Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

FORWARD-LOOKING STATEMENTS

This report, and other statements that BlackRock may make, may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act, with respect to BlackRock's future financial or business performance, strategies or expectations. Forward-looking statements are typically identified by words or phrases such as "trend," "potential," "opportunity," "pipeline," "believe," "comfortable," "expect," "anticipate," "current," "intention," "estimate," "position," "assume," "outlook," "continue," "remain," "maintain," "sustain," "seek," "achieve," and similar expressions, or future or conditional verbs such as "will," "would," "should," "could," "may" and similar expressions.

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

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

OVERVIEW

BlackRock, Inc. (together, with its subsidiaries, unless the context otherwise indicates, "BlackRock" or the "Company") is a leading publicly traded investment management firm with $6.288 trillion of AUM at December 31, 2017. With approximately 13,900 employees in more than 30 countries, BlackRock provides a broad range of investment, risk management 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.

Acquisitions

In June 2017, the Company completed the acquisition of the equity infrastructure franchise of First Reserve ("First Reserve Transaction"), expanding the Company's energy and power infrastructure platform. In July 2017, the Company completed the acquisition of Cachematrix ("Cachematrix Transaction"), a leading provider of financial technology which simplifies the cash management process for banks and their corporate clients in a streamlined, open-architecture platform. In November 2017, the Company acquired a minority investment in Scalable Capital, a digital investment manager in Europe.

In November 2017, the Company announced that it had entered an agreement to acquire the asset management business of Citibanamex, a subsidiary of Citigroup Inc. This transaction involves approximately $31 billion in AUM across local fixed income, equity and multi-asset products. The transaction is expected to close in the second half of 2018, subject to customary regulatory approvals and closing conditions. Consideration for the transaction will include an upfront cash payment and contingent consideration.

United Kingdom Exit from European Union

Following the June 2016 vote to exit the European Union ("EU"), the United Kingdom served notice under Article 50 of the Treaty on European Union on March 29, 2017 to initiate the process of exiting from the EU, commonly referred to as "Brexit". The outcome of the negotiations between the United Kingdom and the EU in connection with Brexit is highly uncertain and information regarding the long-term consequences is expected to become clearer over time as negotiations progress. The Company continues to prepare for a range of potential outcomes in connection with Brexit.

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 highly diversified multi-product platform was created to meet the needs of its clients in all market environments. BlackRock is positioned to provide alpha-seeking active and index investment solutions 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.

BlackRock's retail strategy is focused on an outcome-oriented approach to creating client solutions, including alpha-seeking active, index and alternative products, enhanced distribution and technology offerings. In the United States, BlackRock is leveraging its integrated wholesaler force to further penetrate distribution platforms and gain share among registered investment advisors. Internationally, BlackRock continues to diversify the range of investment solutions available to clients, penetrate new distribution channels and position effectively for regulatory change.

iShares growth strategy is centered on increasing global *iShares* market share and driving global market expansion. BlackRock intends to achieve these goals by pursuing global growth themes in client and product segments including core investments, fixed income, smart beta, financial instruments and precision exposures.

BlackRock believes Institutional results will be driven by enhancing BlackRock's solutions-oriented approach; deepening client relationships through product diversification and higher value-add capabilities; and leveraging *Aladdin*'s analytical and risk management expertise.

BlackRock continues to invest in technology and risk management offerings, which enhance the ability to generate alpha, effectively serve clients and operate efficiently. BlackRock's technology portfolio includes *Aladdin* and Aladdin Risk for Wealth Management, FutureAdvisor, Cachematrix, as well as minority investments in Scalable Capital and iCapital.

U.S. Tax Reform

On December 22, 2017, The Tax Cuts and Jobs Act (the "2017 Tax Act") was enacted. The 2017 Tax Act significantly revises the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent, (2) requiring companies to pay a one-time tax on certain unrepatriated earnings of foreign subsidiaries, (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries, (4) creating new taxes on certain earnings of controlled foreign corporations, and (5) creating a new limitation on deductible net interest expense. BlackRock's results in 2017 included a $1.2 billion net tax benefit related to the 2017 Tax Act comprised of the following amounts:

- $106 million tax expense related to the revaluation of certain deferred income tax assets;
- $1,758 million noncash tax benefit related to the revaluation of certain deferred income tax liabilities (which was excluded from as adjusted results); and
- $477 million tax expense related to the mandatory deemed repatriation of undistributed foreign earnings and profits (which was excluded from as adjusted results) and is payable over eight years.

These amounts may require further adjustments as additional guidance from the U.S. Department of the Treasury is provided, as changes in the Company's assumptions occur, and as further information and interpretations become available.

For further information on the 2017 Tax Act, see Note 21, *Income Taxes*, in the consolidated financial statements included in Part II, Item 8 of this filing.

EXECUTIVE SUMMARY

(in millions, except shares and per share data)	2017	2016	2015
GAAP basis:			
Total revenue	$ 12,491	$ 11,155	$ 11,401
Total expense	7,219	6,585	6,737
Operating income	$ 5,272	$ 4,570	$ 4,664
Operating margin	42.2%	41.0%	40.9%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	(32)	(108)	(69)
Income tax expense	(270)	(1,290)	(1,250)
Net income attributable to BlackRock	$ 4,970	$ 3,172	$ 3,345
Diluted earnings per common share	$ 30.23	$ 19.04	$ 19.79
Effective tax rate	5.2%	28.9%	27.2%
As adjusted(1):			
Operating income	$ 5,287	$ 4,674	$ 4,695
Operating margin	44.1%	43.7%	42.9%
Nonoperating income (expense), less net income (loss) attributable to noncontrolling interests	(32)	(108)	(70)
Net income attributable to BlackRock	$ 3,716	$ 3,214	$ 3,313
Diluted earnings per common share	$ 22.60	$ 19.29	$ 19.60
Effective tax rate	29.3%	29.6%	28.4%
Other:			
Assets under management (end of period)	$ 6,288,195	$ 5,147,852	$ 4,645,412
Diluted weighted-average common shares outstanding(2)	164,415,035	166,579,752	169,038,571
Common and preferred shares outstanding (end of period)	161,046,825	163,121,291	165,596,139
Book value per share(3)	$ 197.61	$ 178.38	$ 172.12
Cash dividends declared and paid per share	$ 10.00	$ 9.16	$ 8.72

(1) As adjusted items are described in more detail in *Non-GAAP Financial Measures*.

(2) Nonvoting participating preferred shares are considered to be common stock equivalents for purposes of determining basic and diluted earnings per share calculations.

(3) Total BlackRock stockholders' equity, divided by total common and preferred shares outstanding at December 31 of the respective year-end.

2017 COMPARED WITH 2016

GAAP. Operating income of $5,272 million increased $702 million and operating margin of 42.2% increased 120 bps from 2016. Operating income and operating margin growth primarily reflected higher base fees, performance fees, and technology and risk management 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 noncontrolling interests ("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 a $16 million noncash tax expense associated with the revaluation of certain deferred income tax liabilities. 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 $11.19, or 59%, compared with 2016, reflecting the net tax benefit from the 2017 Tax Act and higher operating income, partially offset by the benefit of share repurchases.

As Adjusted. Operating income of $5,287 million increased $613 million and operating margin of 44.1% increased 40 bps from 2016. The pre-tax restructuring charge of $76 million described above was excluded from as adjusted results for 2016. Income tax expense for 2017 excluded the previously described $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. Income tax expense for 2016 excluded the previously mentioned net noncash benefit of $30 million. Diluted earnings per common share increased $3.31, or 17%, from 2016.

2016 COMPARED WITH 2015

GAAP. Operating income of $4,570 million decreased $94 million from 2015. Operating income was impacted by lower performance fees, partially offset by expense discipline and growth in technology and risk management revenue. Operating income also reflected a restructuring charge of $76 million recorded in the first quarter of 2016 in connection with a project to streamline and simplify the organization. Operating margin of 41% increased 10 bps from 2015 driven by continued expense discipline. Nonoperating income (expense), less NCI, decreased $39 million from 2015 due to lower net gains on investments, partially offset by higher interest and dividend income during 2016. Net gains on investments in 2015 included a $40 million noncash gain related to the BlackRock Kelso Capital Advisors LLC ("BKCA") transaction and a $35 million unrealized gain on a private equity investment.

Income tax expense for 2016 included a $30 million net noncash tax 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. Income tax expense for 2015 included a $54 million net noncash benefit associated with the revaluation of certain deferred income tax liabilities and nonrecurring tax benefits of $75 million.

Diluted earnings per common share decreased $0.75, or 4%, compared with 2015, reflecting lower nonoperating income and a higher tax rate in 2016, partially offset by the benefit of share repurchases.

As Adjusted. Operating income of $4,674 million decreased $21 million, and operating margin of 43.7% increased 80 bps, from 2015. The pre-tax restructuring charge of $76 million described above was excluded from as adjusted results. Income tax expense for 2016 and 2015 excluded the previously described net noncash benefits of $30 million and $54 million, respectively. Diluted earnings per common share decreased $0.31, or 2%, from 2015.

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)	**2017**	**2016**	**2015**
Operating income, GAAP basis	**$ 5,272**	$ 4,570	$ 4,664
Non-GAAP expense adjustments:			
Restructuring charge	**—**	76	—
PNC LTIP funding obligation	**15**	28	30
Compensation expense related to appreciation (depreciation) on deferred compensation plans	**—**	—	1
Operating income, as adjusted	**5,287**	4,674	4,695
Product launch costs and commissions	**—**	—	5
Operating income used for operating margin measurement	**$ 5,287**	$ 4,674	$ 4,700
Revenue, GAAP basis	**$ 12,491**	$ 11,155	$ 11,401
Non-GAAP adjustments:			
Distribution and servicing costs	**(492)**	(429)	(409)
Amortization of deferred sales commissions	**(17)**	(34)	(48)
Revenue used for operating margin measurement	**$ 11,982**	$ 10,692	$ 10,944
Operating margin, GAAP basis	**42.2%**	41.0%	40.9%
Operating margin, as adjusted	**44.1%**	43.7%	42.9%

- **Operating income, as adjusted,** includes non-GAAP expense adjustments. The portion of compensation expense associated with certain long-term incentive plans ("LTIP") funded, or to be funded, through share distributions to participants of BlackRock stock held by PNC has been excluded because it ultimately does not impact BlackRock's book value. In 2016, a restructuring charge primarily comprised of severance and accelerated amortization expense of previously granted deferred compensation awards has been excluded to provide an analysis of BlackRock's ongoing operations and to ensure comparability among periods presented. In 2015, compensation expense associated with appreciation (depreciation) on investments related to certain BlackRock deferred compensation plans has been excluded, as returns on investments set aside for these plans, which substantially offset this expense, are reported in nonoperating income (expense).
- 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 related parties and other 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. In addition, management believes the exclusion of such costs is useful because it creates consistency in the treatment for certain contracts for similar services, which due to the terms of the contracts, are accounted for under GAAP on a net basis within investment advisory, administration fees and securities lending revenue. Amortization of deferred sales commissions is excluded from revenue used for operating margin measurement, as adjusted, because such costs, over time, substantially offset distribution fee revenue the Company earns. For each of these items, BlackRock excludes from revenue used for operating margin, as adjusted, the costs related to each of these items as a proxy for such offsetting revenue.

