any note, if such payment can be made without such withholding by at least one other paying agent in a Member State;
7. to any tax, assessment or other governmental charge that would not have been imposed but for the presentation by the holder of any note, where presentation is required, for payment on a date more than 30 days after the date on which payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;
8. to any tax, assessment or other governmental charge required to be withheld or deducted that is imposed on a payment pursuant to Sections 1471 through 1474 of the Code (or any amended or successor version of such Sections that is substantively comparable and not materially more onerous to comply with), any Treasury regulations promulgated thereunder, or any other official interpretations thereof (collectively, “FATCA”), any agreement (including any intergovernmental agreement) entered into in connection therewith, or any law, regulation or other official guidance enacted in any jurisdiction implementing FATCA or an intergovernmental agreement in respect of FATCA;
9. to any withholding or deduction that is imposed on a payment that is required to be made pursuant to the Savings Directive or any other European Union directive amending, supplementing or replacing the Savings Directive, or any law implementing or complying with, or introduced in order to conform to, the Savings Directive or other European Union directives;
10. any tax, assessment or other governmental charge that is imposed or withheld solely by reason of a change in law, regulation, or administrative or judicial interpretation that becomes effective more than 15 days after the payment becomes due or is duly provided for, whichever occurs later;
11. any tax, assessment or other governmental charge imposed by reason of the failure of the beneficial owner to fulfill the statement requirements of Section 871(h) or Section 881(c) of the Code; or
12. any tax imposed pursuant to Section 871(h)(6) or 881(c)(6) of the Code (or any amended or successor provisions)
13. in the case of any combination of items (1) through (12).

Except as specifically provided under this heading “—Payment of Additional Amounts,” we are not required to pay additional amounts in respect of any tax, assessment or other governmental charge. References in the applicable prospectus supplement and the applicable prospectus to any payment on the notes include the related payment of additional amounts, as applicable.

As used under this heading “—Payment of Additional Amounts” and under the heading “—Redemption for Tax Reasons,” the term “United States” means the United States of America, any state thereof, and the District of Columbia, and the term “United States person” means (i) any individual who is a citizen or resident of the United States for U.S. federal income tax purposes, (ii) a corporation, partnership or other entity created or organized in or under the laws of the United States, any state thereof or the District of Columbia (other than a partnership that is not treated as a United States person for U.S. federal income tax purposes), (iii) any estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) any trust if a U.S. court can exercise primary supervision over the administration of the trust and one or more United States persons can control all substantial trust decisions, or if a valid election is in place to treat the trust as a United States person.

Redemption for Tax Reasons

If, as a result of any change in, or amendment to, the laws of the United States or the official interpretation thereof that is announced or becomes effective on or after the date of the applicable prospectus supplement, we become or, based upon a written opinion of independent counsel selected by us, becomes obligated to pay additional amounts as described herein under the heading “— Payment of Additional Amounts” with respect to the notes, then we may at any time at our option redeem, in whole, but not in part, the notes on not less than 30 nor more than 60 days’ prior notice, at a redemption price equal to 100% of their principal amount, plus accrued and unpaid interest on the notes to be redeemed to the date of redemption.

Book-Entry System; Delivery and Form

We have obtained the information in this section concerning Euroclear and Clearstream and their book-entry systems and procedures from sources we believe to be reliable. The description of the clearing systems in this section reflects our understanding of the rules and procedures of Euroclear and Clearstream as they are currently in effect. Those systems could change their rules and procedures at any time.

Global Clearance and Settlement

The notes have been issued in the form of one or more fully registered global notes (the “global notes”) and are deposited with a common depositary for, and in respect of interests held through, Euroclear Bank S.A./ N.V., as operator of the Euroclear System (“Euroclear”), and Clearstream Banking, *société anonyme* (“Clearstream”). Except as described herein, certificates will not be issued in exchange for beneficial interests in the global notes.

Except as set forth below, the global notes may be transferred, in whole and not in part, only to Euroclear or Clearstream or their respective nominees.

Beneficial interests in the global notes are represented, and transfers of such beneficial interests are effected, through accounts of financial institutions acting on behalf of beneficial owners as direct or indirect participants in Euroclear or Clearstream. Those beneficial interests are held in denominations of €100,000 and additional multiples of €1,000 in excess thereof. Investors may hold notes directly through Euroclear or Clearstream, if they are participants in such systems, or indirectly through organizations that are participants in such systems.

Owners of beneficial interests in the global notes are not entitled to have notes registered in their names, and do not receive or are not entitled to receive physical delivery of notes in definitive form. Except as provided below, beneficial owners are not considered the owners or holders of the notes under the indenture, including for purposes of receiving any reports delivered by us or the trustee pursuant to the indenture. Accordingly, each beneficial owner must rely on the procedures of the clearing systems and, if such person is not a participant of the clearing systems, on the procedures of the participant through which such person owns its interest, to exercise any rights of a holder under the indenture. Under existing industry practices, if we request any action of holders or a beneficial owner desires to give or take any action a holder is entitled to give or take under the indenture, the clearing systems would authorize their participants holding the relevant beneficial interests to give or take action and the participants would authorize beneficial owners owning through the participants to give or take such action or would otherwise act upon the instructions of beneficial owners. Conveyance of notices and other communications by the clearing systems to their participants, by the participants to indirect participants and by the participants and indirect participants to beneficial owners are governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. The laws of some jurisdictions require that certain purchasers of securities take physical delivery of such securities in certificated form. These limits and laws may impair the ability to transfer beneficial interests in global notes.

Persons that are not Euroclear or Clearstream participants may beneficially own notes held by the common depositary for Euroclear and Clearstream only through direct or indirect participants in Euroclear and Clearstream. So long as the common depositary for Euroclear and Clearstream is the registered owner of the global note, the common depositary for all purposes are considered the sole holder of the notes represented by the global note under the indenture and the global note.

Euroclear

Euroclear advises that it was created in 1968 to hold securities for its participants (“Euroclear Participants”) and to clear and settle transactions between Euroclear Participants through simultaneous electronic book-entry delivery against payment, thereby eliminating the need for physical movement of certificates and any risk from lack of simultaneous transfers of securities and cash. Euroclear provides various other services, including securities lending and borrowing, and interfaces with domestic markets in several countries. Euroclear is operated by Euroclear Bank S.A./N.A. (the “Euroclear Operator”), under contract with Euroclear Clearance Systems, S.C., a Belgian cooperative corporation (the “Cooperative”).

All operations are conducted by the Euroclear Operator, and all Euroclear securities clearance accounts and Euroclear cash accounts are accounts with the Euroclear Operator, not the Cooperative. The Cooperative establishes policy for Euroclear on behalf of Euroclear Participants. Euroclear Participants include banks (including central banks), securities brokers and dealers and other professional financial intermediaries. Indirect access to Euroclear is also available to other firms that clear through or maintain a custodial relationship with a Euroclear Participant, either directly or indirectly.

Securities clearance accounts and cash accounts with the Euroclear Operator are governed by the Terms and Conditions Governing Use of Euroclear and the related Operating Procedures of the Euroclear System, and applicable Belgian law (collectively, the “Terms and Conditions”). The Terms and Conditions govern transfers of securities and cash within Euroclear, withdrawals of securities and cash from Euroclear, and receipts of payments with respect to securities in Euroclear. All securities in Euroclear are held on a fungible basis without attribution of specific certificates to specific securities clearance accounts. The Euroclear Operator acts under the Terms and Conditions only on behalf of Euroclear Participants and has no record of or relationship with persons holding through Euroclear Participants.

