

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

Date of report (Date of earliest event reported): May 16, 2019



THE ALLSTATE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other
jurisdiction of incorporation)

1-11840
(Commission
File Number)

36-3871531
(IRS Employer
Identification No.)

2775 Sanders Road, Northbrook, Illinois
(Address of principal executive offices)

60062
(Zip Code)

Registrant's telephone number, including area code **(847) 402-5000**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$.01 per share	ALL	New York Stock Exchange Chicago Stock Exchange
5.10% Fixed-to-Floating Rate Subordinated Debentures due 2053	ALL.PR.B	New York Stock Exchange
Depository Shares each representing a 1/1,000th interest in a share of Fixed Rate Noncumulative Perpetual Preferred Stock, Series A	ALL PR A	New York Stock Exchange
Depository Shares each representing a 1/1,000th interest in a share of Fixed Rate Noncumulative Perpetual Preferred Stock, Series D	ALL PR D	New York Stock Exchange
Depository Shares each representing a 1/1,000th interest in a share of Fixed Rate Noncumulative Perpetual Preferred Stock, Series E	ALL PR E	New York Stock Exchange
Depository Shares each representing a 1/1,000th interest in a share of Fixed Rate Noncumulative Perpetual Preferred Stock, Series F	ALL PR F	New York Stock Exchange
Depository Shares each representing a 1/1,000th interest in a share of Fixed Rate Noncumulative Perpetual Preferred Stock, Series G	ALL PR G	New York Stock Exchange

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company _____

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. _____

Section 8 – Other Events

Item 8.01. Other Events.

As disclosed in the Annual Report on Form 10-K of The Allstate Corporation (the “Company”) for the fiscal year ended December 31, 2018, on January 1, 2019, the Company changed its accounting principle for recognizing actuarial gains and losses and expected return on plan assets for pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized through earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. This change has been applied on a retrospective basis.

Impact of the accounting change on selected financial data

(\$ in millions, except per share data and ratios)	2018	2017	2016
As adjusted			
Net income	\$ 2,160	\$ 3,554	\$ 1,808
Net income applicable to common shareholders	2,012	3,438	1,692
Net income applicable to common shareholders per common share - basic	5.78	9.50	4.54
Net income applicable to common shareholders per common share - diluted	5.70	9.35	4.48
Return on common shareholders’ equity	10.0%	17.4%	9.1%
Property-Liability combined ratio	93.2	93.0	95.5
Previously reported			
Net income	2,252	3,189	1,877
Net income applicable to common shareholders	2,104	3,073	1,761
Net income applicable to common shareholders per common share - basic	6.05	8.49	4.72
Net income applicable to common shareholders per common share - diluted	5.96	8.36	4.67
Return on common shareholders’ equity	10.5%	15.5%	9.5%
Property-Liability combined ratio	93.6	93.6	96.0

This Current Report on Form 8-K is being filed to reflect the change in accounting principle on the Company’s previously issued financial statements. For further detail, see Note 2 of the consolidated financial statements. The following items of the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018 are being revised in Exhibit 99.1 of Item 9.01. to this Current Report on Form 8-K:

- Part II, Item 6, Selected Financial Data
- Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations
- Part II, Item 8, Financial Statements and Supplementary Data
- Part IV, Item 15(a)(2), Financial Statement Schedules

The revised sections of the Annual Report on Form 10-K have not been updated for any other activities or events occurring after February 15, 2019, the date this information was filed with the Securities and Exchange Commission in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018. This Current Report on Form 8-K should be read in conjunction with our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019 and our Current Reports on Form 8-K and any amendments thereto for updated information.

Section 9 – Financial Statements and Exhibits

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

23 [Consent of Independent Registered Public Accounting Firm](#)

99.1 [Revised items in 2018 Annual Report on Form 10-K](#)

Part II, Item 6, Selected Financial Data

Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations

Part II, Item 8, Financial Statements and Supplementary Data

Part IV, Item 15(a)(2), Financial Statement Schedules

101.INS XBRL Instance Document

101.SCH XBRL Taxonomy Extension Schema

101.CAL XBRL Taxonomy Extension Calculation Linkbase

101.DEF XBRL Taxonomy Extension Definition Linkbase

101.LAB XBRL Taxonomy Extension Label Linkbase

101.PRE XBRL Taxonomy Extension Presentation Linkbase

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

THE ALLSTATE CORPORATION

(Registrant)

By: /s/ Eric K. Ferren

Name: Eric K. Ferren

Title: Senior Vice President, Controller and Chief Accounting Officer

Date: May 16, 2019

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following registration statements of our report dated February 15, 2019 (May 16, 2019, as to the effects of the retrospective adoption of the change in accounting principles for recognizing pension and other postretirement benefit plan costs as discussed in Note 2), relating to the financial statements and financial statement schedules of The Allstate Corporation and subsidiaries (which report expresses an unqualified opinion and includes explanatory paragraphs relating to the adoption of Accounting Standards Update No. 2016-01, Financial Instruments - Overall (Subtopic 825-10) and the change in accounting principles for recognizing pension and other postretirement benefit plan costs as discussed in Note 2) and the effectiveness of The Allstate Corporation's internal control over financial reporting, appearing in this Current Report on Form 8-K of The Allstate Corporation dated May 16, 2019, and to the reference to us under the heading "Experts" in the Prospectus, which is part of the registration statements.

Form S-3 Registration Statement Nos.	Form S-8 Registration Statement Nos.
333-34583	333-04919
333-224541	333-16129
	333-40283
	333-134243
	333-144691
	333-175526
	333-188821
	333-200390
	333-218343
	333-228490
	333-228491
	333-228492

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois
May 16, 2019

Item 6. Selected Financial Data

The following table sets forth selected financial data for each of the last five years. The amounts below reflect the change in accounting principle for our pension and other postretirement benefit plans. See Notes 2 and 17 of the consolidated financial statements for further information regarding the impact of the change in accounting principle.

5-year summary of selected financial data					
(\$ in millions, except per share data)	2018	2017	2016	2015	2014
Consolidated Operating Results					
Insurance premiums and contract charges	\$ 36,513	\$ 34,678	\$ 33,582	\$ 32,467	\$ 31,086
Other revenue	939	883	865	863	859
Net investment income	3,240	3,401	3,042	3,156	3,459
Realized capital gains and losses	(877)	445	(90)	30	694
Total revenues	39,815	39,407	37,399	36,516	36,098
Net income applicable to common shareholders	2,012	3,438	1,692	2,138	2,066
Net income applicable to common shareholders per common share:					
Net income applicable to common shareholders per common share - Basic	5.78	9.50	4.54	5.33	4.79
Net income applicable to common shareholders per common share - Diluted	5.70	9.35	4.48	5.26	4.71
Cash dividends declared per common share	1.84	1.48	1.32	1.20	1.12
Consolidated Financial Position					
Investments	\$ 81,260	\$ 82,803	\$ 81,799	\$ 77,758	\$ 81,113
Total assets	112,249	112,422	108,610	104,656	108,479
Reserves for claims and claims expense, life-contingent contract benefits and contractholder funds	58,002	58,308	57,749	57,411	57,832
Long-term debt	6,451	6,350	6,347	5,124	5,140
Shareholders' equity	21,312	22,551	20,569	20,020	22,303
Shareholders' equity per diluted common share	57.56	57.58	50.76	47.33	48.23

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

	Page
Overview and 2018 Highlights	3
Consolidated Net Income	7
Property-Liability Operations	8
Allstate Protection	11
– Allstate brand	18
– Esurance brand	23
– Encompass brand	27
Discontinued Lines and Coverages	31
Service Businesses	33
Claims and Claims Expense Reserves	35
Allstate Life	44
Allstate Benefits	49
Allstate Annuities	52
Investments	56
Market Risk	66
Pension and Other Postretirement Plans	70
Capital Resources and Liquidity	72
Enterprise Risk and Return Management	79
Application of Critical Accounting Estimates	81
Regulation and Legal Proceedings	94
Pending Accounting Standards	94

Overview

The following discussion highlights significant factors influencing the consolidated financial position and results of operations of The Allstate Corporation (referred to in this document as “we,” “our,” “us,” the “Company” or “Allstate”). It should be read in conjunction with the 5-year summary of selected financial data, consolidated financial statements and related notes found under Part II, Item 6, and Item 8, contained herein.

The most important factors we monitor to evaluate the financial condition and performance for our reportable segments and the Company include:

- **Allstate Protection:** premium, policies in force (“PIF”), new business sales, policy retention, price changes, claim frequency and severity, catastrophes, loss ratio, expenses, underwriting results, and relative competitive position.
- **Service Businesses:** revenues, premium written, PIF, adjusted net income and net income.
- **Allstate Life:** premiums and contract charges, new business sales, PIF, benefit spread, expenses, adjusted net income and net income.
- **Allstate Benefits:** premiums, new business sales, PIF, benefit ratio, expenses, adjusted net income and net income.
- **Allstate Annuities:** investment spread, asset-liability matching, contract benefits, expenses, adjusted net income, net income and invested assets.
- **Investments:** exposure to market risk, asset allocation, credit quality/experience, total return, net investment income, cash flows, realized capital gains and losses, unrealized capital gains and losses, stability of long-term returns, and asset and liability duration.
- **Financial condition:** liquidity, parent holding company deployable assets, financial strength ratings, operating leverage, debt levels, book value per share and return on equity.

Measuring segment profit or loss

The measure of segment profit or loss used in evaluating performance is underwriting income for the Allstate Protection and Discontinued Lines and Coverages segments and adjusted net income for the Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other segments.

Underwriting income is calculated as premiums earned and other revenue, less claims and claims expense (“losses”), amortization of deferred policy acquisition costs (“DAC”), operating costs and expenses and restructuring and related charges, as determined using accounting principles generally accepted in the United States of America (“GAAP”). We use this measure in our evaluation of results of operations to analyze the profitability of the Property-Liability insurance operations separately from investment results. Underwriting income is reconciled to net income applicable to common shareholders in the Property-Liability Operations section of Management’s Discussion and Analysis (“MD&A”).

Adjusted net income is net income applicable to common shareholders, excluding:

-
- Realized capital gains and losses, after-tax, except for periodic settlements and accruals on non-hedge derivative instruments, which are reported with realized capital gains and losses but included in adjusted net income
-
- Pension and other postretirement remeasurement gains and losses, after-tax
-
- Valuation changes on embedded derivatives not hedged, after-tax
-
- Amortization of DAC and deferred sales inducement costs (“DSI”), to the extent they resulted from the recognition of certain realized capital gains and losses or valuation changes on embedded derivatives not hedged, after-tax
-
- Business combination expenses and the amortization of purchased intangible assets, after-tax
-
- Gain (loss) on disposition of operations, after-tax
-
- Adjustments for other significant non-recurring, infrequent or unusual items, when (a) the nature of the charge or gain is such that it is reasonably unlikely to recur within two years, or (b) there has been no similar charge or gain within the prior two years
-

Adjusted net income is reconciled to net income applicable to common shareholders in the Service Businesses, Allstate Life, Allstate Benefits and Allstate Annuities Segment sections of MD&A.

2018 Highlights

Allstate Delivered on 2018 Operating Priorities ⁽¹⁾

Better Serve Customers	Net Promoter Score increased for all major businesses Renewal ratio improved across Allstate, Esurance and Encompass brands
Achieve Target Economic Returns on Capital	Return on common shareholders' equity of 10.0% for 2018
Grow Customer Base	Policy growth accelerated in Allstate and Esurance brands SquareTrade PIF grew 29.9 million, or 77.1%, compared to 2017
Proactively Manage Investments	Net investment income of \$3.2 billion in 2018 Total return on \$81 billion investment portfolio of 0.8% Expanded telematics offerings, Arity collecting 10 billion miles of data per month
Building Long-Term Growth Platforms	SquareTrade continued its rapid growth, adding a leading U.S. retailer during the year Acquired InfoArmor, a fast growing identity protection service provider

⁽¹⁾ 2019 operating priorities will remain consistent with the 2018 priorities.

Consolidated Net Income

(\$ in billions)



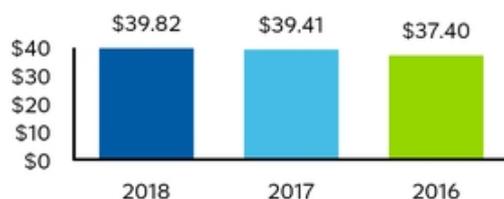
Consolidated net income applicable to common shareholders decreased 41.5% in 2018 compared to 2017. The decrease was primarily driven by net realized capital losses compared to net realized capital gains in 2017, pension and other postretirement rereasurement losses compared to gains in 2017, a lower tax benefit from the Tax Legislation, lower favorable prior year reserve reestimates and higher distribution expenses from growth, partially offset by higher premiums earned, a lower effective tax rate from the Tax Legislation and lower catastrophe losses. The Property-Liability combined ratio was 93.2 in 2018 compared to 93.0 in 2017.

Net realized capital losses on investments in 2018 were primarily due to declines in the valuation of equity investments, which are now recorded in net income due to the adoption of the recognition and measurement accounting standard effective January 1, 2018.

2017 vs. 2016 - Increase was primarily due to higher Allstate Protection premiums earned, a tax benefit from the Tax Legislation, pension and other postretirement rereasurement gains compared to losses in 2016, net realized capital gains in 2017 compared to net realized capital losses in 2016, higher net investment income, lower claims and claims expense, partially offset by higher catastrophe losses.

Total Revenue

(\$ in billions)

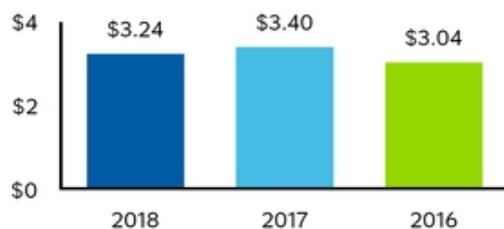


Total revenue increased 1.0% in 2018 compared to 2017, driven by a 5.3% increase in insurance premiums and contract charges, which were partially offset by net realized capital losses in 2018 compared to net realized capital gains in 2017 and lower net investment income. Insurance premiums increased in the following segments: Allstate Protection (Allstate brand and Esurance), Service Businesses (SquareTrade and Allstate Dealer Services), Allstate Benefits and Allstate Life.

2017 vs. 2016 - Increase was primarily due to higher Allstate Protection insurance premiums, net realized capital gains in 2017 compared to net realized capital losses in 2016, higher net investment income and the acquisition of SquareTrade.

Net Investment Income

(\$ in billions)



Net investment income decreased 4.7% in 2018 compared to 2017, primarily due to strong performance-based investment results in 2017, partially offset by higher market-based portfolio income as interest rates increased during 2018.

2017 vs. 2016 - Increase reflected strong 2017 performance-based results, primarily from limited partnerships, an increase in invested assets and stable market-based yields, partially offset by higher employee-related expenses.

Segment Highlights

Allstate Protection underwriting income totaled \$2.34 billion in 2018, a 1.7% increase from \$2.30 billion in 2017, primarily due to increased premiums earned, lower catastrophe losses and improved auto claim frequency, partially offset by higher claim severity, operating costs and expenses and lower favorable prior year reserve reestimates.

Premiums written increased 6.0% to \$33.56 billion in 2018 compared to 2017.

Service Businesses adjusted net income was \$8 million in 2018 compared to an adjusted net loss of \$54 million in 2017. The improvement in 2018 was primarily due to increased revenue at SquareTrade, improved loss experience at SquareTrade and Allstate Dealer Services and lower restructuring charges in 2018 compared to 2017, partially offset by higher loss costs at Allstate Roadside Services.

Total revenues increased 24.5% or \$259 million to \$1.32 billion in 2018 from \$1.06 billion in 2017. The increase was primarily due to SquareTrade's growth through its U.S. retail and international channels and increased premiums earned on Allstate Dealer Services' vehicle service contracts. 2018 revenue also includes \$101 million from SquareTrade due to the adoption of the revenue from contracts with customers accounting standard.

Allstate Life adjusted net income was \$295 million in 2018 compared to \$259 million in 2017. The increase was primarily due to a lower effective tax rate from the Tax Legislation and increased premiums and contract charges, partially offset by higher contract benefits.

Premiums and contract charges totaled \$1.32 billion in 2018, an increase of 2.7% from \$1.28 billion in 2017.

Allstate Benefits adjusted net income was \$124 million in 2018 compared to \$100 million in 2017. The increase was primarily due to higher premiums and a lower effective tax rate from the Tax Legislation, partially offset by higher contract benefits and operating costs and expenses.

Premiums and contract charges totaled \$1.14 billion in 2018, an increase of 4.7% from \$1.08 billion in 2017.

Allstate Annuities adjusted net income was \$131 million in 2018 compared to \$205 million in 2017. The decrease was primarily due to lower net investment income, driven by performance-based investment results and decreased average investment balances, partially offset by a lower effective tax rate from the Tax Legislation, decreased interest credited to contractholder funds and lower contract benefits.

Net investment income decreased 16.0% to \$1.10 billion in 2018 from \$1.31 billion in 2017.

Financial Highlights

Tax reform On December 22, 2017, the Tax Legislation became effective, permanently reducing the U.S. corporate income tax rate from 35% to 21% beginning January 1, 2018. As a result, the corporate tax rate is not comparable between years. During 2017, we revalued deferred tax assets and liabilities and recorded liabilities related to the transition to the modified territorial system for international taxation, resulting in a \$509 million reduction to income tax expense or a \$1.38 per share benefit to earnings per common share for the year ended December 31, 2017. During 2018, the impact of the Tax Legislation was adjusted from our preliminary estimate due to, among other things, changes in interpretations and assumptions we previously made, guidance that was issued and actions we took as a result of the Tax Legislation. During 2018, we recognized a net tax benefit of \$29 million, as a reduction to income tax expense related to the provisional amounts. The accounting for income tax effects of the Tax Legislation has been completed. The impact of Tax Legislation is excluded from adjusted net income when evaluating segment performance.

InfoArmor On October 5, 2018, we acquired InfoArmor, Inc. ("InfoArmor"), a leading provider of identity protection in the employee benefits market, for \$525 million in cash. InfoArmor primarily offers identity protection to employees and their family members through voluntary benefit programs at over 1,400 firms, including more than 100 of the Fortune 500 companies. Starting in the fourth quarter of 2018, the Service Businesses segment includes the results of InfoArmor.

PlumChoice On November 30, 2018, we acquired PlumChoice, Inc. (“PlumChoice”) for \$30 million in cash to provide technical support services to SquareTrade’s customers and small businesses.

Investments totaled \$81.26 billion as of December 31, 2018, decreasing from \$82.80 billion as of December 31, 2017.

Shareholders’ equity As of December 31, 2018, shareholders’ equity was \$21.31 billion. This total included \$1.50 billion in deployable assets at the parent holding company level comprising cash and investments that are generally saleable within one quarter.

Book value per diluted common share (ratio of common shareholders’ equity to total common shares outstanding and dilutive potential common shares outstanding) was \$57.56 as of December 31, 2018, a decrease from \$57.58 as of December 31, 2017.

Return on average common shareholders’ equity For the twelve months ended December 31, 2018, net income applicable to common shareholders’ return on the average of beginning and ending period common shareholders’ equity of 10.0% decreased by 7.4 points from 17.4% for the twelve months ended December 31, 2017.

Common share repurchases On October 31, 2018, the Board authorized a new \$3.00 billion common share repurchase program that is expected to be completed by April 2020. As of December 31, 2018, there was \$2.07 billion remaining on the repurchase program.

Adopted Accounting Standards

Recognition and Measurement of Financial Assets and Financial Liabilities (“*recognition and measurement accounting standard*”) Beginning January 1, 2018, equity securities are reported at fair value with

changes in fair value recognized in realized capital gains and losses. Limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income. See the Investments section of this Item for further details.

Revenue from Contracts with Customers Beginning January 1, 2018, we adopted the revenue from contracts with customers accounting standard, which revises the criteria for revenue recognition and impacted the Service Businesses segment by increasing deferred revenue by approximately \$160 million with a corresponding increase in DAC for protection plans that are sold directly to retailers prior to January 1, 2018. The anticipated impact of these adjustments offset and do not impact net income, but impact premium and DAC comparability trends as they are recognized over the life of the policy.

See Note 2 of the consolidated financial statements for additional details on the adopted accounting standards.

Change in accounting principle

We changed our accounting principle for recognizing actuarial gains and losses and expected return on plan assets for our pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized through earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. This change has been applied on a retrospective basis. See Notes 2 and 17 of the consolidated financial statements for further information regarding the impact of the change in accounting principle.

Consolidated net income			
(\$ in millions)	2018	2017	2016
Revenues			
Property and casualty insurance premiums	\$ 34,048	\$ 32,300	\$ 31,307
Life premiums and contract charges	2,465	2,378	2,275
Other revenue	939	883	865
Net investment income ⁽¹⁾	3,240	3,401	3,042
Realized capital gains and losses:			
Total other-than-temporary impairment (“OTTI”) losses	(13)	(146)	(313)
OTTI losses reclassified (from) to other comprehensive income	(1)	(4)	10
Net OTTI losses recognized in earnings	(14)	(150)	(303)
Sales and valuation changes on equity investments and derivatives	(863)	595	213
Total realized capital gains and losses ⁽¹⁾	(877)	445	(90)
Total revenues	39,815	39,407	37,399
Costs and expenses			
Property and casualty insurance claims and claims expense	(22,778)	(21,847)	(22,160)
Life contract benefits	(1,973)	(1,923)	(1,857)
Interest credited to contractholder funds	(654)	(690)	(726)
Amortization of deferred policy acquisition costs	(5,222)	(4,784)	(4,550)
Operating costs and expenses	(5,594)	(5,196)	(4,846)
Pension and other postretirement rereasurement gains and losses	(468)	217	(270)
Amortization of purchased intangible assets	(105)	(99)	(32)
Restructuring and related charges	(67)	(96)	(18)
Goodwill impairment	—	(125)	—
Interest expense	(332)	(335)	(295)
Total costs and expenses	(37,193)	(34,878)	(34,754)
Gain on disposition of operations	6	20	5
Income tax expense ⁽²⁾	(468)	(995)	(842)
Net income	2,160	3,554	1,808
Preferred stock dividends	(148)	(116)	(116)
Net income applicable to common shareholders	\$ 2,012	\$ 3,438	\$ 1,692

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income and equity securities are reported at fair value with changes in fair value recognized in valuation changes on equity investments in realized capital gains and losses. See the Investments section of this Item and Note 2 of the consolidated financial statements for further details.

⁽²⁾ Beginning January 1, 2018, the Tax Legislation reduced the U.S. corporate income tax rate from 35% to 21%. 2018 and 2017 results include a Tax Legislation benefit of \$29 million and \$509 million, respectively. 2017 results also include a tax benefit of \$63 million related to the adoption of the new accounting standard for share-based payments on January 1, 2017.

Property-Liability Operations

Overview Our Property-Liability operations consist of two reportable segments: Allstate Protection and Discontinued Lines and Coverages. These segments are consistent with the groupings of financial information that management uses to evaluate performance and to determine the allocation of resources.

We do not allocate Property-Liability investment income, realized capital gains and losses, or assets to the Allstate Protection and Discontinued Lines and Coverages segments. Management reviews assets at the Property-Liability level for decision-making purposes.

The table below includes GAAP operating ratios we use to measure our profitability. We believe that they enhance an investor's understanding of our profitability. They are calculated as follows:

- **Loss ratio:** the ratio of claims and claims expense to premiums earned. Loss ratios include the impact of catastrophe losses.
- **Expense ratio:** the ratio of amortization of DAC, operating costs and expenses and restructuring and related charges, less other revenue to premiums earned.
- **Combined ratio:** the ratio of claims and claims expense, amortization of DAC, operating costs and expenses, and restructuring and related charges, less other revenue to premiums earned. The combined ratio is the sum of the loss ratio and the expense ratio. The difference between 100% and the combined ratio represents underwriting income as a percentage of premiums earned, or underwriting margin.

We have also calculated the following impacts of specific items on the GAAP operating ratios because of the volatility of these items between fiscal periods.

- **Effect of catastrophe losses on combined ratio:** the ratio of catastrophe losses included in claims and claims expense to premiums earned. This ratio includes prior year reserve reestimates of catastrophe losses.
- **Effect of prior year reserve reestimates on combined ratio:** the ratio of prior year reserve reestimates included in claims and claims expense to premiums earned. This ratio includes prior year reserve reestimates of catastrophe losses.
- **Effect of amortization of purchased intangible assets on combined ratio:** the ratio of amortization of purchased intangible assets to premiums earned. Amortization of purchased intangible assets is reported in operating costs and expenses on the Consolidated Statements of Operations.
- **Effect of restructuring and related charges on combined ratio:** the ratio of restructuring and related charges to premiums earned.
- **Effect of Discontinued Lines and Coverages on combined ratio:** the ratio of claims and claims expense and operating costs and expenses in the Discontinued Lines and Coverages segment to Property-Liability premiums earned. The sum of the effect of Discontinued Lines and Coverages on the combined ratio and the Allstate Protection combined ratio is equal to the Property-Liability combined ratio.

Summarized financial data

(\$ in millions, except ratios)	2018	2017	2016
Premiums written	\$ 33,555	\$ 31,648	\$ 30,891
Revenues			
Premiums earned	\$ 32,950	\$ 31,433	\$ 30,727
Other revenue	738	703	688
Net investment income	1,464	1,478	1,253
Realized capital gains and losses	(639)	401	(6)
Total revenues	34,513	34,015	32,662
Costs and expenses			
Claims and claims expense	(22,435)	(21,484)	(21,907)
Amortization of DAC	(4,475)	(4,205)	(4,053)
Operating costs and expenses	(4,465)	(4,164)	(4,068)
Restructuring and related charges	(60)	(78)	(17)
Total costs and expenses	(31,435)	(29,931)	(30,045)
Gain on disposition of operations ⁽¹⁾	—	14	—
Income tax expense	(613)	(1,285)	(859)
Net income applicable to common shareholders	\$ 2,465	\$ 2,813	\$ 1,758
Underwriting income			
Net investment income	1,464	1,478	1,253
Income tax expense on operations	(747)	(1,187)	(865)
Realized capital gains and losses, after-tax	(500)	272	—
Gain on disposition of operations, after-tax	—	9	—
Tax Legislation (expense) benefit	(5)	36	—
Net income applicable to common shareholders	\$ 2,465	\$ 2,813	\$ 1,758
Catastrophe losses ⁽²⁾	\$ 2,855	\$ 3,228	\$ 2,571
GAAP operating ratios			
Claims and claims expense ratio	68.1	68.4	71.3
Expense ratio ⁽³⁾	25.1	24.6	24.2
Combined ratio	93.2	93.0	95.5
Effect of catastrophe losses on combined ratio	8.7	10.3	8.4
Effect of prior year reserve reestimates on combined ratio ⁽⁴⁾	(0.7)	(1.6)	(0.2)
Effect of catastrophe losses included in prior year reserve reestimates on combined ratio	0.1	(0.1)	—
Effect of amortization of purchased intangible assets on combined ratio	—	—	0.1
Effect of restructuring and related charges on combined ratio	0.2	0.2	0.1
Effect of Discontinued Lines and Coverages on combined ratio	0.3	0.3	0.3

⁽¹⁾ 2017 results represented the conclusion of a contractual arrangement related to the sale of Sterling Collision Centers, Inc. in 2014.

⁽²⁾ Prior year reserve reestimates included in catastrophe losses totaled \$25 million unfavorable, \$18 million favorable and \$6 million unfavorable in 2018, 2017 and 2016, respectively.

⁽³⁾ Other revenue is deducted from operating costs and expenses in the expense ratio calculation.

⁽⁴⁾ Prior year favorable reserve reestimates totaled \$253 million, \$505 million and \$21 million in 2018, 2017 and 2016, respectively.

Net investment income decreased 0.9% or \$14 million to \$1.46 billion in 2018 from \$1.48 billion in 2017 after increasing 18.0% in 2017 compared to 2016. The 2018 decrease was primarily due to lower performance-based investment results, primarily from limited partnerships, partially offset by higher market-based portfolio income. The 2017 increase benefited from strong performance-based results, primarily from limited partnerships, an increase in invested assets and stable market-based yields, partially offset by higher employee-related expenses. Limited partnership income includes asset appreciation and sales of underlying investments.

Net investment income

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Fixed income securities	\$ 943	\$ 909	\$ 870
Equity securities	121	122	95
Mortgage loans	17	12	11
Limited partnership interests (1)	378	432	269
Short-term investments	40	17	9
Other	123	100	89
Investment income, before expense	1,622	1,592	1,343
Investment expense (2) (3)	(158)	(114)	(90)
Net investment income	\$ 1,464	\$ 1,478	\$ 1,253

(1) Due to the adoption of the recognition and measurement accounting standard, limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income.

(2) Investment expense includes \$45 million, \$22 million and \$19 million of investee level expenses in 2018, 2017 and 2016, respectively, and has increased compared to prior year primarily due to growth in real estate investments. Investee level expenses include depreciation and asset level operating expenses on directly held real estate and other consolidated investments.

(3) Investment expense includes \$18 million, \$4 million and zero related to the portion of reinvestment income on securities lending collateral paid to the counterparties in 2018, 2017 and 2016, respectively.

Realized capital gains and losses Net realized capital losses in 2018, primarily related to decreases in the valuation of equity investments and losses on sales of fixed income securities. Realized capital gains and losses in 2017 primarily related to net gains on sales, as well as gains from valuation changes in public securities held in certain limited partnerships, partially offset by impairment and change in intent write-downs, and derivative valuation losses.

Components of realized capital gains (losses) and the related tax effect

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Impairment write-downs (1)	\$ (5)	\$ (56)	\$ (130)
Change in intent write-downs (1)	—	(44)	(56)
Net OTTI losses recognized in earnings	(5)	(100)	(186)
Sales (1)	(148)	531	185
Valuation of equity investments (1)(2)	(522)	—	—
Valuation and settlements of derivative instruments	36	(30)	(5)
Realized capital gains and losses, pre-tax	(639)	401	(6)
Income tax benefit (expense)	139	(129)	6
Realized capital gains and losses, after-tax	\$ (500)	\$ 272	\$ —

(1) Due to the adoption of the recognition and measurement accounting standard, equity securities are reported at fair value with changes in fair value recognized in valuation of equity investments and are no longer included in impairment write-downs, change in intent write-downs and sales.

(2) 2018 results include \$447 million of declines in the valuation of equity investments and \$75 million of declines in value primarily related to certain limited partnerships where the underlying assets are predominately public equity securities.

Allstate Protection Segment

Private passenger auto, homeowners, and other personal lines insurance products are offered to consumers through agencies and directly through contact centers and online. Our strategy is to position product offerings and distribution channels to meet customers' evolving needs and help them manage the risks they face. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Underwriting results

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written	\$ 33,555	\$ 31,648	\$ 30,888
Premiums earned	\$ 32,950	\$ 31,433	\$ 30,727
Other revenue	738	703	688
Claims and claims expense	(22,348)	(21,388)	(21,802)
Amortization of DAC	(4,475)	(4,205)	(4,053)
Other costs and expenses	(4,462)	(4,161)	(4,066)
Restructuring and related charges	(60)	(78)	(17)
Underwriting income	\$ 2,343	\$ 2,304	\$ 1,477
Catastrophe losses	\$ 2,855	\$ 3,228	\$ 2,571

Underwriting income (loss) by line of business

Auto	\$ 1,791	\$ 1,437	\$ 262
Homeowners	483	689	1,100
Other personal lines ⁽¹⁾	110	141	175
Commercial lines	(83)	(13)	(106)
Other business lines ⁽²⁾	49	51	53
Answer Financial	(7)	(1)	(7)
Underwriting income	\$ 2,343	\$ 2,304	\$ 1,477

⁽¹⁾ Other personal lines include renters, condominium, landlord and other personal lines products.

⁽²⁾ Other business lines represent Ivantage, a general agency for Allstate exclusive agencies. Ivantage provides agencies a solution for their customers when coverage through Allstate brand underwritten products is not available.

Changes in underwriting results from prior year by component and by line of business ⁽¹⁾

(\$ in millions)	For the years ended December 31,									
	Auto		Homeowners		Other personal lines		Commercial lines		Allstate Protection ⁽²⁾	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Underwriting income (loss) - prior year	\$ 1,437	\$ 262	\$ 689	\$ 1,100	\$ 141	\$ 175	\$ (13)	\$ (106)	\$ 2,304	\$ 1,477
Changes in underwriting income (loss) from:										
Increase (decrease) premiums earned	1,092	614	207	53	58	50	160	(11)	1,517	706
Increase (decrease) other revenue	30	10	3	—	4	1	(2)	—	35	15
(Increase) decrease incurred claims and claims expense ("losses"):										
Incurred losses, excluding catastrophe losses and reserve reestimates	(642)	640	(263)	(44)	(72)	(27)	(138)	51	(1,115)	620
Catastrophe losses, excluding reserve reestimates	336	(150)	92	(526)	(13)	(12)	1	7	416	(681)
Catastrophe reserve reestimates	24	7	(72)	18	4	(5)	1	4	(43)	24
Non-catastrophe reserve reestimates	(59)	328	(73)	89	4	(5)	(90)	39	(218)	451
Losses subtotal	(341)	825	(316)	(463)	(77)	(49)	(226)	101	(960)	414
(Increase) decrease expenses	(427)	(274)	(100)	(1)	(16)	(36)	(2)	3	(553)	(308)
Underwriting income (loss)	\$ 1,791	\$ 1,437	\$ 483	\$ 689	\$ 110	\$ 141	\$ (83)	\$ (13)	\$ 2,343	\$ 2,304

⁽¹⁾ The 2018 column presents changes in 2018 compared to 2017. The 2017 column presents changes in 2017 compared to 2016.

⁽²⁾ Includes other business lines underwriting income of \$49 million and \$51 million in 2018 and 2017, respectively, and Answer Financial underwriting loss of \$7 million and \$1 million in 2018 and 2017, respectively.

Underwriting income totaled \$2.34 billion in 2018, a 1.7% increase from \$2.30 billion in 2017, primarily due to increased premiums earned, lower catastrophe losses and improved auto claim frequency, partially offset by higher claim severity, operating costs and expenses and lower favorable prior year reserve reestimates. Underwriting income totaled \$2.30 billion in 2017, a 56.0% increase from \$1.48 billion in 2016, primarily due to increased premiums earned, lower loss costs and higher favorable prior year reserve reestimates, partially offset by higher catastrophe losses.

Premiums written is the amount of premiums charged for policies issued during a fiscal period. Premiums are considered earned and are included in the financial results on a pro-rata basis over the policy period. The portion of premiums written applicable to the unexpired term of the policies is recorded as unearned premiums on our Consolidated Statements of Financial Position.

Premiums written and earned by line of business

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written			
Auto	\$ 23,367	\$ 22,042	\$ 21,425
Homeowners	7,698	7,350	7,240
Other personal lines	1,831	1,768	1,724
Subtotal – Personal lines	32,896	31,160	30,389
Commercial lines	659	488	499
Total premiums written	\$ 33,555	\$ 31,648	\$ 30,888
<i>Reconciliation of premiums written to premiums earned:</i>			
Increase in unearned premiums	(544)	(258)	(181)
Other	(61)	43	20
Total premiums earned	\$ 32,950	\$ 31,433	\$ 30,727
Auto	\$ 22,970	\$ 21,878	\$ 21,264
Homeowners	7,517	7,310	7,257
Other personal lines	1,808	1,750	1,700
Subtotal – Personal lines	32,295	30,938	30,221
Commercial lines	655	495	506
Total premiums earned	\$ 32,950	\$ 31,433	\$ 30,727

Auto insurance premiums written totaled \$23.37 billion in 2018, a 6.0% increase from \$22.04 billion in 2017, following a 2.9% increase in 2017 from \$21.43 billion in 2016.

Homeowners insurance premiums written totaled \$7.70 billion in 2018, a 4.7% increase from \$7.35 billion in 2017, following a 1.5% increase from \$7.24 billion in 2016. Excluding the cost of catastrophe reinsurance, which is recorded as a reduction to premiums, premiums written increased 4.3% in 2018 compared to 2017. For a more detailed discussion on reinsurance, see the Claims and Claims Expense Reserves section of this Item and Note 10 of the consolidated financial statements.

Unearned premium balance and the time frame in which we expect to recognize these premiums as earned

(\$ in millions)	as of December 31,		% earned after			
	2018	2017	Three months	Six months	Nine months	Twelve months
Allstate brand:						
Auto	\$ 5,635	\$ 5,344	71.1%	96.6%	99.2%	100.0%
Homeowners	3,908	3,745	43.3%	75.4%	94.1%	100.0%
Other personal lines	917	895	43.4%	75.3%	94.1%	100.0%
Commercial lines	250	246	44.0%	75.2%	93.9%	100.0%
Total Allstate brand	10,710	10,230	58.1%	86.7%	96.8%	100.0%
Esurance brand:						
Auto	471	404	74.4%	99.1%	99.8%	100.0%
Homeowners	53	42	43.4%	75.5%	94.2%	100.0%
Other personal lines	2	2	43.5%	75.4%	94.1%	100.0%
Total Esurance brand	526	448	71.1%	96.6%	99.2%	100.0%
Encompass brand:						
Auto	275	275	43.9%	75.7%	94.2%	100.0%
Homeowners	212	216	43.8%	75.7%	94.2%	100.0%
Other personal lines	42	44	44.1%	75.8%	94.2%	100.0%
Total Encompass brand	529	535	43.8%	75.7%	94.2%	100.0%
Allstate Protection unearned premiums	\$ 11,765	\$ 11,213	58.1%	86.6%	96.8%	100.0%

Combined ratios by line of business

	For the years ended December 31,								
	Loss ratio			Expense ratio ⁽¹⁾			Combined ratio		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	66.8	68.5	74.4	25.4	24.9	24.4	92.2	93.4	98.8
Homeowners	69.4	67.0	61.1	24.2	23.6	23.7	93.6	90.6	84.8
Other personal lines	66.0	63.8	62.8	27.9	28.1	26.9	93.9	91.9	89.7
Commercial lines	91.3	75.1	93.5	21.4	27.5	27.4	112.7	102.6	120.9
Total	67.8	68.1	71.0	25.1	24.6	24.2	92.9	92.7	95.2

⁽¹⁾ Other revenue is deducted from operating costs and expenses in the expense ratio calculation.

Loss ratios by line of business

	For the years ended December 31,											
	Loss ratio			Effect of catastrophe losses on combined ratio			Effect of prior year reserve reestimates on combined ratio			Effect of catastrophe losses included in prior year reserve reestimates on combined ratio		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	66.8	68.5	74.4	1.6	3.3	2.7	(2.0)	(2.3)	(0.7)	(0.2)	(0.1)	—
Homeowners	69.4	67.0	61.1	30.0	31.1	24.4	0.2	(1.7)	(0.3)	0.8	(0.1)	0.2
Other personal lines	66.0	63.8	62.8	12.1	11.9	11.3	(0.4)	0.1	(0.5)	—	0.2	(0.1)
Commercial lines	91.3	75.1	93.5	3.4	4.8	6.9	16.5	3.9	12.2	—	0.2	1.0
Total	67.8	68.1	71.0	8.7	10.3	8.4	(1.0)	(1.9)	(0.5)	0.1	(0.1)	—

Catastrophe losses were \$2.86 billion in 2018, compared to \$3.23 billion in 2017 and \$2.57 billion in 2016. We define a “catastrophe” as an event that produces pre-tax losses before reinsurance in excess of \$1 million and involves multiple first party policyholders, or a winter weather event that produces a number of claims in excess of a preset, per-event threshold of average claims in a specific area, occurring within a certain amount of time following the event. Catastrophes are caused by various natural events including high winds, winter storms and freezes, tornadoes, hailstorms, wildfires, tropical storms, tsunamis, hurricanes, earthquakes and volcanoes. We are also exposed to man-made catastrophic events, such as certain types of terrorism or industrial accidents. The nature and level of catastrophes in any period cannot be reliably predicted.

Catastrophe losses in 2018 by the size of event

(\$ in millions)	Number of Events	Claims and claims expense	Combined ratio impact	Average catastrophe loss per event
Size of catastrophe loss				
Greater than \$250 million	1	0.8% \$ 469	16.4%	1.4 \$ 469
\$101 million to \$250 million	5	4.3 769	26.9	2.3 154
\$50 million to \$100 million	9	7.7 694	24.3	2.1 77
Less than \$50 million	102	87.2 898	31.5	2.8 9
Total	117	100.0% 2,830	99.1	8.6 24
Prior year reserve reestimates		25	0.9	0.1
Total catastrophe losses		\$ 2,855	100.0%	8.7

Catastrophe losses by the type of event

(\$ in millions)	For the years ended December 31,					
	Number of events	2018	Number of events	2017	Number of events	2016
Hurricanes/Tropical storms	3	\$ 200	3	\$ 613	2	\$ 156
Tornadoes	3	17	3	100	2	7
Wind/Hail	99	1,752	93	1,973	72	2,255
Wildfires	10	745	10	536	8	92
Other events	2	116	2	24	2	55
Prior year reserve reestimates		25		(18)		6
Total catastrophe losses	117	\$ 2,855	111	\$ 3,228	86	\$ 2,571

Catastrophe management

Historical catastrophe experience For the last ten years, the average annual impact of catastrophes on our loss ratio was 8.4 points, but it has varied from 4.5 points to 14.7 points. The average annual impact of catastrophes on the homeowners loss ratio for the last ten years was 32.0 points. Over time, we have limited our aggregate insurance exposure to catastrophe losses in certain regions of the country that are subject to high levels of natural catastrophes, limited by our participation in various state facilities. For further discussion of these facilities, see Note 14 of the consolidated financial statements. However, the impact of these actions may be diminished by the growth in insured values, and the effect of state insurance laws and regulations. In addition, in various states we are required to participate in assigned risk plans, reinsurance facilities and joint underwriting associations that provide insurance coverage to individuals or entities that otherwise are unable to purchase such coverage from private insurers. Because of our participation in these and other state facilities such as wind pools, we may be exposed to losses that surpass the capitalization of these facilities and to assessments from these facilities.

We have continued to take actions to maintain an appropriate level of exposure to catastrophic events while continuing to meet the needs of our customers, including the following:

- Continuing to limit or not offer new homeowners, manufactured home and landlord package policy business in certain coastal geographies.
- Increased capacity in our brokerage platform for customers not offered an Allstate policy.
- In 2016, we began to write a limited number of homeowners policies in select areas of California. We continue to renew current policyholders and allow replacement policies for existing customers who buy a new home, or change their residence to rental property. Additionally, we write homeowners coverage through North Light Specialty Insurance Company ("North Light"), which includes earthquake coverage (other than fire following earthquakes) that is currently ceded via quota share reinsurance.
- In certain states, we have been ceding wind exposure related to insured property located in wind pool eligible areas.
- Starting in the second quarter of 2017, we began writing a limited number of homeowners policies in select areas of Florida and continue to support existing customers who replace their currently-insured home with an acceptable property. Encompass withdrew from property lines in Florida in 2009.
- Tropical cyclone deductibles are generally higher than all peril deductibles and are in place for a large portion of coastal insured properties.
- Auto physical damage coverage generally includes coverage for flood-related loss. We have additional catastrophe exposure, beyond the property lines, for auto customers who have purchased physical

damage coverage. We manage this additional exposure through inclusion of auto losses in our nationwide reinsurance program, including Florida personal lines automobile business, as of June 1, 2016. New Jersey is excluded from the nationwide reinsurance program, but auto losses are included in our New Jersey reinsurance program.

- We offer a homeowners policy available in 42 states and the District of Columbia ("D.C."), Allstate House and Home[®], that provides options of coverage for roof damage, including graduated coverage and pricing based on roof type and age.

Hurricanes We consider the greatest areas of potential catastrophe losses due to hurricanes generally to be major metropolitan centers in counties along the eastern and gulf coasts of the United States. Usually, the average premium on a property policy near these coasts is greater than in other areas. However, average premiums are often not considered commensurate with the inherent risk of loss. In addition and as explained in Note 14 of the consolidated financial statements, in various states Allstate is subject to assessments from assigned risk plans, reinsurance facilities and joint underwriting associations providing insurance for wind related property losses.

We have addressed our risk of hurricane loss by, among other actions, purchasing reinsurance for specific states and on a countrywide basis for our personal lines property insurance in areas most exposed to hurricanes, limiting personal homeowners, landlord package policy and manufactured home new business writings in coastal areas in southern and eastern states, implementing tropical cyclone deductibles where appropriate, and not offering continuing coverage on certain policies in coastal counties in certain states. We continue to seek appropriate returns for the risks we write. This may require further actions, similar to those already taken, in geographies where we are not getting appropriate returns. However, we may maintain or opportunistically increase our presence in areas where adequate risk adjusted returns can be achieved.

Earthquakes We do not offer earthquake coverage in most states. We retain approximately 23,000 PIF with earthquake coverage, primarily in Kentucky, due to regulatory and other reasons. We purchase reinsurance in Kentucky and enter into arrangements in many states to make earthquake coverage available through our brokerage platform.

We continue to have exposure to earthquake risk on certain policies that do not specifically exclude coverage for earthquake losses, including our auto policies, and to fires following earthquakes. Allstate policyholders in California are offered homeowners coverage through the California Earthquake Authority ("CEA"), a privately-financed, publicly-managed state agency created to provide insurance coverage for earthquake damage. Allstate is subject to assessments from the CEA under certain circumstances as explained in Note 14 of the consolidated financial statements. While North Light writes property policies in California, which can include

earthquake coverage, this coverage is 100% ceded via quota share reinsurance.

Fires Following Earthquakes Under a standard homeowners policy we cover fire losses, including those caused by an earthquake. Actions taken related to our risk of loss from fires following earthquakes include restrictive underwriting guidelines in California for new business writings, purchasing reinsurance for Kentucky personal lines property risks, and purchasing nationwide occurrence reinsurance, excluding Florida and New Jersey.

Wildfires Actions taken related to managing our risk of loss from wildfires include purchasing nationwide occurrence reinsurance, new and renewal inspection programs to identify and remediate wildfire risk as well as leveraging contemporary underwriting tools in select areas. While these programs are designed to mitigate risk, the exposure to wildfires still

Expense ratio increased 0.5 points in 2018 compared to 2017.

exists. We continue to manage our exposure and seek appropriate returns for the risks we write. For example, despite writing a limited number of homeowner risks in select geographies in California over the last three years, our overall homeowner exposures in California have declined approximately 50% since 2007.

To manage the exposure, this may require further actions, similar to those already taken, in geographies where we are not achieving appropriate returns. However, we may maintain or opportunistically increase our presence in areas where adequate risk adjusted returns can be achieved.

Reinsurance A description of our current catastrophe reinsurance program appears in Note 10 of the consolidated financial statements.

Expense ratios by line of business

	For the years ended December 31,		
	2018	2017	2016
Auto	25.4	24.9	24.4
Homeowners	24.2	23.6	23.7
Other personal lines	27.9	28.1	26.9
Commercial lines	21.4	27.5	27.4
Total expense ratio (1)	25.1	24.6	24.2

(1) Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Impact of specific costs and expenses on the expense ratio

	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC	13.6	13.4	13.2
Advertising expense	2.5	2.2	2.5
Amortization of purchased intangible assets	—	—	0.1
Other costs and expenses	8.8	8.8	8.3
Restructuring and related charges	0.2	0.2	0.1
Total expense ratio (1)	25.1	24.6	24.2

(1) Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Deferred acquisition costs We establish a DAC asset for costs that are related directly to the successful acquisition of new or renewal insurance policies, principally agency remuneration and premium taxes. DAC is amortized to income over the period in which premiums are earned.

DAC balance as of December 31 by product type

(\$ in millions)	2018	2017
Auto	\$ 845	\$ 789
Homeowners	599	558
Other personal lines	141	132
Commercial lines	33	31
Total DAC	\$ 1,618	\$ 1,510

The following table presents premiums written, PIF and underwriting income (loss) by line of business for Allstate brand, Esurance brand, Encompass brand and Allstate Protection as of or for the year ended December 31, 2018. Detailed analysis of underwriting results, premiums written and earned, and the combined ratios, including loss and expense ratios, are discussed in the brand sections below.

Premiums written, policies in force and underwriting income (loss)

(\$ in millions)	Allstate brand		Esurance brand		Encompass brand		Allstate Protection	
	Amount	Percent to total brand	Amount	Percent to total brand	Amount	Percent to total brand	Amount	Percent to total
Premiums written								
Auto	\$ 20,991	68.6 %	\$ 1,839	94.4%	\$ 537	52.8%	\$ 23,367	69.6 %
Homeowners	7,199	23.5	101	5.2	398	39.2	7,698	22.9
Other personal lines	1,742	5.7	8	0.4	81	8.0	1,831	5.5
Commercial lines	659	2.2	—	—	—	—	659	2.0
Total	\$ 30,591	100.0 %	\$ 1,948	100.0%	\$ 1,016	100.0%	\$ 33,555	100.0 %
Percent to total Allstate Protection		91.2 %		5.8%		3.0%		100.0 %
PIF (thousands)								
Auto	20,104	65.2 %	1,488	91.4%	502	61.3%	22,094	66.4 %
Homeowners	6,186	20.1	95	5.8	239	29.2	6,520	19.6
Other personal lines	4,295	13.9	46	2.8	78	9.5	4,419	13.3
Commercial lines	231	0.8	—	—	—	—	231	0.7
Total	30,816	100.0 %	1,629	100.0%	819	100.0%	33,264	100.0 %
Percent to total Allstate Protection		92.6 %		4.9%		2.5%		100.0 %
Underwriting income (loss)								
Auto	\$ 1,788	75.9 %	\$ (11)	44.0%	\$ 14	77.8%	\$ 1,791	76.4 %
Homeowners	496	21.0	(14)	56.0	1	5.5	483	20.6
Other personal lines	107	4.5	—	—	3	16.7	110	4.7
Commercial lines	(83)	(3.5)	—	—	—	—	(83)	(3.5)
Other business lines	49	2.1	—	—	—	—	49	2.1
Answer Financial	—	—	—	—	—	—	(7)	(0.3)
Total	\$ 2,357	100.0 %	\$ (25)	100.0%	\$ 18	100.0%	\$ 2,343	100.0 %

When analyzing premium measures and statistics for all three brands the following calculations are used as described below.

- **PIF:** Policy counts are based on items rather than customers. A multi-car customer would generate multiple item (policy) counts, even if all cars were insured under one policy. Commercial lines PIF for the agreement with a transportation network company reflects corporate contracts as opposed to individual driver counts.
- **New issued applications:** Item counts of automobile or homeowner insurance applications for insurance policies that were issued during the period, regardless of whether the customer was previously insured by another Allstate Protection brand. Allstate brand includes automobiles added by existing customers when they exceed the number allowed (currently 10) on a policy.
- **Average premium-gross written ("average premium"):** Gross premiums written divided by issued item count. Gross premiums written include the impacts from discounts, surcharges and ceded reinsurance premiums and exclude the impacts from mid-term premium adjustments and premium refund accruals. Average premiums represent the appropriate policy term for each line. Allstate and Esurance brand policy terms are 6 months for auto and 12 months for homeowners. Encompass brand policy terms are generally 12 months for auto and homeowners.
- **Renewal ratio:** Renewal policy item counts issued during the period, based on contract effective dates, divided by the total policy item counts issued 6 months prior for auto (generally 12 months prior for Encompass brand) or 12 months prior for homeowners.



Allstate brand products are sold primarily through Allstate exclusive agencies and serve customers who prefer local personalized advice and service and are brand-sensitive. In 2018, the Allstate brand represented 91.2% of the Allstate Protection segment's written premium. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Underwriting results

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written	\$ 30,591	\$ 28,885	\$ 28,059
Premiums earned	\$ 30,058	\$ 28,631	\$ 27,865
Other revenue	582	559	545
Claims and claims expense	(20,237)	(19,273)	(19,691)
Amortization of DAC	(4,242)	(3,963)	(3,791)
Other costs and expenses	(3,752)	(3,497)	(3,311)
Restructuring and related charges	(52)	(70)	(16)
Underwriting income	\$ 2,357	\$ 2,387	\$ 1,601
Catastrophe losses	\$ 2,701	\$ 2,985	\$ 2,424
Underwriting income (loss) by line of business			
Auto	\$ 1,788	\$ 1,465	\$ 351
Homeowners	496	754	1,122
Other personal lines ⁽¹⁾	107	130	181
Commercial lines	(83)	(13)	(106)
Other business lines ⁽²⁾	49	51	53
Underwriting income	\$ 2,357	\$ 2,387	\$ 1,601

⁽¹⁾ Other personal lines include renters, condominium, landlord and other personal lines products.

⁽²⁾ Other business lines represent Ivantage.

Changes in underwriting results from prior year by component ⁽¹⁾

(\$ in millions)	For the years ended December 31,	
	2018	2017
Underwriting income - prior year	\$ 2,387	\$ 1,601
Changes in underwriting income (loss) from:		
Increase (decrease) premiums earned	1,427	766
Increase (decrease) other revenue	23	14
(Increase) decrease incurred claims and claims expense ("losses"):		
Incurred losses, excluding catastrophe losses and reserve reestimates	(1,022)	526
Catastrophe losses, excluding reserve reestimates	311	(583)
Catastrophe reserve reestimates	(27)	22
Non-catastrophe reserve reestimates	(226)	453
Losses subtotal	(964)	418
(Increase) decrease expenses	(516)	(412)
Underwriting income	\$ 2,357	\$ 2,387

⁽¹⁾ The 2018 column presents changes in 2018 compared to 2017. The 2017 column presents changes in 2017 compared to 2016.

Underwriting income totaled \$2.36 billion in 2018, a 1.3% decrease from \$2.39 billion in 2017, primarily due to higher claim severity, agency and employee-related compensation costs and advertising costs and lower favorable non-catastrophe prior year reserve reestimates, partially offset by increased premiums earned, lower catastrophe losses and improved auto claim frequency.

Underwriting income totaled \$2.39 billion in 2017, a 49.1% increase from \$1.60 billion in 2016, primarily due to increased premiums earned, lower claim frequency and higher favorable prior year reserve reestimates, partially offset by higher catastrophe losses and agency and employee-related compensation costs.

Premiums written and earned by line of business

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written			
Auto	\$ 20,991	\$ 19,859	\$ 19,209
Homeowners	7,199	6,865	6,730
Other personal lines	1,742	1,673	1,621
Subtotal – Personal lines	29,932	28,397	27,560
Commercial lines	659	488	499
Total	\$ 30,591	\$ 28,885	\$ 28,059
Premiums earned			
Auto	\$ 20,662	\$ 19,676	\$ 19,031
Homeowners	7,025	6,811	6,736
Other personal lines	1,716	1,649	1,592
Subtotal – Personal lines	29,403	28,136	27,359
Commercial lines	655	495	506
Total	\$ 30,058	\$ 28,631	\$ 27,865

Auto premium measures and statistics

	2018	2017	2016
PIF (thousands)	20,104	19,580	19,742
New issued applications (thousands)	2,933	2,520	2,312
Average premium	\$ 570	\$ 550	\$ 523
Renewal ratio (%)	88.5	87.6	87.8
Approved rate changes ⁽¹⁾ :			
# of locations ⁽²⁾	47	49	53
Total brand (%) ⁽³⁾	1.1	4.0 ⁽⁶⁾	7.2
Location specific (%) ⁽⁴⁾⁽⁵⁾	2.9	6.0 ⁽⁶⁾	8.1

⁽¹⁾ Rate changes do not include rating plan enhancements, including the introduction of discounts and surcharges that result in no change in the overall rate level in a location. These rate changes do not reflect initial rates filed for insurance subsidiaries initially writing business in a location.

⁽²⁾ Allstate brand operates in 50 states, D.C. and 5 Canadian provinces.

⁽³⁾ Represents the impact in the states, D.C. and Canadian provinces where rate changes were approved during the period as a percentage of total brand prior year-end premiums written.

⁽⁴⁾ Represents the impact in the states, D.C. and Canadian provinces where rate changes were approved during the period as a percentage of their respective total prior year-end premiums written in those same locations.

⁽⁵⁾ Based on historical premiums written in the locations noted above, rate changes approved for auto totaled \$215 million, \$773 million and \$1.33 billion in 2018, 2017 and 2016, respectively.

⁽⁶⁾ Includes a rate increase in California in first and fourth quarter 2017. Excluding California, Allstate brand auto total brand and location specific rate changes were 2.7% and 4.7% in 2017.

Auto insurance premiums written totaled \$20.99 billion in 2018, a 5.7% increase from \$19.86 billion in 2017. Factors impacting premiums written were:

- 2.7% or 524 thousand increase in PIF as of December 31, 2018 compared to December 31, 2017. The rate of PIF change compared to the prior year improved throughout 2018. Auto PIF increased in 40 states, including 8 of our largest 10 states, as of December 31, 2018 compared to December 31, 2017.
- 0.9 point increase in the renewal ratio in 2018 compared to 2017. 48 states, including 9 of our largest 10 states, experienced increases in the renewal ratio in 2018 compared to 2017.
- 16.4% increase in new issued applications in 2018 compared to 2017. 43 states, including 9 of our largest 10 states, experienced increases in new issued applications in 2018 compared to 2017, with 34 states experiencing double digit increases.

- 3.6% increase in average premium in 2018 compared to 2017, primarily due to rate increases approved in 2017.

Auto insurance premiums written totaled \$19.86 billion in 2017, a 3.4% increase from \$19.21 billion in 2016. Factors impacting premiums written were:

- 0.8% or 162 thousand decrease in PIF as of December 31, 2017 compared to December 31, 2016. The rate of PIF change compared to the prior year improved throughout 2017. Auto PIF increased in 18 states, including 3 of our largest 10 states, as of December 31, 2017 compared to December 31, 2016.
- 9.0% increase in new issued applications in 2017 compared to 2016. 38 states, including 9 of our largest 10 states, experienced increases in new issued applications in 2017 compared to 2016, with 20 states experiencing double digit increases.
- 5.2% increase in average premium in 2017 compared to 2016, primarily due to rate increases.

- 0.2 point decrease in the renewal ratio in 2017 compared to 2016. 20 states, including 3 of our largest 10 states, experienced increases in the renewal ratio in 2017 compared to 2016.

Homeowners premium measures and statistics

	2018	2017	2016
PIF (thousands)	6,186	6,088	6,120
New issued applications (thousands)	826	733	712
Average premium	\$ 1,231	\$ 1,197	\$ 1,177
Renewal ratio (%)	88.0	87.3	87.8
Approved rate changes ⁽¹⁾ :			
# of locations ⁽²⁾	40	30	40
Total brand (%)	2.7	1.8	1.1 ⁽⁴⁾
Location specific (%) ⁽³⁾	4.3	3.7	2.2 ⁽⁴⁾

⁽¹⁾ Includes rate changes approved based on our net cost of reinsurance.

⁽²⁾ Allstate brand operates in 50 states, D.C., and 5 Canadian provinces.

⁽³⁾ Based on historical premiums written in the locations noted above, rate changes approved for homeowners totaled \$189 million, \$122 million and \$75 million in 2018, 2017 and 2016, respectively.

⁽⁴⁾ Includes the impact of a rate decrease in California in first quarter 2016. Excluding California, Allstate brand homeowners total brand and location specific rate changes were 2.1% and 5.1% in 2016, respectively.

Homeowners insurance premiums written totaled \$7.20 billion in 2018, a 4.9% increase from \$6.87 billion in 2017. Factors impacting premiums written were:

- 1.6% or 98 thousand increase in PIF as of December 31, 2018 compared to December 31, 2017. Allstate brand homeowners PIF increased in 32 states, including 5 of our largest 10 states, as of December 31, 2018 compared to December 31, 2017.
- 0.7 point increase in the renewal ratio in 2018 compared to 2017. Of our largest 10 states, 9 experienced an increase in the renewal ratio in 2018 compared to 2017.
- 12.7% increase in new issued applications in 2018 compared to 2017. Of our largest 10 states, 8 experienced increases in new issued applications in 2018 compared to 2017.
- 2.8% increase in average premium in 2018 compared to 2017 primarily due to rate increases and increasing insured home valuations due to inflation.
- \$19 million decrease in the cost of our catastrophe reinsurance program to \$264 million in 2018 from \$283 million in 2017. Catastrophe placement premiums are recorded primarily in the Allstate brand and are a reduction of premium.

Premiums written for Allstate's House and Home product, our homeowners offering currently available in 42 states and D.C., totaled \$2.87 billion in 2018 compared to \$2.34 billion in 2017.

Homeowners insurance premiums written totaled \$6.87 billion in 2017, a 2.0% increase from \$6.73 billion in 2016. Factors impacting premiums written were:

- 0.5% or 32 thousand decrease in PIF as of December 31, 2017 compared to December 31, 2016. Allstate brand homeowners PIF increased in 20 states, including 4 of our largest 10 states, as of

December 31, 2017 compared to December 31, 2016.

- 2.9% increase in new issued applications in 2017 compared to 2016. Of our largest 10 states, 6 experienced increases in new issued applications in 2017 compared to 2016.
- 1.7% increase in average premium in 2017 compared to 2016 primarily due to rate changes and increasing insured home valuations due to inflation.
- 0.5 point decrease in the renewal ratio in 2017 compared to 2016. Of our largest 10 states, 1 experienced an increase in the renewal ratio in 2017 compared to 2016.
- \$52 million decrease in the cost of our catastrophe reinsurance program to \$283 million in 2017 from \$335 million in 2016.

Other personal lines premiums written totaled \$1.74 billion in 2018, a 4.1% increase from \$1.67 billion in 2017, following a 3.2% increase in 2017 from \$1.62 billion in 2016. The increase in 2018 was primarily due to increases in personal umbrella and condominium insurance premiums, partially offset by agreements to transfer our auto residual market obligations to third party carriers. The increase in 2017 was primarily due to increases in personal umbrella insurance premiums.

Commercial lines premiums written totaled \$659 million in 2018, a 35.0% increase from \$488 million in 2017, following a 2.2% decrease in 2017 from \$499 million in 2016. The increase in 2018 was due to the agreement with a transportation network company to provide commercial auto insurance coverage in select states, partially offset by profit improvement actions. The decrease in 2017 was driven by decreased new business and lower renewals due to profit improvement actions, partially offset by increased average premiums.

Combined ratios by line of business

	For the years ended December 31,								
	Loss ratio			Expense ratio ⁽¹⁾			Combined ratio		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	65.9	67.9	74.3	25.4	24.7	23.9	91.3	92.6	98.2
Homeowners	69.3	66.0	60.8	23.6	22.9	22.5	92.9	88.9	83.3
Other personal lines	66.3	64.1	61.9	27.5	28.0	26.7	93.8	92.1	88.6
Commercial lines	91.3	75.1	93.5	21.4	27.5	27.4	112.7	102.6	120.9
Total	67.3	67.3	70.7	24.9	24.4	23.6	92.2	91.7	94.3

⁽¹⁾ Other revenue is deducted from operating costs and expenses in the expense ratio calculation.

Loss ratios by line of business

	For the years ended December 31,											
	Loss ratio			Effect of catastrophe losses			Effect of prior year reserve reestimates			Effect of catastrophe losses included in prior year reserve reestimates		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	65.9	67.9	74.3	1.6	3.4	2.8	(2.2)	(2.4)	(0.7)	(0.2)	(0.1)	(0.1)
Homeowners	69.3	66.0	60.8	30.5	30.7	24.6	—	(2.0)	(0.4)	0.8	(0.1)	0.1
Other personal lines	66.3	64.1	61.9	12.3	12.2	11.8	0.5	0.7	(0.9)	(0.1)	0.2	(0.1)
Commercial lines	91.3	75.1	93.5	3.4	4.8	6.9	16.5	3.9	12.2	—	0.2	1.0
Total	67.3	67.3	70.7	9.0	10.4	8.7	(1.1)	(2.0)	(0.4)	—	(0.1)	—

Frequency and severity statistics, which are influenced by driving patterns, inflation and other factors, are provided to describe the trends in loss costs of the business. Our reserving process incorporates changes in loss patterns, operational statistics and changes in claims reporting processes to determine our best estimate of recorded reserves. We use the following statistics to evaluate losses:

- *Paid claim frequency* ⁽¹⁾ is calculated as annualized notice counts closed with payment in the period divided by the average of PIF with the applicable coverage during the period.
- *Gross claim frequency* ⁽¹⁾ is calculated as annualized notice counts received in the period divided by the average of PIF with the applicable coverage during the period. Gross claim frequency includes all actual notice counts, regardless of their current status (open or closed) or their ultimate disposition (closed with a payment or closed without payment).
- *Paid claim severity* is calculated by dividing the sum of paid losses and loss expenses by claims closed with a payment during the period.
- *Percent change in frequency or severity statistics* is calculated as the amount of increase or decrease in the paid or gross claim frequency or severity in the current period compared to the same period in the prior year divided by the prior year paid or gross claim frequency or severity.

⁽¹⁾ Frequency statistics exclude counts associated with catastrophe events.

Paid claim frequency trends will often differ from gross claim frequency trends due to differences in the timing of when notices are received and when claims are settled. For property damage claims, paid frequency trends reflect smaller differences as timing between opening and settlement is generally less. For bodily injury, gross frequency trends reflect emerging trends since the difference in timing between opening and settlement is much greater and gross frequency does not experience the same volatility in quarterly

fluctuations seen in paid frequency. In evaluating frequency, we typically rely upon paid frequency trends for physical damage coverages such as property damage and gross frequency for casualty coverages such as bodily injury to provide an indicator of emerging trends in overall claim frequency while also providing insights for our analysis of severity.

We are continuing to implement new technology and process solutions to provide continued loss cost accuracy, efficient processing and enhanced customer experiences that are simple, fast and produce high degrees of satisfaction. We have opened several Digital Operating Centers to handle auto physical damage claims countrywide utilizing our virtual estimation capabilities, which includes estimating damage through photos and video with the use of QuickFoto Claim[®] and Virtual AssistSM. We are also leveraging virtual capabilities to handle property claims by estimating damage through video with Virtual Assist and aerial imagery using satellites, airplanes and drones. These organizational and process changes impact frequency and severity statistics as changes in claim opening and closing practices and shifts in timing, if any, can impact comparisons to prior periods.

Auto loss ratio decreased 2.0 points in 2018 compared to 2017, primarily due to increased premiums earned, lower catastrophe losses and improved claim frequency, partially offset by higher claim severity and lower favorable non-catastrophe prior year reserve reestimates. Auto loss ratio decreased 6.4 points in 2017 compared to 2016, primarily due to increased premiums earned, lower claim frequency and higher favorable prior year reserve reestimates, partially offset by higher catastrophe losses and higher claim severity.

Property damage paid claim frequency decreased 1.7% in 2018 compared to 2017, following a decrease of 5.2% in 2017 compared to 2016. 36 states experienced

a year over year decrease in property damage paid claim frequency in 2018 when compared to 2017. Property damage paid claim severities increased 5.9% in 2018 compared to 2017, following an increase of 4.5% in 2017 compared to 2016 due to the impact of higher costs to repair more sophisticated, newer model vehicles, higher third-party subrogation demands and increased costs associated with total losses.

Bodily injury gross claim frequency decreased 2.0% in 2018 compared to 2017, following a decrease of 4.8% in 2017 compared to 2016. Bodily injury severity trends have been impacted by higher medical costs, which after adjusting for company specific claims practices, policy provisions and coverage limits, generally increased consistent with medical care inflation indices.

Homeowners loss ratio increased 3.3 points to 69.3 in 2018 from 66.0 in 2017, primarily due to higher paid claim frequency and severity and lower favorable non-catastrophe prior year reserve reestimates, partially offset by increased premiums earned. Paid claim frequency excluding catastrophe losses increased 4.8% in 2018 compared to 2017 driven by weather related claims. Paid claim severity excluding catastrophe losses increased 5.5% in 2018 compared to 2017. Homeowner paid claim severity can be impacted by both the mix of perils and the magnitude of specific losses paid during the year. Homeowners loss ratio increased 5.2 points to 66.0 in 2017 from 60.8 in 2016, primarily due to higher catastrophe losses, partially

offset by higher favorable prior year reserve reestimates and increased premiums earned. Paid claim frequency excluding catastrophe losses decreased 0.1% in 2017 compared to 2016. Paid claim severity excluding catastrophe losses increased 5.0% in 2017 compared to 2016.

Other personal lines loss ratio increased 2.2 points in 2018 compared to 2017, primarily due to higher loss costs, including catastrophe losses, partially offset by increased premiums earned. Other personal lines loss ratio increased 2.2 points in 2017 compared to 2016, primarily due to unfavorable prior year reserve reestimates, higher catastrophe losses and higher claim severity, partially offset by increased premiums earned.

Commercial lines loss ratio increased 16.2 points in 2018 compared to 2017, primarily due to higher unfavorable non-catastrophe prior year reserve reestimates related to auto bodily injury coverages, partially offset by increased premiums earned. Commercial lines recorded losses related to an agreement with a transportation network company and are based on original pricing expectations given limited loss experience. Commercial lines loss ratio decreased 18.4 points in 2017 compared to 2016, primarily due to lower unfavorable prior year reserve reestimates, lower claim frequency and lower catastrophe losses.