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

(in millions, except per share data)	2017	2016	2015
Net income attributable to BlackRock, Inc., GAAP basis	**$ 4,970**	$ 3,172	$ 3,345
Non-GAAP adjustments:			
Restructuring charge (including $23 tax benefit)	**—**	53	—
PNC LTIP funding obligation, net of tax	**11**	19	22
The 2017 Tax Act:			
Deferred tax revaluation (noncash)	**(1,758)**	—	—
Deemed repatriation tax	**477**	—	—
Other income tax matters	**16**	(30)	(54)
Net income attributable to BlackRock, Inc., as adjusted	**$ 3,716**	$ 3,214	$ 3,313
Diluted weighted-average common shares outstanding(3)	**164.4**	166.6	169.0
Diluted earnings per common share, GAAP basis(3)	**$ 30.23**	$ 19.04	$ 19.79
Diluted earnings per common share, as adjusted(3)	**$ 22.60**	$ 19.29	$ 19.60

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 the 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 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. These 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

	AUM			Net inflows (outflows)		
(in millions)	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**
Retail	**$ 628,377**	$ 541,952	$ 541,125	**$ 29,892**	$ (11,324)	$ 38,512
iShares ETFs	**1,752,239**	1,287,879	1,092,561	**245,342**	140,479	129,852
Institutional:						
Active	**1,139,308**	1,009,974	962,852	**5,922**	17,918	26,746
Index	**2,316,807**	1,901,681	1,738,777	**49,084**	33,491	(43,096)
Total institutional	**3,456,115**	2,911,655	2,701,629	**55,006**	51,409	(16,350)
Long-term	**5,836,731**	**4,741,486**	**4,335,315**	**330,240**	**180,564**	**152,014**
Cash management	**449,949**	403,584	299,884	**38,259**	29,228	7,510
Advisory(1)	**1,515**	2,782	10,213	**(1,245)**	(7,601)	(9,629)
Total	**$ 6,288,195**	**$ 5,147,852**	**$ 4,645,412**	**$ 367,254**	**$ 202,191**	**$ 149,895**

AUM and Net Inflows (Outflows) by Product Type

	AUM			Net inflows (outflows)		
(in millions)	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**
Equity	**$ 3,371,641**	$ 2,657,176	$ 2,423,772	**$ 130,146**	$ 51,424	$ 52,778
Fixed income	**1,855,465**	1,572,365	1,422,368	**178,787**	119,955	76,944
Multi-asset	**480,278**	395,007	376,336	**20,330**	4,227	17,167
Alternatives:						
Core	**98,533**	88,630	92,085	**780**	(1,165)	4,080
Currency and commodities(2)	**30,814**	28,308	20,754	**197**	6,123	1,045
Subtotal	**129,347**	116,938	112,839	**977**	4,958	5,125
Long-term	**5,836,731**	**4,741,486**	**4,335,315**	**330,240**	**180,564**	**152,014**
Cash management	**449,949**	403,584	299,884	**38,259**	29,228	7,510
Advisory(1)	**1,515**	2,782	10,213	**(1,245)**	(7,601)	(9,629)
Total	**$ 6,288,195**	**$ 5,147,852**	**$ 4,645,412**	**$ 367,254**	**$ 202,191**	**$ 149,895**

AUM and Net Inflows (Outflows) by Investment Style

	AUM			Net inflows (outflows)		
(in millions)	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**
Active	**$ 1,696,005**	$ 1,501,052	$ 1,462,672	**$ 24,449**	$ (774)	$ 60,510
Index and *iShares* ETFs	**4,140,726**	3,240,434	2,872,643	**305,791**	181,338	91,504
Long-term	**5,836,731**	**4,741,486**	**4,335,315**	**330,240**	**180,564**	**152,014**
Cash management	**449,949**	403,584	299,884	**38,259**	29,228	7,510
Advisory(1)	**1,515**	2,782	10,213	**(1,245)**	(7,601)	(9,629)
Total	**$ 6,288,195**	**$ 5,147,852**	**$ 4,645,412**	**$ 367,254**	**$ 202,191**	**$ 149,895**

(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 2017, 2016 and 2015.

(in millions)	2017	2016	2015
Beginning AUM	**$ 5,147,852**	$ 4,645,412	$ 4,651,895
Net inflows (outflows)			
Long-term	**330,240**	180,564	152,014
Cash management	**38,259**	29,228	7,510
Advisory(1)	**(1,245)**	(7,601)	(9,629)
Total net inflows (outflows)	**367,254**	202,191	149,895
Acquisitions(2)	**3,264**	80,635	2,219
Market change	**628,901**	326,364	(57,495)
FX impact(3)	**140,924**	(106,750)	(101,102)
Total change	**1,140,343**	502,440	(6,483)
Ending AUM	**$ 6,288,195**	$ 5,147,852	$ 4,645,412

(1) Advisory AUM represents long-term portfolio liquidation assignments.

(2) Amount for 2017 represents $3.3 billion of AUM acquired in the First Reserve Infrastructure business transaction in June 2017 ("First Reserve Transaction"). Amount for 2016 represents $80.6 billion of AUM acquired in the BofA Global Capital Management transaction in April 2016. Amounts for 2015 represent $1.3 billion of AUM acquired in the acquisition of certain assets of BKCA in March 2015, $560 million of AUM acquired in the Infraestructura Institucional acquisition in October 2015 and $366 million of AUM acquired in the FutureAdvisor acquisition in October 2015. The FutureAdvisor acquisition amount does not include AUM that was held in *iShares* holdings.

(3) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. 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 2017

The following table presents the 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-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for 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-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

(5) Amounts include commodity *iShares* ETFs.

AUM increased $1.1 trillion to $6.3 trillion at December 31, 2017 from $5.1 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 U.S. and global equity markets.

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

For further discussion on AUM, see "Part I, Item 1 — *Business — Assets Under Management*".

Component Changes in AUM for 2016

The following table presents component changes in AUM by client type and product type for 2016.

(in millions)	December 31, 2015	Net inflows (outflows)	Acquisition(1)	Market change	FX impact(2)	December 31, 2016	Full year average AUM(3)
Retail:							
Equity	$ 193,755	$ (7,429)	$ —	$ 15,456	$ (5,561)	$ 196,221	$ 192,311
Fixed income	212,653	8,407	—	3,130	(1,934)	222,256	221,797
Multi-asset	115,307	(9,367)	—	3,100	(1,043)	107,997	111,416
Alternatives	19,410	(2,935)	—	(835)	(162)	15,478	17,424
Retail subtotal	541,125	(11,324)	—	20,851	(8,700)	541,952	542,948
iShares ETFs:							
Equity	823,156	74,914	—	56,469	(3,287)	951,252	849,017
Fixed income	254,190	59,913	—	3,782	(3,178)	314,707	301,061
Multi-asset	2,730	354	—	61	4	3,149	2,448
Alternatives	12,485	5,298	—	1,055	(67)	18,771	18,561
iShares ETFs subtotal	1,092,561	140,479	—	61,367	(6,528)	1,287,879	1,171,087
Institutional:							
Active:							
Equity	121,442	(7,449)	—	11,112	(4,406)	120,699	119,604
Fixed income	514,428	10,234	—	20,242	(8,177)	536,727	542,332
Multi-asset	252,041	13,322	—	18,516	(6,946)	276,933	265,652
Alternatives	74,941	1,811	—	619	(1,756)	75,615	74,919
Active subtotal	962,852	17,918	—	50,489	(21,285)	1,009,974	1,002,507
Index:							
Equity	1,285,419	(8,612)	—	135,997	(23,800)	1,389,004	1,307,812
Fixed income	441,097	41,401	—	55,665	(39,488)	498,675	478,444
Multi-asset	6,258	(82)	—	843	(91)	6,928	7,464
Alternatives	6,003	784	—	790	(503)	7,074	6,642
Index subtotal	1,738,777	33,491	—	193,295	(63,882)	1,901,681	1,800,362
Institutional subtotal	2,701,629	51,409	—	243,784	(85,167)	2,911,655	2,802,869
Long-term	**4,335,315**	**180,564**	**—**	**326,002**	**(100,395)**	**4,741,486**	**4,516,904**
Cash management	299,884	29,228	80,635	430	(6,593)	403,584	358,498
Advisory(4)	10,213	(7,601)	—	(68)	238	2,782	9,687
Total	**$ 4,645,412**	**$ 202,191**	**$ 80,635**	**$ 326,364**	**$ (106,750)**	**$ 5,147,852**	**$ 4,885,089**

(1) Amount represents AUM acquired in the BofA Global Capital Management transaction in April 2016.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

The following table presents component changes in AUM by investment style and product type for 2016.