Distributions with respect to the notes held beneficially through Euroclear are credited to the cash accounts of Euroclear Participants in accordance with the Terms and Conditions, to the extent received by its depository.

Euroclear further advises that investors that acquire, hold and transfer interests in the notes by book-entry through accounts with the Euroclear Operator or any other securities intermediary are subject to the laws and contractual provisions governing their relationship with their intermediary, as well as the laws and contractual provisions governing the relationship between such an intermediary and each other intermediary, if any, standing between themselves and the global notes.

The Euroclear Operator advises as follows: under Belgian law, investors that are credited with securities on the records of the Euroclear Operator have a co-property right in the fungible pool of interests in securities on deposit with the Euroclear Operator in an amount equal to the amount of interests in securities credited to their accounts. In the event of the insolvency of the Euroclear Operator, Euroclear Participants would have a right under Belgian law to the return of the amount and type of interests in securities credited to their accounts with the Euroclear Operator. If the Euroclear Operator did not have a sufficient amount of interests in securities on deposit of a particular type to cover the claims of all Participants credited with such interests in securities on the Euroclear Operator’s records, all Participants having an amount of interests in securities of such type credited to their accounts with the Euroclear Operator would have the right under Belgian law to the return of their pro rata share of the amount of interests in securities actually on deposit.

Under Belgian law, the Euroclear Operator is required to pass on the benefits of ownership in any interests in securities on deposit with it (such as dividends, voting rights and other entitlements) to any person credited with such interests in securities on its records.

Clearstream

Clearstream advises that it is incorporated under the laws of Luxembourg and licensed as a bank and professional depository. Clearstream holds securities for its participating organizations (“Clearstream Customers”) and facilitates the clearance and settlement of securities transactions between Clearstream Customers through electronic book-entry changes in accounts of its participants, thereby eliminating the need for physical movement of certificates. Clearstream provides to Clearstream Customers, among other things, services for safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Clearstream interfaces with domestic securities markets in over 30 countries through established depository and custodial relationships. Clearstream has established an electronic bridge with the Euroclear Operator to facilitate the settlement of trades between Euroclear and Clearstream. As a registered bank in Luxembourg, Clearstream is subject to regulation by the Luxembourg Commission for the Supervision of the Financial Sector (*Commission de Surveillance du Secteur Financier*). Clearstream Customers are recognized financial institutions around the world, including underwriters, securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. Clearstream’s U.S. customers are limited to securities brokers and dealers and banks. Indirect access to Clearstream is also available to other institutions, such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a Clearstream Customer, either directly or indirectly.

Distributions with respect to the notes held through Clearstream are credited to cash accounts of Clearstream Customers in accordance with its rules and procedures.

Euroclear and Clearstream Arrangements

So long as Euroclear or Clearstream or their nominee or their common depositary is the registered holder of the global notes, Euroclear, Clearstream or such nominee, as the case may be, are considered the sole owner or holder of the notes represented by such global notes for all purposes under the indenture and the notes. Payments of principal, premium and interest in respect of the global notes are made to Euroclear, Clearstream or such nominee, as the case may be, as registered holder thereof. None of us, the trustee nor any affiliate of any of the above or any person by whom any of the above is controlled (as such term is defined in the Securities Act) has any responsibility or liability for any records relating to or payments made on account of beneficial ownership interests in the global notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

Distributions of principal, premium and interest with respect to the global notes are credited in euro to the extent received by Euroclear or Clearstream from the paying agent to the cash accounts of Euroclear or Clearstream customers in accordance with the relevant system's rules and procedures.

Because Euroclear and Clearstream can only act on behalf of participants, who in turn act on behalf of indirect participants, the ability of a person having an interest in the global notes to pledge such interest to persons or entities that do not participate in the relevant clearing system, or otherwise take actions in respect of such interest, may be affected by the lack of a physical certificate in respect of such interest.

Secondary Market Trading

Because the purchaser determines the place of delivery, it is important to establish at the time of trading of any notes where both the purchaser's and seller's accounts are located to ensure that settlement can be made on the desired value date.

We understand that secondary market trading between Euroclear and/or Clearstream participants occurs in the ordinary way following the applicable rules and operating procedures of Euroclear and Clearstream. Secondary market trading is settled using procedures applicable to conventional eurobonds in registered form.

You should be aware that investors are only able to make and receive deliveries, payments and other communications involving the notes through Euroclear and Clearstream on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

In addition, because of time-zone differences, there may be problems with completing transactions involving Euroclear and Clearstream on the same business day as in the United States. U.S. investors who wish to transfer their interests in the notes, or to make or receive a payment or delivery of the notes, on a particular day, may find that the transactions are not performed until the next business day in Brussels or Luxembourg, depending on whether Euroclear or Clearstream is used.

Euroclear or Clearstream credits payments to the cash accounts of Euroclear Participants or Clearstream Customers, as applicable, in accordance with the relevant system's rules and procedures, to the extent received by its depositary. The Euroclear Operator or Clearstream, as the case may be, takes any other action permitted to be taken by a holder under the indenture on behalf of a Euroclear Participant or Clearstream Customer only in accordance with its relevant rules and procedures.

Euroclear and Clearstream have agreed to the foregoing procedures in order to facilitate transfers of the notes among participants of Euroclear and Clearstream. However, they are under no obligation to perform or continue to perform those procedures, and they may discontinue those procedures at any time.

Certificated Notes

Subject to certain conditions, the notes represented by the global notes are exchangeable for certificated notes in definitive form of like tenor in minimum denominations of €100,000 principal amount and multiples of €1,000 in excess thereof if:

- the depositary for the notes (A) notifies us that it is unwilling or unable to continue as depositary for the global notes or (B) has ceased to be a clearing agency registered under the Exchange Act and, in each case, a successor depositary is not appointed for 90 days;
- we, at our option, notify the trustee in writing that we elect to cause the issuance of certificated notes; or
- there has occurred and is continuing an Event of Default with respect to the notes.

In all cases, certificated notes delivered in exchange for any global note will be registered in the names, and issued in any approved denominations, requested by or on behalf of the depository (in accordance with its customary procedures).

Payments (including principal, premium and interest) and transfers with respect to notes in certificated form may be executed at the office or agency maintained for such purpose in London (initially the office of the paying agent maintained for such purpose) or, with respect to payments of interest, at our option, by check mailed to the holders thereof at the respective addresses set forth in the register of holders of the notes, provided that all payments of interest on notes in certificated form, for which the holders thereof have given wire transfer instructions to the paying agent at least 15 calendar days prior to the applicable interest payment date, are required to be made by wire transfer of immediately available funds to the accounts specified by the holders thereof. No service charge is made for any registration of transfer, but payment of a sum sufficient to cover any tax or governmental charge payable in connection with that registration may be required.

Events of Default, Notice and Waiver

The following shall constitute “Events of Default” under the indenture with respect to the notes:

- our failure to pay any interest on the notes when due and payable, continued for 30 days;
- our failure to pay principal (or premium, if any) on the notes when due, regardless of whether such payment became due because of maturity, redemption, acceleration or otherwise, or is required by any sinking fund established with respect to such series;
- our failure to observe or perform any other of our covenants or agreements with respect to such notes for 60 days after we receive notice of such failure;
- certain events of bankruptcy, insolvency or reorganization of BlackRock; and
- any other Event of Default provided with respect to the notes.

