BlackRock Inc.
Form 10-K
February 28, 2019

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, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to .

Commission File No. 001-33099

BlackRock, Inc.

(Exact name of registrant as specified in its charter)

Delaware	32-0174431
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

55 East 52nd Street, New York, NY 10055

(Address of Principal Executive Offices)

(212) 810-5300

(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, $.01 par value	New York Stock Exchange
1.250% Notes due 2025	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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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, 2018 was approximately $79.1 billion.

As of January 31, 2019, there were 158,031,934 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 2019 annual meeting of stockholders to be held on May 23, 2019 (“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 $5.98 trillion of assets under management (“AUM”) at December 31, 2018. With approximately 14,900 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, 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, 2018, The PNC Financial Services Group, Inc. (“PNC”) held 21.6% of BlackRock’s voting common stock and 22.0% 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, and barbelling 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, 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 and to deliver excellent client service. 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:	2018	2017[4]	2016[4]	2015[4]	2014[4]
Total revenue	$14,198	$13,600	$12,261	$11,401	$11,081
Operating income	$5,457	$5,254	$4,565	$4,664	$4,474
Operating margin	38.4 %	38.6 %	37.2 %	40.9 %	40.4 %
Nonoperating income (expense)[1]	$(76)	$(32)	$(108)	$(69)	$(49)
Net income attributable to BlackRock, Inc.	$4,305	$4,952	$3,168	$3,345	$3,294
Diluted earnings per common share	$26.58	$30.12	$19.02	$19.79	$19.25

(in millions, except per share data)					
As adjusted[2]:	2018	2017[4]	2016[4]	2015[4]	2014[4]
Operating income	$5,531	$5,269	$4,669	$4,695	$4,563
Operating margin	44.3 %	44.1 %	43.8 %	42.9 %	42.9 %
Nonoperating income (expense)[1]	$(76)	$(32)	$(108)	$(70)	$(56)
Net income attributable to BlackRock, Inc.[3]	$4,361	$3,698	$3,210	$3,313	$3,310
Diluted earnings per common share[3]	$26.93	$22.49	$19.27	$19.60	$19.34

(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 2018, 2017, and 2016.

In 2014, general and administration expense relating to the reduction of an indemnification asset has been excluded since it is directly offset by a tax benefit of the same amount and, consequently, did not impact BlackRock's book value. In 2015 and 2014, 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. 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).

(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 also include the effect on deferred income tax expense resulting from certain income tax matters.

(4) Results for 2017 and 2016 were recast to reflect the adoption of the new revenue recognition standard. Results for 2015 and 2014 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 2014 through 2018 is presented below.

	December 31,					5-Year
(in millions)	2018	2017	2016	2015	2014	CAGR[1]
Equity	$3,035,825	$3,371,641	$2,657,176	$2,423,772	$2,451,111	6 %
Fixed income	1,884,417	1,855,465	1,572,365	1,422,368	1,393,653	9 %
Multi-asset	461,884	480,278	395,007	376,336	377,837	6 %
Alternatives	143,358	129,347	116,938	112,839	111,240	5 %
Long-term	5,525,484	5,836,731	4,741,486	4,335,315	4,333,841	7 %
Cash management	448,565	449,949	403,584	299,884	296,353	10 %
Advisory	1,769	1,515	2,782	10,213	21,701	(45)%
Total	$5,975,818	$6,288,195	$5,147,852	$4,645,412	$4,651,895	7 %

(1) Percentage represents CAGR over a five-year period (2013-2018).

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Component changes in AUM by product type for the five years ended December 31, 2018 are presented below.

(in millions)	December 31, 2013	Net inflows (outflows)	Adjustment/ acquisitions and dispositions[1]	Market change	FX impact	December 31, 2018	5-Year CAGR[2]
Equity	$ 2,317,695	$ 301,915	$ 2,590	$ 528,873	$ (115,248)	$ 3,035,825	6 %
Fixed income	1,242,186	551,223	18,539	181,947	(109,478)	1,884,417	9 %
Multi-asset	341,214	87,540	1,048	57,759	(25,677)	461,884	6 %
Alternatives	111,114	26,719	10,121	1,192	(5,788)	143,358	5 %
Long-term	4,012,209	967,397	32,298	769,771	(256,191)	5,525,484	7 %
Cash management	275,554	100,672	81,321	4,245	(13,227)	448,565	10 %
Advisory	36,325	(31,324)	—	1,302	(4,534)	1,769	(45)%
Total	$ 4,324,088	$ 1,036,745	$ 113,619	$ 775,318	$ (273,952)	$ 5,975,818	7 %

(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 (2013-2018).

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, 2018, total AUM was $5.98 trillion, representing a CAGR of 7% 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, First Reserve 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, 2018 is presented below.

(in millions)	Retail	iShares ETFs	Institutional	Total
Active	$537,801	$—	$1,079,979	$1,617,780
Non-ETF Index	73,049	—	2,103,230	2,176,279
iShares ETFs	—	1,731,425	—	1,731,425
Long-term	610,850	1,731,425	3,183,209	5,525,484
Cash management	10,570	—	437,995	448,565
Advisory	—	—	1,769	1,769
Total	$621,420	$1,731,425	$3,622,973	$5,975,818

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 and digital distribution tools are increasing the number of financial advisors and end-retail clients using BlackRock products. Retail represented 11% of long-term AUM at December 31, 2018 and 31% of long-term base fees for 2018.

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 $497.7 billion, or 81%, of retail long-term AUM at year-end, with the remainder invested in private investment funds and separately managed accounts (“SMAs”). 88% of retail long-term AUM is invested in active products.

Component changes in retail long-term AUM for 2018 are presented below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions [1]	Market change	FX impact	December 31, 2018
Equity	$ 233,218	$ 2,090	$ 2,137	$(28,005)	$(3,726)	$ 205,714
Fixed income	257,571	11,546	14,070	(8,630)	(2,969)	271,588
Multi-asset	120,855	2,914	2,519	(12,107)	(764)	113,417
Alternatives	16,733	2,529	1,628	(590)	(169)	20,131
Total	$ 628,377	$ 19,079	$ 20,354	$(49,332)	$(7,628)	$ 610,850

(1) Amounts included net AUM impact from the TCP Transaction and the Citibanamex Transaction.

The retail client base is diversified geographically, with 72% of long-term AUM managed for investors based in the Americas, 23% in EMEA and 5% in Asia-Pacific at year-end 2018.

- US retail long-term net inflows of $24.3 billion were led by fixed income inflows of $14.9 billion. Fixed income net inflows were diversified across exposures and products, with strong flows into our municipal, unconstrained and short duration bond offerings. Equity net inflows of $7.0 billion were driven by flows into our index mutual funds.
- International retail long-term net outflows of $5.2 billion resulted from net outflows in equity and fixed income, partially offset by multi-asset and alternatives net inflows. Multi-asset net inflows of $1.6 billion were led by flows into the Multi-Asset Income fund family, while alternatives net inflows of $1.5 billion reflected flows into global and European hedge funds. Equity net outflows of $4.9 billion were primarily due to outflows from European equities, as political and market uncertainty contributed to a risk-off environment in the region. Fixed income net outflows of $3.4 billion reflected net outflows from unconstrained and high yield bond funds.

iShares ETFs

iShares is the leading ETF provider in the world, with $1.7 trillion of AUM at December 31, 2018 and was the top asset gatherer globally in 2018[1] with net inflows of $167.5 billion driving an organic growth rate of 10%. The iShares Core had net inflows of $106.2 billion, while iShares ETFs outside the Core had net inflows of $61.3 billion. iShares equity net inflows of $112.8 billion were driven by flows into Core funds, products with broad developed market equity exposures and factor-based ETFs. Fixed income net inflows of $50.9 billion were diversified across exposures and product lines, led by flows into Core, treasuries and emerging market debt funds. iShares ETF multi-asset and alternative funds contributed a combined $3.8 billion of net inflows, primarily into commodities funds. iShares ETFs represented 31% of long-term AUM at December 31, 2018 and 41% of long-term base fees for 2018.

Component changes in iShares ETFs AUM for 2018 are presented below.

(in millions)	December 31, 2017	Net inflows	Market change	FX impact	December 31, 2018
Equity	$ 1,329,610	$ 112,817	$ (159,433)	$ (8,732)	$ 1,274,262
Fixed income	395,252	50,930	(14,355)	(4,231)	427,596
Multi-asset	3,761	1,050	(317)	(9)	4,485
Alternatives(1)	23,616	2,738	(1,196)	(76)	25,082
Total	$ 1,752,239	$ 167,535	$ (175,301)	$ (13,048)	$ 1,731,425

(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 ETF[2] AUM ended 2018 at $1.3 trillion with $129.7 billion of net inflows driven by strong demand for Core funds, broad developed market equities and factor-based ETFs, as well as a diverse range of fixed income products.
- International iShares ETF[2] AUM ended 2018 at $409.5 billion with net inflows of $37.8 billion led by equity net inflows of $27.9 billion, which reflected strong flows into the international Core and factor-based ETFs.

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 2018 are presented below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions (1)	Market change	FX impact	December 31, 2018
Active:						
Equity	$ 137,185	$ (7,895)	$ (4,296)	$ (11,485)	$ (2,533)	$ 110,976
Fixed income	570,050	(20,701)	2,417	(7,301)	(5,504)	538,961
Multi-asset	347,825	11,944	(1,593)	(14,650)	(7,289)	336,237
Alternatives	84,248	7,069	3,374	444	(1,330)	93,805
Active subtotal	1,139,308	(9,583)	(98)	(32,992)	(16,656)	1,079,979
Index:						
Equity	1,671,628	(91,845)	4,749	(122,252)	(17,407)	1,444,873

Fixed income	632,592	37,335	2,051	(4,835)	(20,871)	646,272
Multi-asset	7,837	1,005	(243)	(880)	26	7,745
Alternatives	4,750	(199)	1	(142)	(70)	4,340
Index subtotal	2,316,807	(53,704)	6,558	(128,109)	(38,322)	2,103,230
Total	$ 3,456,115	$ (63,287)	$ 6,460	$ (161,101)	$ (54,978)	$ 3,183,209

(1) Amounts included net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

Institutional active AUM ended 2018 at $1.1 trillion, reflecting $9.6 billion of net outflows. Fixed income net outflows of $20.7 billion reflected several large client redemptions associated with client M&A, cash repatriation and manager consolidation. Equity net outflows of $7.9 billion were from fundamental and quantitative strategies.

Multi-asset products saw continued growth, with net inflows of $11.9 billion reflecting ongoing demand for solutions offerings and the LifePath® target-date suite. Alternatives net inflows of $7.1 billion were led by inflows into infrastructure, private equity solutions and real estate. Excluding return of capital and investment of $2.3 billion, alternatives net inflows were $9.4 billion. In addition, 2018 was another strong fundraising year for illiquid alternatives, and we raised approximately $13 billion in new commitments, which will be a source of future net inflows. In total, Institutional active represented 19% of long-term AUM and 20% of long-term base fees.

Institutional index AUM totaled $2.1 trillion at December 31, 2018, reflecting net outflows of $53.7 billion. Equity net outflows of $91.8 billion resulted from client de-risking, re-allocating, re-balancing and seeking liquidity in a more volatile market environment. Fixed income net inflows of $37.3 billion were driven by demand for liability-driven investment solutions. Institutional index represented 38% of long-term AUM at December 31, 2018 and accounted for 9% of long-term base fees for 2018.