Expense ratios by line of business

	For the years ended December 31,		
	2018	2017	2016
Auto	25.4	24.7	23.9
Homeowners	23.6	22.9	22.5
Other personal lines	27.5	28.0	26.7
Commercial lines	21.4	27.5	27.4
Total expense ratio (1)	24.9	24.4	23.6

(1) Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Impact of specific costs and expenses on the expense ratio

	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC	14.1	13.8	13.6
Advertising expense	2.2	2.0	2.1
Other costs and expenses (1)	8.4	8.4	7.8
Restructuring and related charges	0.2	0.2	0.1
Total expense ratio	24.9	24.4	23.6

(1) Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Expense ratio increased 0.5 points in 2018 compared to 2017, primarily due to higher agency and employee-related compensation costs and higher advertising costs. Amortization of DAC primarily includes agent remuneration and premium taxes. Allstate agency total incurred base commissions, variable compensation and bonuses in 2018 were higher than 2017. Commercial lines expense ratio decreased 6.1 points in 2018 compared to 2017, primarily due to a lower expense ratio on business with a transportation network company.

Expense ratio increased 0.8 points in 2017 compared to 2016, primarily due to higher agency and employee-related compensation costs and restructuring and related costs. Amortization of DAC primarily includes agency remuneration and premium taxes.



Esurance brand products are sold directly to self-directed, brand-sensitive consumers online and through call centers. We manage the direct-to-customer business based on its profitability over the lifetime of the customer relationship. In 2018, the Esurance brand represented 5.8% of the Allstate Protection segment's written premium. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Underwriting results

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written	\$ 1,948	\$ 1,728	\$ 1,689
Premiums earned	\$ 1,869	\$ 1,712	\$ 1,660
Other revenue	80	67	62
Claims and claims expense	(1,443)	(1,329)	(1,258)
Amortization of DAC	(43)	(41)	(41)
Other costs and expenses	(487)	(462)	(547)
Restructuring and related charges	(1)	(3)	—
Underwriting loss	\$ (25)	\$ (56)	\$ (124)
Catastrophe losses	\$ 52	\$ 50	\$ 36
Underwriting income (loss) by line of business			
Auto	\$ (11)	\$ (37)	\$ (65)
Homeowners	(14)	(20)	(59)
Other personal lines	—	1	—
Underwriting loss	\$ (25)	\$ (56)	\$ (124)

Changes in underwriting results from prior year by component ⁽¹⁾

(\$ in millions)	For the years ended December 31,	
	2018	2017
Underwriting income (loss) - prior year	\$ (56)	\$ (124)
Changes in underwriting income (loss) from:		
Increase (decrease) premiums earned	157	52
Increase (decrease) other revenue	13	5
(Increase) decrease incurred claims and claims expense ("losses"):		
Incurred losses, excluding catastrophe losses and reserve reestimates	(110)	(37)
Catastrophe losses, excluding reserve reestimates	1	(15)
Catastrophe reserve reestimates	(3)	1
Non-catastrophe reserve reestimates	(2)	(20)
Losses subtotal	(114)	(71)
(Increase) decrease expenses	(25)	82
Underwriting loss	\$ (25)	\$ (56)

⁽¹⁾ The 2018 column presents changes in 2018 compared to 2017. The 2017 column presents changes in 2017 compared to 2016.

Underwriting loss totaled \$25 million in 2018, an improvement from \$56 million in 2017, primarily due to increased premiums earned, partially offset by higher claim severities and additional marketing spend.

Underwriting loss totaled \$56 million in 2017, an improvement from \$124 million in 2016, primarily due to increased premiums earned, decreased homeowners marketing and lower amortization of purchased intangible assets, partially offset by lower favorable prior year reserve reestimates and higher catastrophe losses.

Premiums written and earned by line of business

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written			
Auto	\$ 1,839	\$ 1,641	\$ 1,625
Homeowners	101	79	56
Other personal lines	8	8	8
Total	\$ 1,948	\$ 1,728	\$ 1,689
Premiums earned			
Auto	\$ 1,771	\$ 1,636	\$ 1,610
Homeowners	90	68	42
Other personal lines	8	8	8
Total	\$ 1,869	\$ 1,712	\$ 1,660

Auto premium measures and statistics

	2018	2017	2016
PIF (thousands)	1,488	1,352	1,391
New issued applications (thousands)	633	484	597
Average premium	\$ 605	\$ 574	\$ 547
Renewal ratio (%)	83.3	81.5	79.4
Approved rate changes (1):			
# of locations (2)	30	39	33
Total brand (%) (3)	1.8	4.8	4.2
Location specific (%) (4) (5)	2.7	5.5	6.1

(1) Rate changes do not include rating plan enhancements, including the introduction of discounts and surcharges that result in no change in the overall rate level in a location. These rate changes do not reflect initial rates filed for insurance subsidiaries initially writing business in a location.

(2) Esurance brand operates in 43 states. In the second quarter of 2018, Esurance discontinued its operations in Canada.

(3) Represents the impact in the states where rate changes were approved during the period as a percentage of total brand prior year-end premiums written.

(4) Represents the impact in the states where rate changes were approved during the period as a percentage of their respective total prior year-end premiums written in those same locations.

(5) Based on historical premiums written in the locations noted above, rate changes approved for auto totaled \$28 million, \$78 million and \$65 million in 2018, 2017 and 2016, respectively.

Auto insurance premiums written totaled \$1.84 billion in 2018, a 12.1% increase from \$1.64 billion in 2017. Factors impacting premiums written were:

- 10.1% or 136 thousand increase in PIF as of December 31, 2018 compared to December 31, 2017.
- 1.8 point increase in the renewal ratio in 2018 compared to 2017, primarily due to improved customer experience.
- 30.8% increase in new issued applications in 2018 compared to 2017, primarily due to improvements in the sales process as well as increases in quote volume driven in part by additional marketing spend.
- 5.4% increase in average premium in 2018 compared to 2017, primarily due to rate changes and changes in business mix.

Auto insurance premiums written totaled \$1.64 billion in 2017, a 1.0% increase from \$1.63 billion in 2016. Factors impacting premiums written were:

- 2.8% or 39 thousand decrease in PIF as of December 31, 2017 compared to December 31, 2016.
- 18.9% decrease in new issued applications in 2017 compared to 2016, primarily due to the impact of rate increases, decreased marketing activities and underwriting guideline changes.
- 4.9% increase in average premium in 2017 compared to 2016 primarily due to rate changes and changes in business mix.
- 2.1 point increase in the renewal ratio in 2017 compared to 2016, primarily due to improved customer experience.

Homeowners premium measures and statistics

	2018	2017	2016
PIF (thousands)	95	79	58
New issued applications (thousands)	32	34	37
Average premium	\$ 982	\$ 917	\$ 875
Renewal ratio (%) (1)	85.3	85.5	82.6
Approved rate changes (2):			
# of locations (3)	6	3	1
Total brand (%)	2.1	4.5	(0.5)
Location specific (%) (4)	6.9	18.5	(10.0)

(1) Esurance's renewal ratios exclude the impact of risk related cancellations. Customers can enter into a policy without a physical inspection. During the underwriting review period, a number of policies may be canceled if upon inspection the condition is unsatisfactory.

(2) Includes rate changes approved based on our net cost of reinsurance.

(3) Esurance brand operates in 31 states. In the second quarter of 2018, Esurance discontinued its operations in Canada.

(4) Based on historical premiums written in the locations noted above, rate changes approved for homeowners totaled \$2 million and \$3 million in 2018 and 2017, respectively. Rate changes were only approved in Texas in 2016.

Homeowners insurance premiums written totaled \$101 million in 2018 compared to \$79 million in 2017. Factors impacting premiums written were:

- 16 thousand increase in PIF as of December 31, 2018 compared to December 31, 2017.
- 2 thousand decrease in new issued applications in 2018 compared to 2017.
- 7.1% increase in average premium in 2018 compared to 2017, primarily due to increased premium distribution in higher average premium states and rate increases. As of December 31, 2018, Esurance continues to write homeowners insurance in 31 states with lower hurricane risk, contributing to lower average premium compared to the industry.

Homeowners insurance premiums written totaled \$79 million in 2017 compared to \$56 million in 2016. Factors impacting premiums written were:

- 21 thousand increase in PIF as of December 31, 2017 compared to December 31, 2016.
- 3 thousand decrease in new issued applications in 2017 compared to 2016 due to reduced marketing activities.
- 4.8% increase in average premium in 2017 compared to 2016, primarily due to increased premium distribution in higher average premium states and rate changes. As of December 31, 2017, Esurance writes homeowners insurance in 31 states with lower hurricane risk, contributing to lower average premium compared to the industry.

Combined ratios by line of business

	For the years ended December 31,								
	Loss ratio			Expense ratio (1)			Combined ratio		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	77.0	77.5	75.8	23.6	24.8	28.2	100.6	102.3	104.0
Homeowners	83.4	83.8	78.6	32.2	45.6	161.9	115.6	129.4	240.5
Total	77.2	77.6	75.8	24.1	25.7	31.7	101.3	103.3	107.5

(1) Other revenue is deducted from operating costs and expenses in the expense ratio calculation.

Loss ratios by line of business

	For the years ended December 31,											
	Loss ratio			Effect of catastrophe losses			Effect of prior year reserve reestimates			Effect of catastrophe losses included in prior year reserve reestimates		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	77.0	77.5	75.8	1.5	2.1	1.5	0.1	0.1	(1.3)	—	—	—
Homeowners	83.4	83.8	78.6	27.8	23.5	28.6	2.2	(3.0)	—	2.2	(1.5)	—
Total	77.2	77.6	75.8	2.8	2.9	2.2	0.2	(0.1)	(1.3)	0.1	(0.1)	—

Auto loss ratio decreased 0.5 points in 2018 compared to 2017, primarily due to increased premiums earned, and lower catastrophe losses, partially offset by higher claim severity. Auto loss ratio increased 1.7 points in 2017 compared to 2016, primarily due to unfavorable prior year reserve reestimates in 2017 compared to favorable prior year reserve reestimates in 2016 and higher catastrophe losses.

Catastrophe losses were \$52 million in 2018 compared to \$50 million in 2017 and \$36 million in 2016.

Expense ratios by line of business

	For the years ended December 31,		
	2018	2017	2016
Auto	23.6	24.8	28.2
Homeowners	32.2	45.6	161.9
Total expense ratio ⁽¹⁾	24.1	25.7	31.7

⁽¹⁾ Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Impact of specific costs and expenses on the expense ratio

	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC	2.3	2.4	2.5
Advertising expense	8.7	8.3	11.2
Amortization of purchased intangible assets	0.1	0.2	1.4
Other costs and expenses ⁽¹⁾	12.9	14.6	16.6
Restructuring and related charges	0.1	0.2	—
Total expense ratio	24.1	25.7	31.7

⁽¹⁾ Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Expense ratio decreased 1.6 points in 2018 compared to 2017. Other costs and expenses, including salaries of telephone sales personnel and other underwriting costs related to customer acquisition, were lower in 2018 compared to 2017 due to the continued implementation of process efficiencies. Esurance uses a direct distribution model, therefore its primary acquisition-related costs are advertising as opposed to commissions. Esurance advertising expense ratio increased 0.4 points in 2018 compared to 2017, primarily due to a new marketing campaign launched during the second half of 2018 and increased spending on targeted growth opportunities.

We manage our advertising spend to ensure our acquisition costs meet our targeted returns. Esurance incurs substantially all of its acquisition costs in the year of policy inception. As a result, the Esurance expense ratio will be higher or lower depending on the advertising expenditures incurred. Esurance's annual combined ratio is below 100 after the year of policy inception (in which substantially all acquisition costs are incurred).

Expense ratio decreased 6.0 points in 2017 compared to 2016. Esurance advertising expense ratio decreased 2.9 points in 2017 compared to 2016, primarily due to reductions in homeowners marketing. Other costs and expenses, including salaries of phone sales personnel and other underwriting costs related to customer acquisition, were lower in 2017 compared to 2016 due to the implementation of process efficiencies. Expense ratio includes amortization of purchased intangible assets from the original acquisition in 2011.

Starting in 2017, the portion of the remaining purchased intangible asset related to the Esurance brand name was classified as an infinite-lived intangible and is no longer being amortized, but instead tested for impairment on an annual basis.



Encompass products are sold through independent agencies that serve brand-neutral customers who prefer personal service and support from an independent agent. In 2018, the Encompass brand represented 3.0% of the Allstate Protection segment's written premium. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Underwriting results

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written	\$ 1,016	\$ 1,035	\$ 1,140
Premiums earned	\$ 1,023	\$ 1,090	\$ 1,202
Other revenue	5	6	6
Claims and claims expense	(668)	(786)	(853)
Amortization of DAC	(190)	(201)	(221)
Other costs and expenses	(145)	(130)	(126)
Restructuring and related charges	(7)	(5)	(1)
Underwriting income (loss)	\$ 18	\$ (26)	\$ 7
Catastrophe losses	\$ 102	\$ 193	\$ 111
Underwriting income (loss) by line of business			
Auto	\$ 14	\$ 9	\$ (24)
Homeowners	1	(45)	37
Other personal lines	3	10	(6)
Underwriting income (loss)	\$ 18	\$ (26)	\$ 7

Changes in underwriting results from prior year by component ⁽¹⁾

(\$ in millions)	For the years ended December 31,	
	2018	2017
Underwriting income (loss) - prior year	\$ (26)	\$ 7
Changes in underwriting income (loss) from:		
Increase (decrease) premiums earned	(67)	(112)
Increase (decrease) other revenue	(1)	—
(Increase) decrease incurred claims and claims expense ("losses"):		
Incurred losses, excluding catastrophe losses and reserve reestimates	17	131
Catastrophe losses, excluding reserve reestimates	104	(83)
Catastrophes reserve reestimates	(13)	1
Non-catastrophe reserve reestimates	10	18
Losses subtotal	118	67
(Increase) decrease expenses	(6)	12
Underwriting income (loss)	\$ 18	\$ (26)

⁽¹⁾ The 2018 column presents changes in 2018 compared to 2017. The 2017 column presents changes in 2017 compared to 2016.

Underwriting income totaled \$18 million in 2018 compared to an underwriting loss of \$26 million in 2017. The improvement was primarily due to lower catastrophe losses and improved auto claim frequency, partially offset by decreased premiums earned.

Underwriting loss totaled \$26 million in 2017 compared to underwriting income of \$7 million in 2016, primarily due to higher homeowners catastrophe losses, partially offset by improved auto loss costs.

Premiums written and earned by line of business

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written			
Auto	\$ 537	\$ 542	\$ 591
Homeowners	398	406	454
Other personal lines	81	87	95
Total	\$ 1,016	\$ 1,035	\$ 1,140
Premiums earned			
Auto	\$ 537	\$ 566	\$ 623
Homeowners	402	431	479
Other personal lines	84	93	100
Total	\$ 1,023	\$ 1,090	\$ 1,202

Auto premium measures and statistics

	2018	2017	2016
PIF (thousands)	502	530	622
New issued applications (thousands)	76	52	54
Average premium	\$ 1,118	\$ 1,079	\$ 1,008
Renewal ratio (%) (1)	74.9	73.4	75.0
Approved rate changes (2):			
# of locations (3)	17	27	24
Total brand (%) (4)	2.4	6.2	10.5
Location specific (%) (5)(6)	4.8	7.8	14.3

(1) Encompass announced a plan to exit business in Massachusetts in the second quarter of 2017 and previously announced a plan to exit business in North Carolina in the first half of 2016, which impacted the renewal ratio. Excluding Massachusetts and North Carolina, the renewal ratios were 76.5 points in 2018 compared to 74.5 points in 2017 and 75.0 points in 2016.

(2) Rate changes that are indicated based on loss trend analysis to achieve a targeted return will continue to be pursued. Rate changes do not include rating plan enhancements, including the introduction of discounts and surcharges that result in no change in the overall rate level in a location. These rate changes do not reflect initial rates filed for insurance subsidiaries initially writing business in a location.

(3) Encompass brand operates in 40 states and D.C.

(4) Represents the impact in the states and D.C. where rate changes were approved during the period as a percentage of total brand prior year-end premiums written.

(5) Represents the impact in the states and D.C. where rate changes were approved during the period as a percentage of their respective total prior year-end premiums written in those same locations.

(6) Based on historical premiums written in the locations noted above, rate changes approved for auto totaled \$13 million, \$37 million and \$68 million in 2018, 2017 and 2016, respectively.

Auto insurance premiums written totaled \$537 million in 2018, a 0.9% decrease from \$542 million in 2017. Factors impacting premiums written were:

- 5.3% or 28 thousand decrease in PIF as of December 31, 2018 compared to December 31, 2017.
- 1.5 point increase in the renewal ratio in 2018 compared to 2017, as profit improvement actions have moderated. Encompass sells a high percentage of package policies that include both auto and homeowners; therefore, declines in one product can contribute to declines in the other.
- 46.2% or 24 thousand increase in new issued applications in 2018 compared to 2017.
- 3.6% increase in average premium in 2018 compared to 2017, primarily due to rate changes. Encompass brand policy terms are generally 12 months for auto.

Auto insurance premiums written totaled \$542 million in 2017, an 8.3% decrease from \$591 million in 2016. Factors impacting premiums written were:

- 14.8% or 92 thousand decrease in PIF as of December 31, 2017 compared to December 31, 2016.
- 3.7% decrease in new issued applications in 2017 compared to 2016, primarily due to rate changes.
- 7.0% increase in average premium in 2017 compared to 2016.
- 1.4 point decrease in the renewal ratio in 2017 compared to 2016, primarily due to profit improvement actions taken, including exiting states with inadequate returns.

Homeowners premium measure and statistics

	2018	2017	2016
PIF (thousands)	239	254	295
New issued applications (thousands)	37	30	34
Average premium	\$ 1,724	\$ 1,684	\$ 1,639
Renewal ratio (%) ⁽¹⁾	80.0	78.5	79.8
Approved rate changes ⁽²⁾ :			
# of locations ⁽³⁾	20	21	19
Total brand (%)	4.7	4.8	5.1
Location specific (%) ⁽⁴⁾	8.1	8.4	9.0

⁽¹⁾ Encompass announced a plan to exit business in Massachusetts in the second quarter of 2017 and previously announced a plan to exit business in North Carolina in the first half of 2016, which has impacted the renewal ratio. Excluding Massachusetts and North Carolina, the renewal ratios were 80.8 points in 2018 compared to 79.0 points in 2017 and 79.9 points in 2016.

⁽²⁾ Includes rate changes approved based on our net cost of reinsurance.

⁽³⁾ Encompass brand operates in 40 states and D.C.

⁽⁴⁾ Based on historical premiums written in the locations noted above, rate changes approved for homeowner totaled \$20 million, \$23 million and \$27 million in 2018, 2017 and 2016, respectively.

Homeowners insurance premiums written totaled \$398 million in 2018, a 2.0% decrease from \$406 million in 2017. Factors impacting premiums written were the following:

- 5.9% or 15 thousand decrease in PIF as of December 31, 2018 compared to December 31, 2017.
- 1.5 point increase in the renewal ratio in 2018 compared to 2017, as profit improvement actions have moderated. Encompass sells a high percentage of package policies that include both auto and homeowners; therefore, declines in one product can contribute to declines in the other.
- 23.3% or 7 thousand increase in new issued applications in 2018 compared to 2017.
- 2.4% increase in average premium in 2018 compared to 2017, primarily due to rate changes.

Homeowners insurance premiums written totaled \$406 million in 2017, a 10.6% decrease from \$454 million in 2016. Factors impacting premiums written were the following:

- 13.9% or 41 thousand decrease in PIF as of December 31, 2017 compared to December 31, 2016.
- 11.8% decrease in new issued applications in 2017 compared to 2016.
- 2.7% increase in average premium in 2017 compared to 2016, primarily due to rate changes.
- 1.3 point decrease in the renewal ratio in 2017 compared to 2016, primarily due to profit improvement actions taken to exit states with inadequate returns.

Combined ratios by line of business

	For the years ended December 31,								
	Loss ratio			Expense ratio ⁽¹⁾			Combined ratio		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	65.0	68.0	75.6	32.4	30.4	28.3	97.4	98.4	103.9
Homeowners	66.7	80.3	63.5	33.1	30.1	28.8	99.8	110.4	92.3
Other personal lines	60.7	59.1	77.0	35.7	30.1	29.0	96.4	89.2	106.0
Total	65.3	72.1	71.0	32.9	30.3	28.4	98.2	102.4	99.4

⁽¹⁾ Other revenue is deducted from operating costs and expenses in the expense ratio calculation.

Loss ratios by line of business

	For the years ended December 31,											
	Loss ratio			Effect of catastrophe losses			Effect of prior year reserve reestimates			Effect of catastrophe losses included in prior year reserve reestimates		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Auto	65.0	68.0	75.6	1.1	2.1	1.6	(1.9)	(1.1)	—	(0.2)	(0.2)	(0.4)
Homeowners	66.7	80.3	63.5	22.1	40.1	20.3	3.3	0.5	—	3.0	—	0.4
Other personal lines	60.7	59.1	77.0	8.3	8.6	4.0	(16.7)	(10.8)	5.0	1.2	—	—
Total	65.3	72.1	71.0	10.0	17.7	9.2	(1.1)	(1.3)	0.4	1.2	(0.1)	—

Auto loss ratio decreased 3.0 points in 2018 compared to 2017, primarily due to lower claim frequency, lower catastrophe losses, higher favorable

non-catastrophe prior year reserve reestimates and a slower decline in premiums earned. Auto loss ratio decreased 7.6 points in 2017 compared to 2016,

primarily due to lower frequency and severity, and favorable prior year reserve reestimates, partially offset by higher catastrophe losses.

Homeowners loss ratio decreased 13.6 points in 2018 compared to 2017, primarily due to lower catastrophe losses, partially offset by decreased

premiums earned. Homeowners loss ratio increased 16.8 points in 2017 compared to 2016, primarily due to higher catastrophe losses.

Expense ratios by line of business

	For the years ended December 31,		
	2018	2017	2016
Auto	32.4	30.4	28.3
Homeowners	33.1	30.1	28.8
Other personal lines	35.7	30.1	29.0
Total expense ratio ⁽¹⁾	32.9	30.3	28.4

⁽¹⁾ Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Impact of specific costs and expenses on the expense ratio

	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC	18.5	18.3	18.4
Advertising expense	0.2	0.2	0.2
Other costs and expenses ⁽¹⁾	13.5	11.3	9.7
Restructuring and related charges	0.7	0.5	0.1
Total expense ratio	32.9	30.3	28.4

⁽¹⁾ Other revenue is deducted from other costs and expenses in the expense ratio calculation.

Expense ratio increased 2.6 points in 2018 compared to 2017, primarily due to decreased premiums earned, increased investment in technology and higher employee-related compensation costs. The Encompass brand DAC amortization rate is higher on average than Allstate brand due to higher commission rates paid to independent agencies.

Expense ratio increased 1.9 points in 2017 compared to 2016, primarily due to higher employee-related and technology costs, and restructuring and related charges.

Discontinued Lines and Coverages Segment

The Discontinued Lines and Coverages segment includes results from property and casualty insurance coverage that primarily relates to policies written during the 1960s through the mid-1980s. Our exposure to asbestos, environmental and other discontinued lines claims arises principally from direct excess commercial insurance, assumed reinsurance coverage, direct primary commercial insurance and other businesses in run-off. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Underwriting Results

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written ⁽¹⁾	\$ —	\$ —	\$ 3
Premiums earned	\$ —	\$ —	\$ —
Claims and claims expense	(87)	(96)	(105)
Operating costs and expenses	(3)	(3)	(2)
Underwriting loss	\$ (90)	\$ (99)	\$ (107)

(1) Primarily represents retrospective reinsurance premium recognized when billed.

Underwriting losses of \$90 million in 2018 primarily related to our annual reserve review using established industry and actuarial best practices. The annual review resulted in unfavorable reestimates of \$76 million, including \$44 million for asbestos exposures, primarily related to new reported information, changes in our projections of reported claims and settlement agreements, including bankruptcy proceedings; \$20 million for environmental exposures and \$13 million for other exposures, partially offset by a \$1 million decrease in the allowance for uncollectible reinsurance.

Underwriting losses of \$99 million in 2017 primarily related to our annual reserve review, resulting in unfavorable reestimates of \$85 million, including \$61 million for asbestos exposures, \$10 million for

environmental exposures and \$27 million for other exposures, partially offset by a \$13 million decrease in the allowance for future uncollectible reinsurance.

Underwriting losses of \$107 million in 2016 primarily related to our annual reserve review, resulting in unfavorable reestimates of \$96 million, including a \$67 million unfavorable reestimate of asbestos exposures, a \$23 million unfavorable reestimate of environmental exposures and a \$6 million increase in the allowance for future uncollectible reinsurance with other exposures essentially unchanged.

The cost of administering claims settlements totaled \$11 million, \$11 million and \$10 million for 2018, 2017 and 2016, respectively.

Reserves for asbestos, environmental and other discontinued lines claims before and after the effects of reinsurance

(\$ in millions)	December 31, 2018	December 31, 2017
Asbestos claims		
Gross reserves	\$ 1,266	\$ 1,296
Reinsurance	(400)	(412)
Net reserves	866	884
Environmental claims		
Gross reserves	209	199
Reinsurance	(39)	(33)
Net reserves	170	166
Other discontinued lines		
Gross reserves	389	398
Reinsurance	(34)	(41)
Net reserves	355	357
Total		
Gross reserves	1,864	1,893
Reinsurance	(473)	(486)
Net reserves	\$ 1,391	\$ 1,407

Reserves by type of exposure before and after the effects of reinsurance

(\$ in millions)	December 31, 2018	December 31, 2017
Direct excess commercial insurance		
Gross reserves ⁽¹⁾	\$ 973	\$ 997
Reinsurance ⁽²⁾	(355)	(378)
Net reserves	618	619
Assumed reinsurance coverage		
Gross reserves ⁽³⁾	625	622
Reinsurance ⁽⁴⁾	(53)	(38)
Net reserves	572	584
Direct primary commercial insurance		
Gross reserves ⁽⁵⁾	171	177
Reinsurance ⁽⁶⁾	(48)	(48)
Net reserves	123	129
Other run-off business		
Gross reserves	19	24
Reinsurance	(16)	(21)
Net reserves	3	3
Unallocated loss adjustment expenses		
Gross reserves	76	73
Reinsurance	(1)	(1)
Net reserves	75	72
Total		
Gross reserves	1,864	1,893
Reinsurance	(473)	(486)
Net reserves	\$ 1,391	\$ 1,407

(1) Gross reserves as of December 31, 2018 comprised 67% case reserves and 33% incurred but not reported ("IBNR") reserves. Approximately 75% of the total gross case reserves are subject to settlement agreements. In 2018, total gross payments from case reserves were \$105 million with approximately 88% attributable to settlements. Reserves as of December 31, 2017, comprised 65% case reserves and 35% IBNR reserves.

(2) Ceded reserves as of December 31, 2018 comprised 78% case reserves and 22% IBNR reserves. Approximately 82% of the total ceded case reserves are subject to settlement agreements. In 2018, reinsurance billings of ceded case reserves were \$55 million with approximately 84% attributable to settlements. Reserves as of December 31, 2017, comprised 76% case reserves and 24% IBNR reserves.

(3) Gross reserves as of December 31, 2018 comprised 34% case reserves and 66% IBNR reserves. In 2018, total gross payments from case reserves were \$39 million. Reserves as of December 31, 2017, comprised 31% case reserves and 69% IBNR reserves.

(4) Ceded reserves as of December 31, 2018 comprised 37% case reserves and 63% IBNR reserves. In 2018, reinsurance billings of ceded case reserves were \$5 million. Reserves as of December 31, 2017, comprised 36% case reserves and 64% IBNR reserves.

(5) Gross reserves as of December 31, 2018 comprised 58% case reserves and 42% IBNR reserves. In 2018, total gross payments from case reserves were \$8 million. Reserves as of December 31, 2017, comprised 54% case reserves and 46% IBNR reserves.

(6) Ceded reserves as of December 31, 2018 comprised 78% case reserves and 22% IBNR reserves. In 2018, reinsurance billings of ceded case reserves were \$1 million. Reserves as of December 31, 2017, comprised 76% case reserves and 24% IBNR reserves.

Total net reserves were \$1.39 billion, including \$693 million or 50% of estimated IBNR reserves as of December 31, 2018 compared to total net reserves of \$1.41 billion, including \$733 million or 52% of estimated IBNR reserves as of December 31, 2017.

Total gross payments were \$156 million and \$192 million for 2018 and 2017, respectively, primarily related to payments on settlement agreements reached with several insureds on large claims, mainly asbestos related losses, where the scope of coverages has been agreed upon.

The claims associated with these settlement agreements are expected to be substantially paid out over the next several years as qualified claims are submitted by these insureds. Reinsurance collections were \$62 million and \$67 million for 2018 and 2017, respectively.

See the Claims and Claims Expense Reserves section of this Item for a more detailed discussion.

Service Businesses Segment



Service Businesses comprise SquareTrade, Arity, InfoArmor, Allstate Roadside Services and Allstate Dealer Services. In 2018, Service Businesses represented 3.3% of total revenue, 65.1% of total PIF and less than 1.0% of total adjusted net income. We offer consumer product protection plans, device and mobile data collection services and analytic solutions, identity protection, roadside assistance, and finance and insurance products (including vehicle service contracts, guaranteed asset protection waivers, road hazard tire and wheel and painless dent repair protection).

Starting in the fourth quarter of 2018, the Service Businesses segment includes the results of InfoArmor, a leading provider of identity protection to more than 1 million employees and their family members at over 1,400 firms, which was acquired on October 5, 2018. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Summarized financial information

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Premiums written	\$ 1,431	\$ 1,094	\$ 709
Revenues			
Premiums	\$ 1,098	\$ 867	\$ 580
Intersegment insurance premiums and service fees ⁽¹⁾	122	110	105
Other revenue	82	66	64
Net investment income	27	16	13
Realized capital gains and losses	(11)	—	—
Total revenues	1,318	1,059	762
Costs and expenses			
Claims and claims expense	(350)	(369)	(258)
Amortization of DAC	(463)	(296)	(214)
Operating costs and expenses	(505)	(460)	(283)
Amortization of purchased intangible assets	(94)	(92)	—
Restructuring and related charges ⁽²⁾	(4)	(13)	—
Total costs and expenses	(1,416)	(1,230)	(755)
Income tax benefit (expense)	19	194	(2)
Net (loss) income applicable to common shareholders	\$ (79)	\$ 23	\$ 5
Adjusted net income (loss)	\$ 8	\$ (54)	\$ 5
Realized capital gains and losses, after-tax	(9)	—	—
Amortization of purchased intangible assets, after-tax	(74)	(60)	—
Tax Legislation (expense) benefit	(4)	137	—
Net (loss) income applicable to common shareholders	\$ (79)	\$ 23	\$ 5
SquareTrade ⁽³⁾	\$ 23	\$ (22)	\$ —
Arity	(11)	(14)	10
InfoArmor ⁽³⁾	1	—	—
Allstate Roadside Services	(20)	(17)	(10)
Allstate Dealer Services	15	(1)	5
Adjusted net income (loss)	\$ 8	\$ (54)	\$ 5
SquareTrade ⁽³⁾	68,588	38,719	—
InfoArmor ⁽³⁾	1,040	—	—
Allstate Roadside Services	663	699	768
Allstate Dealer Services	3,896	4,088	4,142
Policies in force as of December 31 (in thousands)	74,187	43,506	4,910

⁽¹⁾ Primarily related to Arity and Allstate Roadside Services and are eliminated in our consolidated financial statements.

⁽²⁾ 2018 related to organizational changes at Allstate Roadside Services and 2017 related to a one-time contract termination of a SquareTrade European vendor.

⁽³⁾ SquareTrade was acquired on January 3, 2017 and InfoArmor was acquired on October 5, 2018.

Net loss applicable to common shareholders was \$79 million in 2018 compared to net income applicable to common shareholders of \$23 million and \$5 million in 2017 and 2016, respectively. 2018 and 2017 results include a tax expense of \$4 million and a tax benefit of \$137 million, respectively, related to the Tax Legislation.

Adjusted net income was \$8 million in 2018 compared to an adjusted net loss of \$54 million in 2017 and an adjusted net income of \$5 million in 2016. The improvement in 2018 was primarily due to increased revenue at SquareTrade, improved loss experience at SquareTrade and Allstate Dealer Services and lower restructuring charges in 2018 compared to 2017, partially offset by higher loss costs at Allstate Roadside Services. The loss in 2017 compared to income in 2016 was primarily due to investments in Arity's research and development, strategic investments in SquareTrade and Allstate Roadside Services, a SquareTrade restructuring charge and Hurricane Harvey's impacts on Allstate Dealer Services.

Total revenues increased 24.5% or \$259 million to \$1.32 billion in 2018 from \$1.06 billion in 2017. The increase was primarily due to SquareTrade's growth through its U.S. retail and international channels and increased premiums earned on Allstate Dealer Services' vehicle service contracts. 2018 revenue also includes \$101 million for SquareTrade protection plans sold directly to retailers prior to January 1, 2018 for which SquareTrade is deemed to be the principal. This increase in revenue is due to the adoption of the revenue from contracts with customers accounting standard and is offset by corresponding increases in amortization of DAC.

Premiums written increased 30.8% or \$337 million to \$1.43 billion in 2018 from \$1.09 billion in 2017, primarily due to continued growth at SquareTrade, including the addition of a leading U.S. retailer in third quarter 2018. Premiums written increased 54.3% or \$385 million to \$1.09 billion in 2017 from \$709 million in 2016, primarily due to the acquisition of SquareTrade and growth through its U.S. retail channel, partially offset by decreases in premiums written at Allstate Roadside Services.

Premiums written in 2019 will benefit from the full year impact of the addition of a leading U.S. retailer, but will be partially offset by the loss of existing retailer relationships in the normal course of business.

SquareTrade and Allstate Dealer Services issue contractual liability insurance policies or guaranteed asset protection reimbursement insurance policies to cover the liabilities of their products where required by state regulations. The products offered through SquareTrade and Allstate Dealer Services fall under the regulation of departments of insurance in many states with requirements for filing of forms and rates varying by product and by state.

PIF increased 70.5% or 30.7 million to 74.2 million as of December 31, 2018 compared to 43.5 million as of December 31, 2017 due to continued growth at SquareTrade, including the addition of a leading U.S.

retailer, and the acquisition of InfoArmor. PIF increased by 38.6 million to 43.5 million as of December 31, 2017 compared to 4.9 million as of December 31, 2016 due to the acquisition of SquareTrade.

Intersegment premiums and service fees of \$122 million in 2018 increased from \$110 million and \$105 million in 2017 and 2016, respectively, primarily related to increased auto connections through Arity's device and mobile data collection services and analytic solutions.

Other revenue of \$82 million in 2018 increased from \$66 million and \$64 million in 2017 and 2016, respectively, primarily due to the acquisition of InfoArmor in 2018.

Claims and claims expense decreased 5.1% to \$350 million in 2018 from \$369 million in 2017, primarily due to improved loss experience at SquareTrade and Allstate Dealer Services, including a decrease in catastrophe losses as Allstate Dealer Services was impacted by Hurricane Harvey in 2017, partially offset by higher loss costs at Allstate Roadside Services. Claims and claims expense increased 43.0% to \$369 million in 2017 from \$258 million in 2016, primarily due to the acquisition of SquareTrade on January 3, 2017.

Amortization of DAC increased 56.4% or \$167 million to \$463 million in 2018 from \$296 million in 2017, including \$101 million in 2018 related to the adoption of the revenue from contracts with customers accounting standard. The remaining increase of \$66 million is due to the growth experienced at SquareTrade and Allstate Dealer Services.

Operating costs and expenses increased 9.8% to \$505 million in 2018 from \$460 million in 2017, primarily due to higher product and advertising costs at SquareTrade, higher costs for device data collection services, investments in research and business expansion at Arity and the addition of InfoArmor. Operating costs and expenses increased 62.5% to \$460 million in 2017 from \$283 million in 2016, primarily due to the acquisition of SquareTrade on January 3, 2017, Allstate Roadside Services increase in strategic investments in the Good Hands Rescue Network, and investments in Arity's research and business expansion.

Amortization of purchased intangible assets relates to the acquisitions of SquareTrade and InfoArmor. We recognized \$555 million of intangible assets for SquareTrade and we recorded amortization expense of \$81 million in 2018 compared to \$92 million in 2017. We recognized \$257 million of intangible assets for InfoArmor and we recorded amortization expense of \$13 million in 2018.

Claims and Claims Expense Reserves

Underwriting results are significantly influenced by estimates of claims and claims expense reserves. For a description of our reserve process, see Note 8 of the consolidated financial statements. Further, for a description of our reserving policies and the potential variability in our reserve estimates, see the Application of Critical Accounting Estimates section of the MD&A. These reserves are an estimate of amounts necessary to settle all outstanding claims, including IBNR claims, as of the reporting date.

The facts and circumstances leading to our reestimates of reserves relate to revisions to the development factors used to predict how losses are likely to develop from the end of a reporting period until all claims have been paid. Reestimates occur because actual losses are likely different than those predicted by the estimated development factors used in prior reserve estimates.

We believe the net loss reserves exposures are appropriately established based on available facts, technology, laws and regulations.

Total reserves, net of recoverables ("net reserves"), as of December 31, by line of business

(\$ in millions)	2018	2017	2016
Allstate brand	\$ 17,272	\$ 16,826	\$ 16,108
Esurance brand	862	777	740
Encompass brand	691	758	749
Total Allstate Protection	18,825	18,361	17,597
Discontinued Lines and Coverages	1,391	1,407	1,445
Total Property-Liability	20,216	19,768	19,042
Service Businesses	52	86	24
Total net reserves	\$ 20,268	\$ 19,854	\$ 19,066

The year-end 2018 gross reserves of \$27.42 billion for insurance claims and claims expense were \$8.52 billion more than the net reserve balance of \$18.90 billion recorded on the basis of statutory accounting practices for reports provided to state regulatory authorities. The principal differences are recoverables from third parties totaling \$7.16 billion, including \$5.37 billion of indemnification recoverables related to the Michigan Catastrophic Claims Association ("MCCA"), that reduce reserves for statutory reporting, but are

recorded as assets for GAAP reporting, and a liability for the reserves of the Canadian subsidiaries for \$1.26 billion that are a component of our consolidated reserves, but not included in our U.S. statutory reserves. The tables below show net reserves representing the estimated cost of outstanding claims as they were recorded at the beginning of years 2018, 2017 and 2016, and the effect of reestimates in each year.

Net reserves

(\$ in millions)	2018	January 1 reserves	
		2017	2016
Allstate brand	\$ 16,826	\$ 16,108	\$ 14,953
Esurance brand	777	740	717
Encompass brand	758	749	770
Total Allstate Protection	18,361	17,597	16,440
Discontinued Lines and Coverages	1,407	1,445	1,516
Total Property-Liability	19,768	19,042	17,956
Service Businesses	86	24	21
Total net reserves	\$ 19,854	\$ 19,066	\$ 17,977

Impact of reserve reestimates by brand on combined ratio and underwriting income

(\$ in millions, except ratios)	2018		2017		2016	
	Reserve reestimate (4)	Effect on combined ratio (5)	Reserve reestimate (4)	Effect on combined ratio (5)	Reserve reestimate (4)	Effect on combined ratio (5)
Allstate brand (1)	\$ (332)	(1.0)	\$ (585)	(1.8)	\$ (110)	(0.4)
Esurance brand (2)	3	—	(2)	—	(21)	(0.1)
Encompass brand (3)	(11)	—	(14)	(0.1)	5	—
Total Allstate Protection	(340)	(1.0)	(601)	(1.9)	(126)	(0.5)
Discontinued Lines and Coverages	87	0.3	96	0.3	105	0.3
Total Property-Liability (6)	(253)	(0.7)	(505)	(1.6)	(21)	(0.2)
Service Businesses	(2)	—	2	—	4	—
Total	\$ (255)		\$ (503)		\$ (17)	
Reserve reestimates, after-tax	\$ (201)		\$ (327)		\$ (11)	
Consolidated net income applicable to common shareholders	\$ 2,012		\$ 3,438		\$ 1,692	
Reserve reestimates as a % impact on consolidated net income applicable to common shareholders	10.0%		9.5%		0.7%	

(1) Impact of reserve reestimates on Allstate brand underwriting income were 14.1%, 24.5% and 6.9% in 2018, 2017 and 2016, respectively.

(2) Impact of reserve reestimates on Esurance brand underwriting loss were (12.0)%, 3.6% and 16.9% in 2018, 2017 and 2016, respectively.

(3) Impact of reserve reestimates on Encompass brand underwriting income (loss) were 61.1% and 53.8% in 2018 and 2017, respectively. Impact on results in 2016 were not meaningful.

(4) Favorable reserve reestimates are shown in parentheses.

(5) Ratios are calculated using property and casualty premiums earned.

(6) Prior year reserve reestimates included in catastrophe losses totaled \$25 million unfavorable, \$18 million favorable and \$6 million unfavorable in 2018, 2017 and 2016, respectively.

The following tables reflect the accident years to which the reestimates shown above are applicable. Favorable reserve reestimates are shown in parentheses.

2018 prior year reserve reestimates

(\$ in millions)	2013 & prior	2014	2015	2016	2017	Total
Allstate brand	\$ (61)	\$ (50)	\$ (25)	\$ (146)	\$ (50)	\$ (332)
Esurance brand	(5)	(6)	9	13	(8)	3
Encompass brand	(12)	(11)	(15)	1	26	(11)
Total Allstate Protection	(78)	(67)	(31)	(132)	(32)	(340)
Discontinued Lines and Coverages	87	—	—	—	—	87
Total Property-Liability	9	(67)	(31)	(132)	(32)	(253)
Service Businesses	—	—	—	—	(2)	(2)
Total	\$ 9	\$ (67)	\$ (31)	\$ (132)	\$ (34)	\$ (255)

2017 prior year reserve reestimates

(\$ in millions)	2012 & prior	2013	2014	2015	2016	Total
Allstate brand	\$ 3	\$ (99)	\$ (103)	\$ (121)	\$ (265)	\$ (585)
Esurance brand	(3)	(1)	(12)	1	13	(2)
Encompass brand	(6)	(1)	(4)	(1)	(2)	(14)
Total Allstate Protection	(6)	(101)	(119)	(121)	(254)	(601)
Discontinued Lines and Coverages	96	—	—	—	—	96
Total Property-Liability	90	(101)	(119)	(121)	(254)	(505)
Service Businesses	—	—	—	—	2	2
Total	\$ 90	\$ (101)	\$ (119)	\$ (121)	\$ (252)	\$ (503)

2016 prior year reserve reestimates

(\$ in millions)	2011 & prior	2012	2013	2014	2015	Total
Allstate brand	\$ (11)	\$ (52)	\$ (69)	\$ (40)	\$ 62	\$ (110)
Esurance brand	(7)	(3)	(5)	(9)	3	(21)
Encompass brand	(25)	7	3	14	6	5
Total Allstate Protection	(43)	(48)	(71)	(35)	71	(126)
Discontinued Lines and Coverages	105	—	—	—	—	105
Total Property-Liability	62	(48)	(71)	(35)	71	(21)
Service Businesses	—	—	—	—	4	4
Total	\$ 62	\$ (48)	\$ (71)	\$ (35)	\$ 75	\$ (17)

Allstate Protection

The tables below show Allstate Protection net reserves representing the estimated cost of outstanding claims as they were recorded at the beginning of years 2018, 2017, and 2016, and the effect of reestimates in each year.

Net reserves by line

(\$ in millions)	January 1 reserves		
	2018	2017	2016
Auto	\$ 14,051	\$ 13,530	\$ 12,459
Homeowners	2,205	1,990	1,937
Other personal lines	1,489	1,456	1,490
Commercial lines	616	621	554
Total Allstate Protection	\$ 18,361	\$ 17,597	\$ 16,440

Impact of reserve reestimates by line on combined ratio and underwriting income

(\$ in millions, except ratios)	2018		2017		2016	
	Reserve reestimate	Effect on combined ratio	Reserve reestimate	Effect on combined ratio	Reserve reestimate	Effect on combined ratio
Auto	\$ (455)	(1.3)	\$ (490)	(1.6)	\$ (155)	(0.6)
Homeowners	14	—	(131)	(0.4)	(24)	(0.1)
Other personal lines	(7)	—	1	—	(9)	—
Commercial lines	108	0.3	19	0.1	62	0.2
Total Allstate Protection	\$ (340)	(1.0)	\$ (601)	(1.9)	\$ (126)	(0.5)
Underwriting income	\$ 2,343		\$ 2,304		\$ 1,477	
Reserve reestimates as a % impact on underwriting income	14.5%		26.1%		8.5%	

Prior year reserve reestimates are developed based on factors that are calculated quarterly and periodically throughout the year for data elements such as claims reported and settled, paid losses and paid losses combined with case reserves. These data elements are primarily responsible for revisions to loss development factors used to predict how losses are likely to develop from the end of a reporting period until all claims have been paid. When actual development of these data elements is different than the historical development pattern used in a prior period reserve estimate, reserves are revised as actuarial studies validate new trends based on the indications of updated development factor calculations. On-going claims organizational and process changes that are occurring are considered within our estimation process.

Favorable reserve reestimates for auto in 2018 primarily related to continued favorable personal lines auto injury coverage development, offset by strengthening in our commercial lines and personal injury protection ("PIP") coverage, including an unfavorable ruling against the insurance industry related to Florida PIP. Auto liability claims process

changes implemented in prior years, including a program requiring enhanced documentation of injuries and related medical treatments, have resulted in favorable severity trends compared to those originally estimated as we continue to develop greater experience in settling claims under these programs. The impact of these program changes have begun to moderate. Unfavorable results for commercial lines in 2018 were primarily due to non-catastrophe auto loss development being higher than anticipated in previous estimates.

Favorable reserve reestimates for auto and homeowners in 2017 were primarily related to a reduction in claim severity estimates for liability coverages. Auto liability claims process changes implemented in prior years also impacted 2017 results. Auto liability legislative reforms, higher limits and longer settlement periods in Canada resulted in uncertainty that has developed favorably as loss experience emerges. Unfavorable results for commercial lines in 2017 were primarily due to non-catastrophe auto loss development being higher than anticipated in previous estimates.

Favorable auto reserve reestimates in 2016 were primarily due to severity development for auto liability coverages that was better than expected. Favorable homeowners reserve reestimates in 2016 were primarily due to severity development for liability coverages related to the timing of payments. Other personal lines reserve reestimates in 2016 were primarily due to non-catastrophe loss development lower than anticipated in previous estimates.

Pending, new and closed claims for Allstate Protection are summarized in the following table for the years ended December 31. The increases in pending claims as of December 31, 2018 compared to December 31, 2017 were primarily due to increases in the amount of time to settle auto liability claims and growth in the business. The increases in pending claims as of December 31, 2017 compared to December 31, 2016 were primarily due to increases in the amount of time to settle claims.

Summary of pending new and closed claims for Allstate Protection

Number of claims	2018	2017	2016
Auto			
Pending, beginning of year	538,424	534,531	521,890
New	6,494,554	6,448,747	6,844,491
Total closed	(6,443,276)	(6,444,854)	(6,831,850)
Pending, end of year	589,702	538,424	534,531
Homeowners			
Pending, beginning of year	37,294	34,691	38,865
New	810,919	898,512	818,084
Total closed	(806,559)	(895,909)	(822,258)
Pending, end of year	41,654	37,294	34,691
Other personal lines			
Pending, beginning of year	17,077	14,937	15,835
New	212,061	242,427	219,053
Total closed	(211,309)	(240,287)	(219,951)
Pending, end of year	17,829	17,077	14,937
Commercial lines			
Pending, beginning of year	10,416	11,518	11,837
New	72,326	55,308	73,139
Total closed	(70,203)	(56,410)	(73,458)
Pending, end of year	12,539	10,416	11,518
Total Allstate Protection			
Pending, beginning of year	603,211	595,677	588,427
New	7,589,860	7,644,994	7,954,767
Total closed	(7,531,347)	(7,637,460)	(7,947,517)
Pending, end of year	661,724	603,211	595,677

Discontinued Lines and Coverages

We conduct an annual review in the third quarter of each year to evaluate and establish asbestos, environmental and other discontinued lines reserves. Reserves are recorded in the reporting period in which they are determined. Using established industry and actuarial best practices and assuming no change in the

regulatory or economic environment, this detailed and comprehensive methodology determines reserves based on assessments of the characteristics of exposure (e.g. claim activity, potential liability, jurisdiction, products versus non-products exposure) presented by policyholders.

Discontinued Lines and Coverages reserve reestimates

(\$ in millions)	2018		2017		2016	
	January 1 reserves	Reserve reestimate	January 1 reserves	Reserve reestimate	January 1 reserves	Reserve reestimate
Asbestos claims	\$ 884	\$ 44	\$ 912	\$ 61	\$ 960	\$ 67
Environmental claims	166	20	179	10	179	23
Other discontinued lines	357	23	354	25	377	15
Total	\$ 1,407	\$ 87	\$ 1,445	\$ 96	\$ 1,516	\$ 105
Underwriting loss		\$ (90)		\$ (99)		\$ (107)

Reserve additions for asbestos in 2018 were primarily related to new reported information, changes

in our projections of reported claims and settlement agreements, including bankruptcy proceedings.

Reserve additions for asbestos in 2017 were primarily related to new reported information and settlement agreements, including bankruptcy proceedings. Reserve additions for asbestos in 2016 were primarily related to insured business and claim development, new reported information on insured's claims, expanded expected exposure periods and other legal settlements including insured's bankruptcy proceedings.

Reserve additions for environmental in 2018 were primarily related to expected greater loss activity for future claims. Reserve additions for environmental in 2017 and 2016 were primarily related to greater reported loss activity than expected.

Reserves and claim activity before (Gross) and after (Net) the effects of reinsurance

(\$ in millions, except ratios)	2018		2017		2016	
	Gross	Net	Gross	Net	Gross	Net
Asbestos claims						
Beginning reserves	\$ 1,296	\$ 884	\$ 1,356	\$ 912	\$ 1,418	\$ 960
Incurring claims and claims expense	89	44	79	61	96	67
Claims and claims expense paid	(119)	(62)	(139)	(89)	(158)	(115)
Ending reserves	\$ 1,266	\$ 866	\$ 1,296	\$ 884	\$ 1,356	\$ 912
Annual survival ratio	10.6	14.0	9.3	9.9	8.6	7.9
3-year survival ratio	9.1	9.7	9.2	8.9	9.9	9.2
Environmental claims						
Beginning reserves	\$ 199	\$ 166	\$ 219	\$ 179	\$ 222	\$ 179
Incurring claims and claims expense	30	20	9	10	24	23
Claims and claims expense paid	(20)	(16)	(29)	(23)	(27)	(23)
Ending reserves	\$ 209	\$ 170	\$ 199	\$ 166	\$ 219	\$ 179
Annual survival ratio	10.5	10.6	6.9	7.2	8.1	7.8
3-year survival ratio	8.4	8.2	6.9	6.9	8.1	7.8
Combined environmental and asbestos claims						
Annual survival ratio	10.6	13.3	8.9	9.4	8.5	7.9
3-year survival ratio	9.0	9.5	8.8	8.5	9.6	8.9
Percentage of IBNR in ending reserves		49.6%		52.7%		56.7%

The survival ratio is calculated by taking our ending reserves divided by payments made during the year. This is a commonly used but extremely simplistic and imprecise approach to measuring the adequacy of asbestos and environmental reserve levels. Many factors, such as mix of business, level of coverage provided and settlement procedures have significant impacts on the amount of environmental and asbestos claims and claims expense reserves, claim payments and the resultant ratio. As payments result in

corresponding reserve reductions, survival ratios can be expected to vary over time. In 2018, the asbestos and environmental net 3-year survival ratio increased due to lower claim payments associated with settlement agreements. In 2017 and 2016, the asbestos and environmental net 3-year survival ratio decreased due to increased claim payments associated with settlement agreements expected to be substantially paid out over the next several years.

Net asbestos reserves by type of exposure and total reserve additions

(\$ in millions)	December 31, 2018			December 31, 2017			December 31, 2016		
	Active policy-holders	Net reserves	% of reserves	Active policy-holders	Net reserves	% of reserves	Active policy-holders	Net reserves	% of reserves
Direct policyholders:									
Primary	51	\$ 12	1%	48	\$ 10	1%	51	\$ 9	1%
Excess	295	309	36	296	308	35	297	266	29
Total case reserves	346	321	37	344	318	36	348	275	30
Assumed reinsurance		138	16		117	13		125	14
IBNR		407	47		449	51		512	56
Total net reserves		\$ 866	100%		\$ 884	100%		\$ 912	100%
Total reserve additions		\$ 44			\$ 61			\$ 67	

At December 31, 2018, there were 346 active policyholders with open asbestos claims.

- Active policyholders increased by 2 in 2018, including 13 policyholders reporting asbestos claims for the first time and the closing of all claims for 11 policyholders.
- Active policyholders decreased by 4 in 2017, including 10 policyholders reporting asbestos claims for the first time and the closing of all claims for 14 policyholders.
- Active policyholders increased by 2 in 2016, including 17 policyholders reporting asbestos claims for the first time and the closing of all claims for 15 policyholders.

IBNR net reserves decreased \$42 million as of December 31, 2018 compared to December 31, 2017, due to the transfer of IBNR to case reserves through settlement agreements with insureds on large claims where the scope of coverages have been agreed. IBNR provides for reserve development of known claims and future reporting of additional unknown claims from current policyholders and ceding companies.

Claims counts for asbestos and environmental exposures

Number of claims	For the years ended December 31,		
	2018	2017	2016
Asbestos			
Pending, beginning of year	6,659	6,883	7,151
New	427	406	477
Closed	(646)	(630)	(745)
Pending, end of year	6,440	6,659	6,883
Closed without payment	446	377	373
Environmental			
Pending, beginning of year	3,351	3,399	3,504
New	335	375	292
Closed	(457)	(423)	(397)
Pending, end of year	3,229	3,351	3,399
Closed without payment	320	299	211

Reinsurance and indemnification programs We utilize reinsurance to reduce exposure to catastrophe risk and manage capital, and to support the required statutory surplus and the insurance financial strength ratings of certain subsidiaries such as Castle Key Insurance Company ("CKIC") and Allstate New Jersey Insurance Company ("ANJ"). We purchase significant reinsurance to manage our aggregate countrywide exposure to an acceptable level. The price and terms of reinsurance and the credit quality of the reinsurer are considered in the purchase process, along with whether the price can be appropriately reflected in the

costs that are considered in setting future rates charged to policyholders. We have also historically purchased reinsurance to mitigate long-tail liability lines, including environmental, asbestos and other discontinued lines exposures. We also participate in various indemnification mechanisms, including state-based industry pool or facility programs mandating participation by insurers offering certain coverage in their state and the federal government National Flood Insurance Program ("NFIP"). See Note 10 of the consolidated financial statements for additional details on these programs.

Reinsurance and indemnification recoverable balances net of the allowance established for uncollectible amounts

(\$ in millions)	S&P financial strength rating ⁽¹⁾	Reinsurance or indemnification recoverable on paid and unpaid claims, net	
		2018	2017
Indemnification programs			
<i>State-based industry pool or facility programs</i>			
MCCA ⁽²⁾	N/A	\$ 5,400	\$ 5,261
New Jersey Property-Liability Insurance Guaranty Association (“PLIGA”)	N/A	461	493
North Carolina Reinsurance Facility	N/A	86	86
Florida Hurricane Catastrophe Fund (“FHCF”)	N/A	104	19
Other		9	6
<i>Federal Government - NFIP</i>	N/A	31	88
Subtotal		6,091	5,953
Catastrophe reinsurance recoverables			
Renaissance Reinsurance Limited	A+	65	1
Swiss Reinsurance America Corporation	AA-	39	—
Arch Reinsurance Limited	A+	37	—
Other		412	10
Subtotal		553	11
Other reinsurance recoverables ⁽³⁾			
Lloyd’s of London (“Lloyd’s”) ⁽⁴⁾	A+	165	167
Westport Insurance Corporation	AA-	60	61
TIG Insurance Company	N/A	35	31
Other, including allowance for future uncollectible recoverables		344	326
Subtotal		604	585
Total Property-Liability		7,248	6,549
Service Businesses		18	18
Total		\$ 7,266	\$ 6,567

(1) N/A reflects no S&P Global Ratings (“S&P”) rating available.

(2) As of December 31, 2018 and 2017, MCCA includes \$30 million and \$27 million of reinsurance recoverable on paid claims, respectively, and \$5.37 billion and \$5.23 billion of reinsurance recoverable on unpaid claims, respectively.

(3) Other reinsurance recoverables primarily relate to asbestos, environmental and other liability exposures.

(4) As of December 31, 2018, case reserves for Lloyd’s were 69% of the reinsurance recoverable for unpaid claims.

Reinsurance and indemnification recoverables include an estimate of the amount of insurance claims and claims expense reserves that are ceded under the terms of the agreements, including incurred but not reported unpaid losses. We calculate our ceded reinsurance and indemnification estimates based on the terms of each applicable agreement, including an estimate of how IBNR losses will ultimately be ceded under the agreement. We also consider other limitations and coverage exclusions under our agreements. Accordingly, our estimate of recoverables is subject to similar risks and uncertainties as our estimate of reserves claims and claims expense. We believe the recoverables are appropriately established; however, as our underlying reserves continue to develop, the amount ultimately recoverable may vary from amounts currently recorded. We regularly evaluate the reinsurers and the respective amounts of our reinsurance recoverables, and a provision for uncollectible reinsurance recoverables is recorded, if needed. The establishment of reinsurance recoverables and the related allowance for uncollectible reinsurance is also an inherently uncertain process involving estimates. Changes in estimates

could result in additional changes to the Consolidated Statements of Operations.

Indemnification recoverables are considered collectible based on the industry pool and facility enabling legislation and the Company has not had any credit losses related to these programs. We also have not experienced credit losses on our catastrophe reinsurance programs. The allowance for uncollectible reinsurance relates to other reinsurance programs primarily related to our Discontinued Lines and Coverages segment. This allowance was \$65 million and \$70 million as of December 31, 2018 and 2017, respectively, which represents 11.8% and 12.0% of the related reinsurance recoverable balances as of December 31, 2018 and 2017, respectively. The allowance is based upon our ongoing review of amounts outstanding, length of collection periods, changes in reinsurer credit standing, and other relevant factors. In addition, in the ordinary course of business, we may become involved in coverage disputes with certain of our reinsurers that may ultimately result in lawsuits and arbitrations brought by or against such reinsurers to determine the parties’

rights and obligations under the various reinsurance agreements. We employ dedicated specialists to manage reinsurance collections and disputes. We also consider recent developments in commutation activity between reinsurers and cedents, and recent trends in arbitration and litigation outcomes in disputes between cedents and reinsurers in seeking to maximize our reinsurance recoveries.

Adverse developments in the insurance industry have led to a decline in the financial strength of some of our reinsurance carriers, causing amounts recoverable from them and future claims ceded to them to be considered a higher risk. There has also been consolidation activity in the industry, which

causes reinsurance risk across the industry to be concentrated among fewer companies. In addition, some companies have segregated asbestos, environmental, and other discontinued lines exposures into separate legal entities with dedicated capital. Regulatory bodies in certain cases have supported these actions. We are unable to determine the impact, if any, that these developments will have on the collectability of reinsurance recoverables in the future.

For a detailed description of the MCCA, PLIGA and Lloyd's, see Note 10 of the consolidated financial statements.

Effects of reinsurance ceded and indemnification programs on our premiums earned and claims and claims expense

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Allstate Protection - Premiums			
Indemnification programs			
<i>State-based industry pool or facility programs</i>			
MCCA	\$ 77	\$ 73	\$ 73
PLIGA	9	9	8
FHCF	10	11	12
Other	90	108	99
<i>Federal Government - NFIP</i>	258	263	274
Catastrophe reinsurance	344	344	381
Other reinsurance programs	54	—	—
Total Allstate Protection	842	808	847
Discontinued Lines and Coverages	—	—	—
Total Property-Liability	842	808	847
Service Businesses	174	163	140
Total effect on premiums earned	\$ 1,016	\$ 971	\$ 987
Allstate Protection - Claims			
Indemnification programs			
<i>State-based industry pool or facility programs</i>			
MCCA	\$ 233	\$ 410	\$ 386
PLIGA	(6)	3	20
FHCF	148	19	—
Other	90	89	82
<i>Federal Government - NFIP</i>	118	1,116	537
Catastrophe reinsurance	604	46	(9)
Other reinsurance programs	40	—	—
Total Allstate Protection	1,227	1,683	1,016
Discontinued Lines and Coverages	57	35	27
Total Property-Liability	1,284	1,718	1,043
Service Businesses	94	89	73
Total effect on claims and claims expense	\$ 1,378	\$ 1,807	\$ 1,116

In 2018, 2017 and 2016, ceded premiums earned increased primarily due to increased indemnification program reinsurance premium rates and a decrease in policies written for the NFIP.

In 2018, ceded claims and claims expenses decreased \$429 million, primarily due to higher amounts related to the NFIP in 2017. In 2017, ceded claims and claims expenses increased \$691 million, primarily due to higher amounts related to the NFIP related to claims as a result of Hurricanes Harvey and Irma. Ceded claims and claims expenses increased in

2016, primarily due to higher amounts related to the NFIP as the result of Louisiana flooding.

Our claim reserve development experience is consistent with the MCCA's overall experience with reported and pending claims increasing in recent years. Moreover, the MCCA has reported severity increasing with nearly 57% of reimbursements for attendant and residential care services. Michigan's unique no-fault motor vehicle insurance law provides unlimited lifetime coverage for medical expenses resulting from motor vehicle accidents. The reserve

increases in the MCCA program are attributable to an increased recognition of longer term paid loss trends. The paid loss trends are rising due to increased costs in medical and attendant care and increased longevity of claimants. As a result of continuing to originate

motor vehicle policies in Michigan with unlimited personal injury protection coverage, we expect the number of MCCA covered claims and losses to increase each year.

Michigan personal injury protection reserve and claim activity before and after the effects of MCCA recoverables

(\$ in millions)	For the years ended December 31,					
	2018		2017		2016	
	Gross	Net	Gross	Net	Gross	Net
Beginning reserves	\$ 5,799	\$ 565	\$ 5,443	\$ 522	\$ 5,121	\$ 486
Incurring claims and claims expense-current year	449	189	513	195	578	214
Incurring claims and claims expense-prior years	9	35	117	25	8	(15)
Claims and claims expense paid-current year ⁽¹⁾	(52)	(51)	(54)	(53)	(60)	(58)
Claims and claims expense paid-prior years ⁽¹⁾	(230)	(133)	(220)	(124)	(204)	(105)
Ending reserves ⁽²⁾	\$ 5,975	\$ 605	\$ 5,799	\$ 565	\$ 5,443	\$ 522

⁽¹⁾ Paid claims and claims expenses reported in the table for the current and prior years, recovered from the MCCA totaled \$98 million, \$97 million and \$101 million in 2018, 2017 and 2016, respectively.

⁽²⁾ Gross reserves for the year ended December 31, 2018, comprise 88% case reserves and 12% IBNR. Gross reserves for the year ended December 31, 2017, comprise 87% case reserves and 13% IBNR. Gross reserves for the year ended December 31, 2016 comprise 85% case reserves and 15% IBNR. The MCCA does not require member companies to report ultimate case reserves.

Pending MCCA claims differ from most personal lines insurance pending claims as other personal lines policies have coverage limits and incurred claims settle in shorter periods. Claims are considered pending as long as payments are continuing pursuant to an outstanding MCCA claim, which can be for a claimant's lifetime. Many of these injuries are catastrophic in

nature, resulting in serious permanent disabilities that require attendant and residential care for periods that may span decades. A significant portion of the ultimate incurred claim reserves and the recoverables can be attributed to a small number of catastrophic claims that occurred more than five years ago and continue to pay lifetime benefits.

Pending, new and closed claims for Michigan personal injury protection exposures

Number of claims ⁽¹⁾	For the years ended December 31,		
	2018	2017	2016
Pending, beginning of year	4,983	5,388	5,127
New	7,858	8,494	9,577
Closed	(8,029)	(8,899)	(9,316)
Pending, end of year	4,812	4,983	5,388

⁽¹⁾ Total claims includes those covered and not covered by the MCCA indemnification.

As of December 31, 2018, approximately 1,645 of our pending claims have been reported to the MCCA, of which approximately 50% represents claims that occurred more than 5 years ago. There are 75 Allstate brand claims with reserves in excess of \$15 million as of December 31, 2018, which comprise approximately 37% of the gross ending reserves in the table above. As a result, significant developments with a single claimant can result in volatility in prior year incurred claims.

Intercompany reinsurance We enter into certain intercompany insurance and reinsurance transactions in order to maintain underwriting control and manage insurance risk among various legal entities. These reinsurance agreements have been approved by the appropriate regulatory authorities. All significant intercompany transactions have been eliminated in consolidation.

Catastrophe reinsurance Our catastrophe reinsurance program is designed, utilizing our risk management methodology, to address our exposure to catastrophes nationwide. Our program is designed to provide reinsurance protection for catastrophes resulting from multiple perils including hurricanes, windstorms, hail, tornadoes, fires following earthquakes, earthquakes and wildfires. These reinsurance agreements are part of our catastrophe management strategy, which is intended to provide our shareholders an acceptable return on the risks assumed in our property business, and to reduce variability of earnings, while providing protection to our customers.

We anticipate completing the placement of our 2019 nationwide catastrophe reinsurance program in the second quarter of 2019. We expect the program will be similar to our 2018 nationwide catastrophe reinsurance program, but will evaluate opportunities to improve the economic terms and conditions. For further details of the existing 2018 program, see Note 10 of the consolidated financial statements.

Allstate Life Segment

Allstate Life offers traditional, interest-sensitive and variable life insurance. In 2018, Allstate Life represented 4.8% of total revenue, 1.8% of total PIF and 10.1% of total adjusted net income. Our target customers prefer local personalized advice and service and are brand-sensitive. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Summarized financial information

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Revenues			
Premiums and contract charges	\$ 1,315	\$ 1,280	\$ 1,250
Other revenue	119	114	113
Net investment income	505	489	482
Realized capital gains and losses	(14)	5	(38)
Total revenues	1,925	1,888	1,807
Costs and expenses			
Contract benefits	(809)	(765)	(742)
Interest credited to contractholder funds	(285)	(282)	(285)
Amortization of DAC	(132)	(134)	(131)
Operating costs and expenses	(361)	(342)	(331)
Restructuring and related charges	(3)	(2)	(1)
Total costs and expenses	(1,590)	(1,525)	(1,490)
Income tax (expense) benefit	(75)	226	(94)
Net income applicable to common shareholders	\$ 260	\$ 589	\$ 223
Adjusted net income	\$ 295	\$ 259	\$ 251
Realized capital gains and losses, after-tax	(11)	2	(24)
DAC and DSI amortization related to realized capital gains and losses, after-tax	(8)	(10)	(4)
Tax Legislation (expense) benefit	(16)	338	—
Net income applicable to common shareholders	\$ 260	\$ 589	\$ 223
Reserve for life-contingent contract benefits as of December 31	\$ 2,677	\$ 2,636	\$ 2,578
Contractholder funds as of December 31	\$ 7,656	\$ 7,608	\$ 7,464
Policies in force as of December 31 by distribution channel (in thousands)			
Allstate agencies	1,831	1,822	1,804
Closed channels	191	204	219
Total	2,022	2,026	2,023

Net income applicable to common shareholders was \$260 million, \$589 million and \$223 million in 2018, 2017 and 2016, respectively. 2018 and 2017 results include a tax expense of \$16 million and a tax benefit of \$338 million, respectively, related to the Tax Legislation.

Adjusted net income was \$295 million in 2018 compared to \$259 million in 2017. The increase was primarily due to a lower effective tax rate from the Tax Legislation and increased premiums and contract charges, partially offset by higher contract benefits.

Adjusted net income was \$259 million in 2017 compared to \$251 million in 2016. The increase was primarily due to higher premiums and contract

charges, partially offset by higher contract benefits and operating costs and expenses.

Premiums and contract charges increased 2.7% or \$35 million in 2018 compared to 2017. The increase primarily relates to growth in traditional life insurance as well as lower reinsurance premiums ceded. Approximately 85% of Allstate Life's traditional life insurance premium relates to term life insurance products.

Premiums and contract charges increased 2.4% or \$30 million in 2017 compared to 2016. The increase primarily relates to higher traditional life insurance renewal premiums as well as lower levels of reinsurance premiums ceded.

Premiums and contract charges by product

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Traditional life insurance premiums	\$ 600	\$ 568	\$ 533
Accident and health insurance premiums	2	2	2
Interest-sensitive life insurance contract charges	713	710	715
Premiums and contract charges ⁽¹⁾	\$ 1,315	\$ 1,280	\$ 1,250

⁽¹⁾ Contract charges related to the cost of insurance totaled \$493 million, \$487 million and \$488 million in 2018, 2017 and 2016, respectively.

Contract benefits increased 5.8% or \$44 million in 2018 compared to 2017, primarily due to higher claim experience on both traditional and interest-sensitive life insurance. Contract benefits increased 3.1% or \$23 million in 2017 compared to 2016, primarily due to growth in business in force.

Our annual review of assumptions in 2018 resulted in a \$1 million increase in reserves primarily for secondary guarantees on interest-sensitive life insurance due to higher than anticipated policyholder persistency. In 2017, the review resulted in a \$12 million increase in reserves, primarily for secondary guarantees on interest-sensitive life insurance due to increased projected exposure to benefits paid under secondary guarantees resulting from continued low interest rates.

Benefit spread reflects our mortality and morbidity results using the difference between premiums and contract charges earned for the cost of insurance and contract benefits ("benefit spread"). Benefit spread decreased 2.1% to \$286 million in 2018 compared to \$292 million in 2017, primarily due to higher claim experience, partially offset by growth in traditional life insurance premiums. Benefit spread increased 3.9% to

\$292 million in 2017 compared to \$281 million in 2016, primarily due to growth in business in force.