If an Event of Default with respect to the notes shall occur and be continuing, the trustee under such indenture or the holders of at least 25% in aggregate principal amount of the notes outstanding may declare, by notice as provided in the applicable indenture, the principal amount of all the notes outstanding to be due and payable immediately; provided that, in the case of an Event of Default involving certain events of bankruptcy, insolvency or reorganization, acceleration is automatic; and, provided further, that after such acceleration, but before a judgment or decree based on acceleration, the holders of a majority in aggregate principal amount of the outstanding notes may, under certain circumstances, rescind and annul such acceleration if all Events of Default, other than the nonpayment of accelerated principal, have been cured or waived. Upon the acceleration of the maturity of original issue discount securities, an amount less than the principal amount thereof becomes due and payable.

Any past default under the indenture with respect the notes, and any Event of Default arising therefrom, may be waived by the holders of a majority in principal amount of all notes outstanding under such indenture, except in the case of (i) default in the payment of the principal of (or premium, if any) or interest on any note, or (ii) default in respect of a covenant or provision which may not be amended or modified without the consent of the holder of outstanding notes.

The trustee is required within 90 days after the occurrence of a default (which is known to the trustee and is continuing), with respect to the notes (without regard to any grace period or notice requirements), to give to the holders of the notes notice of such default.

The trustee, subject to its duties during default to act with the required standard of care, may require indemnification by the holders of the notes with respect to which a default has occurred before proceeding to exercise any right or power under the indenture at the request of the holders of the notes. Subject to such right of indemnification and to certain other limitations, the holders of a majority in principal amount of the outstanding notes under either indenture may direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee with respect to the notes, provided that such direction shall not be in conflict with any rule of law or with the applicable indenture or result in the incurrence of liability by the trustee and the trustee may take any other action deemed proper by the trustee which is not inconsistent with such direction.

No holder of notes may institute any action against us under the indenture (except actions for payment of overdue principal of (and premium, if any) or interest on such notes or for the conversion or exchange of such notes in accordance with its terms) unless (i) the holder has given to the trustee written notice of an Event of Default and of the continuance thereof with respect to the notes specifying an Event of Default, as required under the indenture, (ii) the holders of at least 25% in aggregate principal amount of the notes then outstanding under such indenture shall have requested the trustee to institute such action and offered to the trustee reasonable indemnity satisfactory to it against the costs, expenses and liabilities to be incurred in compliance with such request; (iii) the trustee shall not have instituted such action within 60 days of such request and (iv) no direction inconsistent with such written request has been given to the trustee during such 60-day period by the holders of a majority in principal amount of the notes.

We are required to furnish annually to the trustee statements as to our compliance with all conditions and covenants under each indenture.

Discharge, Defeasance and Covenant Defeasance

We may discharge or defease our obligations under the indenture as set forth below, unless otherwise indicated in the applicable prospectus supplement.

We may discharge certain obligations to holders of notes that have not already been delivered to the trustee for cancellation and which have either become due and payable or are by their terms due and payable within one year (or scheduled for redemption within one year) by irrevocably depositing with the trustee money in an amount sufficient to pay and discharge the entire indebtedness on such notes not previously delivered to the trustee for cancellation, for principal and any premium and interest to the date of such deposit (in the case of notes which have become due and payable) or to the stated maturity or redemption date, as the case may be and we have paid all other sums payable under the indenture.

We may elect either (i) to defease and be discharged from any and all obligations with respect to the notes (“defeasance”) or (ii) to be released from our obligations with respect to certain covenants applicable to the notes (“covenant defeasance”), upon the deposit with the trustee, in trust for such purpose, of money and/or government obligations which through the payment of principal and interest in accordance with their terms provides money in an amount sufficient to pay the principal of (and premium, if any) or interest on such notes to maturity or redemption, as the case may be, and any mandatory sinking fund or analogous payments thereon. As a condition to defeasance or covenant defeasance, we must deliver to the trustee an opinion of counsel to the effect that the holders of such notes do not recognize income, gain or loss for federal income tax purposes as a result of such defeasance or covenant defeasance and is subject to federal income tax on the same amounts and in the same manner and at the same times as would have been the case if such defeasance or covenant defeasance had not occurred. Such opinion of counsel, in the case of defeasance under clause (i) above, must refer to and be based upon a ruling of the Internal Revenue Service or a change in applicable federal income tax law occurring after the date of the indenture. In addition, in the case of either defeasance or covenant defeasance, we shall have delivered to the trustee (i) an officers’ certificate to the effect that the notes exchange(s) have informed us that such notes, if then listed on any securities exchange, are delisted as a result of such deposit and (ii) an officers’ certificate and an opinion of counsel, each stating that all conditions precedent with respect to such defeasance or covenant defeasance have been complied with.

We may exercise our defeasance option with respect to such notes notwithstanding our prior exercise of our covenant defeasance option.

Modification and Waiver

Under the indenture, we and the trustee may supplement the indenture for certain purposes which would not materially adversely affect the interests or rights of the holders of notes without the consent of those holders. We and the trustee may also modify the indenture or any supplemental indenture in a manner that affects the interests or rights of the holders of notes with the consent of the holders of at least a majority in aggregate principal amount of the outstanding notes issued under the indenture. However, the indenture requires the consent of each holder of notes that would be affected by any modification which would:

- change the fixed maturity of notes, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof;
- reduce the amount of principal of the notes payable upon acceleration of the maturity thereof;
- change the currency in which the notes or any premium or interest is payable;
- impair the right to enforce any payment on or with respect to the notes;

- impair the right to enforce any payment on or with respect to the notes;
- reduce the percentage in principal amount of outstanding notes, the consent of whose holders is required for modification or amendment of the indenture or for waiver of compliance with certain provisions of the indenture or for waiver of certain defaults; or
- modify any of the above provisions.

The indenture permits the holders of at least a majority in aggregate principal amount of the outstanding notes issued under the indenture which is affected by the modification or amendment to waive our compliance with certain covenants contained in the indenture.

Governing Law

The indenture and notes are governed by, and construed in accordance with, the internal laws of the State of New York, without regard to its principles of conflicts of laws.

Certain Definitions

“Comparable Government Bond Rate” means, with respect to any redemption date, the rate per annum equal to the yield to maturity, expressed as a percentage (rounded to three decimal places, with 0.0005 being rounded upwards), on the third business day prior to the date fixed for redemption, calculated in accordance with customary financial practice in pricing new issues of comparable corporate debt securities paying interest on an annual basis (ACTUAL/ACTUAL (ICMA)) of the Comparable Government Bond (as defined below), assuming a price for the Comparable Government Bond (expressed as a percentage of its principal amount) equal to the Comparable Government Bond Price for such redemption date.

“Comparable Government Bond” means, in relation to any Comparable Government Bond Rate calculation, the German government bond (*Bundesanleihe*) selected by an Independent Investment Banker as having an actual or interpolated maturity comparable to the remaining term of the notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of euro-denominated corporate debt securities of a comparable maturity to the remaining term of such notes.

“Independent Investment Banker” means one of the Reference Government Bond Dealers selected by us.

“Comparable Government Bond Price” means, with respect to any redemption date, (1) the arithmetic average of the Reference Government Bond Dealer Quotations for such redemption date, after excluding the highest and lowest such Reference Government Bond Dealer Quotations, or (2) if we obtain fewer than four such Reference Government Bond Dealer Quotations, the arithmetic average of all such quotations.

“Reference Government Bond Dealer Quotations” means, with respect to each Reference Government Bond Dealer and any redemption date, the arithmetic average, as determined by us, of the bid and asked prices for the Comparable Government Bond (expressed in each case as a percentage of its principal amount) quoted in writing to us by such Reference Government Bond Dealer at 11:00 a.m., Central European Time (CET), on the third business day preceding such redemption date.