(in millions)	December 31, 2015	Net inflows (outflows)	Acquisition[1]	Market change	FX impact[2]	December 31, 2016	Full year average AUM[3]
Active:							
Equity	$ 281,319	$ (20,230)	$ —	$ 21,045	$ (7,101)	$ 275,033	$ 275,656
Fixed income	719,653	16,625	—	22,742	(9,024)	749,996	756,110
Multi-asset	367,349	3,954	—	21,617	(7,990)	384,930	377,068
Alternatives	94,351	(1,123)	—	(217)	(1,918)	91,093	92,342
Active subtotal	1,462,672	(774)	—	65,187	(26,033)	1,501,052	1,501,176
Index and *iShares* ETFs:							
iShares ETFs:							
Equity	823,156	74,914	—	56,469	(3,287)	951,252	849,017
Fixed income	254,190	59,913	—	3,782	(3,178)	314,707	301,061
Multi-asset	2,730	354	—	61	4	3,149	2,448
Alternatives	12,485	5,298	—	1,055	(67)	18,771	18,561
iShares ETFs subtotal	1,092,561	140,479	—	61,367	(6,528)	1,287,879	1,171,087
Non-ETF Index							
Equity	1,319,297	(3,260)	—	141,520	(26,666)	1,430,891	1,344,071
Fixed income	448,525	43,417	—	56,295	(40,575)	507,662	486,463
Multi-asset	6,257	(81)	—	842	(90)	6,928	7,464
Alternatives	6,003	783	—	791	(503)	7,074	6,643
Non-ETF Index subtotal	1,780,082	40,859	—	199,448	(67,834)	1,952,555	1,844,641
Index & *iShares* ETFs subtotal	2,872,643	181,338	—	260,815	(74,362)	3,240,434	3,015,728
Long-term	**4,335,315**	**180,564**	**—**	**326,002**	**(100,395)**	**4,741,486**	**4,516,904**
Cash management	299,884	29,228	80,635	430	(6,593)	403,584	358,498
Advisory[4]	10,213	(7,601)	—	(68)	238	2,782	9,687
Total	**$ 4,645,412**	**$ 202,191**	**$ 80,635**	**$ 326,364**	**$ (106,750)**	**$ 5,147,852**	**$ 4,885,089**

The following table presents component changes in AUM by product type for 2016.

(in millions)	December 31, 2015	Net inflows (outflows)	Acquisition[1]	Market change	FX impact[2]	December 31, 2016	Full year average AUM[3]
Equity	$ 2,423,772	$ 51,424	$ —	$ 219,034	$ (37,054)	$ 2,657,176	$ 2,468,744
Fixed income	1,422,368	119,955	—	82,819	(52,777)	1,572,365	1,543,634
Multi-asset	376,336	4,227	—	22,520	(8,076)	395,007	386,980
Alternatives:							
Core	92,085	(1,165)	—	(291)	(1,999)	88,630	90,028
Currency and commodities[5]	20,754	6,123	—	1,920	(489)	28,308	27,518
Alternatives subtotal	112,839	4,958	—	1,629	(2,488)	116,938	117,546
Long-term	**4,335,315**	**180,564**	**—**	**326,002**	**(100,395)**	**4,741,486**	**4,516,904**
Cash management	299,884	29,228	80,635	430	(6,593)	403,584	358,498
Advisory[4]	10,213	(7,601)	—	(68)	238	2,782	9,687
Total	**$ 4,645,412**	**$ 202,191**	**$ 80,635**	**$ 326,364**	**$ (106,750)**	**$ 5,147,852**	**$ 4,885,089**

(1) Amount represents AUM acquired in the BofA Global Capital Management transaction in April 2016.

(2) Foreign exchange reflects the impact of translating non-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

(3) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

(4) Advisory AUM represents long-term portfolio liquidation assignments.

(5) Amounts include commodity *iShares* ETFs.

AUM increased $502.4 billion to $5.1 trillion at December 31, 2016 from $4.6 trillion at December 31, 2015 driven by net market appreciation, positive net inflows and AUM acquired in the BofA Global Capital Management transaction, partially offset by the impact of foreign exchange movements.

Net market appreciation of $326.4 billion was driven by $219.0 billion from equity products, $82.8 billion from fixed income products and $22.5 billion from multi-asset products across the majority of strategies.

AUM decreased $106.8 billion due to the impact of foreign exchange movements, primarily resulting from the strengthening of the U.S. dollar, largely against the British pound and the Euro.

DISCUSSION OF FINANCIAL RESULTS

Introduction

BlackRock derives a substantial portion of its revenue from investment advisory and administration fees, which are recognized as the services are performed. Such fees are primarily based on predetermined percentages of the market value of AUM or percentages of committed capital during investment periods of certain alternative products and 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-U.S. dollar denominated AUM into U.S. dollars for reporting purposes.

BlackRock also earns revenue by lending securities on behalf of clients 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 BlackRock 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 BlackRock'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.

BlackRock 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 and risk management revenue are recorded as services are performed and are generally determined using the value of positions on the *Aladdin* platform or on a fixed-rate basis.

BlackRock 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 recorded upon delivery.

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, amortization of deferred sales commissions, 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 BlackRock products.
- Direct fund expense primarily consists of third-party nonadvisory expense incurred by BlackRock 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, product launch costs and other general and administration expense, including the impact of foreign currency remeasurement. Foreign currency remeasurement (gains) losses were $5 million, $(6) million and $(8) million for 2017, 2016 and 2015, respectively.

Approximately 75% of the Company's revenue is generated in U.S. 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. BlackRock 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. BlackRock 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 BlackRock is allocated to NCI on the consolidated statements of income.

Revenue

The following table presents revenue for 2017, 2016 and 2015.

(in millions)	2017	2016	2015
Investment advisory, administration fees and securities lending revenue:			
Equity:			
Active	**$ 1,662**	$ 1,591	$ 1,709
iShares ETFs	**3,221**	2,651	2,751
Non-ETF index	**687**	674	680
Equity subtotal	**5,570**	4,916	5,140
Fixed income:			
Active	**1,735**	1,658	1,566
iShares ETFs	**808**	696	554
Non-ETF index	**344**	297	282
Fixed income subtotal	**2,887**	2,651	2,402
Multi-asset	**1,148**	1,138	1,253
Alternatives:			
Core	**639**	634	653
Currency and commodities	**91**	83	73
Alternatives subtotal	**730**	717	726
Long-term	**10,335**	9,422	9,521
Cash management	**558**	458	319
Total base fees	**10,893**	9,880	9,840
Investment advisory performance fees:			
Equity	**152**	102	205
Fixed income	**34**	13	26
Multi-asset	**33**	19	34
Alternatives	**375**	161	356
Total performance fees	**594**	295	621
Technology and risk management revenue[(1)]	**677**	595	528
Distribution fees	**24**	41	55
Advisory and other revenue:			
Advisory[(1)]	**128**	119	118
Other	**175**	225	239
Advisory and other revenue	**303**	344	357
Total revenue	**$ 12,491**	$ 11,155	$ 11,401

(1) Beginning with the first quarter of 2017, *Aladdin* revenue previously reported within "*BlackRock Solutions*® and advisory" has been presented within "Technology and risk management revenue" on the consolidated statement of income. The remaining previously reported "*BlackRock Solutions* and advisory" revenue is currently reported as part of "Advisory and other revenue." Under the historical presentation, *BlackRock Solutions* and advisory revenue would have totaled $805 million for 2017. The prior period amounts reported for *BlackRock Solutions* and advisory of $714 million and $646 million for 2016 and 2015, respectively, have been reclassified to conform to the current presentation.

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(1)		
	2017	**2016**	**2015**	**2017**	**2016**	**2015**
Equity:						
Active	**15%**	16%	17%	**5%**	6%	6%
iShares ETFs	**30%**	27%	28%	**20%**	17%	17%
Non-ETF index	**6%**	7%	7%	**28%**	27%	30%
Equity subtotal	**51%**	50%	52%	**53%**	50%	53%
Fixed income:						
Active	**16%**	17%	15%	**13%**	16%	16%
iShares ETFs	**7%**	7%	6%	**6%**	6%	5%
Non-ETF index	**3%**	3%	3%	**10%**	10%	10%
Fixed income subtotal	**26%**	27%	24%	**29%**	32%	31%
Multi-asset	**11%**	11%	13%	**8%**	8%	8%
Alternatives:						
Core	**6%**	6%	7%	**2%**	2%	2%
Currency and commodities	**1%**	1%	1%	**1%**	1%	-%
Alternatives subtotal	**7%**	7%	8%	**3%**	3%	2%
Long-term	**95%**	**95%**	**97%**	**93%**	**93%**	**94%**
Cash management	**5%**	5%	3%	**7%**	7%	6%
Total excluding Advisory AUM	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

(1) Average AUM is calculated as the average of the month-end spot AUM amounts for the trailing thirteen months.

2017 Compared with 2016

Revenue increased $1,336 million, or 12%, from 2016, driven by growth in base fees, performance fees, and technology and risk management revenue.

Investment advisory, administration fees and securities lending revenue of $10,893 million in 2017 increased $1,013 million from $9,880 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 and risk management revenue of $677 million for 2017 increased $82 million from $595 million in 2016 reflecting ongoing demand for *Aladdin*.

Advisory and other revenue of $303 million decreased $41 million from $344 million in 2016, reflecting lower earnings from a strategic minority investment and lower fees for distributing certain exchange-traded products.

2016 Compared with 2015

Revenue decreased $246 million, or 2%, from 2015, driven by lower performance fees, partially offset by higher technology and risk management revenue.

Investment advisory, administration fees and securities lending revenue of $9,880 million for 2016 increased $40 million from $9,840 million in 2015 reflecting the impact of organic growth and higher markets on average AUM, the effect of AUM acquired in the BofA Global Capital Management transaction and lower yield-related fee waivers on certain money market funds, partially offset by the impact of divergent beta and mix shift, and the impact of foreign exchange movements. Securities lending revenue increased $66 million from 2015 to $579 million in 2016, primarily reflecting an increase in average balances of securities on loan and higher spreads.

Investment advisory performance fees were $295 million in 2016 compared with $621 million in 2015. The decrease was primarily driven by lower fees from equity and alternative products, including the impact of the strong performance from a single hedge fund with an annual performance measurement period that ended in the third quarter of 2015.

Technology and risk management revenue of $595 million for 2016 increased $67 million from $528 million in 2015 reflecting ongoing demand for *Aladdin*.

Expense

The following table presents expense for 2017, 2016 and 2015.

(in millions)	2017	2016	2015
Expense, GAAP:			
Employee compensation and benefits	**$ 4,255**	$ 3,880	$ 4,005
Distribution and servicing costs	**492**	429	409
Amortization of deferred sales commissions	**17**	34	48
Direct fund expense	**904**	766	767
General and administration:			
Marketing and promotional	**333**	325	365
Occupancy and office related	**275**	272	280
Portfolio services	**268**	234	221
Technology	**203**	175	170
Professional services	**142**	114	120
Communications	**34**	38	37
Regulatory, filing and license fees	**30**	21	24
Other general and administration	**177**	122	163
Total general and administration expense	**1,462**	1,301	1,380
Restructuring charge	**—**	76	—
Amortization of intangible assets	**89**	99	128
Total expense, GAAP	**$ 7,219**	**$ 6,585**	**$ 6,737**
Less non-GAAP expense adjustments[(1)]:			
Employee compensation and benefits:			
PNC LTIP funding obligation	**$ 15**	$ 28	$ 30
Compensation expense related to appreciation (depreciation) on deferred compensation plans	**—**	—	1
Subtotal	**15**	28	31
Restructuring charge	**—**	76	—
Total non-GAAP expense adjustments	**15**	**104**	**31**
Expense, as adjusted:			
Employee compensation and benefits	**$ 4,240**	$ 3,852	$ 3,974
Distribution and servicing costs	**492**	429	409
Amortization of deferred sales commissions	**17**	34	48
Direct fund expense	**904**	766	767
General and administration	**1,462**	1,301	1,380
Amortization of intangible assets	**89**	99	128
Total expense, as adjusted	**$ 7,204**	**$ 6,481**	**$ 6,706**

(1) See Non-GAAP Financial Measures for further information on non-GAAP expense adjustments.