BlackRock's institutional franchise generated 2% organic base fee growth in 2018 despite $63.3 billion of net outflows, 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 $2.2 trillion, or 68%, of long-term institutional AUM managed for defined benefit, defined contribution and other pension plans for corporations, governments and unions at December 31, 2018. The market landscape continues to shift from defined benefit to defined contribution, driving strong flows in our defined contribution channel, which had $20.3 billion of long-term net inflows for the year, driven by continued demand for our LifePath target-date suite. Defined contribution represented $835.5 billion 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 $80.1 billion, or 3%, of long-term institutional AUM was managed for other tax-exempt investors, including charities, foundations and endowments.

- Official Institutions. BlackRock managed $166.6 billion, or 5%, 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 2018. 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 $240.6 billion, or 8%, of institutional long-term AUM at year-end 2018. Assets managed for other taxable institutions, including corporations, banks and third-party fund sponsors for which we provide sub-advisory services, totaled $514.4 billion, or 16%, of long-term institutional AUM at year-end.

Client Type and Product Type

Component changes in AUM by product type and investment style for 2018 are presented below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions [1]	Market change	FX impact	December 31, 2018
Retail:						
Equity	$ 233,218	$ 2,090	$ 2,137	$ (28,005)	$ (3,726)	$ 205,714
Fixed income	257,571	11,546	14,070	(8,630)	(2,969)	271,588
Multi-asset	120,855	2,914	2,519	(12,107)	(764)	113,417
Alternatives	16,733	2,529	1,628	(590)	(169)	20,131
Retail subtotal	628,377	19,079	20,354	(49,332)	(7,628)	610,850
iShares ETFs:						
Equity	1,329,610	112,817	—	(159,433)	(8,732)	1,274,262
Fixed income	395,252	50,930	—	(14,355)	(4,231)	427,596
Multi-asset	3,761	1,050	—	(317)	(9)	4,485
Alternatives	23,616	2,738	—	(1,196)	(76)	25,082
iShares ETFs subtotal	1,752,239	167,535	—	(175,301)	(13,048)	1,731,425
Institutional:						
Active:						
Equity	137,185	(7,895)	(4,296)	(11,485)	(2,533)	110,976
Fixed income	570,050	(20,701)	2,417	(7,301)	(5,504)	538,961
Multi-asset	347,825	11,944	(1,593)	(14,650)	(7,289)	336,237
Alternatives	84,248	7,069	3,374	444	(1,330)	93,805
Active subtotal	1,139,308	(9,583)	(98)	(32,992)	(16,656)	1,079,979
Index:						
Equity	1,671,628	(91,845)	4,749	(122,252)	(17,407)	1,444,873
Fixed income	632,592	37,335	2,051	(4,835)	(20,871)	646,272
Multi-asset	7,837	1,005	(243)	(880)	26	7,745
Alternatives	4,750	(199)	1	(142)	(70)	4,340
Index subtotal	2,316,807	(53,704)	6,558	(128,109)	(38,322)	2,103,230
Institutional subtotal	3,456,115	(63,287)	6,460	(161,101)	(54,978)	3,183,209

Long-term	5,836,731	123,327	26,814	(385,734)	(75,654)	5,525,484
Cash management	449,949	(21)	686	1,593	(3,642)	448,565
Advisory	1,515	323	—	5	(74)	1,769
Total	$ 6,288,195	$ 123,629	$ 27,500	$ (384,136)	$ (79,370)	$ 5,975,818

(1) Amounts included net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

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 2018 equity AUM totaled $3.036 trillion, reflecting net inflows of $15.2 billion. Net inflows included $112.8 billion into iShares ETFs, driven by net inflows into Core funds, broad developed market equities and factor-based ETFs, partially offset by non-ETF index and active net outflows of $85.2 billion and $12.4 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 2018 at $1.884 trillion, reflecting net inflows of $79.1 billion. iShares ETFs net inflows of $50.9 billion were led by flows into Core, treasuries and emerging markets debt funds. Non-ETF index net inflows of $40.2 billion were driven by demand for liability-driven investment solutions. Active net outflows of $12.0 billion were primarily due to several large institutional client redemptions associated with client M&A, cash repatriation and manager consolidation.

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 2018 are presented below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions (1)	Market change	FX impact	December 31, 2018
Asset allocation and balanced	$ 196,545	$ (4,280)	$ 596	$(15,679)	$(2,546)	$ 174,636
Target date/risk	199,466	20,245	87	(11,496)	(1,968)	206,334
Fiduciary	83,689	953	—	(718)	(3,522)	80,402
FutureAdvisor(2)	578	(5)	—	(61)	—	512
Total	$ 480,278	$ 16,913	$ 683	$(27,954)	$(8,036)	$ 461,884

(1) Amounts included net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.
(2) FutureAdvisor amounts do not include AUM held in iShares ETFs.

Multi-asset net inflows reflected ongoing institutional demand for our solutions-based advice with $12.9 billion of net inflows coming from institutional clients. Defined contribution plans of institutional clients remained a significant driver of flows, and contributed $17.7 billion to institutional multi-asset net inflows in 2018, primarily into target date and target risk product offerings. Retail net inflows of $2.9 billion reflected demand for our Multi-Asset Income fund family, which raised $2.2 billion in 2018.

The Company's multi-asset strategies include the following:

- Asset allocation and balanced products represented 38% 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 10% organically in 2018, with net inflows of $20.2 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.
- 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 two main categories — 1) core alternatives, and 2) currency and commodities. Core includes liquid alternatives offerings in direct hedge funds and hedge fund solutions (funds of funds), as well as illiquid offerings in alternative solutions, private equity solutions (funds of funds), opportunistic and credit, real estate and infrastructure. BlackRock alternatives products are described below.

In 2018, alternatives generated $12.1 billion of net inflows, or $15.1 billion excluding return of capital/investment of $3.0 billion. The largest contributors to return of capital/investment were private equity solutions, credit and real estate. Net inflows were driven by infrastructure, alternative solutions and hedge fund solutions. In addition, we raised approximately $13 billion of new commitments in 2018 across a variety of strategies, led by infrastructure and private equity solutions. 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 2018 are presented in the table below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions [(1)]	Market change	FX impact	December 31, 2018	Memo: return of capital/ investment[(2)]	Memo: committed capital[(3)]
Core alternatives:								
Liquid alternatives:								
Hedge funds:								
Direct hedge fund strategies	$ 28,854	$ 2,104	$ 27	$ (965)	$ (689)	$ 29,331	$ —	$ —
Hedge fund solutions	22,409	(94)	—	108	(35)	22,388	(439)	1,151
Total Liquid alternatives	51,263	2,010	27	(857)	(724)	51,719	(439)	1,151
Illiquid alternatives:								
Alternative solutions	3,159	255	—	105	(21)	3,498	(278)	2,452
Private equity and opportunistic:								
Private equity solutions	11,815	1,675	—	(113)	(69)	13,308	(858)	4,858
Opportunistic and credit strategies	2,024	1,734	4,984	(51)	(20)	8,671	(740)	4,328
Private equity and opportunistic subtotal	13,839	3,409	4,984	(164)	(89)	21,979	(1,598)	9,186
Real assets:								
Real estate	18,944	955	(16)	884	(506)	20,261	(464)	1,843
Infrastructure	11,328	2,961	—	3	(204)	14,088	(181)	9,232
Real assets subtotal	30,272	3,916	(16)	887	(710)	34,349	(645)	11,075
Total illiquid alternatives	47,270	7,580	4,968	828	(820)	59,826	(2,521)	22,713
Core alternatives subtotal	98,533	9,590	4,995	(29)	(1,544)	111,545	(2,960)	23,864
Currency and commodities	30,814	2,547	8	(1,455)	(101)	31,813	—	—
Total	$ 129,347	$ 12,137	$ 5,003	$ (1,484)	$ (1,645)	$ 143,358	$ (2,960)	$ 23,864

(1) Amounts included net AUM impact from the TCP Transaction, the Citibanamex Transaction and the Aegon Transaction.
(2) Return of capital/investment is included in outflows.
(3) Amount represents client assets that are uninvested commitments, which are currently non-fee paying and are not included in AUM. These commitments will generate fees and will be counted in AUM and flows as the capital is deployed over time.

Core

The Company's core alternatives strategies include the following:

- Liquid Alternatives net inflows of $2.0 billion were due to net inflows of $2.1 billion from direct hedge funds, partially offset by $0.1 billion of net outflows from hedge fund solutions. Direct hedge fund AUM includes a variety of single- and multi-strategy offerings.
- Alternative Solutions represents highly customized portfolios of alternative investments. In 2018, alternative solutions portfolios had $0.3 billion of net inflows.
- Private Equity and Opportunistic AUM included $13.3 billion in private equity solutions and $8.7 billion in opportunistic and credit offerings. Net inflows of $3.4 billion included $1.7 billion of net inflows into both private equity solutions and opportunistic and credit strategies.
- Real Assets AUM, which includes infrastructure and real estate, totaled $34.3 billion, reflecting net inflows of $3.9 billion, led by infrastructure deployments.

Currency and Commodities

The Company's currency and commodities products include a range of active and index products.

Currency and commodities products had $2.5 billion of net inflows, primarily driven by iShares ETFs. Our iShares ETFs commodities products represented $25.1 billion of AUM and are not eligible for performance fees.

Cash Management

Cash management AUM totaled $448.6 billion at December 31, 2018. Cash management products include taxable and tax-exempt money market funds and customized separate accounts. Portfolios are denominated in US dollars, Canadian dollars, Australian dollars, Euros, Swiss Francs, New Taiwan Dollars or British pounds. While full year 2018 net flows were impacted by two large planned redemptions totaling $40.0 billion, base fees grew 9%. Strong growth in cash management also reflects successful integration of acquisitions to strengthen our platform and leverage our scale, including the 2017 acquisition of Cachematrix, a distribution technology portal enabling corporate treasurers to allocate among cash management products, and the 2016 transaction with BofA Global Capital Management.

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, 2018 is presented below.

(in millions)	Americas	EMEA	Asia-Pacific	Total
Equity	$2,152,491	$684,102	$ 199,232	$3,035,825
Fixed income	1,067,875	639,070	177,472	1,884,417
Multi-asset	312,323	126,437	23,124	461,884
Alternatives	74,435	46,859	22,064	143,358
Long-term	3,607,124	1,496,468	421,892	5,525,484
Cash management	339,093	102,457	7,015	448,565
Advisory	1,519	250	—	1,769
Total	$3,947,736	$1,599,175	$ 428,907	$5,975,818

Component changes in AUM by client region for 2018 are presented below.

(in millions)	December 31, 2017	Net inflows (outflows)	Acquisitions and dispositions (1)	Market change	FX impact	December 31, 2018
Americas	$ 4,049,086	$ 149,787	$ 30,686	$ (268,180)	$ (13,643)	$ 3,947,736
EMEA	1,768,119	(19,065)	(3,186)	(80,650)	(66,043)	1,599,175
Asia-Pacific	470,990	(7,093)	—	(35,306)	316	428,907
Total	$ 6,288,195	$ 123,629	$ 27,500	$ (384,136)	$ (79,370)	$ 5,975,818

(1) Amounts included net AUM impact from the TCP Transaction, the Citibanamex Transaction, the Aegon Transaction and the DSP Transaction.