“Reference Government Bond Dealer” means each of (i) Barclays Bank PLC, Citigroup Global Markets Limited and J.P. Morgan Securities plc or any of their affiliates that are primary European government securities dealers, and their respective successors; provided that if any of the foregoing or any of their affiliates shall cease to be a primary European government securities dealer (“Primary Dealer”), we shall substitute therefor another Primary Dealer and (ii) two other Primary Dealers selected by us.

BLACKROCK, INC.
LEADERSHIP RETENTION CARRY PLAN

1. Purpose. The Plan is intended to provide deferred compensation for a select group of management or highly compensated employees, as described in Section 201(2) of ERISA, in the form of Percentage Points granted to Eligible Individuals. The purpose of the Plan is to afford a retention incentive to Eligible Individuals to (i) continue as employees of the Company and its Affiliates, (ii) increase their efforts on behalf of the Company, (iii) further align their interests with those of the Company's clients, and (iv) promote the success of the Company's business. Pursuant to the Plan, the Company may grant Percentage Points to Eligible Individuals. Capitalized terms used but not otherwise defined herein shall have the meaning set forth in Section 2.
2. Definitions.
 - (a) "Affiliate" has the meaning set forth in Rule 12b-2 promulgated under Section 12 of the Exchange Act.
 - (b) "Award" means an award of Percentage Points granted under the Plan.
 - (c) "Award Agreement" means any written agreement, contract, or other instrument or document evidencing an Award executed by the Company and the Eligible Individual receiving an Award.
 - (d) "Board" means the Board of Directors of the Company.
 - (e) "Cause" means the occurrence of any of the following: (i) gross negligence or intentional misconduct by the Grantee that (a) is in connection with the Grantee's duties to the Company or any Subsidiary or Affiliate or (b) causes, or is reasonably expected to cause, harm (monetarily or otherwise) to the Company or its Subsidiaries or Affiliates, employees or Clients; (ii) the Grantee's breach of fiduciary duty owed to the Company or its Subsidiaries or Affiliates or Clients; (iii) any misappropriation or embezzlement by the Grantee, or any action by the Grantee involving theft, fraud or material personal dishonesty; (iv) any violation by the Grantee of any domestic or foreign securities laws, rules or regulations including, but not limited to, those of any self-regulatory organization or authority; (v) the Grantee's indictment, conviction of or guilty or nolo contendere plea to a felony or any crime involving theft, fraud or embezzlement or personal dishonesty, provided that if the Grantee is terminated for Cause because of an indictment and such indictment does not ultimately result in a conviction or plea that would otherwise constitute Cause hereunder, then such termination will be deemed to be an involuntary termination other than for Cause as of the date of Grantee's original termination; (vi) the Grantee's willful failure or refusal to perform material duties or material obligations owed to the Company or its Subsidiaries or Affiliates; or (vii) the Grantee's material violation of the written policies of the Company or its Subsidiaries or Affiliates, including the Confidentiality Policy and Code of Business Conduct and Ethics. A determination of Cause shall be in the sole discretion of the Company. For purposes of the Plan, (i) "Client" means any person, firm, company, or other organization (including an Intermediary Client) to whom the Company or any of its Affiliates has supplied services, products or professional advice and (ii) "Intermediary Client" means any person or entity (such as a broker dealer, distributor, financial adviser, administrator or other marketing or service organization) through which the Company or any of its Affiliates offers, markets, distributes or provides its services, products or advice.
 - (f) "Code" means the Internal Revenue Code of 1986, as amended from time to time.
 - (g) "Committee" means the Management Development and Compensation Committee of the Board, or any person or group of persons to whom the Management Development and Compensation Committee of the Board delegates authority to administer the Plan.
 - (h) "Company" means BlackRock, Inc., a corporation organized under the laws of the State of Delaware, or any successor corporation.
 - (i) "Competitive Activity" means any activity that competes with the business operations of the Company, as determined by the Committee in its sole discretion, and shall include representing or associating in any capacity (including, without limitation, as an officer, employee, partner, director, consultant, agent, advisor or security holder) with a company that competes with the Company or any of its Subsidiaries or Affiliates.

Notwithstanding the foregoing, the Grantee's beneficial ownership of less than five percent (5%) of the economic or voting interests of a publicly-held company shall not constitute a Competitive Activity.

- (j) "Confidentiality Policy" means the Company's Confidentiality and Employment Policy, as it may be amended from time to time.
- (k) "Disability" means a disability as defined in Section 409A(a)(2)(C) of the Code and the applicable guidance thereunder.
- (l) "Eligible Individual" means any individual performing services for the Company or an Affiliate and designated as an employee on the payroll records of the Company or such Affiliate, as determined and designated by the Committee in its sole discretion; provided that participation in the Plan shall be limited to a select group of management or highly compensated employees, as described in Section 201(2) of ERISA.
- (m) "ERISA" means the Employee Retirement Income Security Act of 1974, as amended from time to time.
- (n) "Exchange Act" means the Securities Exchange Act of 1934, as amended from time to time.
- (o) "Good Leaver Date" means the effective date of the Grantee's Good Leaver Termination.
- (p) "Good Leaver Termination" means a termination of the Grantee's employment with the Company or an Affiliate due to the Grantee's Retirement, Disability or death.
- (q) "Grantee" means an Eligible Individual who has been granted an Award under the Plan.
- (r) "Measurement Date" means December 31 of the calendar year immediately prior to the year of distribution with respect to each of the Initial Distribution, Second Distribution and Third Distribution.
- (s) "Participating Carry Funds" will be those carry vehicles (which may include one or more series or classes under a particular "master" carry vehicle) and stand alone "shadow carry" programs in respect of performance fee generating funds that (i) had an initial close during the period commencing in the year of grant and ending on the participant's formal "Good Leaver Date" (as defined above) and (ii) are listed in the Award Agreement for each Grantee, as may be updated from time to time as determined by the Committee or its delegate in their sole discretion.
- (t) "Percentage Points" mean an award of points granted pursuant to Section 6 that is used to determine the cash payments to the Grantee with respect to the Total Share Carry Pool.
- (u) "Plan" means this BlackRock, Inc. Leadership Retention Carry Plan, as amended from time to time.
- (v) "Restrictive Covenant Obligations" mean, collectively with the Confidentiality Policy, any restrictive covenant obligations included in or attached as an appendix to an Award Agreement.
- (w) "Retirement" means the occurrence of a Good Leaver Date as a result of the Grantee's voluntary resignation (other than a voluntary resignation following the occurrence of an event that constitutes Cause) that is (i) in circumstances where the Grantee represents that any future work will not involve a breach of the Restrictive Covenant Obligations and (ii) after the Grantee has satisfied the Rule of 65, (A) (1) with at least the age of 60, if the Grantee did not attain age 54 on or prior to January 19, 2016, or (2) with at least the age of 55, if the Grantee attained age 54 on or prior to January 19, 2016, and (B) with a total of at least three (3) years of Credited Service (as defined below); in each case, provided, that, the Grantee has provided written notice to the Company at least one (1) year prior to such Good Leaver Date in accordance with applicable Company policy, unless, in each case, as otherwise determined by the Committee in its sole discretion.
- (x) "Rule of 65" means the sum of the Grantee's age and years of combined and continuous service with Company or any of its Affiliates (including periods of employment with an entity prior to it becoming a Subsidiary and, to the extent determined by the Committee) (such service, "Credited Service") equals at least sixty-five (65). For purposes of determining the Rule of 65, years of age and Credited Service equal full years and completed months.