2017 Compared with 2016

GAAP. Expense increased $634 million, or 10%, 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 $4,255 million in 2017 from $3,880 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 $492 million in 2017 compared with $429 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 $161 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 $723 million, or 11%, to $7,204 million in 2017 from $6,481 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.

2016 Compared with 2015

GAAP. Expense decreased $152 million, or 2%, from 2015, reflecting lower compensation and benefits expense, expense discipline and lower amortization of intangible assets, partially offset by a restructuring charge recorded in 2016.

Employee compensation and benefits expense decreased $125 million, or 3%, to $3,880 million in 2016 from $4,005 million in 2015, reflecting lower incentive compensation, primarily driven by lower performance fees.

Distribution and servicing costs totaled $429 million in 2016 compared with $409 million in 2015.

General and administration expense decreased $79 million from 2015, reflecting expense discipline and the impact of higher transaction-related expense recorded in 2015.

Restructuring charge of $76 million, primarily comprised of severance and accelerated amortization expense of previously granted deferred compensation awards, was recorded in 2016 in connection with a project to streamline and simplify the organization.

Amortization of intangible assets expense decreased $29 million, or 23%, to $99 million in 2016 from $128 million in 2015, primarily reflecting certain finite-lived intangible assets becoming fully amortized.

As Adjusted. Expense, as adjusted, decreased $225 million, or 3%, to $6,481 million in 2016 from $6,706 million in 2015. The decrease in total expense, as adjusted, is primarily attributable to lower employee compensation and benefits expense, expense discipline and lower amortization of intangible assets. The restructuring charge has been excluded from the as adjusted results.

NONOPERATING RESULTS

The summary and reconciliation of U.S. GAAP nonoperating income (expense) to nonoperating income (expense), as adjusted for 2017, 2016 and 2015 was as follows:

(in millions)	**2017**	2016	2015
Nonoperating income (expense), GAAP basis[1]	**$ 5**	$ (110)	$ (62)
Less: Net income (loss) attributable to NCI	**37**	(2)	7
Nonoperating income (expense)[2]	**(32)**	(108)	(69)
Compensation expense related to (appreciation) depreciation on deferred compensation plans	**—**	—	(1)
Nonoperating income (expense), as adjusted[2][3]	**$ (32)**	$ (108)	$ (70)

(1) Amounts included gains of $118 million, $16 million and $58 million attributable to consolidated variable interest entities ("VIEs") for 2017, 2016 and 2015, respectively.

(2) Net of net income (loss) attributable to NCI.

(3) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing BlackRock's nonoperating contribution to results. See Non-GAAP Financial Measures for further information on non-GAAP financial measures for 2017, 2016 and 2015.

The components of nonoperating income (expense), less net income (loss) attributable to NCI for 2017, 2016 and 2015 were as follows:

(in millions)	**2017**	2016	2015
Net gain (loss) on investments[1][2]			
Private equity	**$ 21**	$ 6	$ 71
Real assets	**17**	8	12
Other alternatives[3]	**38**	21	(2)
Other investments[4]	**43**	22	(18)
Subtotal	**119**	57	63
Other gains[5]	**5**	—	46
Total net gain (loss) on investments[1][2]	**124**	57	109
Interest and dividend income	**49**	40	26
Interest expense	**(205)**	(205)	(204)
Net interest expense	**(156)**	(165)	(178)
Total nonoperating income (expense)[1]	**(32)**	(108)	(69)
Compensation expense related to (appreciation) depreciation on deferred compensation plans	**—**	—	(1)
Nonoperating income (expense), as adjusted[1][2]	**$ (32)**	$ (108)	$ (70)

(1) Net of net income (loss) attributable to NCI. Amounts also include net gain (loss) on consolidated VIEs.

(2) Management believes nonoperating income (expense), as adjusted, is an effective measure for reviewing BlackRock's nonoperating contribution to results. See Non-GAAP Financial Measures for further information on non-GAAP financial measures for 2017, 2016 and 2015.

(3) Amounts primarily include net gains (losses) related to direct hedge fund strategies and hedge fund solutions. The prior year periods also included net gains related to opportunistic credit strategies.

(4) Amounts primarily include net gains (losses) related to equity and fixed income investments.

(5) The amount for 2015 primarily includes a $40 million gain related to the acquisition of certain assets of BKCA.

Income Tax Expense

(in millions)	GAAP 2017	GAAP 2016	GAAP 2015	As adjusted 2017	As adjusted 2016	As adjusted 2015
Operating income(1)	**$ 5,272**	$ 4,570	$ 4,664	**$ 5,287**	$ 4,674	$ 4,695
Total nonoperating income (expense)(1)(2)	**(32)**	(108)	(69)	**(32)**	(108)	(70)
Income before income taxes(2)	**$ 5,240**	$ 4,462	$ 4,595	**$ 5,255**	$ 4,566	$ 4,625
Income tax expense(3)	**$ 270**	$ 1,290	$ 1,250	**$ 1,539**	$ 1,352	$ 1,312
Effective tax rate(3)	**5.2%**	28.9%	27.2%	**29.3%**	29.6%	28.4%

(1) See Non-GAAP Financial Measures for further information on and reconciliation of as adjusted items.

(2) Net of net income (loss) attributable to NCI.

(3) GAAP income tax expense and effective tax rate for 2017 reflects $1.2 billion of a net tax benefit related to the 2017 Tax Act.

The Company's tax rate is affected by tax rates in foreign jurisdictions and the relative amount of income earned in those jurisdictions, which the Company expects to be fairly consistent in the near term. The significant foreign jurisdictions that have lower statutory tax rates than the U.S. federal statutory rate of 35% include the United Kingdom, Channel Islands, Ireland and Netherlands.

2017. Income tax expense (GAAP) reflected:

- the following amounts related to the 2017 Tax Act:
  - $106 million tax expense related to the revaluation of certain deferred income tax assets;
  - $1,758 million noncash tax benefit related to the revaluation of certain deferred income tax liabilities; and
  - $477 million tax expense related to the mandatory deemed repatriation of undistributed foreign earnings and profits.
- a noncash expense of $16 million, primarily associated with the revaluation of certain deferred income tax liabilities as a result of domestic state and local tax changes; and
- $173 million discrete tax benefits, primarily related to stock-based compensation awards, including $151 million related to the adoption of new accounting guidance related to stock-based compensation awards. See Note 2, *Significant Accounting Policies*, for further information.

The as adjusted effective tax rate of 29.3% for 2017 excluded the noncash deferred tax revaluation benefit of $1,758 million and noncash expense of $16 million mentioned above as it will not have a cash flow impact and to ensure comparability among periods presented. In addition, the deemed repatriation tax expense of $477 million has been excluded from the as adjusted results due to the one-time nature and to ensure comparability among periods presented.

2016. Income tax expense (GAAP) reflected:

- a net noncash benefit of $30 million, primarily associated with the revaluation of certain deferred income tax liabilities; and
- a benefit from $65 million of nonrecurring items, including the resolution of certain outstanding tax matters.

The as adjusted effective tax rate of 29.6% for 2016 excluded the net noncash benefit of $30 million mentioned above as it will not have a cash flow impact and to ensure comparability among periods presented.

2015. Income tax expense (GAAP) reflected:

- a net noncash benefit of $54 million, primarily associated with the revaluation of certain deferred income tax liabilities; and
- a benefit from $75 million of nonrecurring items, primarily due to the realization of losses from changes in the Company's organizational tax structure and the resolution of certain outstanding tax matters.

The as adjusted effective tax rate of 28.4% for 2015 excluded the net noncash benefit of $54 million mentioned above, as it will not have a cash flow impact and to ensure comparability among periods presented.

BALANCE SHEET OVERVIEW

As Adjusted Balance Sheet

The following table presents a reconciliation of the consolidated statement of financial condition presented on a GAAP basis to the consolidated statement of financial condition, excluding the impact of separate account assets and separate account collateral held under securities lending agreements (directly related to lending separate account securities) and separate account liabilities and separate account collateral liabilities under securities lending agreements and consolidated sponsored investment funds, including consolidated VIEs.

The Company presents the as adjusted balance sheet as additional information to enable investors to exclude certain assets that have equal and offsetting liabilities or noncontrolling interests that ultimately do not have an impact on stockholders' equity or cash flows. Management views the as adjusted balance sheet, which contains non-GAAP financial measures, as an economic presentation of the Company's total assets and liabilities; however, it does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP.

Separate Account Assets and Liabilities and Separate Account Collateral Held under Securities Lending Agreements

Separate account assets are maintained by BlackRock Life Limited, a wholly owned subsidiary of the Company that is a registered life insurance company in the United Kingdom, and represent segregated assets held for purposes of funding individual and group pension contracts. The

Company records equal and offsetting separate account liabilities. The separate account assets are not available to creditors of the Company and the holders of the pension contracts have no recourse to the Company's assets. The net investment income attributable to separate account assets accrues directly to the contract owners and is not reported on the consolidated statements of income. While BlackRock has no economic interest in these assets or liabilities, BlackRock earns an investment advisory fee for the service of managing these assets on behalf of its clients.

In addition, the Company records on its consolidated statements of financial condition the separate account collateral received under BlackRock Life Limited securities lending arrangements as its own asset in addition to an equal and offsetting separate account collateral liability for the obligation to return the collateral. The collateral is not available to creditors of the Company, and the borrowers under the securities lending arrangements have no recourse to the Company's assets.

Consolidated Sponsored Investment Funds

The Company consolidates certain sponsored investment funds accounted for as voting rights entities ("VREs") and VIEs, (collectively, "Consolidated Sponsored Investment Funds"). See Note 2, *Significant Accounting Policies*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information on the Company's consolidation policy.

The Company cannot readily access cash and cash equivalents or other assets held by Consolidated Sponsored Investment Funds to use in its operating activities. In addition, the Company cannot readily sell investments held by Consolidated Sponsored Investment Funds in order to obtain cash for use in the Company's operations.