Investment spread reflects the difference between net investment income and interest credited to contractholder funds ("investment spread") and is used to analyze the impact of net investment income and interest credited to contractholders on net income. Investment spread increased 6.3% to \$220 million in 2018 compared to \$207 million in 2017, primarily due to higher net investment income, partially offset by higher credited interest. Investment spread increased 5.1% to \$207 million in 2017 compared to \$197 million in 2016, primarily due to higher net investment income and lower credited interest.

Amortization of DAC decreased 1.5% or \$2 million in 2018 compared to 2017, primarily due to lower gross profits on interest-sensitive life insurance, partially offset by amortization acceleration in 2018 compared to amortization deceleration in 2017 for changes in assumptions. Amortization of DAC increased 2.3% or \$3 million in 2017 compared to 2016, primarily due to higher net realized capital gains and gross profits, partially offset by higher amortization deceleration for changes in assumptions.

Components of amortization of DAC

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC before amortization relating to realized capital gains and losses and changes in assumptions	\$ 117	\$ 134	\$ 131
Amortization relating to realized capital gains and losses ⁽¹⁾	10	14	6
Amortization acceleration (deceleration) for changes in assumptions ("DAC unlocking")	5	(14)	(6)
Total amortization of DAC	\$ 132	\$ 134	\$ 131

⁽¹⁾ The impact of realized capital gains and losses on amortization of DAC is dependent upon the relationship between the assets that give rise to the gain or loss and the product liability supported by the assets. Fluctuations result from changes in the impact of realized capital gains and losses on actual and expected gross profits.

Our annual comprehensive review of assumptions underlying estimated future gross profits for our interest-sensitive life contracts covers assumptions for mortality, persistency, expenses, investment returns, including capital gains and losses, interest crediting rates to policyholders, and the effect of any hedges.

In 2018, the review resulted in an acceleration of DAC amortization (decrease to income) of \$5 million. DAC amortization acceleration primarily related to the investment margin component of estimated gross profits and was due to lower projected investment returns. This was partially offset by DAC amortization deceleration (increase to income) for changes in the

benefit margin due to a decrease in projected mortality.

In 2017, the review resulted in a deceleration of DAC amortization of \$14 million. DAC amortization deceleration primarily related to the benefit margin component of estimated gross profits and was due to a decrease in projected mortality. This was partially offset by DAC amortization acceleration for changes in the investment margin due to continued low interest rates and lower projected investment returns.

In 2016, the review resulted in a deceleration of DAC amortization of \$6 million. DAC amortization deceleration for changes in the investment margin was due to increased projected investment margins from a

favorable asset portfolio mix. DAC amortization deceleration for changes in the expense margin related primarily to variable life insurance and was due to a decrease in projected expenses.

Changes in DAC

(\$ in millions)	Traditional life and accident and health		Interest-sensitive life insurance		Total	
	For the years ended December 31,					
	2018	2017	2018	2017	2018	2017
Balance, beginning of year	\$ 465	\$ 438	\$ 687	\$ 762	\$ 1,152	\$ 1,200
Acquisition costs deferred	65	66	65	66	130	132
Amortization of DAC before amortization relating to realized capital gains and losses and changes in assumptions ⁽¹⁾	(41)	(39)	(76)	(95)	(117)	(134)
Amortization relating to realized capital gains and losses ⁽¹⁾	—	—	(10)	(14)	(10)	(14)
Amortization (acceleration) deceleration for changes in assumptions (“DAC unlocking”) ⁽¹⁾	—	—	(5)	14	(5)	14
Effect of unrealized capital gains and losses ⁽²⁾	—	—	150	(46)	150	(46)
Ending balance	\$ 489	\$ 465	\$ 811	\$ 687	\$ 1,300	\$ 1,152

⁽¹⁾ Included as a component of amortization of DAC on the Consolidated Statements of Operations.

⁽²⁾ Represents the change in the DAC adjustment for unrealized capital gains and losses. The DAC adjustment represents the amount by which the amortization of DAC would increase or decrease if the unrealized gains and losses in the respective product portfolios were realized.

Operating costs and expenses increased 5.6% or \$19 million in 2018 compared to 2017, primarily due to higher technology and employee-related costs and higher commissions on non-proprietary product sales.

Operating costs and expenses increased 3.3% or \$11 million in 2017 compared to 2016, primarily due to higher net distribution expenses reflecting increased regulatory compliance costs and higher employee related costs, partially offset by lower non-deferrable commissions.

Analysis of reserves and contractholder funds

Reserve for life-contingent contract benefits

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Traditional life insurance	\$ 2,539	\$ 2,460	\$ 2,398
Accident and health insurance	138	176	180
Reserve for life-contingent contract benefits	\$ 2,677	\$ 2,636	\$ 2,578

Contractholder funds represent interest-bearing liabilities arising from the sale of products such as interest-sensitive life insurance. The balance of contractholder funds is equal to the cumulative deposits received and interest credited to the contractholder less cumulative contract benefits, surrenders, withdrawals and contract charges for mortality or administrative expenses.

Change in contractholder funds

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Contractholder funds, beginning balance	\$ 7,608	\$ 7,464	\$ 7,359
Deposits	965	973	991
Interest credited	284	282	284
Benefits, withdrawals and other adjustments			
Benefits	(232)	(241)	(245)
Surrenders and partial withdrawals	(259)	(254)	(250)
Contract charges	(704)	(704)	(705)
Net transfers from separate accounts	6	4	4
Other adjustments ⁽¹⁾	(12)	84	26
Total benefits, withdrawals and other adjustments	(1,201)	(1,111)	(1,170)
Contractholder funds, ending balance	\$ 7,656	\$ 7,608	\$ 7,464

⁽¹⁾ The table above illustrates the changes in contractholder funds, which are presented gross of reinsurance recoverables on the Consolidated Statements of Financial Position. The table above is intended to supplement our discussion and analysis of revenues, which are presented net of reinsurance on the Consolidated Statements of Operations. As a result, the net change in contractholder funds associated with products reinsured is reflected as a component of the other adjustments line.

Contractholder deposits decreased 0.8% in 2018 compared to 2017, and 1.8% in 2017 compared to 2016. The weighted average guaranteed crediting rate and weighted average current crediting rate for our interest-sensitive life insurance contracts, excluding variable life, are both 3.9% as of December 31, 2018.

Allstate Life reinsurance ceded

In the normal course of business, we seek to limit aggregate and single exposure to losses on large risks by purchasing reinsurance. In addition, we have used reinsurance to effect the disposition of certain blocks of business.

We retain primary liability as a direct insurer for all risks ceded to reinsurers. As of December 31, 2018, approximately 15% of our face amount of life insurance in force was reinsured.

Reinsurance recoverables by reinsurer

(\$ in millions)	S&P financial strength rating ⁽¹⁾	Reinsurance recoverable on paid and unpaid benefits	
		For the years ended December 31,	
		2018	2017
RGA Reinsurance Company	AA-	\$ 210	\$ 229
Swiss Re Life and Health America, Inc.	AA-	156	159
Munich American Reassurance	AA-	87	91
Transamerica Life Group	AA-	76	77
Scottish Re (U.S.), Inc. ⁽²⁾	N/A	66	87
John Hancock Life & Health Insurance Company	AA-	53	54
Triton Insurance Company	N/A	45	47
American Health & Life Insurance Co.	N/A	34	37
Lincoln National Life Insurance	AA-	25	28
Security Life of Denver	A	24	27
SCOR Global Life	AA-	14	17
American United Life Insurance Company	AA-	13	14
Other ⁽³⁾		20	25
Total		\$ 823	\$ 892

⁽¹⁾ N/A reflects no S&P rating available.

⁽²⁾ Scottish Re (U.S.), Inc. was last rated by S&P in 2009 and A.M. Best removed their rating in 2011. Scottish Re (U.S.), Inc. remains current on claims payments to Allstate.

⁽³⁾ As of December 31, 2018 and 2017, the other category includes \$9 million and \$19 million, respectively, of recoverables due from reinsurers rated A- or better by S&P.

We continuously monitor the creditworthiness of reinsurers in order to determine our risk of recoverability on an individual and aggregate basis, and a provision for uncollectible reinsurance is recorded if needed. No amounts have been deemed unrecoverable in the three-years ended December 31, 2018.

We enter into certain intercompany reinsurance transactions for the Allstate Life operations in order to maintain underwriting control and manage insurance risk among various legal entities. These reinsurance agreements have been approved by the appropriate regulatory authorities. All significant intercompany transactions have been eliminated in consolidation.

Allstate Benefits Segment



Allstate Benefits offers voluntary benefits products, including life, accident, critical illness, short-term disability and other health products. In 2018, Allstate Benefits represented 3.0% of total revenue, 3.7% of total PIF and 4.2% of total adjusted net income. Our target customers are middle market consumers with family financial protection needs. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Summarized financial information

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Revenues			
Premiums and contract charges	\$ 1,135	\$ 1,084	\$ 1,011
Net investment income	77	72	71
Realized capital gains and losses	(9)	1	(5)
Total revenues	1,203	1,157	1,077
Costs and expenses			
Contract benefits	(595)	(564)	(509)
Interest credited to contractholder funds	(35)	(35)	(36)
Amortization of DAC	(145)	(142)	(145)
Operating costs and expenses	(278)	(258)	(236)
Restructuring and related charges	—	(3)	—
Total costs and expenses	(1,053)	(1,002)	(926)
Income tax expense	(32)	(1)	(52)
Net income applicable to common shareholders	\$ 118	\$ 154	\$ 99
Adjusted net income	\$ 124	\$ 100	\$ 103
Realized capital gains and losses, after-tax	(7)	—	(4)
DAC and DSI amortization related to realized capital gains and losses, after-tax	1	—	—
Tax Legislation benefit	—	54	—
Net income applicable to common shareholders	\$ 118	\$ 154	\$ 99
Benefit ratio ⁽¹⁾	52.4	52.0	50.3
Operating expense ratio ⁽²⁾	24.5	23.8	23.3
Reserve for life-contingent contract benefits as of December 31	\$ 1,007	\$ 979	\$ 940
Contractholder funds as of December 31	\$ 898	\$ 890	\$ 881
Policies in force as of December 31 by product type (in thousands)	4,208	4,033	3,755

⁽¹⁾ Benefit ratio is calculated as contract benefits divided by premiums and contract charges.

⁽²⁾ Operating expense ratio is calculated as operating costs and expenses divided by premiums and contract charges.

Net income applicable to common shareholders was \$118 million, \$154 million and \$99 million in 2018, 2017 and 2016, respectively. 2017 results include a tax benefit of \$54 million related to the Tax Legislation.

Adjusted net income was \$124 million in 2018 compared to \$100 million in 2017. The increase was primarily due to higher premiums and a lower effective tax rate from the Tax Legislation, partially offset by higher contract benefits and operating costs and expenses.

Adjusted net income was \$100 million in 2017 compared to \$103 million in 2016. The decrease was

primarily due to higher contract benefits and operating costs and expenses, partially offset by higher premiums and contract charges.

Premiums and contract charges increased 4.7% or \$51 million in 2018 compared to 2017, primarily related to growth in hospital indemnity (included in other health), accident and critical illness products.

Premiums and contract charges increased 7.2% or \$73 million in 2017 compared to 2016, primarily related to growth in critical illness, short-term disability and accident products.

Premiums and contract charges by product

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Life	\$ 155	\$ 155	\$ 154
Accident	297	280	270
Critical illness	476	468	443
Short-term disability	108	102	78
Other health	99	79	66
Premiums and contract charges	\$ 1,135	\$ 1,084	\$ 1,011

New annualized premium sales (annualized premiums at initial customer enrollment) decreased 12.4% to \$389 million in 2018 and increased 11.6% to \$444 million in 2017. The decrease in 2018 relates to increased competition and higher initial enrollments for certain accounts in the prior year.

PIF increased 4.3% to 4,208 thousand as of December 31, 2018 compared to 4,033 thousand as of December 31, 2017. *PIF* increased 7.4% to 4,033 thousand as of December 31, 2017 compared to 3,755 thousand as of December 31, 2016.

Contract benefits increased 5.5% or \$31 million in 2018 compared to 2017 and 10.8% or \$55 million in 2017 compared to 2016. The increase in both periods was primarily due to higher claim experience and growth.

Benefit ratio increased to 52.4 in 2018 compared to 52.0 in 2017 due to higher claim experience related to life products, partially offset by lower claim experience in hospital indemnity products. *Benefit ratio* increased to 52.0 in 2017 compared to 50.3 in 2016 due to higher

claims experience in health products, including critical illness and accident.

Amortization of DAC increased 2.1% or \$3 million to \$145 million in 2018 compared to 2017, primarily due to growth, partially offset by a favorable adjustment associated with our annual review of assumptions. *Amortization of DAC* decreased 2.1% or \$3 million to \$142 million in 2017 compared to 2016, primarily due to lower amortization associated with our annual comprehensive review of assumptions and lower lapses, partially offset by higher amortization related to growth.

Our annual comprehensive review of assumptions underlying estimated future gross profits for our interest-sensitive life contracts resulted in a deceleration of *DAC* amortization (increase to income) of \$4 million in 2018 compared to an acceleration of *DAC* amortization (decrease to income) of \$1 million and \$4 million in 2017 and 2016, respectively.

Changes in DAC

(\$ in millions)	For the years ended	
	2018	2017
Balance, beginning of year	\$ 542	\$ 526
Acquisition costs deferred	150	158
Amortization of DAC before amortization relating to changes in assumptions ⁽¹⁾	(150)	(141)
Amortization relating to realized capital gains and losses ⁽¹⁾	1	—
Amortization deceleration (acceleration) for changes in assumptions (“DAC unlocking”) ⁽¹⁾	4	(1)
Effect of unrealized capital gains and losses ⁽²⁾	2	—
Ending balance	\$ 549	\$ 542

⁽¹⁾ Included as a component of amortization of *DAC* on the Consolidated Statements of Operations.

⁽²⁾ Represents the change in the *DAC* adjustment for unrealized capital gains and losses. The *DAC* adjustment represents the amount by which the amortization of *DAC* would increase or decrease if the unrealized gains and losses in the respective product portfolios were realized.

Operating costs and expenses

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Non-deferrable commissions	\$ 109	\$ 98	\$ 91
General and administrative expenses	169	160	145
Total operating costs and expenses	\$ 278	\$ 258	\$ 236

Operating costs and expenses increased 7.8% or \$20 million in 2018 compared to 2017, primarily due to higher non-deferrable commissions (associated with growth in premiums and contract charges) and employee-related costs consistent with growth.

Operating costs and expenses increased 9.3% or \$22 million in 2017 compared to 2016, primarily due to higher employee-related costs and non-deferrable commissions related to growth, as well as higher technology expenses.

Operating expense ratio increased to 24.5 in 2018 compared to 23.8 in 2017, primarily due to policy growth and investments in the business. Operating expense ratio increased to 23.8 in 2017 compared to 23.3 in 2016.

Analysis of reserves and contractholder funds

Reserve for life-contingent contract benefits

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Traditional life insurance	\$ 269	\$ 262	\$ 247
Accident and health insurance	738	717	693
Reserve for life-contingent contract benefits	\$ 1,007	\$ 979	\$ 940

Contractholder funds relate to interest-sensitive life insurance and totaled \$898 million as of December 31, 2018 compared to \$890 million as of December 31, 2017 and \$881 million as of December 31, 2016.

Allstate Benefits reinsurance ceded

The vast majority of our reinsurance relates to the disposition of our long-term care and other closed blocks of business several years ago. We retain primary liability as a direct insurer for all risks ceded to reinsurers.

Reinsurance recoverables by reinsurer

(\$ in millions)	S&P financial strength rating	Reinsurance recoverable on paid and unpaid benefits	
		For the years ended December 31,	
		2018	2017
Mutual of Omaha Insurance	AA-	\$ 71	\$ 68
General Re Life Corporation	AA+	19	19
Other ⁽¹⁾		5	5
Total		\$ 95	\$ 92

⁽¹⁾ As of both December 31, 2018 and 2017, the other category includes \$4 million of recoverables due from reinsurers rated A- or better by S&P.

We continuously monitor the creditworthiness of reinsurers in order to determine our risk of recoverability on an individual and aggregate basis, and a provision for uncollectible reinsurance is recorded if needed. No amounts have been deemed unrecoverable in the three-years ended December 31, 2018.

We enter into certain intercompany reinsurance transactions for the Allstate Benefits operations in order to maintain underwriting control and manage insurance risk among various legal entities. These reinsurance agreements have been approved by the appropriate regulatory authorities. All significant intercompany transactions have been eliminated in consolidation.

Allstate Annuities Segment

Allstate Annuities consists primarily of deferred fixed annuities and immediate fixed annuities (including standard and sub-standard structured settlements). In 2018, Allstate Annuities represented 2.4% of total revenue, 0.2% of total PIF and 4.6% of total adjusted net income. We exited the continuing sale of annuities over an eight year period from 2006 to 2014, reflecting our expectations of declining returns. This segment is in run-off, and we manage it with a focus on increasing economic value through our investment strategy. For additional information on our strategy and outlook, see Part I, Item 1. Business - Strategy and Segment Information.

Summarized financial information

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Revenues			
Contract charges	\$ 15	\$ 14	\$ 14
Net investment income	1,096	1,305	1,181
Realized capital gains and losses	(166)	44	(38)
Total revenues	945	1,363	1,157
Costs and expenses			
Contract benefits	(569)	(594)	(606)
Interest credited to contractholder funds	(334)	(373)	(405)
Amortization of DAC	(7)	(7)	(7)
Operating costs and expenses	(31)	(34)	(31)
Total costs and expenses	(941)	(1,008)	(1,049)
Gain on disposition of operations	6	6	5
Income tax benefit (expense)	66	58	(36)
Net income applicable to common shareholders	\$ 76	\$ 419	\$ 77
Adjusted net income	\$ 131	\$ 205	\$ 102
Realized capital gains and losses, after-tax	(131)	28	(26)
Valuation changes on embedded derivatives not hedged, after-tax	3	—	(2)
Gain on disposition of operations, after-tax	4	4	3
Tax Legislation benefit	69	182	—
Net income applicable to common shareholders	\$ 76	\$ 419	\$ 77
Reserve for life-contingent contract benefits as of December 31	\$ 8,524	\$ 8,934	\$ 8,721
Contractholder funds as of December 31	\$ 9,817	\$ 10,936	\$ 11,915
Policies in force as of December 31 (in thousands)			
Deferred annuities	127	142	156
Immediate annuities	84	89	95
Total	211	231	251

Net income applicable to common shareholders was \$76 million, \$419 million and \$77 million in 2018, 2017 and 2016, respectively. 2018 and 2017 results include a tax benefit of \$69 million and \$182 million, respectively, related to the Tax Legislation.

Adjusted net income was \$131 million in 2018 compared to \$205 million in 2017. The decrease was primarily due to lower net investment income, driven by performance-based investment results and decreased average investment balances, partially offset by a lower effective tax rate from the Tax Legislation, decreased interest credited to contractholder funds and lower contract benefits.

Adjusted net income was \$205 million in 2017 compared to \$102 million in 2016. The increase was primarily due to higher net investment income, lower

interest credited to contractholder funds and lower contract benefits.

Net investment income decreased 16.0% or \$209 million in 2018 compared to 2017, primarily due to lower performance-based investment results, mainly from limited partnerships, and lower average investment balances. Net investment income increased 10.5% or \$124 million in 2017 compared to 2016, benefiting from strong performance-based investment results, primarily from limited partnerships, partially offset by lower average investment balances as a result of a decrease in contractholder funds.

The investment portfolio supporting immediate annuities is managed to ensure the assets match the characteristics of the liabilities and provide the long-term returns needed to support this business. To better match the long-term nature of our immediate

annuities, we use performance-based investments in which we have ownership interests, and a greater proportion of return is derived from idiosyncratic asset or operating performance. Performance-based income can vary significantly between periods and is influenced by economic conditions, equity market performance, comparable public company earnings multiples, capitalization rates, operating performance of the underlying investments and the timing of asset sales.

Net realized capital losses in 2018 primarily related to decreased valuation of equity investments and losses on sales of fixed income securities. Net realized capital gains in 2017 primarily related to net gains on sales, as well as gains from valuation changes in public securities held in certain limited partnerships, partially offset by impairment write-downs and derivative valuation losses. Net realized capital losses in 2016 primarily related to impairment write-downs, partially offset by net gains on sales in connection with ongoing portfolio management.

Contract benefits decreased 4.2% or \$25 million in 2018 compared to 2017, primarily due to immediate annuity mortality experience that was favorable in comparison to the prior year. Contract benefits decreased 2.0% or \$12 million in 2017 compared to 2016, primarily due to immediate annuity mortality experience.

Our annual review of assumptions in 2018 resulted in a \$2 million increase in reserves primarily for guaranteed withdrawal benefits on equity-indexed annuities due to higher projected guaranteed benefits. In 2017, the review resulted in a \$1 million increase in reserves.

As of December 31, 2018 and 2017, our premium deficiency and profits followed by losses evaluations

for our immediate annuities with life contingencies concluded that no adjustments were required to be recognized. For further detail on these evaluations, see Reserve for life-contingent contract benefits estimation in the Application of Critical Accounting Estimates section.

Benefit spread reflects our mortality results using the difference between contract charges earned and contract benefits excluding the portion related to the implied interest on immediate annuities with life contingencies. This implied interest totaled \$492 million, \$501 million and \$511 million in 2018, 2017 and 2016, respectively. Total benefit spread was \$(68) million, \$(84) million and \$(86) million in 2018, 2017 and 2016, respectively.

Interest credited to contractholder funds decreased 10.5% or \$39 million in 2018 compared to 2017 and decreased 7.9% or \$32 million in 2017 compared to 2016, primarily due to lower average contractholder funds. Valuation changes on derivatives embedded in equity-indexed annuity contracts that are not hedged decreased interest credited to contractholder funds by \$3 million in 2018 compared to increases of \$1 million in 2017 and \$3 million in 2016.

Investment spread reflects the difference between net investment income and the sum of interest credited to contractholder funds and the implied interest on immediate annuities with life contingencies, which is included as a component of contract benefits and is used to analyze the impact of net investment income and interest credited to contractholders on net income.

Investment spread

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Investment spread before valuation changes on embedded derivatives not hedged	\$ 267	\$ 432	\$ 268
Valuation changes on derivatives embedded in equity-indexed annuity contracts that are not hedged	3	(1)	(3)
Total investment spread	\$ 270	\$ 431	\$ 265

Investment spread before valuation changes on embedded derivatives not hedged decreased 38.2% to \$267 million in 2018 compared to \$432 million in 2017, primarily due to lower investment income, mainly from limited partnership interests, partially offset by lower credited interest.

Investment spread before valuation changes on embedded derivatives not hedged increased 61.2% to \$432 million in 2017 compared to \$268 million in 2016, primarily due to higher net investment income and lower credited interest.

To further analyze investment spreads, the following table summarizes the weighted average investment yield on assets supporting product liabilities, interest crediting rates and investment spreads. Investment spreads may vary significantly between periods due to the variability in investment income, particularly for immediate fixed annuities where the investment portfolio includes performance-based investments.

Analysis of investment spread

	Weighted average investment yield			Weighted average interest crediting rate			Weighted average investment spreads		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Deferred fixed annuities	4.1%	4.2%	4.1%	2.8%	2.8%	2.8%	1.3%	1.4%	1.3%
Immediate fixed annuities with and without life contingencies	6.4	8.0	6.5	6.0	6.0	5.9	0.4	2.0	0.6

The following table summarizes the weighted average guaranteed crediting rates and weighted average current crediting rates as of December 31, 2018 for certain fixed annuities where management has the ability to change the crediting rate, subject to a contractual minimum. Other products, including equity-indexed, variable and immediate annuities totaling \$4.37 billion of contractholder funds, have been excluded from the analysis because management does not have the ability to change the crediting rate or the minimum crediting rate is not considered meaningful in this context.

Weighted average guaranteed crediting rates and weighted average current crediting rates

(\$ in millions)	Weighted average guaranteed crediting rates	Weighted average current crediting rates	Contractholder funds
Annuities with annual crediting rate resets	3.14%	3.14%	\$ 4,585
Annuities with multi-year rate guarantees ⁽¹⁾ :			
Resetable in next 12 months	1.27	3.23	198
Resetable after 12 months	2.14	2.67	660

⁽¹⁾ These contracts include interest rate guarantee periods which are typically 5, 6 or 10 years.

Operating costs and expenses decreased 8.8% or \$3 million in 2018 compared to 2017, primarily due to a reduction in premium tax accruals and lower employee-related costs.

Operating costs and expenses increased 9.7% or \$3 million in 2017 compared to 2016, primarily due to higher guaranty fund expenses. 2016 included a reduction in the accrual for anticipated guaranty fund expenses.

Analysis of reserves and contractholder funds

Product liabilities

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Immediate fixed annuities with life contingencies			
Sub-standard structured settlements and group pension terminations ⁽¹⁾	\$ 4,990	\$ 5,284	\$ 5,029
Standard structured settlements and SPIA ⁽²⁾	3,425	3,565	3,592
Other	109	85	100
Reserve for life-contingent contract benefits	\$ 8,524	\$ 8,934	\$ 8,721
Deferred fixed annuities	\$ 7,156	\$ 8,128	\$ 8,921
Immediate fixed annuities without life contingencies	2,525	2,700	2,874
Other	136	108	120
Contractholder funds	\$ 9,817	\$ 10,936	\$ 11,915

⁽¹⁾ Comprises structured settlement annuities for annuitants with severe injuries or other health impairments which increased their expected mortality rate at the time the annuity was issued ("sub-standard structured settlements") and group annuity contracts issued to sponsors of terminated pension plans.

⁽²⁾ Comprises structured settlement annuities for annuitants with standard life expectancy ("standard structured settlements") and single premium immediate annuities ("SPIA") with life contingencies.

Contractholder funds represent interest-bearing liabilities arising from the sale of products such as fixed annuities and funding agreements. The balance of contractholder funds is equal to the cumulative deposits received and interest credited to the contractholder less cumulative contract benefits, surrenders, withdrawals, maturities and contract charges for mortality or administrative expenses.

Changes in contractholder funds

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Contractholder funds, beginning balance	\$ 10,936	\$ 11,915	\$ 13,070
Deposits	15	28	42
Interest credited	331	370	403
Benefits, withdrawals, maturities and other adjustments			
Benefits	(587)	(638)	(705)
Surrenders and partial withdrawals	(854)	(723)	(780)
Maturities of and interest payments on institutional products	—	—	(86)
Contract charges	(9)	(9)	(9)
Net transfers from separate accounts	—	1	1
Other adjustments ⁽¹⁾	(15)	(8)	(21)
Total benefits, withdrawals, maturities and other adjustments	(1,465)	(1,377)	(1,600)
Contractholder funds, ending balance	\$ 9,817	\$ 10,936	\$ 11,915

⁽¹⁾ The table above illustrates the changes in contractholder funds, which are presented gross of reinsurance recoverables on the Consolidated Statements of Financial Position. The table above is intended to supplement our discussion and analysis of revenues, which are presented net of reinsurance on the Consolidated Statements of Operations. As a result, the net change in contractholder funds associated with products reinsured is reflected as a component of the other adjustments line.

Contractholder funds decreased 10.2% and 8.2% in 2018 and 2017, respectively, primarily due to the continued runoff of our deferred fixed annuity business. We discontinued the sale of annuities but still accept additional deposits on existing contracts.

Surrenders and partial withdrawals increased 18.1% to \$854 million in 2018 from \$723 million in 2017. Surrenders and partial withdrawals decreased 7.3% to \$723 million in 2017 from \$780 million in 2016. 2018 had elevated surrenders on fixed annuities resulting from an increased number of contracts reaching the 30-45 day period (typically at their 5, 7 or 10 year anniversary) during which there is no surrender charge. The surrender and partial withdrawal rate on deferred fixed annuities, based on the beginning of year contractholder funds, was 11.4% in 2018 compared to 8.7% in 2017 and 8.6% in 2016.

Maturities of and interest payments on institutional products included an \$85 million maturity in 2016. There were no institutional products outstanding as of December 31, 2018, 2017 or 2016.

Allstate Annuities reinsurance ceded

We ceded substantially all of the risk associated with our variable annuity business to Prudential Insurance Company of America ("Prudential"). Our reinsurance recoverables from Prudential totaled \$1.36 billion and \$1.35 billion as of December 31, 2018 and 2017, respectively. We also have reinsurance recoverables from other reinsurers of \$17 million as of both December 31, 2018 and 2017.

We retain primary liability as a direct insurer for all risks ceded to reinsurers. We continuously monitor the creditworthiness of reinsurers in order to determine our risk of recoverability on an individual and aggregate basis, and a provision for uncollectible reinsurance is recorded if needed. No amounts have been deemed unrecoverable in the three-years ended December 31, 2018.

Investments

Overview and strategy The return on our investment portfolios is an important component of our ability to offer good value to customers, fund business improvements and create value for shareholders. Investment portfolios are held for Property-Liability, Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other operations. While taking into consideration the investment portfolio in aggregate, management of the underlying portfolios is significantly influenced by the nature of each respective business and its corresponding liability profile. For each business, we identify a strategic asset allocation which considers both the nature of the liabilities and the risk and return characteristics of the various asset classes in which we invest. This allocation is informed by our long-term and market expectations, as well as other considerations such as risk appetite, portfolio diversification, duration, desired liquidity and capital. Within appropriate ranges relative to strategic allocations, tactical allocations are made in consideration of prevailing and potential future market conditions. We manage risks that involve uncertainty related to interest rates, credit spreads, equity returns and currency exchange rates.

The Property-Liability portfolio emphasizes protection of principal and consistent income generation, within a total return framework. This approach has produced competitive returns over the long term and is designed to ensure financial strength and stability for paying claims, while maximizing economic value and surplus growth. Products, such as auto insurance and discontinued lines and coverages, with lower liquidity needs and capital create capacity to invest in less liquid higher yielding fixed income securities, performance-based investments such as limited partnerships, and equity securities. Products with higher liquidity needs, such as homeowners insurance, are invested primarily in high quality liquid fixed income securities.

The Service Businesses portfolio is focused on protection of principal and consistent income generation, within a total return framework. The portfolio is largely comprised of fixed income securities with a lesser allocation to equity securities and short-term investments.

The Allstate Life portfolio is comprised of assets chosen to generate returns to support corresponding liabilities within an asset-liability framework that targets an appropriate return on capital. This portfolio is well diversified and primarily consists of longer duration fixed income securities and commercial mortgage loans.

The Allstate Benefits portfolio is focused on generating an appropriate return on capital. The portfolio is largely comprised of fixed income securities and commercial mortgage loans with a small allocation to equity securities.

The Allstate Annuities portfolio is managed to ensure the assets match the characteristics of the

liabilities. For longer-term immediate annuity liabilities, we invest primarily in performance-based investments such as limited partnerships and equity securities. For shorter-term annuity liabilities, we invest primarily in fixed income securities and commercial mortgage loans with maturity profiles aligned with liability cash flow requirements.

The Corporate and Other portfolio balances liquidity needs related to the corporate capital structure with the pursuit of returns.

Within each segment, we utilize two primary strategies to manage risks and returns and to position our portfolio to take advantage of market opportunities while attempting to mitigate adverse effects. As strategies and market conditions evolve, the asset allocation may change or assets may be moved between strategies.

Market-based strategies include investments primarily in public fixed income and equity securities. *Market-based core* seeks to deliver predictable earnings aligned to business needs and returns consistent with the markets in which we invest. Private fixed income assets, such as commercial mortgages, bank loans and privately placed debt that provide liquidity premiums are also included in this category. *Market-based active* seeks to outperform within the public markets through tactical positioning and by taking advantage of short-term opportunities. This category may generate results that meaningfully deviate from those achieved by market indices, both favorably and unfavorably.

Performance-based strategy seeks to deliver attractive risk-adjusted returns and supplement market risk with idiosyncratic risk. Returns are impacted by a variety of factors including general macroeconomic and public market conditions as public benchmarks are often used in the valuation of underlying investments. Variability in earnings will also result from the performance of the underlying assets or business and the timing of sales of those investments. Earnings from the sales of investments may be recorded as net investment income or realized capital gains and losses. The portfolio, which primarily includes private equity and real estate with a majority being limited partnerships, is diversified across a number of characteristics, including managers or partners, vintage years, strategies, geographies (including international) and industry sectors or property types. These investments are generally illiquid in nature, often require specialized expertise, typically involve a third party manager, and often enhance returns and income through transformation at the company or property level. A portion of these investments seek returns in markets or asset classes that are dislocated or special situations, primarily in private markets.

Outlook

In December 2018, the Federal Open Market Committee ("FOMC") tightened monetary policy by setting the new target range for the federal funds rate

at 2-1/4 percent to 2-1/2 percent and maintained their inflation target of 2 percent. The FOMC noted that some further gradual increases in the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the target of 2 percent. We plan to focus on the following priorities:

- Enhance investment portfolio returns through use of a dynamic capital allocation framework and focus on tax efficiency.
- Leverage our broad capabilities to shift the portfolio mix to earn higher risk-adjusted returns on capital.
- Invest for the specific needs and characteristics of Allstate's businesses, including its corresponding liability profile.

We continue to increase performance-based investments in our Property-Liability portfolio, consistent with our ongoing strategy to have a greater

proportion of return derived from idiosyncratic asset or operating performance.

Invested assets and market-based income are expected to decline with reductions in contractholder funds and income related to performance-based investments will result in variability of earnings for the Allstate Annuities segment.

Adopted Recognition and Measurement of Financial Assets and Financial Liabilities Beginning January 1, 2018, equity securities are reported at fair value with changes in fair value recognized in realized capital gains and losses.

Limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income.

See Note 2 of the consolidated financial statements.

Portfolio composition and strategy by reporting segment ⁽¹⁾

(\$ in millions)	As of December 31, 2018						
	Property-Liability	Service Businesses	Allstate Life	Allstate Benefits	Allstate Annuities	Corporate and Other	Total
Fixed income securities ⁽²⁾	\$ 32,143	\$ 981	\$ 7,463	\$ 1,224	\$ 14,242	\$ 1,117	\$ 57,170
Equity securities ⁽³⁾	3,488	131	40	51	1,299	27	5,036
Mortgage loans	390	—	1,867	205	2,208	—	4,670
Limited partnership interests	4,222	—	—	—	3,283	—	7,505
Short-term investments ⁽⁴⁾	1,759	91	187	27	638	325	3,027
Other	1,632	—	1,252	302	666	—	3,852
Total	\$ 43,634	\$ 1,203	\$ 10,809	\$ 1,809	\$ 22,336	\$ 1,469	\$ 81,260
Percent to total	53.7%	1.5%	13.3%	2.2%	27.5%	1.8%	100.0%
Market-based core	\$ 30,689	\$ 1,203	\$ 10,809	\$ 1,809	\$ 17,548	\$ 1,469	\$ 63,527
Market-based active	8,451	—	—	—	1,245	—	9,696
Performance-based	4,494	—	—	—	3,543	—	8,037
Total	\$ 43,634	\$ 1,203	\$ 10,809	\$ 1,809	\$ 22,336	\$ 1,469	\$ 81,260

⁽¹⁾ Balances reflect the elimination of related party investments between segments.

⁽²⁾ Fixed income securities are carried at fair value. Amortized cost basis for these securities was \$32.44 billion, \$984 million, \$7.36 billion, \$1.24 billion, \$14.00 billion, \$1.11 billion and \$57.13 billion for Property-Liability, Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, Corporate and Other, and in Total, respectively.

⁽³⁾ Equity securities are carried at fair value. The fair value of equity securities held as of December 31, 2018, was \$547 million in excess of cost. These net gains were primarily concentrated in the consumer goods, technology and banking sectors. Beginning January 1, 2018, the periodic changes in fair value are reflected in realized capital gains and losses.

⁽⁴⁾ Short-term investments are carried at fair value.

Investments totaled \$81.26 billion as of December 31, 2018, decreasing from \$82.80 billion as of December 31, 2017, primarily due to common share repurchases, lower fixed income and equity valuations, issuances and redemptions of debt and preferred stock, net reductions in contractholder funds, dividends paid to shareholders and the acquisition of InfoArmor, partially offset by positive operating cash flows.

Portfolio composition by investment strategy

(\$ in millions)	As of December 31, 2018			
	Market-based core	Market-based active	Performance-based	Total
Fixed income securities	\$ 48,903	\$ 8,193	\$ 74	\$ 57,170
Equity securities	4,253	522	261	5,036
Mortgage loans	4,670	—	—	4,670
Limited partnership interests	489	158	6,858	7,505
Short-term investments	2,346	681	—	3,027
Other	2,866	142	844	3,852
Total	\$ 63,527	\$ 9,696	\$ 8,037	\$ 81,260
Percent to total	78.2%	11.9%	9.9%	100.0%
Unrealized net capital gains and losses				
Fixed income securities	\$ 149	\$ (112)	\$ (1)	\$ 36
Other	(3)	—	—	(3)
Total	\$ 146	\$ (112)	\$ (1)	\$ 33

During 2018, strategic actions focused on optimizing portfolio yield, return and risk in the rising interest rate environment.

We continued to increase performance-based investments in the Property-Liability portfolio.

We modestly increased the maturity profile of fixed income securities in our Property-Liability portfolio at a duration of 4.1 years, while maintaining duration at 5.6 and 4.2 years for the Allstate Life and Allstate Annuities portfolios, respectively.

In the Allstate Annuities portfolio, invested assets and market-based income declined with reductions in contractholder funds. Performance-based investments and equity securities will continue to be allocated primarily to the longer-term immediate annuity liabilities to reduce the risk that investment returns are below levels required to meet their funding needs while shorter-term annuity liabilities will be invested in market-based investments.

Fixed income securities by type

(\$ in millions)	Fair value as of December 31,	
	2018	2017
U.S. government and agencies	\$ 5,517	\$ 3,616
Municipal	9,169	8,328
Corporate	40,136	44,026
Foreign government	747	1,021
Asset-backed securities ("ABS")	1,045	1,272
Residential mortgage-backed securities ("RMBS")	464	578
Commercial mortgage-backed securities ("CMBS")	70	128
Redeemable preferred stock	22	23
Total fixed income securities	\$ 57,170	\$ 58,992

Fixed income securities are rated by third party credit rating agencies and/or are internally rated. As of December 31, 2018, 90.8% of the consolidated fixed income securities portfolio was rated investment grade, which is defined as a security having a rating of Aaa, Aa, A or Baa from Moody's, a rating of AAA, AA, A or BBB from S&P, a comparable rating from another nationally recognized rating agency, or a comparable internal rating if an externally provided rating is not available. Credit ratings below these designations are

considered low credit quality or below investment grade, which includes high yield bonds. Market prices for certain securities may have credit spreads which imply higher or lower credit quality than the current third party rating. Our initial investment decisions and ongoing monitoring procedures for fixed income securities are based on a thorough due diligence process which includes, but is not limited to, an assessment of the credit quality, sector, structure, and liquidity risks of each issue.

Fair value and unrealized net capital gains (losses) for fixed income securities by credit quality

(\$ in millions)	As of December 31, 2018					
	Investment grade		Below investment grade		Total	
	Fair value	Unrealized gain/(loss)	Fair value	Unrealized gain/(loss)	Fair value	Unrealized gain/(loss)
U.S. government and agencies	\$ 5,517	\$ 131	\$ —	\$ —	\$ 5,517	\$ 131
Municipal						
Tax exempt	6,969	6	31	—	7,000	6
Taxable	2,133	201	36	(1)	2,169	200
Corporate						
Public	26,435	(160)	2,835	(136)	29,270	(296)
Privately placed	8,966	(10)	1,900	(94)	10,866	(104)
Foreign government	738	8	9	—	747	8
ABS						
Collateralized debt obligations (“CDO”)	246	(3)	23	—	269	(3)
Consumer and other asset-backed securities (“Consumer and other ABS”)	765	—	11	(1)	776	(1)
RMBS						
U.S. government sponsored entities (“U.S. Agency”)	81	1	—	—	81	1
Non-agency	35	1	348	85	383	86
CMBS	30	—	40	7	70	7
Redeemable preferred stock	22	1	—	—	22	1
Total fixed income securities	\$ 51,937	\$ 176	\$ 5,233	\$ (140)	\$ 57,170	\$ 36

Municipal bonds, including tax exempt and taxable securities, totaled \$9.17 billion as of December 31, 2018 with 99.3% rated investment grade and an unrealized net capital gain of \$206 million. The municipal bond portfolio includes general obligations of state and local issuers and revenue bonds (including pre-refunded bonds, which are bonds for which an irrevocable trust has been established to fund the remaining payments of principal and interest).

Our practice for acquiring and monitoring municipal bonds is predominantly based on the underlying credit quality of the primary obligor. We currently rely on the primary obligor to pay all contractual cash flows and are not relying on bond insurers for payments. As a result of downgrades in the insurers' credit ratings, the ratings of the insured municipal bonds generally reflect the underlying ratings of the primary obligor.

Corporate bonds, including publicly traded and privately placed, totaled \$40.14 billion as of December 31, 2018, with 88.2% rated investment grade and an unrealized net capital loss of \$400 million. Privately placed securities primarily consist of corporate issued senior debt securities that are directly negotiated with the borrower or are in unregistered form.

Our \$10.87 billion portfolio of privately placed securities is diversified by issuer, industry sector and country. The portfolio is made up of 448 issuers. Privately placed corporate obligations may contain structural security features such as financial covenants and call protections that provide investors greater protection against credit deterioration, reinvestment risk or fluctuations in interest rates than those typically found in publicly registered debt securities. Additionally, investments in these securities are made

after due diligence of the issuer, typically including discussions with senior management and on-site visits to company facilities. Ongoing monitoring includes direct periodic dialog with senior management of the issuer and continuous monitoring of operating performance and financial position. Every issue not rated by an independent rating agency is internally rated with a formal rating affirmation at least once a year.

Our corporate bonds portfolio includes \$4.74 billion of below investment grade bonds, \$1.90 billion of which are privately placed. These securities are diversified by issuer and industry sector. The below investment grade corporate bonds portfolio is made up of 287 issuers. We employ fundamental analyses of issuers and sectors along with macro and asset class views to identify investment opportunities. This results in a portfolio with broad exposure to the high yield market with an emphasis on idiosyncratic positions reflective of our views of market conditions and opportunities.

Foreign government securities totaled \$747 million as of December 31, 2018, with 98.8% rated investment grade and an unrealized net capital gain of \$8 million. Of these securities, 78.2% are in Canadian governmental and provincial securities (73.8% of which are held by our Canadian companies), 19.9% are backed by the U.S. government and the remaining 1.9% are highly diversified in other foreign governments.

ABS, RMBS and CMBS are structured securities that are primarily collateralized by consumer or corporate borrowings and residential and commercial real estate loans. The cash flows from the underlying collateral paid to the securitization trust are generally applied in a pre-determined order and are designed so that each security issued by the trust, typically referred to as a “class”, qualifies for a specific original rating.

For example, the “senior” portion or “top” of the capital structure, or rating class, which would originally qualify for a rating of Aaa typically has priority in receiving principal repayments on the underlying collateral and retains this priority until the class is paid in full. In a sequential structure, underlying collateral principal repayments are directed to the most senior rated Aaa class in the structure until paid in full, after which principal repayments are directed to the next most senior Aaa class in the structure until it is paid in full. Senior Aaa classes generally share any losses from the underlying collateral on a pro-rata basis after losses are absorbed by classes with lower original ratings. The payment priority and class subordination included in these securities serves as credit enhancement for holders of the senior or top portions of the structures. These securities continue to retain the payment priority features that existed at the origination of the securitization trust. Other forms of credit enhancement may include structural features embedded in the securitization trust, such as overcollateralization, excess spread and bond insurance. The underlying collateral may contain fixed interest rates, variable interest rates (such as adjustable rate mortgages), or both fixed and variable rate features.

ABS, including CDO and Consumer and other ABS, totaled \$1.05 billion as of December 31, 2018, with 96.7% rated investment grade and an unrealized net capital loss of \$4 million. Credit risk is managed by monitoring the performance of the underlying collateral. Many of the securities in the ABS portfolio have credit enhancement with features such as overcollateralization, subordinated structures, reserve funds, guarantees and/or insurance.

CDO totaled \$269 million as of December 31, 2018, with 91.4% rated investment grade and an unrealized net capital loss of \$3 million. CDO consist of obligations collateralized by cash flow CDO, which are structures collateralized primarily by below investment grade senior secured corporate loans.

Consumer and other ABS totaled \$776 million as of December 31, 2018, with 98.6% rated investment grade. Consumer and other ABS consists of \$264 million of consumer auto, \$215 million of credit card and \$297

million of other ABS with unrealized net capital losses of \$1 million, \$1 million and an unrealized net capital gain of \$1 million, respectively.

RMBS totaled \$464 million as of December 31, 2018, with 25.0% rated investment grade and an unrealized net capital gain of \$87 million. The RMBS portfolio is subject to interest rate risk, but unlike other fixed income securities, is additionally subject to prepayment risk from the underlying residential mortgage loans. RMBS consists of a U.S. Agency portfolio having collateral issued or guaranteed by U.S. government agencies and a non-agency portfolio consisting of securities collateralized by Prime, Alt-A and Subprime loans. The non-agency portfolio totaled \$383 million as of December 31, 2018, with 9.1% rated investment grade and an unrealized net capital gain of \$86 million.

CMBS totaled \$70 million as of December 31, 2018, with 42.9% rated investment grade and an unrealized net capital gain of \$7 million. The CMBS investments are primarily traditional conduit transactions collateralized by commercial mortgage loans, broadly diversified across property types and geographical area.

Equity securities primarily include common stocks, exchange traded and mutual funds, non-redeemable preferred stocks and real estate investment trust equity investments. Certain exchange traded and mutual funds have fixed income securities as their underlying investments. The equity securities portfolio was \$5.04 billion as of December 31, 2018.

Mortgage loans, which are primarily held in the life and annuity portfolios, totaled \$4.67 billion as of December 31, 2018 and primarily comprise loans secured by first mortgages on developed commercial real estate. Key considerations used to manage our exposure include property type and geographic diversification. For further detail on our mortgage loan portfolio, see Note 5 of the consolidated financial statements.

Limited partnership interests include interests in private equity funds, real estate funds and other funds.

Carrying value and other information for limited partnership interests

(\$ in millions)	As of December 31, 2018			
	Limited partnership interests (1)(2)	Number of managers	Number of individual investments	Largest exposure to single investment
Private equity	\$ 5,724	145	287	\$ 187
Real estate	1,134	38	78	109
Other	647	11	12	316
Total	\$ 7,505	194	377	

(1) Due to the adoption of the recognition and measurement accounting standard, limited partnerships previously reported using the cost method are now reported at fair value. See Note 2 of the consolidated financial statements.

(2) We have commitments to invest in additional limited partnership interests totaling \$3.03 billion.

Short-term investments totaled \$3.03 billion as of December 31, 2018, which includes securities lending collateral of \$1.19 billion.

Other investments primarily comprise \$1.35 billion of bank loans, \$891 million of policy loans, \$791 million of real estate, \$620 million of agent loans (loans issued

to exclusive Allstate agents) and \$117 million of derivatives as of December 31, 2018. For further detail on our use of derivatives, see Note 7 of the consolidated financial statements.

Unrealized net capital gains totaled \$33 million as of December 31, 2018 compared to \$2.63 billion as of December 31, 2017.

Unrealized net capital gains (losses)

(\$ in millions)	As of December 31,	
	2018	2017
U.S. government and agencies	\$ 131	\$ 36
Municipal	206	275
Corporate	(400)	1,030
Foreign government	8	16
ABS	(4)	6
RMBS	87	98
CMBS	7	4
Redeemable preferred stock	1	2
Fixed income securities	36	1,467
Equity securities ⁽¹⁾	—	1,160
Derivatives	(3)	(1)
Equity method of accounting ("EMA") limited partnerships	—	1
Unrealized net capital gains and losses, pre-tax	\$ 33	\$ 2,627

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, equity securities are reported at fair value with changes in fair value recognized in realized capital gains and losses and are no longer included in the table above. Upon adoption of the new guidance on January 1, 2018, \$1.16 billion of pre-tax unrealized net capital gains for equity securities were reclassified from accumulated other comprehensive income ("AOCI") to retained income. See Note 2 of the consolidated financial statements.

We have a comprehensive portfolio monitoring process to identify and evaluate each fixed income security that may be other-than-temporarily impaired. The process includes a quarterly review of all securities to identify instances where the fair value of a security compared to its amortized cost is below established thresholds. The process also includes the monitoring of other impairment indicators such as ratings, ratings downgrades and payment defaults. The securities identified, in addition to other securities for which we may have a concern, are evaluated for potential other-than-temporary impairment using all reasonably available information relevant to the collectability or recovery of the security. Inherent in our evaluation of other-than-temporary impairment for these fixed income securities are assumptions and estimates about the financial condition and future earnings potential of the issue or issuer. Some of the factors that may be considered in evaluating whether a decline in fair value is other than temporary are: 1) the financial condition, near-term and long-term prospects of the issue or issuer, including relevant industry specific market conditions and trends, geographic location and

implications of rating agency actions and offering prices; 2) the specific reasons that a security is in an unrealized loss position, including overall market conditions which could affect liquidity; and 3) the length of time and extent to which the fair value has been less than amortized cost or cost. All investments in an unrealized loss position as of December 31, 2018 were included in our portfolio monitoring process for determining whether declines in value were other than temporary.

The unrealized net capital gain for the fixed income portfolio totaled \$36 million, comprised of \$993 million of gross unrealized gains and \$957 million of gross unrealized losses as of December 31, 2018. This is compared to an unrealized net capital gain for the fixed income portfolio totaling \$1.47 billion, comprised of \$1.75 billion of gross unrealized gains and \$283 million of gross unrealized losses as of December 31, 2017. Fixed income valuations decreased primarily due to an increase in risk-free interest rates and wider credit spreads.

Gross unrealized gains (losses) on fixed income securities by type and sector

(\$ in millions)	As of December 31, 2018			
	Amortized cost	Gross unrealized		Fair value
		Gains	Losses	
Corporate:				
Consumer goods (cyclical and non-cyclical)	\$ 12,224	\$ 78	\$ (285)	\$ 12,017
Capital goods	4,725	34	(116)	4,643
Utilities	5,410	208	(104)	5,514
Banking	3,929	8	(69)	3,868
Energy	2,315	36	(66)	2,285
Communications	2,740	19	(66)	2,693
Technology	2,678	7	(61)	2,624
Financial services	2,403	25	(46)	2,382
Basic industry	1,970	30	(46)	1,954
Transportation	1,794	41	(26)	1,809
Other	348	4	(5)	347
Total corporate fixed income portfolio	40,536	490	(890)	40,136
U.S. government and agencies	5,386	137	(6)	5,517
Municipal	8,963	249	(43)	9,169
Foreign government	739	13	(5)	747
ABS	1,049	6	(10)	1,045
RMBS	377	89	(2)	464
CMBS	63	8	(1)	70
Redeemable preferred stock	21	1	—	22
Total fixed income securities	\$ 57,134	\$ 993	\$ (957)	\$ 57,170

The consumer goods, utilities and capital goods sectors comprise 30%, 14% and 12%, respectively, of the carrying value of our corporate fixed income securities portfolio as of December 31, 2018. The consumer goods, capital goods and utilities sectors had the highest concentration of gross unrealized losses in our corporate fixed income securities portfolio as of December 31, 2018. In general, the gross unrealized losses are related to an increase in market yields, which may include increased risk-free interest rates and/or wider credit spreads since the time of initial

purchase. Similarly, gross unrealized gains reflect a decrease in market yields since the time of initial purchase.

As of December 31, 2018, we have not made the decision to sell and it is not more likely than not we will be required to sell fixed income securities with unrealized losses before recovery of the amortized cost basis.

Net investment income

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Fixed income securities	\$ 2,077	\$ 2,078	\$ 2,060
Equity securities	170	174	137
Mortgage loans	217	206	217
Limited partnership interests ⁽¹⁾	705	889	561
Short-term investments	73	30	16
Other	272	236	222
Investment income, before expense	3,514	3,613	3,213
Investment expense ^{(2) (3)}	(274)	(212)	(171)
Net investment income	\$ 3,240	\$ 3,401	\$ 3,042
Market-based core	\$ 2,431	\$ 2,360	\$ 2,340
Market-based active	303	301	262
Performance-based	780	952	611
Investment income, before expense	\$ 3,514	\$ 3,613	\$ 3,213

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income.

⁽²⁾ Investment expense includes \$71 million, \$40 million and \$36 million of investee level expenses in 2018, 2017 and 2016, respectively, and has increased compared to prior year primarily due to growth in real estate investments. Investee level expenses include depreciation and asset level operating expenses on directly held real estate and other consolidated investments.

⁽³⁾ Investment expense includes \$28 million, \$10 million and \$1 million related to the portion of reinvestment income on securities lending collateral paid to the counterparties in 2018, 2017 and 2016, respectively.

Net investment income decreased 4.7% or \$161 million in 2018 compared to 2017, after increasing 11.8% or \$359 million in 2017 compared to 2016. The 2018 decrease was primarily due to lower performance-based results, primarily from limited partnerships, partially offset by higher market-based income. The

2017 increase benefited from strong performance-based results, primarily from limited partnerships, an increase in invested assets and stable market-based yields, partially offset by higher employee-related expenses.

Performance-based investment income

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Limited partnerships			
Private equity	\$ 582	\$ 725	\$ 455
Real estate	123	164	106
Performance-based - limited partnerships	705	889	561
Non-limited partnerships			
Private equity	9	19	9
Real estate	66	44	41
Performance-based - non-limited partnerships	75	63	50
Total			
Private equity	591	744	464
Real estate	189	208	147
Total performance-based	\$ 780	\$ 952	\$ 611
Investee level expenses ⁽¹⁾	\$ (64)	\$ (35)	\$ (32)

⁽¹⁾ Investee level expenses include depreciation and asset level operating expenses reported in investment expense.

Performance-based investment income decreased 18.1% or \$172 million in 2018 compared to an increase of 55.8% or \$341 million in 2017. The 2018 decrease reflects lower asset appreciation and fewer gains on sales of underlying investments held by limited partnerships compared to prior year. The 2017 increase reflects asset appreciation, sales of underlying investments, and the continued growth of our performance-based portfolio.

The five highest contributing performance-based investments in 2018 and 2017 generated investment income of \$159 million and \$210 million, respectively. Performance-based results and income can vary significantly between periods and are influenced by economic conditions, equity market performance, comparable public company earnings multiples, capitalization rates, operating performance of the underlying investments and the timing of asset sales.

Components of realized capital gains (losses) and the related tax effect

(\$ in millions)	For the year December 31,		
	2018	2017	2016
Impairment write-downs			
Fixed income securities	\$ (10)	\$ (26)	\$ (44)
Equity securities ⁽¹⁾	—	(38)	(125)
Mortgage Loans	—	(1)	—
Limited partnership interests	(3)	(32)	(56)
Other investments	(1)	(5)	(9)
Total impairment write-downs	(14)	(102)	(234)
Change in intent write-downs ⁽¹⁾	—	(48)	(69)
Net OTTI losses recognized in earnings	(14)	(150)	(303)
Sales ⁽¹⁾	(215)	641	213
Valuation of equity investments ⁽¹⁾	(691)	—	—
Valuation and settlements of derivative instruments	43	(46)	—
Realized capital gains and losses, pre-tax	(877)	445	(90)
Income tax benefit (expense)	189	(147)	34
Realized capital gains and losses, after-tax	\$ (688)	\$ 298	\$ (56)
Market-based core	\$ (794)	\$ 309	\$ (40)
Market-based active	(152)	177	21
Performance-based	69	(41)	(71)
Realized capital gains and losses, pre-tax	\$ (877)	\$ 445	\$ (90)

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, equity securities are reported at fair value with changes in fair value recognized in valuation of equity investments and are no longer included in impairment write-downs, change in intent write-downs and sales.

Realized capital losses in 2018 related primarily to decreased valuation of equity investments and sales of fixed income securities.

Impairment write-downs totaled \$14 million, \$102 million and \$234 million in 2018, 2017 and 2016, respectively. Impairment write-downs on limited partnership interests and fixed income securities in 2018 and 2017 related to investment specific circumstances.

Impairment write-downs on fixed income securities in 2016 were primarily driven by corporate fixed income securities impacted by issuer specific circumstances. Limited partnership write-downs primarily related to investments with exposure to the energy sector, partially offset by the recovery in value of a limited partnership that was previously written-down.

Equity securities were written down in 2017 and 2016 primarily due to the length of time and extent to which fair value was below cost, considering our assessment of the financial condition and prospects of the issuer, including relevant industry conditions and trends. Beginning January 1, 2018, equity securities are reported at fair value with changes in fair value recognized in valuation of equity investments and are no longer included in impairment write-downs.

Sales resulted in \$215 million of net realized capital losses and \$641 million and \$213 million of net realized capital gains in 2018, 2017 and 2016, respectively.

Sales in 2018 related primarily to fixed income securities in connection with ongoing portfolio management.

Sales in 2017 and 2016 included sales of equity and fixed income securities in connection with ongoing portfolio management, as well as gains from valuation changes in public securities held in certain limited partnerships. Sales in first quarter 2016 included \$105 million of losses on \$1.90 billion of sales to reduce our exposure to the energy, metals and mining sectors.

Valuation of equity investments resulted in losses of \$691 million in 2018, which included \$594 million of declines in the valuation of equity securities and \$97 million of declines in value primarily for certain limited partnerships where the underlying assets are predominately public equity securities.

Valuation and settlements of derivative instruments generated gains of \$43 million in 2018, losses of \$46 million in 2017 and gains and losses that netted to zero in 2016. 2018 primarily comprised gains on foreign currency contracts due to the strengthening of the U.S. dollar and gains on equity options used for risk management due to a decrease in equity indices, partially offset by losses on total return swaps and equity options and futures used for asset replication due to decreases in equity indices. 2017 primarily comprised losses on foreign currency contracts due to the weakening of the U.S. dollar and losses on equity futures used for risk management due to increases in equity indices. 2016 primarily comprised gains on foreign currency contracts due to the strengthening of the U.S. dollar, offset by losses on equity futures used for risk management due to increases in equity indices and losses on credit default swaps due to the tightening of credit spreads on the underlying credit names.

Realized capital gains (losses) for performance-based investments

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Impairment write-downs	\$ (3)	\$ (32)	\$ (90)
Change in intent write-downs	—	—	(1)
Net OTTI losses recognized in earnings	(3)	(32)	(91)
Sales	7	15	9
Valuation of equity investments	36	—	—
Valuation and settlements of derivative instruments	29	(24)	11
Total performance-based	\$ 69	\$ (41)	\$ (71)

Performance based investments generated realized capital gains of \$69 million in 2018 and realized capital losses of \$41 million and \$71 million in 2017 and 2016, respectively. 2018 primarily related to increased valuation on equity investments and gains on valuation and settlements of derivative instruments. 2017 included impairment write-downs on private equity investments and derivative losses related to the hedging of foreign currency risk, partially offset by gains on sale of real estate investments. 2016 included impairment write-downs on certain investments with exposure to the energy sector, partially offset by the recovery in value of a limited partnership that was previously written-down.

Market Risk

Market risk is the risk that we will incur losses due to adverse changes in interest rates, credit spreads, equity prices, commodity prices or currency exchange rates. Adverse changes to these rates and prices may occur due to changes in fiscal policy, the economic climate, the liquidity of a market or market segment, insolvency or financial distress of key market makers or participants or changes in market perceptions of credit worthiness and/or risk tolerance. Our primary market risk exposures are to changes in interest rates, credit spreads and equity prices. We also have direct and indirect exposure to commodity price changes through our diversified investments in timber, agriculture, infrastructure and energy primarily held in limited partnership interests and consolidated subsidiaries.

The active management of market risk is integral to our results of operations. We may use the following approaches to manage exposure to market risk within defined tolerance ranges: 1) rebalancing existing asset or liability portfolios, 2) changing the type of investments purchased in the future and 3) using derivative instruments to modify the market risk characteristics of existing assets and liabilities or assets expected to be purchased. For a more detailed discussion of our use of derivative instruments, see Note 7 of the consolidated financial statements.

Overview In formulating and implementing guidelines for investing funds, we seek to earn attractive risk-adjusted returns that enhance our ability to offer competitive rates and prices to customers while contributing to stable profits and long-term capital growth. Accordingly, our investment decisions and objectives are informed by the underlying risks and product profiles. Investment policies define the overall framework for managing market and other investment risks, including accountability and controls over risk management activities. Subsidiaries that conduct investment activities follow policies that have been approved by their respective boards of directors and which specify the investment limits and strategies that are appropriate given the liquidity, surplus, product profile and regulatory requirements of the subsidiary. Executive oversight of investment activities is conducted primarily through the subsidiaries' boards of directors and legal entity investment committees, and aggregate portfolio risks are overseen by our board of directors and its committees.

For life and annuity products, the asset-liability management ("ALM") policies further define the overall framework for managing market and investment risks and are approved by the subsidiaries' respective boards of directors. ALM focuses on strategies to enhance yields, mitigate market risks and optimize capital to improve profitability and returns while incorporating future expected cash requirements to repay liabilities. These ALM policies specify limits, ranges and/or targets for investments that best meet business objectives in light of the unique demands and characteristics of the product liabilities and are intended to result in a prudent, methodical and effective adjudication of market risk and return.

We use widely-accepted quantitative and qualitative approaches to measure, monitor and manage market risk. We evaluate our market risk exposure using multiple measures including but not limited to:

- *Duration*, a measure of the price sensitivity of assets and liabilities to changes in interest rates
- *Value-at-risk*, a statistical estimate of the probability that the change in fair value of a portfolio will exceed a certain amount over a given time horizon
- *Scenario analysis*, an estimate of the potential changes in the fair value of a portfolio that could occur under hypothetical market conditions defined by changes to multiple market risk factors: interest rates, credit spreads, equity prices or currency exchange rates
- *Sensitivity analysis*, an estimate of the potential changes in the fair value of a portfolio that could occur using hypothetical shocks to a market risk factor

In general, we establish investment portfolio asset allocation and market risk limits based upon a combination of duration, value-at-risk, scenario analysis and sensitivity analysis. The asset allocation limits place restrictions on the total funds that may be invested within an asset class. Comprehensive day-to-day management of market risk within defined tolerance ranges occurs as portfolio managers buy and sell within their respective markets based upon the acceptable boundaries established by investment policies. Although we apply a similar overall philosophy to market risk, the underlying business frameworks and the accounting and regulatory environments may differ between our products and therefore affect investment decisions and risk parameters.

Interest rate risk is the risk that we will incur a loss due to adverse changes in interest rates relative to the characteristics of our interest-bearing assets and liabilities. Interest rate risk includes risks related to changes in U.S. Treasury yields and other key risk-free reference yields. This risk arises from many of our primary activities, as we invest substantial funds in interest-sensitive assets and issue interest-sensitive liabilities. Changes in interest rates can have favorable and unfavorable effects on our results. For example, increases in rates can improve investment income, but decrease the fair value of our fixed income securities portfolio and increase policyholder surrenders requiring us to liquidate assets. Decreases in rates could increase the fair value of our fixed income securities portfolio while decreasing investment income due to reinvesting at lower market yields and accelerating pay-downs and prepayments of certain investments.

For our corporate debt, we monitor market interest rates and evaluate refinancing opportunities as maturity dates approach. To mitigate this risk, we ladder the maturity dates of our debt. For our noncumulative perpetual preferred stock, we monitor market dividend rates and evaluate opportunities to redeem or refinance on or after specified dates. For further detail regarding our debt and our preferred stock, see Note 12 of the consolidated financial

statements and the Capital Resources and Liquidity section of this Item.

We manage the interest rate risk in our assets relative to the interest rate risk in our liabilities and our assessment of overall economic and capital risk. One of the measures used to quantify this exposure is duration. The difference in the duration of our assets relative to our liabilities is our duration gap. To calculate the duration gap between assets and liabilities, we project asset and liability cash flows and calculate their net present value using a risk-free market interest rate adjusted for credit quality, sector attributes, liquidity and other specific risks. Duration is calculated by revaluing these cash flows at alternative interest rates and determining the percentage change in aggregate fair value. The cash flows used in this calculation include the expected maturity and repricing characteristics of our derivative financial instruments, all other financial instruments, and certain other items including, unearned premiums, claims and claims expense reserves, annuity liabilities and other interest-sensitive liabilities.

The projections include assumptions (based upon historical market experience and our experience) that reflect the effect of changing interest rates on the prepayment, lapse, leverage and/or option features of instruments, where applicable. The preceding assumptions relate primarily to callable municipal and corporate bonds, fixed rate single and flexible premium deferred annuities, mortgage-backed securities and municipal housing bonds. Additionally, the calculations include assumptions regarding the renewal of property and casualty products.

As of December 31, 2018, the difference between our asset and liability duration was a (1.16) gap compared to a (2.16) gap as of December 31, 2017. The calculation excludes traditional and interest-sensitive life insurance and accident and health insurance products that are not considered financial instruments. A negative duration gap indicates that the fair value of our liabilities is more sensitive to interest rate movements than the fair value of our assets, while a positive duration gap indicates that the fair value of our assets is more sensitive to interest rate movements than the fair value of our liabilities. Due to the relatively short duration of our property and casualty liabilities, primarily related to auto and homeowners claims, the investments generally maintain a positive duration gap between assets and liabilities. In contrast, for our annuity products the duration gap may be positive or negative as the assets and liabilities vary based on the characteristics of the products in-force and investing activity. As of December 31, 2018, property and casualty products had a positive duration gap while annuity products had a negative duration gap.

To reduce the risk that investment returns are below levels required to meet the funding needs of certain liabilities, we are executing our performance-based strategy that supplements market risk with idiosyncratic risk. We are using these investments, in addition to public equity securities, to support a portion of our property and casualty products and

long-term annuity liabilities. Shorter-term annuity liabilities will continue to be invested in market-based investments to generate cash flows that will fund future claims, benefits and expenses, and that will earn stable returns across a wide variety of interest rate and economic scenarios. Performance-based investments and public equity securities are generally not interest-bearing; accordingly, using them to support interest-bearing liabilities contributes toward a negative duration gap.

Based upon the information and assumptions used in the duration calculation, and market interest rates as of December 31, 2018, we estimate that a 100 basis point immediate, parallel increase in interest rates ("rate shock") would increase the fair value of the assets net of liabilities by \$889 million, compared to an increase of \$1.65 billion as of December 31, 2017, reflecting year to year changes in duration and the amount of assets and liabilities. The selection of a 100 basis point immediate, parallel change in interest rates should not be construed as our prediction of future market events, but only as an illustration of the potential effect of such an event.

The estimate excludes traditional and interest-sensitive life insurance and accident and health insurance products that are not considered financial instruments and the \$11.07 billion of assets supporting them and the associated liabilities. The \$11.07 billion of assets excluded from the calculation increased from \$11.06 billion as of December 31, 2017. Based on assumptions described above, in the event of a 100 basis point immediate increase in interest rates, the assets supporting the excluded products would decrease in value by \$593 million compared to a decrease of \$620 million as of December 31, 2017. To the extent that conditions differ from the assumptions we used in these calculations, duration and rate shock measures could be significantly impacted. Additionally, our calculations assume the current relationship between short-term and long-term interest rates (the term structure of interest rates) will remain constant over time. As a result, these calculations may not fully capture the effect of non-parallel changes in the term structure of interest rates and/or large changes in interest rates.

Credit spread risk is the risk that we will incur a loss due to adverse changes in credit spreads ("spreads"). Credit spread is the additional yield on fixed income securities and loans above the risk-free rate (typically referenced as the yield on U.S. Treasury securities) that market participants require to compensate them for assuming credit, liquidity and/or prepayment risks. The magnitude of the spread will depend on the likelihood that a particular issuer will default. This risk arises from many of our primary activities, as we invest substantial funds in spread-sensitive fixed income assets. We manage the spread risk in our assets. One of the measures used to quantify this exposure is spread duration. Spread duration measures the price sensitivity of the assets to changes in spreads. For example, if spreads increase 100 basis points, the fair value of an asset exhibiting a

spread duration of 5 is expected to decrease in value by 5%.

Spread duration is calculated similarly to interest rate duration. As of December 31, 2018, the spread duration was 4.28, compared to 3.99 as of December 31, 2017. Based upon the information and assumptions we use in this spread duration calculation, and market spreads as of December 31, 2018, we estimate that a 100 basis point immediate, parallel increase in spreads across all asset classes, industry sectors and credit ratings ("spread shock") would decrease the net fair value of the assets by \$2.49 billion compared to \$2.46 billion as of December 31, 2017. Reflected in the spread duration calculation are the effects of tactical positions that include the use of credit default swaps to manage spread risk. The selection of a 100 basis point immediate parallel change in spreads should not be construed as our prediction of future market events, but only as an illustration of the potential effect of such an event.

Equity price risk is the risk that we will incur losses due to adverse changes in the general levels of the equity markets. As of December 31, 2018, we held \$4.78 billion in common stocks and exchange traded and mutual funds and \$7.76 billion in other investments with equity risk (including primarily limited partnership interests and non-redeemable preferred securities), compared to \$6.33 billion and \$7.03 billion, respectively, as of December 31, 2017. 68.4% of the common stocks and exchange traded and mutual funds and 57.2% of the other securities with equity risk supported property and casualty products as of December 31, 2018, compared to 71.1% and 54.8%, respectively, as of December 31, 2017.