- (y) “Subsidiary” means any corporation in an unbroken chain of corporations beginning with the Company if, at the time of granting of an Award, each of the corporations (other than the last corporation in the unbroken chain) owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in the chain.
- (z) “Total Share Carry Pool” means, as determined by the Committee in its sole discretion, a dollar amount equal to 100% of the total carried interest distributions (excluding for this purpose any tax distributions until such time as carried interest is actually earned) allocated and paid to the Company or any of its Subsidiaries or Affiliates; provided, that, no amount shall be deemed to be part of the Total Share Carry Pool unless and until it is no longer subject to clawback pursuant to the terms of the governing documents of the applicable Participating Carry Fund. For the avoidance of doubt, the Total Share Carry Pool shall include (i) the “portfolio management share” of carried interest distributions in respect of any Participating Carry Fund allocated or reserved for a party other than Company and its Subsidiaries or Affiliates and (ii) any amounts received by the Company or any of its Subsidiaries or Affiliates that are awarded to participants under any compensatory programs (other than the Plan) intended to track the value of interests in the Participating Carry Funds (i.e., “shadow carry” programs), ((i) and (ii) together, the “Team Portion”) in each case as determined by the Committee in its sole discretion. For the avoidance of doubt, to the extent a carried interest distribution is in the form of a distribution in kind, the cash value of such interest as determined by the Committee in its sole discretion shall also be included in the Total Carry Pool, provided that to the extent illiquid or incapable of being monetized such amounts may not be included in the Total Share Carry Pool, as determined by the Committee in its sole discretion.

3. Administration.

- (a) The Plan shall be administered by the Committee. The Committee’s decisions, determinations and interpretations will be final and binding on the Company and all of the Eligible Individuals. The Committee shall have the power and authority, without limitation, to: (i) select Eligible Individuals; (ii) determine whether and to what extent Percentage Points are to be granted to Eligible Individuals; (iii) determine the terms and conditions, not inconsistent with the terms of the Plan, which shall govern all outstanding Percentage Points (including any amendments to the terms and conditions or number of outstanding Percentage Points or Participating Carry Funds); (iv) adopt, alter and repeal such administrative rules, guidelines and practices governing the Plan as it shall from time to time deem advisable; (v) construe and interpret the terms and provisions of the Plan and any Award Agreement; (vi) correct any defect, supply any omission or reconcile any inconsistency in the terms of the Plan or any Award Agreement in the manner and to the extent that it shall deem advisable; (vii) determine the Participating Carry Funds included in the Plan; and (viii) otherwise supervise the administration of the Plan and to exercise all powers and authorities necessary and advisable in the administration of the Plan.
- (b) The Committee’s determinations under the Plan need not be uniform and may be made by it selectively among Eligible Individuals (whether or not such Eligible Individuals are similarly-situated). Without limiting the generality of the foregoing, the Committee shall be entitled, among other things, to make non-uniform and selective determinations, and to enter into non-uniform Award Agreements, as to the Eligible Individuals to receive Awards under the Plan and the terms and provisions of Awards under the Plan. The Committee may provide that any conditions, restrictions or forfeiture conditions relating to the Plan will be waived or will not apply, in whole or in part, or in any individual case, as it may deem advisable or necessary.
- (c) No member of the Board or Committee shall be liable for any action taken or determination made in good faith with respect to the Plan or any Award granted hereunder.

4. Eligibility. Except as provided below, Awards shall be granted to the Eligible Individuals selected by the Committee. In determining the Eligible Individuals to whom Awards shall be granted, the Committee shall take into account such factors as the Committee shall deem relevant in connection with accomplishing the purposes of the Plan. Each Eligible Individual selected to participate in the Plan shall receive an Award Agreement which must be executed by the Company and the Eligible Individual to confirm such Eligible Individual’s participation in the Plan.

5. Percentage Points Subject to the Plan.

- (a) Percentage Points. A total of five (5) Percentage Points shall initially be reserved for issuance under the Plan. Such amount may be increased or decreased by the Committee in its sole discretion at any time (provided that such amount may not be decreased to less than the Percentage Points of outstanding issued awards). The Percentage Points reserved for issuance under the Plan shall not reduce the Team Portion. If any Percentage Points subject to an Award are forfeited, cancelled, exchanged or surrendered, the Percentage Points with respect to such Award shall, to the extent of any such forfeiture, cancellation, exchange or surrender, again be available for issuance under the Plan in the Committee's sole discretion.
- (b) Adjustments. In the event that the Committee shall determine that any dividend or other distribution, recapitalization, reorganization, merger, consolidation, spin-off, combination, reclassification or other similar corporate transaction or event (any such event, a "Change in Capitalization") affects the Plan or any Award granted thereunder such that an adjustment is appropriate in order to prevent dilution or enlargement of the rights of Grantees under the Plan, then the Committee shall make such equitable changes or adjustments as it deems necessary or appropriate in its sole discretion to the Plan or any Award granted thereunder. Any adjustment made pursuant to this Section is intended to be made in a manner that complies with Section 409A of the Code and all regulations and other guidance issued thereunder.

6. Award of Percentage Points. The Committee is authorized to grant Percentage Points to Eligible Individuals, subject to the following terms and conditions:

- (a) Cash Distributions. Subject to the terms and conditions set forth in the Plan and the Award Agreement, the Percentage Points shall confer upon the Grantee the right to receive a cash payment equal to the excess of (A) the product of (x) the Total Share Carry Pool and (y) a fraction, the numerator of which is the total number of the Grantee's Percentage Points and denominator of which is one hundred (100), over (B) the total amount of cash payments (if any) previously made to the Grantee with respect to such Percentage Points in accordance with this Section (a "Cash Distribution").
- (b) Vesting; Termination of Employment. Subject to the terms and conditions relating to the timing of payment set forth in Section 6(c), Cash Distributions shall only be made following the Grantee's Good Leaver Termination, provided that the Grantee (i) executes (and does not revoke), and continues to comply with, a general release of claims in favor of the Company and its Subsidiaries and Affiliates in the form provided by the Company that becomes effective within sixty (60) days following the Grantee's Good Leaver Date, (ii) does not engage in Competitive Activity and (iii) continues to comply with the Restrictive Covenant Obligations. In the event that the Grantee's employment with the Company or an Affiliate is terminated other than pursuant to the Grantee's Good Leaver Termination, the Percentage Points shall be forfeited and the Grantee shall not be entitled to receive any Cash Distributions with respect thereto.
- (c) Distribution Timing. An initial distribution (the "Initial Distribution") of 80% of the Cash Distributions due to the Grantee calculated as of the applicable Measurement Date will occur on the first payroll date following June 30 of the calendar year immediately following the calendar year in which the Grantee's Good Leaver Date occurs. Following the Initial Distribution, (i) a second distribution will occur on the first payroll date following the date that is forty-eight (48) months following the date of the Initial Distribution (the "Second Distribution") and (ii) a third distribution will occur on the first payroll date following the date that is one-hundred and eight (108) months following the date of the Initial Distribution (the "Third Distribution"). The Second Distribution shall consist of 80% of the Cash Distributions due to the Grantee calculated as of the applicable Measurement Date. The Third Distribution shall consist of 100% of the Cash Distributions due to the Grantee calculated as of the applicable Measurement Date. Subject to the 80% payout limitations described above with respect to the Initial Distribution and the Second Distribution, amounts distributed to the Grantee will be based on actual carried interest distributions of the Participating Carry Funds from the prior Measurement Date through the current Measurement Date (and in the case of the Initial Distribution, from the date of grant of the Percentage Points to the Grantee through the applicable Measurement Date). For the avoidance of doubt, the twenty percent (20%) of Cash Distributions not included in the Initial Distribution and the Second Distribution shall remain in the Total Share Carry Pool for purposes of calculating subsequent Cash Distributions.
- (d) Restrictive Covenant Obligations. The Award Agreement evidencing the grant of Percentage Points granted under the Plan shall include restrictive covenant obligations as determined by the Committee in its sole

discretion, including a requirement not to disclose proprietary information, disparage the Company or any of its Affiliates or employees of the Company or any of its Affiliates, solicit clients or hire away employees of the Company or any of its Affiliates.