	December 31, 2017			
(in millions)	GAAP Basis	Separate Account Assets/ Collateral(1)	Consolidated Sponsored Investment Funds(2)	As Adjusted
Assets				
Cash and cash equivalents	$ 6,894	$ —	$ 49	$ 6,845
Accounts receivable	2,699	—	—	2,699
Investments	1,981	—	52	1,929
Assets of consolidated VIEs:		—		
Cash and cash equivalents	144	—	144	—
Investments	1,493	—	268	1,225
Other assets	66	—	66	—
Separate account assets and collateral held under securities lending agreements	174,127	174,127	—	—
Other assets(3)	2,204	—	1	2,203
Subtotal	189,608	174,127	580	14,901
Goodwill and intangible assets, net	30,609	—	—	30,609
Total assets	$ 220,217	$ 174,127	$ 580	$ 45,510
Liabilities				
Accrued compensation and benefits	$ 2,153	$ —	$ —	$ 2,153
Accounts payable and accrued liabilities	1,161	—	—	1,161
Liabilities of consolidated VIEs	369	—	369	—
Borrowings	5,014	—	—	5,014
Separate account liabilities and collateral liabilities under securities lending agreements	174,127	174,127	—	—
Deferred income tax liabilities(4)	3,538	—	—	3,538
Other liabilities	1,564	—	(255)	1,819
Total liabilities	187,926	174,127	114	13,685
Equity				
Total stockholders' equity	31,825	—	—	31,825
Noncontrolling interests	466	—	466	—
Total equity	32,291	—	466	31,825
Total liabilities and equity	$ 220,217	$ 174,127	$ 580	$ 45,510

(1) Amounts represent segregated client assets generating advisory fees in which BlackRock has no economic interest or liability.

(2) Amounts represent the portion of assets and liabilities of Consolidated Sponsored Investment Funds attributable to NCI.

(3) Amounts include property and equipment and other assets.

(4) Amount includes approximately $3.9 billion of deferred income tax liabilities related to goodwill and intangibles. See Note 21, *Income Taxes*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information.

The following discussion summarizes the significant changes in assets and liabilities on a GAAP basis. Please see the consolidated statements of financial condition as of December 31, 2017 and 2016 contained in Part II, Item 8 of this filing. The discussion does not include changes related to assets and liabilities that are equal and offsetting and have no impact on BlackRock's stockholders' equity.

Assets. Cash and cash equivalents at December 31, 2017 and 2016 included $63 million and $53 million, respectively, of cash held by consolidated VREs (see *Liquidity and Capital Resources* for details on the change in cash and cash equivalents during 2017).

Accounts receivable at December 31, 2017 increased $584 million from December 31, 2016 primarily due to higher BlackRock mutual funds, *iShares* ETFs and performance fee receivables. Investments were $1,981 million at December 31, 2017 (for more information see *Investments* herein). Goodwill and intangible assets increased $128 million from December 31, 2016, primarily due to the First Reserve and Cachematrix Transactions, partially offset by $89 million of amortization of intangible assets. Other assets (including property and equipment) increased $345 million from December 31, 2016, primarily related to an increase in unit trust receivables (substantially offset by an increase in unit trust payables recorded within other liabilities), earnings from certain strategic investments, and other assets, partially offset by a decrease in current taxes receivable.

Liabilities. Accrued compensation and benefits at December 31, 2017 increased $273 million from December 31, 2016, primarily due to higher 2017 incentive compensation accruals. Accounts payable and accrued liabilities at December 31, 2017 increased $281 million from December 31, 2016 due to higher current income taxes payables and increased accruals.

Net deferred income tax liabilities at December 31, 2017 decreased $1.3 billion, primarily as a result of revaluation of deferred income tax liabilities due to the 2017 Tax Act. Other liabilities increased $343 million from December 31, 2016, primarily related to an increase in unit trust payables (substantially offset by an increase in unit trust receivables recorded within other assets) and contingent liabilities related to the First Reserve Transaction and uncertain tax positions, partially offset by a decrease in other operating liabilities.

Investments and Investments of Consolidated VIEs

The Company's investments and investments of consolidated VIEs (collectively, "Total Investments") were $1,981 million and $1,493 million, respectively, at December 31, 2017. Total Investments include consolidated investments held by sponsored investment funds accounted for as VREs and VIEs. Management reviews BlackRock's Total Investments on an "economic" basis, which eliminates the portion of Total Investments that does not impact BlackRock's book value or net income attributable to BlackRock. BlackRock's management does not advocate that investors consider such non-GAAP financial measures in isolation from, or as a substitute for, financial information prepared in accordance with GAAP.

The Company presents Total Investments, as adjusted, to enable investors to understand the portion of Total Investments that is owned by the Company, net of NCI, as a gauge to measure the impact of changes in net nonoperating income (expense) on investments to net income (loss) attributable to BlackRock.

The Company further presents net "economic" investment exposure, net of deferred compensation investments and hedged investments, to reflect another helpful measure for investors. The economic impact of Total Investments held pursuant to deferred compensation arrangements is offset by a change in compensation expense. The impact of certain investments is substantially mitigated by swap hedges. Carried interest capital allocations are excluded as there is no impact to BlackRock's stockholders' equity until such amounts are realized as performance fees. Finally, the Company's regulatory investment in Federal Reserve Bank stock, which is not subject to market or interest rate risk, is excluded from the Company's net economic investment exposure.

(in millions)	**December 31, 2017**	**December 31, 2016**
Investments, GAAP	**$ 1,981**	$ 1,595
Investments held by consolidated VIEs, GAAP	**1,493**	1,008
Total Investments	**3,474**	2,603
Investments held by consolidated VIEs	**(1,493)**	(1,008)
Investments held by consolidated VREs	**(512)**	(465)
Net interest in consolidated VREs	**460**	444
Net interest in consolidated VIEs[1]	**1,225**	840
Total Investments, as adjusted	**3,154**	2,414
Federal Reserve Bank stock	**(91)**	(89)
Deferred compensation investments	**(56)**	(66)
Hedged investments	**(587)**	(614)
Carried interest (VIEs/VREs)	**(298)**	(126)
Total "economic" investment exposure	**$ 2,122**	$ 1,519

(1) Amount includes $266 million and $108 million of carried interest (VIEs) as of December 31, 2017 and 2016, respectively, which has no impact on the Company's "economic" investment exposure.

The following table represents the carrying value of the Company's economic investment exposure, by asset type, at December 31, 2017 and 2016:

(in millions)	December 31, 2017	December 31, 2016
Private equity	**$ 331**	$ 334
Real assets	**313**	94
Other alternatives[1]	**236**	245
Other investments[2]	**1,242**	846
Total "economic" investment exposure	**$ 2,122**	$ 1,519

(1) Other alternatives primarily include hedge funds/funds of hedge funds.

(2) Other investments primarily include seed investments in fixed income, equity and multi-asset mutual funds/strategies as well as U.K. government securities, primarily held for regulatory purposes.

As adjusted investment activity for 2017 and 2016 was as follows:

(in millions)	2017	2016
Total Investments, as adjusted, beginning balance	$ 2,414	$ 2,227
Purchases/capital contributions	1,082	1,234
Sales/maturities	(696)	(976)
Distributions[1]	(102)	(134)
Market appreciation(depreciation)/earnings from equity method investments	240	82
Carried interest capital allocations/(distributions)/acquired	172	26
Other	44	(45)
Total Investments, as adjusted, ending balance	**$ 3,154**	**$ 2,414**

(1) Amount includes distributions representing return of capital and return on investments.

LIQUIDITY AND CAPITAL RESOURCES

BlackRock Cash Flows Excluding the Impact of Consolidated Sponsored Investment Funds

The consolidated statements of cash flows include the cash flows of the Consolidated Sponsored Investment Funds. The Company uses an adjusted cash flow statement, which excludes the impact of Consolidated Sponsored Investment Funds, as a supplemental non-GAAP measure to assess liquidity and capital requirements. The Company believes that its cash flows, excluding the impact of the Consolidated Sponsored Investment Funds, provide investors with useful information on the cash flows of BlackRock relating to its ability to fund additional operating, investing and financing activities. BlackRock's management does not advocate that investors consider such non-GAAP measures in isolation from, or as a substitute for, its cash flows presented in accordance with GAAP.

The following table presents a reconciliation of the consolidated statements of cash flows presented on a GAAP basis to the consolidated statements of cash flows, excluding the impact of the cash flows of Consolidated Sponsored Investment Funds:

(in millions)	GAAP Basis	Impact on Cash Flows of Consolidated Sponsored Investment Funds	Cash Flows Excluding Impact of Consolidated Sponsored Investment Funds
Cash and cash equivalents, December 31, 2015	$ 6,083	$ 100	$ 5,983
Cash flows from operating activities	2,154	(1,063)	3,217
Cash flows from investing activities	(188)	(130)	(58)
Cash flows from financing activities	(1,685)	1,146	(2,831)
Effect of exchange rate changes on cash and cash equivalents	(273)	—	(273)
Net change in cash and cash equivalents	8	(47)	55
Cash and cash equivalents, December 31, 2016	$ 6,091	$ 53	$ 6,038
Cash flows from operating activities	**3,828**	**(384)**	**4,212**
Cash flows from investing activities	**(587)**	**(70)**	**(517)**
Cash flows from financing activities	**(2,630)**	**464**	**(3,094)**
Effect of exchange rate changes on cash and cash equivalents	**192**	**—**	**192**
Net change in cash and cash equivalents	**803**	**10**	**793**
Cash and cash equivalents, December 31, 2017	**$ 6,894**	**$ 63**	**$ 6,831**

Sources of BlackRock's operating cash primarily include investment advisory, administration fees and securities lending revenue, performance fees, revenue from technology and risk management services, advisory and other revenue and distribution fees. BlackRock uses its cash to pay all operating expense, interest and principal on borrowings, income taxes, dividends on BlackRock's capital stock, repurchases of the Company's stock, capital expenditures and purchases of co-investments and seed investments.

For details of the Company's GAAP cash flows from operating, investing and financing activities, see the Consolidated Statements of Cash Flows contained in Part II, Item 8 of this filing.

Cash flows from operating activities, excluding the impact of Consolidated Sponsored Investment Funds, primarily include the receipt of investment advisory and administration fees, securities lending revenue and performance fees offset by the payment of operating expenses incurred in the normal course of business, including year-end incentive compensation accrued for in the prior year.