Americas

Net inflows of $149.8 billion were driven by net inflows into equity, fixed income, multi-asset and alternatives of $64.3 billion, $62.8 billion, $23.2 billion and $6.6 billion, respectively. During the year, we served clients through offices in 32 states in the United States as well as Canada, Mexico, Brazil, Chile, Colombia and Spain.

EMEA

EMEA net outflows of $19.1 billion were primarily due to low-fee institutional index equity outflows, partially offset by strong flows into iShares ETFs. 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 outflows of $7.1 billion were primarily due to low-fee institutional index equity outflows. 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, 2018 was as follows:

	One-year period	Three-year period	Five-year period
Fixed income:			
Actively managed AUM above benchmark or peer median			
Taxable	48%	69%	82%
Tax-exempt	47%	71%	76%
Index AUM within or above applicable tolerance	98%	99%	98%
Equity:			
Actively managed AUM above benchmark or peer median			
Fundamental	50%	67%	78%
Systematic	32%	83%	93%
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, 2018 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, 2018. The performance data does not include accounts terminated prior to December 31, 2018 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, 2018 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. Provider Aladdin 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.

Technology services revenue of $785 million was up 19% year-over-year. 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 and for other minority investments records changes in their respective values within nonoperating income (expense) on the consolidated statements of income.

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 $267 billion, up from $262 billion at year-end 2017. On average, relative to 2017, asset and liability spreads were slightly lower. However, continued asset gathering in lending products resulted in increased balances compared to 2017.

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.

Geographic Information

At December 31, 2018, BlackRock served clients in more than 100 countries across the globe, including the United States, the United Kingdom and Japan. See Note 25, Segment Information, contained in Part II, Item 8 of this filing for more information.

Employees

At December 31, 2018, BlackRock had a total of approximately 14,900 employees, including approximately 7,500 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 ("US"). 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 Board ("FSB"), working with the International Organization of Securities Commissions ("IOSCO"), is considering potential systemic risk related to asset management; statements made by these organizations have generally indicated that they are, at this time, focused on products and activities, rather than designation, in their approach to the review of asset managers. The FSB has indicated that it may develop criteria for designation of nonbank non-insurers in the future to address "residual risks". Any measures applied in relation to a global systemically important financial institution ("G-SIFI") designation from the FSB would need to be implemented through existing regulatory processes and procedures by relevant national authorities.

In the US, the Financial Stability Oversight Council ("FSOC") has the authority to designate nonbank financial institutions as SIFIs. The FSOC's most recent statements generally indicate that it is focused on products and activities, rather than entity-specific designation, in its review of asset managers. The US Department of the Treasury ("Treasury") report on asset management, issued in October 2017 pursuant to the Executive Order (as defined below), also expressed this view. In addition, in November 2017, Treasury made recommendations concerning the process by which the FSOC designates nonbanks as SIFIs, further supporting a products and activities approach to addressing risks in asset management. 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 authorities. On December 22, 2017, the Tax Cuts and Jobs Act (the "2017 Tax Act") was enacted. As proposed regulations and new guidance are released, the Company continues to assess the impact of tax reform.

In addition, certain European Union ("EU") Member States have enacted financial transaction taxes ("FTTs") which impose taxation on a broad range of financial instruments and derivatives transactions, 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 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 December 2015, the SEC proposed a rule governing the use of derivatives and other financial commitment transactions by investment companies that, if enacted, would represent a fundamental change in the nature of the SEC's regulations governing the use of derivatives and other financial commitment transactions by registered investment companies. This proposal has the potential to require BlackRock to change or restrict certain investment strategies or practices for some registered investment companies and incur additional costs.

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 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 and will continue to be phased in for other types of BlackRock funds and accounts over time. 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 potential risks in ETFs, including those related to transparency, liquidity and structural resiliency. BlackRock and other large issuers 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 June 2018, the SEC issued a proposed rule under the Investment Company Act of 1940 (the "Investment Company Act") known as the "ETF Rule". The ETF Rule is intended to establish a clear and consistent framework that allows most ETFs operating under the Investment Company Act to come to market without applying for individual exemptive orders.

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%, 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.

Securities and Exchange Commission Standards of Conduct Proposal

In April 2018, the SEC published a package of proposed rules and a proposed interpretation (collectively, the "Proposals") intended to improve the retail investor experience and provide greater clarity regarding customers' relationships with broker-dealers and investment advisers. The Proposals would: (i) create a principles-based standard of conduct for broker-dealers and require broker-dealers to act in the "best interest" of retail customers; (ii) "clarify and reaffirm" investment advisers' fiduciary obligations under the Investment Advisers Act of 1940 (the "Advisers Act"); and (iii) create additional disclosure obligations for broker-dealers and investment advisers to help retail investors better understand relationships with investment professionals. The SEC also proposed the introduction of an enhanced disclosure regime, in addition to certain new compliance obligations for investment advisers that currently apply only to broker-dealers. If adopted without change, the Proposals 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 educational and other services to its clients.

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. In so doing, it 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, many of which are currently in an implementation period, will 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.

Money Market Fund Reform

In June 2017, the European Commission published new Money Market Regulations (the “MM Regulations”) which took effect in January 2019. The MM Regulations are intended to reduce perceived risks of EU-based money market products. The MM Regulations limit the use of constant net asset value money market funds to those holding only government money market instruments and introduce a new category of “low volatility net asset value” money market funds and two types of “variable net asset value funds”. All categories of money market funds are subject to reinforced liquidity requirements, as well as safeguards such as liquidity fees and redemption gates. The MM Regulations require fundamental changes to many of the Company’s money market funds offered in the EU and may reduce their attractiveness to investors.

In the US, there is currently legislation pending in Congress that would repeal the requirement that institutional prime and institutional municipal money market funds float their net asset values. It is uncertain whether the legislation will pass Congress and become law.

British Exit from the EU

Following the June 2016 vote to exit the EU, the United Kingdom ("UK") served notice under Article 50 of the Treaty on European Union on March 29, 2017 to initiate the two-year long process of exiting from the EU, commonly referred to as "Brexit". There is substantial uncertainty surrounding the terms upon which the UK will ultimately exit the EU. As a result, the UK's relationship with the EU, as well as whether an agreement will be reached by the March 29, 2019 exit deadline, remains unclear. Moreover, the passage of time without a resolution in place has become a source of economic, political and regulatory instability. BlackRock is implementing a number of steps to prepare for various outcomes, including effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications. These steps, many of which have been time-consuming and costly, are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the UK's exit from the EU, BlackRock may experience organizational and operational challenges and incur additional costs in connection with its European operations post-Brexit, which may impede the Company's growth or impact its financial performance.

MiFID II Regime

BlackRock is subject to numerous regulatory reform initiatives in Europe. For example, in the EU, rules and regulations made under the previous Markets in Financial Instruments Directive ("MiFID") were revised in January 2018 through implementation of "MiFID II". The MiFID II package is made up of a Markets in Financial Instruments Directive, a Markets in Financial Instruments Regulation and a number of Implementing and Regulatory Technical Standards in the form of Delegated Acts made by the European Commission following advice from the European Securities and Markets Authority ("ESMA"). The MiFID II reforms materially changed market transparency requirements, enhanced protections afforded to investors and increased operational complexity for the Company. In particular, MiFID II introduced (i) enhanced governance and investor protection standards, (ii) prescriptive rules on portfolio management firms' ability to receive and pay for investment research relating to all asset classes, (iii) rules on the identification and monitoring of target markets for MiFID financial instruments by MiFID investment firms who manufacture and/or distribute such instruments, (iv) enhanced regulation of algorithmic trading, (v) the movement of trading in certain shares and derivatives on to regulated execution venues, (vi) the extension of pre- and post-trade transparency requirements to wider categories of financial instruments, (vii) restrictions on the use of so-called dark pool trading, (viii) the creation of a new type of trading venue called the Organized Trading Facility for non-equity financial instruments, (ix) new commodity derivative position limits and reporting requirements, (x) a move away from vertical silos in execution, clearing and settlement, (xi) an enhanced role for ESMA in supervising EU securities and derivatives markets and (xii) new requirements regarding non-EU investment firms' access to EU financial markets. The industry is continuing to adapt to the implementation of these measures, which is having direct and indirect impacts on BlackRock and its subsidiaries and has required significant changes to client servicing models. As a result, the broad nature of the MiFID II reforms may continue to impact BlackRock's product development, client servicing and distribution models, and will require additional disclosures 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. Further, as market structure reforms become fully embedded, these may impact the way that the Company executes investment decisions for client portfolios and reports on such transactions and could have an impact on general market liquidity.

EU Market Access

The European Commission and certain EU Member States have recently advanced a more restrictive approach to the need for "equivalence", which is the process by which the legal, regulatory and/or supervisory system in non-EU Member States is recognized by the European Commission as comparably effective to that in the EU, thereby allowing such non-EU Member States access to the EU single market in financial services. Additionally, in September 2017, the European Commission issued a proposal requiring that all third-country outsourcing, delegation and risk transfer arrangements be assessed by ESMA. If enacted, the proposal would transfer to ESMA the ability of EU Member States to authorize the outsourcing of asset management activities beyond the EU's borders. While the proposal remains under discussion, if enacted, it could significantly impact asset management firms with non-EU operations, including BlackRock, and it may affect the Company's ability to delegate fund management, supporting activity and/or costs associated with such delegation.

Cessation of LIBOR/EURIBOR

The Financial Conduct Authority ("FCA"), which regulates the London Interbank Offered Rate (LIBOR) administrator that publishes the rate, has announced that it will no longer compel panel banks to submit rates for LIBOR after year-end 2021. As a result, LIBOR, the Euro Interbank Offered Rate (EURIBOR) 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

EU regulators are considering how to design an appropriate capital regime for non-systemically important investment firms as the current regime is based upon banking requirements and has not been materially modified for asset managers. In December 2017, the European Commission published a proposal for a new Directive and Regulation on prudential requirements for MiFID investment firms. The new legislative package is expected to come into effect in 2020 once agreed upon by the European Council and Parliament. Once implemented, any new requirements could result in significant changes to the amount of regulatory capital that BlackRock is required to hold in the EU.

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 it will consider various remedies in 2019, including mandatory tendering of investment consultancy and fiduciary management services, and 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.

Senior Managers and Certification Regime

In the UK, the FCA is extending the Senior Managers and Certification Regime (“SMCR”) to all financial services firms beginning 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.

Reform of European Retail Distribution Rules

BlackRock must comply with retail distribution rules aimed at enhancing consumer protections, overhauling mutual fund fee structures by banning the payment of commissions to distributors, and increasing professionalism in the retail investment sector. The rules were originally introduced in the UK in 2012 and similar rules have since been introduced in other jurisdictions where BlackRock operates such as the Netherlands and Switzerland, and are under discussion elsewhere. Similarly, MiFID II contains a ban on certain types of advisers recovering commissions and other nonmonetary benefits from fund managers. These rules are creating inconsistencies among distribution rules in different jurisdictions and may lead to changes to BlackRock’s client servicing and distribution models, in particular affecting the fees BlackRock is able to charge to its clients and the commissions it is able to pay to its distribution partners.