- (e) Forfeiture. If at any time during the Grantee's employment with the Company or an Affiliate or following the Grantee's Good Leaver Date, the Grantee either (i) engages in Competitive Activity or (ii) violates any of the restrictions set out in the Restrictive Covenant Obligations, in each case, as determined by the Committee in its sole discretion (and without regard to the actual post-employment duration of such Restrictive Covenant Obligations):
 - (i) the Grantee's Percentage Points shall be forfeited and the Grantee shall not be entitled to receive any Cash Distributions with respect thereto; provided, that (1) the Committee may provide, by adoption of any administrative rule, guideline or practice governing the Plan as it shall from time to time deem advisable in accordance with Section 3 or in any Award Agreement, or may determine in any individual case, that the restrictions or forfeiture conditions relating to the Percentage Points will be waived in whole or in part in the event of a termination of employment resulting from specified causes and (2) the Committee may, in other cases, waive in whole or in part the forfeiture of the Percentage Points; and
 - (ii) the Company shall have the right to require the Grantee to repay to the Company the gross, pre-tax amount of the most recent Cash Distribution received by the Grantee with respect to the Percentage Points.
- (f) Clawback Policy. Any grant of Percentage Points pursuant to the Plan shall be subject to the Company's Clawback Policy, as it may be amended from time to time (the "Clawback Policy"). Subject to the terms of the Clawback Policy, in the event that a determination is made under the Clawback Policy that the Grantee engaged in fraud or willful misconduct that caused the need for a significant restatement of BlackRock's financial statements, (i) the Grantee shall repay to the Company the Cash Distributions delivered to the Grantee as determined to be repaid under the Clawback Policy and (ii) the Percentage Points shall be forfeited and the Grantee shall not be entitled to receive any further Cash Distributions with respect thereto.
- (g) Other Provisions. Percentage Points may be subject to such other conditions as the Committee may prescribe in its discretion or as may be required by applicable law.

7. Claims Appeal Procedure.

- (a) The Grantee may make a claim pursuant to the Plan or any Award granted thereunder in writing to the Committee (or its designee) (the "Administrator"). The Administrator shall make all determinations concerning such claim. Any decision by the Administrator denying such claim shall be in writing and shall be delivered to the Grantee, or if applicable, anyone who makes a claim in respect of the Grantee. Such decision shall set forth the specific reasons for denial in plain language. Pertinent provisions of the Plan and Award Agreement shall be cited and, where appropriate, an explanation as to how the claimant can perfect the claim will be provided, including a description of any additional material or information needed to perfect the claim. The notice of benefit denial shall also provide a description of the Plan's review procedures and the time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under Section 502(a) of ERISA following an adverse determination on review. This notice of denial of benefits will be provided within ninety (90) days of the Administrator's receipt of the claimant's claim for benefits, unless the Administrator determines that special circumstances require an extension of up to ninety (90) additional days to process the claim, in which case the Administrator will notify the claimant of the extension prior to the expiration of the initial ninety (90) day period and the special circumstances that warrant the extension. If the Administrator fails to notify the claimant of the Administrator's decision regarding the claim, the claim shall be considered denied, and the claimant shall then be permitted to proceed with an appeal as provided in Section 7(b).

If the claim involves a determination of Disability, the Administrator shall furnish the Grantee, or if applicable, anyone who makes a claim in respect of the Grantee, with notice of the denial within forty-five (45) days of the date the original claim was filed. In addition to satisfying the general notice of denial requirements described above, the Administrator must provide the Grantee with (a) an explanation of the basis for disagreeing or not following (i) the views of the health professionals treating the Grantee or

vocational professionals who evaluated the Grantee, (ii) the views of the medical or vocational experts whose advice was obtained in connection with the Grantee's claim or (iii) a disability determination by the Social Security Administration, (b) an explanation of the scientific or clinical judgment for the determination if the determination is based upon a medical necessity or experimental treatment or a statement that such explanation will be provided free of charge, (c) the internal rules, guidelines, protocols, standards or similar criteria that were relied upon in making the determination or a statement that such rules, guidelines, protocols, standards or similar criteria do not exist, and (d) a statement that the Grantee is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claim for Disability benefits.

- (b) A claimant who has been completely or partially denied a benefit shall be entitled to appeal this denial of his/her claim by filing a written statement of his/her position with the Administrator no later than sixty (60) days after receipt of the written notification of such claim denial. The Administrator shall schedule an opportunity for a full and fair review of the issue within thirty (30) days of receipt of the appeal. During such review, the Administrator shall provide the claimant with the opportunity to submit written comments, documents, records or other information related to the claim for benefits. The Administrator will provide claimants, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claimant's claim for benefits. The decision on review shall set forth specific reasons for the decision, and shall cite specific references to the pertinent award provisions on which the decision is based. Following the review of any additional information submitted by the claimant, either through the hearing process or otherwise, the Administrator shall render a decision on the review of the denied claim. The Administrator shall make a decision regarding the merits of the denied claim within sixty (60) days following receipt of the request for review (or within one hundred twenty (120) days after such receipt, in a case where there are special circumstances requiring extension of time for reviewing the appealed claim). The Administrator shall deliver the decision to the claimant in writing. If an extension of time for reviewing the appealed claim is required because of special circumstances, written notice of the extension shall be furnished to the claimant prior to the commencement of the extension. If the decision on review is not furnished within the prescribed time, the claim shall be deemed denied on review. The decision on review shall set forth specific reasons for the decision, and shall cite specific references to the pertinent award provisions on which the decision is based.

If the claim involves a determination of Disability, the Grantee will have one-hundred eighty (180) days from the receipt of the denial notice in which to make written application for review with the Administrator. The Administrator shall issue a decision on such review within forty-five (45) days after receipt of an application for review.

8. General Provisions.

- (a) Nontransferability. Unless otherwise provided in an Award Agreement, Awards shall not be transferable by a Grantee except by will or the laws of descent and distribution and shall be exercisable during the lifetime of a Grantee only by such Grantee or his guardian or legal representative.
- (b) Compliance with Section 409A. Awards granted under the Plan are intended to comply with Section 409A of the Code, to the extent subject thereto, and accordingly, to the maximum extent permitted, the Plan and each Award Agreement shall be interpreted and administered to be in compliance therewith or exempt therefrom, as applicable. Each amount to be paid under any Award Agreement shall be construed as a separate identified payment for purposes of Section 409A of the Code. Notwithstanding anything to the contrary in the Plan or any other plan or agreement of the Company or any of its Affiliates, to the extent required in order to avoid accelerated taxation and/or tax penalties under Section 409A of the Code, amounts that would otherwise be payable during the six (6) month period immediately following the Grantee's separation from service shall instead be paid on the first business day after the date that is six (6) months following the Grantee's separation from service (or, if earlier, the Grantee's date of death). The Company makes no representation that any or all of the payments or benefits described in this Plan will be exempt from or comply with Section 409A of the Code and makes no undertaking to preclude Section 409A of the Code from applying to any such payment. The Grantee shall be solely responsible for the payment of any taxes and penalties incurred under Section 409A.
- (c) Forfeiture Events; Clawback. In addition to any forfeiture provisions otherwise applicable to an Award, a Grantee's right to any payment or benefits with respect to an Award shall be subject to reduction, cancellation,

forfeiture, clawback or recoupment (i) in accordance with any clawback, recoupment or similar policy of the Company as in effect from time to time or (ii) as required by applicable law.