As of December 31, 2018, our portfolio of common stocks and other investments with equity risk had a cash market portfolio beta of 1.07, compared to a beta of 1.03 as of December 31, 2017. Beta represents a widely used methodology to describe, quantitatively, an investment's market risk characteristics relative to an index such as the Standard & Poor's 500 Composite Price Index ("S&P 500"). Based on the beta analysis, we estimate that if the S&P 500 increases or decreases by 10%, the fair value of our equity investments will increase or decrease by 10.7%, respectively. Based upon the information and assumptions we used to calculate beta as of December 31, 2018, we estimate that an immediate increase or decrease in the S&P 500 of 10% would increase or decrease the net fair value of our equity investments by \$1.34 billion, of which approximately 40% relates to public securities, compared to \$1.37 billion as of December 31, 2017.

We periodically use put options to reduce equity price risk or call options to adjust our equity risk profile. Put options provide an offset to declines in equity market values below a targeted level, while call options provide participation in equity market appreciation above a targeted level. Options can expire, terminate early or the option can be exercised. If the equity index does not fall below the put's strike price or rise above the call's strike price, the maximum loss on purchased puts and calls is limited to the amount of the premium paid. Based on the equity put and call

options in place at December 31, 2018, we would recognize \$18 million of losses in the event of a 10% increase in the S&P 500 index and \$28 million in gains in the event of a 10% decrease.

The selection of a 10% immediate increase or decrease in the S&P 500 should not be construed as our prediction of future market events, but only as an illustration of the potential effect of such an event. The beta of our common stocks and other investments with equity risk was determined by calculating the change in the fair value of the portfolio resulting from stressing the equity market up and down 10%. For limited partnership interests, quarterly changes in fair values may not be highly correlated to equity indices in the short-term and changes in value of these investments are generally recognized on a three-month delay due to the availability of the related investee financial statements. The illustrations noted above may not reflect our actual experience if the future composition of the portfolio (hence its beta) and correlation relationships differ from the historical relationships.

As of December 31, 2018 and 2017, we had separate account assets related to variable annuity and variable life contracts with account values totaling \$2.81 billion and \$3.44 billion, respectively. Equity risk exists for contract charges based on separate account balances and guarantees for death and/or income benefits provided by our variable products. In 2006, we disposed of substantially all of the variable annuity business through reinsurance agreements with The Prudential Insurance Company of America, a subsidiary of Prudential Financial Inc. and therefore mitigated this aspect of our risk. Equity risk for our variable life business relates to contract charges and policyholder benefits. Total direct and assumed variable life contract charges for 2018 and 2017 were \$44 million and \$41 million, respectively. Separate account liabilities related to variable life contracts were \$68 million and \$70 million as of December 31, 2018 and 2017, respectively.

As of December 31, 2018 and 2017, we had \$1.83 billion and \$1.85 billion, respectively, in equity-indexed life and annuity liabilities that provide customers with interest crediting rates based on the performance of the S&P 500. We hedge the majority of the risk associated with these liabilities using equity-indexed options and futures and eurodollar futures, maintaining risk within specified value-at-risk limits.

Foreign currency exchange rate risk is the risk that we will incur economic losses due to adverse changes in foreign currency exchange rates. This risk primarily arises from our foreign equity investments, including common stocks, limited partnership interests, and our Canadian, Northern Ireland and Indian operations. We use foreign currency derivative contracts to partially offset this risk.

As of December 31, 2018, we also have \$96 million in certain fixed income securities and emerging market fixed income funds that are denominated in foreign currencies, of which approximately 0.4% used derivatives to hedge foreign currency risk.

As of December 31, 2018, we had \$2.10 billion in foreign currency denominated equity investments, including the impact of foreign currency derivative contracts, \$860 million net investment in our foreign subsidiaries, primarily related to our Canadian operations, and \$96 million in unhedged non-U.S. dollar fixed income securities. These amounts were \$2.18 billion, \$1.02 billion, and \$112 million, respectively, as of December 31, 2017.

Based upon the information and assumptions used, including the impact of foreign currency derivative contracts, as of December 31, 2018, we estimate that a 10% immediate unfavorable change in each of the foreign currency exchange rates to which we are exposed would decrease the value of our foreign currency denominated instruments by \$306 million, compared with an estimated \$326 million decrease as of December 31, 2017. The selection of a 10% immediate decrease in all currency exchange rates should not be construed as our prediction of future market events, but only as an illustration of the potential effect of such an event.

The modeling technique we use to report our currency exposure does not take into account correlation among foreign currency exchange rates. Even though we believe it is very unlikely that all of the foreign currency exchange rates that we are exposed to would simultaneously decrease by 10%, we nonetheless stress test our portfolio under this and other hypothetical extreme adverse market scenarios. Our actual experience may differ from these results because of assumptions we have used or because significant liquidity and market events could occur that we did not foresee.

Pension and Other Postretirement Plans

Benefit plan description Our defined benefit pension plans cover most full-time employees, certain part-time employees and employee-agents. Benefits are based primarily on a cash balance formula; however, certain participants have a significant portion of their benefits attributable to a former final average pay formula. 87% of the projected benefit obligation ("PBO") of our primary qualified employee plan is related to the former final average pay formula. See Note 17 of the consolidated financial statements for a discussion of these plans and their effect on the consolidated financial statements.

Our pension and other postretirement benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, compensation increases, health care cost trend rates, inflation, expected returns on plan assets, mortality and other factors. The assumptions utilized in recording the obligations under our pension plans represent our best estimates and we believe they are reasonable based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Change in accounting principle We changed our accounting principle for recognizing actuarial gains and losses and expected return on plan assets for our pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized in earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. Previously, actuarial gains and losses and differences between the expected and actual returns on plan assets were recognized as a component of AOCI, and were subject to amortization into earnings in future periods. This change has been applied on a retrospective basis. Our new policy is to remeasure our pension and postretirement plans on a quarterly basis.

Differences in actual experience or changes in assumptions affect our pension and other postretirement obligations, plan assets and expenses. The primary factors contributing to pension and other postretirement remeasurement gains and losses are 1) changes in the discount rate used to value pension and postretirement obligations as of the measurement date, 2) differences between the expected and the actual return on plan assets, 3) changes in demographic assumptions, including mortality, and 4) participant experience different from demographic assumptions.

We also changed our policy for recognizing expected returns on plan assets by eliminating the permitted accounting practice allowing the five-year smoothing of equity returns and moving to an unadjusted fair value method.

We believe that immediately recognizing remeasurements of projected benefit obligation and plan assets in earnings is preferable as it provides greater transparency of our economic obligations in accounting results and better aligns with fair value accounting principles by recognizing the effects of economic and interest rate changes on pension and other postretirement plan assets and liabilities in the year in which the gains and losses are incurred.

Pension and other postretirement service cost, interest cost, expected return on plan assets and amortization of prior service credits are allocated to our reportable segments. Pension and other postretirement remeasurement gains and losses are now reported in the Corporate and Other segment.

See Notes 2 and 17 of the consolidated financial statements for further information regarding the impact of the change in accounting principle.

Components of net cost (benefit) for pension and other postretirement plans

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Service cost	\$ 117	\$ 119	\$ 122
Interest cost	270	269	304
Expected return on plan assets	(427)	(419)	(387)
Amortization of prior service credit	(77)	(81)	(77)
Costs and expenses	(117)	(112)	(38)
Remeasurement of projected benefit obligation	(259)	414	374
Remeasurement of plan assets	727	(631)	(104)
Remeasurement gains and losses	468	(217)	270
Total net cost (benefit)	\$ 351	\$ (329)	\$ 232

In 2018, we recognized pension and other postretirement remeasurement losses of \$468 million primarily related to unfavorable asset performance compared to the expected return on plan assets and higher lump sum distributions compared to

assumptions, partially offset by an increase in the discount rate used to value the liabilities. In 2017, we recognized pension and other postretirement remeasurement gains of \$217 million primarily related to favorable asset performance compared to the

expected return on plan assets, partially offset by a decrease in the discount rate used to value liabilities and higher lump sum distributions compared to assumptions. In 2016, we recognized pension and other postretirement remeasurement losses of \$270 million primarily due to a decrease in the discount rate used to value plan liabilities, partially offset by favorable asset performance compared to the expected return on plan assets.

Impact of assumption changes to net cost for pension and other postretirement plans The discount rate is based on rates at which expected pension benefits attributable to past employee service could effectively be settled on a present value basis at the measurement date. We develop the assumed discount rate by utilizing the weighted average yield of a theoretical dedicated portfolio derived from non-callable bonds and bonds with a make-whole provision available in the Bloomberg corporate bond universe having ratings of at least "AA" by S&P or at least "Aa" by Moody's on the measurement date with cash flows that match expected plan benefit requirements. Significant changes in discount rates, such as those caused by changes in the credit spreads, yield curve, the mix of bonds available in the market, the duration of selected bonds and expected benefit payments, may result in volatility in pension cost.

Holding other assumptions constant, a hypothetical decrease of 100 basis points in the discount rate would result in an increase of \$612 million, pre-tax, in net cost for pension plans as of December 31, 2018. A hypothetical increase of 100 basis points in the discount rate would decrease net cost for pension plans by \$515 million, pre-tax, as of December 31, 2018. This non-symmetrical range results from the non-linear relationship between discount rates and pension obligations.

The expected long-term rate of return on plan assets reflects the average rate of earnings expected on plan assets. While this rate reflects long-term assumptions and is consistent with long-term historical returns, sustained changes in the market or changes in the mix of plan assets may lead to revisions in the assumed long-term rate of return on plan assets. Differences between the actual return on plan assets and the expected long-term rate of return on plan assets are immediately recognized through earnings upon remeasurement. Short-term asset performance can differ significantly from the expected rate of return, especially in volatile markets.

Holding other assumptions constant, a hypothetical increase or decrease of 100 basis points in the expected long-term rate of return on plan assets would result in a decrease or increase, respectively, of \$55 million, pre-tax, in net cost for pension plans as of December 31, 2018.

Assumed health care cost trend rates have a significant effect on the amounts reported for the postretirement health care plans. A one percentage-point increase in assumed health care cost trend rates would increase net cost for other postretirement plans by \$27 million. A one percentage-point decrease in assumed health care cost trend rates would decrease net cost for other postretirement plans by \$24 million.

Target funding levels are established in accordance with applicable regulations, including those under the Internal Revenue Code for U.S. pension plans, and generally accepted actuarial principles. Our funding levels were within our targeted range as of December 31, 2018. In 2018, we contributed \$16 million to our unfunded non-qualified plans and zero to the qualified funded pension plans. We expect to contribute \$26 million and zero to these plans, respectively, for the 2019 fiscal year. This estimate could change significantly based on market conditions.

Capital Resources and Liquidity

Capital resources consist of shareholders' equity and debt, representing funds deployed or available to be deployed to support business operations or for general corporate purposes.

Capital resources

(\$ in millions)	As of December 31,		
	2018	2017	2016
Preferred stock, common stock, treasury stock, retained income and other shareholders' equity items	\$ 21,194	\$ 20,662	\$ 19,320
Accumulated other comprehensive (loss) income	118	1,889	1,249
Total shareholders' equity	21,312	22,551	20,569
Debt	6,451	6,350	6,347
Total capital resources	\$ 27,763	\$ 28,901	\$ 26,916
Ratio of debt to shareholders' equity	30.3%	28.2%	30.9%
Ratio of debt to capital resources	23.2%	22.0%	23.6%

Shareholders' equity decreased in 2018, primarily due to decreased net unrealized capital gains on investments, common share repurchases and dividends paid to shareholders, partially offset by net income and issuance of preferred stock. In 2018, we paid dividends of \$614 million and \$134 million related to our common and preferred shares, respectively. Shareholders' equity increased in 2017, primarily due to net income, increased unrealized net capital gains on investments and lower unrecognized pension and other postretirement benefit costs, partially offset by common share repurchases and dividends paid to shareholders.

Preferred stock and debt issuances On March 29, 2018, we issued 23,000 shares of 5.625% Fixed Rate Noncumulative Perpetual Preferred Stock, Series G, for aggregate proceeds of \$575 million, \$250 million of Floating Rate Senior Notes due 2021 and \$250 million of Floating Rate Senior Notes due 2023. The proceeds of these issuances were for general corporate purposes, including the redemption, repayment or repurchase of certain preferred stock or debt.

Redemption and repayment of preferred stock and debt On May 13, 2018, we redeemed our \$224 million Series B 6.125% Fixed-to-Floating Rate Junior Subordinated Debentures at a redemption price equal to 100% of the outstanding principal.

On May 15, 2018, we repaid \$176 million of 6.75% Senior Debentures at maturity.

On October 15, 2018, we redeemed all 15,400 shares of our Fixed Rate Noncumulative Perpetual Preferred Stock, Series C and the corresponding depository shares for \$385 million. The redemption price in excess of the carrying value for the preferred shares was recognized as part of preferred stock dividends on the Consolidated Statements of Operations and Consolidated Statements of Shareholders' Equity.

For additional details on these transactions, see Note 12 of the consolidated financial statements.

Debt \$317 million of senior debt is scheduled to mature in May 2019. As of December 31, 2018 and 2017, there were no outstanding commercial paper

borrowings. For further information on outstanding debt, see Note 12 of the consolidated financial statements.

Common share repurchases On October 31, 2018, the Board authorized a new \$3.00 billion common share repurchase program that is expected to be completed by April 2020. Funding for the repurchase program may include potential preferred stock issuances of up to \$1.00 billion. As of December 31, 2018, there was \$2.07 billion remaining on the repurchase program.

In November 2018, we completed the \$2.00 billion common share repurchase program that commenced in August 2017.

In December 2018, we entered into an accelerated share repurchase agreement ("ASR agreement") with Wells Fargo Bank, National Association ("Wells Fargo"), to purchase \$1.00 billion of our outstanding common stock. Under the ASR agreement, we paid \$1.00 billion upfront and initially acquired 10.7 million shares. The actual number of shares we repurchase under this ASR agreement, and the average price paid per share, will be determined at the completion of the ASR agreement based on the volume weighted average price of Allstate's common stock during the period of Wells Fargo's purchases. This ASR agreement is expected to be completed on or before May 2019.

During 2018, we repurchased 25.0 million common shares for \$2.20 billion. The common share repurchases were completed through open market transactions and ASR agreements.

Since 1995, we have acquired 707 million shares of our common stock at a cost of \$33.33 billion, primarily as part of various stock repurchase programs. We have reissued 141 million common shares since 1995, primarily associated with our equity incentive plans, the 1999 acquisition of American Heritage Life Investment Corporation and the 2001 redemption of certain mandatorily redeemable preferred securities. Since 1995, total common shares outstanding has decreased by 567 million shares or 63.1%, primarily due to our repurchase programs.

Common shareholder dividends On January 2, 2018, April 2, 2018, July 2, 2018 and October 1, 2018, we paid common shareholder dividends of \$0.37, \$0.46, \$0.46 and \$0.46, respectively. On November 16, 2018, we declared a common shareholder dividend of \$0.46,

payable on January 2, 2019. On February 8, 2019, we declared a common shareholder dividend of \$0.50, payable on April 1, 2019.

Financial ratings and strength

Senior long-term debt, commercial paper and insurance financial strength ratings

	As of December 31, 2018		
	Moody's	S&P Global Ratings	A.M. Best
The Allstate Corporation (debt)	A3	A-	a
The Allstate Corporation (short-term issuer)	P-2	A-2	AMB-1+
Allstate Insurance Company (insurance financial strength)	Aa3	AA-	A+
Allstate Life Insurance Company (insurance financial strength)	A1	A+	A+
Allstate Assurance Company (insurance financial strength)	A1	N/A	A+

Our ratings are influenced by many factors including our operating and financial performance, asset quality, liquidity, asset/liability management, overall portfolio mix, financial leverage (i.e., debt), exposure to risks such as catastrophes and the current level of operating leverage. The preferred stock and subordinated debentures are viewed as having a common equity component by certain rating agencies and are given equity credit up to a pre-determined limit in our capital structure as determined by their respective methodologies. These respective methodologies consider the existence of certain terms and features in the instruments such as the noncumulative dividend feature in the preferred stock.

In August 2018, Moody's affirmed The Allstate Corporation's debt and short-term issuer ratings of A3 and P-2, respectively, and the insurance financial strength ratings of Aa3 for AIC and A1 for both Allstate Life Insurance Company ("ALIC") and Allstate Assurance Company ("AAC"). The outlook for the ratings is stable. In August 2018, S&P affirmed The Allstate Corporation's debt and short-term issuer ratings of A- and A-2, respectively, and the insurance financial strength ratings of AA- for AIC and A+ for ALIC. The outlook for the ratings is stable. In April 2018, A.M. Best upgraded The Allstate Corporation's debt and short-term issuer ratings of a- and AMB-1 to a and AMB-1+, respectively, and affirmed the insurance financial strength ratings of A+ for AIC, ALIC and AAC. The outlook for the ratings is stable.

We have distinct and separately capitalized groups of subsidiaries licensed to sell property and casualty insurance that maintain separate group ratings. The ratings of these groups are influenced by the risks that relate specifically to each group. Many mortgage companies require property owners to have insurance from an insurance carrier with a secure financial strength rating from an accredited rating agency. In April 2018, A.M. Best affirmed the ANJ, which writes auto and homeowners insurance, rating of A, and affirmed the North Light, our excess and surplus lines carrier, rating of A+. The outlook for the ANJ rating and North Light rating is stable. ANJ also has a Financial Stability Rating® of A" from Demotech, which was

affirmed in November 2018. In February 2018, A.M. Best affirmed the CKIC, which underwrites personal lines property insurance in Florida, rating of B-. CKIC also has a Financial Stability Rating of A' from Demotech that was affirmed in November 2018. ANJ, North Light and CKIC do not have support agreements with AIC.

Allstate's domestic property and casualty and life insurance subsidiaries prepare their statutory-basis financial statements in conformity with accounting practices prescribed or permitted by the insurance department of the applicable state of domicile. Statutory surplus is a measure that is often used as a basis for determining dividend paying capacity, operating leverage and premium growth capacity, and it is also reviewed by rating agencies in determining their ratings.

The property and casualty business is comprised of 29 insurance companies, each of which has individual company dividend limitations. As of December 31, 2018, total statutory surplus is \$18.15 billion compared to \$18.63 billion as of December 31, 2017. Property and casualty subsidiaries surplus was \$14.33 billion as of December 31, 2018, compared to \$14.90 billion as of December 31, 2017. Life insurance subsidiaries surplus was \$3.82 billion as of December 31, 2018, compared to \$3.73 billion as of December 31, 2017.

The National Association of Insurance Commissioners ("NAIC") has developed financial relationships or tests known as the Insurance Regulatory Information System to assist state insurance regulators in monitoring the financial condition of insurance companies and identifying companies that require special attention or actions by state insurance regulators. The NAIC analyzes financial data provided by insurance companies using prescribed ratios, each with defined "usual ranges". Additional regulatory scrutiny may occur if a company's ratios fall outside the usual ranges for four or more of the ratios. Our domestic insurance companies have no significant departure from these ranges.

Liquidity sources and uses Our potential sources and uses of funds principally include the following activities below.

Activities for potential sources of funds						
	<i>Property-Liability</i>	<i>Service Businesses</i>	<i>Allstate Life</i>	<i>Allstate Benefits</i>	<i>Allstate Annuities</i>	<i>Corporate and Other</i>
Receipt of insurance premiums	ü	ü	ü	ü	ü	
Recurring service fees		ü		ü		
Contractholder fund deposits			ü	ü	ü	
Reinsurance and indemnification program recoveries	ü	ü	ü	ü	ü	
Receipts of principal, interest and dividends on investments	ü	ü	ü	ü	ü	ü
Sales of investments	ü	ü	ü	ü	ü	ü
Funds from securities lending, commercial paper and line of credit agreements	ü		ü		ü	ü
Intercompany loans	ü	ü	ü	ü	ü	ü
Capital contributions from parent	ü	ü	ü	ü	ü	
Dividends or return of capital from subsidiaries	ü		ü		ü	ü
Tax refunds/settlements	ü	ü	ü	ü	ü	ü
Funds from periodic issuance of additional securities						ü
Receipt of intercompany settlements related to employee benefit plans						ü
Activities for potential uses of funds						
	<i>Property-Liability</i>	<i>Service Businesses</i>	<i>Allstate Life</i>	<i>Allstate Benefits</i>	<i>Allstate Annuities</i>	<i>Corporate and Other</i>
Payment of claims and related expenses	ü	ü				
Payment of contract benefits, maturities, surrenders and withdrawals			ü	ü	ü	
Reinsurance cessions and indemnification program payments	ü	ü	ü	ü	ü	
Operating costs and expenses	ü	ü	ü	ü	ü	ü
Purchase of investments	ü	ü	ü	ü	ü	ü
Repayment of securities lending, commercial paper and line of credit agreements	ü		ü		ü	ü
Payment or repayment of intercompany loans	ü	ü	ü	ü	ü	ü
Capital contributions to subsidiaries	ü		ü		ü	ü
Dividends or return of capital to shareholders/parent company	ü	ü	ü	ü	ü	ü
Tax payments/settlements	ü	ü	ü	ü	ü	
Common share repurchases						ü
Debt service expenses and repayment	ü					ü
Payments related to employee and employee-agent benefit plans	ü	ü	ü	ü	ü	ü
Payments for acquisitions	ü	ü	ü	ü	ü	ü

We actively manage our financial position and liquidity levels in light of changing market, economic, and business conditions. Liquidity is managed at both the entity and enterprise level across the Company, and is assessed on both base and stressed level liquidity needs. We believe we have sufficient liquidity to meet these needs. Additionally, we have existing intercompany agreements in place that facilitate liquidity management across the Company to enhance flexibility.

As of December 31, 2018, we held \$8.96 billion of cash, U.S. government and agencies fixed income securities, and public equity securities (excluding non-redeemable preferred stocks and foreign equities)

which, under normal market conditions, we would expect to be able to liquidate within one week. In addition, we regularly estimate how much of the total portfolio, which includes high quality corporate fixed income and municipal holdings, can be reasonably liquidated within one quarter. These estimates are subject to considerable uncertainty associated with evolving market conditions. As of December 31, 2018, estimated liquidity available within one quarter without generating significant net realized capital losses was \$21.34 billion. As of December 31, 2018, gross unrealized losses related to fixed income securities totaled \$957 million.

Certain remote events and circumstances could constrain our liquidity. Those events and circumstances include, for example, a catastrophe resulting in extraordinary losses, a downgrade in our senior long-term debt ratings to non-investment grade status, or a downgrade in AIC's or ALIC's financial strength ratings. The rating agencies also consider the interdependence of our individually rated entities; therefore, a rating change in one entity could potentially affect the ratings of other related entities.

The Allstate Corporation is party to an Amended and Restated Intercompany Liquidity Agreement ("Liquidity Agreement") with certain subsidiaries, which include, but are not limited to, ALIC and AIC. The Liquidity Agreement allows for short-term advances of funds to be made between parties for liquidity and other general corporate purposes. The Liquidity Agreement does not establish a commitment to advance funds on the part of any party. ALIC and AIC each serve as a lender and borrower, certain other subsidiaries serve only as borrowers, and the Corporation serves only as a lender. AIC also has a capital support agreement with ALIC. Under the capital support agreement, AIC is committed to providing capital to ALIC to maintain an adequate capital level. The maximum amount of potential funding under each of these agreements is \$1.00 billion.

In addition to the Liquidity Agreement, the Corporation also has an intercompany loan agreement with certain of its subsidiaries, which include, but are not limited to, AIC and ALIC. The amount of intercompany loans available to the Corporation's subsidiaries is at the discretion of the Corporation. The maximum amount of loans the Corporation will have outstanding to all its eligible subsidiaries at any given point in time is limited to \$1.00 billion. The Corporation may use commercial paper borrowings, bank lines of credit and securities lending to fund intercompany borrowings.

Parent company capital capacity At the parent holding company level, we have deployable assets totaling \$1.50 billion as of December 31, 2018, comprising cash and investments that are generally saleable within one quarter. The substantial earnings capacity of the operating subsidiaries is the primary source of capital generation for the Corporation.

The payment of dividends by AIC to The Allstate Corporation is limited by Illinois insurance law to formula amounts based on statutory net income and statutory surplus, as well as the timing and amount of dividends paid in the preceding twelve months. Based on the greater of 2018 statutory net income or 10% of statutory surplus, the maximum amount of dividends that AIC will be able to pay, without prior Illinois Department of Insurance approval, at a given point in time in 2019 is estimated at \$2.73 billion, less dividends paid during the preceding twelve months measured at that point in time. Notification and approval of intercompany lending activities are also required by the Illinois Department of Insurance for those transactions that exceed formula amounts based on statutory admitted assets and statutory surplus.

This provides funds for the parent company's fixed charges and other corporate purposes.

Intercompany dividends were paid in 2018, 2017 and 2016 between the following companies: AIC, Allstate Insurance Holdings, LLC ("AIH"), the Corporation, ALIC, American Heritage Life Insurance Company ("AHL") and Allstate Financial Insurance Holdings Corporation ("AFIHC").

Intercompany dividends

(\$ in millions)	2018	2017	2016
AIC to AIH	\$ 2,874	\$ 1,555	\$ 1,905
AIH to the Corporation	2,897	1,613	1,865
ALIC to AIC	250	600	—
AHL to AFIHC	55	70	55

Dividends may not be paid or declared on our common stock and shares of common stock may not be repurchased unless the full dividends for the latest completed dividend period on our preferred stock have been declared and paid or provided for. We are prohibited from declaring or paying dividends on our preferred stock if we fail to meet specified capital adequacy, net income or shareholders' equity levels, except out of the net proceeds of common stock issued during the 90 days prior to the date of declaration. As of December 31, 2018, we satisfied all of the tests with no current restrictions on the payment of preferred stock dividends. There were no capital contributions paid by the Corporation to AIC in 2018, 2017 or 2016. There were no capital contributions by AIC to ALIC in 2018, 2017 or 2016.

The terms of our outstanding subordinated debentures also prohibit us from declaring or paying any dividends or distributions on our common or preferred stock or redeeming, purchasing, acquiring, or making liquidation payments on our common stock or preferred stock if we have elected to defer interest payments on the subordinated debentures, subject to certain limited exceptions. In 2018, we did not defer interest payments on the subordinated debentures.

Additional borrowings to support liquidity are as follows:

- The Corporation has access to a commercial paper facility with a borrowing limit of \$1.00 billion to cover short-term cash needs. As of December 31, 2018, there were no balances outstanding and therefore the remaining borrowing capacity was \$1.00 billion; however, the outstanding balance can fluctuate daily.
- The Corporation, AIC and ALIC have access to a \$1.00 billion unsecured revolving credit facility that is available for short-term liquidity requirements. The maturity date of this facility is April 2021. The facility is fully subscribed among 11 lenders with the largest commitment being \$115 million. The commitments of the lenders are several and no lender is responsible for any other lender's commitment if such lender fails to make a loan under the facility. This facility contains an increase provision that would allow up to an additional \$500

million of borrowing. This facility has a financial covenant requiring that we not exceed a 37.5% debt to capitalization ratio as defined in the agreement. This ratio was 17.0% as of December 31, 2018. Although the right to borrow under the facility is not subject to a minimum rating requirement, the costs of maintaining the facility and borrowing under it are based on the ratings of our senior unsecured, unguaranteed long-term debt. There were no borrowings under the credit facility during 2018.

- The Corporation has access to a universal shelf registration statement with the Securities and

Exchange Commission that expires in 2021. We can use this shelf registration to issue an unspecified amount of debt securities, common stock (including 568 million shares of treasury stock as of December 31, 2018), preferred stock, depositary shares, warrants, stock purchase contracts, stock purchase units and securities of trust subsidiaries. The specific terms of any securities we issue under this registration statement will be provided in the applicable prospectus supplements.

Liquidity exposure Contractholder funds were \$18.37 billion as of December 31, 2018.

Contractholder funds by contractual withdrawal provisions

(\$ in millions)	December 31, 2018	Percent to total
Not subject to discretionary withdrawal	\$ 2,848	15.5%
Subject to discretionary withdrawal with adjustments:		
Specified surrender charges ⁽¹⁾	4,753	25.9
Market value adjustments ⁽²⁾	996	5.4
Subject to discretionary withdrawal without adjustments ⁽³⁾	9,774	53.2
Total contractholder funds ⁽⁴⁾	\$ 18,371	100.0%

⁽¹⁾ Includes \$870 million of liabilities with a contractual surrender charge of less than 5% of the account balance.

⁽²⁾ \$512 million of the contracts with market value adjusted surrenders have a 30-45 day period at the end of their initial and subsequent interest rate guarantee periods (which are typically 1, 5, 7 or 10 years) during which there is no surrender charge or market value adjustment. \$225 million of these contracts have their 30-45 day window period in 2019.

⁽³⁾ 89% of these contracts have a minimum interest crediting rate guarantee of 3% or higher.

⁽⁴⁾ Includes \$732 million of contractholder funds on variable annuities reinsured to The Prudential Insurance Company of America, a subsidiary of Prudential Financial Inc., in 2006.

Retail life and annuity products may be surrendered by customers for a variety of reasons. Reasons unique to individual customers include a current or unexpected need for cash or a change in life insurance coverage needs. Other key factors that may impact the likelihood of customer surrender include the level of the contract surrender charge, the length of time the contract has been in force, distribution channel, market interest rates, equity market conditions and potential tax implications.

In addition, the propensity for retail life insurance policies to lapse is lower than it is for fixed annuities because of the need for the insured to be re-underwritten upon policy replacement.

The surrender and partial withdrawal rate on deferred fixed annuities and interest-sensitive life insurance products, based on the beginning of year contractholder funds, was 7.2% and 6.1% in 2018 and 2017, respectively. We strive to promptly pay customers who request cash surrenders; however, statutory regulations generally provide up to six months in most states to fulfill surrender requests.

Our asset-liability management practices enable us to manage the differences between the cash flows generated by our investment portfolio and the expected cash flow requirements of our life insurance and annuity product obligations.

Contractual obligations and commitments Our contractual obligations as of December 31, 2018, and the payments due by period are shown in the following table.

Contractual obligations and payments due by period

(\$ in millions)	As of December 31, 2018				
	Total	Less than 1 year	1 to 3 years	Over 3 years to 5 years	Over 5 years
Liabilities for collateral (1)	\$ 1,458	\$ 1,458	\$ —	\$ —	\$ —
Contractholder funds (2)	37,570	2,185	4,094	3,736	27,555
Reserve for life-contingent contract benefits (2)	38,787	1,425	2,661	2,428	32,273
Long-term debt (3)	13,429	625	843	1,320	10,641
Operating leases (4)	650	139	217	144	150
Unconditional purchase obligations (4)	568	287	274	6	1
Defined benefit pension plans and other postretirement benefit plans (4)(5)	958	47	113	117	681
Reserve for property and casualty insurance claims and claims expense (6)	27,423	12,498	8,692	3,040	3,193
Other liabilities and accrued expenses (7)(8)	5,918	5,634	259	12	13
Net unrecognized tax benefits (9)	70	58	12	—	—
Total contractual cash obligations	\$ 126,831	\$ 24,356	\$ 17,165	\$ 10,803	\$ 74,507

(1) Liabilities for collateral are typically fully secured with cash or short-term investments. We manage our short-term liquidity position to ensure the availability of a sufficient amount of liquid assets to extinguish short-term liabilities as they come due in the normal course of business, including utilizing potential sources of liquidity as disclosed previously.

(2) Contractholder funds represent interest-bearing liabilities arising from the sale of products such as interest-sensitive life and fixed annuities, including immediate annuities without life contingencies. The reserve for life-contingent contract benefits relates primarily to traditional life insurance, immediate annuities with life contingencies and voluntary accident and health insurance. These amounts reflect the present value of estimated cash payments to be made to contractholders and policyholders. Certain of these contracts, such as immediate annuities without life contingencies, involve payment obligations where the amount and timing of the payment are essentially fixed and determinable. These amounts relate to (i) policies or contracts where we are currently making payments and will continue to do so and (ii) contracts where the timing of a portion or all of the payments has been determined by the contract. Other contracts, such as interest-sensitive life, fixed deferred annuities, traditional life insurance and voluntary accident and health insurance, involve payment obligations where a portion or all of the amount and timing of future payments is uncertain. For these contracts, we are not currently making payments and will not make payments until (i) the occurrence of an insurable event such as death or illness or (ii) the occurrence of a payment triggering event such as the surrender or partial withdrawal on a policy or deposit contract, which is outside of our control. For immediate annuities with life contingencies, the amount of future payments is uncertain since payments will continue as long as the annuitant lives. We have estimated the timing of payments related to these contracts based on historical experience and our expectation of future payment patterns. Uncertainties relating to these liabilities include mortality, morbidity, expenses, customer lapse and withdrawal activity, estimated additional deposits for interest-sensitive life contracts, and renewal premium for life policies, which may significantly impact both the timing and amount of future payments. Such cash outflows reflect adjustments for the estimated timing of mortality, retirement, and other appropriate factors, but are undiscounted with respect to interest. As a result, the sum of the cash outflows shown for all years in the table exceeds the corresponding liabilities of \$18.37 billion for contractholder funds and \$12.21 billion for reserve for life-contingent contract benefits as included in the Consolidated Statements of Financial Position as of December 31, 2018. The liability amount in the Consolidated Statements of Financial Position reflects the discounting for interest as well as adjustments for the timing of other factors as described above. Future premium collections are not included in the amounts presented in the table above.

(3) Amount differs from the balance presented on the Consolidated Statements of Financial Position as of December 31, 2018, because the long-term debt amount above includes interest and excludes debt issuance costs.

(4) Our payment obligations relating to operating leases, unconditional purchase obligations and pension and other postretirement benefits ("OPEB") contributions are managed within the structure of our intermediate to long-term liquidity management program.

(5) The pension plans' obligations in the next 12 months represent our planned contributions to certain unfunded non-qualified plans where the benefit obligation exceeds the assets, and the remaining years' contributions are projected based on the average remaining service period using the current underfunded status of the plans. The OPEB plans' obligations are estimated based on the expected benefits to be paid. These liabilities are discounted with respect to interest, and as a result the sum of the cash outflows shown for all years in the table exceeds the corresponding liability amount of \$510 million included in other liabilities and accrued expenses on the Consolidated Statements of Financial Position.

(6) Reserve for property and casualty insurance claims and claims expense is an estimate of amounts necessary to settle all outstanding claims, including claims that have been IBNR as of the balance sheet date. We have estimated the timing of these payments based on our historical experience and our expectation of future payment patterns. However, the timing of these payments may vary significantly from the amounts shown above, especially for IBNR claims. The ultimate cost of losses may vary materially from recorded amounts that are our best estimates.

(7) Other liabilities primarily include accrued expenses and certain benefit obligations and claim payments and other checks outstanding. Certain of these long-term liabilities are discounted with respect to interest, as a result the sum of the cash outflows shown for all years in the table exceeds the corresponding liability amount by \$4 million.

- (8) Balance sheet liabilities not included in the table above include unearned and advance premiums of \$15.29 billion and gross deferred tax liabilities of \$1.58 billion. These items were excluded as they do not meet the definition of a contractual liability as we are not contractually obligated to pay these amounts to third parties. Rather, they represent an accounting mechanism that allows us to present our financial statements on an accrual basis. In addition, other liabilities of \$252 million were not included in the table above because they did not represent a contractual obligation or the amount and timing of their eventual payment was sufficiently uncertain.
- (9) Net unrecognized tax benefits represent our potential future obligation to the taxing authority for a tax position that was not recognized in the consolidated financial statements. We believe it is reasonably possible that a decrease of up to \$58 million in unrecognized tax benefits may occur within the next twelve months due to IRS settlements. The resolution of this obligation may be for an amount different than what we have accrued.

Contractual commitments and periods in which commitments expire

(\$ in millions)	As of December 31, 2018				
	Total	Less than 1 year	1 to 3 years	Over 3 years to 5 years	Over 5 years
Other commitments – conditional	\$ 280	\$ 81	\$ 97	\$ 45	\$ 57
Other commitments – unconditional	3,028	243	270	333	2,182
Total commitments	\$ 3,308	\$ 324	\$ 367	\$ 378	\$ 2,239

Contractual commitments represent investment commitments such as private placements, limited partnership interests and other loans. Limited partnership interests are typically funded over the commitment period which is shorter than the contractual expiration date of the partnership and as a result, the actual timing of the funding may vary.

We have agreements in place for services we conduct, generally at cost, between subsidiaries relating to insurance, reinsurance, loans and capitalization. All material intercompany transactions have been appropriately eliminated in consolidation. Intercompany transactions among insurance subsidiaries and affiliates have been approved by the appropriate departments of insurance as required.

For a more detailed discussion of our off-balance sheet arrangements, see Note 7 of the consolidated financial statements.

Enterprise Risk and Return Management

In addition to the normal risks of the business, Allstate is subject to significant risks as an insurer and a provider of other products and financial services. These risks are discussed in more detail in the Risk Factors section of this document. We regularly identify, measure, monitor and report all significant risks. The major categories of enterprise risks are insurance, financial, investment, operational and strategic.

Allstate manages these risks through Enterprise Risk and Return Management ("ERRM") governance practices, culture, and activities that are performed on an integrated, enterprise-wide basis, following our risk and return principles. Our legal and capital structures are designed to manage capital and solvency on a legal entity basis. Our risk-return principles define how we operate and guide decision-making around risk and return. These principles state that our priority is to protect solvency, comply with laws and act with integrity. Building upon this foundation, we strive to build strategic value and optimize risk and return.

Governance ERRM governance includes board oversight, an executive management committee structure, and enterprise and business unit chief risk officers.

- The Allstate Corporation Board of Directors ("Allstate Board") has overall responsibility for oversight of management's design and implementation of ERRM.
- The Risk and Return Committee ("RRC") of the Allstate Board oversees effectiveness of the ERRM framework, governance structure and decision-making, while focusing on the Company's overall risk profile.
- The Audit Committee oversees effectiveness of management's control framework for risks and cybersecurity.
- The Enterprise Risk and Return Council ("ERRC") is Allstate's senior risk management committee that directs ERRM by establishing risk-return targets, determining economic capital levels and directing integrated strategies and actions from an enterprise perspective. The ERRC consists of Allstate's chief executive officer and president, vice chair, chief financial officer, business unit presidents, chief investment and corporate strategy officer, chief risk officer, general counsel, treasurer, vice president of operational risk, business unit chief risk officers, and business unit chief financial officers.
- Other key committees work with the ERRC to direct ERRM activities, including the Operating Committee, the Operational Risk Council, the Corporate Asset Liability Committee, legal entity liability governance committees, and legal entity investment committees.

Key risks are assessed and reported quarterly through a comprehensive ERRM risk dashboard prepared for senior management and the RRC. The

risk dashboard communicates alignment of Allstate's risk profile with risk and return principles while providing a perspective on quarterly risk position. Dashboard discussion promotes active engagement with management and the RRC. Internal controls over key risks are managed and reported to senior management and the Audit Committee of the Company through a semiannual risk control dashboard. Annually, we communicate with both the Allstate Board and the RRC about economic capital and risks related to the strategic plan, operating plan, and incentive compensation programs.

Framework We apply these principles using an integrated ERRM framework that focuses on measurement, transparency and dialogue. Our framework provides a comprehensive view of risks and is used by senior management and business managers to drive strategic and business decisions. We continually validate and improve our ERRM practices by benchmarking and obtaining external perspectives.

Allstate's risk appetite is integrated with planning through our economic capital framework. Management and the ERRC rely on internal and external perspectives to determine an appropriate level of target economic capital. Internal perspectives include enterprise solvency and volatility measures, stress scenarios, model assumptions, and management judgment. External considerations include NAIC risk-based capital as well as S&P's, Moody's, and A.M. Best's capital adequacy measurement. Our economic capital reflects management's view of the aggregate level of capital necessary to satisfy stakeholder interests, manage Allstate's risk profile and maintain financial strength over a multi-year time horizon. The impact of strategic initiatives on enterprise risk is evaluated through the economic capital framework.

The NAIC has adopted the Risk Management and Own Risk and Solvency Assessment Model Act ("ORSA Model Act"), which has been enacted by our insurance subsidiaries' domiciliary states. The ORSA Model Act requires that insurers maintain a risk management framework and conduct an internal own risk and solvency assessment of the insurer's material risks in normal and stressed environments. The assessment must be documented in a confidential annual summary report, a copy of which must be made available to regulators as required or upon request.

The enterprise risk appetite is cascaded into individual risk limits which set boundaries on the amount of risk we are willing to accept from one specific risk category before escalating for further management discussion and action. Risk limits are established based upon expected returns, volatility, potential tail losses, and impact on the enterprise portfolio. To effectively operate within risk limits and for risk-return optimization, business units establish risk limits and capital targets specific to their businesses. Allstate's risk management strategies adapt to changes in business and market environments.

Process Our shared ERRM framework establishes a basis for transparency and dialogue across the enterprise and for continuous learning by embedding our risk and return management culture of identifying, measuring, managing, monitoring and reporting risks within the organization. Allstate designs business and enterprise strategies that seek to optimize risk-adjusted returns on capital. Risks are managed at both the legal entity and enterprise level. A summary of our process to manage each of our major risk categories follows:

Insurance risk management addresses fluctuations in the timing, frequency, and severity of benefits, expenses, and premiums relative to the return expectations at the time of pricing inclusive of systemic risk, concentration of insurance exposures, policy terms, reinsurance coverage, and claims handling practices. This includes credit risk that arises when an external party fails to meet a contractual obligation such as reinsurance for ceded claims.

Insurance risk exposures include our operating results and financial conditions, claims frequency and severity, catastrophes and severe weather, and mortality and morbidity risk.

Insurance risk exposures are measured and monitored with different approaches including:

- Stochastic methods: measures and monitors risks such as natural catastrophes and severe weather. We develop probabilistic estimates of risk based on our exposures, historical observed volatility and/or industry-recognized models in the case of catastrophe risk.
- Scenario analysis: measures and monitors risks and estimated losses due to extreme but plausible insurance-related events such as multiple hurricanes and/or wildfires. Scenarios evaluated include combined multiple event scenarios across risk categories and time periods, considering the effects of macroeconomic conditions.

Financial risk management addresses the risk of insufficient cash flows to meet corporate or policyholder needs, risk of inadequate aggregate capital or capital within any subsidiary, inability to access capital markets or risk associated with a business counterparty default.

Financial risk exposures include capital resources and liquidity sources and uses.

We actively manage our capital and liquidity levels in light of changing market, economic, and business conditions. Our capital position, capital generation capacity, and targeted risk profile provide strategic and financial flexibility.

We generally assess solvency on a statutory accounting basis, but also consider GAAP volatility. Current enterprise capital, which exceeds economic targeted levels, is based on a combination of statutory surplus and invested assets at the parent holding company level which were \$18.15 billion and \$1.50 billion, respectively, as of December 31, 2018.

Investment risk management addresses financial loss due to changes in the valuations of assets held in the Allstate investment portfolio. Such losses may be caused by macro developments, such as rising interest rates, widening credit spreads, and falling equity prices, or could be specific to individual investments in the portfolio. These losses can encompass both daily market volatility and permanent impairments of capital due to credit defaults and equity write-downs.

Investment risk exposures include interest rate risk, credit spread risk, equity price risk and foreign currency exchange rate risk.

Investment risk exposures are measured and monitored in a number of ways including:

- Sensitivity analysis: measures the impact from a unit change in a market risk input.
- Stochastic and probabilistic estimation of potential losses: combines portfolio risk exposures with historical or recent market volatilities and correlations to assess the potential span of future investment results.
- Scenario analysis: measures material adverse outcomes such as shock scenarios applied to credit, public and private equity markets. Some of the stress scenarios are a combination of multiple scenarios across risk categories and over multiple time periods, considering the effects of macroeconomic conditions.

Operational risk management addresses loss as a result of the failure of people, processes, systems and culture. Operational risk exposures include human resources, privacy, regulatory compliance, ethics, fraud, system availability, cybersecurity, data quality, disaster recovery and business continuity.

Operational risk is managed at the enterprise and business unit levels, with business units identifying, measuring, monitoring, managing, and reporting these and other operational risks at a more detailed level.

Strategic risk management addresses loss associated with inadequate or flawed business planning or strategy setting, including product mix, mergers or acquisitions and market positioning, and unexpected changes within the market or regulatory environment in which Allstate operates. This includes reputational risk, which is the potential for negative publicity regarding a company's conduct or business practices to adversely impact its profitability, operations, consumer base, or require costly litigation and other defensive measures.

We manage strategic risk through the Allstate Board and senior management strategy reviews that include a risk and return assessment of our strategic plans and ongoing monitoring of our strategic actions and the external competitive environment. Using the ERRM framework, Allstate designs strategies that seek to optimize risk-adjusted returns on economic capital for risk types including interest rate risk, credit risk to equity investments with idiosyncratic return potential, auto profitability, and growing property exposure.

Application of Critical Accounting Estimates

The preparation of financial statements in conformity with GAAP requires management to adopt accounting policies and make estimates and assumptions that affect amounts reported in the consolidated financial statements. The most critical estimates, presented in the order they appear in the Consolidated Statements of Financial Position, include those used in determining:

- Fair value of financial assets
- Impairment of fixed income securities
- Deferred policy acquisition costs amortization
- Evaluation of goodwill for impairment
- Reserve for property and casualty insurance claims and claims expense estimation
- Reserve for life-contingent contract benefits estimation

In making these determinations, management makes subjective and complex judgments that frequently require estimates about matters that are inherently uncertain. Many of these policies, estimates and related judgments are common in the insurance and financial services industries; others are specific to our businesses and operations. It is reasonably likely that changes in these estimates could occur from period to period and result in a material impact on our consolidated financial statements.

A summary of each of these critical accounting estimates follows. For a more detailed discussion of the effect of these estimates on our consolidated financial statements, and the judgments and assumptions related to these estimates, see the referenced sections of this document. For a more detailed summary of our significant accounting policies, see the notes to the consolidated financial statements.

Fair value of financial assets Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We are responsible for the determination of fair value of financial assets and the supporting assumptions and methodologies. We use independent third-party valuation service providers, broker quotes and internal pricing methods to determine fair values. We obtain or calculate only one single quote or price for each financial instrument.

Valuation service providers typically obtain data about market transactions and other key valuation model inputs from multiple sources and, through the use of proprietary models, produce valuation information in the form of a single fair value for individual fixed income and other securities for which a fair value has been requested under the terms of our agreements. The inputs used by the valuation service providers include, but are not limited to, market prices from recently completed transactions and transactions of comparable securities, interest rate yield curves, credit spreads, liquidity spreads, currency rates, and

other information, as applicable. Credit and liquidity spreads are typically implied from completed transactions and transactions of comparable securities. Valuation service providers also use proprietary discounted cash flow models that are widely accepted in the financial services industry and similar to those used by other market participants to value the same financial instruments. The valuation models take into account, among other things, market observable information as of the measurement date, as described above, as well as the specific attributes of the security being valued including its term, interest rate, credit rating, industry sector, and where applicable, collateral quality and other issue or issuer specific information. Executing valuation models effectively requires seasoned professional judgment and experience. For certain equity securities, valuation service providers provide market quotations for completed transactions on the measurement date. In cases where market transactions or other market observable data is limited, the extent to which judgment is applied varies inversely with the availability of market observable information.

For certain of our financial assets measured at fair value, where our valuation service providers cannot provide fair value determinations, we obtain a single non-binding price quote from a broker familiar with the security who, similar to our valuation service providers, may consider transactions or activity in similar securities among other information. The brokers providing price quotes are generally from the brokerage divisions of financial institutions with market making, underwriting and distribution expertise regarding the security subject to valuation.

The fair value of certain financial assets, including privately placed corporate fixed income securities and free-standing derivatives, for which our valuation service providers or brokers do not provide fair value determinations, is developed using valuation methods and models widely accepted in the financial services industry. Our internal pricing methods are primarily based on models using discounted cash flow methodologies that develop a single best estimate of fair value. Our models generally incorporate inputs that we believe are representative of inputs other market participants would use to determine fair value of the same instruments, including yield curves, quoted market prices of comparable securities or instruments, published credit spreads, and other applicable market data as well as instrument-specific characteristics that include, but are not limited to, coupon rates, expected cash flows, sector of the issuer, and call provisions. Because judgment is required in developing the fair values of these financial assets, they may differ from the amount actually received to sell an asset in an orderly transaction between market participants at the measurement date. Moreover, the use of different valuation assumptions may have a material effect on the financial assets' fair values.

For most of our financial assets measured at fair value, all significant inputs are based on or corroborated by market observable data, and

significant management judgment does not affect the periodic determination of fair value. The determination of fair value using discounted cash flow models involves management judgment when significant model inputs are not based on or corroborated by market observable data. However, where market observable data is available, it takes precedence, and as a result, no range of reasonably likely inputs exists from which the basis of a sensitivity analysis could be constructed.

We gain assurance that our financial assets are appropriately valued through the execution of various processes and controls designed to ensure the overall reasonableness and consistent application of valuation methodologies, including inputs and assumptions, and compliance with accounting standards. For fair values received from third parties or internally estimated, our processes and controls are designed to ensure that the valuation methodologies are appropriate and consistently applied, the inputs and assumptions are reasonable and consistent with the objective of determining fair value, and the fair values are accurately recorded. For example, on a continuing basis, we assess the reasonableness of individual fair values that have stale security prices or that exceed certain thresholds as compared to previous fair values received from valuation service providers or brokers or derived from internal models. We perform procedures to understand and assess the methodologies, processes and controls of valuation service providers. In addition, we may validate the reasonableness of fair values by comparing information obtained from

valuation service providers or brokers to other third party valuation sources for selected securities. We perform ongoing price validation procedures such as back-testing of actual sales, which corroborate the various inputs used in internal models to market observable data. When fair value determinations are expected to be more variable, we validate them through reviews by members of management who have relevant expertise and who are independent of those charged with executing investment transactions.

We also perform an analysis to determine whether there has been a significant decrease in the volume and level of activity for the asset when compared to normal market activity, and if so, whether transactions may not be orderly. Among the indicators we consider in determining whether a significant decrease in the volume and level of market activity for a specific asset has occurred include the level of new issuances in the primary market, trading volume in the secondary market, level of credit spreads over historical levels, bid-ask spread, and price consensus among market participants and sources. If evidence indicates that prices are based on transactions that are not orderly, we place little, if any, weight on the transaction price and will estimate fair value using an internal model. As of December 31, 2018 and 2017, we did not adjust fair values provided by our valuation service providers or brokers or substitute them with an internal model for such securities.

Fixed income, equity securities and short-term investments by source of fair value determination

(\$ in millions)	December 31, 2018	
	Fair value	Percent to total
Fair value based on internal sources	\$ 3,138	4.8%
Fair value based on external sources ⁽¹⁾	62,095	95.2
Total	\$ 65,233	100.0%

(1) Includes \$379 million that are valued using broker quotes and \$268 million that are valued using quoted prices or quoted net asset values from deal sponsors.

For additional detail on fair value measurements, see Note 6 of the consolidated financial statements.

Impairment of fixed income securities For fixed income securities classified as available-for-sale, the difference between fair value and amortized cost, net of certain other items and deferred income taxes (as disclosed in Note 5 of the consolidated financial statements), is reported as a component of AOCI on the Consolidated Statements of Financial Position and is not reflected in the operating results of any period until reclassified to net income upon the consummation of a transaction with an unrelated third party or when a write-down is recorded due to an other-than-temporary decline in fair value. We have a comprehensive portfolio monitoring process to identify and evaluate each fixed income security whose carrying value may be other-than-temporarily impaired.

For each fixed income security in an unrealized loss position, we assess whether management with the appropriate authority has made the decision to sell or

whether it is more likely than not we will be required to sell the security before recovery of the amortized cost basis for reasons such as liquidity, contractual or regulatory purposes. If a security meets either of these criteria, the security's decline in fair value is considered other than temporary and is recorded in earnings.

If we have not made the decision to sell the fixed income security and it is not more likely than not we will be required to sell the fixed income security before recovery of its amortized cost basis, we evaluate whether we expect to receive cash flows sufficient to recover the entire amortized cost basis of the security. We use our best estimate of future cash flows expected to be collected from the fixed income security, discounted at the security's original or current effective rate, as appropriate, to calculate a recovery value and determine whether a credit loss exists. The determination of cash flow estimates is inherently subjective and methodologies may vary depending on facts and circumstances specific to the security. All reasonably available information relevant to the

collectability of the security, including past events, current conditions, and reasonable and supportable assumptions and forecasts, is considered when developing the estimate of cash flows expected to be collected. That information generally includes, but is not limited to, the remaining payment terms of the security, prepayment speeds, foreign exchange rates, the financial condition and future earnings potential of the issue or issuer, expected defaults, expected recoveries, the value of underlying collateral, vintage, geographic concentration, available reserves or escrows, current subordination levels, third party guarantees and other credit enhancements. Other information, such as industry analyst reports and forecasts, sector credit ratings, financial condition of the bond insurer for insured fixed income securities, and other market data relevant to the realizability of contractual cash flows, may also be considered. The estimated fair value of collateral will be used to estimate recovery value if we determine that the security is dependent on the liquidation of collateral for ultimate settlement. If the estimated recovery value is less than the amortized cost of the security, a credit loss exists and an other-than-temporary impairment for the difference between the estimated recovery value and amortized cost is recorded in earnings. The portion of the unrealized loss related to factors other than credit remains classified in AOCI. If we determine that the fixed income security does not have sufficient cash flow or other information to estimate a recovery value for the security, we may conclude that the entire decline in fair value is deemed to be credit related and the loss is recorded in earnings.

Once assumptions and estimates are made, any number of changes in facts and circumstances could cause us to subsequently determine that a fixed income security is other-than-temporarily impaired, including: 1) general economic conditions that are worse than previously forecast or that have a greater adverse effect on a particular issuer or industry sector than originally estimated; 2) changes in the facts and circumstances related to a particular issue or issuer's ability to meet all of its contractual obligations; and 3) changes in facts and circumstances that result in management's decision to sell or result in our assessment that it is more likely than not we will be required to sell before recovery of the amortized cost basis. Changes in assumptions, facts and circumstances could result in additional charges to earnings in future periods to the extent that losses are realized. The charge to earnings, while potentially significant to net income, would not have a significant effect on shareholders' equity, since our fixed income securities are designated as available-for-sale and carried at fair value and as a result, any related unrealized loss, net of deferred income taxes and related DAC, deferred sales inducement costs and reserves for life-contingent contract benefits, would already be reflected as a component of AOCI in shareholders' equity.

The determination of the amount of other-than-temporary impairment is an inherently subjective process based on periodic evaluations of the factors described above. Such evaluations and assessments

are revised as conditions change and new information becomes available. We update our evaluations regularly and reflect changes in other-than-temporary impairments in our results of operations as such evaluations are revised. The use of different methodologies and assumptions in the determination of the amount of other-than-temporary impairments may have a material effect on the amounts recognized and presented within the consolidated financial statements.

For additional detail on investment impairments, see Note 5 of the consolidated financial statements.

Deferred policy acquisition costs amortization We incur significant costs in connection with acquiring insurance policies and investment contracts. In accordance with GAAP, costs that are related directly to the successful acquisition of new or renewal insurance policies and investment contracts are deferred and recorded as an asset on the Consolidated Statements of Financial Position.

DAC related to property and casualty contracts is amortized into income as premiums are earned, typically over periods of six or twelve months for personal lines policies or generally one to five years for protection plans and other contracts (primarily related to finance and insurance products).

DAC related to traditional life and voluntary accident and health insurance is amortized over the premium paying period of the related policies in proportion to the estimated revenues on such business. Significant assumptions relating to estimated premiums, investment returns, as well as mortality, persistency and expenses to administer the business are established at the time the policy is issued and are generally not revised during the life of the policy. The assumptions for determining the timing and amount of DAC amortization are consistent with the assumptions used to calculate the reserve for life-contingent contract benefits. Any deviations from projected business in force resulting from actual policy terminations differing from expected levels and any estimated premium deficiencies may result in a change to the rate of amortization in the period such events occur. Generally, the amortization periods for these policies approximate the estimated lives of the policies. The recovery of DAC is dependent upon the future profitability of the business. We periodically review the adequacy of reserves and recoverability of DAC for these policies using actual experience and current assumptions. Prior to fourth quarter 2017, we evaluated our traditional life insurance products and immediate annuities with life contingencies on an aggregate basis. In conjunction with the segment changes that occurred in the fourth quarter of 2017, traditional life insurance products, immediate annuities with life contingencies, and voluntary accident and health insurance products are reviewed individually. In the event actual experience and current assumptions are adverse compared to the original assumptions and a premium deficiency is determined to exist, any remaining unamortized DAC balance must be expensed to the extent not recoverable and a premium deficiency reserve may be required if the remaining

DAC balance is insufficient to absorb the deficiency. In 2018, 2017 and 2016, our reviews concluded that no premium deficiency adjustments were necessary. For additional detail on reserve adequacy, see the Reserve for life-contingent contract benefits estimation section.

DAC related to interest-sensitive life insurance is amortized in proportion to the incidence of the total present value of gross profits, which includes both actual historical gross profits ("AGP") and estimated future gross profits ("EGP") expected to be earned over the estimated lives of the contracts. The amortization is net of interest on the prior period DAC balance using rates established at the inception of the contracts. Actual amortization periods generally range from 15-30 years; however, incorporating estimates of the rate of customer surrenders, partial withdrawals and deaths generally results in the majority of the DAC being amortized during the surrender charge period, which is typically 10-20 years for interest-sensitive life. The rate of DAC amortization is reestimated and adjusted by a cumulative charge or credit to income when there is a difference between the incidence of actual versus expected gross profits in a reporting period or when there is a change in total EGP.

AGP and EGP primarily consist of the following components: contract charges for the cost of insurance less mortality costs and other benefits (benefit margin); investment income and realized capital gains and losses less interest credited (investment margin); and surrender and other contract charges less maintenance expenses (expense margin). The principal assumptions for determining the amount of EGP are mortality, persistency, expenses, investment returns, including capital gains and losses on assets supporting contract liabilities, interest crediting rates to contractholders, and the effects of any hedges, and these assumptions are reasonably likely to have the greatest impact on the amount of DAC amortization. Changes in these assumptions can be offsetting and we are unable to reasonably predict their future movements or offsetting impacts over time.

Each reporting period, DAC amortization is recognized in proportion to AGP for that period adjusted for interest on the prior period DAC balance.

This amortization process includes an assessment of AGP compared to EGP, the actual amount of business remaining in force and realized capital gains and losses on investments supporting the product liability. The impact of realized capital gains and losses on amortization of DAC depends upon which product liability is supported by the assets that give rise to the gain or loss. If the AGP is greater than EGP in the period, but the total EGP is unchanged, the amount of DAC amortization will generally increase, resulting in a current period decrease to earnings. The opposite result generally occurs when the AGP is less than the EGP in the period, but the total EGP is unchanged. However, when DAC amortization or a component of gross profits for a quarterly period is potentially negative (which would result in an increase of the DAC balance) as a result of negative AGP, the specific facts and circumstances surrounding the potential negative amortization are considered to determine whether it is appropriate for recognition in the consolidated financial statements. Negative amortization is only recorded when the increased DAC balance is determined to be recoverable based on facts and circumstances. For products whose supporting investments are exposed to capital losses in excess of our expectations which may cause periodic AGP to become temporarily negative, EGP and AGP utilized in DAC amortization may be modified to exclude the excess capital losses.

Annually, we review and update the assumptions underlying the projections of EGP, including mortality, persistency, expenses, investment returns, comprising investment income and realized capital gains and losses, interest crediting rates and the effect of any hedges, using our experience and industry experience. At each reporting period, we assess whether any revisions to assumptions used to determine DAC amortization are required. These reviews and updates may result in amortization acceleration or deceleration, which are referred to as "DAC unlocking". If the update of assumptions causes total EGP to increase, the rate of DAC amortization will generally decrease, resulting in a current period increase to earnings. A decrease to earnings generally occurs when the assumption update causes the total EGP to decrease.

Effect on DAC amortization of changes in assumptions relating to gross profit components

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Investment margin	\$ 10	\$ 12	\$ (1)
Benefit margin	(11)	(23)	1
Expense margin	2	(2)	(2)
Net acceleration (deceleration)	\$ 1	\$ (13)	\$ (2)

In 2018, DAC amortization acceleration for changes in the investment margin component of EGP related to interest-sensitive life insurance and was due to lower projected investment returns. The deceleration related to benefit margin primarily related to interest-sensitive life insurance and was due to a decrease in projected mortality.

In 2017, DAC amortization acceleration for changes in the investment margin component of EGP related to interest-sensitive life insurance and was due to continued low interest rates and lower projected investment returns. The deceleration related to benefit margin primarily related to interest-sensitive life insurance and was due to a decrease in projected mortality.

In 2016, DAC amortization deceleration for changes in the investment margin component of EGP related to interest-sensitive life insurance and was due to increased projected investment margins from a favorable asset portfolio mix. The acceleration related to benefit margin primarily related to interest-sensitive life insurance and was due to lower than expected persistency on non-guaranteed products. The expense margin deceleration related primarily to

variable life insurance and was due to a decrease in projected expenses.

The following table displays the sensitivity of reasonably likely changes in assumptions included in the gross profit components of investment margin or benefit margin to amortization of the DAC balance as of December 31, 2018.

(\$ in millions)	Increase/(reduction)
Increase in future investment margins of 25 basis points	\$ 57
Decrease in future investment margins of 25 basis points	(63)
Decrease in future life mortality by 1%	\$ 15
Increase in future life mortality by 1%	(16)

Any potential changes in assumptions discussed above are measured without consideration of correlation among assumptions. Therefore, it would be inappropriate to add them together in an attempt to estimate overall variability in amortization.

For additional detail related to DAC, see the Allstate Life Segment section of the MD&A.

Evaluation of goodwill for impairment Goodwill represents the excess of amounts paid for acquiring businesses over the fair value of the net assets acquired, less any impairment of goodwill recognized. Our goodwill reporting units are equivalent to our reportable segments: Allstate Protection, Service Businesses, Allstate Life and Allstate Benefits to which goodwill has been assigned.

Goodwill by reporting unit

(\$ in millions)	As of December 31,	
	2018	2017
Allstate Protection	\$ 810	\$ 810
Service Businesses	1,449	1,100
Allstate Life	175	175
Allstate Benefits	96	96
Total	\$ 2,530	\$ 2,181

Goodwill is recognized when acquired and allocated to reporting units based on which unit is expected to benefit from the synergies of the business combination. Goodwill is not amortized but is tested for impairment at least annually. We perform our annual goodwill impairment testing during the fourth quarter of each year based upon data as of the close of the third quarter. We also review goodwill for impairment whenever events or changes in circumstances, such as deteriorating or adverse market conditions, indicate that it is more likely than not that the carrying amount of goodwill may exceed its implied fair value. Goodwill impairment is measured and recognized as the amount by which a reporting unit's carrying value, including goodwill, exceeds its fair value, not to exceed the carrying amount of goodwill allocated to the reporting unit. The goodwill impairment analysis is performed at the reporting unit level which is equal to our reportable segments. The fair value of our goodwill reporting units exceeded their carrying values.

Upon acquisition, the purchase price of the acquired business is assumed to be its fair value. Subsequently, we estimate the fair value of our businesses in each goodwill reporting unit, utilizing a combination of widely accepted valuation techniques including a stock price and market capitalization analysis, discounted cash flow ("DCF") calculations and an estimate of a business's fair value using market to book multiples derived from peer company analysis. The stock price and market capitalization analysis takes into consideration the quoted market price of our outstanding common stock and includes a control premium, derived from relevant historical acquisition activity, in determining the estimated fair value of the consolidated entity before allocating that fair value to individual reporting units. The DCF analysis utilizes long term assumptions for revenues, investment income, benefits, claims, other operating expenses and income taxes to produce projections of both income and cash flows available for dividends that are present valued using weighted average cost of capital. Market to book multiples represent the mean market to book multiple for selected peer companies with operations similar to our goodwill reporting units to which the multiple is applied. The outputs from these methods are weighted based on the nature of the business and the relative amount of market observable assumptions supporting the estimates. The computed values are then weighted to reflect the fair value estimate based on the specific attributes of each goodwill reporting unit.

Estimating the fair value of reporting units is a subjective process that involves the use of significant estimates by management. Changes in market inputs or other events impacting the fair value of these businesses, including discount rates, operating results, investment returns, strategies and growth rate assumptions or increases in the level of equity required to support these businesses, could result in goodwill impairments, resulting in a charge to income. Most of our goodwill reporting units are comprised of a combination of legacy and acquired businesses and as a result have substantial internally generated and unrecognized intangibles and fair values that significantly exceed their carrying values. Our Service Businesses goodwill reporting unit is more heavily comprised of newly acquired businesses and as

a result does not have a significant excess of fair value over its carrying value. Therefore, this reporting unit may be more susceptible to goodwill impairment based on changes to growth or margin assumptions.

The most significant assumptions utilized in the determination of the estimated fair value of the Service Businesses reporting unit are the earnings growth rate and discount rate. The growth rate utilized in our fair value estimates is consistent with our plans to grow these businesses rapidly over the near-term with more moderated growth rates in later years.

The discount rate, which is consistent with the weighted average cost of capital expected by a market participant, is based upon industry specific required rates of return, including consideration of both debt and equity components of the capital structure. Our discount rate may be impacted by changes in the risk free rate, cost of debt, equity risk premium and entity specific risks.

Changes in our growth assumptions, including the risk of loss of key customers, or adverse changes in the discount rates could result in a decline in fair value and result in a goodwill impairment charge.

Reserve for property and casualty insurance claims and claims expense estimation Reserves are established to provide for the estimated costs of paying claims and claims expenses under insurance policies we have issued. Underwriting results are significantly influenced by estimates of property and casualty insurance claims and claims expense reserves. These reserves are an estimate of amounts necessary to settle all outstanding claims, including IBNR, as of the financial statement date.

Characteristics of reserves Reserves are established independently of business segment management for each business segment and line of business based on estimates of the ultimate cost to settle claims, less losses that have been paid. The significant lines of business are auto, homeowners, and other personal lines for Allstate Protection, and asbestos, environmental, and other discontinued lines for Discontinued Lines and Coverages. Allstate Protection's claims are typically reported promptly with relatively little reporting lag between the date of occurrence and the date the loss is reported. Auto and homeowners liability losses generally take an average of about two years to settle, while auto physical damage, homeowners property and other personal lines have an average settlement time of less than one year. Discontinued Lines and Coverages involve long-tail losses, such as those related to asbestos and environmental claims, which often involve substantial reporting lags and extended times to settle.

Reserves are the difference between the estimated ultimate cost of losses incurred and the amount of paid losses as of the reporting date. Reserves are estimated for both reported and unreported claims, and include estimates of all expenses associated with processing and settling all incurred claims. We update most of our reserve estimates quarterly and as new information becomes available or as events emerge that may affect the

resolution of unsettled claims. Changes in prior reserve estimates (reserve reestimates), which may be material, are determined by comparing updated estimates of ultimate losses to prior estimates, with the differences recorded as property and casualty insurance claims and claims expense in the Consolidated Statements of Operations in the period such changes are determined. Estimating the ultimate cost of claims and claims expenses is an inherently uncertain and complex process involving a high degree of judgment and is subject to the evaluation of numerous variables.

The actuarial methods used to develop reserve estimates Reserve estimates are derived by using several different actuarial estimation methods that are variations on one primary actuarial technique. The actuarial technique is known as a "chain ladder" estimation process in which historical loss patterns are applied to actual paid losses and reported losses (paid losses plus individual case reserves established by claim adjusters) for an accident year or a report year to create an estimate of how losses are likely to develop over time. An accident year refers to classifying claims based on the year in which the claims occurred. A report year refers to classifying claims based on the year in which the claims are reported. Both classifications are used to prepare estimates of required reserves for payments to be made in the future. The key assumptions affecting our reserve estimates comprise data elements including claim counts, paid losses, case reserves, and development factors calculated with this data.

See Discontinued and Lines and Coverages reserve estimates section for specific disclosures of industry and actuarial best practices for this segment.

In the chain ladder estimation technique, a ratio (development factor) is calculated which compares current period results to results in the prior period for each accident year. A three-year or two-year average development factor, based on historical results, is usually multiplied by the current period experience to estimate the development of losses of each accident year into the next time period. The development factors for the future time periods for each accident year are compounded over the remaining future periods to calculate an estimate of ultimate losses for each accident year. The implicit assumption of this technique is that an average of historical development factors is predictive of future loss development, as the significant size of our experience database achieves a high degree of statistical credibility in actuarial projections of this type. The effects of inflation are implicitly considered in the reserving process, the implicit assumption being that a multi-year average development factor includes an adequate provision. The development factor estimation methodology may require modification when data changes due to changing claim reporting practices, changing claim settlement patterns, external regulatory or financial influences, or contractual coverage changes. In these situations, actuarial estimation techniques are applied to appropriately modify the "chain ladder" assumptions. These actuarial techniques are

necessary to analyze the effects of changing loss data to develop modified development factor selections. The actuarial estimation techniques include exclusion of unusual losses or aberrations and adjustment of historical data to present conditions. Actuarially modified patterns of development are calculated with the adjusted historical data. Actuarial judgment is then applied to make appropriate development factor assumptions needed to develop a best estimate of gross ultimate losses. These developments are discussed further in the Allstate brand loss ratio disclosures in the Allstate Protection Segment section of the MD&A.