EU Shareholder Rights Directive

The European Commission has revised the Shareholder Rights Directive (“SRD”) to enhance engagement between companies and their long-term shareholders. The revisions, which are 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. It is uncertain whether regulators throughout the EU will be unified in their approach to interpreting compliance with the SRD, and any inconsistencies may complicate BlackRock’s ability to demonstrate compliance.

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 Department of Labor ("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 Commodity Futures Trading Commission ("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.

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, 2018 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 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, which regulates the provision of investment services and activities throughout the EU. MiFID, the scope of which was enhanced through 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 Mediation 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 an EU regulation on over-the-counter ("OTC") derivatives, central counterparties and trade repositories, which requires (i) the central clearing of standardized 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 an ESMA-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, seeks to align 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 updated UCITS directive subjects BlackRock to additional expenses associated with new 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.

Rising interest rates and/or divergent beta may cause BlackRock's AUM and base fees to decline and introduce volatility to the Company's net income and operating cash flows.

A number of central banks globally have recently begun increasing interest rates following a prolonged period of historically low rates. Rising interest rates may, among other things: (i) cause the value of BlackRock's AUM to fluctuate, creating volatility in base fees, net income, and operating cash flows; (ii) adversely affect the liquidity in bonds and fixed-income products, resulting in lower performance, yield and base fees; (iii) introduce volatility to, or negatively impact the value of, BlackRock's marked-to-market investments; (iv) result in investors withdrawing funds from lower yielding products to pursue investments with higher rates of return; (v) lead to BlackRock's private credit clients experiencing difficulties in making higher interest payments, which may result in increased credit costs and potential provisions for loan losses and charge-offs for BlackRock's funds; and (vi) make it more difficult for BlackRock's funds to obtain financing for new investments, refinance existing investments or liquidate debt investments, which could negatively impact such funds' investment returns, revenues and liquidity. In the event that rising interest rates have any such effect, it may cause BlackRock's AUM and base fees to decline and introduce volatility to the Company's 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.

Increased competition may cause BlackRock's AUM, revenue and earnings to decline.

The investment management industry is highly competitive and has relatively low barriers to entry. BlackRock competes based on a number of factors including: investment performance, the level of fees charged, the quality and diversity 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 for risk analytics could lead to a loss of clients and could impede BlackRock's productivity and growth.

The sophisticated risk analytics that BlackRock provides via its technology platform to support investment advisory and Aladdin clients are an important element 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. 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.

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.

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, 2018, BlackRock's net economic investment exposure of approximately $2.4 billion in its investments (see "Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations-Investments and Investments of Consolidated VIEs") 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.

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.

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, 2018 and subject to this type of indemnification was $201 billion. In the Company's capacity as lending agent, cash and securities totaling $214 billion was held as collateral for indemnified securities on loan at December 31, 2018. 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 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. These increased risks, as well as heightened security measures or changes in geopolitical policy in response thereto, may cause significant volatility and declines in the global markets, disruptions to commerce and reduced economic activity, as well as loss of life and property damage. Global unrest, international conflicts or acts of terror, as well as continued instability in the geopolitical environment, may adversely affect the global economy or capital markets and 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 investment returns on 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 $412 million, or 3%, of total revenue for the year ended December 31, 2018. 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 BlackRock's operational systems or infrastructure, including business continuity plans, could disrupt 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 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 or other catastrophic event 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 cause financial losses that 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, BlackRock's 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 actions by terrorist organizations and hostile foreign governments. 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, to strengthen its computer systems, processes, software, technology assets and networks to prevent and address potential data breaches, inadvertent disclosures, 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 are 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 and could lead to a loss of clients and could impede BlackRock's productivity and growth.

BlackRock relies on its ability to maintain a robust and secure technological framework to maximize the benefit of the Aladdin platform. 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 analytical calculations. The failure of these third parties to provide such data or information, or disruption of such information flows, could result in operational difficulties 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 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 new functionalities and expanding coverage into new markets and geographies, including to address client or regulatory requirements. Such updates and expansion have led to significant growth in Aladdin's processing scale, which 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 provide the operational resiliency and stability to support 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 indirectly 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.

BlackRock may be unable to develop new products and services and the development of new products and services may expose BlackRock to additional costs or operational risk.

BlackRock's financial performance depends, in part, on its ability to develop, market and manage new investment products and services. The development and introduction of new products and services require continued innovative efforts 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. A failure to successfully manage these risks may have an adverse impact on BlackRock's reputation or cause the Company's costs to fluctuate, which may cause its AUM, revenue and earnings to decline.

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 businesses and other small and medium-sized companies or divisions of companies. 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. Any failure to identify and mitigate these risks through due diligence and indemnification provisions could adversely impact BlackRock's reputation, may cause its AUM, revenue and earnings to decline, and may harm the Company's competitive position in the investment management industry. Moreover, there can be no assurance that BlackRock will be able to successfully integrate acquired businesses, retain associated talent or realize other intended benefits from inorganic transactions.

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.

Investments in real assets, including real estate, infrastructure and energy assets, 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, costly 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 cause BlackRock's AUM, revenue and earnings to decline.

BlackRock's investment management activities expose the products and accounts it manages 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 the products and accounts BlackRock manages to credit risk in the event the applicable counterparty defaults. Although BlackRock 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 otherwise fail to meet their obligations. Any such impairment or failure could negatively impact the performance of products or accounts managed by BlackRock, which could lead to the loss of clients and may 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, 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, which may expose BlackRock to significant costs and/or operational difficulties and impair its ability to conduct or grow its business. Moreover, 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. In addition, BlackRock may from time to time transfer key contracts from one vendor to another. For example, BlackRock is currently in the process of moving custody services on more than $1 trillion of client assets from State Street Corp. to JPMorgan Chase & Co., the migration of which is expected to be complete during the first half of 2019. 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, if it experiences an increase in distribution-related costs, 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 markers, 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 and the UK Bribery Act. 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 European Union ("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. In so doing, it 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, many of which are currently in an implementation period, will increase BlackRock's public reporting and disclosure requirements, which could be costly and may impede BlackRock's growth.
- SEC ETF Rule: In addition, in June 2018, the SEC issued a proposed rule under the Investment Company Act of 1940 (the "Investment Company Act") known as the "ETF Rule". The ETF Rule is intended to establish a clear and consistent framework that allows most ETFs operating under the Investment Company Act to come to market without applying for individual exemptive orders.
- SEC Standards of Conduct Proposal: In April 2018, the SEC published a package of proposed rules and a proposed interpretation (collectively, the "Proposals") intended to improve the retail investor experience and provide greater clarity regarding customers' relationships with broker-dealers and investment advisers. The Proposals would: (i) create a principles-based standard of conduct for broker-dealers and require broker-dealers to act in the "best interest" of retail customers; (ii) "clarify and reaffirm" investment advisers' fiduciary obligations under the Investment Advisers Act of 1940 (the "Advisers Act"); and (iii) create additional disclosure obligations for broker-dealers and investment advisers to help retail investors better understand relationships with investment professionals. The

SEC also proposed the introduction of an enhanced disclosure regime, in addition to certain new compliance obligations for investment advisers that currently apply only to broker-dealers. If adopted without change, the Proposals 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 educational and other services to its clients.

- 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%, 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. The FSOC's most recent statements generally indicate that it is focused on products and activities, rather than entity-specific designation, in its review of asset managers. The Treasury Report on asset management, issued in October 2017 pursuant to the Executive Order, also expressed this view. In addition, in November 2017, Treasury made recommendations concerning the process by which the FSOC designates nonbanks as SIFIs, further supporting a products and activities approach to addressing risks in asset management. 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: Following the June 2016 vote to exit the EU, the United Kingdom ("UK") served notice under Article 50 of the Treaty on European Union on March 29, 2017 to initiate the two-year long process of exiting from the EU, commonly referred to as "Brexit". There is substantial uncertainty surrounding the terms upon which the UK will ultimately exit the EU. As a result, the UK's relationship with the EU, as well as whether an agreement will be reached by the March 29, 2019 exit deadline, remains unclear. Moreover, the passage of time without a resolution in place has become a source of economic, political and regulatory instability. BlackRock is implementing a number of steps to prepare for various outcomes, including effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications.

These steps, many of which have been time-consuming and costly, are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the UK's exit from the EU, BlackRock may experience organizational and operational challenges and incur additional costs in connection with its European operations post-Brexit, which may impede the Company's growth or impact its financial performance.

- Reform of EU investment markets: The European Commission has revised the Directive governing the provision of investment services in Europe ("MiFID") and introduced 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 and introduce new commodity derivatives position limits. 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.
- Revised EU capital requirements: In December 2017, the European Commission published a proposal for a new Directive and Regulation on prudential requirements for MiFID investment firms. The new legislative package is expected to come into effect in 2020 once agreed by the European Council and Parliament. Once implemented, any new requirements could result in significant changes to the amount of regulatory capital that BlackRock is required to hold in the EU.
- EU market access: In September 2017, the European Commission issued a proposal requiring that all third-country outsourcing, delegation and risk transfer arrangements be assessed by the European Securities and Markets Authority ("ESMA"). If enacted, the proposal would transfer to ESMA the ability of EU Member States to authorize the outsourcing of asset management activities beyond the EU's borders. While the proposal remains under discussion, if enacted, it could significantly impact asset management firms with non-EU operations, including BlackRock, and it may affect the Company's ability to delegate fund management, supporting activity and/or costs associated with such delegation.

- EU money market fund reform: In June 2017, the European Commission published new Money Market Regulations (the "MM Regulations") which took effect in January 2019. The MM Regulations are intended to reduce perceived risks of EU-based money market products. The MM Regulations limit the use of constant net asset value money market funds to those holding only government money market instruments and introduce a new category of "low volatility net asset value" money market funds and two types of "variable net asset value funds". All categories of money market funds are subject to reinforced liquidity requirements, as well as safeguards such as liquidity fees and redemption gates. The MM Regulations require fundamental changes to many of the Company's money market funds offered in the EU and may reduce their attractiveness to investors.
- Senior Managers and Certification Regime: In the UK, the FCA is extending the Senior Managers and Certification Regime ("SMCR") to all financial services firms beginning 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 it will consider various remedies in 2019, including mandatory tendering of investment consultancy and fiduciary management services, and 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.
- Designation as a systemically important financial institution: The Financial Stability Board ("FSB") working with the International Organization of Securities Commissions ("IOSCO") is considering potential systemic risk related to asset management; statements made by these organizations have generally indicated that they are, at this time, focused on products and activities, rather than designation, in their approach to the review of asset managers. The FSB has indicated that it may develop criteria for designation of non-bank non-insurers in the future to address "residual risks". Any measures applied in relation to a global systemically important financial institution ("G-SIFI") designation from the FSB would need to be implemented through existing regulatory processes and procedures by relevant national authorities.

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"), Department of Labor, 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, 2018, 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 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 escalating 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. In the EU, there are indications that the European Commission's Directorate General for Competition may discuss common ownership. There is substantial literature highlighting the benefits of index investing, as well as casting doubt on the assumptions, 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 adversely affect BlackRock's business operations, reputation or financial condition.

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 authorities. On December 22, 2017, the Tax Cuts and Jobs Act (the "2017 Tax Act") was enacted. As proposed regulations and new guidance are released, the Company continues to assess the impact of tax reform.