- (d) No Right to Continued Employment. Nothing in the Plan or in any Award granted under the Plan or in any Award Agreement or other agreement entered into pursuant hereto shall confer upon any Grantee the right to continue in the employ of the Company or any Affiliate or to be entitled to any remuneration or benefits not set forth in the Plan or such Award Agreement or other agreement or to interfere with or limit in any way the right of the Company or any such Affiliate to terminate such Grantee's employment.
- (e) Withholding and Other Taxes. The Company or any applicable Affiliate is authorized to withhold from any payment relating to an Award granted under the Plan or any other payment to a Grantee, amounts of withholding and other taxes due in connection with any transaction involving an Award, and to take such other action as the Committee may deem advisable to enable the Company and Grantees to satisfy obligations for the payment of withholding taxes and other tax obligations relating to any Award.
- (f) Amendment and Termination. The Committee may at any time and from time to time alter, amend, suspend, or terminate the Plan in whole or in part. Notwithstanding the foregoing, no amendment shall affect adversely any of the rights of any Grantee, without such Grantee's consent, under any Award theretofore granted under the Plan.
- (g) No Rights to Awards; No Rights as a Partner. No Grantee or Eligible Individual shall have any claim to be granted any Award under the Plan, and there is no obligation for uniformity of treatment of Grantees. The Percentage Points do not give any rights to a Grantee as a limited or general partner of the Participating Carry Funds.
- (h) Unfunded Status of Awards. The Percentage Points represent an unfunded, unsecured promise to a Grantee to receive a payment from the Company. With respect to any payments not yet made to a Grantee pursuant to an Award, nothing contained in the Plan or any Award Agreement shall give any such Grantee any rights that are greater than those of a general creditor of the Company. The Percentage Points do not give a Grantee any rights or entitlement to any of Company's assets, and Company will satisfy the payments to a Grantee out of its general unallocated assets.
- (i) Governing Law. The Plan and all determinations made and actions taken pursuant hereto shall be governed by the laws of the State of New York without giving effect to the conflict of laws principles thereof.

Exhibit 21.1

SUBSIDIARIES OF REGISTRANT

The following table lists the direct and indirect subsidiaries of BlackRock, Inc. as of December 31, 2019*.

Name of Subsidiary	Jurisdiction/State of Incorporation
52nd Street Capital Advisors LLC	Delaware
Acero Coöperatief U.A.	Netherlands
Acero Holdings I B.V.	Netherlands
Acero Holdings II B.V.	Netherlands
AnalytX LLC	Delaware
AnalytX Hosting LLC	Florida
AnalytX Software LLC	Virginia
Asia-Pacific Private Credit Opportunities Fund I (GenPar) Ltd.	Cayman Islands
BAA Holdings, LLC	Delaware
Beijing eFront Software Company Limited	China
BFM Holdco, LLC	Delaware
BL ABG Holdings, LLC	Delaware
Blackhawk Investment Holding, LLC	Delaware
BlackRock (Barbados) Finco 1 SRL	Barbados
BlackRock (Channel Islands) Limited	Jersey
BlackRock (Luxembourg) S.A.	Luxembourg
BlackRock (Netherlands) B.V.	Netherlands
BlackRock (Shanghai) Co., Ltd.	China
BlackRock (Singapore) Holdco II Pte. Ltd.	Singapore
BlackRock (Singapore) Holdco Pte. Limited	Singapore
BlackRock (Singapore) Limited	Singapore
BlackRock Advisors (UK) Limited	United Kingdom
BlackRock Advisors Singapore Pte. Limited	Singapore
BlackRock Advisors, LLC	Delaware
BlackRock Alternative Advisors GP Holdings, LLC	Delaware
BlackRock Alternatives Management, LLC	Delaware
BlackRock AP Investment Holdco, LLC	Delaware
BlackRock Argentina Asesorias Ltda.	Argentina
BlackRock Asset Management Canada Limited	Canada
BlackRock Asset Management Deutschland AG	Germany
BlackRock Asset Management International Inc.	Delaware
BlackRock Asset Management Investor Services Limited	United Kingdom
BlackRock Asset Management Ireland Limited	Ireland
BlackRock Asset Management North Asia Limited	Hong Kong
BlackRock Asset Management Schweiz AG	Switzerland
BlackRock Asset Management UK Limited	United Kingdom
BlackRock Australia Holdco Pty. Ltd.	Australia
BlackRock Brasil Gestora de Investimentos Ltda.	Brazil
BlackRock Cal 1 Investor, LLC	Delaware
BlackRock Canada Holdings LP	Canada
BlackRock Canada Holdings ULC	Canada
BlackRock Capital Holdings, Inc.	Delaware
BlackRock Capital Investment Advisors, LLC	Delaware
BlackRock Capital Management, Inc.	Delaware
BlackRock Cayco Limited	Cayman Islands
BlackRock Cayman 1 LP	Cayman Islands
BlackRock Cayman Capital Holdings Limited	Cayman Islands
BlackRock Cayman Finco 2 Limited	Cayman Islands
BlackRock Cayman Finco 3 Limited	Cayman Islands
BlackRock Cayman Finco Limited	Cayman Islands
BlackRock Cayman West Bay Finco Limited	Cayman Islands
BlackRock Cayman West Bay IV Limited	Cayman Islands
BlackRock Cayman Z Limited	Cayman Islands
BlackRock Channel Islands Holdco Limited	Jersey
BlackRock Chile Asesorias Limitada	Chile
BlackRock Colombia Holdco, LLC	Delaware
BlackRock Colombia Infraestructura S.A.S.	Colombia
BlackRock Colombia SAS	Colombia
BlackRock Company Secretarial Services (UK) Limited	United Kingdom
BlackRock Corporation US Inc.	California
BlackRock Delaware Holdings Inc.	Delaware
BlackRock Europe Development Management Limited	Cyprus
BlackRock Execution Services	California
BlackRock Finance Europe Limited	United Kingdom
BlackRock Financial Management, Inc.	Delaware
BlackRock Finco UK Ltd.	United Kingdom
BlackRock Finco, LLC	Delaware
BlackRock First Partner Limited	Jersey
BlackRock France SAS	France
BlackRock Fund Advisors	California
BlackRock Fund Management Company S.A.	Luxembourg