How reserve estimates are established and updated Reserve estimates are developed at a very detailed level, and the results of these numerous micro-level best estimates are aggregated to form a consolidated reserve estimate. For example, over one thousand actuarial estimates of the types described above are prepared each quarter to estimate losses for each line of insurance, major components of losses (such as coverages and perils), major states or groups of states and for reported losses and IBNR. The actuarial methods described above are used to analyze the settlement patterns of claims by determining the development factors for specific data elements that are necessary components of a reserve estimation process. Development factors are calculated quarterly and periodically throughout the year for data elements such as claim counts reported and settled, paid losses, and paid losses combined with case reserves. The calculation of development factors from changes in these data elements also impacts claim severity trends. The historical development patterns for these data elements are used as the assumptions to calculate reserve estimates.

Often, several different estimates are prepared for each detailed component, incorporating alternative analyses of changing claim settlement patterns and other influences on losses, from which we select our best estimate for each component, occasionally incorporating additional analyses and actuarial judgment, as described above. These micro-level estimates are not based on a single set of assumptions. Actuarial judgments that may be applied to these components of certain micro-level estimates generally do not have a material impact on the consolidated level of reserves. Moreover, this detailed

micro-level process does not permit or result in a compilation of a company-wide roll up to generate a range of needed loss reserves that would be meaningful. Based on our review of these estimates, our best estimate of required reserves for each state/line/coverage component is recorded for each accident year, and the required reserves for each component are summed to create the reserve balance carried on our Consolidated Statements of Financial Position.

Reserves are reestimated quarterly and periodically throughout the year, by combining historical results with current actual results to calculate new development factors. This process continuously incorporates the historic and latest actual trends, and other underlying changes in the data elements used to calculate reserve estimates. New development factors are likely to differ from previous development factors used in prior reserve estimates because actual results (claims reported or settled, losses paid, or changes to case reserves) occur differently than the implied assumptions contained in the previous development factor calculations. If claims reported, paid losses, or case reserve changes are greater or less than the levels estimated by previous development factors, reserve reestimates increase or decrease. When actual development of these data elements is different than the historical development pattern used in a prior period reserve estimate, a new reserve is determined. The difference between indicated reserves based on new reserve estimates and recorded reserves (the previous estimate) is the amount of reserve reestimate and is recognized as an increase or decrease in claims and claims expense in the Consolidated Statements of Operations. Total net reserve reestimates, after-tax, impact on net income applicable to common shareholders were 10.0% favorable in 2018, 9.5% favorable in 2017 and 0.7% favorable in 2016. The 3-year average of net reserve reestimates as a percentage of total reserves was a favorable 1.9% for Allstate Protection, an unfavorable 6.8% for Discontinued Lines and Coverages and an unfavorable 2.5% for Service Businesses, each of these results being consistent within a reasonable actuarial tolerance for the respective businesses. A more detailed discussion of reserve reestimates is presented in the Claims and Claims Expense Reserves section of the MD&A.

Net claims and claims expense reserves by segment and line of business

(\$ in millions)	As of December 31,		
	2018	2017	2016
Allstate Protection			
Auto	\$ 14,378	\$ 14,051	\$ 13,530
Homeowners	2,157	2,205	1,989
Other lines	2,290	2,105	2,078
Total Allstate Protection	18,825	18,361	17,597
Discontinued Lines and Coverages			
Asbestos	866	884	912
Environmental	170	166	179
Other discontinued lines	355	357	354
Total Discontinued Lines and Coverages	1,391	1,407	1,445
Total Service Businesses	52	86	24
Total net claims and claims expense reserves	\$ 20,268	\$ 19,854	\$ 19,066

Allstate Protection reserve estimate

Factors affecting reserve estimates Reserve estimates are developed based on the processes and historical development trends described above. These estimates are considered in conjunction with known facts and interpretations of circumstances and factors including our experience with similar cases, actual claims paid, historical trends involving claim payment patterns and pending levels of unpaid claims, loss management programs, product mix and contractual terms, changes in law and regulation, judicial decisions, and economic conditions. When we experience changes of the type previously mentioned, we may need to apply actuarial judgment in the determination and selection of development factors considered more reflective of the new trends, such as combining shorter or longer periods of historical results with current actual results to produce development factors based on two-year, three-year, or longer development periods to reestimate our reserves. For example, if a legal change is expected to have a significant impact on the development of claim severity for a coverage which is part of a particular line of insurance in a specific state, actuarial judgment is applied to determine appropriate development factors that will most accurately reflect the expected impact on that specific estimate. Another example would be when a change in economic conditions is expected to affect the cost of repairs to damaged autos or property for a particular line, coverage, or state, actuarial judgment is applied to determine appropriate development factors to use in the reserve estimate that will most accurately reflect the expected impacts on severity development.

As claims are reported, for certain liability claims of sufficient size and complexity, the field adjusting staff establishes case reserve estimates of ultimate cost, based on their assessment of facts and circumstances related to each individual claim. For other claims which occur in large volumes and settle in a relatively short time frame, it is not practical or efficient to set case reserves for each claim, and a statistical case reserve is set for these claims based on estimation techniques described above. In the normal course of business, we may also supplement our claims processes by utilizing third party adjusters, appraisers, engineers, inspectors, and other professionals and information sources to

assess and settle catastrophe and non-catastrophe related claims.

Historically, the case reserves set by the field adjusting staff have not proven to be an entirely accurate estimate of the ultimate cost of claims. To provide for this, a development reserve is estimated using the processes described above, and allocated to pending claims as a supplement to case reserves. Typically, the case, including statistical case, and supplemental development reserves comprise about 90% of total reserves.

Another major component of reserves is IBNR, which comprises about 10% of total reserves. IBNR can be a small percentage of reserves for relatively short-term claims, such as auto physical damage claims, or a large percentage of reserves for claims that have uncertain payout requirements over a long period of time, such as auto injury and MCCA claims. All major components of reserves are affected by changes in claim frequency as well as claim severity.

Generally, the initial reserves for a new accident year are established based on actual claim frequency and severity assumptions for different business segments, lines and coverages based on historical relationships to relevant inflation indicators. Reserves for prior accident years are statistically determined using processes described above. Changes in auto claim frequency may result from changes in mix of business, the rate of distracted driving, miles driven or other macroeconomic factors. Changes in auto current year claim severity are generally influenced by inflation in the medical and auto repair sectors of the economy and the effectiveness and efficiency of our claim practices. We mitigate these effects through various loss management programs. Injury claims are affected largely by medical cost inflation while physical damage claims are affected largely by auto repair cost inflation and used car prices. For auto physical damage coverages, we monitor our rate of increase in average cost per claim against the auto maintenance, repair, parts and equipment price indices. We believe our claim settlement initiatives, such as improvements to the claim review and settlement process, the use of special investigative units to detect fraud and handle suspect claims, litigation management and defense strategies, as well as various other loss management

initiatives underway, contribute to the mitigation of injury and physical damage severity trends.

Changes in homeowners current year claim severity are generally influenced by inflation in the cost of building materials, the cost of construction and property repair services, the cost of replacing home furnishings and other contents, the types of claims that qualify for coverage, deductibles, other economic and environmental factors and the effectiveness and efficiency of our claim practices. We employ various loss management programs to mitigate the effect of these factors.

As loss experience for the current year develops for each type of loss, it is monitored relative to initial assumptions until it is judged to have sufficient statistical credibility. From that point in time and forward, reserves are reestimated using statistical actuarial processes to reflect the impact actual loss trends have on development factors incorporated into the actuarial estimation processes. Statistical credibility is usually achieved by the end of the first calendar year; however, when trends for the current accident year exceed initial assumptions sooner, they are usually determined to be credible, and reserves are increased accordingly.

The very detailed processes for developing reserve estimates, and the lack of a need and existence of a common set of assumptions or development factors, limits aggregate reserve level testing for variability of data elements. However, by applying standard actuarial methods to consolidated historic accident year loss data for major loss types, comprising auto injury losses, auto physical damage losses and homeowner losses, we develop variability analyses consistent with the way we develop reserves by measuring the potential variability of development factors, as described in the section titled "Potential Reserve Estimate Variability" below.

Causes of reserve estimate uncertainty Since reserves are estimates of unpaid portions of claims and claims expenses that have occurred, including IBNR losses, the establishment of appropriate reserves, including reserves for catastrophe losses, requires regular reevaluation and refinement of estimates to determine our ultimate loss estimate.

At each reporting date, the highest degree of uncertainty in estimates for most of our losses from ongoing businesses arise from claims remaining to be settled for the current accident year and the most recent preceding accident year. The greatest degree of uncertainty exists in the current accident year because the current accident year contains the greatest proportion of losses that have not been reported or settled but must be estimated as of the current reporting date. Most of these losses relate to damaged property such as automobiles and homes, and medical care for injuries from accidents. During the first year after the end of an accident year, a large portion of the total losses for that accident year are settled. When accident year losses paid through the end of the first year following the initial accident year are incorporated into updated actuarial estimates, the

trends inherent in the settlement of claims emerge more clearly. Consequently, this is the point in time at which we tend to make our largest reestimates of losses for an accident year. After the second year, the losses that we pay for an accident year typically relate to claims that are more difficult to settle, such as those involving serious injuries or litigation. Private passenger auto insurance provides a good illustration of the uncertainty of future loss estimates: our typical annual percentage payout of reserves remaining at December 31 for an accident year is approximately 45% in the first year after the end of the accident year, 20% in the second year, 15% in the third year, 10% in the fourth year, and the remaining 10% thereafter.

Reserves for catastrophe losses Catastrophe losses are an inherent risk of the property and casualty insurance industry that have contributed, and will continue to contribute, to potentially material year-to-year fluctuations in our results of operations and financial position. We define a "catastrophe" as an event that produces pre-tax losses before reinsurance in excess of \$1 million and involves multiple first party policyholders, or a winter weather event that produces a number of claims in excess of a preset, per-event threshold of average claims in a specific area, occurring within a certain amount of time following the event. Catastrophes are caused by various natural events including high winds, winter storms and freezes, tornadoes, hailstorms, wildfires, tropical storms, hurricanes, earthquakes and volcanoes. We are also exposed to man-made catastrophic events, such as certain types of terrorism or industrial accidents. The nature and level of catastrophes in any period cannot be reliably predicted.

The estimation of claims and claims expense reserves for catastrophe losses also comprises estimates of losses from reported claims and IBNR, primarily for damage to property. In general, our estimates for catastrophe reserves are based on claim adjuster inspections and the application of historical loss development factors as described above. However, depending on the nature of the catastrophe, the estimation process can be further complicated. For example, for hurricanes, complications could include the inability of insureds to promptly report losses, limitations placed on claims adjusting staff affecting their ability to inspect losses, determining whether losses are covered by our homeowners policy (generally for damage caused by wind or wind driven rain) or specifically excluded coverage caused by flood, estimating additional living expenses, and assessing the impact of demand surge, exposure to mold damage, and the effects of numerous other considerations, including the timing of a catastrophe in relation to other events, such as at or near the end of a financial reporting period, which can affect the availability of information needed to estimate reserves for that reporting period. In these situations, we may need to adapt our practices to accommodate these circumstances in order to determine a best estimate of our losses from a catastrophe. For example, to complete estimates for certain areas affected by catastrophes not yet inspected by our claims adjusting staff, or where we believed our historical loss

development factors were not predictive, we rely on analysis of actual claim notices received compared to total PIF, as well as visual, governmental and third party information, including aerial photos using drones and satellites, area observations, and data on wind speed and flood depth to the extent available.

Potential reserve estimate variability The aggregation of numerous micro-level estimates for each business segment, line of insurance, major components of losses (such as coverages and perils), and major states or groups of states for reported losses and IBNR forms the reserve liability recorded in the Consolidated Statements of Financial Position. Because of this detailed approach to developing our reserve estimates, there is not a single set of assumptions that determines our reserve estimates at the consolidated level. Given the numerous micro-level estimates for reported losses and IBNR, management does not believe the processes that we follow will produce a statistically credible or reliable actuarial reserve range that would be meaningful. Reserve estimates, by their very nature, are very complex to determine and subject to significant judgment, and do not represent an exact determination for each outstanding claim. Accordingly, as actual claims, paid losses, and/or case reserve results emerge, our estimate of the ultimate cost to settle will be different than previously estimated.

To develop a statistical indication of potential reserve variability within reasonably likely possible outcomes, an actuarial technique (stochastic modeling) is applied to the countrywide consolidated data elements for paid losses and paid losses combined with case reserves separately for injury losses, auto physical damage losses, and homeowners losses excluding catastrophe losses. Based on the combined historical variability of the development factors calculated for these data elements, an estimate of the standard error or standard deviation around these reserve estimates is calculated within each accident year for the last twelve years for each type of loss. The variability of these reserve estimates within one standard deviation of the mean (a measure of frequency of dispersion often viewed to be an acceptable level of accuracy) is believed by management to represent a reasonable and statistically probable measure of potential variability. Based on our products and coverages, historical experience, the statistical credibility of our extensive data and stochastic modeling of actuarial chain ladder methodologies used to develop reserve estimates, we estimate that the potential variability of our Allstate Protection reserves, excluding reserves for catastrophe losses, within a reasonable probability of other possible outcomes, may be approximately plus or minus 4%, or plus or minus \$750 million in net income applicable to common shareholders. A lower level of variability exists for auto injury losses, which comprise approximately 80% of reserves, due to their relatively stable development patterns over a longer duration of time required to settle claims. Other types of losses, such as auto physical damage, homeowners losses and other personal lines losses, which comprise about 20% of reserves, tend to have greater variability but are

settled in a much shorter period of time. Although this evaluation reflects most reasonably likely outcomes, it is possible the final outcome may fall below or above these amounts. Historical variability of reserve estimates is reported in the Claims and Claims Expense Reserves section of the MD&A.

Reserves for Michigan and New Jersey unlimited personal injury protection Claims and claims expense reserves include reserves for Michigan mandatory unlimited personal injury protection coverage to insureds involved in qualifying motor vehicle accidents. The administration of this program is through the MCCA, a state-mandated, non-profit association of which all insurers actively writing automobile coverage in Michigan are members.

The process employed to estimate MCCA covered losses involves a number of activities including the comprehensive review and interpretation of MCCA actuarial reports, other MCCA members' reports and our personal injury protection loss trends which have increased in severity over time. A significant portion of incurred claim reserves can be attributed to a small number of catastrophic claims and thus a large portion of the recoverable is similarly concentrated. We conduct comprehensive claim file reviews to develop case reserve type estimates of specific claims, which have increased our view of future claim development and longevity of claimants. Each year, we update the actuarial estimate of our ultimate reserves and recoverables. We report our paid and unpaid claims based on MCCA requirements. The MCCA has its own reserving estimates based on its own reserve methodologies, which may not align with our estimations. The MCCA does not provide member companies with its estimate of a company's claim costs. We continue to update each comprehensive claim file case reserve estimate when there is a significant change in the status of the claimant, or once every three years if there have been no significant changes.

We provide similar personal injury protection coverage in New Jersey for auto policies issued or renewed in New Jersey prior to 1991 that is administered by PLIGA. We use similar actuarial estimating techniques as for the MCCA exposures to estimate loss reserves for unlimited personal injury protection coverage for policies covered by PLIGA. We continue to update our estimates for these claims as the status of claimant's changes. However, unlimited coverage was no longer offered after 1991, therefore no new claimants are being added.

Reserve estimates are confidential and proprietary and by their nature are very complex to determine and subject to significant judgments. Reserve estimates do not represent an exact determination for each outstanding claim. Claims may be subject to litigation. As actual claims, paid losses and/or case reserve results emerge, our estimate of the ultimate cost to settle may be materially greater or less than previously estimated amounts.

Adequacy of reserve estimates We believe our net claims and claims expense reserves are appropriately

established based on available methodologies, facts, technology, laws and regulations. We calculate and record a single best reserve estimate, in conformance with generally accepted actuarial standards and practices, for each line of insurance, its components (coverages and perils) and state, for reported losses and for IBNR losses, and as a result we believe that no other estimate is better than our recorded amount. Due to the uncertainties involved, the ultimate cost of losses may vary materially from recorded amounts, which are based on our best estimates.

Discontinued Lines and Coverages reserve estimates

Characteristics of Discontinued Lines exposure Our exposure to asbestos, environmental and other discontinued lines claims arise principally from assumed reinsurance coverage written during the 1960s through the mid-1980s, including reinsurance on primary insurance written on large U.S. companies, and from direct excess commercial insurance written from 1972 through 1985, including substantial excess general liability coverages on large U.S. companies. Additional exposure stems from direct primary commercial insurance written during the 1960s through the mid-1980s. Asbestos claims relate primarily to bodily injuries asserted by claimants who were exposed to asbestos or products containing asbestos. Environmental claims relate primarily to pollution and related clean-up costs. Other discontinued lines exposures primarily relate to general liability and product liability mass tort claims, such as those for medical devices and other products, workers' compensation claims and claims for various other coverage exposures other than asbestos and environmental.

In 1986, the general liability policy form used by us and others in the property and casualty industry was amended to introduce an "absolute pollution exclusion," which excluded coverage for environmental damage claims, and to add an asbestos exclusion. Most general liability policies issued prior to 1987 contain annual aggregate limits for product liability coverage. General liability policies issued in 1987 and thereafter contain annual aggregate limits for product liability coverage and annual aggregate limits for all coverages. Our experience to date is that these policy form changes have limited the extent of our exposure to environmental and asbestos claim risks.

Our exposure to liability for asbestos, environmental and other discontinued lines losses manifests differently depending on whether it arises from assumed reinsurance coverage, direct excess commercial insurance or direct primary commercial insurance. The direct insurance coverage we provided that covered asbestos, environmental and other discontinued lines was substantially "excess" in nature.

Direct excess commercial insurance and reinsurance involve coverage written by us for specific layers of protection above retentions and other insurance plans. The nature of excess coverage and reinsurance provided to other insurers limits our exposure to loss to specific layers of protection in excess of policyholder retention on primary insurance

plans. Our exposure is further limited by the significant reinsurance that we had purchased on our direct excess business.

Our assumed reinsurance business involved writing generally small participations in other insurers' reinsurance programs. The reinsured losses in which we participate may be a proportion of all eligible losses or eligible losses in excess of defined retentions. The majority of our assumed reinsurance exposure, approximately 85%, is for excess of loss coverage, while the remaining 15% is for pro-rata coverage.

Our direct primary commercial insurance business did not include coverage to large asbestos manufacturers. This business comprises a cross section of policyholders engaged in many diverse business sectors throughout the country.

How reserve estimates are established and updated We conduct an annual review in the third quarter to evaluate and establish asbestos, environmental and other discontinued lines reserves. Changes to reserves are recorded in the reporting period in which they are determined. Using established industry and actuarial best practices and assuming no change in the regulatory or economic environment, this detailed and comprehensive methodology determines asbestos reserves based on assessments of the characteristics of exposure (i.e. claim activity, potential liability, jurisdiction, products versus non-products exposure) presented by individual policyholders, and determines environmental reserves based on assessments of the characteristics of exposure (i.e. environmental damages, respective shares of liability of potentially responsible parties, appropriateness and cost of remediation) to pollution and related clean-up costs. The number and cost of these claims are affected by advertising by trial lawyers seeking asbestos plaintiffs, and entities with asbestos exposure seeking bankruptcy protection as a result of asbestos liabilities, initially causing a delay in the reporting of claims, often followed by an acceleration and an increase in claims and claims expenses as settlements occur.

After evaluating our insureds' probable liabilities for asbestos and/or environmental claims, we evaluate our insureds' coverage programs for such claims. We consider our insureds' total available insurance coverage, including the coverage we issued. We also consider relevant judicial interpretations of policy language and applicable coverage defenses or determinations, if any.

Evaluation of both the insureds' estimated liabilities and our exposure to the insureds depends heavily on an analysis of the relevant legal issues and litigation environment. This analysis is conducted by our specialized claims adjusting staff and legal counsel. Based on these evaluations, case reserves are established by claims adjusting staff and actuarial analysis is employed to develop an IBNR reserve, which includes estimated potential reserve development and claims that have occurred but have not been reported. As of December 31, 2018 and 2017, IBNR was 50% and

53%, respectively, of combined net asbestos and environmental reserves.

For both asbestos and environmental reserves, we also evaluate our historical direct net loss and expense paid and incurred experience to assess any emerging trends, fluctuations or characteristics suggested by the aggregate paid and incurred activity.

Other Discontinued Lines and Coverages

Characteristics of other exposures Other mass torts includes direct excess commercial and

reinsurance general liability coverage provided for cumulative injury losses other than asbestos and environmental. Workers' compensation and commercial and other include run-off from discontinued direct primary, direct excess commercial and reinsurance commercial insurance operations of various coverage exposures other than asbestos and environmental. Reserves are based on considerations similar to those described above, as they relate to the characteristics of specific individual coverage exposures.

Reserves for other discontinued lines

(\$ in millions)	As of December 31,		
	2018	2017	2016
Other mass torts	\$ 148	\$ 150	\$ 142
Workers' compensation	69	73	76
Commercial and other	138	134	136
Other discontinued lines	\$ 355	\$ 357	\$ 354

Potential reserve estimate variability Establishing Discontinued Lines and Coverages net loss reserves for asbestos, environmental and other discontinued lines claims is subject to uncertainties that are much greater than those presented by other types of property and casualty claims. Among the complications are lack of historical data, long reporting delays, uncertainty as to the number and identity of insureds with potential exposure and unresolved legal issues regarding policy coverage; unresolved legal issues regarding the determination, availability and timing of exhaustion of policy limits; plaintiffs' evolving and expanding theories of liability; availability and collectability of recoveries from reinsurance; retrospectively determined premiums and other contractual agreements; estimates of the extent and timing of any contractual liability; the impact of bankruptcy protection sought by various asbestos producers and other asbestos defendants; and other uncertainties. There are also complex legal issues concerning the interpretation of various insurance policy provisions and whether those losses are covered, or were ever intended to be covered, and could be recoverable through retrospectively determined premium, reinsurance or other contractual agreements. Courts have reached different and sometimes inconsistent conclusions as to when losses are deemed to have occurred and which policies provide coverage; what types of losses are covered; whether there is an insurer obligation to defend; how policy limits are determined; how policy exclusions and conditions are applied and interpreted; and whether clean-up costs represent insured property damage. Our reserves for asbestos and environmental exposures could be affected by tort reform, class action litigation, and other potential legislation and judicial decisions. Environmental exposures could also be affected by a change in the existing federal Superfund law and similar state statutes. There can be no assurance that any reform legislation will be enacted or that any such legislation will provide for a fair, effective and cost-efficient system for settlement of asbestos or environmental claims. We believe these issues are not likely to be resolved in the near future, and the ultimate costs may vary materially from the

amounts currently recorded resulting in material changes in loss reserves. Historical variability of reserve estimates is demonstrated in the Claims and Claims Expense Reserves section of the MD&A.

Adequacy of reserve estimates Management believes its net loss reserves for environmental, asbestos and other discontinued lines exposures are appropriately established based on available facts, technology, laws, regulations, and assessments of other pertinent factors and characteristics of exposure (i.e. claim activity, potential liability, jurisdiction, products versus non-products exposure) presented by individual policyholders, assuming no change in the legal, legislative or economic environment. Due to the uncertainties and factors described above, management believes it is not practicable to develop a meaningful range for any such additional net loss reserves that may be required.

Further discussion of reserve estimates For further discussion of these estimates and quantification of the impact of reserve estimates, reserve reestimates and assumptions, see Notes 8 and 14 of the consolidated financial statements and the Claims and Claims Expense Reserves section of the MD&A.

Reserve for life-contingent contract benefits estimation Due to the long term nature of traditional life insurance, life-contingent immediate annuities and voluntary accident and health insurance products, benefits are payable over many years; accordingly, the reserves are calculated as the present value of future expected benefits to be paid, reduced by the present value of future expected net premiums. Long-term actuarial assumptions of future investment yields, mortality, morbidity, policy terminations and expenses are used when establishing the reserve for life-contingent contract benefits payable under these insurance policies. These assumptions, which for traditional life insurance are applied using the net level premium method, include provisions for adverse deviation and generally vary by characteristics such as type of coverage, year of issue and policy duration. Future investment yield assumptions are determined

based upon prevailing investment yields as well as estimated reinvestment yields. Mortality, morbidity and policy termination assumptions are based on our experience and industry experience. Expense assumptions include the estimated effects of inflation and expenses to be incurred beyond the premium-paying period. These assumptions are established at the time the policy is issued, are consistent with assumptions for determining DAC amortization for these policies, and are generally not changed during the policy coverage period. However, if actual experience emerges in a manner that is significantly adverse relative to the original assumptions, adjustments to DAC or reserves may be required resulting in a charge to earnings which could have a material effect on our operating results and financial condition.

We periodically review the adequacy of reserves and recoverability of DAC for these policies using actual experience and current assumptions. In the event actual experience and current assumptions are adverse compared to the original assumptions and a premium deficiency is determined to exist, any remaining unamortized DAC balance must be expensed to the extent not recoverable and the establishment of a premium deficiency reserve may be required.

Prior to fourth quarter 2017, we evaluated our traditional life insurance products and immediate annuities with life contingencies on an aggregate basis. In conjunction with the segment changes that occurred in the fourth quarter of 2017, traditional life insurance products, immediate annuities with life contingencies, and voluntary accident and health insurance are reviewed individually. In 2018, 2017 and 2016, our reviews concluded that no premium deficiency

adjustments were necessary. As of December 31, 2018, traditional life insurance and accident and health insurance both have a substantial sufficiency. As of December 31, 2018, there is marginal sufficiency in the evaluation of immediate annuities with life contingencies which has been adversely impacted primarily by sub-standard structured settlement mortality expectations. The sufficiency represents approximately 4% of applicable reserves for Allstate Annuities as of December 31, 2018. Additional reserves may be required in future periods if the evaluation results in a premium deficiency.

In 2016, we completed a mortality study for our structured settlement annuities with life contingencies. The study indicated that annuitants are living longer and receiving benefits for a longer period than originally estimated due to medical advances and access to medical care. The results of the study were included in the premium deficiency and profits followed by losses evaluations as of December 31, 2016, and no adjustments were recognized.

In 2016, there was a favorable change in the long-term investment yield assumptions due to investment strategy changes to increase performance-based investments and equity securities. The favorable impact of higher long-term investment yield assumptions more than offset the impact of unfavorable mortality assumptions. The investment strategy changes for immediate annuities are discussed further in the Allstate Annuities Segment section of the MD&A.

The following table displays the sensitivity of changes in the future investment yield assumption included in the annuity premium deficiency evaluation to the sufficiency balance as of December 31, 2018.

(\$ in millions)	Increase/(reduction) in sufficiency	Change in sufficiency as a percentage of applicable reserves
Increase in future investment yields of 25 basis points	\$198	3%
Decrease in future investment yields of 25 basis points	\$(205)	(3)%

We also review these policies for circumstances where projected profits would be recognized in early years followed by projected losses in later years. In 2018, 2017 and 2016, our reviews concluded that there were no projected losses following projected profits in each long-term projection.

We will continue to monitor the experience of our traditional life insurance and immediate annuities. We anticipate that mortality, investment and reinvestment yields, and policy terminations are the factors that would be most likely to require premium deficiency adjustments to these reserves or related DAC. Mortality rates and investment and reinvestment yields are the factors that would be most likely to require a profits followed by losses liability accrual.

For further detail on the reserve for life-contingent contract benefits, see Note 9 of the consolidated financial statements.

Regulation and Legal Proceedings

We are subject to extensive regulation and we are involved in various legal and regulatory actions, all of which have an effect on specific aspects of our business. For a detailed discussion of the legal and regulatory actions in which we are involved, see Note 14 of the consolidated financial statements.

Pending Accounting Standards

There are several pending accounting standards that we have not implemented because the implementation date has not yet occurred. For a discussion of these pending standards, see Note 2 of the consolidated financial statements.

The effect of implementing certain accounting standards on our financial results and financial condition is often based in part on market conditions at the time of implementation of the standard and other factors we are unable to determine prior to implementation. For this reason, we are sometimes unable to estimate the effect of certain pending accounting standards until the relevant authoritative body finalizes these standards or until we implement them.

Item 8. Financial Statements and Supplementary Data

Consolidated Financial Statements

	Page
Consolidated Statements of Operations	96
Consolidated Statements of Comprehensive Income	97
Consolidated Statements of Financial Position	98
Consolidated Statements of Shareholders' Equity	99
Consolidated Statements of Cash Flows	100

Notes to Consolidated Financial Statements

Note 1	General	101
Note 2	Summary of Significant Accounting Policies	101
Note 3	Acquisitions	120
Note 4	Reportable Segments	120
Note 5	Investments	125
Note 6	Fair Value of Assets and Liabilities	133
Note 7	Derivative Financial Instruments and Off-balance Sheet Financial Instruments	144
Note 8	Reserve for Property and Casualty Insurance Claims and Claims Expense	150
Note 9	Reserve for Life-Contingent Contract Benefits and Contractholder Funds	155
Note 10	Reinsurance and Indemnification	159
Note 11	Deferred Policy Acquisition and Sales Inducement Costs	166
Note 12	Capital Structure	167
Note 13	Company Restructuring	170
Note 14	Commitments, Guarantees and Contingent Liabilities	171
Note 15	Income Taxes	177
Note 16	Statutory Financial Information and Dividend Limitations	179
Note 17	Benefit Plans	180
Note 18	Equity Incentive Plans	187
Note 19	Supplemental Cash Flow Information	189
Note 20	Other Comprehensive Income	189
Note 21	Quarterly Results (unaudited)	190

Report of Independent Registered Public Accounting Firm

191

The Allstate Corporation and Subsidiaries
Consolidated Statements of Operations

(\$ in millions, except per share data)	Years Ended December 31,		
	2018	2017	2016
Revenues			
Property and casualty insurance premiums (net of reinsurance ceded and indemnification programs of \$1,016, \$971 and \$987)	\$ 34,048	\$ 32,300	\$ 31,307
Life premiums and contract charges (net of reinsurance ceded of \$290, \$303 and \$309)	2,465	2,378	2,275
Other revenue	939	883	865
Net investment income	3,240	3,401	3,042
Realized capital gains and losses:			
Total other-than-temporary impairment ("OTTI") losses	(13)	(146)	(313)
OTTI losses reclassified (from) to other comprehensive income ("OCI")	(1)	(4)	10
Net OTTI losses recognized in earnings	(14)	(150)	(303)
Sales and valuation changes on equity investments and derivatives	(863)	595	213
Total realized capital gains and losses	(877)	445	(90)
Total revenues	39,815	39,407	37,399
Costs and expenses			
Property and casualty insurance claims and claims expense (net of reinsurance ceded and indemnification programs of \$1,378, \$1,807 and \$1,116)	22,778	21,847	22,160
Life contract benefits (net of reinsurance ceded of \$240, \$179 and \$208)	1,973	1,923	1,857
Interest credited to contractholder funds (net of reinsurance ceded of \$24, \$25 and \$26)	654	690	726
Amortization of deferred policy acquisition costs	5,222	4,784	4,550
Operating costs and expenses	5,594	5,196	4,846
Pension and other postretirement remeasurement gains and losses	468	(217)	270
Amortization of purchased intangible assets	105	99	32
Restructuring and related charges	67	96	18
Goodwill impairment	—	125	—
Interest expense	332	335	295
Total costs and expenses	37,193	34,878	34,754
Gain on disposition of operations	6	20	5
Income from operations before income tax expense	2,628	4,549	2,650
Income tax expense	468	995	842
Net income	2,160	3,554	1,808
Preferred stock dividends	148	116	116
Net income applicable to common shareholders	\$ 2,012	\$ 3,438	\$ 1,692
Earnings per common share:			
Net income applicable to common shareholders per common share - Basic	\$ 5.78	\$ 9.50	\$ 4.54
Weighted average common shares - Basic	347.8	362.0	372.8
Net income applicable to common shareholders per common share - Diluted	\$ 5.70	\$ 9.35	\$ 4.48
Weighted average common shares - Diluted	353.2	367.8	377.3

See notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Consolidated Statements of Comprehensive Income

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net income	\$ 2,160	\$ 3,554	\$ 1,808
Other comprehensive (loss) income, after-tax			
Changes in:			
Unrealized net capital gains and losses	(754)	319	433
Unrealized foreign currency translation adjustments	(48)	45	9
Unamortized pension and other postretirement prior service credit	(59)	(52)	(33)
Other comprehensive (loss) income, after-tax	(861)	312	409
Comprehensive income	\$ 1,299	\$ 3,866	\$ 2,217

See notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Consolidated Statements of Financial Position

(\$ in millions, except par value data)	December 31,	
	2018	2017
Assets		
Investments		
Fixed income securities, at fair value (amortized cost \$57,134 and \$57,525)	\$ 57,170	\$ 58,992
Equity securities, at fair value (cost \$4,489 and \$5,461)	5,036	6,621
Mortgage loans	4,670	4,534
Limited partnership interests	7,505	6,740
Short-term, at fair value (amortized cost \$3,027 and \$1,944)	3,027	1,944
Other	3,852	3,972
Total investments	81,260	82,803
Cash	499	617
Premium installment receivables, net	6,154	5,786
Deferred policy acquisition costs	4,784	4,191
Reinsurance and indemnification recoverables, net	9,565	8,921
Accrued investment income	600	569
Property and equipment, net	1,045	1,072
Goodwill	2,530	2,181
Other assets	3,007	2,838
Separate Accounts	2,805	3,444
Total assets	\$ 112,249	\$ 112,422
Liabilities		
Reserve for property and casualty insurance claims and claims expense	\$ 27,423	\$ 26,325
Reserve for life-contingent contract benefits	12,208	12,549
Contractholder funds	18,371	19,434
Unearned premiums	14,510	13,473
Claim payments outstanding	1,007	875
Deferred income taxes	425	782
Other liabilities and accrued expenses	7,737	6,639
Long-term debt	6,451	6,350
Separate Accounts	2,805	3,444
Total liabilities	90,937	89,871
Commitments and Contingent Liabilities (Note 7, 8 and 14)		
Shareholders' equity		
Preferred stock and additional capital paid-in, \$1 par value, 25 million shares authorized, 79.8 thousand and 72.2 thousand issued and outstanding, \$1,995 and \$1,805 aggregate liquidation preference	1,930	1,746
Common stock, \$.01 par value, 2.0 billion shares authorized and 900 million issued, 332 million and 355 million shares outstanding	9	9
Additional capital paid-in	3,310	3,313
Retained income	44,033	41,579
Deferred Employee Stock Ownership Plan ("ESOP") expense	(3)	(3)
Treasury stock, at cost (568 million and 545 million shares)	(28,085)	(25,982)
Accumulated other comprehensive income:		
Unrealized net capital gains and losses:		
Unrealized net capital gains and losses on fixed income securities with OTTI	75	85
Other unrealized net capital gains and losses	(51)	1,981
Unrealized adjustment to DAC, DSI and insurance reserves	(26)	(404)
Total unrealized net capital gains and losses	(2)	1,662
Unrealized foreign currency translation adjustments	(49)	(1)
Unamortized pension and other postretirement prior service credit	169	228
Total accumulated other comprehensive income ("AOCI")	118	1,889
Total shareholders' equity	21,312	22,551
Total liabilities and shareholders' equity	\$ 112,249	\$ 112,422

See notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Consolidated Statements of Shareholders' Equity

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Preferred stock par value	\$ —	\$ —	\$ —
Preferred stock additional capital paid-in			
Balance, beginning of year	1,746	1,746	1,746
Preferred stock issuance	557	—	—
Preferred stock redemption	(373)	—	—
Balance, end of year	1,930	1,746	1,746
Common stock par value	9	9	9
Common stock additional capital paid-in			
Balance, beginning of year	3,313	3,303	3,245
Forward contract on accelerated share repurchase agreement	(105)	(45)	—
Equity incentive plans activity	102	55	58
Balance, end of year	3,310	3,313	3,303
Retained income			
Balance, beginning of year	41,579	39,009	37,813
Cumulative effect of change in accounting principle	1,088	—	—
Net income	2,160	3,554	1,808
Dividends on common stock (declared per share of \$1.84, \$1.48 and \$1.32)	(646)	(540)	(496)
Dividends on preferred stock	(148)	(116)	(116)
Reclassification of tax effects due to change in accounting principle	—	(328)	—
Balance, end of year	44,033	41,579	39,009
Deferred ESOP expense			
Balance, beginning of year	(3)	(6)	(13)
Payments	—	3	7
Balance, end of year	(3)	(3)	(6)
Treasury stock			
Balance, beginning of year	(25,982)	(24,741)	(23,620)
Shares acquired	(2,198)	(1,423)	(1,341)
Shares reissued under equity incentive plans, net	95	182	220
Balance, end of year	(28,085)	(25,982)	(24,741)
Accumulated other comprehensive income (loss)			
Balance, beginning of year	1,889	1,249	840
Cumulative effect of change in accounting principle	(910)	—	—
Change in unrealized net capital gains and losses	(754)	319	433
Change in unrealized foreign currency translation adjustments	(48)	45	9
Unamortized pension and other postretirement prior service credit	(59)	(52)	(33)
Reclassification of tax effects due to change in accounting principle	—	328	—
Balance, end of year	118	1,889	1,249
Total shareholders' equity	\$ 21,312	\$ 22,551	\$ 20,569

See notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Consolidated Statements of Cash Flows

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Cash flows from operating activities			
Net income	\$ 2,160	\$ 3,554	\$ 1,808
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and other non-cash items	511	483	382
Realized capital gains and losses	877	(445)	90
Pension and other postretirement remeasurement gains and losses	468	(217)	270
Gain on disposition of operations	(6)	(20)	(5)
Interest credited to contractholder funds	654	690	726
Goodwill impairment	—	125	—
Changes in:			
Policy benefits and other insurance reserves	469	302	631
Unearned premiums	915	463	362
Deferred policy acquisition costs	(296)	(214)	(165)
Premium installment receivables, net	(396)	(131)	(42)
Reinsurance recoverables, net	(656)	(211)	(264)
Income taxes	(380)	(52)	381
Other operating assets and liabilities	855	(13)	(181)
Net cash provided by operating activities	5,175	4,314	3,993
Cash flows from investing activities			
Proceeds from sales			
Fixed income securities	33,183	25,341	25,061
Equity securities	6,859	6,504	5,546
Limited partnership interests	764	1,125	881
Other investments	533	274	262
Investment collections			
Fixed income securities	3,466	4,194	4,533
Mortgage loans	529	600	501
Other investments	488	642	421
Investment purchases			
Fixed income securities	(36,960)	(31,145)	(27,990)
Equity securities	(5,936)	(6,585)	(5,950)
Limited partnership interests	(1,679)	(1,440)	(1,450)
Mortgage loans	(664)	(646)	(646)
Other investments	(864)	(999)	(885)
Change in short-term investments, net	(505)	2,610	(2,446)
Change in other investments, net	(98)	(30)	(51)
Purchases of property and equipment, net	(277)	(299)	(313)
Acquisition of operations	(558)	(1,356)	—
Net cash used in investing activities	(1,719)	(1,210)	(2,526)
Cash flows from financing activities			
Proceeds from issuance of long-term debt	498	—	1,236
Redemption and repayment of long-term debt	(400)	—	(17)
Proceeds from issuance of preferred stock	557	—	—
Redemption of preferred stock	(385)	—	—
Contractholder fund deposits	1,010	1,025	1,049
Contractholder fund withdrawals	(1,967)	(1,890)	(2,087)
Dividends paid on common stock	(614)	(525)	(486)
Dividends paid on preferred stock	(134)	(116)	(116)
Treasury stock purchases	(2,303)	(1,495)	(1,337)
Shares reissued under equity incentive plans, net	73	135	164
Excess tax benefits on share-based payment arrangements	—	—	32
Other	91	(57)	36
Net cash used in financing activities	(3,574)	(2,923)	(1,526)
Net (decrease) increase in cash	(118)	181	(59)

Cash at beginning of year	617	436	495
Cash at end of year	\$ 499	\$ 617	\$ 436

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Note 1 General

Basis of presentation

The accompanying consolidated financial statements include the accounts of The Allstate Corporation (the "Corporation") and its wholly owned subsidiaries, primarily Allstate Insurance Company ("AIC"), a property and casualty insurance company with various property and casualty and life and investment subsidiaries, including Allstate Life Insurance Company ("ALIC") (collectively referred to as the "Company" or "Allstate"). These consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). All significant intercompany accounts and transactions have been eliminated.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 ("Tax Legislation") became effective, permanently reducing the U.S. corporate income tax rate from 35% to 21% beginning January 1, 2018. As a result, the corporate tax rate is not comparable between periods.

Nature of operations

Allstate is engaged, principally in the United States, in the property and casualty insurance and life insurance businesses. Allstate is one of the country's largest personal property and casualty insurers and is organized into seven reportable segments: Allstate Protection, Discontinued Lines and Coverages, Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other.

Allstate's primary business is the sale of private passenger auto and homeowners insurance. The Company also offers several other personal property

and casualty insurance products, select commercial property and casualty coverages, consumer product protection plans, device and mobile data collection services and analytic solutions, roadside assistance, finance and insurance products, life insurance, voluntary accident and health insurance and identity protection. Allstate primarily distributes its products through exclusive agencies, financial specialists, independent agencies and brokers, major retailers, contact centers and the internet.

Risks and uncertainties

Allstate has exposure to catastrophes, an inherent risk of the property and casualty insurance business, which have contributed, and will continue to contribute, to material year-to-year fluctuations in the Company's results of operations and financial position (see Note 8). The nature and level of catastrophic loss caused by natural events (high winds, winter storms, tornadoes, hailstorms, wildfires, tropical storms, hurricanes, earthquakes and volcanoes) and man-made events (terrorism and industrial accidents) experienced in any period cannot be predicted and could be material to results of operations and financial position. The Company considers the greatest areas of potential catastrophe losses due to wildfires to generally be in the states of California, Colorado, Arizona and Texas. The Company considers the greatest areas of potential catastrophe losses due to hurricanes to generally be major metropolitan centers in counties along the eastern and gulf coasts of the United States. The Company considers the greatest areas of potential catastrophe losses due to hailstorms to generally be in the states of Texas, Illinois, Colorado and Georgia. The Company considers the greatest areas of potential catastrophe losses due to earthquakes and fires following earthquakes to be major metropolitan areas near fault lines in the states of California, Oregon, Washington, South Carolina, Missouri, Kentucky and Tennessee. The Company also has exposure to asbestos, environmental and other discontinued lines claims (see Notes 8 and 14).

Note 2 Summary of Significant Accounting Policies

Investments

Fixed income securities include bonds, asset-backed securities ("ABS"), residential mortgage-backed securities ("RMBS"), commercial mortgage-backed securities ("CMBS") and redeemable preferred stocks. Fixed income securities, which may be sold prior to their contractual maturity, are designated as available-for-sale and are carried at fair value. The difference between amortized cost and fair value, net of deferred income taxes and related life and annuity deferred policy acquisition costs ("DAC"), deferred sales inducement costs ("DSI") and reserves for life-contingent contract benefits, is reflected as a component of AOCI. Cash received from calls and make-whole payments is reflected as a component of

proceeds from sales and cash received from maturities and pay-downs is reflected as a component of investment collections within the Consolidated Statements of Cash Flows.

Equity securities primarily include common stocks, exchange traded and mutual funds, non-redeemable preferred stocks and real estate investment trust equity investments. Certain exchange traded and mutual funds have fixed income securities as their underlying investments. Equity securities are carried at fair value. Equity securities without readily determinable or estimable fair values are measured using the measurement alternative, which is cost less impairment, if any, and adjustments resulting from observable price changes in orderly transactions for

the identical or similar investment of the same issuer. The periodic change in fair value of equity securities is recognized within realized capital gains and losses on the Consolidated Statements of Operations effective January 1, 2018.

Mortgage loans are carried at unpaid principal balances, net of unamortized premium or discount and valuation allowances. Valuation allowances are established for impaired loans when it is probable that contractual principal and interest will not be collected.

Investments in limited partnership interests are primarily accounted for in accordance with the equity method of accounting ("EMA") and include interests in private equity funds, real estate funds and other funds. Investments in limited partnership interests purchased prior to January 1, 2018, where the Company's interest is so minor that it exercises virtually no influence over operating and financial policies, are accounted for at fair value primarily utilizing the net asset value ("NAV") as a practical expedient to determine fair value.

Short-term investments, including commercial paper, U.S. Treasury bills, money market funds and other short-term investments, are carried at fair value. Other investments primarily consist of bank loans, policy loans, real estate, agent loans and derivatives. Bank loans are primarily senior secured corporate loans and are carried at amortized cost. Policy loans are carried at unpaid principal balances. Real estate is carried at cost less accumulated depreciation. Agent loans are loans issued to exclusive Allstate agents and are carried at unpaid principal balances, net of valuation allowances and unamortized deferred fees or costs. Derivatives are carried at fair value.

Investment income primarily consists of interest, dividends, income from limited partnership interests, rental income from real estate, and income from certain derivative transactions. Interest is recognized on an accrual basis using the effective yield method and dividends are recorded at the ex-dividend date. Interest income for ABS, RMBS and CMBS is determined considering estimated pay-downs, including prepayments, obtained from third party data sources and internal estimates. Actual prepayment experience is periodically reviewed and effective yields are recalculated when differences arise between the prepayments originally anticipated and the actual prepayments received and currently anticipated. For ABS, RMBS and CMBS of high credit quality with fixed interest rates, the effective yield is recalculated on a retrospective basis. For all others, the effective yield is recalculated on a prospective basis. Accrual of income is suspended for other-than-temporarily impaired fixed income securities when the timing and amount of cash flows expected to be received is not reasonably estimable. Accrual of income is suspended for mortgage loans, bank loans and agent loans that are in default or when full and timely collection of principal and interest payments is not probable. Cash receipts on investments on nonaccrual status are generally recorded as a reduction of carrying value. Income from limited partnership interests carried at fair value is recognized based upon the changes in fair

value of the investee's equity primarily determined using NAV. Income from EMA limited partnership interests is recognized based on the Company's share of the partnerships' earnings. Income from EMA limited partnership interests is generally recognized on a three month delay due to the availability of the related financial statements from investees.

Realized capital gains and losses include gains and losses on investment sales, write-downs in value due to other-than-temporary declines in fair value, adjustments to valuation allowances on mortgage loans and agent loans, valuation changes of equity investments, including equity securities and certain limited partnerships where the underlying assets are predominately public equity securities, and periodic changes in fair value and settlements of certain derivatives including hedge ineffectiveness. Realized capital gains and losses on investment sales are determined on a specific identification basis.

Derivative and embedded derivative financial instruments

Derivative financial instruments include interest rate swaps, credit default swaps, futures (interest rate and equity), options (including swaptions), interest rate caps, warrants and rights, foreign currency swaps, foreign currency forwards, total return swaps and certain investment risk transfer reinsurance agreements. Derivatives required to be separated from the host instrument and accounted for as derivative financial instruments ("subject to bifurcation") are embedded in equity-indexed life and annuity contracts and reinsured variable annuity contracts.

All derivatives are accounted for on a fair value basis and reported as other investments, other assets, other liabilities and accrued expenses or contractholder funds. Embedded derivative instruments subject to bifurcation are also accounted for on a fair value basis and are reported together with the host contract. The change in fair value of derivatives embedded in life and annuity product contracts and subject to bifurcation is reported in life and annuity contract benefits or interest credited to contractholder funds. Cash flows from embedded derivatives subject to bifurcation and derivatives receiving hedge accounting are reported consistently with the host contracts and hedged risks, respectively, within the Consolidated Statements of Cash Flows. Cash flows from other derivatives are reported in cash flows from investing activities within the Consolidated Statements of Cash Flows.

When derivatives meet specific criteria, they may be designated as accounting hedges and accounted for as fair value, cash flow, foreign currency fair value or foreign currency cash flow hedges. The hedged item may be either all or a specific portion of a recognized asset, liability or an unrecognized firm commitment attributable to a particular risk for fair value hedges. At the inception of the hedge, the Company formally documents the hedging relationship and risk management objective and strategy. The documentation identifies the hedging

instrument, the hedged item, the nature of the risk being hedged and the methodology used to assess the effectiveness of the hedging instrument in offsetting the exposure to changes in the hedged item's fair value attributable to the hedged risk. For a cash flow hedge, this documentation includes the exposure to changes in the variability in cash flows attributable to the hedged risk. The Company does not exclude any component of the change in fair value of the hedging instrument from the effectiveness assessment. At each reporting date, the Company confirms that the hedging instrument continues to be highly effective in offsetting the hedged risk. Ineffectiveness in fair value hedges and cash flow hedges, if any, is reported in realized capital gains and losses.

Fair value hedges The change in fair value of hedging instruments used in fair value hedges of investment assets or a portion thereof is reported in net investment income, together with the change in fair value of the hedged items. The change in fair value of hedging instruments used in fair value hedges of contractholder funds liabilities or a portion thereof is reported in interest credited to contractholder funds, together with the change in fair value of the hedged items. Accrued periodic settlements on swaps are reported together with the changes in fair value of the related swaps in net investment income or interest credited to contractholder funds. The amortized cost for fixed income securities, the carrying value for mortgage loans or the carrying value of a designated hedged liability is adjusted for the change in fair value of the hedged risk.

Cash flow hedges For hedging instruments used in cash flow hedges, the changes in fair value of the derivatives representing the effective portion of the hedge are reported in AOCI. Amounts are reclassified to net investment income, realized capital gains and losses or interest expense as the hedged or forecasted transaction affects income. Accrued periodic settlements on derivatives used in cash flow hedges are reported in net investment income. The amount reported in AOCI for a hedged transaction is limited to the lesser of the cumulative gain or loss on the derivative less the amount reclassified to income, or the cumulative gain or loss on the derivative needed to offset the cumulative change in the expected future cash flows on the hedged transaction from inception of the hedge less the derivative gain or loss previously reclassified from AOCI to income. If the Company expects at any time that the loss reported in AOCI would lead to a net loss on the combination of the hedging instrument and the hedged transaction which may not be recoverable, a loss is recognized immediately in realized capital gains and losses. If an impairment loss is recognized on an asset or an additional obligation is incurred on a liability involved in a hedge transaction, any offsetting gain in AOCI is reclassified and reported together with the impairment loss or recognition of the obligation.

Termination of hedge accounting If, subsequent to entering into a hedge transaction, the derivative becomes ineffective (including if the hedged item is

sold or otherwise extinguished, the occurrence of a hedged forecasted transaction is no longer probable or the hedged asset becomes other-than-temporarily impaired), the Company may terminate the derivative position. The Company may also terminate derivative instruments or redesignate them as non-hedge as a result of other events or circumstances. If the derivative instrument is not terminated when a fair value hedge is no longer effective, the future gains and losses recognized on the derivative are reported in realized capital gains and losses. When a fair value hedge is no longer effective, is redesignated as non-hedge or when the derivative has been terminated, the fair value gain or loss on the hedged asset, liability or portion thereof previously recognized in income while the hedge was in place and used to adjust the amortized cost of hedged fixed income securities, carrying value of hedged mortgage loans or carrying value of a hedged liability, is amortized over the remaining life of the hedged asset, liability or portion thereof, and reflected in net investment income or interest credited to contractholder funds beginning in the period that hedge accounting is no longer applied. If the hedged item in a fair value hedge is an asset that has become other-than-temporarily impaired, the adjustment made to the amortized cost for fixed income securities or the carrying value for mortgage loans is subject to the accounting policies applied to other-than-temporarily impaired assets.

When a derivative instrument used in a cash flow hedge of an existing asset or liability is no longer effective or is terminated, the gain or loss recognized on the derivative is reclassified from AOCI to income as the hedged risk impacts income. If the derivative instrument is not terminated when a cash flow hedge is no longer effective, future gains and losses recognized on the derivative are reported in realized capital gains and losses. When a derivative instrument used in a cash flow hedge of a forecasted transaction is terminated because it is probable the forecasted transaction will not occur, the gain or loss recognized on the derivative is immediately reclassified from AOCI to realized capital gains and losses in the period that hedge accounting is no longer applied.

Non-hedge derivative financial instruments For derivatives for which hedge accounting is not applied, the income statement effects, including fair value gains and losses and accrued periodic settlements, are reported either in realized capital gains and losses or in a single line item together with the results of the associated asset or liability for which risks are being managed.

Securities loaned

The Company's business activities include securities lending transactions, which are used primarily to generate net investment income. The proceeds received in conjunction with securities lending transactions are reinvested in short-term investments or fixed income securities. These transactions are short-term in nature, usually 30 days or less.

The Company receives cash collateral for securities loaned in an amount generally equal to 102% and 105% of the fair value of domestic and foreign securities, respectively, and records the related obligations to return the collateral in other liabilities and accrued expenses. The carrying value of these obligations approximates fair value because of their relatively short-term nature. The Company monitors the market value of securities loaned on a daily basis and obtains additional collateral as necessary under the terms of the agreements to mitigate counterparty credit risk. The Company maintains the right and ability to repossess the securities loaned on short notice.

Recognition of premium revenues and contract charges, and related benefits and interest credited

Property and casualty insurance premiums include premiums from personal lines policies, protection plans, other contracts (primarily finance and insurance products) and roadside assistance.

Personal lines insurance premiums are deferred and earned on a pro-rata basis over the terms of the policies, typically periods of six or twelve months.

Revenues related to protection plans, other contracts (primarily finance and insurance products) and roadside assistance are deferred and earned over the term of the contract in a manner that recognizes revenue as obligations under the contracts are performed. Revenues from these products are classified as premiums as the products are backed by insurance. Protection plans and finance and insurance premiums are recognized using a cost-based incurrence method over the term of the contracts, which is generally over one to five years. Roadside assistance premiums are recognized evenly over the term of the contract as performance obligations are fulfilled.

The portion of premiums written applicable to the unexpired terms of the policies is recorded as unearned premiums. Premium installment receivables, net, represent premiums written and not yet collected, net of an allowance for uncollectible premiums. The Company regularly evaluates premium installment receivables and adjusts its valuation allowance as appropriate. The valuation allowance for uncollectible premium installment receivables was \$77 million as of both December 31, 2018 and 2017.

Traditional life insurance products consist principally of products with fixed and guaranteed premiums and benefits, primarily term and whole life insurance products. Voluntary accident and health insurance products are expected to remain in force for an extended period and therefore are primarily classified as long-duration contracts. Premiums from these products are recognized as revenue when due from policyholders. Benefits are reflected in contract benefits and recognized over the life of the policy in relation to premiums.

Immediate annuities with life contingencies, including certain structured settlement annuities, provide benefits over a period that extends beyond

the period during which premiums are collected. Premiums from these products are recognized as revenue when received at the inception of the contract. Benefits and expenses are recognized in relation to premiums. Profits from these policies come primarily from investment income, which is recognized over the life of the contract.

Interest-sensitive life contracts, such as universal life and single premium life, are insurance contracts whose terms are not fixed and guaranteed. The terms that may be changed include premiums paid by the contractholder, interest credited to the contractholder account balance and contract charges assessed against the contractholder account balance. Premiums from these contracts are reported as contractholder fund deposits. Contract charges consist of fees assessed against the contractholder account balance for the cost of insurance (mortality risk), contract administration and surrender of the contract prior to contractually specified dates. These contract charges are recognized as revenue when assessed against the contractholder account balance. Contract benefits include life-contingent benefit payments in excess of the contractholder account balance.

Contracts that do not subject the Company to significant risk arising from mortality or morbidity are referred to as investment contracts. Fixed annuities, including market value adjusted annuities, equity-indexed annuities and immediate annuities without life contingencies, are considered investment contracts. Consideration received for such contracts is reported as contractholder fund deposits. Contract charges for investment contracts consist of fees assessed against the contractholder account balance for maintenance, administration and surrender of the contract prior to contractually specified dates, and are recognized when assessed against the contractholder account balance.

Interest credited to contractholder funds represents interest accrued or paid on interest-sensitive life and investment contracts. Crediting rates for certain fixed annuities and interest-sensitive life contracts are adjusted periodically by the Company to reflect current market conditions subject to contractually guaranteed minimum rates. Crediting rates for indexed life and annuities and indexed funding agreements are generally based on a specified interest rate index or an equity index, such as the Standard & Poor's 500 Index ("S&P 500"). Interest credited also includes amortization of DSI expenses. DSI is amortized into interest credited using the same method used to amortize DAC.

Contract charges for variable life and variable annuity products consist of fees assessed against the contractholder account balances for contract maintenance, administration, mortality, expense and surrender of the contract prior to contractually specified dates. Contract benefits incurred for variable annuity products include guaranteed minimum death, income, withdrawal and accumulation benefits. Substantially all of the Company's variable annuity business is ceded through reinsurance

agreements and the contract charges and contract benefits related thereto are reported net of reinsurance ceded.

Other revenue presentation

Concurrent with the adoption of Financial Accounting Standards Board (“FASB”) guidance on revenue from contracts with customers and the Company’s objective of providing more information related to revenues for our Service Businesses, the Company revised the presentation of total revenue to include other revenue. Previously, components of other revenue were presented within operating costs and expenses and primarily represented fees collected from policyholders relating to premium installment payments, commissions on sales of non-proprietary products, fee-based services and other revenue transactions. Other revenue is recognized when performance obligations are fulfilled. Prior periods have been reclassified to conform to current separate presentation of other revenue.

Deferred policy acquisition and sales inducement costs

Costs that are related directly to the successful acquisition of new or renewal insurance policies and investment contracts are deferred and recorded as DAC. These costs are principally agency’s and brokers’ remuneration, premium taxes and certain underwriting expenses. DSI costs, which are deferred and recorded as other assets, relate to sales inducements offered on sales to new customers, principally on fixed annuity and interest-sensitive life contracts. These sales inducements are primarily in the form of additional credits to the customer’s account balance or enhancements to interest credited for a specified period which are in excess of the rates currently being credited to similar contracts without sales inducements. DSI is amortized into income using the same methodology and assumptions as DAC and is included in interest credited to contractholder funds. All other acquisition costs are expensed as incurred and included in operating costs and expenses.

For property and casualty insurance, DAC is amortized into income as premiums are earned, typically over periods of six or twelve months for personal lines policies or generally one to five years for protection plans and other contracts (primarily related to finance and insurance products), and is included in amortization of deferred policy acquisition costs. DAC associated with property and casualty insurance is periodically reviewed for recoverability and adjusted if necessary. Future investment income is considered in determining the recoverability of DAC.

For traditional life and voluntary accident and health insurance, DAC is amortized over the premium paying period of the related policies in proportion to the estimated revenues on such business. Assumptions used in the amortization of DAC and reserve calculations are established at the time the policy is issued and are generally not revised during the life of the policy. Any deviations from projected business in force resulting from actual policy terminations differing from expected levels and any

estimated premium deficiencies may result in a change to the rate of amortization in the period such events occur. Generally, the amortization periods for these policies approximates the estimated lives of the policies. The Company periodically reviews the recoverability of DAC for these policies using actual experience and current assumptions. Prior to fourth quarter 2017, the Company evaluated traditional life insurance products and immediate annuities with life contingencies on an aggregate basis. In conjunction with the segment changes that occurred in the fourth quarter of 2017, traditional life insurance products, immediate annuities with life contingencies, and voluntary accident and health insurance products are reviewed individually. If actual experience and current assumptions are adverse compared to the original assumptions and a premium deficiency is determined to exist, any remaining unamortized DAC balance would be expensed to the extent not recoverable and the establishment of a premium deficiency reserve may be required.

For interest-sensitive life insurance, DAC and DSI are amortized in proportion to the incidence of the total present value of gross profits, which includes both actual historical gross profits (“AGP”) and estimated future gross profits (“EGP”) expected to be earned over the estimated lives of the contracts. The amortization is net of interest on the prior period DAC balance using rates established at the inception of the contracts. Actual amortization periods generally range from 15-30 years; however, incorporating estimates of the rate of customer surrenders, partial withdrawals and deaths generally results in the majority of the DAC being amortized during the surrender charge period, which is typically 10-20 years for interest-sensitive life. The rate of DAC and DSI amortization is reestimated and adjusted by a cumulative charge or credit to income when there is a difference between the incidence of actual versus expected gross profits in a reporting period or when there is a change in total EGP. When DAC or DSI amortization or a component of gross profits for a quarterly period is potentially negative (which would result in an increase of the DAC or DSI balance) as a result of negative AGP, the specific facts and circumstances surrounding the potential negative amortization are considered to determine whether it is appropriate for recognition in the consolidated financial statements. Negative amortization is only recorded when the increased DAC or DSI balance is determined to be recoverable based on facts and circumstances. Recapitalization of DAC and DSI is limited to the originally deferred costs plus interest.

AGP and EGP primarily consist of the following components: contract charges for the cost of insurance less mortality costs and other benefits; investment income and realized capital gains and losses less interest credited; and surrender and other contract charges less maintenance expenses. The principal assumptions for determining the amount of EGP are mortality, persistency, expenses, investment returns, including capital gains and losses on assets supporting contract liabilities, interest crediting rates to contractholders, and the effects of any hedges. For

products whose supporting investments are exposed to capital losses in excess of the Company's expectations which may cause periodic AGP to become temporarily negative, EGP and AGP utilized in DAC and DSI amortization may be modified to exclude the excess capital losses.

The Company performs quarterly reviews of DAC and DSI recoverability for interest-sensitive life and fixed annuity contracts using current assumptions. If a change in the amount of EGP is significant, it could result in the unamortized DAC or DSI not being recoverable, resulting in a charge which is included as a component of amortization of deferred policy acquisition costs or interest credited to contractholder funds, respectively.

The DAC and DSI balances presented include adjustments to reflect the amount by which the amortization of DAC and DSI would increase or decrease if the unrealized capital gains or losses in the respective product investment portfolios were actually realized. The adjustments are recorded net of tax in AOCI. DAC, DSI and deferred income taxes determined on unrealized capital gains and losses and reported in AOCI recognize the impact on shareholders' equity consistently with the amounts that would be recognized in the income statement on realized capital gains and losses.

Customers of the Company may exchange one insurance policy or investment contract for another offered by the Company, or make modifications to an existing investment, life or property and casualty contract issued by the Company. These transactions are identified as internal replacements for accounting purposes. Internal replacement transactions determined to result in replacement contracts that are substantially unchanged from the replaced contracts are accounted for as continuations of the replaced contracts. Unamortized DAC and DSI related to the replaced contracts continue to be deferred and amortized in connection with the replacement contracts. For interest-sensitive life and investment contracts, the EGP of the replacement contracts are treated as a revision to the EGP of the replaced contracts in the determination of amortization of DAC and DSI. For traditional life and property and casualty insurance policies, any changes to unamortized DAC that result from replacement contracts are treated as prospective revisions. Any costs associated with the issuance of replacement contracts are characterized as maintenance costs and expensed as incurred. Internal replacement transactions determined to result in a substantial change to the replaced contracts are accounted for as an extinguishment of the replaced contracts, and any unamortized DAC and DSI related to the replaced contracts are eliminated with a corresponding charge to amortization of deferred policy acquisition costs or interest credited to contractholder funds, respectively.

The costs assigned to the right to receive future cash flows from certain business purchased from other insurers are also classified as DAC in the Consolidated Statements of Financial Position. The costs capitalized represent the present value of future

profits expected to be earned over the lives of the contracts acquired. These costs are amortized as profits emerge over the lives of the acquired business and are periodically evaluated for recoverability. The present value of future profits was \$45 million and \$47 million as of December 31, 2018 and 2017, respectively. Amortization expense of the present value of future profits was \$2 million, \$6 million and \$5 million in 2018, 2017 and 2016, respectively.

Reinsurance and Indemnification

Reinsurance In the normal course of business, the Company seeks to limit aggregate and single exposure to losses on large risks by purchasing reinsurance. The Company has also used reinsurance to effect the disposition of certain blocks of business. Reinsurance does not extinguish the Company's primary liability under the policies written. Therefore, the Company regularly evaluates the financial condition of its reinsurers, including their activities with respect to claim settlement practices and commutations, and establishes allowances for uncollectible reinsurance as appropriate.

Indemnification The Company also participates in various indemnification mechanisms, including industry pools and facilities, which are backed by the financial resources of the property and casualty insurance company market participants. Indemnification recoverables are considered collectible based on the industry pool and facility enabling legislation.

The amounts reported as reinsurance and indemnification recoverables include amounts billed to reinsurers and indemnitors on losses paid as well as estimates of amounts expected to be recovered from reinsurers and indemnitors on insurance liabilities and contractholder funds that have not yet been paid. Reinsurance and indemnification recoverables on unpaid losses are estimated based upon assumptions consistent with those used in establishing the liabilities related to the underlying contracts. Insurance liabilities are reported gross of reinsurance and indemnification recoverables. Reinsurance and indemnification premiums are generally reflected in income in a manner consistent with the recognition of premiums on the associated contracts. For catastrophe coverage, the cost of reinsurance premiums is recognized ratably over the contract period to the extent coverage remains available.

Goodwill

Goodwill represents the excess of amounts paid for acquiring businesses over the fair value of the net assets acquired, less any impairment of goodwill recognized. The Company's goodwill reporting units are equivalent to its reportable segments, Allstate Protection, Service Businesses, Allstate Life and

Allstate Benefits to which goodwill has been assigned.

Goodwill by reporting unit	As of December 31,	
	2018	2017
(\$ in millions)		
Allstate Protection	\$ 810	\$ 810
Service Businesses	1,449	1,100
Allstate Life	175	175
Allstate Benefits	96	96
Total	\$ 2,530	\$ 2,181

Goodwill is recognized when acquired and allocated to reporting units based on which unit is expected to benefit from the synergies of the business combination. Goodwill is not amortized but is tested for impairment at least annually. The Company performs its annual goodwill impairment testing during the fourth quarter of each year based upon data as of the close of the third quarter. Goodwill impairment is measured and recognized as the amount by which a reporting unit's carrying value, including goodwill, exceeds its fair value, not to exceed the carrying amount of goodwill allocated to the reporting unit. The Company also reviews goodwill for impairment whenever events or changes in circumstances, such as deteriorating or adverse market conditions, indicate that it is more likely than not that the carrying amount of goodwill may exceed its implied fair value. The goodwill impairment analysis is performed at the reporting unit level.

In fourth quarter 2017, the Company adopted new reportable segments, which required the Company to evaluate goodwill, including the allocation of goodwill to any new reporting units on a relative fair value basis. The reallocation was computed using fair values for the goodwill reporting units determined using discounted cash flow ("DCF") calculations and market to book multiples derived from a peer company analysis as described below. In conjunction with the reallocation of goodwill, the Company recognized \$125 million of goodwill impairment related to the goodwill allocated to the Allstate Annuities reporting unit reflecting a market-based valuation. The fair value of the Company's reporting units exceeded their carrying values.

Upon acquisition, the purchase price of the acquired business is assumed to be its fair value. Subsequently, the Company estimates the fair value of the businesses in each goodwill reporting unit, utilizing a combination of widely accepted valuation techniques including a stock price and market capitalization analysis, DCF calculations and an estimate of a business's fair value using market to book multiples derived from peer company analysis. The stock price and market capitalization analysis takes into consideration the quoted market price of the Company's outstanding common stock and includes a control premium, derived from relevant historical acquisition activity, in determining the estimated fair value of the consolidated entity before allocating that fair value to individual reporting units. The DCF analysis utilizes long term assumptions for revenues, investment income, benefits, claims, other operating expenses and income taxes to produce

projections of both income and cash flows available for dividends that are present valued using weighted average cost of capital. Market to book multiples represent the mean market to book multiple for selected peer companies with operations similar to the Company's goodwill reporting units to which the multiple is applied. The outputs from these methods are weighted based on the nature of the business and the relative amount of market observable assumptions supporting the estimates. The computed values are then weighted to reflect the fair value estimate based on the specific attributes of each goodwill reporting unit.

Estimating the fair value of reporting units is a subjective process that involves the use of significant estimates by management. Changes in market inputs or other events impacting the fair value of these businesses, including discount rates, operating results, investment returns, strategies and growth rate assumptions or increases in the level of equity required to support these businesses, could result in goodwill impairments, resulting in a charge to income. Most of the goodwill reporting units are comprised of a combination of legacy and acquired businesses and as a result have substantial internally generated and unrecognized intangibles and fair values that significantly exceed their carrying values. The Service Businesses goodwill reporting unit is more heavily comprised of newly acquired businesses and as a result does not have a significant excess of fair value over its carrying value. Therefore, this reporting unit may be more susceptible to goodwill impairment based on changes to growth or margin assumptions.

The most significant assumptions utilized in the determination of the estimated fair value of the Service Businesses reporting unit are the earnings growth rate and discount rate. The growth rate utilized by the Company for fair value estimates is consistent with plans to grow these businesses rapidly over the near-term with more moderated growth rates in later years.

The discount rate, which is consistent with the weighted average cost of capital expected by a market participant, is based upon industry specific required rates of return, including consideration of both debt and equity components of the capital structure. The discount rate may be impacted by changes in the risk free rate, cost of debt, equity risk premium and entity specific risks.

Changes in the Company's growth assumptions, including the risk of loss of key customers, or adverse changes in the discount rates could result in a decline in fair value and result in a goodwill impairment charge.

Intangible assets

Intangible assets (reported in other assets) consist of capitalized costs primarily related to acquired customer relationships, trade names and licenses, technology and other assets. The estimated useful lives of customer relationships, technology and other intangible assets are generally 10 years, 5 years and 7 years, respectively. Intangible assets are carried at

cost less accumulated amortization. Amortization expense is calculated using an accelerated amortization method. Amortization expense on intangible assets was \$105 million, \$99 million and \$32 million in 2018, 2017 and 2016, respectively. Accumulated amortization on intangible assets was \$572 million and \$467 million as of December 31, 2018 and 2017, respectively. Trade names and licenses are considered to have an indefinite useful life and are reviewed for impairment at least annually or more frequent if circumstances arise that indicate an impairment may have occurred. An impairment is recognized if the carrying amount of the asset exceeds its estimated fair value.