In addition, certain EU Member States have enacted financial transaction taxes ("FTTs"), which impose taxation on a broad range of financial instrument and derivatives transactions, 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 on 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, 2018, 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 Boston, Chicago, Edinburgh, Mumbai (India), Gurgaon (India), Hong Kong, London, Melbourne (Australia), Mexico City, Munich, Princeton (New Jersey), San Francisco, Seattle, 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, state governmental and regulatory authorities and international regulatory authorities in connection with industry-wide or other investigations or proceedings. It is BlackRock’s policy to cooperate fully with such inquiries. The Company, 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 defendants believe the claims in the lawsuit are without merit. 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 have until March 11, 2019 to appeal.

On June 16, 2016, iShares Trust, BlackRock, Inc. and certain of its advisory subsidiaries, and the directors and certain officers of the iShares ETFs were named as defendants in a purported class action lawsuit filed in California state court. The lawsuit was filed by investors in certain iShares ETFs (the "ETFs"), and alleges the defendants violated the federal securities laws by failing to adequately disclose in prospectuses issued by the ETFs the risks to the ETFs’ shareholders in the event of a "flash crash." Plaintiffs seek unspecified monetary and rescission damages. The plaintiffs’ complaint was dismissed in December 2016 and on January 6, 2017, plaintiffs filed an amended complaint. On April 27, 2017, the court partially granted the defendants’ motion for judgment on the pleadings, dismissing certain of the plaintiffs’ claims. On September 18, 2017, the court issued a decision dismissing the remainder of the lawsuit after a one-day bench trial. On December 1, 2017, the plaintiffs appealed the dismissal of their lawsuit, which is pending. The defendants believe the claims in the 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 peer funds, focused disproportionately on active versus passive strategies, and were unduly concentrated in investment options managed by BlackRock. On October 18, 2017, the plaintiffs filed an Amended Complaint, which, among other things, added as defendants certain current and former members of the BlackRock Retirement and Investment Committees. The Amended Complaint also included a new purported class claim on behalf of investors in certain Collective Trust Funds (“CTFs”) managed by BTC. Specifically, the plaintiffs allege that BTC, as fiduciary to the CTFs, engaged in self-dealing by, most significantly, selecting itself as the securities lending agent on terms that plaintiffs claim were excessive. The Amended Complaint also alleged that BlackRock took undue risks in its management of securities lending cash reinvestment vehicles during the financial crisis. On August 23, 2018, the court granted permission to 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, which is pending. 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, 2019, there were 227 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 high and low reported sale prices, period-end closing prices for the common stock and dividends declared per share for the common stock as reported on the NYSE:

	Common Stock			Cash
	Price Ranges		Closing	Dividend
	High	Low	Price	Declared
2018				
First Quarter	$593.26	$508.97	$541.72	$ 2.88
Second Quarter	$551.86	$499.04	$499.04	$ 2.88
Third Quarter	$512.49	$468.98	$471.33	$ 3.13
Fourth Quarter	$477.21	$361.77	$392.82	$ 3.13
2017				
First Quarter	$397.81	$371.64	$383.51	$ 2.50
Second Quarter	$428.38	$377.10	$422.41	$ 2.50
Third Quarter	$447.09	$412.19	$447.09	$ 2.50
Fourth Quarter	$518.86	$449.95	$513.71	$ 2.50

BlackRock's closing common stock price as of February 27, 2019 was $442.01.

Dividends

On January 15, 2019, the Board of Directors approved BlackRock's quarterly dividend of $3.30 to be paid on March 21, 2019 to stockholders of record at the close of business on March 6, 2019.

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, 2018, the Company made the following purchases of its common stock, which is registered pursuant to Section 12(b) of the Exchange Act.

	Total	Average	Total Number of	Maximum

	Number of Shares Purchased(1)	Price Paid per Share	Shares Purchased as Part of Publicly Announced Plans or Programs	Number of Shares That May Yet Be Purchased Under the Plans or Programs(2)
October 1, 2018 through October 31, 2018	1,149,366	$399.42	1,143,527	3,021,309
November 1, 2018 through November 30, 2018	173,372	$415.01	165,739	2,855,570
December 1, 2018 through December 31, 2018	3,410	$399.11	—	2,855,570
Total	1,326,148	$401.46	1,309,266	

(1) Includes purchases made by the Company primarily to satisfy income tax withholding obligations of employees and members of the Company's Board of Directors related to the vesting of certain restricted stock or restricted stock unit awards and purchases made by the Company as part of the publicly announced share repurchase program.

(2) 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 remaining capacity of up to approximately 9.9 million shares of BlackRock common stock.

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 and 2014 reflect accounting guidance prior to the adoption of the new revenue recognition standard.

(in millions, except per share data)	2018	2017	2016	2015	2014
Income statement data:					
Revenue					
Related parties[1]	$8,412	$7,903	$7,010	$7,084	$6,994
Other third parties	5,786	5,697	5,251	4,317	4,087
Total revenue	14,198	13,600	12,261	11,401	11,081
Expense					
Restructuring charge	60	—	76	—	—
Other operating expenses	8,681	8,346	7,620	6,737	6,607
Total expense	8,741	8,346	7,696	6,737	6,607
Operating income	5,457	5,254	4,565	4,664	4,474
Total nonoperating income (expense)	(79)	5	(110)	(62)	(79)
Income before income taxes	5,378	5,259	4,455	4,602	4,395
Income tax expense[2]	1,076	270	1,289	1,250	1,131
Net income	4,302	4,989	3,166	3,352	3,264
Less: Net income (loss) attributable to noncontrolling interests	(3)	37	(2)	7	(30)
Net income attributable to BlackRock, Inc.	$4,305	$4,952	$3,168	$3,345	$3,294
Per share data:[3]					
Basic earnings	$26.86	$30.54	$19.27	$20.10	$19.58
Diluted earnings	$26.58	$30.12	$19.02	$19.79	$19.25
Book value[4]	$204.23	$197.45	$178.32	$172.12	$164.06
Cash dividends declared and paid per share	$12.02	$10.00	$9.16	$8.72	$7.72

(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 18, 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 (the "2017 Tax Act"). See Note 23, Income Taxes, to the consolidated financial statements for more information. Income tax expense for 2018 reflected a reduced tax rate associated with the 2017 Tax Act.

(3) Participating preferred stock is considered to be a common stock equivalent for purposes of earnings per share calculations.

(4) Book value amounts for 2018, 2017, 2016, and 2015 reflect Total BlackRock stockholders' equity divided by total common and preferred shares outstanding at December 31 of the respective year-end. Book value amount for 2014 reflects Total BlackRock stockholders' equity, excluding appropriated retained deficit of $19 million for 2014 divided by total common and preferred shares outstanding at December 31, 2014.

	December 31,				
(in millions)	2018	2017	2016	2015	2014
Balance sheet data:					
Cash and cash equivalents	$6,302	$6,894	$6,091	$6,083	$5,723
Goodwill and intangible assets, net	31,365	30,609	30,481	30,495	30,305
Total assets(1)	159,573	220,241	220,198	225,261	239,792
Less:					
Separate account assets(2)	90,285	149,937	149,089	150,851	161,287
Collateral held under securities lending agreements(2)	20,655	24,190	27,792	31,336	33,654
Consolidated sponsored investment products(3)	2,209	580	375	678	3,787
Adjusted total assets	$46,424	$45,534	$42,942	$42,396	$41,064
Borrowings	4,979	5,014	4,915	4,930	4,922
Total BlackRock, Inc. stockholders' equity	$32,374	$31,798	$29,088	$28,503	$27,366
Assets under management:					
Equity:					
Active	$258,205	$311,209	$275,033	$281,319	$292,802
iShares ETFs	1,274,262	1,329,610	951,252	823,156	790,067
Non-ETF index	1,503,358	1,730,822	1,430,891	1,319,297	1,368,242
Equity subtotal	3,035,825	3,371,641	2,657,176	2,423,772	2,451,111
Fixed income:					
Active	795,985	815,135	749,996	719,653	701,324
iShares ETFs	427,596	395,252	314,707	254,190	217,671
Non-ETF index	660,836	645,078	507,662	448,525	474,658
Fixed income subtotal	1,884,417	1,855,465	1,572,365	1,422,368	1,393,653
Multi-asset	461,884	480,278	395,007	376,336	377,837
Alternatives:					
Core	111,545	98,533	88,630	92,085	88,006
Currency and commodities(4)	31,813	30,814	28,308	20,754	23,234
Alternatives subtotal	143,358	129,347	116,938	112,839	111,240
Long-term	5,525,484	5,836,731	4,741,486	4,335,315	4,333,841
Cash management	448,565	449,949	403,584	299,884	296,353
Advisory(5)	1,769	1,515	2,782	10,213	21,701
Total	$5,975,818	$6,288,195	$5,147,852	$4,645,412	$4,651,895

(1) 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.
(2) Equal and offsetting amounts, related to separate account assets and collateral held under securities lending agreements, are recorded in liabilities.
(3) Amounts include assets held by consolidated sponsored investment products. During 2015, the Company adopted new accounting guidance on consolidations effective January 1, 2015 using the modified retrospective method. As a result of the adoption, the Company's balance sheet at December 31, 2015 reflects the deconsolidation of the Company's previously consolidated collateralized loan obligations.
(4) Amounts include commodity iShares ETFs.

(5) 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,” “esti “assume,” “outlook,” “continue,” “remain,” “maintain,” “sustain,” “seek,” “achieve,” and similar expressions, or future or conc verbs such as “will,” “would,” “should,” “could,” “may” and similar expressions.

BlackRock cautions that forward-looking statements are subject to numerous assumptions, risks and uncertainties, which change over time. Forward-looking statements speak only as of the date they are made, and BlackRock assumes no duty to and does not undertake to update forward-looking statements. Actual results could differ materially from those anticipated in forward-looking statements and future results could differ materially from historical performance.

BlackRock has previously disclosed risk factors in its Securities and Exchange Commission (“SEC”) reports. These risk factors and those identified elsewhere in this report, among others, could cause actual results to differ materially from forward-looking statements or historical performance and include: (1) the introduction, withdrawal, success and timing of business initiatives and strategies; (2) changes and volatility in political, economic or industry conditions, the interest rate environment, foreign exchange rates or financial and capital markets, which could result in changes in demand for products or services or in the value of assets under management (“AUM”); (3) the relative and absolute investment performance of BlackRock’s investment products; (4) the impact of increased competition; (5) the impact of future acquisitions or divestitures; (6) the unfavorable resolution of legal proceedings; (7) the extent and timing of any share repurchases; (8) the impact, extent and timing of technological changes and the adequacy of intellectual property, information and cyber security protection; (9) the potential for human error in connection with BlackRock’s operational systems; (10) the impact of legislative and regulatory actions and reforms and regulatory, supervisory or enforcement actions of government agencies relating to BlackRock or The PNC Financial Services Group, Inc. (“PNC”); (11) changes in law and policy and uncertainty pending any such changes; (12) terrorist activities, international hostilities and natural disasters, which may adversely affect the general economy, domestic and local financial and capital markets, specific industries or BlackRock; (13) the ability to attract and retain highly talented professionals; (14) fluctuations in the carrying value of BlackRock’s economic investments; (15) the impact of changes to tax legislation, including income, payroll and transaction taxes, and taxation on products or transactions, which could affect the value proposition to clients and, generally, the tax position of the Company; (16) BlackRock’s success in negotiating distribution arrangements and maintaining distribution channels for its products; (17) the failure by a key vendor of BlackRock to fulfill its obligations to the Company; (18) any disruption to the operations of third parties whose functions are integral to BlackRock’s exchange-traded funds (“ETF”) platform; (19) the impact of BlackRock electing to provide support to its products from time to time and any potential liabilities related to securities lending or other indemnification obligations; and (20) the impact of problems at other financial institutions or the failure or negative performance of products at other financial institutions.