Cash outflows from investing activities, excluding the impact of Consolidated Sponsored Investment Funds, for 2017 were $517 million and primarily reflected $497 million of investment purchases, $155 million of purchases of property and equipment, $73 million related to the First Reserve Transaction and $29 million related to the Cachematrix Transaction, partially offset by $205 million of net proceeds from sales and maturities of certain investments.

Cash outflows from financing activities, excluding the impact of Consolidated Sponsored Investment Funds, for 2017 were $3,094 million, primarily resulting from $1.4 billion of share repurchases, including $1.1 billion in open market-transactions and $321 million of employee tax withholdings related to employee stock transactions, $1.7 billion of cash dividend payments and $700 million of repayments of long-term borrowings, partially offset by $697 million of proceeds from issuance of long-term borrowings.

The Company manages its financial condition and funding to maintain appropriate liquidity for the business. Liquidity resources at December 31, 2017 and 2016 were as follows:

(in millions)	December 31, 2017	December 31, 2016
Cash and cash equivalents[(1)]	**$ 6,894**	$ 6,091
Cash and cash equivalents held by consolidated VREs[(2)]	**(63)**	(53)
Subtotal	**6,831**	6,038
Credit facility — undrawn	**4,000**	4,000
Total liquidity resources[(3)]	**$ 10,831**	$ 10,038

(1) The percentage of cash and cash equivalents held by the Company's U.S. subsidiaries was approximately 40% and 50% at December 31, 2017 and 2016, respectively. See *Net Capital Requirements* herein for more information on net capital requirements in certain regulated subsidiaries.

(2) The Company cannot readily access such cash to use in its operating activities.

(3) Amounts do not reflect a reduction for year-end incentive compensation accruals of approximately $1.5 billion and $1.3 billion for 2017 and 2016, respectively, which are paid in the first quarter of the following year.

Total liquidity resources increased $793 million during 2017, primarily reflecting cash flows from operating activities, partially offset by cash payments of 2016 year-end incentive awards, share repurchases of $1.4 billion and cash dividend payments of $1.7 billion.

A significant portion of the Company's $3,154 million of Total Investments, as adjusted, is illiquid in nature and, as such, cannot be readily convertible to cash.

Share Repurchases. The Company repurchased 2.6 million common shares in open market transactions under the share repurchase program for approximately $1.1 billion during 2017. At December 31, 2017, there were 6.4 million shares still authorized to be repurchased.

Net Capital Requirements. The Company is required to maintain net capital in certain regulated subsidiaries within a number of jurisdictions, which is partially maintained by retaining cash and cash equivalent investments in those subsidiaries or jurisdictions. As a result, such subsidiaries of the Company may be restricted in their ability to transfer cash between different jurisdictions and to their parents. Additionally, transfers of cash between international jurisdictions may have adverse tax consequences that could discourage such transfers.

BlackRock Institutional Trust Company, N.A. ("BTC") is chartered as a national bank that does not accept client deposits and whose powers are limited to trust and other fiduciary activities. BTC provides investment management services, including investment advisory and securities lending agency services, to institutional clients. BTC is subject to regulatory capital and liquid asset requirements administered by the Office of the Comptroller of the Currency.

At December 31, 2017 and 2016, the Company was required to maintain approximately $1.8 billion and $1.4 billion, respectively, in net capital in certain regulated subsidiaries, including BTC, entities regulated by the Financial Conduct Authority and Prudential Regulation Authority in the United Kingdom, and the Company's broker-dealers. The Company was in compliance with all applicable regulatory net capital requirements.

Undistributed Earnings of Foreign Subsidiaries. As a result of the 2017 Tax Act and the one-time mandatory deemed repatriation tax on untaxed accumulated foreign earnings, a provisional amount of U.S. income taxes was provided on the undistributed foreign earnings. The financial statement basis in excess of tax basis of its foreign subsidiaries remains indefinitely reinvested in foreign operations. The Company will continue to evaluate its capital management plans throughout 2018.

Short-Term Borrowings

2017 Revolving Credit Facility. The Company's credit facility has an aggregate commitment amount of $4.0 billion and was amended in April 2017 to extend the maturity date to April 2022 (the "2017 credit facility"). The 2017 credit facility permits the Company to request up to an additional $1.0 billion of borrowing capacity, subject to lender credit approval, increasing the overall size of the 2017 credit facility to an aggregate principal amount not to exceed $5.0 billion. Interest on borrowings outstanding accrues at a rate based on the applicable London Interbank Offered Rate plus a spread. The 2017 credit facility requires the Company not to exceed a maximum leverage ratio (ratio of net debt to earnings before interest, taxes, depreciation and amortization, where net debt equals total debt less unrestricted cash) of 3 to 1, which was satisfied with a ratio of less than 1 to 1 at December 31, 2017. The 2017 credit facility provides back-up liquidity to fund ongoing working capital for general corporate purposes and various investment opportunities. At December 31, 2017, the Company had no amount outstanding under the 2017 credit facility.

Commercial Paper Program. The Company can issue unsecured commercial paper notes (the "CP Notes") on a private-placement basis up to a maximum aggregate amount outstanding at any time of $4.0 billion. The commercial paper program is currently supported by the 2017 credit facility. At December 31, 2017, BlackRock had no CP Notes outstanding.

Long-Term Borrowings

The carrying value of long-term borrowings at December 31, 2017 included the following:

(in millions)	Maturity Amount	Carrying Value	Maturity
5.00% Notes	$ 1,000	$ 999	December 2019
4.25% Notes	750	747	May 2021
3.375% Notes	750	746	June 2022
3.50% Notes	1,000	994	March 2024
1.25% Notes[(1)]	841	835	May 2025
3.20% Notes	700	693	March 2027
Total Long-term Borrowings	$ 5,041	$ 5,014	

(1) The carrying value of the 1.25% Notes estimated using foreign exchange rate as of December 31, 2017.

For more information on Company's borrowings, see Note 12, *Borrowings*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing.

Contractual Obligations, Commitments and Contingencies

The following table sets forth contractual obligations, commitments and contingencies by year of payment at December 31, 2017:

(in millions)	2018	2019	2020	2021	2022	Thereafter[(1)]	Total
Contractual obligations and commitments[(1)]:							
Long-term borrowings[(2)]:							
Principal	$ —	$ 1,000	$ —	$ 750	$ 750	$ 2,541	$ 5,041
Interest	175	175	125	109	81	185	850
Operating leases	141	132	126	118	109	1,580	2,206
Purchase obligations	128	101	29	22	19	28	327
Investment commitments	298	—	—	—	—	—	298
Total contractual obligations and commitments	**742**	**1,408**	**280**	**999**	**959**	**4,334**	**8,722**
Contingent obligations:							
Contingent payments related to business acquisitions[(3)]	33	179	39	34	—	—	285
Total contractual obligations, commitments and contingent obligations[(4)]	**$ 775**	**$ 1,587**	**$ 319**	**$ 1,033**	**$ 959**	**$ 4,334**	**$ 9,007**

(1) Amounts do not include $350 million of cash payment consideration and contingent consideration related to the Company's agreement to acquire the asset management business of Citibanamex.

(2) The amount of principal and interest payments for the 2025 Notes (issued in Euros) represents the expected payment amounts using foreign exchange rates as of December 31, 2017.

(3) The amount of contingent payments reflected for any year represents the expected payments using foreign currency exchange rates as of December 31, 2017. The fair value of the remaining aggregate contingent payments at December 31, 2017 totaled $236 million and is included in other liabilities on the consolidated statements of financial condition.

(4) At December 31, 2017, the Company had approximately $365 million of net unrecognized tax benefits. Due to the uncertainty of timing and amounts that will ultimately be paid, this amount has been excluded from the table above.

Operating Leases. The Company leases its primary office locations under agreements that expire on varying dates through 2043. In connection with certain lease agreements, the Company is responsible for escalation payments. The contractual obligations table above includes only guaranteed minimum lease payments for such leases and does not project potential escalation or other lease-related payments. These leases are classified as operating leases and, as such, are not recorded as liabilities on the consolidated statements of financial condition.

In May 2017, the Company entered into an agreement with 50 HYMC Owner LLC, for the lease of approximately 847,000 square feet of office space located at 50 Hudson Yards, New York, New York. The term of the lease is twenty years from the date that rental payments begin, expected to occur in

May 2023, with the option to renew for a specified term. The lease requires annual base rental payments of approximately $51 million per year during the first five years of the lease term, increasing every five years to $58 million, $66 million and $74 million per year (or approximately $1.2 billion in base rent over its twenty-year term). This lease is classified as an operating lease and, as such, is not recorded as a liability on the consolidated statements of financial condition.

Purchase Obligations. In the ordinary course of business, BlackRock enters into contracts or purchase obligations with third parties whereby the third parties provide services to or on behalf of BlackRock. Purchase obligations included in the contractual obligations table above represent executory contracts, which are either noncancelable or cancelable with a penalty. At December 31, 2017, the Company's obligations primarily reflected standard service contracts for portfolio services, market data, office-related services and third-party marketing and promotional services, and obligations for equipment. Purchase obligations are recorded on the consolidated financial statements when services are provided and, as such, obligations for services and equipment not received are not included in the consolidated statement of financial condition at December 31, 2017.

Investment Commitments. At December 31, 2017, the Company had $298 million of various capital commitments to fund sponsored investment funds, including consolidated VIEs. These funds include private equity funds, real assets funds and opportunistic funds. This amount excludes additional commitments made by consolidated funds of funds to underlying third-party funds as third-party noncontrolling interest holders have the legal obligation to fund the respective commitments of such funds of funds. Generally, the timing of the funding of these commitments is unknown and the commitments are callable on demand at any time prior to the expiration of the commitment. These unfunded commitments are not recorded on the consolidated statements of financial condition. These commitments do not include potential future commitments approved by the Company that are not yet legally binding. The Company intends to make additional capital commitments from time to time to fund additional investment products for, and with, its clients.

Contingent Payments Related to Business Acquisitions. In connection with certain acquisitions, BlackRock is required to make contingent payments, subject to achieving specified performance targets, which may include revenue related to acquired contracts or new capital commitments for certain products. The fair value of the remaining aggregate contingent payments at December 31, 2017 totaled $236 million, including $128 million related to the First Reserve Transaction, and is included in other liabilities on the consolidated statements of financial condition.