Intangible assets by type

(\$ in millions)	As of December 31,	
	2018	2017
Customers relationships	\$ 530	\$ 396
Trade names and licenses	143	143
Technology and other	40	17
Total	\$ 713	\$ 556

Property and equipment

Property and equipment is carried at cost less accumulated depreciation. Included in property and equipment are capitalized costs related to computer software licenses and software developed for internal use. These costs generally consist of certain external payroll and payroll related costs. Property and equipment depreciation is calculated using the straight-line method over the estimated useful lives of the assets, generally 3 to 10 years for equipment and 40 years for real property. Depreciation expense is reported in operating costs and expenses. Accumulated depreciation on property and equipment was \$2.41 billion and \$2.27 billion as of December 31, 2018 and 2017, respectively. Depreciation expense on property and equipment was \$299 million, \$290 million and \$267 million in 2018, 2017 and 2016, respectively. The Company reviews its property and equipment for impairment at least annually and whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

Income taxes

Income taxes are accounted for using the asset and liability method under which deferred tax assets and liabilities are recognized for temporary differences between the financial reporting and tax bases of assets and liabilities at the enacted tax rates. The principal assets and liabilities giving rise to such differences are DAC, unearned premiums, investments (including unrealized capital gains and losses) and insurance reserves. A deferred tax asset valuation allowance is established when it is more likely than not such assets will not be realized. The Company recognizes interest expense related to income tax matters in income tax expense and penalties in other expense.

Reserve for property and casualty insurance claims and claims expense

The reserve for property and casualty insurance claims and claims expense is the estimate of amounts necessary to settle all reported and unreported incurred claims for the ultimate cost of insured property and casualty losses, based upon the facts of each case and the Company's experience with similar cases. Estimated amounts of salvage and subrogation are deducted from the reserve for claims and claims expense. The establishment of appropriate reserves, including reserves for catastrophe losses, is an inherently uncertain and complex process. Reserve estimates are primarily derived using an actuarial estimation process in which historical loss patterns are applied to actual paid losses and reported losses (paid losses plus individual case reserves established by claim adjusters) for an accident or report year to create an estimate of how losses are likely to develop over time. Development factors are calculated quarterly and periodically throughout the year for data elements such as claims reported and settled, paid losses, and paid losses combined with case reserves. The historical development patterns for these data elements are used as the assumptions to calculate reserve estimates, including the reserves for reported and unreported claims. Reserve estimates are regularly reviewed and updated, using the most current information available. Any resulting reestimates are reflected in current results of operations.

Reserve for life-contingent contract benefits

The reserve for life-contingent contract benefits payable under insurance policies, including traditional life insurance, life-contingent immediate annuities and voluntary accident and health insurance products, is computed on the basis of long-term actuarial assumptions of future investment yields, mortality, morbidity, policy terminations and expenses. These assumptions, which for traditional life insurance are applied using the net level premium method, include provisions for adverse deviation and generally vary by characteristics such as type of coverage, year of issue and policy duration. The assumptions are established at the time the policy is issued and are generally not changed during the life of the policy. The Company periodically reviews the adequacy of reserves for these policies using actual experience and current assumptions. If actual experience and current assumptions are adverse compared to the original assumptions and a premium deficiency is determined to exist, any remaining unamortized DAC balance would be expensed to the extent not recoverable and the establishment of a premium deficiency reserve may be required. Prior to fourth quarter 2017, the Company evaluated traditional life insurance products and immediate annuities with life contingencies on an aggregate basis. In conjunction with the Company's segment changes that occurred in the fourth quarter of 2017, traditional life insurance products, immediate annuities with life contingencies, and voluntary accident and health insurance are reviewed individually. The Company also reviews these policies

for circumstances where projected profits would be recognized in early years followed by projected losses in later years. If this circumstance exists, the Company will accrue a liability, during the period of profits, to offset the losses at such time as the future losses are expected to commence using a method updated prospectively over time. To the extent that unrealized gains on fixed income securities would result in a premium deficiency if those gains were realized, the related increase in reserves for certain immediate annuities with life contingencies is recorded net of tax as a reduction of unrealized net capital gains included in AOCI.

Contractholder funds

Contractholder funds represent interest-bearing liabilities arising from the sale of products such as interest-sensitive life insurance, fixed annuities and funding agreements. Contractholder funds primarily comprise cumulative deposits received and interest credited to the contractholder less cumulative contract benefits, surrenders, withdrawals, maturities and contract charges for mortality or administrative expenses. Contractholder funds also include reserves for secondary guarantees on interest-sensitive life insurance and certain fixed annuity contracts and reserves for certain guarantees on reinsured variable annuity contracts.

Separate accounts

Separate accounts assets are carried at fair value. The assets of the separate accounts are legally segregated and available only to settle separate accounts contract obligations. Separate accounts liabilities represent the contractholders' claims to the related assets and are carried at an amount equal to the separate accounts assets. Investment income and realized capital gains and losses of the separate accounts accrue directly to the contractholders and therefore are not included in the Company's Consolidated Statements of Operations. Deposits to and surrenders and withdrawals from the separate accounts are reflected in separate accounts liabilities and are not included in consolidated cash flows.

Absent any contract provision wherein the Company provides a guarantee, variable annuity and variable life insurance contractholders bear the investment risk that the separate accounts' funds may not meet their stated investment objectives. Substantially all of the Company's variable annuity business was reinsured beginning in 2006.

Legal contingencies

The Company reviews its lawsuits, regulatory inquiries, and other legal proceedings on an ongoing basis. The Company establishes accruals for such matters at management's best estimate when the Company assesses that it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The Company's assessment of whether a loss is reasonably possible or probable is based on its assessment of the ultimate outcome of the matter following all appeals. The Company does not include potential recoveries in its estimates of

reasonably possible or probable losses. Legal fees are expensed as incurred.

Long-term debt

Long-term debt includes senior notes, senior debentures, subordinated debentures and junior subordinated debentures issued by the Corporation. Unamortized debt issuance costs are reported in long-term debt and are amortized over the expected period the debt will remain outstanding.

Deferred ESOP expense

Deferred ESOP expense represents the remaining unrecognized cost of shares acquired by the Allstate ESOP to pre-fund a portion of the Company's contribution to the Allstate 401(k) Savings Plan.

Equity incentive plans

The Company has equity incentive plans under which the Company grants nonqualified stock options, restricted stock units and performance stock awards ("equity awards") to certain employees and directors of the Company. The Company measures the fair value of equity awards at the award date and recognizes the expense over the shorter of the period in which the requisite service is rendered or retirement eligibility is attained. The expense for performance stock awards is adjusted each period to reflect the performance factor most likely to be achieved at the end of the performance period. The Company uses a binomial lattice model to determine the fair value of employee stock options.

Off-balance sheet financial instruments

Commitments to invest, commitments to purchase private placement securities, commitments to extend loans, financial guarantees and credit guarantees have off-balance sheet risk because their contractual amounts are not recorded in the Company's Consolidated Statements of Financial Position (see Notes 7 and 14).

Consolidation of variable interest entities ("VIEs")

The Company consolidates VIEs when it is the primary beneficiary. A primary beneficiary is the variable interest holder in a VIE with both the power to direct the activities of the VIE that most significantly impact the economic performance of the VIE and the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the VIE.

Foreign currency translation

The local currency of the Company's foreign subsidiaries is deemed to be the functional currency of the country in which these subsidiaries operate. The financial statements of the Company's foreign subsidiaries are translated into U.S. dollars at the exchange rate in effect at the end of a reporting period for assets and liabilities and at average exchange rates during the period for results of operations.

The unrealized gains and losses from the translation of the net assets are recorded as unrealized foreign currency translation adjustments and included in AOCI. Changes in unrealized foreign currency translation adjustments are included in OCI. Gains and losses from foreign currency transactions are reported in operating costs and expenses and have not been material.

Earnings per common share

Basic earnings per common share is computed using the weighted average number of common shares outstanding, including vested unissued participating restricted stock units. Diluted earnings per common share is computed using the weighted average number of common and dilutive potential common shares outstanding. For the Company, dilutive potential common shares consist of outstanding stock options and unvested non-participating restricted stock units and contingently issuable performance stock awards.

Computation of basic and diluted earnings per common share

(\$ in millions, except per share data)	For the years ended December 31,		
	2018	2017	2016
Numerator:			
Net income	\$ 2,160	\$ 3,554	\$ 1,808
Less: Preferred stock dividends	148	116	116
Net income applicable to common shareholders ⁽¹⁾	\$ 2,012	\$ 3,438	\$ 1,692
Denominator:			
Weighted average common shares outstanding	347.8	362.0	372.8
Effect of dilutive potential common shares:			
Stock options	3.6	4.3	3.2
Restricted stock units (non-participating) and performance stock awards	1.8	1.5	1.3
Weighted average common and dilutive potential common shares outstanding	353.2	367.8	377.3
Earnings per common share – Basic	\$ 5.78	\$ 9.50	\$ 4.54
Earnings per common share – Diluted	\$ 5.70	\$ 9.35	\$ 4.48

⁽¹⁾ Net income applicable to common shareholders is net income less preferred stock dividends.

The effect of dilutive potential common shares does not include the effect of options with an anti-dilutive effect on earnings per common share because their exercise prices exceed the average market price of Allstate common shares during the period or for which the unrecognized compensation cost would have an anti-dilutive effect. Outstanding options to purchase 2.0 million, 1.5 million and 3.8 million Allstate common shares in 2018, 2017 and 2016, respectively, were anti-dilutive and were not included in the computation of diluted earnings per common share under the treasury stock method.

Adopted accounting standards

Recognition and Measurement of Financial Assets and Financial Liabilities

Effective January 1, 2018, the Company adopted new FASB guidance requiring equity investments, including equity securities and limited partnership interests not accounted for under the equity method of accounting or that do not result in consolidation to be measured at fair value with changes in fair value recognized in net income. The guidance clarifies that an entity should evaluate the realizability of deferred tax assets related to available-for-sale fixed income securities in combination with the entity's other deferred tax assets. The Company's adoption of the new FASB guidance included adoption of the relevant elements of Technical Corrections and Improvements to Financial Instruments, issued in February 2018.

Upon adoption of the new guidance on January 1, 2018, \$1.16 billion of pre-tax unrealized net capital gains for equity securities were reclassified from AOCI to retained income. The after-tax change in accounting for equity securities did not affect the Company's total shareholders' equity and the unrealized net capital gains of \$910 million reclassified to retained income will never be recognized in net income.

Upon adoption of the new guidance on January 1, 2018, the carrying value of cost method limited partnership interests increased \$224 million pre-tax, to fair value. The after-tax cumulative-effect increase in retained income of \$177 million increased the Company's shareholders' equity but will never be recognized in net income thereby negatively impacting calculations of returns on equity.

Revenue from Contracts with Customers

Effective January 1, 2018, the Company adopted new FASB guidance which revises the criteria for revenue recognition. Insurance contracts are excluded from the scope of the new guidance. The Company's principal activities impacted by the new guidance are those related to the issuance of protection plans for consumer products and automobiles and service contracts that provide roadside assistance. Under the guidance, the transaction price is attributed to underlying performance obligations in the contract and revenue is recognized as the entity satisfies performance obligations and transfers control of a good or service to the customer. Incremental costs of obtaining a contract may be capitalized and amortized to the extent the entity expects to recover those costs.

Adoption of the guidance on January 1, 2018 under the modified retrospective approach resulted in the

recognition of an immaterial after-tax net cumulative effect increase to the beginning balance of retained income. In addition to the net cumulative effect, the Company also recorded in the Consolidated Statement of Financial Position an increase of approximately \$160 million pre-tax in unearned premiums with a corresponding \$160 million pre-tax increase in DAC for protection plans sold directly to retailers prior to January 1, 2018 for which SquareTrade Holding Company, Inc. ("SquareTrade") is deemed to be the principal in the transaction. This impact offsets fully and did not impact retained income at the date of adoption.

Presentation of Net Periodic Pension and Postretirement Benefits Costs

Effective January 1, 2018, the Company adopted new FASB guidance requiring identification, on the statement of operations or in disclosures, the line items in which the components of net periodic pension and postretirement benefits costs are presented. The new guidance permits only the service cost component to be eligible for capitalization where applicable. The adoption had no impact on the Company's results of operations or financial position.

Goodwill Impairment

In January 2017, the FASB issued guidance to simplify the accounting for goodwill impairment which removes the second step of the goodwill impairment test that requires a hypothetical purchase price allocation. Under the new guidance, goodwill impairment will be measured and recognized as the amount by which a reporting unit's carrying value, including goodwill, exceeds its fair value, not to exceed the carrying amount of goodwill allocated to the reporting unit. The revised guidance does not affect a reporting entity's ability to first assess qualitative factors by reporting unit to determine whether to perform the quantitative goodwill impairment test. The guidance is to be applied on a prospective basis, with the effects, if any, recognized in net income in the period of adoption. The Company elected to early adopt the new guidance as of January 1, 2018. The adoption had no impact on the Company's results of operations or financial position.

Pending accounting standards

Accounting for Leases

In February 2016, the FASB issued guidance revising the accounting for leases. Under the new guidance, lessees will be required to recognize a right-of-use ("ROU") asset and lease liability for all leases other than those with a term less than one year. The lease liability will be equal to the present value of lease payments. A ROU asset will be based on the lease liability adjusted for qualifying initial direct costs. The Company currently estimates that the recognition of the ROU asset and lease liability will result in an increase in both total assets and liabilities in the Consolidated Statement of Financial Position of approximately \$500 million. The new guidance requires sellers in a sale-leaseback transaction to recognize the entire gain from the sale of an

underlying asset at the time the sale is recognized rather than over the leaseback term. The carrying value of unrecognized gains on sale-leaseback transactions executed prior to January 1, 2019 are approximately \$20 million, after-tax, and will be recorded as an increase to retained income at adoption.

The expense of operating leases under the new guidance will be recognized in the income statement on a straight-line basis by adjusting the amortization of the ROU asset to produce a straight-line expense when combined with the interest expense on the lease liability. For finance leases, the expense components are computed separately and produce greater up-front expense compared to operating leases as interest expense on the lease liability is higher in early years and the ROU asset is amortized on a straight-line basis. Lease classification will be based on criteria similar to those currently applied. The accounting model for lessors will be similar to the current model with modifications to reflect definition changes for components such as initial direct costs. Lessors will continue to classify leases as operating, direct financing, or sales-type. The guidance is effective for reporting periods beginning after December 15, 2018, and will be implemented using the optional transition method that allows application of the transition provisions at the adoption date instead of the earliest date presented.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued guidance which revises the credit loss recognition criteria for certain financial assets measured at amortized cost, including reinsurance recoverables. The new guidance replaces the existing incurred loss recognition model with an expected loss recognition model. The objective of the expected credit loss model is for the reporting entity to recognize its estimate of expected credit losses for affected financial assets in a valuation allowance deducted from the amortized cost basis of the related financial assets that results in presenting the net carrying value of the financial assets at the amount expected to be collected. The reporting entity must consider all relevant information available when estimating expected credit losses, including details about past events, current conditions, and reasonable and supportable forecasts over the life of an asset. Financial assets may be evaluated individually or on a pooled basis when they share similar risk characteristics. The measurement of credit losses for available-for-sale debt securities measured at fair value is not affected except that credit losses recognized are limited to the amount by which fair value is below amortized cost and the carrying value adjustment is recognized through a valuation allowance and not as a direct write-down. The guidance is effective for reporting periods beginning after December 15, 2019, and for most affected instruments must be adopted using a modified retrospective approach, with a cumulative effect adjustment recorded to beginning retained income.

The Company is in the process of evaluating the impact of adoption.

Accounting for Hedging Activities

In August 2017, the FASB issued amendments intended to better align hedge accounting with an organization's risk management activities. The amendments expand hedge accounting for nonfinancial and financial risk components and revise the measurement methodologies to better align with an organization's risk management activities. Separate presentation of hedge ineffectiveness is eliminated to provide greater transparency of the full impact of hedging by requiring presentation of the results of the hedged item and hedging instrument in a single financial statement line item. In addition, the amendments are designed to reduce complexity by simplifying the manner in which assessments of hedge effectiveness may be performed. The guidance is effective for reporting periods beginning after December 15, 2018. The presentation and disclosure guidance is effective on a prospective basis. The impact of adoption is not expected to be material to the Company's results of operations or financial position.

Changes to the Disclosure Requirements for Deferred Benefit Plans

In August 2018, the FASB issued amendments to modify certain disclosure requirements for defined benefit plans. Disclosure additions relate to the weighted-average interest crediting rates for cash balance plans and other plans with interest crediting rates and explanations for significant gains and losses related to changes in the benefit obligation for the period. Disclosures to be removed include those that identify amounts that are expected to be reclassified out of AOCI and into the income statement in the coming year and the anticipated impact of a one-percentage point change in assumed health care cost trend rate on service and interest cost and on the accumulated benefit obligation. The amendments are effective for annual reporting periods beginning after December 15, 2020. The impacts of adoption are to the Company's disclosures only.

Accounting for Long-Duration Insurance Contracts

In August 2018, the FASB issued guidance revising the accounting for certain long-duration insurance contracts. The new guidance changes the measurement of the Company's reserves for traditional life, life-contingent immediate annuities and certain voluntary accident and health insurance products. Under the new guidance, measurement assumptions, including those for mortality, morbidity and policy terminations, will be required to be reviewed and updated at least annually. The effect of updating measurement assumptions other than the discount rate are required to be determined on a retrospective basis and reported in net income. In addition, cash flows under the new guidance are required to be discounted using an upper medium grade fixed income instrument yield that is updated through OCI at each reporting date. These changes will replace current GAAP, which utilizes assumptions

set at policy issuance until such time as the assumptions result in reserves that are deficient when compared to reserves computed using current assumptions. Under current GAAP, premium deficiency reserves are recognized in the amount of the deficiency, if any, computed using current assumptions.

The new guidance requires DAC and other capitalized balances currently amortized in proportion to premiums or gross profits to be amortized on a constant level basis over the expected term for all long-duration insurance contracts. DAC will not be subject to loss recognition testing but will be reduced when actual experience exceeds expected experience (i.e. as a result of unexpected contract terminations). The new guidance will no longer require adjustments to DAC and deferred sales inducement costs ("DSI") related to unrealized gains and losses on investment securities supporting the related business.

Market risk benefit product features are required to be measured at fair value with changes in fair value recorded in net income with the exception of changes in the fair value attributable to changes in the Company's own credit risk, which are required to be recognized in OCI. Substantially all of the Company's market risk benefits are reinsured and therefore these impacts are not expected to be material to the Company.

The new guidance is to be included in the comparable financial statements issued in reporting periods beginning after December 15, 2020, thereby requiring restatement of prior periods presented. Early adoption is permitted. The new guidance will be applied to affected contracts and DAC on the basis of existing carrying amounts at the earliest period presented or it may be applied retrospectively using actual historical experience as of contract inception. The new guidance for market risk benefits is required to be adopted retrospectively.

The Company is evaluating the anticipated impacts of applying the new guidance to both retained income and AOCI. While the requirements of the new guidance represent a material change from existing GAAP, the underlying economics of the business and related cash flows are unchanged. The Company has not completed its evaluation of the specific impacts of adopting the new guidance, but anticipates the financial statement impact of migrating from existing GAAP to that required by the new guidance to be material, largely attributed to the impact of transitioning from an original investment-based discount rate to one based on an upper-medium grade fixed income investment yield and updates to mortality assumptions that had previously been locked in at issuance. The Company expects the most significant impacts will occur in the run-off annuity segment. The revised accounting for DAC will be applied prospectively using the new model and any DAC effects existing in AOCI as a result of applying existing GAAP at the date of adoption will be reversed.

Change in accounting principle

The Company changed its accounting principle for recognizing actuarial gains and losses and expected return on plan assets for its pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized in earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. Previously, actuarial gains and losses and differences between the expected and actual returns on plan assets were recognized as a component of AOCI, and were subject to amortization into earnings in future periods. This change has been applied on a retrospective basis. The Company's policy is to remeasure its pension and postretirement plans on a quarterly basis.

Differences in actual experience or changes in assumptions affect our pension and other postretirement obligations, plan assets and expenses. The primary factors contributing to pension and other postretirement remeasurement gains and losses are 1) changes in the discount rate used to value pension and postretirement obligations as of the measurement date, 2) differences between the expected and the actual return on plan assets, 3) changes in demographic assumptions, including mortality, and 4) participant experience different from demographic assumptions.

The Company also changed its policy for recognizing expected returns on plan assets by eliminating the permitted accounting practice allowing the five-year smoothing of equity returns and moving to an unadjusted fair value method.

The Company believes that immediately recognizing remeasurement of projected benefit obligation and plan assets in earnings is preferable as it provides greater transparency of the Company's economic obligations in accounting results and better aligns with fair value accounting principles by recognizing the effects of economic and interest rate changes on pension and other postretirement plan assets and liabilities in the year in which the gains and losses are incurred. These changes have been applied on a retrospective basis and as of January 1, 2016 resulted in a cumulative effect decrease to retained income of \$1.60 billion, with a corresponding offset to AOCI and had an insignificant impact on total shareholders' equity.

Pension and other postretirement service cost, interest cost, expected return on plan assets and amortization of prior service credits are allocated to the Company's reportable segments. The pension and other postretirement remeasurement gains and losses are now reported in the Corporate and Other segment.

The impacts of the adjustments on the financial statements and reportable segments are summarized in the following tables.

Consolidated Statements of Operations

	Year Ended December 31, 2018		
	Previously reported	Impact of change	As adjusted
(\$ in millions, except per share data)			
Property and casualty insurance claims and claims expense	\$ 22,839	\$ (61)	\$ 22,778
Operating costs and expenses	5,869	(275)	5,594
Pension and other postretirement remeasurement gains and losses	—	468	468
Restructuring and related charges	83	(16)	67
Total costs and expenses	37,077	116	37,193
Income from operations before income tax expense	2,744	(116)	2,628
Income tax expense	492	(24)	468
Net income	2,252	(92)	2,160
Net income applicable to common shareholders	\$ 2,104	\$ (92)	\$ 2,012
Earnings per common share:			
Net income applicable to common shareholders per common share - Basic	\$ 6.05	\$ (0.27)	\$ 5.78
Net income applicable to common shareholders per common share - Diluted	\$ 5.96	\$ (0.26)	\$ 5.70

Consolidated Statements of Operations

(\$ in millions, except per share data)	Previously reported	Impact of change	As adjusted
	Year Ended December 31, 2017		
Property and casualty insurance claims and claims expense	\$ 21,929	\$ (82)	\$ 21,847
Operating costs and expenses	5,442	(246)	5,196
Pension and other postretirement remeasurement gains and losses	—	(217)	(217)
Restructuring and related charges	109	(13)	96
Total costs and expenses	35,436	(558)	34,878
Income from operations before income tax expense	3,991	558	4,549
Income tax expense	802	193	995
Net income	3,189	365	3,554
Net income applicable to common shareholders	\$ 3,073	\$ 365	\$ 3,438
Earnings per common share:			
Net income applicable to common shareholders per common share - Basic	\$ 8.49	\$ 1.01	\$ 9.50
Net income applicable to common shareholders per common share - Diluted	\$ 8.36	\$ 0.99	\$ 9.35
Year Ended December 31, 2016			
Property and casualty insurance claims and claims expense	\$ 22,221	\$ (61)	\$ 22,160
Operating costs and expenses	4,939	(93)	4,846
Pension and other postretirement remeasurement gains and losses	—	270	270
Restructuring and related charges	30	(12)	18
Total costs and expenses	34,650	104	34,754
Income from operations before income tax expense	2,754	(104)	2,650
Income tax expense	877	(35)	842
Net income	1,877	(69)	1,808
Net income applicable to common shareholders	\$ 1,761	\$ (69)	\$ 1,692
Earnings per common share:			
Net income applicable to common shareholders per common share - Basic	\$ 4.72	\$ (0.18)	\$ 4.54
Net income applicable to common shareholders per common share - Diluted	\$ 4.67	\$ (0.19)	\$ 4.48

Consolidated Statements of Shareholders' Equity

(\$ in millions)	Previously reported	Impact of change	As adjusted
	Year Ended December 31, 2018		
Retained income			
Balance, beginning of year	\$ 43,162	\$ (1,583)	\$ 41,579
Cumulative effect of change in accounting principle	1,088	—	1,088
Net income	2,252	(92)	2,160
Dividends on common stock (declared per share of \$1.84)	(646)	—	(646)
Dividends on preferred stock	(148)	—	(148)
Balance, end of year	45,708	(1,675)	44,033
Accumulated other comprehensive income (loss)			
Balance, beginning of year	306	1,583	1,889
Cumulative effect of change in accounting principle	(910)	—	(910)
Change in unrealized net capital gains and losses	(754)	—	(754)
Change in unrealized foreign currency translation adjustments	(55)	7	(48)
Change in unrecognized pension and other postretirement benefit cost ⁽¹⁾	(144)	85	(59)
Balance, end of year	\$ (1,557)	\$ 1,675	\$ 118
Year Ended December 31, 2017			
Retained income			
Balance, beginning of year	\$ 40,678	\$ (1,669)	\$ 39,009
Net income	3,189	365	3,554
Dividends on common stock (declared per share of \$1.48)	(540)	—	(540)
Dividends on preferred stock	(116)	—	(116)
Reclassification of tax effects due to change in accounting principle	(49)	(279)	(328)
Balance, end of year	43,162	(1,583)	41,579
Accumulated other comprehensive income (loss)			
Balance, beginning of year	(416)	1,665	1,249
Change in unrealized net capital gains and losses	319	—	319
Change in unrealized foreign currency translation adjustments	47	(2)	45
Change in unrecognized pension and other postretirement benefit cost ⁽¹⁾	307	(359)	(52)
Reclassification of tax effects due to change in accounting principle	49	279	328
Balance, end of year	\$ 306	\$ 1,583	\$ 1,889
Year Ended December 31, 2016			
Retained income			
Balance, beginning of year	\$ 39,413	\$ (1,600)	\$ 37,813
Net income	1,877	(69)	1,808
Dividends on common stock (declared per share of \$1.32)	(496)	—	(496)
Dividends on preferred stock	(116)	—	(116)
Balance, end of year	40,678	(1,669)	39,009
Accumulated other comprehensive income (loss)			
Balance, beginning of year	(755)	1,595	840
Change in unrealized net capital gains and losses	433	—	433
Change in unrealized foreign currency translation adjustments	10	(1)	9
Change in unrecognized pension and other postretirement benefit cost ⁽¹⁾	(104)	71	(33)
Balance, end of year	\$ (416)	\$ 1,665	\$ 1,249
Total shareholders' equity	\$ 20,573	\$ (4)	\$ 20,569

⁽¹⁾ Financial statement line item has been updated to "Change in unamortized pension and other postretirement prior service credit".

Consolidated Statements of Cash Flows

(\$ in millions)	Previously reported	Impact of change	As adjusted
	Year Ended December 31, 2018		
Cash flows from operating activities			
Net income	\$ 2,252	\$ (92)	\$ 2,160
Adjustments to reconcile net income to net cash provided by operating activities:			
Pension and other postretirement remeasurement gains and losses	—	468	468
Income taxes	(356)	(24)	(380)
Other operating assets and liabilities	1,207	(352)	855
Net cash provided by operating activities	\$ 5,175	\$ —	\$ 5,175
Year Ended December 31, 2017			
Cash flows from operating activities			
Net income	\$ 3,189	\$ 365	\$ 3,554
Adjustments to reconcile net income to net cash provided by operating activities:			
Pension and other postretirement remeasurement gains and losses	—	(217)	(217)
Income taxes	(245)	193	(52)
Other operating assets and liabilities	328	(341)	(13)
Net cash provided by operating activities	\$ 4,314	\$ —	\$ 4,314
Year Ended December 31, 2016			
Cash flows from operating activities			
Net income	\$ 1,877	\$ (69)	\$ 1,808
Adjustments to reconcile net income to net cash provided by operating activities:			
Pension and other postretirement remeasurement gains and losses	—	270	270
Income taxes	417	(36)	381
Other operating assets and liabilities	(16)	(165)	(181)
Net cash provided by operating activities	\$ 3,993	\$ —	\$ 3,993

Reportable segments financial performance

(\$ in millions)	Net income (loss) applicable to common shareholders			Underwriting income or Adjusted net income (loss) ⁽²⁾		
	For the years ended December 31,					
	Previously reported					
	2018	2017	2016	2018	2017	2016
Property-Liability ⁽¹⁾	\$ 2,341	\$ 2,587	\$ 1,661	\$ 2,097	\$ 2,012	\$ 1,220
Service Businesses	(85)	15	3	2	(59)	3
Allstate Life	254	577	219	289	253	247
Allstate Benefits	113	146	96	119	95	100
Allstate Annuities	75	418	76	130	204	101
Corporate and Other	(594)	(670)	(294)	(542)	(399)	(292)
Consolidated	\$ 2,104	\$ 3,073	\$ 1,761			
	Impact of change					
	2018	2017	2016	2018	2017	2016
Property-Liability	\$ 124	\$ 226	\$ 97	\$ 156	\$ 193	\$ 150
Service Businesses	6	8	2	6	5	2
Allstate Life	6	12	4	6	6	4
Allstate Benefits	5	8	3	5	5	3
Allstate Annuities	1	1	1	1	1	1
Corporate and Other	(234)	110	(176)	136	79	(1)
Consolidated	\$ (92)	\$ 365	\$ (69)			
	As adjusted					
	2018	2017	2016	2018	2017	2016
Property-Liability	\$ 2,465	\$ 2,813	\$ 1,758	\$ 2,253	\$ 2,205	\$ 1,370
Service Businesses	(79)	23	5	8	(54)	5
Allstate Life	260	589	223	295	259	251
Allstate Benefits	118	154	99	124	100	103
Allstate Annuities	76	419	77	131	205	102
Corporate and Other	(828)	(560)	(470)	(406)	(320)	(293)
Consolidated	\$ 2,012	\$ 3,438	\$ 1,692			

⁽¹⁾ Allstate Protection and Discontinued Lines and Coverages segments comprise Property-Liability.

⁽²⁾ The measure of segment profit or loss used in evaluating performance is underwriting income for the Allstate Protection and Discontinued Lines and Coverages segments while all other segments use adjusted net income (loss).

Note 3 Acquisitions

InfoArmor On October 5, 2018, the Company acquired InfoArmor, Inc. ("InfoArmor"), a leading provider of identity protection in the employee benefits market, for \$525 million in cash. InfoArmor primarily offers identity protection to employees and their family members through voluntary benefit programs at over 1,400 firms, including more than 100 of the Fortune 500 companies. Starting in the fourth quarter of 2018, the Service Businesses segment includes the results of InfoArmor.

In connection with the InfoArmor acquisition, the Company recorded goodwill of \$318 million and intangible assets of \$257 million. The intangible assets include \$225 million and \$32 million related to the acquired customer relationships and technology, respectively.

PlumChoice On November 30, 2018, the Company acquired PlumChoice, Inc. ("PlumChoice") for \$30 million in cash to provide technical support services to SquareTrade's customers and small businesses. In conjunction with the PlumChoice acquisition, the Company recorded goodwill of \$23 million.

SquareTrade On January 3, 2017, the Company acquired SquareTrade, a consumer product protection plan provider that distributes through many of America's major retailers and Europe's mobile operators, for \$1.40 billion in cash. SquareTrade provides protection plans covering a variety of consumer products including TVs, smartphones and computers. This acquisition broadened Allstate's unique product offerings to better meet consumers' needs.

In connection with the SquareTrade acquisition, the Company recorded goodwill of \$1.10 billion, commissions paid to retailers (reported in deferred

policy acquisition costs) of \$66 million, intangible assets (reported in other assets) of \$555 million, contractual liability insurance policy premium expenses (reported in other assets) of \$205 million, unearned premiums of \$389 million, and net deferred income tax liability of \$138 million. These amounts reflect re-measurement adjustments to the fair value of the opening balance sheet assets and liabilities.

Of the \$555 million assigned to intangible assets, \$465 million was attributable to acquired customer relationships. Intangible assets also included \$69 million assigned to the SquareTrade trade name which is considered to have an indefinite useful life. The amortization expense of intangible assets in 2018 and 2017 were \$94 million and \$92 million, respectively.

Amortization expense of intangible assets for the next five years and thereafter

(\$ in millions)	InfoArmor	SquareTrade
2019	\$ 50	\$ 72
2020	44	62
2021	38	52
2022	31	42
2023	25	34
Thereafter	56	50
Total amortization	\$ 244	\$ 312

Customer relationship valuation methodology The value of the customer relationships intangible asset was determined using an income approach that considered cash flows and profits expected to be generated by the acquired relationships, a discount rate reflecting the relative risk of achieving the anticipated cash flows and profits, the time value of money, and other factors.

Note 4 Reportable Segments

The Company's chief operating decision maker reviews financial performance and makes decisions about the allocation of resources based on the following seven reportable segments: Allstate Protection, Discontinued Lines and Coverages, Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other. These segments are described below and align with the Company's key product and service offerings.

Allstate Protection principally offers private passenger auto and homeowners insurance in the United States and Canada, with earned premiums accounting for 83% of Allstate's 2018 consolidated revenues. Allstate Protection is authorized to sell certain property and casualty products in all 50 states, the District of Columbia ("D.C."), Puerto Rico and Canada. For 2018, the top U.S. geographic locations for premiums earned by the Allstate Protection segment were Texas, California, New York and Florida. No other jurisdiction accounted for more than 5% of premium earned for Allstate Protection. Revenues from external customers generated outside the United

States were \$1.20 billion, \$1.13 billion and \$1.08 billion in 2018, 2017 and 2016, respectively.

Discontinued Lines and Coverages includes property and casualty insurance coverage that primarily relates to policies written during the 1960s through the mid-1980s. Our exposure to asbestos, environmental and other discontinued lines claims arises principally from direct excess commercial insurance, assumed reinsurance coverage, direct primary commercial insurance and other businesses in run-off.

Service Businesses comprise SquareTrade, Arity, InfoArmor, Allstate Roadside Services and Allstate Dealer Services and offer consumer product protection plans, device and mobile data collection services and analytic solutions, identity protection, roadside assistance, and finance and insurance products (including vehicle service contracts, guaranteed asset protection waivers, road hazard tire and wheel and paintless dent repair protection). The Service Businesses primarily operate in the U.S., with certain

businesses offering services in Europe, Canada and Puerto Rico. Revenues from external customers generated outside the United States relate to consumer product protection plans sold primarily in the European Union and were \$61 million and \$35 million in 2018 and 2017, respectively.

Allstate Life offers traditional, interest-sensitive and variable life insurance products. Allstate Life is authorized to sell life insurance products in all 50 states, D.C. and Puerto Rico. For 2018, the top geographic locations for statutory direct life insurance premiums were New York, California, Texas, Florida and Illinois. No other jurisdiction accounted for more than 5% of statutory direct life insurance premiums.

Allstate Benefits offers voluntary benefits products, including life, accident, critical illness, short-term disability and other health products. Allstate Benefits is authorized to sell its products in all 50 states, D.C., Puerto Rico, the U.S. Virgin Islands, Guam and Canada. For 2018, the top geographic locations for statutory direct accident and health insurance premiums were Florida, Texas, North Carolina and New York. No other jurisdiction accounted for more than 5% of statutory direct accident and health insurance premiums. Revenues from external customers generated outside the United States relate to voluntary accident and health insurance sold in Canada and were not material.

Allstate Annuities consists primarily of deferred fixed annuities and immediate annuities (including standard and sub-standard structured settlements). This segment is in run-off. The Company also previously offered institutional products consisting of funding agreements sold to unaffiliated trusts that used them to back medium-term notes. There were no institutional products outstanding as of December 31, 2018 or 2017.

Corporate and Other comprises holding company activities and certain non-insurance operations, including expenses associated with strategic initiatives.

Allstate Protection and Discontinued Lines and Coverages segments comprise Property-Liability. The Company does not allocate investment income, realized capital gains and losses, or assets to the Allstate Protection and Discontinued Lines and Coverages segments. Management reviews assets at the Property-Liability, Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other levels for decision-making purposes.

The accounting policies of the reportable segments are the same as those described in Note 2. The effects of intersegment transactions are eliminated in the segment results, except for services provided by Service Businesses to Allstate Protection that are not eliminated as management considers those transactions in assessing the results of the respective segments.

Change in accounting principle

As discussed in Note 2, the Company changed its accounting principle for recognizing actuarial gains and losses and expected return on plan assets for its pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized through earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. This change has been applied on a retrospective basis. See Note 2 for further information regarding the impact of the change in accounting principle on the consolidated financial statements.

Measuring segment profit or loss

The measure of segment profit or loss used in evaluating performance is underwriting income for the Allstate Protection and Discontinued Lines and Coverages segments and adjusted net income for the Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities, and Corporate and Other segments. A reconciliation of these measures to net income applicable to common shareholders is provided below.

Underwriting income is calculated as premiums earned and other revenue, less claims and claims expenses ("losses"), amortization of DAC, operating costs and expenses, and restructuring and related charges as determined using GAAP.

Adjusted net income is net income applicable to common shareholders, excluding:

- Realized capital gains and losses, after-tax, except for periodic settlements and accruals on non-hedge derivative instruments, which are reported with realized capital gains and losses but included in adjusted net income
- Pension and other postretirement remeasurement gains and losses, after-tax
- Valuation changes on embedded derivatives not hedged, after-tax
- Amortization of DAC and DSI, to the extent they resulted from the recognition of certain realized capital gains and losses or valuation changes on embedded derivatives not hedged, after-tax
- Business combination expenses and the amortization of purchased intangible assets, after-tax
- Gain (loss) on disposition of operations, after-tax
- Adjustments for other significant non-recurring, infrequent or unusual items, when (a) the nature of the charge or gain is such that it is reasonably unlikely to recur within two years, or (b) there has been no similar charge or gain within the prior two years

Reportable segments revenue information

	For the years ended December 31,		
(\$ in millions)	2018	2017	2016
Property-Liability			
Insurance premiums			
Auto	\$ 22,970	\$ 21,878	\$ 21,264
Homeowners	7,517	7,310	7,257
Other personal lines	1,808	1,750	1,700
Commercial lines	655	495	506
Allstate Protection	32,950	31,433	30,727
Discontinued Lines and Coverages	—	—	—
Total Property-Liability insurance premiums	32,950	31,433	30,727
Other revenue	738	703	688
Net investment income	1,464	1,478	1,253
Realized capital gains and losses	(639)	401	(6)
Total Property-Liability	34,513	34,015	32,662
Service Businesses			
Consumer product protection plans	503	295	—
Roadside assistance	263	268	310
Finance and insurance products	332	304	270
Intersegment premiums and service fees ⁽¹⁾	122	110	105
Other revenue	82	66	64
Net investment income	27	16	13
Realized capital gains and losses	(11)	—	—
Total Service Businesses	1,318	1,059	762
Allstate Life			
Traditional life insurance premiums	600	568	533
Accident and health insurance premiums	2	2	2
Interest-sensitive life insurance contract charges	713	710	715
Other revenue	119	114	113
Net investment income	505	489	482
Realized capital gains and losses	(14)	5	(38)
Total Allstate Life	1,925	1,888	1,807
Allstate Benefits			
Traditional life insurance premiums	44	42	40
Accident and health insurance premiums	980	928	857
Interest-sensitive life insurance contract charges	111	114	114
Net investment income	77	72	71
Realized capital gains and losses	(9)	1	(5)
Total Allstate Benefits	1,203	1,157	1,077
Allstate Annuities			
Fixed annuities contract charges	15	14	14
Net investment income	1,096	1,305	1,181
Realized capital gains and losses	(166)	44	(38)
Total Allstate Annuities	945	1,363	1,157
Corporate and Other			
Net investment income	71	41	42
Realized capital gains and losses	(38)	(6)	(3)
Total Corporate and Other	33	35	39
Intersegment eliminations ⁽¹⁾	(122)	(110)	(105)
Consolidated revenues	\$ 39,815	\$ 39,407	\$ 37,399

⁽¹⁾ Intersegment insurance premiums and service fees are primarily related to Arity and Allstate Roadside Services and are eliminated in the consolidated financial statements.

Reportable segments financial performance

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Property-Liability			
Allstate Protection	\$ 2,343	\$ 2,304	\$ 1,477
Discontinued Lines and Coverages	(90)	(99)	(107)
Total underwriting income	2,253	2,205	1,370
Net investment income	1,464	1,478	1,253
Income tax expense on operations	(747)	(1,187)	(865)
Realized capital gains and losses, after-tax	(500)	272	—
Gain on disposition of operations, after-tax	—	9	—
Tax Legislation (expense) benefit	(5)	36	—
Property-Liability net income applicable to common shareholders	2,465	2,813	1,758
Service Businesses			
Adjusted net income (loss)	8	(54)	5
Realized capital gains and losses, after-tax	(9)	—	—
Amortization of purchased intangible assets, after-tax	(74)	(60)	—
Tax Legislation (expense) benefit	(4)	137	—
Service Businesses net (loss) income applicable to common shareholders	(79)	23	5
Allstate Life			
Adjusted net income	295	259	251
Realized capital gains and losses, after-tax	(11)	2	(24)
DAC and DSI amortization related to realized capital gains and losses, after-tax	(8)	(10)	(4)
Tax Legislation (expense) benefit	(16)	338	—
Allstate Life net income applicable to common shareholders	260	589	223
Allstate Benefits			
Adjusted net income	124	100	103
Realized capital gains and losses, after-tax	(7)	—	(4)
DAC and DSI amortization related to realized capital gains and losses, after-tax	1	—	—
Tax Legislation benefit	—	54	—
Allstate Benefits net income applicable to common shareholders	118	154	99
Allstate Annuities			
Adjusted net income	131	205	102
Realized capital gains and losses, after-tax	(131)	28	(26)
Valuation changes on embedded derivatives not hedged, after-tax	3	—	(2)
Gain on disposition of operations, after-tax	4	4	3
Tax Legislation benefit	69	182	—
Allstate Annuities net income applicable to common shareholders	76	419	77
Corporate and Other			
Adjusted net loss	(406)	(320)	(293)
Realized capital gains and losses, after-tax	(30)	(4)	(2)
Pension and other postretirement remeasurement gains and losses, after-tax	(370)	141	(175)
Goodwill impairment	—	(125)	—
Business combination expenses, after-tax	(7)	(14)	—
Tax Legislation expense	(15)	(238)	—
Corporate and Other net loss applicable to common shareholders	(828)	(560)	(470)
Consolidated net income applicable to common shareholders	\$ 2,012	\$ 3,438	\$ 1,692

Additional significant financial performance data

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Amortization of DAC			
Property-Liability	\$ 4,475	\$ 4,205	\$ 4,053
Service Businesses	463	296	214
Allstate Life	132	134	131
Allstate Benefits	145	142	145
Allstate Annuities	7	7	7
Consolidated	\$ 5,222	\$ 4,784	\$ 4,550
Income tax expense (benefit)			
Property-Liability	\$ 613	\$ 1,285	\$ 859
Service Businesses	(19)	(194)	2
Allstate Life	75	(226)	94
Allstate Benefits	32	1	52
Allstate Annuities	(66)	(58)	36
Corporate and Other	(167)	187	(201)
Consolidated	\$ 468	\$ 995	\$ 842

Impacts of Tax Legislation

(\$ in millions)	Income tax expense (benefit) before Tax Legislation		Tax Legislation expense (benefit)		Income tax expense (benefit) after Tax Legislation	
	For the years ended December 31,					
	2018	2017	2018	2017	2018	2017
Income tax expense (benefit)						
Property-Liability	\$ 608	\$ 1,321	\$ 5	\$ (36)	\$ 613	\$ 1,285
Service Businesses	(23)	(57)	4	(137)	(19)	(194)
Allstate Life	59	112	16	(338)	75	(226)
Allstate Benefits	32	55	—	(54)	32	1
Allstate Annuities	3	124	(69)	(182)	(66)	(58)
Corporate and Other	(182)	(51)	15	238	(167)	187
Consolidated	\$ 497	\$ 1,504	\$ (29)	\$ (509)	\$ 468	\$ 995

Interest expense is primarily incurred in the Corporate and Other segment. Capital expenditures for long-lived assets are generally made in Property-Liability as the Company does not allocate assets to the Allstate Protection and Discontinued Lines and Coverages segments. A portion of these long-lived assets are used by entities included in the Service Businesses, Allstate Life, Allstate Benefits, Allstate Annuities and Corporate and Other segments and, accordingly, are charged to expenses in proportion to their use.

Reportable segment total assets and investments ⁽¹⁾

(\$ in millions)	As of December 31,	
	2018	2017
Assets		
Property-Liability	\$ 61,947	\$ 60,197
Service Businesses	5,473	4,531
Allstate Life	13,613	14,107
Allstate Benefits	2,822	2,766
Allstate Annuities	26,798	28,836
Corporate and Other	1,596	1,985
Consolidated	\$ 112,249	\$ 112,422
Investments		
Property-Liability	\$ 43,634	\$ 43,183
Service Businesses	1,203	954
Allstate Life	10,809	11,210
Allstate Benefits	1,809	1,776
Allstate Annuities	22,336	23,722
Corporate and Other	1,469	1,958
Consolidated	\$ 81,260	\$ 82,803

⁽¹⁾ The balances reflect the elimination of related party investments between segments.

Note 5 Investments**Amortized cost, gross unrealized gains (losses) and fair value for fixed income securities**

(\$ in millions)	Amortized cost	Gross unrealized		Fair value
		Gains	Losses	
December 31, 2018				
U.S. government and agencies	\$ 5,386	\$ 137	\$ (6)	\$ 5,517
Municipal	8,963	249	(43)	9,169
Corporate	40,536	490	(890)	40,136
Foreign government	739	13	(5)	747
ABS	1,049	6	(10)	1,045
RMBS	377	89	(2)	464
CMBS	63	8	(1)	70
Redeemable preferred stock	21	1	—	22
Total fixed income securities	\$ 57,134	\$ 993	\$ (957)	\$ 57,170
December 31, 2017				
U.S. government and agencies	\$ 3,580	\$ 56	\$ (20)	\$ 3,616
Municipal	8,053	311	(36)	8,328
Corporate	42,996	1,234	(204)	44,026
Foreign government	1,005	27	(11)	1,021
ABS	1,266	13	(7)	1,272
RMBS	480	101	(3)	578
CMBS	124	6	(2)	128
Redeemable preferred stock	21	2	—	23
Total fixed income securities	\$ 57,525	\$ 1,750	\$ (283)	\$ 58,992

Scheduled maturities for fixed income securities

(\$ in millions)	As of December 31, 2018	
	Amortized cost	Fair value
Due in one year or less	\$ 3,344	\$ 3,348
Due after one year through five years	27,862	27,742
Due after five years through ten years	17,033	16,773
Due after ten years	7,406	7,728
	55,645	55,591
ABS, RMBS and CMBS	1,489	1,579
Total	\$ 57,134	\$ 57,170

Actual maturities may differ from those scheduled as a result of calls and make-whole payments by the issuers. ABS, RMBS and CMBS are shown separately because of the potential for prepayment of principal prior to contractual maturity dates.

Net investment income

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Fixed income securities	\$ 2,077	\$ 2,078	\$ 2,060
Equity securities	170	174	137
Mortgage loans	217	206	217
Limited partnership interests ⁽¹⁾⁽²⁾	705	889	561
Short-term investments	73	30	16
Other	272	236	222
Investment income, before expense	3,514	3,613	3,213
Investment expense	(274)	(212)	(171)
Net investment income	\$ 3,240	\$ 3,401	\$ 3,042

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net investment income.

⁽²⁾ Includes net investment income of \$451 million for EMA limited partnership interests and \$254 million for limited partnership interests carried at fair value for 2018.

Realized capital gains (losses) by asset type

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Fixed income securities	\$ (237)	\$ 94	\$ (91)
Equity securities	(594)	255	23
Mortgage loans	2	1	—
Limited partnership interests	(101)	132	(21)
Derivatives	46	(46)	3
Other	7	9	(4)
Realized capital gains and losses	\$ (877)	\$ 445	\$ (90)

Realized capital gains (losses) by transaction type

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Impairment write-downs ⁽¹⁾	\$ (14)	\$ (102)	\$ (234)
Change in intent write-downs ⁽¹⁾	—	(48)	(69)
Net OTTI losses recognized in earnings	(14)	(150)	(303)
Sales ⁽¹⁾	(215)	641	213
Valuation of equity investments ⁽¹⁾⁽²⁾	(691)	—	—
Valuation and settlements of derivative instruments	43	(46)	—
Realized capital gains and losses	\$ (877)	\$ 445	\$ (90)

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, equity securities are reported at fair value with changes in fair value recognized in valuation of equity investments and are no longer included in impairment write-downs, change in intent write-downs and sales.

⁽²⁾ Includes valuation of equity securities and certain limited partnership interests where the underlying assets are predominately public equity securities.

Gross gains of \$120 million and gross losses of \$347 million were realized on sales of fixed income securities during 2018. Gross gains of \$737 million and \$631 million and gross losses of \$276 million and \$461 million were realized on sales of fixed income and equity securities during 2017 and 2016, respectively.

The following table presents the net pre-tax appreciation (decline) during 2018 of equity securities and limited partnership interests carried at fair value still held as of December 31, 2018, recognized in net income.

Net appreciation (decline) recognized in net income		For the year ended December 31, 2018	
(\$ in millions)			
Equity securities		\$	(261)
Limited partnership interests carried at fair value			249
Total		\$	(12)

OTTI losses by asset type

(\$ in millions)	For the years ended December 31,								
	2018			2017			2016		
	Gross	Included in OCI	Net	Gross	Included in OCI	Net	Gross	Included in OCI	Net
Fixed income securities:									
Municipal	\$ —	\$ —	\$ —	\$ (1)	\$ (3)	\$ (4)	\$ —	\$ —	\$ —
Corporate	(4)	2	(2)	(9)	3	(6)	(33)	9	(24)
ABS	(1)	(2)	(3)	(1)	(2)	(3)	(6)	—	(6)
RMBS	(1)	—	(1)	(2)	(3)	(5)	—	(1)	(1)
CMBS	(3)	(1)	(4)	(9)	1	(8)	(15)	2	(13)
Total fixed income securities	(9)	(1)	(10)	(22)	(4)	(26)	(54)	10	(44)
Equity securities ⁽¹⁾	—	—	—	(86)	—	(86)	(194)	—	(194)
Mortgage loans	—	—	—	(1)	—	(1)	—	—	—
Limited partnership interests ⁽¹⁾	(3)	—	(3)	(32)	—	(32)	(56)	—	(56)
Other	(1)	—	(1)	(5)	—	(5)	(9)	—	(9)
OTTI losses	\$ (13)	\$ (1)	\$ (14)	\$ (146)	\$ (4)	\$ (150)	\$ (313)	\$ 10	\$ (303)

⁽¹⁾ Due to the adoption of the recognition and measurement accounting standard, equity securities and limited partnerships previously reported using the cost method are now reported at fair value with changes in fair value recognized in net income and are no longer included in the table above.

OTTI losses included in AOCI at the time of impairment for fixed income securities which were not included in earnings

(\$ in millions)	December 31, 2018	December 31, 2017
Municipal	\$ (5)	\$ (5)
Corporate	(2)	—
ABS	(10)	(15)
RMBS	(67)	(77)
CMBS	(2)	(4)
Total	\$ (86)	\$ (101)

The amounts exclude \$180 million and \$208 million as of December 31, 2018 and 2017, respectively, of net unrealized gains related to changes in valuation of the fixed income securities subsequent to the impairment measurement date.

Rollforward of the cumulative credit losses recognized in earnings for fixed income securities held

(\$ in millions)	As of December 31,		
	2018	2017	2016
Beginning balance	\$ (226)	\$ (318)	\$ (392)
Additional credit loss for securities previously other-than-temporarily impaired	(7)	(18)	(21)
Additional credit loss for securities not previously other-than-temporarily impaired	(3)	(8)	(23)
Reduction in credit loss for securities disposed or collected	30	116	117
Change in credit loss due to accretion of increase in cash flows	2	2	1
Ending balance	\$ (204)	\$ (226)	\$ (318)

The Company uses its best estimate of future cash flows expected to be collected from the fixed income security, discounted at the security's original or current effective rate, as appropriate, to calculate a recovery value and determine whether a credit loss exists. The determination of cash flow estimates is inherently subjective and methodologies may vary depending on facts and circumstances specific to the security. All reasonably available information relevant to the collectability of the security, including past events, current conditions, and reasonable and supportable assumptions and forecasts, are considered when developing the estimate of cash flows expected to be collected. That information generally includes, but is not limited to, the remaining payment terms of the security, prepayment speeds, foreign exchange rates, the financial condition and future earnings potential of the issue or issuer, expected defaults, expected recoveries, the value of underlying collateral, vintage, geographic concentration of underlying collateral, available reserves or escrows, current subordination levels, third party guarantees and other credit

enhancements. Other information, such as industry analyst reports and forecasts, sector credit ratings, financial condition of the bond insurer for insured fixed income securities, and other market data relevant to the realizability of contractual cash flows, may also be considered. The estimated fair value of collateral will be used to estimate recovery value if the Company determines that the security is dependent on the liquidation of collateral for ultimate settlement. If the estimated recovery value is less than the amortized cost of the security, a credit loss exists and an OTTI for the difference between the estimated recovery value and amortized cost is recorded in earnings. The portion of the unrealized loss related to factors other than credit remains classified in AOCI. If the Company determines that the fixed income security does not have sufficient cash flow or other information to estimate a recovery value for the security, the Company may conclude that the entire decline in fair value is deemed to be credit related and the loss is recorded in earnings.

Unrealized net capital gains and losses included in AOCI

(\$ in millions)	December 31, 2018	Fair value	Gross unrealized		Unrealized net gains (losses)
			Gains	Losses	
Fixed income securities		\$ 57,170	\$ 993	\$ (957)	\$ 36
Short-term investments		3,027	—	—	—
Derivative instruments		—	—	(3)	(3)
EMA limited partnerships ⁽¹⁾		—	—	—	—
Unrealized net capital gains and losses, pre-tax					33
Amounts recognized for:					
Insurance reserves ⁽²⁾					—
DAC and DSI ⁽³⁾					(33)
Amounts recognized					(33)
Deferred income taxes					(2)
Unrealized net capital gains and losses, after-tax					\$ (2)

(1) Unrealized net capital gains and losses for limited partnership interests represent the Company's share of EMA limited partnerships' OCI. Fair value and gross unrealized gains and losses are not applicable.

(2) The insurance reserves adjustment represents the amount by which the reserve balance would increase if the net unrealized gains in the applicable product portfolios were realized and reinvested at lower interest rates, resulting in a premium deficiency. This adjustment primarily relates to structured settlement annuities with life contingencies (a type of immediate fixed annuities).

(3) The DAC and DSI adjustment balance represents the amount by which the amortization of DAC and DSI would increase or decrease if the unrealized gains or losses in the respective product portfolios were realized.

Unrealized net capital gains and losses included in AOCI

(\$ in millions)	December 31, 2017	Fair value	Gross unrealized		Unrealized net gains (losses)
			Gains	Losses	
Fixed income securities		\$ 58,992	\$ 1,750	\$ (283)	\$ 1,467
Equity securities		6,621	1,172	(12)	1,160
Short-term investments		1,944	—	—	—
Derivative instruments ⁽¹⁾		2	2	(3)	(1)
EMA limited partnerships		—	—	—	1
Unrealized net capital gains and losses, pre-tax					2,627
Amounts recognized for:					
Insurance reserves					(315)
DAC and DSI					(196)
Amounts recognized					(511)
Deferred income taxes					(454)
Unrealized net capital gains and losses, after-tax					\$ 1,662

(1) Included in the fair value of derivative instruments is \$2 million classified as liabilities.

Change in unrealized net capital gains (losses)

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Fixed income securities	\$ (1,431)	\$ 204	\$ 516
Equity securities ⁽¹⁾	—	651	233
Derivative instruments	(2)	(3)	(4)
EMA limited partnerships	(1)	5	—
Total	(1,434)	857	745
Amounts recognized for:			
Insurance reserves	315	(315)	—
DAC and DSI	163	(50)	(79)
Amounts recognized	478	(365)	(79)
Deferred income taxes	202	117	(233)
(Decrease) increase in unrealized net capital gains and losses, after-tax	\$ (754)	\$ 609	\$ 433

⁽¹⁾ Upon adoption of the recognition and measurement accounting standard on January 1, 2018, \$1.16 billion of pre-tax unrealized net capital gains for equity securities were reclassified from AOCI to retained income. See Note 2 for further details.

Portfolio monitoring

The Company has a comprehensive portfolio monitoring process to identify and evaluate each fixed income security whose carrying value may be other-than-temporarily impaired.

For each fixed income security in an unrealized loss position, the Company assesses whether management with the appropriate authority has made the decision to sell or whether it is more likely than not the Company will be required to sell the security before recovery of the amortized cost basis for reasons such as liquidity, contractual or regulatory purposes. If a security meets either of these criteria, the security's decline in fair value is considered other than temporary and is recorded in earnings.

If the Company has not made the decision to sell the fixed income security and it is not more likely than not the Company will be required to sell the fixed income security before recovery of its amortized cost basis, the Company evaluates whether it expects to receive cash flows sufficient to recover the entire amortized cost basis of the security. The Company calculates the estimated recovery value by discounting the best estimate of future cash flows at the security's original or current effective rate, as appropriate, and compares this to the amortized cost of the security. If the Company does not expect to receive cash flows sufficient to recover the entire amortized cost basis of the fixed income security, the credit loss component of the impairment is recorded in earnings, with the

remaining amount of the unrealized loss related to other factors recognized in OCI.

The Company's portfolio monitoring process includes a quarterly review of all securities to identify instances where the fair value of a security compared to its amortized cost is below established thresholds. The process also includes the monitoring of other impairment indicators such as ratings, ratings downgrades and payment defaults. The securities identified, in addition to other securities for which the Company may have a concern, are evaluated for potential OTTI using all reasonably available information relevant to the collectability or recovery of the security. Inherent in the Company's evaluation of OTTI for these securities are assumptions and estimates about the financial condition and future earnings potential of the issue or issuer. Some of the factors that may be considered in evaluating whether a decline in fair value is other than temporary are: 1) the financial condition, near-term and long-term prospects of the issue or issuer, including relevant industry specific market conditions and trends, geographic location and implications of rating agency actions and offering prices; 2) the specific reasons that a security is in an unrealized loss position, including overall market conditions which could affect liquidity; and 3) the length of time and extent to which the fair value has been less than amortized cost.

Gross unrealized losses and fair value by type and length of time held in a continuous unrealized loss position

(\$ in millions)	Less than 12 months			12 months or more			Total unrealized losses
	Number of issues	Fair value	Unrealized losses	Number of issues	Fair value	Unrealized losses	
December 31, 2018							
Fixed income securities							
U.S. government and agencies	11	\$ 55	\$ —	38	\$ 364	\$ (6)	\$ (6)
Municipal	943	1,633	(10)	1,147	1,554	(33)	(43)
Corporate	1,735	19,243	(543)	645	8,374	(347)	(890)
Foreign government	7	20	(1)	27	412	(4)	(5)
ABS	64	454	(5)	28	161	(5)	(10)
RMBS	166	30	—	195	52	(2)	(2)
CMBS	3	7	—	2	—	(1)	(1)
Redeemable preferred stock	1	—	—	—	—	—	—
Total fixed income securities	2,930	\$ 21,442	\$ (559)	2,082	\$ 10,917	\$ (398)	\$ (957)
Investment grade fixed income securities	2,348	\$ 17,485	\$ (331)	2,021	\$ 10,626	\$ (360)	\$ (691)
Below investment grade fixed income securities	582	3,957	(228)	61	291	(38)	(266)
Total fixed income securities	2,930	\$ 21,442	\$ (559)	2,082	\$ 10,917	\$ (398)	\$ (957)
December 31, 2017							
Fixed income securities							
U.S. government and agencies	66	\$ 2,829	\$ (18)	18	\$ 182	\$ (2)	\$ (20)
Municipal	1,756	3,143	(24)	165	349	(12)	(36)
Corporate	781	11,616	(102)	208	3,289	(102)	(204)
Foreign government	45	580	(10)	5	44	(1)	(11)
ABS	57	476	(3)	9	34	(4)	(7)
RMBS	118	35	(1)	181	50	(2)	(3)
CMBS	2	1	—	6	23	(2)	(2)
Redeemable preferred stock	1	—	—	—	—	—	—
Total fixed income securities	2,826	18,680	(158)	592	3,971	(125)	(283)
Equity securities	127	369	(12)	2	—	—	(12)
Total fixed income and equity securities	2,953	\$ 19,049	\$ (170)	594	\$ 3,971	\$ (125)	\$ (295)
Investment grade fixed income securities	2,706	\$ 17,668	\$ (134)	535	\$ 3,751	\$ (98)	\$ (232)
Below investment grade fixed income securities	120	1,012	(24)	57	220	(27)	(51)
Total fixed income securities	2,826	\$ 18,680	\$ (158)	592	\$ 3,971	\$ (125)	\$ (283)

As of December 31, 2018, \$902 million of the \$957 million unrealized losses are related to securities with an unrealized loss position less than 20% of amortized cost, the degree of which suggests that these securities do not pose a high risk of being other-than-temporarily impaired. Of the \$902 million, \$673 million are related to unrealized losses on investment grade fixed income securities. Of the remaining \$229 million, \$207 million have been in an unrealized loss position for less than 12 months. Investment grade is defined as a security having a rating of Aaa, Aa, A or Baa from Moody's, a rating of AAA, AA, A or BBB from S&P Global Ratings ("S&P"), a comparable rating from another nationally recognized rating agency, or a comparable internal rating if an externally provided rating is not available. Market prices for certain securities may have credit spreads which imply higher or lower credit quality than the current third party rating. Unrealized losses on investment grade securities are principally related to an increase in market yields which may include increased risk-free interest rates and/or wider credit spreads since the time of initial purchase. The

unrealized losses are expected to reverse as the securities approach maturity.

As of December 31, 2018, the remaining \$55 million of unrealized losses are related to securities in unrealized loss positions greater than or equal to 20% of amortized cost. Investment grade fixed income securities comprising \$18 million of these unrealized losses were evaluated based on factors such as discounted cash flows and the financial condition and near-term and long-term prospects of the issue or issuer and were determined to have adequate resources to fulfill contractual obligations. Of the \$55 million, \$37 million are related to below investment grade fixed income securities. Of these amounts, \$3 million are related to below investment grade fixed income securities that had been in an unrealized loss position greater than or equal to 20% of amortized cost for a period of twelve or more consecutive months as of December 31, 2018.

ABS, RMBS and CMBS in an unrealized loss position were evaluated based on actual and projected

collateral losses relative to the securities' positions in the respective securitization trusts, security specific expectations of cash flows, and credit ratings. This evaluation also takes into consideration credit enhancement, measured in terms of (i) subordination from other classes of securities in the trust that are contractually obligated to absorb losses before the class of security the Company owns, and (ii) the expected impact of other structural features embedded in the securitization trust beneficial to the class of securities the Company owns, such as overcollateralization and excess spread. Municipal bonds in an unrealized loss position were evaluated based on the underlying credit quality of the primary obligor, obligation type and quality of the underlying assets.

As of December 31, 2018, the Company has not made the decision to sell and it is not more likely than not the Company will be required to sell fixed income securities with unrealized losses before recovery of the amortized cost basis.

Limited partnerships

Investments in limited partnership interests include interests in private equity funds, real estate funds and other funds. As of December 31, 2018 and 2017, the carrying value of EMA limited partnerships totaled \$5.73 billion and \$5.41 billion, respectively, and

limited partnerships carried at fair value as of December 31, 2018, while at cost as of December 31, 2017, totaled \$1.78 billion and \$1.33 billion, respectively. Principal factors influencing carrying value appreciation or decline include operating performance, comparable public company earnings multiples, capitalization rates and the economic environment. For equity method limited partnerships, the Company recognizes an impairment loss when evidence demonstrates that the loss is other than temporary. Evidence of a loss in value that is other than temporary may include the absence of an ability to recover the carrying amount of the investment or the inability of the investee to sustain a level of earnings that would justify the carrying amount of the investment. Changes in fair value limited partnerships are recorded through net investment income and therefore are not tested for impairment.

Mortgage loans

The Company's mortgage loans are commercial mortgage loans collateralized by a variety of commercial real estate property types located across the United States and totaled, net of valuation allowance, \$4.67 billion and \$4.53 billion as of December 31, 2018 and 2017, respectively. Substantially all of the commercial mortgage loans are non-recourse to the borrower.

Principal geographic distribution of commercial real estate exceeding 5% of the mortgage loans portfolio

(% of mortgage loan portfolio carrying value)	As of December 31,	
	2018	2017
California	16.4%	19.9%
Texas	14.9	13.0
Illinois	7.8	7.1
New Jersey	6.8	7.6
Florida	6.1	6.4
North Carolina	5.1	4.0

Types of properties collateralizing the mortgage loan portfolio

(% of mortgage loan portfolio carrying value)	As of December 31,	
	2018	2017
Apartment complex	34.4%	30.9%
Office buildings	24.5	23.8
Warehouse	15.8	15.7
Retail	14.4	18.0
Other	10.9	11.6
Total	100.0%	100.0%

Contractual maturities of the mortgage loan portfolio

(\$ in millions)	As of December 31, 2018		
	Number of loans	Carrying value	Percent
2019	8	\$ 171	3.7%
2020	13	119	2.6
2021	41	566	12.1
2022	32	553	11.8
Thereafter	189	3,261	69.8
Total	283	\$ 4,670	100.0%

Mortgage loans are evaluated for impairment on a specific loan basis through a quarterly credit monitoring process and review of key credit quality indicators. Mortgage loans are considered impaired when it is probable that the Company will not collect the contractual principal and interest. Valuation allowances are established for impaired loans to reduce the carrying value to the fair value of the collateral less costs to sell or the present value of the loan's expected future repayment cash flows discounted at the loan's original effective interest rate. Impaired mortgage loans may not have a valuation allowance when the fair value of the collateral less costs to sell is higher than the carrying value. Valuation allowances are adjusted for subsequent changes in the fair value of the collateral less costs to sell or present value of the loan's expected future repayment cash flows. Mortgage loans are charged off against their corresponding valuation allowances when there is no reasonable expectation of recovery. The impairment evaluation is non-statistical in respect to

the aggregate portfolio but considers facts and circumstances attributable to each loan. It is not considered probable that additional impairment losses, beyond those identified on a specific loan basis, have been incurred as of December 31, 2018.

Accrual of income is suspended for mortgage loans that are in default or when full and timely collection of principal and interest payments is not probable. Cash receipts on mortgage loans on nonaccrual status are generally recorded as a reduction of carrying value.

Debt service coverage ratio is considered a key credit quality indicator when mortgage loans are evaluated for impairment. Debt service coverage ratio represents the amount of estimated cash flows from the property available to the borrower to meet principal and interest payment obligations. Debt service coverage ratio estimates are updated annually or more frequently if conditions are warranted based on the Company's credit monitoring process.

Carrying value of non-impaired mortgage loans summarized by debt service coverage ratio distribution

(\$ in millions)	As of December 31,					
	2018			2017		
	Fixed rate mortgage loans	Variable rate mortgage loans	Total	Fixed rate mortgage loans	Variable rate mortgage loans	Total
Debt Service Coverage Ratio Distribution						
Below 1.0	\$ 6	\$ 31	\$ 37	\$ 3	\$ —	\$ 3
1.0 - 1.25	273	—	273	345	—	345
1.26 - 1.50	1,192	—	1,192	1,141	30	1,171
Above 1.50	3,063	101	3,164	2,949	62	3,011
Total non-impaired mortgage loans	\$ 4,534	\$ 132	\$ 4,666	\$ 4,438	\$ 92	\$ 4,530

Mortgage loans with a debt service coverage ratio below 1.0 that are not considered impaired primarily relate to instances where the borrower has the financial capacity to fund the revenue shortfalls from the properties for the foreseeable term, the decrease in cash flows from the properties is considered temporary, or there are other risk mitigating circumstances such as additional collateral, escrow balances or borrower guarantees.

Net carrying value of impaired mortgage loans

(\$ in millions)	As of December 31,	
	2018	2017
Impaired mortgage loans with a valuation allowance	\$ 4	\$ 4
Impaired mortgage loans without a valuation allowance	—	—
Total impaired mortgage loans	\$ 4	\$ 4
Valuation allowance on impaired mortgage loans	\$ 3	\$ 3

The average balance of impaired loans was \$4 million, \$7 million and \$6 million during 2018, 2017 and 2016, respectively.

Rollforward of the valuation allowance on impaired mortgage loans

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Beginning balance	\$ 3	\$ 3	\$ 3
Net increase in valuation allowance	—	1	—
Charge offs	—	(1)	—
Ending balance	\$ 3	\$ 3	\$ 3

Payments on all mortgage loans were current as of December 31, 2018, 2017 and 2016.

Municipal bonds

The Company maintains a diversified portfolio of municipal bonds, including tax exempt and taxable securities, which totaled \$9.17 billion and \$8.33 billion as of December 31, 2018 and 2017, respectively. The municipal bond portfolio includes general obligations of state and local issuers and revenue bonds (including pre-refunded bonds, which are bonds for which an irrevocable trust has been established to fund the remaining payments of principal and interest).

Principal geographic distribution of municipal bond issuers exceeding 5% of the portfolio

(% of municipal bond portfolio carrying value)	As of December 31,	
	2018	2017
Texas	12.3%	9.6%
California	7.4	7.0
Washington	6.2	5.4
New York	5.6	6.9
Florida	4.9	6.5

Short-term investments

Short-term investments, including commercial paper, money market funds, U.S. Treasury bills and other short-term investments, are carried at fair value. As of December 31, 2018 and 2017, the fair value of short-term investments totaled \$3.03 billion and \$1.94 billion, respectively.