Overview

BlackRock, Inc. (together, with its subsidiaries, unless the context otherwise indicates, “BlackRock” or the “Company”) is a leading publicly traded investment management firm with $5.98 trillion of AUM at December 31, 2018. With approximately 14,900 employees in more than 30 countries, BlackRock provides a broad range of investment and technology services to institutional and retail clients worldwide.

For further information see Business, in Part I, Item 1 and Note 1, Introduction and Basis of Presentation, in the notes to the consolidated financial statements contained in Part II, Item 8.

The Company adopted Accounting Standards Update ("ASU") 2014-09, Revenue from Contracts with Customers ("ASU 2014-09") effective January 1, 2018 on a full retrospective basis. Accordingly, financial results for 2017 and 2016 were recast to reflect the adoption of the revenue recognition standard. For further information, refer to Note 2, Significant Accounting Policies, in the notes to the consolidated financial statements contained in Part II, Item 8.

Certain prior period presentations and disclosures, while not required to be recast, were reclassified to ensure comparability with current period classifications. Beginning with the second quarter of 2018, the Company changed the title "Technology and risk management revenue" to "Technology services revenue" on the consolidated statements of income. Prior period amounts have not changed.

United Kingdom Exit from European Union

Following the June 2016 vote to exit the EU, the United Kingdom ("UK") served notice under Article 50 of the Treaty on European Union on March 29, 2017 to initiate the two-year long process of exiting from the EU, commonly referred to as "Brexit". There is substantial uncertainty surrounding the terms upon which the UK will ultimately exit the EU. As a result, the UK's relationship with the EU, as well as whether an agreement will be reached by the March 29, 2019 exit deadline, remains unclear. Moreover, the passage of time without a resolution in place has become a source of economic, political and regulatory instability. BlackRock is implementing a number of steps to prepare for various outcomes, including effecting organizational, governance and operational changes, applying for and receiving licenses and permissions in the EU, and engaging in client communications. These steps, many of which have been time-consuming and costly, are expected to add complexity to BlackRock's European operations. In addition, depending on the terms of the UK's exit from the EU, BlackRock may experience organizational and operational challenges and incur additional costs in connection with its European operations post-Brexit, which may impede the Company's growth or impact its financial performance.

Acquisitions

In August 2018, the Company completed the acquisition of Tennenbaum Capital Partners, LLC ("TCP Transaction"), a leading manager focused on middle market performing credit and special situation credit opportunities. The Company believes the acquisition will enhance its ability to provide clients with private credit solutions across a range of risk level, liquidity and geography. Total cash consideration paid at closing was approximately $393 million.

In September 2018, the Company completed the acquisition of the asset management business of Citibanamex, a subsidiary of Citigroup Inc. (“Citibanamex Transaction”). The Company acquired AUM across local fixed income, equity and multi-asset products, enabling the Company to offer a full range of local and international investment solutions for clients in Mexico. Total consideration at closing was approximately $360 million, including estimated contingent consideration.

Divestitures

In August 2018, the Company completed the sale of its minority interest in DSP BlackRock Investment Managers Pvt. Ltd. to The DSP Group (“DSP Transaction”). The Company had a 40% stake in the joint venture, which managed and marketed a range of co-branded mutual funds in India. The Company recorded a $40 million pre-tax nonoperating gain in connection with the DSP Transaction.

In July 2018, the Company completed the Part VII transfer of the underlying assets and liabilities of its UK Defined Contribution Administration and Platform business to Aegon N.V. (“Aegon Transaction”). The Company continues to be the primary investment manager for the clients who transferred to Aegon in connection with the transaction. This transaction was not material to the Company’s consolidated statements of financial condition or results of operations.

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 $3.0 trillion of equity assets across markets globally. Significant global equity market declines in the fourth quarter of 2018, which reduced BlackRock’s AUM by approximately $466 billion over that period, negatively impacted BlackRock’s base fee run-rate entering 2019. In addition, challenged market performance in direct hedge funds and hedge fund solutions in 2018 may also impact performance fees for 2019, as certain quarterly- and annual-locking funds are below high-water marks entering the year.

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, Financial Instruments and Precision Exposures, and Fixed Income, Smart Beta & Sustainable ETFs.

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.

Institutional client behavior was impacted by global market uncertainty in 2018, with many choosing to de-risk from equities. BlackRock's institutional results will be driven by enhancing BlackRock's solutions-oriented approach; deepening client relationships through product diversification and higher value-add capabilities, including illiquid alternatives; and leveraging Aladdin's analytical and risk management expertise.

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.

Executive Summary

(in millions, except shares and per share data)	2018	2017[1]	2016[1]
GAAP basis:			
Total revenue	$14,198	$13,600	$12,261
Total expense	8,741	8,346	7,696
Operating income	$5,457	$5,254	$4,565
Operating margin	38.4%	38.6%	37.2%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	(76)	(32)	(108)
Income tax expense	(1,076)	(270)	(1,289)
Net income attributable to BlackRock	$4,305	$4,952	$3,168
Diluted earnings per common share	$26.58	$30.12	$19.02
Effective tax rate	20.0%	5.2%	28.9%
As adjusted[2]:			
Operating income	$5,531	$5,269	$4,669
Operating margin	44.3%	44.1%	43.8%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	(76)	(32)	(108)
Net income attributable to BlackRock	$4,361	$3,698	$3,210
Diluted earnings per common share	$26.93	$22.49	$19.27
Effective tax rate	20.0%	29.4%	29.6%
Other:			
Assets under management (end of period)	$5,975,818	$6,288,195	$5,147,852
Diluted weighted-average common shares outstanding[3]	161,948,732	164,415,035	166,579,752
Common and preferred shares outstanding (end of period)	158,520,147	161,046,825	163,121,291
Book value per share[4]	$204.23	$197.45	$178.32
Cash dividends declared and paid per share	$12.02	$10.00	$9.16

(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 notes to the consolidated financial statements contained in Part II, Item 8.
(2) As adjusted items are described in more detail in Non-GAAP Financial Measures.
(3) Nonvoting participating preferred shares are considered to be common stock equivalents for purposes of determining basic and diluted earnings per share calculations.
(4) Total BlackRock stockholders' equity, divided by total common and preferred shares outstanding at December 31 of the respective year-end.

2018 Compared with 2017

GAAP. Operating income of $5,457 million increased $203 million from 2017. Operating income growth primarily reflected higher base fees and technology services revenue, partially offset by lower performance fees, higher compensation and benefits, higher general and administration expense, and higher volume-related expense. Operating income for 2018 also included a restructuring charge of $60 million recorded in the fourth quarter of 2018 from an initiative to modify the size and shape of the workforce. Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests ("NCI"), decreased $44 million from 2017 driven by lower net gains on investments, partially offset by higher interest and dividend income during 2018. Nonoperating results for 2018 included a $40 million pre-tax gain related to the DSP Transaction and a $10 million noncash pre-tax gain related to the revaluation of another strategic investment.

Income tax expense for 2018 reflected a reduced tax rate associated with The 2017 Tax Cuts and Jobs Act (the "2017 Tax Act") and included $145 million of discrete tax benefits, primarily related to changes in the Company's organizational entity structure and stock-based compensation awards that vested in 2018. Income tax expense for 2017 included $1.2 billion of net tax benefit related to the 2017 Tax Act and $173 million of discrete tax benefits, primarily related to stock-based compensation awards. See Income Tax Expense within Discussion of Financial Results for more information.

Diluted earnings per common share decreased $3.54, or 12%, compared with 2017, reflecting a lower tax rate in 2017 due to the net tax benefit from the 2017 Tax Act and lower nonoperating income in 2018, partially offset by higher operating income in 2018 and the benefit of share repurchases.

As Adjusted. Operating income of $5,531 million increased $262 million and operating margin of 44.3% increased 20 bps from 2017. The pre-tax restructuring charge of $60 million described above has been excluded from as adjusted results. On an as adjusted basis, income tax expense for 2017 excludes the previously described $1.2 billion of net noncash tax benefit related to the 2017 Tax Act and income tax expense for 2018 and 2017 excludes a $3 million net noncash benefit and a $16 million net noncash expense, respectively, associated with the revaluation of certain deferred income tax liabilities. Diluted earnings per common share increased $4.44, or 20%, from 2017, reflecting higher operating income, the impact of a lower effective tax rate in 2018 and the benefit of share repurchases, partially offset by lower nonoperating income in 2018.

2017 Compared with 2016

GAAP. Operating income of $5,254 million increased $689 million and operating margin of 38.6% increased 140 bps from 2016. Operating income and operating margin growth primarily reflected higher base fees, performance fees, and technology services revenue, partially offset by higher compensation and benefits, higher volume-related expense, and higher general and administration expense. Operating income for 2017 also included approximately $22 million of expense associated with the strategic repositioning of the active equity platform. Operating income for 2016 included a restructuring charge of $76 million in connection with a project to streamline and simplify the organization. Nonoperating income (expense), less net income (loss) attributable to NCI, increased $76 million from 2016 driven by higher net gains on investments.

Income tax expense for 2017 included the previously mentioned $1.2 billion net tax benefit related to the 2017 Tax Act, $173 million of discrete tax benefits, primarily related to stock-based compensation awards, including a $151 million discrete tax benefit reflecting the adoption of new stock-based compensation accounting guidance, and the previously described noncash tax expense of $16 million. Income tax expense for 2016 included a $30 million net noncash benefit associated with the revaluation of certain deferred income tax liabilities, including the effect of tax legislation enacted in the United Kingdom, and state and local income tax changes. Income tax expense for 2016 also included nonrecurring tax benefits of $65 million. See Income Tax Expense within Discussion of Financial Results for more information.

Diluted earnings per common share increased $11.10, or 58%, compared with 2016, reflecting the net tax benefit from the 2017 Tax Act, higher operating income and the benefit of share repurchases.

As Adjusted. Operating income of $5,269 million increased $600 million and operating margin of 44.1% increased 30 bps from 2016. The pre-tax restructuring charge of $76 million described above has been excluded from as adjusted results for 2016. On as adjusted basis, income tax expense for 2017 excludes $1,758 million noncash tax benefit and $477 million deemed repatriation tax expense related to the 2017 Tax Act, and the previously described noncash expense of $16 million and income tax expense for 2016 excludes the previously mentioned net noncash benefit of $30 million. Diluted earnings per common share increased $3.22, or 17%, from 2016.

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.

(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 %

(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 notes to the consolidated financial statements contained in Part II, Item 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.
- Operating income used for measuring operating margin, as adjusted, is equal to operating income, as adjusted, excluding the impact of product launch costs (e.g. closed-end fund launch costs) and related commissions. Management believes the exclusion of such costs and related commissions is useful because these costs can fluctuate considerably, and revenue associated with the expenditure of these costs will not fully impact BlackRock's results until future periods.