The following items have not been included in the contractual obligations, commitments and contingencies table:

Carried Interest Clawback. As a general partner in certain investment funds, including private equity partnerships and certain hedge funds, the Company may receive carried interest cash distributions from the partnerships in accordance with distribution provisions of the partnership agreements. The Company may, from time to time, be required to return all or a portion of such distributions to the limited partners in the event the limited partners do not achieve a return as specified in the various partnership agreements. Therefore, BlackRock records carried interest subject to such clawback provisions in Total Investments, or cash/cash of consolidated VIEs to the extent that it is distributed, and as a deferred carried interest liability/other liabilities of consolidated VIEs on its consolidated statements of financial condition. Carried interest is recorded as performance fees on consolidated statements of income upon the earlier of the termination of the investment fund or when the likelihood of clawback is considered mathematically improbable.

Indemnifications. In the ordinary course of business or in connection with certain acquisition agreements, BlackRock enters into contracts pursuant to which it may agree to indemnify third parties in certain circumstances. The terms of these indemnities vary from contract to contract and the amount of indemnification liability, if any, cannot be determined or the likelihood of any liability is considered remote and, therefore, has not been included in the table above or recorded in the consolidated statement of financial condition at December 31, 2017. See further discussion in Note 13, *Commitments and Contingencies*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing.

On behalf of certain clients, the Company lends securities to highly rated banks and broker-dealers. In these securities lending transactions, the borrower is required to provide and maintain collateral at or above regulatory minimums. Securities on loan are marked to market daily to determine if the borrower is required to pledge additional collateral. BlackRock has issued certain indemnifications to certain securities lending clients against potential loss resulting from a borrower's failure to fulfill its obligations under the securities lending agreement should the value of the collateral pledged by the borrower at the time of default be insufficient to cover the borrower's obligation under the securities lending agreement. At December 31, 2017, the Company indemnified certain of its clients for their securities lending loan balances of approximately $200 billion. The Company held, as agent, cash and securities totaling $214 billion as collateral for indemnified securities on loan at December 31, 2017. The fair value of these indemnifications was not material at December 31, 2017.

While the collateral pledged by a borrower is intended to be sufficient to offset the borrower's obligations to return securities borrowed and any other amounts owing to the lender under the relevant securities lending agreement, in the event of a borrower default, the Company can give no assurance that the collateral pledged by the borrower will be sufficient to fulfill such obligations. If the amount of such pledged collateral is not sufficient to fulfill such obligations to a client for whom the Company has provided indemnification, BlackRock would be responsible for the amount of the shortfall. These indemnifications cover only the collateral shortfall described above, and do not in any way guarantee, assume or otherwise insure the investment performance or return of any cash collateral vehicle into which securities lending cash collateral is invested.

Compensation and Benefit Obligations. The Company has various compensation and benefit obligations, including bonuses, commissions and incentive payments payable, defined contribution plan matching contribution obligations, and deferred compensation arrangements, that are excluded from the contractual obligations and commitments table above. Accrued compensation and benefits at December 31, 2017 totaled $2,153 million and included incentive compensation of $1,499 million, deferred compensation of $350 million and other compensation and benefits related obligations of $304 million. Substantially all of the incentive compensation liability was paid in the first quarter of 2018, while the deferred compensation obligations are generally payable over periods of up to three years.

CRITICAL ACCOUNTING POLICIES

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expense during the reporting periods. Actual results could differ significantly from those estimates. Management considers the following critical accounting policies important to understanding the consolidated financial statements. For a summary of these and additional accounting policies see Note 2, *Significant Accounting Policies*, in the consolidated financial statements included in Part II, Item 8 of this filing.

Consolidation

In the normal course of business, the Company is the manager of various types of sponsored investment vehicles. The Company performs an analysis for investment products to determine if the product is a VIE or a VRE. Assessing whether an entity is a VIE or a VRE involves judgment and analysis. Factors considered in this assessment include the entity's legal organization, the entity's capital structure and equity ownership, and any related party or de facto agent implications of the Company's involvement with the entity. Investments that are determined to be VREs are consolidated if the Company can exert control over the financial and operating policies of the investee, which generally exists if there is greater than 50% voting interest. See Note 4, *Consolidated Voting Rights Entities*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information. Investments that are determined to be VIEs are consolidated if the Company is the primary beneficiary ("PB") of the entity.

At December 31, 2017, BlackRock was determined to be the PB for certain investment funds that were determined to be VIEs, which required BlackRock to consolidate them. BlackRock was deemed to be the PB because it has the power to direct the activities that most significantly impact the entities' economic performance and has the obligation to absorb losses or the right to receive benefits that potentially could be significant to the VIE. The Company generally consolidates VIEs in which it holds an equity ownership interest of 10% or greater and deconsolidates such VIEs once equity ownership falls below 10%. See Note 5, *Variable Interest Entities*, in the notes to the consolidated financial statements contained in Part II, Item 8 of this filing for more information.

Investments

Equity Method Investments. For equity investments where BlackRock does not control the investee, and where it is not the PB of a VIE, but can exert significant influence over the financial and operating policies of the investee, the Company follows the equity method of accounting. The evaluation of whether the Company exerts control or significant influence over the financial and operational policies of its investees requires significant judgment based on the facts and circumstances surrounding each individual investment. Factors considered in these evaluations may include the type of investment, the legal structure of the investee, the terms and structure of the investment agreement, including investor voting or other rights, the terms of BlackRock's advisory agreement or other agreements with the investee, any influence BlackRock may have on the governing board of the investee, the legal rights of other investors in the entity pursuant to the fund's operating documents and the relationship between BlackRock and other investors in the entity.

BlackRock's equity method investees that are investment companies record their underlying investments at fair value. Therefore, under the equity method of accounting, BlackRock's share of the investee's underlying net income predominantly represents fair value adjustments in the investments held by the equity method investees. BlackRock's share of the investee's underlying net income or loss is based upon the most currently available information and is recorded as nonoperating income (expense) for investments in investment companies, or as advisory and other revenue for certain strategic investments, which are recorded in other assets, since such investees are considered to be an extension of BlackRock's core business.

At December 31, 2017, the Company had $816 million and $468 million of equity method investments, included in investments and other assets, respectively, and at December 31, 2016, the Company had $730 million and $348 million of equity method investments included in investments and other assets, respectively.

Impairments of Investments. Management periodically assesses equity method, available-for-sale, held-to-maturity and cost investments for other-than-temporary impairment ("OTTI"). If an OTTI exists, an impairment charge is recorded in nonoperating income (expense) on the consolidated statements of income.

For equity method, held-to-maturity and cost method investments, if circumstances indicate that an OTTI may exist, the investments are evaluated using market values, where available, or the expected future cash flows of the investment. If the Company determines an OTTI exists, an impairment charge is recognized for the excess of the carrying amount of the investment over its estimated fair value.

For available-for-sale securities, when the fair value is lower than cost, the Company considers, among other factors, the length of time the security has been in a loss position, the extent to which the security's fair value is less than cost, the financial condition and near-term prospects of the security's issuer and the Company's ability and intent to hold the security for a length of time sufficient to allow for recovery of such unrealized losses. For equity securities, if the impairment is considered other-than-temporary, an impairment charge is recognized for the excess of the carrying amount of the investment over its fair value. For debt securities, the Company considers whether: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery; or

(3) it expects to recover the entire amortized cost basis of the security. If the Company intends to sell the security or it is more likely than not that it will be required to sell the security, the entire difference between the amortized cost and fair value must be recognized in earnings. If the Company does not intend to sell a security and it is not more likely than not that it will be required to sell the security but the security has suffered an impairment related to credit, the credit loss will be bifurcated from the total decline in value and recorded in earnings with the remaining portion recorded in accumulated other comprehensive income.

For the Company's investments in CLOs, the Company reviews cash flow estimates over the life of each CLO investment. On a quarterly basis, if the present value of the estimated future cash flows is lower than the carrying value of the investment and there is an adverse change in estimated cash flows, an impairment is considered to be other-than-temporary. An impairment charge is recognized for the excess of the carrying amount of the investment over its estimated fair value.

Evaluation of impairments involves significant assumptions and management judgments, which could differ from actual results, and these differences could have a material impact on the consolidated statements of income.

Fair Value Measurements

The Company's assessment of the significance of a particular input to the fair value measurement according to the fair value hierarchy (i.e., Level 1, 2 and 3 inputs, as defined) in its entirety requires judgment and considers factors specific to the financial instrument. See Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing for more information on fair value measurements.

Changes in Valuation. Changes in value on $2,878 million of Total Investments will impact the Company's nonoperating income (expense), $103 million will impact accumulated other comprehensive income, $195 million are held at cost or amortized cost and the remaining $298 million relates to carried interest, which will not impact nonoperating income (expense). At December 31, 2017, changes in fair value of approximately $1,739 million of consolidated VIEs/VREs will impact BlackRock's net income (loss) attributable to noncontrolling interests on the consolidated statements of income. BlackRock's net exposure to changes in fair value of consolidated VIEs/VREs was $1,419 million.

Goodwill and Intangible Assets

The value of advisory contracts acquired in business acquisitions to manage AUM in proprietary open-end investment funds as well as collective trust funds without a specified termination date are classified as indefinite-lived intangible assets. The assignment of indefinite lives to such investment fund contracts is based upon the assumption there is no foreseeable limit on the contract period to manage these funds due to the likelihood of continued renewal at little or no cost. In addition, trade names/ trademarks are considered indefinite-lived intangibles as they are expected to generate cash flows indefinitely. Goodwill represents the cost of a business acquisition in excess of the fair value of the net assets acquired. Indefinite-lived intangible assets and goodwill are not amortized. Finite-lived management contracts and investor/ customer relationships, which relate to acquired separate accounts and funds with a specified termination date, are amortized over their remaining expected useful lives, which, at December 31, 2017, ranged from 1 to 11 years with a weighted-average remaining estimated useful life of 6.5 years.

Goodwill. The Company assesses its goodwill for impairment at least annually, considering such factors as the book value and the market capitalization of the Company. The impairment assessment performed as of July 31, 2017 indicated no impairment charge was required. The Company continues to monitor its book value per share compared with closing prices of its common stock for potential indicators of impairment. At December 31, 2017, the Company's common stock closed at $513.71, which exceeded its book value of approximately $197.61 per share.

Indefinite-lived and finite-lived intangibles. The Company performs assessments to determine if any intangible assets are impaired and whether the indefinite-life and finite-life classifications are still appropriate.