Other investments

Other investments primarily consist of bank loans, policy loans, real estate, agent loans and derivatives. Bank loans are primarily senior secured corporate loans and are carried at amortized cost. Policy loans are carried at unpaid principal balances. Real estate is carried at cost less accumulated depreciation. Agent loans are loans issued to exclusive Allstate agents and are carried at unpaid principal balances, net of valuation allowances and unamortized deferred fees or costs. Derivatives are carried at fair value.

Other investments by asset type

(\$ in millions)	December 31, 2018	December 31, 2017
Bank loans	\$ 1,350	\$ 1,702
Policy loans	891	905
Real estate	791	632
Agent loans	620	538
Derivatives and other	200	195
Total	\$ 3,852	\$ 3,972

Concentration of credit risk

As of December 31, 2018, the Company is not exposed to any credit concentration risk of a single issuer and its affiliates greater than 10% of the Company's shareholders' equity, other than the U.S. government and its agencies.

Securities loaned

The Company's business activities include securities lending programs with third parties, mostly large banks. As of December 31, 2018 and 2017, fixed income and equity securities with a carrying value of \$1.40 billion and \$1.09 billion, respectively, were on loan under these agreements. Interest income on collateral, net of fees, was \$4 million, \$7 million and \$6 million in 2018, 2017 and 2016, respectively.

Other investment information

Included in fixed income securities are below investment grade assets totaling \$5.23 billion and \$7.57 billion as of December 31, 2018 and 2017, respectively.

As of December 31, 2018, fixed income securities and short-term investments with a carrying value of \$147 million were on deposit with regulatory authorities as required by law.

As of December 31, 2018, the carrying value of fixed income securities and other investments that were non-income producing was \$99 million.

Note 6 Fair Value of Assets and Liabilities

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The hierarchy for inputs used

in determining fair value maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Assets and liabilities

recorded on the Consolidated Statements of Financial Position at fair value are categorized in the fair value hierarchy based on the observability of inputs to the valuation techniques as follows:

Level 1: Assets and liabilities whose values are based on unadjusted quoted prices for identical assets or liabilities in an active market that the Company can access.

Level 2: Assets and liabilities whose values are based on the following:

- (a) Quoted prices for similar assets or liabilities in active markets;
- (b) Quoted prices for identical or similar assets or liabilities in markets that are not active; or
- (c) Valuation models whose inputs are observable, directly or indirectly, for substantially the full term of the asset or liability.

Level 3: Assets and liabilities whose values are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. Unobservable inputs reflect the Company's estimates of the assumptions that market participants would use in valuing the assets and liabilities.

The availability of observable inputs varies by instrument. In situations where fair value is based on internally developed pricing models or inputs that are unobservable in the market, the determination of fair value requires more judgment. The degree of judgment exercised by the Company in determining fair value is typically greatest for instruments categorized in Level 3. In many instances, valuation inputs used to measure fair value fall into different levels of the fair value hierarchy. The category level in the fair value hierarchy is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The Company uses prices and inputs that are current as of the measurement date, including during periods of market disruption. In periods of market disruption, the ability to observe prices and inputs may be reduced for many instruments.

The Company is responsible for the determination of fair value and the supporting assumptions and methodologies. The Company gains assurance that assets and liabilities are appropriately valued through the execution of various processes and controls designed to ensure the overall reasonableness and consistent application of valuation methodologies, including inputs and assumptions, and compliance with accounting standards. For fair values received from third parties or internally estimated, the Company's processes and controls are designed to ensure that the valuation methodologies are appropriate and consistently applied, the inputs and assumptions are reasonable and consistent with the objective of determining fair value, and the fair values are accurately recorded. For example, on a continuing basis, the Company assesses the reasonableness of individual fair values that have stale security prices or that exceed certain thresholds as compared to previous fair values received from valuation service providers or

brokers or derived from internal models. The Company performs procedures to understand and assess the methodologies, processes and controls of valuation service providers. In addition, the Company may validate the reasonableness of fair values by comparing information obtained from valuation service providers or brokers to other third party valuation sources for selected securities. The Company performs ongoing price validation procedures such as back-testing of actual sales, which corroborate the various inputs used in internal models to market observable data. When fair value determinations are expected to be more variable, the Company validates them through reviews by members of management who have relevant expertise and who are independent of those charged with executing investment transactions.

The Company has two types of situations where investments are classified as Level 3 in the fair value hierarchy. The first is where specific inputs significant to the fair value estimation models are not market observable. This primarily occurs in the Company's use of broker quotes to value certain securities where the inputs have not been corroborated to be market observable, and the use of valuation models that use significant non-market observable inputs. The second situation where the Company classifies securities in Level 3 is where quotes continue to be received from independent third-party valuation service providers and all significant inputs are market observable; however, there has been a significant decrease in the volume and level of activity for the asset when compared to normal market activity such that the degree of market observability has declined to a point where categorization as a Level 3 measurement is considered appropriate. The indicators considered in determining whether a significant decrease in the volume and level of activity for a specific asset has occurred include the level of new issuances in the primary market, trading volume in the secondary market, the level of credit spreads over historical levels, applicable bid-ask spreads, and price consensus among market participants and other pricing sources.

Certain assets are not carried at fair value on a recurring basis, including investments such as mortgage loans, bank loans, agent loans and policy loans. Accordingly, such investments are only included in the fair value hierarchy disclosure when the investment is subject to remeasurement at fair value after initial recognition and the resulting remeasurement is reflected in the consolidated financial statements.

In determining fair value, the Company principally uses the market approach which generally utilizes market transaction data for the same or similar instruments. To a lesser extent, the Company uses the income approach which involves determining fair values from discounted cash flow methodologies. For the majority of Level 2 and Level 3 valuations, a combination of the market and income approaches is used.

Summary of significant valuation techniques for assets and liabilities measured at fair value on a recurring basis

Level 1 measurements

- **Fixed income securities:** Comprise certain U.S. Treasury fixed income securities. Valuation is based on unadjusted quoted prices for identical assets in active markets that the Company can access.
- **Equity securities:** Comprise actively traded, exchange-listed equity securities. Valuation is based on unadjusted quoted prices for identical assets in active markets that the Company can access.
- **Short-term:** Comprise U.S. Treasury bills valued based on unadjusted quoted prices for identical assets in active markets that the Company can access and actively traded money market funds that have daily quoted net asset values for identical assets that the Company can access.
- **Separate account assets:** Comprise actively traded mutual funds that have daily quoted net asset values that are readily determinable for identical assets that the Company can access. Net asset values for the actively traded mutual funds in which the separate account assets are invested are obtained daily from the fund managers.

Level 2 measurements

- **Fixed income securities:**

U.S. government and agencies: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields and credit spreads.

Municipal: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields and credit spreads.

Corporate - public: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields and credit spreads.

Corporate - privately placed: Valued using a discounted cash flow model that is widely accepted in the financial services industry and uses market observable inputs and inputs derived principally from, or corroborated by, observable market data. The primary inputs to the discounted cash flow model include an interest rate yield curve, as well as published credit spreads for similar assets in markets that are not active that incorporate the credit quality and industry sector of the issuer.

Foreign government: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields and credit spreads.

ABS - collateralized debt obligations ("CDO") and ABS - consumer and other: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields, prepayment speeds, collateral performance and credit spreads. Certain ABS - CDO and ABS - consumer and other are valued based on non-binding broker quotes whose inputs have been corroborated to be market observable.

RMBS: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields, prepayment speeds, collateral performance and credit spreads.

CMBS: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields, collateral performance and credit spreads.

Redeemable preferred stock: The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields, underlying stock prices and credit spreads.

- **Equity securities:** The primary inputs to the valuation include quoted prices or quoted net asset values for identical or similar assets in markets that are not active.
- **Short-term:** The primary inputs to the valuation include quoted prices for identical or similar assets in markets that are not active, contractual cash flows, benchmark yields and credit spreads.
- **Other investments:** Free-standing exchange listed derivatives that are not actively traded are valued based on quoted prices for identical instruments in markets that are not active.

Over-the-counter ("OTC") derivatives, including interest rate swaps, foreign currency swaps, total return swaps, foreign exchange forward contracts, certain options and certain credit default swaps, are valued using models that rely on inputs such as interest rate yield curves, implied volatilities, index price levels, currency rates, and credit spreads that are observable for substantially the full term of the contract. The valuation techniques underlying the models are widely accepted in the financial services industry and do not involve significant judgment.

Level 3 measurements

- **Fixed income securities:**

Municipal: Comprise municipal bonds that are not rated by third party credit rating agencies. The primary inputs to the valuation of these municipal bonds include quoted prices for identical or similar assets in markets that exhibit less liquidity relative to those markets supporting Level 2 fair value measurements, contractual cash flows, benchmark yields and credit spreads. Also included are municipal bonds valued based on non-binding broker quotes where the inputs have not been

corroborated to be market observable and municipal bonds in default valued based on the present value of expected cash flows.

Corporate - public and Corporate - privately placed: Primarily valued based on non-binding broker quotes where the inputs have not been corroborated to be market observable. Other inputs include an interest rate yield curve, as well as published credit spreads for similar assets that incorporate the credit quality and industry sector of the issuer.

ABS - CDO, ABS - consumer and other, and CMBS: Valued based on non-binding broker quotes received from brokers who are familiar with the investments and where the inputs have not been corroborated to be market observable.

- **Equity securities:** The primary inputs to the valuation include quoted prices or quoted net asset values for identical or similar assets in markets that exhibit less liquidity relative to those markets supporting Level 2 fair value measurements.
- **Short-term:** For certain short-term investments, amortized cost is used as the best estimate of fair value.
- **Other investments:** Certain OTC derivatives, such as interest rate caps, certain credit default swaps and certain options (including swaptions), are valued using models that are widely accepted in the financial services industry. These are categorized as Level 3 as a result of the significance of non-market observable inputs such as volatility. Other primary inputs include interest rate yield curves and credit spreads.

- **Contractholder funds:** Derivatives embedded in certain life and annuity contracts are valued internally using models widely accepted in the financial services industry that determine a single best estimate of fair value for the embedded derivatives within a block of contractholder liabilities. The models primarily use stochastically determined cash flows based on the contractual elements of embedded derivatives, projected option cost and applicable market data, such as interest rate yield curves and equity index volatility assumptions. These are categorized as Level 3 as a result of the significance of non-market observable inputs.

Assets and liabilities measured at fair value on a non-recurring basis

Mortgage loans written-down to fair value in connection with recognizing impairments are valued based on the fair value of the underlying collateral less costs to sell.

Investments excluded from the fair value hierarchy

Limited partnerships carried at fair value, which do not have readily determinable fair values, use NAV provided by the investees and are excluded from the fair value hierarchy. These investments are generally not redeemable by the investees and generally cannot be sold without approval of the general partner. The Company receives distributions of income and proceeds from the liquidation of the underlying assets of the investees, which usually takes place in years 4-9 of the typical contractual life of 10-12 years. As of December 31, 2018, the Company has commitments to invest \$689 million in these limited partnership interests.

Assets and liabilities measured at fair value

(\$ in millions)	As of December 31, 2018				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Counterparty and cash collateral netting	Total
Assets					
Fixed income securities:					
U.S. government and agencies	\$ 5,085	\$ 432	\$ —		\$ 5,517
Municipal	—	9,099	70		9,169
Corporate - public	—	29,200	70		29,270
Corporate - privately placed	—	10,776	90		10,866
Foreign government	—	747	—		747
ABS - CDO	—	263	6		269
ABS - consumer and other	—	713	63		776
RMBS	—	464	—		464
CMBS	—	44	26		70
Redeemable preferred stock	—	22	—		22
Total fixed income securities	5,085	51,760	325		57,170
Equity securities	4,364	331	341		5,036
Short-term investments	1,338	1,659	30		3,027
Other investments: Free-standing derivatives	—	139	1	(23)	117
Separate account assets	2,805	—	—		2,805
Other assets	2	—	—		2
Total recurring basis assets	\$ 13,594	\$ 53,889	\$ 697	\$ (23)	\$ 68,157
% of total assets at fair value	19.9%	79.1%	1.0%	— %	100.0%
Investments reported at NAV					
Total					\$ 69,936
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ —	\$ —	\$ (224)		\$ (224)
Other liabilities: Free-standing derivatives	(1)	(62)	—	\$ 6	(57)
Total recurring basis liabilities	\$ (1)	\$ (62)	\$ (224)	\$ 6	\$ (281)
% of total liabilities at fair value	0.3%	22.1%	79.7%	(2.1)%	100.0%

Assets and liabilities measured at fair value

(\$ in millions)	As of December 31, 2017				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Counterparty and cash collateral netting	Total
Assets					
Fixed income securities:					
U.S. government and agencies	\$ 3,079	\$ 537	\$ —		\$ 3,616
Municipal	—	8,227	101		8,328
Corporate - public	—	31,963	108		32,071
Corporate - privately placed	—	11,731	224		11,955
Foreign government	—	1,021	—		1,021
ABS - CDO	—	480	99		579
ABS - consumer and other	—	645	48		693
RMBS	—	578	—		578
CMBS	—	102	26		128
Redeemable preferred stock	—	23	—		23
Total fixed income securities	3,079	55,307	606		58,992
Equity securities	6,032	379	210		6,621
Short-term investments	264	1,660	20		1,944
Other investments: Free-standing derivatives	—	132	1	(6)	127
Separate account assets	3,444	—	—		3,444
Total recurring basis assets	12,819	57,478	837	(6)	71,128
Non-recurring basis ⁽¹⁾	—	—	3		3
Total assets at fair value	\$ 12,819	\$ 57,478	\$ 840	\$ (6)	\$ 71,131
% of total assets at fair value	18.0%	80.8%	1.2%	— %	100.0%
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ —	\$ —	\$ (286)		\$ (286)
Other liabilities: Free-standing derivatives	(1)	(83)	—	\$ 14	(70)
Total recurring basis liabilities	\$ (1)	\$ (83)	\$ (286)	\$ 14	\$ (356)
% of total liabilities at fair value	0.3%	23.3%	80.3%	(3.9)%	100.0%

⁽¹⁾ Includes \$3 million of limited partnership interests written-down to fair value in connection with recognizing OTTI losses.

Quantitative information about the significant unobservable inputs used in Level 3 fair value measurements

(\$ in millions)	Fair value	Valuation technique	Unobservable input	Range	Weighted average
December 31, 2018					
Derivatives embedded in life and annuity contracts – Equity-indexed and forward starting options	\$ (185)	Stochastic cash flow model	Projected option cost	1.0 - 2.2%	1.74%
December 31, 2017					
Derivatives embedded in life and annuity contracts – Equity-indexed and forward starting options	\$ (252)	Stochastic cash flow model	Projected option cost	1.0 - 2.2%	1.74%

The embedded derivatives are equity-indexed and forward starting options in certain life and annuity products that provide customers with interest crediting rates based on the performance of the S&P 500. If the projected option cost increased (decreased), it would result in a higher (lower) liability fair value.

As of December 31, 2018 and 2017, Level 3 fair value measurements of fixed income securities total \$325 million and \$606 million, respectively, and include \$105 million and \$271 million, respectively, of securities valued based on non-binding broker quotes where the inputs have not been corroborated to be market observable and \$44 million and \$58 million,

respectively, of municipal fixed income securities that are not rated by third party credit rating agencies. The Company does not develop the unobservable inputs used in measuring fair value; therefore, these are not included in the table above. However, an increase (decrease) in credit spreads for fixed income securities valued based on non-binding broker quotes would result in a lower (higher) fair value, and an increase (decrease) in the credit rating of municipal bonds that are not rated by third party credit rating agencies would result in a higher (lower) fair value.

Rollforward of Level 3 assets and liabilities held at fair value during the year ended December 31, 2018

(\$ in millions)	Balance as of December 31, 2017	Total gains (losses) included in:		Transfers into Level 3	Transfers out of Level 3
		Net income ⁽¹⁾	OCI		
Assets					
Fixed income securities:					
Municipal	\$ 101	\$ 1	\$ (2)	\$ —	\$ (26)
Corporate - public	108	—	(3)	17	(21)
Corporate - privately placed	224	(1)	(3)	20	(119)
ABS - CDO	99	—	1	20	(109)
ABS - consumer and other	48	—	1	22	(50)
CMBS	26	—	—	—	—
Total fixed income securities	606	—	(6)	79	(325)
Equity securities	210	37	—	—	—
Short-term investments	20	—	—	—	—
Free-standing derivatives, net	1	—	—	—	—
Total recurring Level 3 assets	\$ 837	\$ 37	\$ (6)	\$ 79	\$ (325)
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ (286)	\$ 58	\$ —	\$ —	\$ —
Total recurring Level 3 liabilities	\$ (286)	\$ 58	\$ —	\$ —	\$ —
	Purchases	Sales	Issues	Settlements	Balance as of December 31, 2018
Assets					
Fixed income securities:					
Municipal	\$ 10	\$ (8)	\$ —	\$ (6)	\$ 70
Corporate - public	10	(38)	—	(3)	70
Corporate - privately placed	22	(5)	—	(48)	90
ABS - CDO	—	—	—	(5)	6
ABS - consumer and other	160	(97)	—	(21)	63
CMBS	1	—	—	(1)	26
Total fixed income securities	203	(148)	—	(84)	325
Equity securities	109	(15)	—	—	341
Short-term investments	55	(45)	—	—	30
Free-standing derivatives, net	—	—	—	—	1 ⁽²⁾
Total recurring Level 3 assets	\$ 367	\$ (208)	\$ —	\$ (84)	\$ 697
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ —	\$ —	\$ (2)	\$ 6	\$ (224)
Total recurring Level 3 liabilities	\$ —	\$ —	\$ (2)	\$ 6	\$ (224)

⁽¹⁾ The effect to net income totals \$95 million and is reported in the Consolidated Statements of Operations as follows: \$37 million in realized capital gains and losses, \$63 million in interest credited to contractholder funds and \$(5) million in life contract benefits.

⁽²⁾ Comprises \$1 million of assets.

Rollforward of Level 3 assets and liabilities held at fair value during the year ended December 31, 2017

(\$ in millions)	Balance as of December 31, 2016	Total gains (losses) included in:		Transfers into Level 3	Transfers out of Level 3
		Net income ⁽¹⁾	OCI		
Assets					
Fixed income securities:					
Municipal	125	(1)	7	—	(6)
Corporate - public	78	—	—	4	(30)
Corporate - privately placed	263	8	(2)	30	(49)
ABS - CDO	27	—	6	60	(190)
ABS - consumer and other	42	—	—	—	(90)
RMBS	1	—	—	—	—
CMBS	22	—	—	—	—
Total fixed income securities	558	7	11	94	(365)
Equity securities	163	13	4	—	(4)
Short-term investments	15	—	—	—	—
Free-standing derivatives, net	(2)	3	—	—	—
Other assets	1	(1)	—	—	—
Total recurring Level 3 assets	\$ 735	\$ 22	\$ 15	\$ 94	\$ (369)
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ (290)	\$ —	\$ —	\$ —	\$ —
Total recurring Level 3 liabilities	\$ (290)	\$ —	\$ —	\$ —	\$ —
	Purchases	Sales	Issues	Settlements	Balance as of December 31, 2017
Assets					
Fixed income securities:					
Municipal	8	(29)	—	(3)	101
Corporate - public	60	—	—	(4)	108
Corporate - privately placed	44	(30)	—	(40)	224
ABS - CDO	219	—	—	(23)	99
ABS - consumer and other	103	—	—	(7)	48
RMBS	—	—	—	(1)	—
CMBS	6	—	—	(2)	26
Total fixed income securities	440	(59)	—	(80)	606
Equity securities	48	(14)	—	—	210
Short-term investments	45	(40)	—	—	20
Free-standing derivatives, net	—	—	—	—	1 ⁽²⁾
Other assets	—	—	—	—	—
Total recurring Level 3 assets	\$ 533	\$ (113)	\$ —	\$ (80)	\$ 837
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ —	\$ —	\$ (2)	\$ 6	\$ (286)
Total recurring Level 3 liabilities	\$ —	\$ —	\$ (2)	\$ 6	\$ (286)

⁽¹⁾ The effect to net income totals \$22 million and is reported in the Consolidated Statements of Operations as follows: \$4 million in realized capital gains and losses, \$19 million in net investment income, \$(10) million in interest credited to contractholder funds and \$9 million in life contract benefits.

⁽²⁾ Comprises \$1 million of assets.

Rollforward of Level 3 assets and liabilities held at fair value during the year ended December 31, 2016

(\$ in millions)	Total gains (losses) included in:				
	Balance as of December 31, 2015	Net income ⁽¹⁾	OCI	Transfers into Level 3	Transfers out of Level 3
Assets					
Fixed income securities:					
U.S. government and agencies	\$ 5	\$ —	\$ —	\$ —	\$ (4)
Municipal	161	12	(10)	6	(23)
Corporate - public	46	—	—	41	(43)
Corporate - privately placed	502	15	18	16	(398)
ABS - CDO	61	1	6	10	(43)
ABS - consumer and other	50	—	(3)	3	(35)
RMBS	1	1	—	—	—
CMBS	20	—	—	—	(1)
Total fixed income securities	846	29	11	76	(547)
Equity securities	133	(32)	12	—	(12)
Short-term investments	—	—	—	—	—
Free-standing derivatives, net	(7)	6	—	—	—
Other assets	1	—	—	—	—
Total recurring Level 3 assets	\$ 973	\$ 3	\$ 23	\$ 76	\$ (559)
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ (299)	\$ 5	\$ —	\$ —	\$ —
Total recurring Level 3 liabilities	\$ (299)	\$ 5	\$ —	\$ —	\$ —
	Purchases	Sales	Issues	Settlements	Balance as of December 31, 2016
Assets					
Fixed income securities:					
U.S. government and agencies	\$ —	\$ —	\$ —	\$ (1)	\$ —
Municipal	22	(40)	—	(3)	125
Corporate - public	47	(11)	—	(2)	78
Corporate - privately placed	181	(15)	—	(56)	263
ABS - CDO	40	(3)	—	(45)	27
ABS - consumer and other	35	(5)	—	(3)	42
RMBS	—	(1)	—	—	1
CMBS	5	—	—	(2)	22
Total fixed income securities	330	(75)	—	(112)	558
Equity securities	65	(4)	—	1	163
Short-term investments	15	—	—	—	15
Free-standing derivatives, net	—	—	—	(1)	(2) ⁽²⁾
Other assets	—	—	—	—	1
Total recurring Level 3 assets	\$ 410	\$ (79)	\$ —	\$ (112)	\$ 735
Liabilities					
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ —	\$ —	\$ (3)	\$ 7	\$ (290)
Total recurring Level 3 liabilities	\$ —	\$ —	\$ (3)	\$ 7	\$ (290)

⁽¹⁾ The effect to net income totals \$8 million and is reported in the Consolidated Statements of Operations as follows: \$(9) million in realized capital gains and losses, \$12 million in net investment income, \$(4) million in interest credited to contractholder funds and \$9 million in life contract benefits.

⁽²⁾ Comprises \$1 million of assets and \$3 million of liabilities.

Transfers between level categorizations may occur due to changes in the availability of market observable inputs, which generally are caused by changes in market conditions such as liquidity, trading volume or

bid-ask spreads. Transfers between level categorizations may also occur due to changes in the valuation source, including situations where a fair value quote is not provided by the Company's independent

third-party valuation service provider resulting in the price becoming stale or replaced with a broker quote whose inputs have not been corroborated to be market observable. This situation will result in the transfer of a security into Level 3. Transfers in and out of level categorizations are reported as having occurred at the beginning of the quarter in which the transfer occurred. Therefore, for all transfers into Level 3, all realized and changes in unrealized gains and losses in the quarter of transfer are reflected in the Level 3 rollforward table.

There were no transfers between Level 1 and Level 2 during 2018, 2017 or 2016.

Transfers into Level 3 during 2018, 2017 and 2016 included situations where a fair value quote was not

provided by the Company's independent third-party valuation service provider and as a result the price was stale or had been replaced with a broker quote where the inputs had not been corroborated to be market observable resulting in the security being classified as Level 3. Transfers out of Level 3 during 2018, 2017 and 2016 included situations where a broker quote was used in the prior period and a fair value quote became available from the Company's independent third-party valuation service provider in the current period. A quote utilizing the new pricing source was not available as of the prior period, and any gains or losses related to the change in valuation source for individual securities were not significant.

Valuation changes included in net income for Level 3 assets and liabilities held as of

(\$ in millions)	December 31,		
	2018	2017	2016
Assets			
Fixed income securities:			
Municipal	\$ —	\$ (3)	\$ 2
Corporate	—	1	2
Total fixed income securities	—	(2)	4
Equity securities	36	13	(32)
Free-standing derivatives, net	—	—	5
Other assets	—	(1)	—
Total recurring Level 3 assets	\$ 36	\$ 10	\$ (23)
Liabilities			
Contractholder funds: Derivatives embedded in life and annuity contracts	\$ 58	\$ —	\$ 5
Total recurring Level 3 liabilities	\$ 58	\$ —	\$ 5

The amounts in the table above represent the change in unrealized gains and losses included in net income for the period of time that the asset or liability was held and determined to be in Level 3. These gains and losses total \$94 million in 2018 and are reported as follows: \$36 million in realized capital gains and losses, \$63 million in interest credited to contractholder funds and \$(5) million in life contract benefits. These gains and losses total \$10 million in 2017 and are reported as follows: \$(8) million in realized capital gains and losses, \$19 million in net investment income, \$(10) million in interest credited to contractholder funds and \$9 million in life contract benefits. These gains and losses total \$(18) million in 2016 and are reported as follows: \$(36) million in realized capital gains and losses, \$13 million in net investment income, \$(4) million in interest credited to contractholder funds and \$9 million in life contract benefits.

Financial assets

Carrying values and fair value estimates of financial instruments not carried at fair value

(\$ in millions)	Fair value level	December 31, 2018		December 31, 2017	
		Carrying value	Fair value	Carrying value	Fair value
Mortgage loans	Level 3	\$ 4,670	\$ 4,703	\$ 4,534	\$ 4,732
Bank loans	Level 3	1,350	1,298	1,702	1,704
Agent loans	Level 3	620	617	538	536

Financial liabilities

Carrying values and fair value estimates of financial instruments not carried at fair value

(\$ in millions)	Fair value level	December 31, 2018		December 31, 2017	
		Carrying value	Fair value	Carrying value	Fair value
Contractholder funds on investment contracts	Level 3	\$ 9,250	\$ 9,665	\$ 10,367	\$ 11,071
Long-term debt	Level 2	6,451	6,708	6,350	7,199
Liability for collateral	Level 2	1,458	1,458	1,124	1,124

Note 7 Derivative Financial Instruments and Off-balance Sheet Financial Instruments

The Company uses derivatives for risk reduction and to increase investment portfolio returns through asset replication. Risk reduction activity is focused on managing the risks with certain assets and liabilities arising from the potential adverse impacts from changes in risk-free interest rates, changes in equity market valuations, increases in credit spreads and foreign currency fluctuations.

Asset replication refers to the “synthetic” creation of assets through the use of derivatives. The Company replicates fixed income securities using a combination of a credit default swap, index total return swap, or a foreign currency forward contract and one or more highly rated fixed income securities, primarily investment grade host bonds, to synthetically replicate the economic characteristics of one or more cash market securities. The Company replicates equity securities using futures, index total return swaps, and options to increase equity exposure.

Property-Liability may use interest rate swaps, swaptions, futures and options to manage the interest rate risks of existing investments. These instruments are utilized to change the duration of the portfolio in order to offset the economic effect that interest rates would otherwise have on the fair value of its fixed income securities. Fixed income index total return swaps are used to offset valuation losses in the fixed income portfolio during periods of declining market values. Credit default swaps are typically used to mitigate the credit risk within the Property-Liability fixed income portfolio. Equity index total return swaps, futures and options are used by Property-Liability to offset valuation losses in the equity portfolio during periods of declining equity market values. In addition, equity futures are used to hedge the market risk related to deferred compensation liability contracts. Forward contracts are primarily used by Property-Liability to hedge foreign currency risk associated with holding foreign currency denominated investments and foreign operations.

Asset-liability management is a risk management strategy that is principally employed by Allstate Life and Allstate Annuities to balance the respective interest-rate sensitivities of its assets and liabilities. Depending upon the attributes of the assets acquired and liabilities issued, derivative instruments such as interest rate swaps, caps, swaptions and futures are utilized to change the interest rate characteristics of existing assets and liabilities to ensure the relationship is maintained within specified ranges and to reduce exposure to rising or falling interest rates. Fixed income index total return swaps are used to offset valuation losses in the portfolio during periods of declining market values. Credit default swaps are typically used to mitigate the credit risk within the Allstate Life and Allstate Annuities fixed income portfolios. Futures and options are used for hedging the equity exposure contained in equity indexed life and annuity product contracts that offer equity returns to contractholders. In addition, the Company uses equity index total return swaps, options and futures to

offset valuation losses in the equity portfolio during periods of declining equity market values. Foreign currency swaps and forwards are primarily used to reduce the foreign currency risk associated with holding foreign currency denominated investments.

The Company also has derivatives embedded in non-derivative host contracts that are required to be separated from the host contracts and accounted for at fair value with changes in fair value of embedded derivatives reported in net income. The Company’s primary embedded derivatives are equity options in life and annuity product contracts, which provide returns linked to equity indices to contractholders.

When derivatives meet specific criteria, they may be designated as accounting hedges and accounted for as fair value, cash flow, foreign currency fair value or foreign currency cash flow hedges. The Company designates certain investment risk transfer reinsurance agreements as fair value hedges when the hedging instrument is highly effective in offsetting the risk of changes in the fair value of the hedged item. The Company designates certain of its foreign currency swap contracts as cash flow hedges when the hedging instrument is highly effective in offsetting the exposure of variations in cash flows for the hedged risk that could affect net income. Amounts are reclassified to net investment income or realized capital gains and losses as the hedged item affects net income.

The notional amounts specified in the contracts are used to calculate the exchange of contractual payments under the agreements and are generally not representative of the potential for gain or loss on these agreements. However, the notional amounts specified in credit default swaps where the Company has sold credit protection represent the maximum amount of potential loss, assuming no recoveries.

Fair value, which is equal to the carrying value, is the estimated amount that the Company would receive or pay to terminate the derivative contracts at the reporting date. The carrying value amounts for OTC derivatives are further adjusted for the effects, if any, of enforceable master netting agreements and are presented on a net basis, by counterparty agreement, in the Consolidated Statements of Financial Position.

For those derivatives which qualify for fair value hedge accounting, net income includes the changes in the fair value of both the derivative instrument and the hedged risk, and therefore reflects any hedging ineffectiveness. For cash flow hedges, gains and losses are amortized from AOCI and are reported in net income in the same period the forecasted transactions being hedged impact net income.

Non-hedge accounting is generally used for “portfolio” level hedging strategies where the terms of the individual hedged items do not meet the strict homogeneity requirements to permit the application of hedge accounting. For non-hedge derivatives, net income includes changes in fair value and accrued periodic settlements, when applicable. With the

exception of non-hedge derivatives used for asset replication and non-hedge embedded derivatives, all of the Company's derivatives are evaluated for their ongoing effectiveness as either accounting hedge or

non-hedge derivative financial instruments on at least a quarterly basis.

Summary of the volume and fair value positions of derivative instruments as of December 31, 2018

(\$ in millions, except number of contracts)	Balance sheet location	Volume ⁽¹⁾		Fair value, net	Gross asset	Gross liability
		Notional amount	Number of contracts			
Asset derivatives						
Derivatives not designated as accounting hedging instruments						
Interest rate contracts						
Interest rate cap agreements	Other investments	\$ 6	n/a	\$ —	\$ —	\$ —
Futures	Other assets	—	1,330	1	1	—
Equity and index contracts						
Options	Other investments	—	11,131	115	115	—
Futures	Other assets	—	1,453	1	1	—
Total return index contracts						
Total return swap agreements - fixed income	Other investments	7	—	—	—	—
Total return swap agreements - equity index	Other investments	61	—	(2)	—	(2)
Foreign currency contracts						
Foreign currency forwards	Other investments	258	n/a	10	11	(1)
Credit default contracts						
Credit default swaps – buying protection	Other investments	136	n/a	(1)	2	(3)
Other contracts						
Other	Other investments	2	n/a	—	—	—
Total asset derivatives		\$ 470	13,914	\$ 124	\$ 130	\$ (6)
Liability derivatives						
Derivatives not designated as accounting hedging instruments						
Interest rate contracts						
Interest rate cap agreements	Other liabilities & accrued expenses	\$ 31	n/a	\$ 1	\$ 1	\$ —
Futures	Other liabilities & accrued expenses	—	1,300	(1)	—	(1)
Equity and index contracts						
Options and futures	Other liabilities & accrued expenses	—	10,956	(50)	—	(50)
Total return index contracts						
Total return swap agreements - fixed income	Other liabilities & accrued expenses	38	—	(1)	—	(1)
Total return swap agreements - equity index	Other liabilities & accrued expenses	71	—	(4)	—	(4)
Foreign currency contracts						
Foreign currency forwards	Other liabilities & accrued expenses	341	n/a	10	11	(1)
Embedded derivative financial instruments						
Guaranteed accumulation benefits	Contractholder funds	169	n/a	(25)	—	(25)
Guaranteed withdrawal benefits	Contractholder funds	210	n/a	(14)	—	(14)
Equity-indexed and forward starting options in life and annuity product contracts	Contractholder funds	1,770	n/a	(185)	—	(185)
Credit default contracts						
Credit default swaps – buying protection	Other liabilities & accrued expenses	40	n/a	—	—	—
Credit default swaps – selling protection	Other liabilities & accrued expenses	5	n/a	—	—	—
Total liability derivatives		2,675	12,256	(269)	\$ 12	\$ (281)
Total derivatives		\$ 3,145	26,170	\$ (145)		

⁽¹⁾ Volume for OTC and cleared derivative contracts is represented by their notional amounts. Volume for exchange traded derivatives is represented by the number of contracts, which is the basis on which they are traded. (n/a = not applicable)

Summary of the volume and fair value positions of derivative instruments as of December 31, 2017

(\$ in millions, except number of contracts)	Balance sheet location	Volume ⁽¹⁾		Fair value, net	Gross asset	Gross liability
		Notional amount	Number of contracts			
Asset derivatives						
Derivatives not designated as accounting hedging instruments						
Interest rate contracts						
Interest rate cap agreements	Other investments	\$ 15	n/a	\$ —	\$ —	\$ —
Equity and index contracts						
Options	Other investments	—	6,316	125	125	—
Futures	Other assets	—	289	—	—	—
Foreign currency contracts						
Foreign currency forwards	Other investments	52	n/a	1	1	—
Credit default contracts						
Credit default swaps – buying protection	Other investments	105	n/a	(1)	—	(1)
Credit default swaps – selling protection	Other investments	80	n/a	1	1	—
Other contracts						
Other	Other assets	3	n/a	—	—	—
Total asset derivatives		\$ 255	6,605	\$ 126	\$ 127	\$ (1)
Liability derivatives						
Derivatives designated as accounting hedging instruments						
Foreign currency swap agreements	Other liabilities & accrued expenses	\$ 19	n/a	\$ 2	\$ 2	\$ —
Derivatives not designated as accounting hedging instruments						
Interest rate contracts						
Interest rate cap agreements	Other liabilities & accrued expenses	30	n/a	1	1	—
Equity and index contracts						
Options and futures	Other liabilities & accrued expenses	—	7,128	(58)	—	(58)
Foreign currency contracts						
Foreign currency forwards	Other liabilities & accrued expenses	650	n/a	(17)	3	(20)
Embedded derivative financial instruments						
Guaranteed accumulation benefits	Contractholder funds	225	n/a	(22)	—	(22)
Guaranteed withdrawal benefits	Contractholder funds	274	n/a	(12)	—	(12)
Equity-indexed and forward starting options in life and annuity product contracts	Contractholder funds	1,774	n/a	(252)	—	(252)
Credit default contracts						
Credit default swaps – buying protection	Other liabilities & accrued expenses	136	n/a	(5)	—	(5)
Credit default swaps – selling protection	Other liabilities & accrued expenses	25	n/a	—	—	—
Subtotal		3,114	7,128	(365)	4	(369)
Total liability derivatives		3,133	7,128	(363)	\$ 6	\$ (369)
Total derivatives		\$ 3,388	13,733	\$ (237)		

(1) Volume for OTC and cleared derivative contracts is represented by their notional amounts. Volume for exchange traded derivatives is represented by the number of contracts, which is the basis on which they are traded. (n/a = not applicable)

Gross and net amounts for OTC derivatives ⁽¹⁾

(\$ in millions)	Gross amount	Offsets			Net amount on balance sheet	Securities collateral (received) pledged	Net amount
		Counter-party netting	Cash collateral (received) pledged				
December 31, 2018							
Asset derivatives	\$ 25	\$ (18)	\$ (5)	\$ 2	\$ —	\$ 2	
Liability derivatives	(12)	18	(12)	(6)	—	(6)	
December 31, 2017							
Asset derivatives	\$ 8	\$ (7)	\$ 1	\$ 2	\$ —	\$ 2	
Liability derivatives	(26)	7	7	(12)	3	(9)	

(1) All OTC derivatives are subject to enforceable master netting agreements.

Summary of the impacts of the foreign currency contracts in cash flow hedging relationships

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Gain (loss) recognized in OCI on derivatives during the period	\$ 1	\$ (2)	\$ —
(Loss) gain recognized in OCI on derivatives during the term of the hedging relationship	(3)	(1)	2
Gain reclassified from AOCI into income (net investment income)	—	1	1
Gain reclassified from AOCI into income (realized capital gains and losses)	3	—	3

Amortization of net gains from AOCI related to cash flow hedges is expected to be a loss of less than \$1 million during the next twelve months. There was no hedge ineffectiveness reported in realized gains and losses in 2018, 2017 or 2016.

Gains (losses) from valuation and settlements reported on derivatives not designated as accounting hedges

(\$ in millions)	Realized capital gains (losses)	Life contract benefits	Interest credited to contractholder funds	Operating costs and expenses	Total gain (loss) recognized in net income on derivatives
2018					
Interest rate contracts	\$ (2)	\$ —	\$ —	\$ —	\$ (2)
Equity and index contracts	21	—	(24)	(21)	(24)
Embedded derivative financial instruments	—	(5)	67	—	62
Foreign currency contracts	29	—	—	(1)	28
Credit default contracts	2	—	—	—	2
Total return swaps - fixed income	(1)	—	—	—	(1)
Total return swaps - equity	(6)	—	—	—	(6)
Total	\$ 43	\$ (5)	\$ 43	\$ (22)	\$ 59
2017					
Equity and index contracts	\$ (15)	\$ —	\$ 47	\$ 28	\$ 60
Embedded derivative financial instruments	—	9	(6)	—	3
Foreign currency contracts	(27)	—	—	6	(21)
Credit default contracts	(4)	—	—	—	(4)
Total	\$ (46)	\$ 9	\$ 41	\$ 34	\$ 38
2016					
Equity and index contracts	\$ (12)	\$ —	\$ 18	\$ 19	\$ 25
Embedded derivative financial instruments	—	9	—	—	9
Foreign currency contracts	17	—	—	(35)	(18)
Credit default contracts	(5)	—	—	—	(5)
Total	\$ —	\$ 9	\$ 18	\$ (16)	\$ 11

In 2018, 2017 and 2016, the Company had no derivatives used in fair value hedging relationships.

The Company manages its exposure to credit risk by utilizing highly rated counterparties, establishing risk control limits, executing legally enforceable master netting agreements ("MNAs") and obtaining collateral where appropriate. The Company uses MNAs for OTC derivative transactions that permit either party to net payments due for transactions and collateral is either pledged or obtained when certain predetermined exposure limits are exceeded. As of December 31, 2018, counterparties pledged \$21 million in collateral to the Company, and the Company pledged \$4 million in cash and securities to counterparties which includes \$2 million of collateral posted under MNAs for contracts containing credit-risk contingent provisions that are in a liability position and \$2 million of collateral posted under MNAs for contracts without credit-risk-contingent features. The Company has not incurred any losses on derivative financial instruments due to

counterparty nonperformance. Other derivatives, including futures and certain option contracts, are traded on organized exchanges which require margin deposits and guarantee the execution of trades, thereby mitigating any potential credit risk.

Counterparty credit exposure represents the Company's potential loss if all of the counterparties concurrently fail to perform under the contractual terms of the contracts and all collateral, if any, becomes worthless. This exposure is measured by the fair value of OTC derivative contracts with a positive fair value at the reporting date reduced by the effect, if any, of legally enforceable master netting agreements.

For certain exchange traded and cleared derivatives, margin deposits are required as well as daily cash settlements of margin accounts. As of December 31, 2018, the Company pledged \$277 million in the form of margin deposits.

OTC derivatives counterparty credit exposure by counterparty credit rating

(\$ in millions)	2018				2017			
	Number of counter-parties	Notional amount (2)	Credit exposure (2)	Exposure, net of collateral (2)	Number of counter-parties	Notional amount (2)	Credit exposure (2)	Exposure, net of collateral (2)
AA-	—	\$ —	\$ —	\$ —	1	\$ 18	\$ 1	\$ —
A+	3	643	19	1	3	90	3	1
A	2	121	1	—	—	—	—	—
Total	5	\$ 764	\$ 20	\$ 1	4	\$ 108	\$ 4	\$ 1

(1) Allstate uses the lower of S&P's or Moody's long term debt issuer ratings.

(2) Only OTC derivatives with a net positive fair value are included for each counterparty.

Market risk is the risk that the Company will incur losses due to adverse changes in market rates and prices. Market risk exists for all of the derivative financial instruments the Company currently holds, as these instruments may become less valuable due to adverse changes in market conditions. To limit this risk, the Company's senior management has established risk control limits. In addition, changes in fair value of the derivative financial instruments that the Company uses for risk management purposes are generally offset by the change in the fair value or cash flows of the hedged risk component of the related assets, liabilities or forecasted transactions.

Certain of the Company's derivative instruments contain credit-risk-contingent termination events, cross-default provisions and credit support annex agreements. Credit-risk-contingent termination events allow the counterparties to terminate the derivative agreement or a specific trade on certain dates if AIC's, ALIC's or Allstate Life Insurance Company of New

York's ("ALNY") financial strength credit ratings by Moody's or S&P fall below a certain level. Credit-risk-contingent cross-default provisions allow the counterparties to terminate the derivative agreement if the Company defaults by pre-determined threshold amounts on certain debt instruments. Credit-risk-contingent credit support annex agreements specify the amount of collateral the Company must post to counterparties based on AIC's, ALIC's or ALNY's financial strength credit ratings by Moody's or S&P, or in the event AIC, ALIC or ALNY are no longer rated by either Moody's or S&P.

The following summarizes the fair value of derivative instruments with termination, cross-default or collateral credit-risk-contingent features that are in a liability position as of December 31, as well as the fair value of assets and collateral that are netted against the liability in accordance with provisions within legally enforceable MNAs.

(\$ in millions)	2018	2017
Gross liability fair value of contracts containing credit-risk-contingent features	\$ 11	\$ 28
Gross asset fair value of contracts containing credit-risk-contingent features and subject to MNAs	(5)	(17)
Collateral posted under MNAs for contracts containing credit-risk-contingent features	(2)	(6)
Maximum amount of additional exposure for contracts with credit-risk-contingent features if all features were triggered concurrently	\$ 4	\$ 5

Credit derivatives – selling protection

A credit default swap (“CDS”) is a derivative instrument, representing an agreement between two parties to exchange the credit risk of a specified entity (or a group of entities), or an index based on the credit risk of a group of entities (all commonly referred to as the “reference entity” or a portfolio of “reference entities”), in return for a periodic premium. In selling

protection, CDSs are used to replicate fixed income securities and to complement the cash market when credit exposure to certain issuers is not available or when the derivative alternative is less expensive than the cash market alternative. CDSs typically have a five-year term.

CDS notional amounts by credit rating and fair value of protection sold

(\$ in millions)	Notional amount						Fair value
	AA	A	BBB	BB and lower	Total		
December 31, 2018							
Single name							
Corporate debt	\$ —	\$ —	\$ —	\$ 5	\$ 5	\$ —	
Total	\$ —	\$ —	\$ —	\$ 5	\$ 5	\$ —	
December 31, 2017							
Single name							
Corporate debt	\$ —	\$ 10	\$ 10	\$ 5	\$ 25	\$ —	
Index							
Corporate debt	1	19	45	15	80	1	
Total	\$ 1	\$ 29	\$ 55	\$ 20	\$ 105	\$ 1	

In selling protection with CDS, the Company sells credit protection on an identified single name, a basket of names in a first-to-default (“FTD”) structure or credit derivative index (“CDX”) that is generally investment grade, and in return receives periodic premiums through expiration or termination of the agreement. With single name CDS, this premium or credit spread generally corresponds to the difference between the yield on the reference entity’s public fixed maturity cash instruments and swap rates at the time the agreement is executed. With a FTD basket, because of the additional credit risk inherent in a basket of named reference entities, the premium generally corresponds to a high proportion of the sum of the credit spreads of the names in the basket and the correlation between the names. CDX is utilized to take a position on multiple (generally 125) reference entities. Credit events are typically defined as bankruptcy, failure to pay, or restructuring, depending on the nature of the reference entities. If a credit event occurs, the Company settles with the counterparty, either through physical settlement or cash settlement. In a physical

settlement, a reference asset is delivered by the buyer of protection to the Company, in exchange for cash payment at par, whereas in a cash settlement, the Company pays the difference between par and the prescribed value of the reference asset. When a credit event occurs in a single name or FTD basket (for FTD, the first credit event occurring for any one name in the basket), the contract terminates at the time of settlement. For CDX, the reference entity’s name incurring the credit event is removed from the index while the contract continues until expiration. The maximum payout on a CDS is the contract notional amount. A physical settlement may afford the Company with recovery rights as the new owner of the asset.

The Company monitors risk associated with credit derivatives through individual name credit limits at both a credit derivative and a combined cash instrument/credit derivative level. The ratings of individual names for which protection has been sold are also monitored.

Off-balance sheet financial instruments

Contractual amounts of off balance sheet financial instruments

(\$ in millions)	As of December 31,	
	2018	2017
Commitments to invest in limited partnership interests	\$ 3,028	\$ 3,121
Private placement commitments	47	96
Other loan commitments	233	97

In the preceding table, the contractual amounts represent the amount at risk if the contract is fully drawn upon, the counterparty defaults and the value of any underlying security becomes worthless. Unless noted otherwise, the Company does not require collateral or other security to support off-balance sheet financial instruments with credit risk.

Commitments to invest in limited partnership interests represent agreements to acquire new or additional participation in certain limited partnership investments. The Company enters into these agreements in the normal course of business. Because the investments in limited partnerships are not actively traded, it is not practical to estimate the fair value of these commitments.

Private placement commitments represent commitments to purchase private placement debt and private equity securities at a future date. The Company enters into these agreements in the normal course of business. The fair value of the debt commitments generally cannot be estimated on the date the commitment is made as the terms and conditions of the underlying private placement securities are not yet final. Because the private equity securities are not actively traded, it is not practical to estimate fair value of the commitments.

Other loan commitments are agreements to lend to a borrower provided there is no violation of any condition established in the contract. The Company enters into these agreements to commit to future loan fundings at predetermined interest rates. Commitments have either fixed or varying expiration dates or other termination clauses. The fair value of these commitments is insignificant.

Note 8 Reserve for Property and Casualty Insurance Claims and Claims Expense

The Company establishes reserves for claims and claims expense on reported and unreported claims of insured losses. The Company's reserving process takes into account known facts and interpretations of circumstances and factors including the Company's experience with similar cases, actual claims paid, historical trends involving claim payment patterns and pending levels of unpaid claims, loss management programs, product mix and contractual terms, changes in law and regulation, judicial decisions, and economic conditions. In the normal course of business, the Company may also supplement its claims processes by utilizing third party adjusters, appraisers, engineers, inspectors, and other professionals and information sources to assess and settle catastrophe and non-catastrophe related claims. The effects of inflation are implicitly considered in the reserving process.

Because reserves are estimates of unpaid portions of losses that have occurred, including incurred but not

reported ("IBNR") losses, the establishment of appropriate reserves, including reserves for catastrophes and reserves for reinsurance and indemnification recoverables, is an inherently uncertain and complex process. The ultimate cost of losses may vary materially from recorded amounts, which are based on management's best estimates. The highest degree of uncertainty is associated with reserves for losses incurred in the current reporting period as it contains the greatest proportion of losses that have not been reported or settled. The Company regularly updates its reserve estimates as new information becomes available and as events unfold that may affect the resolution of unsettled claims. Changes in prior year reserve estimates, which may be material, are reported in property and casualty insurance claims and claims expense in the Consolidated Statements of Operations in the period such changes are determined.

Rollforward of reserve for property and casualty insurance claims and claims expense

(\$ in millions)	2018	2017	2016
Balance as of January 1	\$ 26,325	\$ 25,250	\$ 23,869
Less recoverables ⁽¹⁾	(6,471)	(6,184)	(5,892)
Net balance as of January 1	19,854	19,066	17,977
SquareTrade acquisition as of January 3, 2017	—	17	—
Incurring claims and claims expense related to:			
Current year	23,033	22,350	22,177
Prior years	(255)	(503)	(17)
Total incurred	22,778	21,847	22,160
Claims and claims expense paid related to:			
Current year	(14,877)	(14,112)	(14,161)
Prior years	(7,487)	(6,964)	(6,910)
Total paid	(22,364)	(21,076)	(21,071)
Net balance as of December 31	20,268	19,854	19,066
Plus recoverables	7,155	6,471	6,184
Balance as of December 31	\$ 27,423	\$ 26,325	\$ 25,250

⁽¹⁾ Recoverables comprises reinsurance and indemnification recoverables. See Note 10 for further details.

Reconciliation of total claims and claims expense incurred and paid by coverage (\$ in millions)	December 31, 2018	
	Incurred	Paid
Allstate Protection		
Auto insurance - liability coverage	\$ 8,413	\$ (7,535)
Auto insurance - physical damage coverage	5,088	(5,134)
Homeowners insurance	4,817	(4,714)
Total auto and homeowners insurance	18,318	(17,383)
Other personal lines	1,081	(1,055)
Commercial lines	545	(369)
Service Businesses	313	(325)
Discontinued Lines and Coverages	73	(91)
Unallocated loss adjustment expenses ("ULAE")	2,479	(2,574)
Claims incurred and paid from before 2014	(68)	(398)
Other	37	(169)
Total	\$ 22,778	\$ (22,364)

Incurred claims and claims expense represents the sum of paid losses and reserve changes in the calendar year. This expense includes losses from catastrophes of \$2.86 billion, \$3.23 billion and \$2.57 billion in 2018, 2017 and 2016, respectively, net of recoverables. Catastrophes are an inherent risk of the property and casualty insurance business that have contributed to, and will continue to contribute to, material year-to-year fluctuations in the Company's results of operations and financial position.

The Company calculates and records a single best reserve estimate for losses from catastrophes, in conformance with generally accepted actuarial standards. As a result, management believes that no other estimate is better than the recorded amount. Due to the uncertainties involved, including the factors described above, the ultimate cost of losses may vary materially from recorded amounts, which are based on management's best estimates. Accordingly, management believes that it is not practical to develop a meaningful range for any such changes in losses incurred.

During 2018, incurred claims and claims expense related to prior years was primarily comprised of net decreases in auto reserves of \$455 million, primarily related to a reduction in claim severity estimates for liability coverages, net increases in commercial lines of \$108 million, net increases in Discontinued Lines and Coverages of \$87 million, net increases in homeowners reserves of \$14 million and a net decrease in other reserves of \$9 million. Incurred claims and claims expense includes unfavorable catastrophe loss reestimates of \$25 million, net of recoverables.

During 2017, incurred claims and claims expense related to prior years was primarily comprised of net decreases in auto and homeowners reserves of \$490 million and \$131 million, respectively, primarily related to a reduction in claim severity estimates for liability coverages, net increases in Discontinued Lines and Coverages of \$96 million and net increases in other reserves of \$22 million. Incurred claims and claims expense includes favorable catastrophe loss reestimates of \$18 million, net of recoverables.

During 2016, incurred claims and claims expense related to prior years was primarily composed of net decreases in auto reserves of \$155 million primarily due to claim severity development for bodily injury coverage that was better than expected, net decreases in homeowners reserves of \$24 million due to favorable non-catastrophe reserve reestimates, net increases in other reserves of \$57 million primarily due to unfavorable commercial business non-catastrophe losses, and net increases in Discontinued Lines and Coverages reserves of \$105 million. Incurred claims and claims expense includes unfavorable catastrophe loss reestimates of \$6 million, net of recoverables.

The following presents information about incurred and paid claims development as of December 31, 2018, net of recoverables, as well as the cumulative number of reported claims and the total of IBNR reserves plus expected development on reported claims included in the net incurred claims amounts. See Note 2 for the accounting policy and methodology for determining reserves for claims and claims expense, including both reported and IBNR claims. The cumulative number of reported claims is identified by coverage and excludes reported claims for industry pools and facilities where information is not available. The information about incurred and paid claims development for the 2014 to 2018 years, and the average annual percentage payout of incurred claims by age as of December 31, 2018, is presented as required supplementary information.

Auto insurance – liability coverage

(\$ in millions, except number of reported claims)	Incurred claims and allocated claim adjustment expenses, net of recoverables					IBNR reserves plus expected development on reported claims	Cumulative number of reported claims	
	For the years ended December 31,							
Accident year	(unaudited) 2014	(unaudited) 2015	(unaudited) 2016	(unaudited) 2017	2018	Prior year reserve reestimates	As of December 31, 2018	
2014	\$ 7,727	\$ 7,833	\$ 7,797	\$ 7,727	\$ 7,661	\$ (66)	\$ 471	2,195,241
2015	—	8,741	8,711	8,656	8,596	(60)	1,044	2,382,914
2016	—	—	9,007	8,811	8,711	(100)	1,873	2,396,876
2017	—	—	—	8,436	8,369	(67)	3,049	2,204,093
2018	—	—	—	—	8,706		5,484	2,075,655
				Total	\$ 42,043	\$ (293)		
<i>Reconciliation to total prior year reserve reestimates recognized by line</i>								
						(43)		
						8		
						(1)		
						\$ (329)		

Accident year	Cumulative paid claims and allocated claims adjustment expenses, net of recoverables				
	For the years ended December 31,				
	(unaudited) 2014	(unaudited) 2015	(unaudited) 2016	(unaudited) 2017	2018
2014	\$ 3,168	\$ 5,308	\$ 6,247	\$ 6,813	\$ 7,190
2015	—	3,518	5,828	6,872	7,552
2016	—	—	3,479	5,759	6,838
2017	—	—	—	3,143	5,320
2018	—	—	—	—	3,222
				Total	\$ 30,122
					1,259
					\$ 13,180

Average annual percentage payout of incurred claims by age, net of recoverables, as of December 31, 2018

	1 year	2 years	3 years	4 years	5 years
Auto insurance – liability coverage	40.2%	27.3%	12.6%	8.0%	4.7%

Auto insurance – physical damage coverage

(\$ in millions, except number of reported claims)	Incurred claims and allocated claim adjustment expenses, net of recoverables					Prior year reserve reestimates	IBNR reserves plus expected development on reported claims	Cumulative number of reported claims
	For the years ended December 31,							
Accident year	(unaudited) 2014	(unaudited) 2015	(unaudited) 2016	(unaudited) 2017	2018			
2014	\$ 4,296	\$ 4,284	\$ 4,258	\$ 4,261	\$ 4,260	\$ (1)	\$ 3	4,144,633
2015	—	4,646	4,675	4,663	4,654	(9)	6	4,389,912
2016	—	—	5,118	5,045	5,018	(27)	6	4,430,776
2017	—	—	—	5,111	5,029	(82)	1	4,232,605
2018	—	—	—	—	5,207		246	4,150,524
				Total	\$ 24,168	\$ (119)		
<i>Reconciliation to total prior year reserve reestimates recognized by line</i>								
						(3)		
						(5)		
						1		
						\$ (126)		

	Cumulative paid claims and allocated claims adjustment expenses, net of recoverables				
	For the years ended December 31,				
Accident year	(unaudited) 2014	(unaudited) 2015	(unaudited) 2016	(unaudited) 2017	2018
2014	\$ 4,137	\$ 4,269	\$ 4,261	\$ 4,258	\$ 4,257
2015	—	4,501	4,665	4,652	4,648
2016	—	—	4,881	5,024	5,012
2017	—	—	—	4,838	5,029
2018	—	—	—	—	4,960
				Total	\$ 23,906
					9
					\$ 271

Average annual percentage payout of incurred claims by age, net of recoverables, as of December 31, 2018

	1 year	2 years	3 years	4 years	5 years
Auto insurance – physical damage coverage	96.9%	3.1%	(0.2)%	—%	—%

Homeowners insurance

(\$ in millions, except number of reported claims)	Incurred claims and allocated claim adjustment expenses, net of recoverables					IBNR reserves plus expected development on reported claims	Cumulative number of reported claims
	For the years ended December 31,						
	(unaudited)	(unaudited)	(unaudited)	(unaudited)			
Accident year	2014	2015	2016	2017	2018	Prior year reserve reestimates	As of December 31, 2018
2014	\$ 3,589	\$ 3,636	\$ 3,640	\$ 3,609	\$ 3,599	\$ (10)	\$ 52
2015	—	3,553	3,607	3,548	3,532	(16)	79
2016	—	—	3,952	3,987	3,949	(38)	147
2017	—	—	—	4,469	4,611	142	370
2018	—	—	—	—	4,739		1,256
				Total	\$ 20,430	\$ 78	
<i>Reconciliation to total prior year reserve reestimates recognized by line</i>							
	Prior year reserve reestimates for pre-2014 accident years					(23)	
	Prior year reserve reestimates for ULAE					(50)	
	Other					9	
	Total prior year reserve reestimates					\$ 14	

Cumulative paid claims and allocated claims adjustment expenses, net of recoverables					
For the years ended December 31,					
	(unaudited)	(unaudited)	(unaudited)	(unaudited)	
Accident year	2014	2015	2016	2017	2018
2014	\$ 2,729	\$ 3,356	\$ 3,472	\$ 3,524	\$ 3,547
2015	—	2,583	3,291	3,394	3,453
2016	—	—	2,942	3,672	3,802
2017	—	—	—	3,222	4,241
2018	—	—	—	—	3,483
				Total	\$ 18,526
	All outstanding liabilities before 2014, net of recoverables				140
	Liabilities for claims and claim adjustment expenses, net of recoverables				\$ 2,044

Average annual percentage payout of incurred claims by age, net of recoverables, as of December 31, 2018

	1 year	2 years	3 years	4 years	5 years
Homeowners insurance	74.7%	18.8%	2.9%	1.4%	0.7%

Reconciliation of the net incurred and paid claims development tables above to the reserve for property and casualty insurance claims and claims expense

(\$ in millions)	As of December 31, 2018	
Net outstanding liabilities		
Allstate Protection		
Auto insurance - liability coverage	\$	13,180
Auto insurance - physical damage coverage		271
Homeowners insurance		2,044
Other personal lines		1,356
Commercial lines		766
Service Businesses		50
Discontinued Lines and Coverages ⁽¹⁾		1,315
ULAE		1,286
Net reserve for property and casualty insurance claims and claims expense		20,268
Recoverables		
Allstate Protection		
Auto insurance - liability coverage		5,829
Auto insurance - physical damage coverage		12
Homeowners insurance		472
Other personal lines		195
Commercial lines		53
Service Businesses		12
Discontinued Lines and Coverages		473
ULAE		109
Total recoverables		7,155
Gross reserve for property and casualty insurance claims and claims expense	\$	27,423

⁽¹⁾ Discontinued Lines and Coverages includes business in run-off with a majority of the claims related to accident years more than 30 years ago. IBNR reserves represent \$693 million of the total reserves as of December 31, 2018.

Management believes that the reserve for property and casualty insurance claims and claims expense, net of recoverables, is appropriately established in the aggregate and adequate to cover the ultimate net cost of reported and unreported claims arising from losses which had occurred by the date of the Consolidated Statements of Financial Position based on available facts, technology, laws and regulations.

Allstate's reserves for asbestos claims were \$866 million and \$884 million, net of reinsurance recoverables of \$400 million and \$412 million, as of December 31, 2018 and 2017, respectively. Reserves for environmental claims were \$170 million and \$166 million, net of reinsurance recoverables of \$39 million and \$33 million, as of December 31, 2018 and 2017, respectively. For further discussion of asbestos and environmental reserves, see Note 14.

Note 9 Reserve for Life-Contingent Contract Benefits and Contractholder Funds**Reserve for life-contingent contract benefits**

(\$ in millions)	As of December 31,	
	2018	2017
Immediate fixed annuities:		
Structured settlement annuities	\$ 6,701	\$ 6,994
Other immediate fixed annuities	1,714	1,855
Traditional life insurance	2,808	2,722
Accident and health insurance	876	893
Other	109	85
Total reserve for life-contingent contract benefits	\$ 12,208	\$ 12,549

Key assumptions generally used in calculating the reserve for life-contingent contract benefits

Product	Mortality	Interest rate	Estimation method
Structured settlement annuities	U.S. population with projected calendar year improvements; mortality rates adjusted for each impaired life based on reduction in life expectancy	Interest rate assumptions range from 2.9% to 9.0%	Present value of contractually specified future benefits
Other immediate fixed annuities	1983 group annuity mortality table with internal modifications; 1983 individual annuity mortality table; Annuity 2000 mortality table with internal modifications; Annuity 2000 mortality table; 1983 individual annuity mortality table with internal modifications	Interest rate assumptions range from 0.0% to 11.5%	Present value of expected future benefits based on historical experience
Traditional life insurance	Actual company experience plus loading	Interest rate assumptions range from 2.5% to 11.3%	Net level premium reserve method using the Company's withdrawal experience rates; includes reserves for unpaid claims
Accident and health insurance	Actual company experience plus loading	Interest rate assumptions range from 3.0% to 7.0%	Unearned premium; additional contract reserves for mortality risk and unpaid claims
Other: Variable annuity guaranteed minimum death benefits ⁽¹⁾	Annuity 2012 mortality table with internal modifications	Interest rate assumptions range from 2.0% to 5.8%	Projected benefit ratio applied to cumulative assessments

⁽¹⁾ In 2006, the Company disposed of substantially all of its variable annuity business through reinsurance agreements with The Prudential Insurance Company of America, a subsidiary of Prudential Financial, Inc. (collectively "Prudential").

The Company records an adjustment to the reserve for life-contingent contract benefits that represents the amount by which the reserve balance would increase if the net unrealized gains in the applicable product investment portfolios were realized and reinvested at current lower interest rates, resulting in a premium deficiency. The offset to this liability is recorded as a reduction of the unrealized net capital gains included in AOCI.

In conjunction with the segment changes that occurred in 2017, the Company evaluated the need for a reserve adjustment separately for traditional life insurance and immediate annuities with life contingencies. As of December 31, 2017, the Company recorded a \$315 million increase to the reserve for life-contingent contract benefits and a \$249 million decrease to unrealized net capital gains, after-tax, included in shareholders' equity. This liability was zero as of December 31, 2018.

Contractholder funds

(\$ in millions)	As of December 31,	
	2018	2017
Interest-sensitive life insurance	\$ 8,229	\$ 8,190
Investment contracts:		
Fixed annuities	9,681	10,828
Other investment contracts	461	416
Total contractholder funds	\$ 18,371	\$ 19,434

Key contract provisions of contractholder funds

Product	Interest rate	Withdrawal/surrender charges
Interest-sensitive life insurance	Interest rates credited range from 0.0% to 10.5% for equity-indexed life (whose returns are indexed to the S&P 500) and 1.0% to 6.0% for all other products	Either a percentage of account balance or dollar amount grading off generally over 20 years
Fixed annuities	Interest rates credited range from 0.0% to 9.8% for immediate annuities; (8.0)% to 10.8% for equity-indexed annuities (whose returns are indexed to the S&P 500); and 0.1% to 6.0% for all other products	Either a declining or a level percentage charge generally over ten years or less. Additionally, approximately 13.5% of fixed annuities are subject to market value adjustment for discretionary withdrawals
Other investment contracts: Guaranteed minimum income, accumulation and withdrawal benefits on variable ⁽¹⁾ and fixed annuities and secondary guarantees on interest-sensitive life insurance and fixed annuities	Interest rates used in establishing reserves range from 1.7% to 10.3%	Withdrawal and surrender charges are based on the terms of the related interest-sensitive life insurance or fixed annuity contract

⁽¹⁾ In 2006, the Company disposed of substantially all of its variable annuity business through reinsurance agreements with Prudential.

Contractholder funds activity

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Balance, beginning of year	\$ 19,434	\$ 20,260	\$ 21,295
Deposits	1,109	1,130	1,164
Interest credited	650	687	722
Benefits	(844)	(901)	(966)
Surrenders and partial withdrawals	(1,135)	(999)	(1,053)
Maturities of and interest payments on institutional products	—	—	(86)
Contract charges	(824)	(826)	(829)
Net transfers from separate accounts	6	5	5
Other adjustments	(25)	78	8
Balance, end of year	\$ 18,371	\$ 19,434	\$ 20,260

The Company offered various guarantees to variable annuity contractholders. In 2006, the Company disposed of substantially all of its variable annuity business through reinsurance agreements with Prudential. Liabilities for variable contract guarantees related to death benefits are included in the reserve for life-contingent contract benefits and the liabilities related to the income, withdrawal and accumulation benefits are included in contractholder funds. All liabilities for variable contract guarantees are reported on a gross basis on the balance sheet with a corresponding reinsurance recoverable asset for those contracts subject to reinsurance.

Absent any contract provision wherein the Company guarantees either a minimum return or account value upon death, a specified contract anniversary date, partial withdrawal or annuitization, variable annuity and variable life insurance contractholders bear the investment risk that the separate accounts' funds may not meet their stated investment objectives. The account balances of variable annuity contracts' separate accounts with guarantees included \$2.47 billion and \$3.02 billion of equity, fixed income and balanced mutual funds and \$245 million and \$322 million of money market mutual funds as of December 31, 2018 and 2017, respectively.

The table below presents information regarding the Company's variable annuity contracts with guarantees. The Company's variable annuity contracts may offer more than one type of guarantee in each contract; therefore, the sum of amounts listed exceeds the total account balances of variable annuity contracts' separate accounts with guarantees.

(\$ in millions)	As of December 31,	
	2018	2017
<i>In the event of death</i>		
Separate account value	\$ 2,711	\$ 3,344
Net amount at risk ⁽¹⁾	\$ 605	\$ 454
Average attained age of contractholders	71 years	70 years
<i>At annuitization (includes income benefit guarantees)</i>		
Separate account value	\$ 778	\$ 944
Net amount at risk ⁽²⁾	\$ 264	\$ 202
Weighted average waiting period until annuitization options available	None	None
<i>For cumulative periodic withdrawals</i>		
Separate account value	\$ 190	\$ 253
Net amount at risk ⁽³⁾	\$ 16	\$ 10
<i>Accumulation at specified dates</i>		
Separate account value	\$ 129	\$ 170
Net amount at risk ⁽⁴⁾	\$ 26	\$ 17
Weighted average waiting period until guarantee date	4 years	5 years

⁽¹⁾ Defined as the estimated current guaranteed minimum death benefit in excess of the current account balance as of the balance sheet date.

⁽²⁾ Defined as the estimated present value of the guaranteed minimum annuity payments in excess of the current account balance.

⁽³⁾ Defined as the estimated current guaranteed minimum withdrawal balance (initial deposit) in excess of the current account balance as of the balance sheet date.

⁽⁴⁾ Defined as the estimated present value of the guaranteed minimum accumulation balance in excess of the current account balance.

The liability for death and income benefit guarantees is equal to a benefit ratio multiplied by the cumulative contract charges earned, plus accrued interest less contract excess guarantee benefit payments. The benefit ratio is calculated as the estimated present value of all expected contract excess guarantee benefits divided by the present value of all expected contract charges. The establishment of reserves for these guarantees requires the projection of future fund values, mortality, persistency and customer benefit utilization rates. These assumptions are periodically reviewed and updated. For guarantees related to death benefits, benefits represent the projected excess guaranteed minimum death benefit payments. For guarantees related to income benefits, benefits represent the present value of the minimum guaranteed annuitization benefits in excess of the projected account balance at the time of annuitization.

Projected benefits and contract charges used in determining the liability for certain guarantees are developed using models and stochastic scenarios that are also used in the development of estimated expected gross profits. Underlying assumptions for the liability related to income benefits include assumed future annuitization elections based on factors such as the extent of benefit to the potential annuitant, eligibility conditions and the annuitant's attained age. The liability for guarantees is re-evaluated periodically, and adjustments are made to the liability balance through a charge or credit to life and annuity contract benefits.

Guarantees related to the majority of withdrawal and accumulation benefits are considered to be derivative financial instruments; therefore, the liability for these benefits is established based on its fair value.