Revenue used for operating margin, as adjusted, excludes distribution and servicing costs paid to third parties. Management believes such costs represent a benchmark for the amount of revenue passed through to external parties who distribute the Company's products. BlackRock excludes from revenue used for operating margin, as adjusted, the costs related to distribution and servicing costs as a proxy for such offsetting revenue.

(2) Net income attributable to BlackRock, Inc., as adjusted:

(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 (3)	161.9	164.4	166.6
Diluted earnings per common share, GAAP basis (3)	$26.58	$30.12	$19.02
Diluted earnings per common share, as adjusted (3)	$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 notes to the consolidated financial statements contained in Part II, Item 8.

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.

(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)	2018	2017	2016	2018	2017	2016
Retail	$610,850	$628,377	$541,952	$19,079	$29,892	$(11,324)
iShares ETFs	1,731,425	1,752,239	1,287,879	167,535	245,342	140,479
Institutional:						
Active	1,079,979	1,139,308	1,009,974	(9,583)	5,922	17,918
Index	2,103,230	2,316,807	1,901,681	(53,704)	49,084	33,491
Institutional subtotal	3,183,209	3,456,115	2,911,655	(63,287)	55,006	51,409
Long-term	5,525,484	5,836,731	4,741,486	123,327	330,240	180,564
Cash management	448,565	449,949	403,584	(21)	38,259	29,228
Advisory(1)	1,769	1,515	2,782	323	(1,245)	(7,601)
Total	$5,975,818	$6,288,195	$5,147,852	$123,629	$367,254	$202,191

AUM and Net Inflows (Outflows) by Investment Style and Product Type

	AUM			Net inflows (outflows)		
(in millions)	2018	2017	2016	2018	2017	2016
Active	$1,617,780	$1,696,005	$1,501,052	$8	$24,449	$(774)
Index and iShares ETFs	3,907,704	4,140,726	3,240,434	123,319	305,791	181,338
Long-term	5,525,484	5,836,731	4,741,486	123,327	330,240	180,564
Cash management	448,565	449,949	403,584	(21)	38,259	29,228
Advisory(1)	1,769	1,515	2,782	323	(1,245)	(7,601)
Total	$5,975,818	$6,288,195	$5,147,852	$123,629	$367,254	$202,191

AUM and Net Inflows (Outflows) by Product Type

	AUM			Net inflows (outflows)		
(in millions)	2018	2017	2016	2018	2017	2016
Equity	$3,035,825	$3,371,641	$2,657,176	$15,167	$130,146	$51,424
Fixed income	1,884,417	1,855,465	1,572,365	79,110	178,787	119,955
Multi-asset	461,884	480,278	395,007	16,913	20,330	4,227
Alternatives:						
Core	111,545	98,533	88,630	9,590	780	(1,165)
Currency and commodities(2)	31,813	30,814	28,308	2,547	197	6,123
Alternatives subtotal	143,358	129,347	116,938	12,137	977	4,958
Long-term	5,525,484	5,836,731	4,741,486	123,327	330,240	180,564
Cash management	448,565	449,949	403,584	(21)	38,259	29,228
Advisory(1)	1,769	1,515	2,782	323	(1,245)	(7,601)
Total	$5,975,818	$6,288,195	$5,147,852	$123,629	$367,254	$202,191

(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 2018, 2017 and 2016.

(in millions)	2018	2017	2016
Beginning AUM	$6,288,195	$5,147,852	$4,645,412
Net inflows (outflows)			
Long-term	123,327	330,240	180,564
Cash management	(21)	38,259	29,228
Advisory[1]	323	(1,245)	(7,601)
Total net inflows (outflows)	123,629	367,254	202,191
Acquisitions and dispositions[2]	27,500	3,264	80,635
Market change	(384,136)	628,901	326,364
FX impact[3]	(79,370)	140,924	(106,750)
Total change	(312,377)	1,140,343	502,440
Ending AUM	$5,975,818	$6,288,195	$5,147,852

(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 TCP Transaction and the Citibanamex Transaction, respectively. In addition, amounts include $18.6 billion and $2.3 billion of AUM reclassifications and net dispositions, respectively, related to the Aegon Transaction and $1.2 billion of net AUM dispositions related to the DSP Transaction. Amount for 2017 represents $3.3 billion of AUM acquired in the First Reserve Infrastructure business transaction ("First Reserve Transaction"). Amount for 2016 represents $80.6 billion of AUM acquired in the BofA Global Capital Management 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 2018

The following table presents the 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) Amounts included 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 iShares ETFs:							
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
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 & iShares 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:							

Core	98,533	9,590	4,995	(29)	(1,544)	111,545	104,652
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) Amounts included 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 inflows, 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 the Euro.

For further discussion on AUM, see “Part I, Item 1 – Business – Assets Under Management”.

Component Changes in AUM for 2017

The following table presents component changes in AUM by client type and product type for 2017.

(in millions)	December 31, 2016	Net inflows (outflows)	Acquisition[1]	Market change	FX impact[2]	December 31, 2017	Full year average AUM[3]
Retail:							
Equity	$196,221	$4,145	$ —	$26,598	$6,254	$233,218	$216,545
Fixed income	222,256	24,503	—	6,655	4,157	257,571	240,251
Multi-asset	107,997	1,143	—	10,687	1,028	120,855	114,485
Alternatives	15,478	101	—	708	446	16,733	16,541
Retail subtotal	541,952	29,892	—	44,648	11,885	628,377	587,822
iShares ETFs:							
Equity	951,252	174,377	—	189,472	14,509	1,329,610	1,143,351
Fixed income	314,707	67,451	—	4,497	8,597	395,252	361,171
Multi-asset	3,149	322	—	280	10	3,761	3,262
Alternatives	18,771	3,192	—	1,478	175	23,616	21,071
iShares ETFs subtotal	1,287,879	245,342	—	195,727	23,291	1,752,239	1,528,855
Institutional:							
Active:							
Equity	120,699	(13,594)	—	25,681	4,399	137,185	128,133
Fixed income	536,727	(654)	—	22,537	11,440	570,050	554,549
Multi-asset	276,933	19,604	—	37,166	14,122	347,825	310,561
Alternatives	75,615	566	3,264	2,771	2,032	84,248	80,821
Active subtotal	1,009,974	5,922	3,264	88,155	31,993	1,139,308	1,074,064
Index:							
Equity	1,389,004	(34,782)	—	283,684	33,722	1,671,628	1,537,730
Fixed income	498,675	87,487	—	13,932	32,498	632,592	557,465
Multi-asset	6,928	(739)	—	1,427	221	7,837	7,595
Alternatives	7,074	(2,882)	—	294	264	4,750	6,911
Index subtotal	1,901,681	49,084	—	299,337	66,705	2,316,807	2,109,701
Institutional subtotal	2,911,655	55,006	3,264	387,492	98,698	3,456,115	3,183,765
Long-term	4,741,486	330,240	3,264	627,867	133,874	5,836,731	5,300,442
Cash management	403,584	38,259	—	1,239	6,867	449,949	414,835
Advisory[4]	2,782	(1,245)	—	(205)	183	1,515	2,508
Total	$5,147,852	$367,254	$ 3,264	$628,901	$140,924	$6,288,195	$5,717,785

(1) Amount represents AUM acquired in the First Reserve 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.

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The following table presents component changes in AUM by investment style and product type for 2017.

(in millions)	December 31, 2016	Net inflows (outflows)	Acquisition(1)	Market change	FX impact(2)	December 31, 2017	Full year average AUM(3)
Active:							
Equity	$275,033	$(18,506)	$ —	$46,134	$8,548	$311,209	$293,278
Fixed income	749,996	21,541	—	28,800	14,798	815,135	783,345
Multi-asset	384,930	20,747	—	47,853	15,149	468,679	425,045
Alternatives	91,093	667	3,264	3,479	2,479	100,982	97,361
Active subtotal	1,501,052	24,449	3,264	126,266	40,974	1,696,005	1,599,029
Index and iShares ETFs:							
iShares ETFs:							
Equity	951,252	174,377	—	189,472	14,509	1,329,610	1,143,351
Fixed income	314,707	67,451	—	4,497	8,597	395,252	361,171
Multi-asset	3,149	322	—	280	10	3,761	3,262
Alternatives	18,771	3,192	—	1,478	175	23,616	21,071
iShares ETFs subtotal	1,287,879	245,342	—	195,727	23,291	1,752,239	1,528,855
Non-ETF Index:							
Equity	1,430,891	(25,725)	—	289,829	35,827	1,730,822	1,589,130
Fixed income	507,662	89,795	—	14,324	33,297	645,078	568,920
Multi-asset	6,928	(739)	—	1,427	222	7,838	7,596
Alternatives	7,074	(2,882)	—	294	263	4,749	6,912
Non-ETF Index subtotal	1,952,555	60,449	—	305,874	69,609	2,388,487	2,172,558
Index & iShares ETFs subtotal	3,240,434	305,791	—	501,601	92,900	4,140,726	3,701,413
Long-term	4,741,486	330,240	3,264	627,867	133,874	5,836,731	5,300,442
Cash management	403,584	38,259	—	1,239	6,867	449,949	414,835
Advisory(4)	2,782	(1,245)	—	(205)	183	1,515	2,508
Total	$5,147,852	$367,254	$ 3,264	$628,901	$140,924	$6,288,195	$5,717,785

The following table presents component changes in AUM by product type for 2017.

(in millions)	December 31, 2016	Net inflows (outflows)	Acquisition(1)	Market change	FX impact(2)	December 31, 2017	Full year average AUM(3)
Equity	$2,657,176	$130,146	$ —	$525,435	$58,884	$3,371,641	$3,025,759
Fixed income	1,572,365	178,787	—	47,621	56,692	1,855,465	1,713,436
Multi-asset	395,007	20,330	—	49,560	15,381	480,278	435,903
Alternatives:							

Core	88,630	780	3,264	3,438	2,421	98,533	94,976
Currency and commodities[5]	28,308	197	—	1,813	496	30,814	30,368
Alternatives subtotal	116,938	977	3,264	5,251	2,917	129,347	125,344
Long-term	4,741,486	330,240	3,264	627,867	133,874	5,836,731	5,300,442
Cash management	403,584	38,259	—	1,239	6,867	449,949	414,835
Advisory[4]	2,782	(1,245)	—	(205)	183	1,515	2,508
Total	$5,147,852	$367,254	$ 3,264	$628,901	$140,924	$6,288,195	$5,717,785

(1) Amount represents AUM acquired in the First Reserve 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 increased $1.1 trillion to $6.29 trillion at December 31, 2017 from $5.15 trillion at December 31, 2016 driven by net market appreciation, positive net inflows, the impact of foreign exchange movements and AUM acquired in the First Reserve Transaction.

Net market appreciation of $628.9 billion was primarily driven by higher US and global equity markets.

AUM increased $140.9 billion due to the impact of foreign exchange movements, primarily resulting from the weakening of the US dollar against the Euro and the British pound.

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 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 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.

The Company records distribution and servicing costs for distributing the Company's products and for providing other support services to investment portfolios. The costs are based on net asset values and are recognized when the amount of costs 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 are recorded on a trade-date basis as securities transactions occur.

The Company also earns revenue related to certain strategic 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 made to third parties, primarily associated with obtaining and retaining client investments in certain Company products.
- Direct fund expense primarily consists of third-party nonadvisory expense 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 expense 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 (gains) losses were $16 million, $5 million and $(6) million for 2018, 2017 and 2016, 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 (excluding available-for-sale investments) and earnings on equity method investments as well as interest and dividend income and interest expense. Other comprehensive income includes changes in valuations related to available-for-sale investments. 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 revenue for 2018, 2017 and 2016.