In evaluating whether it is more likely than not that the fair value of indefinite-lived intangibles is less than carrying value, BlackRock performed certain quantitative assessments and assessed various significant qualitative factors including AUM, revenue basis points, projected AUM growth rates, operating margins, tax rates and discount rates. In addition, the Company considered other factors including: (i) macroeconomic conditions such as a deterioration in general economic conditions, limitations on accessing capital, fluctuations in foreign exchange rates, or other developments in equity and credit markets; (ii) industry and market considerations such as a deterioration in the environment in which an entity operates, an increased competitive environment, a decline in market-dependent multiples or metrics, a change in the market for an entity's services, or regulatory, legal or political developments; and (iii) entity-specific events, such as a change in management or key personnel, overall financial performance and litigation that could affect significant inputs used to determine the fair value of the indefinite-lived intangible asset. If an indefinite-lived intangible is determined to be more likely than not impaired, then the fair value of the asset is compared with its carrying value and any excess of the carrying value over the fair value would be recognized as an expense in the period in which the impairment occurs.

For finite-lived intangible assets, if potential impairment circumstances are considered to exist, the Company will perform a recoverability test, using an undiscounted cash flow analysis. Actual results could differ from these cash flow estimates, which could materially impact the impairment conclusion. If the carrying value of the asset is determined not to be recoverable based on the undiscounted cash flow test, the difference between the book value of the asset and its current fair value would be recognized as an expense in the period in which the impairment occurs.

In addition, management judgment is required to estimate the period over which finite-lived intangible assets will contribute to the Company's cash flows and the pattern in which these assets will be consumed. A change in the remaining useful life of any of these assets, or the reclassification of an indefinite-lived intangible asset to a finite-lived intangible asset, could have a significant impact on the Company's amortization expense, which was $89 million, $99 million and $128 million for 2017, 2016 and 2015, respectively.

In 2017, 2016 and 2015, the Company performed impairment tests, including evaluating various qualitative factors and performing certain quantitative assessments. The Company determined that no impairment charges were required, the classification of indefinite-lived versus finite-lived intangibles was still appropriate and no changes to the expected lives of the finite-lived intangibles were required. The Company continuously monitors various factors, including AUM, for potential indicators of impairment.

Income Taxes

Deferred income tax assets and liabilities are recognized for future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases using currently enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

Significant management judgment is required in estimating the ranges of possible outcomes and determining the probability of favorable or unfavorable tax outcomes and potential interest and penalties related to such unfavorable outcomes. Actual future tax consequences relating to uncertain tax positions may be materially different than the Company's current estimates. At December 31, 2017, BlackRock had $629 million of gross unrecognized tax benefits, of which $316 million, if recognized, would affect the effective tax rate.

Management is required to estimate the timing of the recognition of deferred tax assets and liabilities, make assumptions about the future deductibility of deferred income tax assets and assess deferred income tax liabilities based on enacted tax rates for the appropriate tax jurisdictions to determine the amount of such deferred income tax assets and liabilities. At December 31, 2017, the Company had deferred tax assets of $19 million and net deferred tax liabilities of approximately $3,538 million on the consolidated statement of financial condition. Changes in deferred tax assets and liabilities may occur in certain circumstances, including statutory income tax rate changes, statutory tax law changes, changes in the anticipated timing of recognition of deferred tax assets and liabilities or changes in the structure or tax status of the Company.

The Company assesses whether a valuation allowance should be established against its deferred income tax assets based on consideration of all available evidence, both positive and negative, using a more likely than not standard. The assessment considers, among other matters, the nature, frequency and severity of recent losses, forecast of future profitability, the duration of statutory carry back and carry forward periods, the Company's experience with tax attributes expiring unused, and tax planning alternatives.

The Company records income taxes based upon its estimated income tax liability or benefit. The Company's actual tax liability or benefit may differ from the estimated income tax liability or benefit. The Company had current income taxes receivables of approximately $142 million and current income taxes payables of $256 million at December 31, 2017.

For further information on the 2017 Tax Act, see Note 21, *Income Taxes*, in the consolidated financial statements included in Part II, Item 8 of this filing.

Revenue Recognition

Investment advisory and administration fees are recognized as the services are performed. Such fees are primarily based on agreed-upon percentages of the net asset value of AUM or committed capital. Investment advisory and administration fees are affected by changes in AUM, including market appreciation or depreciation, foreign exchange translation and net inflows or outflows. Investment advisory and administration fees for investment funds are shown net of fees waived pursuant to contractual expense limitations of the funds or voluntary waivers.

The Company contracts with third parties and related parties for various fund distribution and shareholder servicing to be performed on behalf of certain funds the Company manages. Such arrangements generally are priced as a portion of the fee paid by the fund. In certain cases, the fund (primarily international funds) takes on the primary responsibility for payment for services such that the Company bears no credit risk to the third-party. The Company currently records its management fees net of retrocessions. The Company has additional contracts for similar services with third parties, which due to the terms of the contracts, are recorded as distribution and servicing costs and thus not netted on the consolidated statements of income.

The Company earns revenue by lending securities as an agent on behalf of clients, primarily to brokerage institutions. Revenue is accounted for on an accrual basis. The securities loaned are secured by collateral, generally ranging from 102% to 112% of the value of the loaned securities. Generally, the revenue earned is shared between the Company and the funds or other third-party accounts managed by the Company from which the securities are borrowed. For 2017, 2016 and 2015, securities lending revenue earned by the Company totaled $597 million, $579 million and $513 million, respectively, and is recorded in investment advisory, administration fees and securities lending revenue on the consolidated statements of income. Investment advisory, administration fees and securities lending revenue are reported together as the fees for these services often are agreed upon with clients as a bundled fee.

The Company receives investment advisory performance fees or incentive allocations, from certain actively managed investment funds and certain separately managed accounts. These performance fees are dependent upon exceeding specified relative or absolute investment return thresholds. Such fees are recorded upon completion of the measurement period, which varies by product or account, and could be monthly, quarterly, annually or longer.

In addition, the Company is allocated carried interest from certain alternative investment products upon exceeding performance thresholds. BlackRock may be required to reverse/return all, or part, of such carried interest allocations depending upon future performance of these funds. Therefore, BlackRock records carried interest subject to such clawback provisions in Total Investments or cash/ cash of consolidated VIEs to the extent that it is distributed, on its consolidated statements of financial condition. Carried interest is recorded as performance fee revenue upon the earlier of the termination of the investment fund or when the likelihood of clawback is considered mathematically improbable.

The Company records a deferred carried interest liability to the extent it receives cash or capital allocations related to carried interest prior to meeting the revenue recognition criteria. At December 31, 2017 and 2016, the Company had $219 million and $152 million, respectively, of deferred carried interest recorded in other liabilities/other liabilities of consolidated VIEs on the consolidated statements of financial condition. A portion of the deferred carried interest liability will be paid to certain employees. The ultimate timing of the recognition of performance fee revenue, if any, for these products is unknown.

The following table presents changes in the deferred carried interest liability (including the portion related to consolidated VIEs) for 2017 and 2016:

(in millions)	**2017**	**2016**
Beginning balance	**$ 152**	$ 143
Net increase (decrease) in unrealized allocations	**75**	37
Performance fee revenue recognized	**(21)**	(28)
Acquisition	**13**	—
Ending balance	**$ 219**	$ 152

For 2017, 2016 and 2015, performance fee revenue (which included recognized carried interest) totaled $594 million, $295 million and $621 million, respectively.

Fees earned for technology and risk management revenue are recorded as services are performed and are generally determined using the value of positions on the *Aladdin* platform or on a fixed-rate basis. For 2017, 2016 and 2016, technology and risk management revenue totaled $677 million, $595 million and $528 million, respectively.

Adjustments to revenue arising from initial estimates recorded historically have been immaterial since the majority of BlackRock's investment advisory and administration revenue is calculated based on AUM and since the Company does not record performance fee revenue until performance thresholds have been exceeded and the likelihood of clawback is mathematically improbable.

Accounting Developments

Recent Accounting Pronouncements Not Yet Adopted.

Revenue from Contracts with Customers. In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). ASU 2014-09 outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The guidance also changes the accounting for certain contract costs and revises the criteria for determining if an entity is acting as a principal or agent in certain arrangements.

The key changes in the standard that impact the Company's revenue recognition relate to the presentation of certain revenue contracts and associated contract costs. The most significant of these changes relates to the presentation of certain distribution costs, which are currently presented net against revenues (contra-revenue) and will be presented as an expense on a gross basis. The Company adopted ASU 2014-09 effective January 1, 2018 on a full retrospective basis, which will require 2016 and 2017 to be restated in future filings. The cumulative effect adjustment to the 2016 opening retained earnings was not material. The Company currently expects the net gross up to revenue to be approximately $1 billion with a corresponding gross up to expense for both 2016 and 2017. Consequently, the Company expects its GAAP operating margin to decline upon adoption due to the gross up of revenue. However, no material impact is expected on the Company's as adjusted operating margin.

For accounting pronouncements that the Company adopted during the year ended December 31, 2017 and for additional recent accounting pronouncements not yet adopted, see Note 2, *Significant Accounting Policies*, in the consolidated financial statements contained in Part II, Item 8 of this filing.

Item 7a. Quantitative and Qualitative Disclosures about Market Risk

AUM Market Price Risk. BlackRock's investment advisory and administration fees are primarily comprised of fees based on a percentage of the value of AUM and, in some cases, performance fees expressed as a percentage of the returns realized on AUM. At December 31, 2017, the majority of the Company's investment advisory and administration fees were based on average or period end AUM of the applicable investment funds or separate accounts. Movements in equity market prices, interest rates/credit spreads, foreign exchange rates or all three could cause the value of AUM to decline, which would result in lower investment advisory and administration fees.

Corporate Investments Portfolio Risks. As a leading investment management firm, BlackRock devotes significant resources across all of its operations to identifying, measuring, monitoring, managing and analyzing market and operating risks, including the management and oversight of its own investment portfolio. The Board of Directors of the Company has adopted guidelines for the review of investments to be made by the Company, requiring, among other things, that investments be reviewed by certain senior officers of the Company, and that certain investments may be referred to the Audit Committee or the Board of Directors, depending on the circumstances, for approval.

In the normal course of its business, BlackRock is exposed to equity market price risk, interest rate/credit spread risk and foreign exchange rate risk associated with its corporate investments.

BlackRock has investments primarily in sponsored investment products that invest in a variety of asset classes, including real assets, private equity and hedge funds. Investments generally are made for co-investment purposes, to establish a performance track record, to hedge exposure to certain deferred compensation plans or for regulatory purposes. Currently, the Company has a seed capital hedging program in which it enters into swaps to hedge market and interest rate exposure to certain investments. At December 31, 2017, the Company had outstanding total return swaps with an aggregate notional value of approximately $587 million. At December 31, 2017, there were no outstanding interest rate swaps.