Name of Subsidiary	Jurisdiction/State of Incorporation
BlackRock Fund Managers Limited	United Kingdom
BlackRock Funding International, Ltd.	Cayman Islands
BlackRock Funds Services Group, LLC	Delaware
BlackRock Germany GmBH	Germany
BlackRock Group Limited	United Kingdom
BlackRock HK Holdco Limited	Hong Kong
BlackRock Holdco 2, Inc.	Delaware
BlackRock Holdco 3, LLC	Delaware
BlackRock Holdco 4, LLC	Delaware
BlackRock Holdco 5, LLC	Delaware
BlackRock Holdco 6, LLC	Delaware
BlackRock Hungary Kft	Hungary
BlackRock Index Services, LLC	Delaware
BlackRock Infrastructure Management I, LLC	Cayman Islands
BlackRock Institutional Services, Inc.	Delaware
BlackRock Institutional Trust Company, National Association	United States
BlackRock International Holdings, Inc.	Delaware
BlackRock International Limited	Scotland
BlackRock Investment Management (Australia) Limited	Australia
BlackRock Investment Management (Dublin) Limited	Ireland
BlackRock Investment Management (Korea) Limited	Korea
BlackRock Investment Management (Shanghai) Co., Ltd.	China
BlackRock Investment Management (Taiwan) Limited	Taiwan
BlackRock Investment Management (UK) Limited	United Kingdom
BlackRock Investment Management Ireland Holdings Limited	Ireland
BlackRock Investment Management, LLC	Delaware
BlackRock Investments, LLC	Delaware
BlackRock Japan Co., Ltd.	Japan
BlackRock Japan Holdings GK	Japan
BlackRock Jersey Finco 2 Limited	Jersey
BlackRock Latin America Holdco, LLC	Delaware
BlackRock Latin American Holdings B.V.	Netherlands
BlackRock Life Limited	United Kingdom
BlackRock Lux Finco S.à r.l.	Luxembourg
BlackRock Luxembourg Holdco S.à r.l.	Luxembourg
BlackRock Mexican Holdco, B.V.	Netherlands
BlackRock México Infraestructura I, S. de R.L. de C.V.	Mexico
BlackRock México Infraestructura II, S. de R.L. de C.V.	Mexico
BlackRock México Infraestructura III, S. de R.L. de C.V.	Mexico
BlackRock México Manager, S de R.L. de C.V.	Mexico
BlackRock México Manager II, S. de R.L. de C.V.	Mexico
BlackRock México Operadora, S.A. de C.V., Sociedad Operadora de Fondos de Inversion	Mexico
BlackRock México, S.A. de C.V., Asesor en Inversiones Independiente	Mexico
BlackRock Mortgage Ventures, LLC	Delaware
BlackRock Niagara LLC	Delaware
BlackRock Operations (Luxembourg) S.à r.l.	Luxembourg
BlackRock Overseas Investment Fund Management (Shanghai) Co., Ltd.	China
BlackRock PC Holdings, LLC	Delaware
BlackRock Pensions Limited	United Kingdom
BlackRock Peru Asesorías S.A.	Peru
BlackRock Property Consulting (Beijing) Co., Ltd.	China
BlackRock Property France S.a.r.l.	France
BlackRock Property Lux S.à r.l.	Luxembourg
BlackRock Property Malaysia Sdn. Bhd.	Malaysia
BlackRock Realty Advisors, Inc.	Delaware
BlackRock Royal Oak Holdings, LLC	Delaware
BlackRock Saudi Arabia	Saudi Arabia
BlackRock Scale Holdings, LLC	Delaware
BlackRock Services India Private Limited	India
BlackRock Singapore III Pte. Ltd.	Singapore
BlackRock Slovakia s.r.o.	Slovakia
BlackRock Strategic Investors GP, LLC	Delaware
BlackRock Strategic Investors, LP	Delaware
BlackRock Trident Holding Company Limited	Ireland
BlackRock UK (Alpha) Limited	United Kingdom
BlackRock UK (Beta) Limited	United Kingdom
BlackRock UK (Delta) LP	United Kingdom
BlackRock UK (Gamma) Limited	United Kingdom
BlackRock UK (Sigma) Limited	United Kingdom
BlackRock UK 2 LLP	United Kingdom
BlackRock UK 3 LLP	United Kingdom
BlackRock UK 4 LLP	United Kingdom
BlackRock UK A LLP	United Kingdom
BlackRock UK Holdco Limited	United Kingdom
BlackRock UK Holdco 2 Limited	United Kingdom
BLK (Gallatin) Holdings, LLC	Delaware
BR Acquisition Mexico S.A. de C.V.	Mexico
BR Jersey International Holdings L.P.	Jersey

Name of Subsidiary	Jurisdiction/State of Incorporation
Cachematrix Holdings, LLC	Colorado
Cachematrix Integrations Private Limited	India
Cachematrix Software Solutions LLC	Colorado
Cachematrix UK Limited	United Kingdom
eFront (Jersey) Limited	Jersey
eFront d.o.o. Beograd	Serbia
eFront DMLT Holdings, LLC	Delaware
eFront DMLT Holdings, S.R.L	Dominican Republic
eFront Do Brasil Soluções Informáticas Para Sistemas Financeiros Ltda.	Brazil
eFront DR, S.R.L	Dominican Republic
eFront Financial Solutions, Inc.	Delaware
eFront FZ-LLC	United Arab Emirates
eFront GmbH	Germany
eFront Holdings SAS	France
eFront Hong Kong Limited	China
eFront Kabushiki Kaisha	Japan
eFront Ltd	United Kingdom
eFront SAS	France
eFront Singapore Pte. Ltd	Singapore
eFront Software Luxembourg S.à r.l.	Luxembourg
eFront Solutions Financieères Inc.	Canada
FutureAdvisor, Inc.	Delaware
Global Energy & Power Infrastructure Advisors, LLC	Delaware
Global Energy & Power Infrastructure II Advisors, LLC	Delaware
Grosvenor Alternate Partner Limited	United Kingdom
Grosvenor Ventures Limited	United Kingdom
HLX Financial Holdings, LLC	Delaware
iShares (DE) I Investmentaktiengesellschaft mit Teilgesellschaftsvermögen	Germany
iShares Delaware Trust Sponsor LLC	Delaware
Mercury Carry Company Ltd.	Isle of Man
Mercury Private Equity MUST 3 (Jersey) Limited	Jersey
MGPA (Bermuda) Limited	Bermuda
MGPA (Exec) Limited	Bermuda
MGPA Limited	Bermuda
Object Capital Technology, Inc.	Delaware
Phoenix Acquisition B.V.	Netherlands
Phoenix Acquisitions Holdings, LLC	Delaware
Portfolio Administration & Management Ltd.	Cayman Islands
Prestadora de Servicios Integrales BlackRock Mexico, S.A. de C.V.	Mexico
St. Albans House Nominees (Jersey) Ltd.	Jersey
SVOF/MM, LLC	Delaware
Tennenbaum Capital Partners, LLC	Delaware
Tiali Acero, S.A. de C.V., SOFOM ENR	Mexico
Trident Merger, LLC	Delaware

* Certain subsidiaries that are not significant have been omitted.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-224504 on Form S-3 and Registration Statements Nos. 333-137708, 333-169329, 333-197764 and 333-225372 on Form S-8 of our reports dated February 28, 2020, relating to the financial statements of BlackRock, Inc., and the effectiveness of BlackRock, Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K of BlackRock, Inc. for the year ended December 31, 2019.

/s/ Deloitte & Touche LLP

New York, New York
February 28, 2020

Exhibit 31.1

CEO CERTIFICATION

I, Laurence D. Fink, certify that:

1. I have reviewed this Annual Report on Form 10-K, for the fiscal year ended December 31, 2019 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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: February 28, 2020

By: /s/ Laurence D. Fink

Laurence D. Fink
Chairman &
Chief Executive Officer

Exhibit 31.2

CFO CERTIFICATION

I, Gary S. Shedlin, certify that:

1. I have reviewed this Annual Report on Form 10-K, for the fiscal year ended December 31, 2019 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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: February 28, 2020

By: /s/ Gary S. Shedlin

Gary S. Shedlin
Senior Managing Director &
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 Annual Report on Form 10-K of BlackRock, Inc. (the “Company”) for the annual period ending December 31, 2019 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: February 28, 2020

/s/ Gary S. Shedlin

Name: Gary S. Shedlin
Title: Senior Managing Director &
Chief Financial Officer
Date: February 28, 2020