(in millions)	2018	2017 (1)	2016 (1)
Investment advisory, administration fees and securities lending revenue:			
Equity:			
Active	$1,654	$1,654	$1,584
iShares ETFs	3,549	3,220	2,651
Non-ETF index	685	680	665
Equity subtotal	5,888	5,554	4,900
Fixed income:			
Active	1,840	1,717	1,647
iShares ETFs	825	808	696
Non-ETF index	387	344	297
Fixed income subtotal	3,052	2,869	2,640
Multi-asset	1,176	1,157	1,140
Alternatives:			
Core	732	639	633
Currency and commodities (2)	98	91	83
Alternatives subtotal	830	730	716
Long-term	10,946	10,310	9,396
Cash management	607	558	452
Total base fees	11,553	10,868	9,848
Investment advisory performance fees:			
Equity	91	152	102
Fixed income	8	34	13
Multi-asset	19	33	19
Alternatives	294	375	161
Total performance fees	412	594	295
Technology services revenue	785	657	588
Distribution fees:			
Retrocessions	709	675	623
12b-1 fees (US mutual funds distribution fees)	406	466	508
Other	40	42	67
Total distribution fees	1,155	1,183	1,198
Advisory and other revenue:			
Advisory	113	128	119
Other	180	170	213
Total advisory and other revenue	293	298	332
Total revenue	$14,198	$13,600	$12,261

(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 notes to the consolidated financial statements contained in Part II, Item 8.
(2) Amount include commodity iShares ETFs.

The table below lists the asset type mix of investment advisory, administration fees and securities lending revenue (collectively "base fees") and mix of average AUM by product type:

	Mix of Base Fees			Mix of Average AUM by Asset Class(2)		
	2018	2017 (1)	2016 (1)	2018	2017	2016
Equity:						
Active	14 %	15 %	16 %	5 %	5 %	6 %
iShares ETFs	31 %	30 %	27 %	22 %	20 %	17 %
Non-ETF index	6 %	6 %	7 %	26 %	28 %	27 %
Equity subtotal	51 %	51 %	50 %	53 %	53 %	50 %
Fixed income:						
Active	17 %	16 %	16 %	13 %	13 %	16 %
iShares ETFs	7 %	7 %	7 %	6 %	6 %	6 %
Non-ETF index	3 %	3 %	3 %	10 %	10 %	10 %
Fixed income subtotal	27 %	26 %	26 %	29 %	29 %	32 %
Multi-asset	10 %	11 %	12 %	8 %	8 %	8 %
Alternatives:						
Core	6 %	6 %	6 %	2 %	2 %	2 %
Currency and commodities (3)	1 %	1 %	1 %	1 %	1 %	1 %
Alternatives subtotal	7 %	7 %	7 %	3 %	3 %	3 %
Long-term	95 %	95 %	95 %	93 %	93 %	93 %
Cash management	5 %	5 %	5 %	7 %	7 %	7 %
Total excluding Advisory AUM	100 %	100 %	100 %	100 %	100 %	100 %

(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 notes to the consolidated financial statements contained in Part II, Item 8.
(2) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.
(3) Amount include commodity iShares ETFs.

2018 Compared with 2017

Revenue increased $598 million, or 4%, from 2017, driven by growth in base fees and technology services revenue, partially offset by lower performance fees.

Investment advisory, administration fees and securities lending revenue of $11,553 million in 2018 increased $685 million from $10,868 million in 2017 reflecting the impact of organic growth and AUM acquired in the TCP and Citibanamex transactions on average AUM, partially offset by lower markets and previously announced pricing changes to select investment products. Securities lending revenue of $627 million in 2018 compared with $597 million in 2017.

Investment advisory performance fees were $412 million in 2018 compared with $594 million in 2017, primarily reflecting lower revenue from liquid alternative and long-only products.

Technology services revenue of $785 million for 2018 increased $128 million from $657 million in 2017 reflecting higher revenue for institutional Aladdin, Aladdin Wealth and digital wealth and distribution technologies.

2017 Compared with 2016

Revenue increased $1,339 million, or 11%, from 2016, driven by growth in base fees, performance fees, and technology services revenue.

Investment advisory, administration fees and securities lending revenue of $10,868 million in 2017 increased $1,020 million from $9,848 million in 2016 reflecting the impact of higher markets and organic growth on average AUM, and the effect of AUM acquired in the BofA Global Capital Management transaction, partially offset by pricing changes to select investment products. Securities lending revenue of $597 million in 2017 compared with $579 million in 2016.

Investment advisory performance fees were $594 million in 2017 compared with $295 million in 2016. The increase primarily reflected improved performance in hedge fund and long-only equity products.

Technology services revenue of $657 million for 2017 increased $69 million from $588 million in 2016 reflecting ongoing demand for Aladdin.

Advisory and other revenue of $298 million decreased $34 million from $332 million in 2016, reflecting lower earnings from a strategic minority investment and lower fees for distributing certain exchange-traded products.

Expense

The following table presents expense for 2018, 2017 and 2016.

(in millions)	2018	2017 (1)	2016 (1)
Expense, GAAP:			
Employee compensation and benefits	$4,320	$4,253	$3,878
Distribution and servicing costs:			
Retrocessions	709	675	623
12b-1 costs	399	455	499
Other	567	533	486
Total distribution and servicing costs	1,675	1,663	1,608
Direct fund expense	998	895	757
General and administration:			
Marketing and promotional	361	333	325
Occupancy and office related	293	275	272
Portfolio services	271	251	211
Technology	234	203	175
Professional services	158	142	114
Communications	37	34	38
Foreign exchange remeasurement	16	5	(6)
Contingent consideration fair value adjustments	65	8	(2)
Product launch costs	12	4	—
Other general and administration	191	191	151
Total general and administration expense	1,638	1,446	1,278
Restructuring charge	60	—	76
Amortization of intangible assets	50	89	99
Total expense, GAAP	$8,741	$8,346	$7,696
Less non-GAAP expense adjustments (2):			
Employee compensation and benefits:			
PNC LTIP funding obligation	$14	$15	$28
Restructuring charge	60	—	76
Total non-GAAP expense adjustments	74	15	104
Expense, as adjusted:			
Employee compensation and benefits	$4,306	$4,238	$3,850
Distribution and servicing costs	1,675	1,663	1,608
Direct fund expense	998	895	757
General and administration	1,638	1,446	1,278
Amortization of intangible assets	50	89	99
Total expense, as adjusted	$8,667	$8,331	$7,592

(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 notes to the consolidated financial statements contained in Part II, Item 8.
(2) See Non-GAAP Financial Measures for further information on non-GAAP expense adjustments.

2018 Compared with 2017

GAAP. Expense increased $395 million, or 5%, from 2017, driven primarily by higher general and administration expense, higher volume-related expense, a restructuring charge recorded in 2018, and higher employee compensation and benefits expense, partially offset by lower amortization of intangible assets.

Employee compensation and benefits expense increased $67 million, or 2%, to $4,320 million in 2018 from $4,253 million in 2017, primarily reflecting higher headcount and higher operating income, partially offset by lower incentive compensation primarily driven by lower performance fees. Employees at December 31, 2018 totaled approximately 14,900 compared with approximately 13,900 at December 31, 2017.

Direct fund expense increased $103 million from 2017, reflecting higher iShares ETFs average AUM.

General and administration expense increased $192 million from 2018, reflecting higher technology expense, higher marketing and promotional expense and higher portfolio services expense. The increase included the impact of contingent consideration fair value adjustments, higher professional fees (associated with strategic transactions, tax reform and Brexit), product launch costs and foreign exchange remeasurement expense.

Restructuring expense of $60 million, primarily comprised of severance and accelerated amortization expense of previously granted deferred compensation awards, was recorded in 2018 in connection with an initiative to modify the size and shape of the workforce.

Amortization of intangible assets expense decreased $39 million, or 44%, to $50 million in 2018, primarily reflecting certain finite-lived intangible assets becoming fully amortized.

As Adjusted. Expense, as adjusted, increased $336 million, or 4%, to $8,667 million in 2018 from $8,331 million in 2017. The increase in total expense, as adjusted, is driven primarily by higher general and administration expense, higher volume-related expense, and higher employee compensation and benefits expense, partially offset by lower amortization of intangible assets. The restructuring charge recorded in 2018 has been excluded from the as adjusted results.

2017 Compared with 2016

GAAP. Expense increased $650 million, or 8%, from 2016, driven primarily by higher employee compensation and benefits expense, higher volume-related expense, and higher general and administration expense, partially offset by a restructuring charge recorded in 2016.

Employee compensation and benefits expense increased $375 million, or 10%, to $4,253 million in 2017 from $3,878 million in 2016, reflecting higher incentive compensation, higher headcount, and approximately $20 million of severance and accelerated compensation expense associated with the repositioning of the active equity platform. Employees at December 31, 2017 totaled approximately 13,900 compared with approximately 13,000 at December 31, 2016.

Distribution and servicing costs totaled $1,663 million in 2017 compared with $1,608 million in 2016 reflecting higher average AUM and the effect of AUM acquired in the BofA Global Capital Management transaction.

Direct fund expense increased $138 million from 2016, reflecting higher iShares ETFs average AUM.

General and administration expense increased $168 million from 2016, reflecting higher portfolio services, professional services fees (associated with strategic transactions, MiFID implementation, and tax reform), technology expense, operating errors, contingent consideration fair value adjustments and the impact of foreign exchange remeasurement expense.

As Adjusted. Expense, as adjusted, increased $739 million, or 10%, to $8,331 million in 2017 from $7,592 million in 2016. The increase in total expense, as adjusted, is driven primarily by higher employee compensation and benefit expense, higher volume-related expense and higher general and administration expense. The restructuring charge recorded in 2016 has been excluded from the as adjusted results.

Nonoperating Results

The summary and reconciliation of US GAAP nonoperating income (expense) to nonoperating income (expense), as adjusted for 2018, 2017 and 2016 was as follows:

(in millions)	2018	2017	2016
Nonoperating income (expense), GAAP basis(1)	$(79)	$5	$(110)
Less: Net income (loss) attributable to NCI	(3)	37	(2)
Nonoperating income (expense), as adjusted, net of NCI(2)(3)	$(76)	$(32)	$(108)

(1) Amounts included losses of $105 million, gains of $118 million and gains of $16 million attributable to consolidated variable interest entities ("VIEs") for 2018, 2017 and 2016, 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 contribution to results. See Non-GAAP Financial Measures for further information on non-GAAP financial measures for 2018, 2017 and 2016.

The components of nonoperating income (expense), less net income (loss) attributable to NCI for 2018, 2017 and 2016 were as follows:

(in millions)	2018	2017	2016
Net gain (loss) on investments(1)(2)			
Private equity	$(5)	$21	$6
Real assets	26	17	8
Other alternatives(3)	2	38	21
Other investments(4)	(70)	43	22
Subtotal	(47)	119	57
Other gains(5)	51	5	—
Total net gain (loss) on investments(1)(2)	4	124	57
Interest and dividend income	104	49	40
Interest expense(6)	(184)	(205)	(205)
Net interest expense	(80)	(156)	