Summary of liabilities for guarantees

(\$ in millions)	Liability for guarantees related to death benefits and interest-sensitive life products	Liability for guarantees related to income benefits	Liability for guarantees related to accumulation and withdrawal benefits	Total
Balance, December 31, 2017 ⁽¹⁾	\$ 262	\$ 29	\$ 79	\$ 370
Less reinsurance recoverables	87	25	34	146
Net balance as of December 31, 2017	175	4	45	224
Incurred guarantee benefits	24	—	13	37
Paid guarantee benefits	(2)	—	—	(2)
Net change	22	—	13	35
Net balance as of December 31, 2018	197	4	58	259
Plus reinsurance recoverables	111	35	39	185
Balance, December 31, 2018 ⁽²⁾	\$ 308	\$ 39	\$ 97	\$ 444
Balance, December 31, 2016 ⁽³⁾	\$ 244	\$ 44	\$ 77	\$ 365
Less reinsurance recoverables	101	40	43	184
Net balance as of December 31, 2016	143	4	34	181
Incurred guarantee benefits	34	—	11	45
Paid guarantee benefits	(2)	—	—	(2)
Net change	32	—	11	43
Net balance as of December 31, 2017	175	4	45	224
Plus reinsurance recoverables	87	25	34	146
Balance, December 31, 2017 ⁽¹⁾	\$ 262	\$ 29	\$ 79	\$ 370

(1) Included in the total liability balance as of December 31, 2017 are reserves for variable annuity death benefits of \$85 million, variable annuity income benefits of \$26 million, variable annuity accumulation benefits of \$22 million, variable annuity withdrawal benefits of \$12 million and other guarantees of \$225 million.

(2) Included in the total liability balance as of December 31, 2018 are reserves for variable annuity death benefits of \$109 million, variable annuity income benefits of \$36 million, variable annuity accumulation benefits of \$25 million, variable annuity withdrawal benefits of \$14 million and other guarantees of \$260 million.

(3) Included in the total liability balance as of December 31, 2016 are reserves for variable annuity death benefits of \$100 million, variable annuity income benefits of \$40 million, variable annuity accumulation benefits of \$34 million, variable annuity withdrawal benefits of \$9 million and other guarantees of \$182 million.

Note 10 Reinsurance and Indemnification**Effects of reinsurance and indemnification on property and casualty premiums written and earned and life premiums and contract charges**

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Property and casualty insurance premiums written			
Direct	\$ 35,895	\$ 33,685	\$ 32,614
Assumed	99	64	47
Ceded	(1,008)	(1,007)	(1,061)
Property and casualty insurance premiums written, net of recoverables	\$ 34,986	\$ 32,742	\$ 31,600
Property and casualty insurance premiums earned			
Direct	\$ 34,977	\$ 33,221	\$ 32,249
Assumed	87	50	45
Ceded	(1,016)	(971)	(987)
Property and casualty insurance premiums earned, net of recoverables	\$ 34,048	\$ 32,300	\$ 31,307
Life premiums and contract charges			
Direct	\$ 2,001	\$ 1,894	\$ 1,766
Assumed	754	787	818
Ceded	(290)	(303)	(309)
Life premiums and contract charges, net of recoverables	\$ 2,465	\$ 2,378	\$ 2,275

Property and casualty reinsurance and indemnification recoverables

Total amounts recoverable from reinsurers and indemnitors as of December 31, 2018 and 2017 were \$7.27 billion and \$6.57 billion, respectively, including \$111 million and \$96 million, respectively, related to property and casualty losses paid by the Company and billed to reinsurers and indemnitors, and \$7.15 billion and \$6.47 billion, respectively, estimated by the Company with respect to ceded or indemnifiable unpaid losses (including IBNR), which are not billable until the losses are paid. The allowance for uncollectible reinsurance was \$65 million and \$70 million as of December 31, 2018 and 2017, respectively, and is primarily related to reinsurance recoverables arising from the Discontinued Lines and Coverages segment. Indemnification recoverables are considered collectible based on the industry pool and facility enabling legislation.

Property and casualty programs are grouped by the following characteristics:

1. Indemnification programs - industry pools, facilities or associations that are governed by state insurance statutes or regulations or the federal government.
2. Catastrophe reinsurance programs - reinsurance protection for catastrophe exposure nationwide and by specific states, as applicable.
3. Other reinsurance programs - reinsurance protection for asbestos, environmental and other liability exposures.

Property and casualty reinsurance is in place for the Allstate Protection, Discontinued Lines and Coverages and Service Businesses segments. The Company purchases reinsurance after evaluating the financial condition of the reinsurer as well as the terms and price of coverage.

Indemnification programs

The Company participates in state-based industry pools or facilities mandating participation by insurers offering certain coverage in their state, including the Michigan Catastrophic Claims Association ("MCCA"), the New Jersey Property-Liability Insurance Guaranty Association ("PLIGA"), the North Carolina Reinsurance Facility ("NCRF") and the Florida Hurricane Catastrophe Fund ("FHCF"). When the Company pays qualifying claims under the coverage indemnified by a state's pool or facility, the Company is reimbursed for the qualifying claim losses or expenses. Each state pool or facility may assess participating companies to collect sufficient amounts to meet its total indemnification requirements. The enabling legislation for each state's pool or facility compels the pool or facility only to indemnify participating companies for qualifying claim losses or expenses; the state pool or facility does not underwrite the coverage or take on the ultimate risk of the indemnified business. As a pass through, these pools or facilities manage the receipt of assessments paid by participating companies and payment of indemnified amounts for covered claims presented by participating companies. The Company has not had

any credit losses related to these indemnification programs.

State-based industry pools or facilities

Michigan Catastrophic Claims Association The MCCA is a statutory indemnification mechanism for member insurers' qualifying personal injury protection claims paid for the unlimited lifetime medical benefits above the applicable retention level for qualifying injuries from automobile, motorcycle and commercial vehicle accidents. Indemnification recoverables on paid and unpaid claims, including IBNR, as of December 31, 2018 and 2017 include \$5.40 billion and \$5.26 billion, respectively, from the MCCA for its indemnification obligation.

As required for member companies by the MCCA, the Company reports covered paid and unpaid claims to the MCCA when estimates of loss for a reported claim are expected to exceed the retention level, the claims involve certain types of severe injuries, or there are litigation demands received suggesting the claim value exceeds certain thresholds. The retention level is adjusted upward every other MCCA fiscal year by the lesser of 6% or the increase in the Consumer Price Index. The retention level will be \$580 thousand per claim for the fiscal two-years ending June 30, 2021 compared to \$555 thousand per claim for the fiscal two-years ending June 30, 2019.

The MCCA is obligated to fund the ultimate liability of member companies' qualifying claims and claim expenses. The MCCA does not underwrite the insurance coverage or hold any underwriting risk. The MCCA is funded by participating member companies (companies actively writing motor vehicle coverage in Michigan) through a per vehicle annual assessment that is currently \$192 per vehicle insured. The MCCA is required to assess an amount each year sufficient to cover members' actuarially determined present value of expected payments on lifetime claims of all persons expected to be catastrophically injured in that year, its operating expenses, and adjustments for the amount of excesses or deficiencies in prior assessments. The assessment is incurred by the Company as policies are written and recovered as a component of premiums from our customers.

The MCCA indemnifies members as qualifying claims are paid and billed by members to the MCCA. Unlimited lifetime covered losses result in significant levels of ultimate incurred claim reserves being recorded by member companies along with offsetting indemnification recoverables. Disputes with claimants over coverage on certain reported claims can result in additional losses, which may be recoverable from the MCCA, excluding litigation expenses.

The MCCA prepares statutory-basis financial statements in conformity with accounting practices prescribed or permitted by the State of Michigan Department of Insurance and Financial Services ("MI DOI"). The MI DOI has granted the MCCA a statutory permitted practice that expires in 2019 to discount its liabilities for loss and loss adjustment expense. As of June 30, 2018, the date of its most recent annual financial report, the MCCA had cash and invested

assets of \$20.54 billion and an accumulated deficit of \$2.92 billion. The permitted practice reduced the accumulated deficit by \$47.24 billion.

New Jersey Property-Liability Insurance Guaranty Association PLIGA serves as the statutory administrator of the Unsatisfied Claim and Judgment Fund ("UCJF"), Workers' Compensation Security Fund and the New Jersey Surplus Lines Insurance Guaranty Fund.

In addition to its insolvency protection responsibilities, PLIGA reimburses insurers for unlimited excess medical benefits ("EMBs") paid in connection with personal injury protection claims in excess of \$75,000 for policies issued or renewed prior to January 1, 1991, and limited EMB claims in excess of \$75,000 and capped at \$250,000 for policies issued or renewed on or after January 1, 1991, to December 31, 2003.

A significant portion of the incurred claim reserves and the recoverables can be attributed to a small number of catastrophic claims. Assessments paid to PLIGA for the EMB program totaled \$8.9 million in 2018. The amounts of paid and unpaid recoverables as of December 31, 2018 and 2017 were \$461 million and \$493 million, respectively.

PLIGA annually assesses all admitted property and casualty insurers writing covered lines in New Jersey for PLIGA indemnification and expenses. PLIGA assessments may be recouped as a surcharge on premiums collected. PLIGA does not ultimately retain underwriting risk as it assesses member companies for their expected qualifying losses to provide funding for payment of its indemnification obligation to member companies for their actual losses. As a pass through, PLIGA facilitates these transactions of receipt of assessments paid by member companies and payment to member companies for covered claims presented by them for indemnification. As of December 31, 2018, the date of its most recent annual financial report, PLIGA had a fund balance of \$250 million.

As statutory administrator of the UCJF, PLIGA provides compensation to qualified claimants for personal injury protection, bodily injury, or death caused by private passenger automobiles operated by uninsured or "hit and run" drivers. The UCJF also provides private passenger pedestrian personal injury protection benefits when no other coverage is available.

PLIGA annually collects a UCJF assessment from all admitted property and casualty insurers writing motor vehicle liability insurance in New Jersey for UCJF indemnification and expenses. UCJF assessments can be expensed as losses recoverable in rates as appropriate. As of December 31, 2018, the date of its most recent annual financial report, the UCJF fund had a balance of \$41 million.

North Carolina Reinsurance Facility The NCRF provides automobile liability insurance to drivers that insurers are not otherwise willing to insure. All insurers licensed to write automobile insurance in North Carolina are members of the NCRF. Premiums, losses

and expenses are assigned to the NCRF. North Carolina law allows the NCRF to recoup operating losses for certain insureds through a surcharge to policyholders. As of September 30, 2018, the NCRF reported a deficit of \$215 million in members' equity. The NCRF implemented a loss recoupment surcharge on all private passenger policies effective October 1, 2018, through March 31, 2019. Member companies are assessed the recoupment surcharge. The loss recoupment surcharge will be adjusted on April 1, 2019, and discontinued once losses are recovered. The NCRF results are shared by the member companies in proportion to their respective North Carolina automobile liability writings. For the fiscal quarter ending September 30, 2018, net income was \$95 million, including \$1.1 billion of earned premiums, \$206 million of certain private passenger auto risk recoupment and \$228 million of member loss recoupments. As of December 31, 2018, the NCRF recoverables on paid claims is \$9.8 million and recoverables on unpaid claims is \$76.4 million. Paid recoverable balances, if covered, are typically settled within sixty days of monthly filing.

Florida Hurricane Catastrophe Fund Allstate subsidiaries Castle Key Insurance Company ("CKIC") and Castle Key Indemnity Company ("CKI", and together with CKIC, "Castle Key") participate in the mandatory coverage provided by the FHCF and therefore have access to reimbursement for certain qualifying Florida hurricane losses from the FHCF. Castle Key has exposure to assessments and pays annual premiums to the FHCF for this reimbursement protection. The FHCF has the authority to issue bonds to pay its obligations to participating insurers in excess of its capital balances. Payment of these bonds is funded by emergency assessments on all property and casualty premiums in the state, except workers' compensation, medical malpractice, accident and health insurance and policies written under the National Flood Insurance Program ("NFIP"). The FHCF emergency assessments are limited to 6% of premiums per year beginning the first year in which reimbursements require bonding, and up to a total of 10% of premiums per year for assessments in the second and subsequent years, if required to fund additional bonding. The FHCF issued \$2 billion in pre-event bonds in 2013 to build its capacity to reimburse member companies' claims. The FHCF plans to fund these pre-event bonds through current FHCF cash flows. Pursuant to an Order issued by the Florida Office of Insurance Regulation ("FL OIR"), the emergency assessment is zero for all policies issued or renewed on or after January 1, 2015.

Annual premiums earned and paid under the FHCF agreement were \$10 million, \$11 million and \$12 million in 2018, 2017 and 2016, respectively. Qualifying losses were \$143 million and \$19 million in 2018 and 2017, respectively. There were no qualifying losses incurred in 2016. The Company has access to reimbursement provided by the FHCF for 90% of qualifying personal property losses that exceed its current retention of \$54 million for the two largest hurricanes and \$18 million for other hurricanes, up to a maximum total of \$172 million, effective from June 1, 2018 to May 31, 2019. The

amounts recoverable from the FHCFC totaled \$104 million and \$19 million as of December 31, 2018 and 2017, respectively.

Federal Government - National Flood Insurance Program NFIP is a program administered by the Federal Emergency Management Agency ("FEMA") whereby the Company sells and services NFIP flood insurance policies as an agent of FEMA and receives fees for its services. The Company is fully indemnified for claims and claim expenses and does not retain any ultimate risk for the indemnified business. The federal government is obligated to pay all claims and certain allocated loss adjustment expenses in accordance with the arrangement.

Congressional authorization for the NFIP is periodically evaluated and may be subjected to freezes, including when the federal government experiences a shutdown. Starting in 2017, FEMA established an NFIP reinsurance program to manage the future exposure of the NFIP through the transfer of risk to private reinsurance companies and capital market investors. Congress is evaluating the funding of the program as well as considering reforms to the program that would be incorporated in legislation to reauthorize the NFIP.

The amounts recoverable as of December 31, 2018 and 2017 were \$31 million and \$88 million, respectively. Premiums earned under the NFIP include \$258 million, \$263 million and \$274 million in 2018, 2017 and 2016, respectively. Qualifying losses incurred include \$118 million, \$1.12 billion and \$537 million in 2018, 2017 and 2016, respectively.

Catastrophe reinsurance

The Company's reinsurance program is designed to provide reinsurance protection for catastrophes resulting from multiple perils including hurricanes, windstorms, hail, tornadoes, fires following earthquakes, earthquakes and wildfires.

- The majority of our program comprises multi-year contracts, primarily placed in the traditional reinsurance market, such that generally one third of the program is renewed every year.
- Coverage is generally purchased on a broad geographic, product line and multiple peril loss basis.
- The Company purchases reinsurance from traditional reinsurance companies as well as the insurance linked securities market (e.g. "Property Claims Services Agreements" or "PCS Agreements").
- Florida property and New Jersey property and auto are each covered by separate agreements, as the risk of loss is different and our subsidiaries operating in these states are separately capitalized.

The Company has not experienced credit losses on its catastrophe reinsurance programs. The Company ceded premiums earned of \$343 million, \$344 million and \$381 million under catastrophe reinsurance agreements in 2018, 2017 and 2016, respectively. The

Company has the following catastrophe reinsurance agreements in effect as of December 31, 2018:

The Nationwide Excess Catastrophe Reinsurance Program (the "Nationwide Program") provides \$4.5 billion of reinsurance coverage subject to a \$500 million retention and is subject to the amount of reinsurance placed in each of its nine layers. The Nationwide Program comprises four agreements: the Per Occurrence Excess Agreement, the 2014-1 PCS Agreement, the 2017-1 Excess Catastrophe Reinsurance Contract and the 2018-1 Excess Catastrophe Reinsurance Contract.

Per Occurrence Excess Agreement, which is placed in the traditional reinsurance market, reinsures personal lines property and automobile excess catastrophe losses caused by multiple perils in every state except New Jersey and only includes personal lines automobile excess catastrophe losses in Florida. The agreement comprises layers one through six and portions of layer eight. Coverage for each of the first through fifth layers comprises three contracts, with each contract providing one-third of 95% of the total layer limit and expiring May 31, 2019, May 31, 2020 and May 31, 2021. The contracts for each layers one through five include one mandatory reinstatement of limits per year, with premium required.

\$517 million of reinsurance recoveries, including expenses, exhausted layers one through two and partially exhausted layer three due to the impact of the Camp Fire in the fourth quarter of 2018. The Company's net loss also included \$60 million of reinsurance premiums that were accelerated in conjunction with the reinstatement of these layers as of December 31, 2018, and \$30 million of incremental reinstatement premiums to be recognized in 2019.

The sixth layer and eighth layer contracts placed in the traditional reinsurance market contain comparable contract terms and conditions as layers one through five. The sixth layer is 95% placed and comprises one contract expiring May 31, 2022. The contracts for layers one through six provide \$3.07 billion in per occurrence reinsurance limits subject to a \$500 million retention. Coverage for a portion of the eighth layer is provided by one contract expiring May 31, 2022. The contract provides a \$446 million limit and is 29.37% placed. Unlike layer one through five contracts, the sixth and eighth layer contracts each contain an annual variable reset option which allows for the adjustment of each contract's attachment and exhaustion levels within specified limits. The variable reset option requires a premium adjustment. The contracts for each of the first through fifth layers include one mandatory reinstatement of limits per year, with premium required. The sixth and eighth layer contracts each contain one mandatory reinstatement of limits over their seven year term with premium required. Reinsurance premiums for all contracts are subject to redetermination for exposure changes on an annual basis.

Another contract forming a portion of layer eight provides a \$69 million limit in excess of a \$2.75 billion retention, is 100% placed and expires May 31, 2019.

Reinsurance limits of 5% of \$1.25 billion in excess of \$2.75 billion are deemed in place. In addition, recoveries from contracts in layers six through and including layer eight inure to the benefit of this contract.

2014-1 PCS Excess Agreement reinsures personal lines property and automobile excess catastrophe losses caused by hurricanes in 29 states and the District of Columbia, and earthquakes, including fires following earthquakes, in California, New York and Washington. The seventh layer contract is placed with a Bermuda insurance company, Sanders Re Ltd. ("Sanders Re"), which obtained funding from the insurance linked securities ("ILS") market to collateralize the contract's limit. The contract provides a \$321 million limit in excess of a \$3.07 billion retention and is 95% placed. The contract's risk period ends May 21, 2019. Amounts payable under the contract are based on insured industry losses as reported by PCS and further adjusted to account for our exposures in reinsured areas. Reinsurance recoveries under the contract are limited to our ultimate net loss from a PCS-reported hurricane or earthquake. The contracts do not include a reinstatement of limits.

2017-1 Excess Catastrophe Reinsurance Contract reinsures personal lines property and automobile excess losses in 48 states and the District of Columbia, excluding Florida and initially New Jersey, caused by named storms, earthquakes and fires following earthquakes, severe thunderstorms, winter storms, volcanic eruptions, and meteorite impacts. This contract is included in the eighth layer and reinsures actual losses to personal lines property business located in the covered territory and arising out of a covered event. Amounts payable for automobile losses are based on insured industry losses as reported by PCS and further adjusted to account for the Company's auto exposures in reinsured areas. Reinsurance recoveries under the contract are limited to our ultimate net loss from a covered event subject to the contract's limit. The contract's risk period began March 31, 2017 and terminates on November 30, 2021. The contract provides a \$571 million limit and is 65.63% placed between a \$3.40 billion to \$3.97 billion layer. The contract contains a variable reset option, which the ceding entities may invoke for risk periods subsequent to the first risk period and which allows for the annual adjustment of the contract's attachment and exhaustion levels within specified limits. The variable reset option requires a premium adjustment. The contract does not include a restatement of limits.

2018-1 Excess Catastrophe Reinsurance Contract reinsures personal lines property and automobile excess catastrophe losses in 48 states and the District of Columbia, excluding Florida and initially New Jersey, caused by named storms, earthquakes and fires following earthquakes, severe weather, wildfires, and other naturally occurring or man-made events determined to be a catastrophe by the Company. The ninth layer contract reinsures business located in the covered territory and arising out of a covered event. The contract's risk period began April 1, 2018 and terminates on March 31, 2022. The contract provides

one limit of \$500 million during its four-year term, which can be used on a per occurrence or aggregate basis. For each qualifying loss occurrence, the contract provides 100% of \$500 million in reinsurance limits between a \$4.00 billion to \$4.50 billion layer for the April 1, 2018 to March 31, 2019 period. The contract also provides an aggregate limit of 100% of \$500 million in reinsurance limits between a \$3.75 billion to \$4.25 billion layer subject to an annual retention of \$3.75 billion. For each annual period beginning April 1, Company declared catastrophes occurring during such annual period involving two or more exposures and resulting in more than \$1 million in losses to personal lines property and automobile business can be aggregated to erode the aggregate retention and qualify for coverage under the aggregate limit. Reinsurance recoveries from and including layers one through eight of the Nationwide Program inure to the benefit of the aggregate. Reinsurance recoveries collected under the per occurrence limit of this contract are not eligible for cession under the aggregate limit of this contract. Reinsurance recoveries for all loss occurrences and aggregate losses qualifying for coverage during the contract's four-year risk period are limited to our ultimate net loss from a covered event and subject to the contract's \$500 million limit. The contract contains a variable reset option, which the ceding entities may invoke for risk periods subsequent to the first risk period which allows for the annual adjustment of the contract's attachment and exhaustion levels within specified limits. The variable reset option requires a premium adjustment. The contract does not include a reinstatement of limits.

While the 2017-1 Excess Catastrophe Reinsurance Contract and the 2018-1 Excess Catastrophe Contract do not provide reinsurance recoveries for New Jersey exposures for the risk period beginning March 31, 2017 and April 1, 2018, respectively, the contracts each allow for the inclusion of these exposures in the remaining risk periods if so elected and with premium due.

The following programs are designed apart from the Nationwide Program to address distinct exposures in certain states and markets. These programs are described below and are disregarded when determining coverage under the contracts included in the Nationwide Program.

The Company has a separate reinsurance program in Florida designed to cover personal lines property policies in Florida written through Castle Key, its separately capitalized wholly-owned subsidiaries.

Florida Excess Catastrophe Reinsurance Agreement comprises five contracts, as described below, which reinsures Castle Key for personal lines property excess catastrophe losses in Florida. The agreement includes two contracts placed in the traditional market, CKIC's and CKI's reimbursement contracts with the Florida Hurricane Catastrophe Fund ("Mandatory FHCF contracts"), and the Sanders Re 2017-2 Contract ("Sanders Re 2017-2 contract") placed in the ILS markets.

Below FHCF Contract reinsures personal lines property excess catastrophe losses caused by multiple perils in Florida. The contract is 100% placed and provides three separate limits of \$36 million in excess of a \$20 million retention for each occurrence, of which two limits remain outstanding. One limit of \$36 million was exhausted from the impact of Hurricane Michael in October 2018. The first reinstatement of limits is prepaid and the second or final reinstatement requires additional premium. Only the portion of the limit utilized to indemnify losses from an event mandatorily reinstates; the remaining reinstatement limit remains available and will be used as future events erode the per occurrence contract limit. Reinsurance premium is subject to redetermination for exposure changes.

Mandatory FHCF Contracts indemnify qualifying personal lines property losses caused by storms the National Hurricane Center declares to be hurricanes. The contracts provide 90% of \$180 million of limits in excess of retention with no reinstatement of limits. The limits and retentions of the mandatory FHCF contracts are calculated independently for CKIC and CKI and are subject to re-measurement based on June 30, 2018 exposure data. For each of the two largest hurricanes, the retention is \$56 million and retention equal to one third of that amount, or approximately \$19 million, is applicable to all other hurricanes for the season beginning June 1, 2018. In addition, the FHCF's retention is subject to adjustment upward or downward to an actual retention based on submitted exposures to the FHCF by all participants. \$113 million of limit was exhausted from the impact of Hurricane Michael and \$67 million of the limit remains outstanding.

Excess contract reinsures personal lines property excess catastrophe losses caused by multiple perils in Florida. The contract is a two-year term contract effective June 1, 2018 to May 31, 2020 and provides \$249 million of reinsurance limits each contract year. For the June 1, 2018 to May 31, 2019 term, the contract provides one limit of \$249 million in excess of a \$20 million retention and is 100% placed. Recoveries from the Below FHCF contract and Mandatory FHCF contracts inure to the benefit of this contract. For the second contract year, the retention and inuring coverages can be adjusted, within a range and for a premium. The contract does not include a reinstatement of limits. \$42 million of limit was exhausted for Hurricane Michael. Reinsurance premium is subject to redetermination for exposure changes.

Sanders Re 2017-2 is a three-year term contract with a risk period effective June 1, 2017 through May 31, 2020. It reinsures qualifying personal lines property losses caused by a named storm event, a severe thunderstorm event, an earthquake event, a wildfire event, a volcanic eruption event, or a meteorite impact event in Florida as events declared by various reporting agencies, including PCS and as defined in the contract. The contract provides limits of \$200 million in excess of a \$20 million retention and in excess of "stated reinsurance." For the June 1, 2018 to May 31, 2019 risk period, stated reinsurance is defined to

include the Below FHCF contract, the Mandatory FHCF contracts, which are deemed to exhaust due to loss occurrences subject to the non-FHCF contracts, and the Excess contract. Stated reinsurance is deemed to be provided on a multiple peril basis under the terms of the non-FHCF contracts and includes an erosion feature, which provides that upon the exhaustion of a portion of the stated reinsurance, coverage under the Sanders Re contract shall be concurrently placed above and contiguous to the unexhausted portion of the stated reinsurance, if any. The Sanders Re 2017-2 contract contains a variable reset option, which Castle Key may invoke for risk periods subsequent to the first risk period and which allows for the annual adjustment of the contract's attachment and exhaustion levels. The variable reset option requires a premium adjustment. The contract does not contain a restatement of limits.

The Company's New Jersey, Pennsylvania, Kentucky, Florida and Southeast States and California reinsurance agreements are described below.

New Jersey Excess Catastrophe Reinsurance Agreement comprises two existing contracts and a newly placed contract that reinsures personal lines property and automobile excess catastrophe losses in New Jersey caused by multiple perils. The newly placed contract effective June 1, 2018, also includes coverage for commercial lines property and automobile (physical damage only) catastrophe losses.

The contracts expire May 31, 2019, May 31, 2020 and May 31, 2021, and provide 31.67%, 31.67% and 31.66%, respectively, of \$400 million of limits excess of a provisional \$139 million retention, a \$142 million retention, and a \$150 million retention, respectively. Each contract includes one mandatory reinstatement of limits per contract year with premium due. The reinsurance premium and retention are subject to redetermination for exposure changes on an annual basis.

Kentucky Earthquake Excess Catastrophe Reinsurance Contract is a three-year contract that reinsures personal lines property excess catastrophe losses in Kentucky caused by earthquakes and fires following earthquakes. The contract expires May 31, 2020 and provides three limits of \$28 million in excess of a \$2 million retention with two limits being available in any one contract year and is 95% placed. The reinsurance premium and retention are not subject to redetermination for exposure changes.

Aggregate Excess Catastrophe Florida and Southeast States Reinsurance Contract provides \$250 million of reinsurance limits for losses to personal lines and commercial lines automobile business (physical damage only) arising out of multiple perils and provided such losses arise out of a company declared catastrophe and result in qualifying losses in the State of Florida. Once qualifying losses are incurred in the State of Florida, coverage is also provided for losses to personal lines and commercial lines automobile business (physical damage only) arising out of the same catastrophe and occurring in Alabama, Georgia, Louisiana, Mississippi, North Carolina and South

Carolina. The \$250 million of reinsurance limits is subject to a \$250 million aggregate retention for losses arising out of one or all qualifying catastrophes commencing during the contract's one-year term. The contract does not include a restatement of limits.

California E&S Earthquake Contract comprises one contract which reinsures personal lines property catastrophe losses in California caused by earthquake and insured by our excess and surplus lines insurer. The contract is a three-year contract that is effective June 30, 2018 and expires June 30, 2021. Unlike the contracts comprising the Nationwide Program, the E&S Earthquake agreement provides reinsurance on a 100% quota share basis with no retention. The agreement reinsures only shake damage resulting from the earthquake peril.

Other reinsurance programs

The Company's other reinsurance programs relate to asbestos, environmental, and other liability exposures. These programs include reinsurance recoverables of \$165 million and \$167 million from Lloyd's of London as of December 31, 2018 and 2017, respectively. Excluding Lloyd's of London, the largest reinsurance recoverable balance the Company had outstanding was \$60 million and \$61 million from Westport Insurance Corporation as of December 31, 2018 and 2017, respectively.

Developments in the insurance and reinsurance industries have fostered a movement to segregate asbestos, environmental and other discontinued lines exposures into separate legal entities with dedicated capital. Regulatory bodies in certain cases have supported these actions. The Company is unable to determine the impact, if any, that these developments will have on the collectability of reinsurance recoverables in the future.

Lloyd's of London, through the creation of Equitas Limited ("Equitas"), implemented a restructuring to solidify its capital base and to segregate claims for years prior to 1993. In 2007, Berkshire Hathaway's subsidiary, National Indemnity Company, assumed responsibility for the Equitas' claim liabilities through a loss portfolio transfer reinsurance agreement and continues to runoff the Equitas' claims.

Life and annuity reinsurance recoverables

The Company reinsures certain life insurance and annuity risks to other insurers primarily under yearly renewable term, coinsurance, modified coinsurance and coinsurance with funds withheld agreements. These agreements result in a passing of the agreed-upon percentage of risk to the reinsurer in exchange for negotiated reinsurance premium payments. Modified coinsurance and coinsurance with funds withheld are similar to coinsurance, except that the cash and investments that support the liability for contract benefits are not transferred to the assuming company and settlements are made on a net basis between the companies.

For certain term life insurance policies issued prior to October 2009, the Company ceded up to 90% of the mortality risk depending on the year of policy issuance under coinsurance agreements to a pool of fourteen unaffiliated reinsurers. Effective October 2009, mortality risk on term business is ceded under yearly renewable term agreements under which the Company cedes mortality in excess of its retention, which is consistent with how the Company generally reinsures its permanent life insurance business.

Retention limits by period of policy issuance

Period	Retention limits
April 2015 through current	Single life: \$2 million per life Joint life: no longer offered
April 2011 through March 2015	Single life: \$5 million per life, \$3 million age 70 and over, and \$10 million for contracts that meet specific criteria Joint life: \$8 million per life, and \$10 million for contracts that meet specific criteria
July 2007 through March 2011	\$5 million per life, \$3 million age 70 and over, and \$10 million for contracts that meet specific criteria
September 1998 through June 2007	\$2 million per life, in 2006 the limit was increased to \$5 million for instances when specific criteria were met
August 1998 and prior	Up to \$1 million per life

In addition, the Company has used reinsurance to effect the disposition of certain blocks of business. The Company had reinsurance recoverables of \$1.36 billion and \$1.35 billion as of December 31, 2018 and 2017, respectively, due from Prudential related to the disposal of substantially all of its variable annuity business that was effected through reinsurance agreements. In 2018, premiums and contract charges of \$72 million, contract benefits of \$87 million, interest credited to contractholder funds of \$20 million, and operating costs and expenses of \$14 million were

ceded to Prudential. In 2017, premiums and contract charges of \$76 million, contract benefits of \$7 million, interest credited to contractholder funds of \$20 million, and operating costs and expenses of \$15 million were ceded to Prudential. In 2016, premiums and contract charges of \$78 million, contract benefits of \$21 million, interest credited to contractholder funds of \$20 million, and operating costs and expenses of \$15 million were ceded to Prudential. In addition, as of December 31, 2018 and 2017, the Company had reinsurance recoverables of \$118 million and \$139 million,

respectively, due from subsidiaries of Citigroup (Triton Insurance and American Health and Life Insurance) and Scottish Re (U.S.) Inc. in connection with the disposition of substantially all of the direct response distribution business in 2003.

The Company is the assuming reinsurer for Lincoln Benefit Life Company's ("LBL's") life insurance business sold through the Allstate agency channel and LBL's payout annuity business in force prior to the sale of LBL on April 1, 2014. Under the terms of the reinsurance agreement, the Company is required to

have a trust with assets greater than or equal to the statutory reserves ceded by LBL to the Company, measured on a monthly basis. As of December 31, 2018, the trust held \$5.94 billion of investments, which are reported in the Consolidated Statement of Financial Position.

As of December 31, 2018, the gross life insurance in force was \$450.60 billion of which \$81.19 billion was ceded to the unaffiliated reinsurers.

Reinsurance recoverables on paid and unpaid benefits

(\$ in millions)	As of December 31,	
	2018	2017
Annuities	\$ 1,381	\$ 1,370
Life insurance	776	817
Other	142	167
Total	\$ 2,299	\$ 2,354

As of December 31, 2018 and 2017, approximately 93% and 92%, respectively, of the reinsurance recoverables are due from companies rated A- or better by S&P.

Note 11 Deferred Policy Acquisition and Sales Inducement Costs

Deferred policy acquisition costs activity

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Balance, beginning of year	\$ 4,191	\$ 3,954	\$ 3,861
SquareTrade acquisition	—	66	—
Acquisition costs deferred ⁽¹⁾	5,663	5,001	4,717
Amortization charged to income ⁽¹⁾	(5,222)	(4,784)	(4,550)
Effect of unrealized gains and losses	152	(46)	(74)
Balance, end of year	\$ 4,784	\$ 4,191	\$ 3,954

Deferred sales inducement costs activity ⁽²⁾

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Balance, beginning of year	\$ 36	\$ 40	\$ 45
Sales inducements deferred	—	—	1
Amortization charged to income	(4)	(4)	(5)
Effect of unrealized gains and losses	2	—	(1)
Balance, end of year	\$ 34	\$ 36	\$ 40

⁽¹⁾ Includes \$152 million of acquisition costs deferred and \$101 million of amortization charged to income related to the revenue from contracts with customers accounting standard adopted in 2018.

⁽²⁾ Deferred sales inducement costs primarily relate to fixed annuities and interest-sensitive life contracts and are recorded as part of other assets on the Consolidated Statements of Financial Position.

Note 12 Capital Structure**Total debt outstanding**

(\$ in millions)	As of December 31,	
	2018	2017
6.75% Senior Debentures, due 2018	\$ —	\$ 176
7.45% Senior Notes, due 2019 ⁽¹⁾	317	317
Floating Rate Senior Notes, due 2021 ⁽¹⁾	250	—
Floating Rate Senior Notes, due 2023 ⁽¹⁾	250	—
3.15% Senior Notes, due 2023 ⁽¹⁾	500	500
Due after one year through five years	1,317	993
3.28% Senior Notes, due 2026 ⁽¹⁾	550	550
Due after five years through ten years	550	550
6.125% Senior Notes, due 2032 ⁽¹⁾	159	159
5.35% Senior Notes due 2033 ⁽¹⁾	323	323
5.55% Senior Notes due 2035 ⁽¹⁾	546	546
5.95% Senior Notes, due 2036 ⁽¹⁾	386	386
6.90% Senior Debentures, due 2038	165	165
5.20% Senior Notes, due 2042 ⁽¹⁾	62	62
4.50% Senior Notes, due 2043 ⁽¹⁾	500	500
4.20% Senior Notes, due 2046 ⁽¹⁾	700	700
5.10% Subordinated Debentures, due 2053	500	500
5.75% Subordinated Debentures, due 2053	800	800
6.125% Junior Subordinated Debentures, due 2067	—	224
6.50% Junior Subordinated Debentures, due 2067	500	500
Due after ten years	4,641	4,865
Long-term debt total principal	6,508	6,408
Debt issuance costs	(57)	(58)
Total long-term debt	6,451	6,350
Short-term debt ⁽²⁾	—	—
Total debt	\$ 6,451	\$ 6,350

⁽¹⁾ Senior Notes, with the exception of Senior Floating Notes (as defined below), are subject to redemption at the Company's option in whole or in part at any time at the greater of either 100% of the principal amount plus accrued and unpaid interest to the redemption date or the discounted sum of the present values of the remaining scheduled payments of principal and interest and accrued and unpaid interest to the redemption date.

⁽²⁾ The Company classifies any borrowings which have a maturity of twelve months or less at inception as short-term debt.

Debt maturities for each of the next five years and thereafter

(\$ in millions)	
2019	\$ 317
2020	—
2021	250
2022	—
2023	750
Thereafter	5,191
Total long-term debt principal	\$ 6,508

On March 29, 2018, the Company issued \$250 million of Floating Rate Senior Notes due 2021 ("2021 Senior Floating Notes") and \$250 million of Floating Rate Senior Notes due 2023 ("2023 Senior Floating Notes" and, together with the 2021 Senior Floating Notes, the "Senior Floating Notes"). The 2021 Senior Floating Notes bear interest at a floating rate equal to three month LIBOR, reset quarterly on each interest

reset date, plus 0.43% per year and the 2023 Senior Floating Notes bear interest at a floating rate equal to three month LIBOR, reset quarterly on each interest reset date, plus 0.63% per year. Interest on the Senior Floating Notes is payable quarterly in arrears on March 29, June 29, September 29 and December 29 of each year, which began on June 29, 2018. The 2021 Senior Floating Notes will mature on March 29, 2021, and the 2023 Senior Floating Notes will mature on March 29, 2023. The Senior Floating Notes will not be redeemable prior to the applicable maturity dates. The proceeds of these issuances were used for general corporate purposes, including the redemption of the Series B 6.125% Fixed-to-Floating Rate Junior Subordinated Debentures (the "Series B Debentures") on May 13, 2018 and the repayment at maturity of the Company's 6.75% Senior Debentures due May 15, 2018.

On May 13, 2018, the Company redeemed its \$224 million Series B Debentures at a redemption price equal to 100% of the outstanding principal.

On May 15, 2018, the Company repaid \$176 million of 6.75% Senior Debentures at maturity. The repayment was equal to 100% of the outstanding principal.

The Subordinated Debentures may be redeemed (i) in whole at any time or in part from time to time on or after January 15, 2023 for the 5.10% Subordinated Debentures and August 15, 2023 for the 5.75% Subordinated Debentures at their principal amount plus accrued and unpaid interest to, but excluding, the date of redemption; provided that if the Subordinated Debentures are not redeemed in whole, at least \$25 million aggregate principal amount must remain outstanding, or (ii) in whole, but not in part, prior to January 15, 2023 for the 5.10% Subordinated Debentures and August 15, 2023 for the 5.75% Subordinated Debentures, within 90 days after the occurrence of certain tax and rating agency events, at their principal amount or, if greater, a make-whole redemption price, plus accrued and unpaid interest to, but excluding, the date of redemption. The 5.75% Subordinated Debentures have this make-whole redemption price provision only when a reduction of equity credit assigned by a rating agency has occurred.

Interest on the 5.10% Subordinated Debentures is payable quarterly at the stated fixed annual rate to January 14, 2023, or any earlier redemption date, and then at an annual rate equal to the three-month LIBOR plus 3.165%. Interest on the 5.75% Subordinated Debentures is payable semi-annually at the stated fixed annual rate to August 14, 2023, or any earlier redemption date, and then quarterly at an annual rate equal to the three-month LIBOR plus 2.938%. The Company may elect to defer payment of interest on the Subordinated Debentures for one or more consecutive interest periods that do not exceed five years. During a deferral period, interest will continue to accrue on the Subordinated Debentures at the then-applicable rate and deferred interest will compound on each interest payment date. If all deferred interest on the Subordinated Debentures is paid, the Company can again defer interest payments.

As of December 31, 2018, the Company had outstanding \$500 million of Series A 6.50% Fixed-to-Floating Rate Junior Subordinated Debentures ("Debentures"). The scheduled maturity date for the Debentures is May 15, 2057 with a final maturity date of May 15, 2067. The Debentures may be redeemed (i) in whole or in part, at any time on or after May 15, 2037 at the principal amount plus accrued and unpaid interest to the date of redemption, or (ii) in certain circumstances, in whole or in part, prior to May 15, 2037 at the principal amount plus accrued and unpaid interest to the date of redemption or, if greater, a make-whole price.

Interest on the Debentures is payable semi-annually at the stated fixed annual rate to May 15, 2037, and then payable quarterly at an annual rate equal to the three-month LIBOR plus 2.12%. The Company may elect at one or more times to defer payment of interest on the Debentures for one or more consecutive interest periods that do not exceed 10 years. Interest compounds during such deferral

periods at the rate in effect for each period. The interest deferral feature obligates the Company in certain circumstances to issue common stock or certain other types of securities if it cannot otherwise raise sufficient funds to make the required interest payments. The Company has reserved 75 million shares of its authorized and unissued common stock to satisfy this obligation.

The terms of the Company's outstanding subordinated debentures prohibit the Company from declaring or paying any dividends or distributions on common or preferred stock or redeeming, purchasing, acquiring, or making liquidation payments on common stock or preferred stock if the Company has elected to defer interest payments on the subordinated debentures, subject to certain limited exceptions.

In connection with the issuance of the Debentures, the Company entered into a replacement capital covenant ("RCC"). This covenant was not intended for the benefit of the holders of the Debentures and could not be enforced by them. Rather, it was for the benefit of holders of one or more other designated series of the Company's indebtedness ("covered debt"), currently the 5.75% Subordinated Debentures due 2053. Pursuant to the RCC, the Company has agreed that it will not repay, redeem, or purchase the Debentures on or before May 15, 2067 (or such earlier date on which the RCC terminates by its terms) unless, subject to certain limitations, the Company has received net cash proceeds in specified amounts from the sale of common stock or certain other qualifying securities. The promises and covenants contained in the RCC will not apply if (i) S&P upgrades the Company's issuer credit rating to A or above, (ii) the Company redeems the Debentures due to a tax event, (iii) after notice of redemption has been given by the Company and a market disruption event occurs preventing the Company from raising proceeds in accordance with the RCC, or (iv) the Company repurchases or redeems up to 10% of the outstanding principal of the Debentures in any one-year period, provided that no more than 25% will be so repurchased, redeemed or purchased in any ten-year period.

The RCC terminates in 2067. The RCC will terminate prior to its scheduled termination date if (i) the Debentures are no longer outstanding and the Company has fulfilled its obligations under the RCC or it is no longer applicable, (ii) the holders of a majority of the then-outstanding principal amount of the then-effective series of covered debt consent to agree to the termination of the RCC, (iii) the Company does not have any series of outstanding debt that is eligible to be treated as covered debt under the RCC, (iv) the Debentures are accelerated as a result of an event of default, (v) certain rating agency or change in control events occur, (vi) S&P, or any successor thereto, no longer assigns a solicited rating on senior debt issued or guaranteed by the Company, or (vii) the termination of the RCC would have no effect on the equity credit provided by S&P with respect to the Debentures. An event of default, as defined by the supplemental

indenture, includes default in the payment of interest or principal and bankruptcy proceedings.

To manage short-term liquidity, the Company maintains a commercial paper program and a credit facility as a potential source of funds. These include a \$1.00 billion unsecured revolving credit facility and a commercial paper program with a borrowing limit of \$1.00 billion. In April 2016, the Company extended the maturity date of the facility to April 2021. This facility contains an increase provision that would allow up to an additional \$500 million of borrowing. This facility has a financial covenant requiring the Company not to exceed a 37.5% debt to capitalization ratio as defined in the agreement. Although the right to borrow under the facility is not subject to a minimum rating requirement, the costs of maintaining the facility and borrowing under it are based on the ratings of the Company's senior unsecured, unguaranteed long-term debt. The total amount outstanding at any point in time under the combination of the commercial paper program and the credit facility cannot exceed the amount that can be borrowed under the credit facility. No amounts were outstanding under the credit facility as of December 31, 2018 or 2017. The Company had no commercial paper outstanding as of December 31, 2018 or 2017.

The Company paid \$330 million, \$332 million and \$287 million of interest on debt in 2018, 2017 and 2016, respectively.

The Company had \$260 million and \$169 million of investment-related debt that is reported in other liabilities and accrued expenses as of December 31, 2018 and 2017, respectively.

During 2018, the Company filed a universal shelf registration statement with the Securities and Exchange Commission ("SEC") that expires in 2021. The registration statement covers an unspecified amount of securities and can be used to issue debt securities, common stock, preferred stock, depositary shares, warrants, stock purchase contracts, stock purchase units and securities of trust subsidiaries.

Common stock The Company had 900 million shares of issued common stock of which 332 million shares were outstanding and 568 million shares were held in treasury as of December 31, 2018. In 2018, the Company acquired 25 million shares at an average cost of \$88.07 and reissued 2 million net shares under equity incentive plans.

Preferred stock All outstanding preferred stock represents noncumulative perpetual preferred stock with a \$1.00 par value per share and a liquidation preference of \$25,000 per share.

Total preferred stock outstanding

	As of December 31,		Aggregate liquidation preference (\$ in millions)		Dividend rate	Dividend per depository share ⁽¹⁾			Aggregate dividend payment (\$ in millions)		
	2018	2017	2018	2017		2018	2017	2016	2018	2017	2016
Series A	11,500	11,500	\$ 287.5	\$ 287.5	5.625%	\$ 1.41	\$ 1.41	\$ 1.41	\$ 16	\$ 16	\$ 16
Series C	—	15,400	—	385.0	6.750%	1.69	1.69	1.69	26 ⁽²⁾	26	26
Series D	5,400	5,400	135.0	135.0	6.625%	1.66	1.66	1.66	9	9	9
Series E	29,900	29,900	747.5	747.5	6.625%	1.66	1.66	1.66	49	49	49
Series F	10,000	10,000	250.0	250.0	6.250%	1.56	1.56	1.56	16	16	16
Series G	23,000	—	575.0	—	5.625%	1.41	—	—	18	—	—
Total	79,800	72,200	\$ 1,995	\$ 1,805					\$ 134⁽²⁾	\$ 116	\$ 116

⁽¹⁾ Each depository share represents a 1/1,000th interest in a share of preferred stock.

⁽²⁾ Excludes \$13 million related to the excess of redemption price over carrying value recognized as part of preferred stock dividends on the Consolidated Statements of Operations and Consolidated Statements of Shareholders' Equity.

On October 15, 2018, the Company redeemed all 15,400 shares of its Fixed Rate Noncumulative Perpetual Preferred Stock, Series C (the "Series C Preferred Stock"), par value \$1.00 per share and liquidation preference \$25,000 per share and the corresponding depository shares for a total redemption payment of \$385 million. The redemption price in excess of the carrying value for the preferred shares was recognized as part of preferred stock dividends on the Consolidated Statements of Operations and Consolidated Statements of Shareholders' Equity.

On March 29, 2018, the Company issued 23,000 shares of 5.625% Fixed Rate Noncumulative Perpetual Preferred Stock, Series G, par value \$1.00 per share

and liquidation preference \$25,000 per share, for gross proceeds of \$575 million. The proceeds of this issuance were used for general corporate purposes, including the redemption of the Series C Preferred Stock.

The preferred stock ranks senior to the Company's common stock with respect to the payment of dividends and liquidation rights. The Company will pay dividends on the preferred stock on a noncumulative basis only when, as and if declared by the Company's board of directors (or a duly authorized committee of the board) and to the extent that the Company has legally available funds to pay dividends. If dividends are declared on the preferred stock, they will be

payable quarterly in arrears at an annual fixed rate. Dividends on the preferred stock are not cumulative. Accordingly, in the event dividends are not declared on the preferred stock for payment on any dividend payment date, then those dividends will cease to be payable. If the Company has not declared a dividend before the dividend payment date for any dividend period, the Company has no obligation to pay dividends for that dividend period, whether or not dividends are declared for any future dividend period. No dividends may be paid or declared on the Company's common stock and no shares of the Company's common stock may be repurchased unless the full dividends for the latest completed dividend period on the preferred stock have been declared and paid or provided for.

The Company is prohibited from declaring or paying dividends on preferred stock in excess of the amount of net proceeds from an issuance of common stock taking place within 90 days before a dividend declaration date if, on that dividend declaration date, either: (1) the risk-based capital ratios of the largest U.S. property-casualty insurance subsidiaries that collectively account for 80% or more of the net written premiums of U.S. property-casualty insurance business on a weighted average basis were less than 175% of their company action level risk-based capital as of the end of the most recent year; or (2) consolidated net income for the four-quarter period ending on the preliminary quarter end test date (the quarter that is two quarters prior to the most recently completed quarter) is zero or negative and consolidated shareholders' equity (excluding AOCI, and subject to certain other adjustments relating to changes in U.S. GAAP) as of each of the preliminary quarter test date and the most recently completed quarter has declined by 20% or more from its level as measured at the end of the benchmark quarter (the date that is ten quarters prior to the most recently completed quarter). If the Company fails to satisfy either of these tests on any dividend declaration date, the restrictions on dividends will continue until the Company is able again to satisfy the test on a dividend declaration date. In

addition, in the case of a restriction arising under (2) above, the restrictions on dividends will continue until consolidated shareholders' equity (excluding AOCI, and subject to certain other adjustments relating to changes in U.S. GAAP) has increased, or has declined by less than 20%, in either case as compared to its level at the end of the benchmark quarter for each dividend payment date as to which dividend restrictions were imposed.

The preferred stock does not have voting rights except with respect to certain changes in the terms of the preferred stock, in the case of certain dividend nonpayments, certain other fundamental corporate events, mergers or consolidations and as otherwise provided by law. If and when dividends have not been declared and paid in full for at least six quarterly dividend periods or their equivalent (whether or not consecutive), the authorized number of directors then constituting our board of directors will be increased by two. The holders of the preferred stock, together with the holders of all other affected classes and series of voting parity stock, voting as a single class, will be entitled to elect the two additional members of the board of directors of the Company, subject to certain conditions. The board of directors shall at no time have more than two preferred stock directors.

The preferred stock is perpetual and has no maturity date. The preferred stock is redeemable at the Company's option in whole or in part, on or after June 15, 2018 for Series A, April 15, 2019 for Series D and E, October 15, 2019 for Series F, and April 15, 2023 for Series G, at a redemption price of \$25,000 per share of preferred stock, plus declared and unpaid dividends. Prior to April 15, 2019 for Series D and E, October 15, 2019 for Series F, and April 15, 2023 for Series G, the preferred stock is redeemable at the Company's option, in whole but not in part, within 90 days of the occurrence of certain rating agency events at a redemption price equal to \$25,000 per share or, if greater, a make-whole redemption price, plus declared and unpaid dividends.

Note 13 Company Restructuring

The Company undertakes various programs to reduce expenses. These programs generally involve a reduction in staffing levels, and in certain cases, office closures. Restructuring and related charges primarily include employee severance and relocation benefits, and post-exit rent expenses in connection with these programs, and non-cash charges resulting from pension benefit payments made to agents and certain legal expenses and settlements incurred in connection with the 1999 reorganization of Allstate's multiple

agency programs to a single exclusive agency program ("1999 reorganization"). The expenses related to these activities are included in the Consolidated Statements of Operations as restructuring and related charges, and totaled \$67 million, \$96 million and \$18 million in 2018, 2017 and 2016, respectively. Restructuring expenses in 2018 primarily related to realignment of certain employees to centralized talent centers as well as legal settlements and expenses.

Restructuring activity during the period

(\$ in millions)	Employee costs	Exit costs	Total liability
Restructuring liability as of December 31, 2017	\$ 15	\$ 30	\$ 45
Expense incurred	50	20	70
Adjustments to liability	(1)	(2)	(3)
Payments and non-cash pension settlements	(35)	(33)	(68)
Restructuring liability as of December 31, 2018	\$ 29	\$ 15	\$ 44

The payments applied against the liability for employee costs primarily reflect severance costs, and the payments for exit costs generally consist of post-exit rent expenses and contract termination penalties.

As of December 31, 2018, the cumulative amount incurred to date for active programs related to employee severance, relocation benefits and post-exit

rent expenses totaled \$91 million for employee costs and \$11 million for exit costs. The cumulative amounts exclude \$59 million of employee costs and \$99 million of exit costs related to the 1999 reorganization. In 2018, the Company settled the litigation related to the 1999 reorganization and therefore, this matter is no longer an active program.

Note 14 Commitments, Guarantees and Contingent Liabilities**Leases**

The Company leases certain office facilities, computer and office equipment, aircraft and automobiles. Total rent expense for all leases was \$151 million, \$149 million and \$147 million in 2018, 2017 and 2016, respectively.

Minimum rental commitments under operating leases with an initial or remaining term of more than one year as of December 31, 2018 are in the following table:

(\$ in millions)	
2019	\$ 130
2020	121
2021	96
2022	80
2023	65
Thereafter	151
Total	\$ 643

Shared markets and state facility assessments

The Company is required to participate in assigned risk plans, reinsurance facilities and joint underwriting associations in various states that provide insurance coverage to individuals or entities that otherwise are unable to purchase such coverage from private insurers.

The Company routinely reviews its exposure to assessments from these plans, facilities and government programs. Underwriting results related to these arrangements, which tend to be adverse, have been immaterial to the Company's results of operations. Because of the Company's participation, it may be exposed to losses that surpass the capitalization of these facilities and/or assessments from these facilities.

Florida Citizens Castle Key is subject to assessments from Citizens Property Insurance Corporation in the state of Florida ("FL Citizens"), which was initially created by the state of Florida to provide

insurance to property owners unable to obtain coverage in the private insurance market. FL Citizens, at the discretion and direction of its Board of Governors ("FL Citizens Board"), can levy a regular assessment on assessable insurers and assessable insureds for a deficit in any calendar year up to a maximum of the greater of: 2% of the projected deficit or 2% of the aggregate statewide direct written premium for the prior calendar year. The base of assessable insurers includes all property and casualty premiums in the state, except workers' compensation, medical malpractice, accident and health insurance and policies written under the NFIP. An insurer may recoup a regular assessment through a surcharge to policyholders. In order to recoup this assessment, an insurer must file for a policy surcharge with the FL OIR at least fifteen days prior to imposing the surcharge on policies. If a deficit remains after the regular assessment, FL Citizens' can also levy emergency assessments in the current and subsequent years. Companies are required to collect the emergency assessments directly from residential property policyholders and remit to FL Citizens as collected. Currently, the emergency assessment is zero for all policies issued or renewed on or after July 1, 2015.

Louisiana Citizens The Company is also subject to assessments from Louisiana Citizens Property Insurance Corporation ("LA Citizens"). LA Citizens can levy a regular assessment on participating companies for a deficit in any calendar year up to a maximum of the greater of 10% of the calendar year deficit or 10% of Louisiana direct property premiums industry-wide for the prior calendar year. If the plan year deficit exceeds the amount that can be recovered through Regular Assessments, LA Citizens may fund the remaining deficit by issuing revenue assessment bonds in the capital markets. LA Citizens then declares Emergency Assessments each year to provide debt service on the bonds until they are retired. Companies writing assessable lines must surcharge their policyholders Emergency Assessments in the percentage established annually by LA Citizens and must remit amounts collected to the bond trustee on a quarterly basis. Emergency assessments to pay off bonds

issued in 2007 for the hurricanes of 2005 will continue until 2025.

Facilities such as FL Citizens and LA Citizens are generally designed so that the ultimate cost is borne by policyholders; however, the exposure to assessments from these facilities and the availability of recoupments or premium rate increases may not offset each other in the Company's financial statements. Moreover, even if they do offset each other, they may not offset each other in financial statements for the same fiscal period due to the ultimate timing of the assessments and recoupments or premium rate increases, as well as the possibility of policies not being renewed in subsequent years.

California Earthquake Authority Exposure to certain potential losses from earthquakes in California is limited by the Company's participation in the California Earthquake Authority ("CEA"), which provides insurance for California earthquake losses. The CEA is a privately-financed, publicly-managed state agency created to provide insurance coverage for earthquake damage. Insurers selling homeowners insurance in California are required to offer earthquake insurance to their customers either through their company or by participation in the CEA. The Company's homeowners policies continue to include coverages for losses caused by explosions, theft, glass breakage and fires following an earthquake, which are not underwritten by the CEA.

As of September 30, 2018, the CEA's capital balance was approximately \$5.54 billion. Should losses arising from an earthquake cause a deficit in the CEA, an additional \$682 million would be obtained from the proceeds of revenue bonds the CEA may issue, an existing \$8.15 billion reinsurance layer, and finally, if needed, assessments on participating insurance companies. Participating insurers are required to pay an assessment, currently estimated not to exceed \$1.66 billion, if the capital of the CEA falls below \$350 million. Within the limits previously described, the assessment could be intended to restore the CEA's capital to a level of \$350 million. There is no provision that allows insurers to recover assessments through a premium surcharge or other mechanism. The CEA's projected aggregate claim paying capacity is \$16.02 billion as of September 30, 2018 and if an event were to result in claims greater than its capacity, affected policyholders may be paid a prorated portion of their covered losses, paid on an installment basis, or no payments may be made if the claim paying capacity of the CEA is insufficient.

All future assessments on participating CEA insurers are based on their CEA insurance market share as of December 31 of the preceding year. As of December 31, 2017, the Company's market share was 10.2%. The Company does not expect its market share to materially change. At this level, the Company's maximum possible CEA assessment would be \$168.8 million during 2019. These amounts are re-evaluated by the board of directors of the CEA on an annual basis. Accordingly, assessments from the CEA for a particular quarter or annual period may be material to the results of operations and cash flows, but not the

financial position of the Company. Management believes the Company's exposure to earthquake losses in California has been significantly reduced as a result of its participation in the CEA.

Texas Windstorm Insurance Association The Company participates as a member of the Texas Windstorm Insurance Association ("TWIA"), which provides wind and hail property coverage to coastal risks unable to procure coverage in the voluntary market. Wind and hail coverage is written on a TWIA-issued policy. TWIA follows a funding structure first utilizing currently available funds set aside from current and prior years. Under the current law, to the extent losses exceed premiums received from policyholders, TWIA utilizes a combination of reinsurance, TWIA issued securities, as well as member and policyholder assessments to fund loss payments.

During 2018, the TWIA Board announced assessments related to Hurricane Harvey for which the Company's share was \$37 million. These costs were recorded in property and casualty insurance claims and claims expense as catastrophe losses on the Consolidated Statements of Operations. Any assessments from TWIA for a particular quarter or annual period may be material to the results of operations and cash flows, but not to the financial position of the Company.

Texas Fair Plan Association The Company participates as a member of the Texas Fair Plan Association ("FAIR Plan"), which provides residential property insurance to inland areas designated as underserved by the Commissioner of Insurance and the applicant(s) are unable to procure coverage in the voluntary market. The FAIR Plan issues insurance policies, like an insurance company, and it also functions as a pooling mechanism that allocates premiums, claims and expenses back to the insurance industry. As a result of the losses incurred related to Hurricane Harvey, in 2017 the FAIR Plan Board unanimously voted to approve its first ever member assessment of which the Company's share was \$8 million based on total direct premium written in Texas. Insurers are permitted to recover the assessment through either a premium surcharge applied to existing customers over a three-year period or increased rates, but the ability to fully recover the assessment may be impacted by market conditions or other factors.

North Carolina Joint Underwriters Association The North Carolina Joint Underwriters Association ("NCJUA") was created to provide property insurance for properties (other than the state's beach and coastal areas) that insurers are not otherwise willing to insure. All insurers licensed to write property insurance in North Carolina are members of the NCJUA. Premiums, losses and expenses of the NCJUA are shared by the member companies in proportion to their respective North Carolina property insurance writings. Member companies participate in plan deficits or surpluses based on their participation ratios, which are determined annually. The Company had a \$4.1 million receivable from the NCJUA at December 31, 2018 and had paid a \$5.3 million assessment in 2018,

representing our participation in the NCJUA's deficit of \$20.4 million for all open years.

North Carolina Insurance Underwriting Association The North Carolina Insurance Underwriting Association ("NCIUA") provides windstorm and hail coverage as well as homeowners policies for properties located in the state's beach and coastal areas that insurers are not otherwise willing to insure. All insurers licensed to write residential and commercial property insurance in North Carolina are members of the NCIUA. Members are assessed in proportion to their North Carolina residential and commercial property insurance writings, which is determined annually and varies by coverage, for plan deficits. As of December 31, 2018, the NCIUA had a surplus of \$720.5 million. No member company shall be entitled to the distribution of any portion of the Association's surplus. The Company does not recognize any interest related to this surplus. Legislation in 2009 capped insurers' assessments for losses incurred in any calendar year at \$1 billion. Subsequent to an industry assessment of \$1 billion, if the plan continues to require funding, it may authorize insurers to assess a 10% catastrophe recovery charge on each property insurance policy statewide to be remitted to the plan.

Other programs The Company is also subject to assessments by the NCRF and the FHCF, which are described in Note 10.

Guaranty funds

Under state insurance guaranty fund laws, insurers doing business in a state can be assessed, up to prescribed limits, for certain obligations of insolvent insurance companies to policyholders and claimants. Amounts assessed to each company are typically related to its proportion of business written in each state. The Company's policy is to accrue assessments when the entity for which the insolvency relates has met its state of domicile's statutory definition of insolvency, the amount of the loss is reasonably estimable and the related premium upon which the assessment is based is written. In most states, the definition is met with a declaration of financial insolvency by a court of competent jurisdiction. In certain states there must also be a final order of liquidation. Since most states allow a credit against premium or other state related taxes for assessments, an asset is recorded based on paid and accrued assessments for the amount the Company expects to recover on the respective state's tax return and is realized over the period allowed by each state. As of both December 31, 2018 and 2017, the liability balance included in other liabilities and accrued expenses was \$12 million. The related premium tax offsets included in other assets were \$16 million and \$19 million as of December 31, 2018 and 2017, respectively.

Guarantees

Related to the sale of Lincoln Benefit Life Company on April 1, 2014, ALIC agreed to indemnify Resolution Life Holdings, Inc. in connection with certain representations, warranties and covenants of ALIC, and certain liabilities specifically excluded from the

transaction, subject to specific contractual limitations regarding ALIC's maximum obligation. Management does not believe these indemnifications will have a material effect on results of operations, cash flows or financial position of the Company.

Related to the disposal through reinsurance of substantially all of its variable annuity business to Prudential in 2006, the Company and its consolidated subsidiaries, ALIC and ALNY, have agreed to indemnify Prudential for certain pre-closing contingent liabilities (including extra-contractual liabilities of ALIC and ALNY and liabilities specifically excluded from the transaction) that ALIC and ALNY have agreed to retain. In addition, the Company, ALIC and ALNY will each indemnify Prudential for certain post-closing liabilities that may arise from the acts of ALIC, ALNY and their agents, including certain liabilities arising from ALIC's and ALNY's provision of transition services. The reinsurance agreements contain no limitations or indemnifications with regard to insurance risk transfer and transferred all of the future risks and responsibilities for performance on the underlying variable annuity contracts to Prudential, including those related to benefit guarantees. Management does not believe this agreement will have a material effect on results of operations, cash flows or financial position of the Company.

In the normal course of business, the Company provides standard indemnifications to contractual counterparties in connection with numerous transactions, including acquisitions and divestitures. The types of indemnifications typically provided include indemnifications for breaches of representations and warranties, taxes and certain other liabilities, such as third party lawsuits. The indemnification clauses are often standard contractual terms and are entered into in the normal course of business based on an assessment that the risk of loss would be remote. The terms of the indemnifications vary in duration and nature. In many cases, the maximum obligation is not explicitly stated and the contingencies triggering the obligation to indemnify have not occurred and are not expected to occur. Consequently, the maximum amount of the obligation under such indemnifications is not determinable. Historically, the Company has not made any material payments pursuant to these obligations.

The aggregate liability balance related to all guarantees was not material as of December 31, 2018.

Regulation and compliance

The Company is subject to extensive laws, regulations, administrative directives, and regulatory actions. From time to time, regulatory authorities or legislative bodies seek to influence and restrict premium rates, require premium refunds to policyholders, require reinstatement of terminated policies, prescribe rules or guidelines on how affiliates compete in the marketplace, restrict the ability of insurers to cancel or non-renew policies, require insurers to continue to write new policies or limit their ability to write new policies, limit insurers' ability to change coverage terms or to impose underwriting

standards, impose additional regulations regarding agency and broker compensation, regulate the nature of and amount of investments, impose fines and penalties for unintended errors or mistakes, impose additional regulations regarding cybersecurity and privacy, and otherwise expand overall regulation of insurance products and the insurance industry. In addition, the Company is subject to laws and regulations administered and enforced by federal agencies, international agencies, and other organizations, including but not limited to the SEC, the Financial Industry Regulatory Authority, the U.S. Equal Employment Opportunity Commission, and the U.S. Department of Justice. The Company has established procedures and policies to facilitate compliance with laws and regulations, to foster prudent business operations, and to support financial reporting. The Company routinely reviews its practices to validate compliance with laws and regulations and with internal procedures and policies. As a result of these reviews, from time to time the Company may decide to modify some of its procedures and policies. Such modifications, and the reviews that led to them, may be accompanied by payments being made and costs being incurred. The ultimate changes and eventual effects of these actions on the Company's business, if any, are uncertain.

Legal and regulatory proceedings and inquiries

The Company and certain subsidiaries are involved in a number of lawsuits, regulatory inquiries, and other legal proceedings arising out of various aspects of its business.

Background These matters raise difficult and complicated factual and legal issues and are subject to many uncertainties and complexities, including the underlying facts of each matter; novel legal issues; variations between jurisdictions in which matters are being litigated, heard, or investigated; changes in assigned judges; differences or developments in applicable laws and judicial interpretations; judges reconsidering prior rulings; the length of time before many of these matters might be resolved by settlement, through litigation, or otherwise; adjustments with respect to anticipated trial schedules and other proceedings; developments in similar actions against other companies; the fact that some of the lawsuits are putative class actions in which a class has not been certified and in which the purported class may not be clearly defined; the fact that some of the lawsuits involve multi-state class actions in which the applicable law(s) for the claims at issue is in dispute and therefore unclear; and the challenging legal environment faced by corporations and insurance companies.

The outcome of these matters may be affected by decisions, verdicts, and settlements, and the timing of such decisions, verdicts, and settlements, in other individual and class action lawsuits that involve the Company, other insurers, or other entities and by other legal, governmental, and regulatory actions that involve the Company, other insurers, or other entities. The outcome may also be affected by future state or

federal legislation, the timing or substance of which cannot be predicted.

In the lawsuits, plaintiffs seek a variety of remedies which may include equitable relief in the form of injunctive and other remedies and monetary relief in the form of contractual and extra-contractual damages. In some cases, the monetary damages sought may include punitive or treble damages. Often specific information about the relief sought, such as the amount of damages, is not available because plaintiffs have not requested specific relief in their pleadings. When specific monetary demands are made, they are often set just below a state court jurisdictional limit in order to seek the maximum amount available in state court, regardless of the specifics of the case, while still avoiding the risk of removal to federal court. In Allstate's experience, monetary demands in pleadings bear little relation to the ultimate loss, if any, to the Company.

In connection with regulatory examinations and proceedings, government authorities may seek various forms of relief, including penalties, restitution, and changes in business practices. The Company may not be advised of the nature and extent of relief sought until the final stages of the examination or proceeding.

Accrual and disclosure policy The Company reviews its lawsuits, regulatory inquiries, and other legal proceedings on an ongoing basis and follows appropriate accounting guidance when making accrual and disclosure decisions. The Company establishes accruals for such matters at management's best estimate when the Company assesses that it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The Company does not establish accruals for such matters when the Company does not believe both that it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The Company's assessment of whether a loss is reasonably possible or probable is based on its assessment of the ultimate outcome of the matter following all appeals. The Company does not include potential recoveries in its estimates of reasonably possible or probable losses. Legal fees are expensed as incurred.

The Company continues to monitor its lawsuits, regulatory inquiries, and other legal proceedings for further developments that would make the loss contingency both probable and estimable, and accordingly accruable, or that could affect the amount of accruals that have been previously established. There may continue to be exposure to loss in excess of any amount accrued. Disclosure of the nature and amount of an accrual is made when there have been sufficient legal and factual developments such that the Company's ability to resolve the matter would not be impaired by the disclosure of the amount of accrual.

When the Company assesses it is reasonably possible or probable that a loss has been incurred, it discloses the matter. When it is possible to estimate the reasonably possible loss or range of loss above the amount accrued, if any, for the matters disclosed, that estimate is aggregated and disclosed. Disclosure is

not required when an estimate of the reasonably possible loss or range of loss cannot be made.

For certain of the matters described below in the “Claims related proceedings” and “Other proceedings” subsections, the Company is able to estimate the reasonably possible loss or range of loss above the amount accrued, if any. In determining whether it is possible to estimate the reasonably possible loss or range of loss, the Company reviews and evaluates the disclosed matters, in conjunction with counsel, in light of potentially relevant factual and legal developments.

These developments may include information learned through the discovery process, rulings on dispositive motions, settlement discussions, information obtained from other sources, experience from managing these and other matters, and other rulings by courts, arbitrators or others. When the Company possesses sufficient appropriate information to develop an estimate of the reasonably possible loss or range of loss above the amount accrued, if any, that estimate is aggregated and disclosed below. There may be other disclosed matters for which a loss is probable or reasonably possible, but such an estimate is not possible. Disclosure of the estimate of the reasonably possible loss or range of loss above the amount accrued, if any, for any individual matter would only be considered when there have been sufficient legal and factual developments such that the Company’s ability to resolve the matter would not be impaired by the disclosure of the individual estimate.

The Company currently estimates that the aggregate range of reasonably possible loss in excess of the amount accrued, if any, for the disclosed matters where such an estimate is possible is zero to \$100 million, pre-tax. This disclosure is not an indication of expected loss, if any. Under accounting guidance, an event is “reasonably possible” if “the chance of the future event or events occurring is more than remote but less than likely” and an event is “remote” if “the chance of the future event or events occurring is slight.” This estimate is based upon currently available information and is subject to significant judgment and a variety of assumptions, and known and unknown uncertainties. The matters underlying the estimate will change from time to time, and actual results may vary significantly from the current estimate. The estimate does not include matters or losses for which an estimate is not possible. Therefore, this estimate represents an estimate of possible loss only for certain matters meeting these criteria. It does not represent the Company’s maximum possible loss exposure. Information is provided below regarding the nature of all of the disclosed matters and, where specified, the amount, if any, of plaintiff claims associated with these loss contingencies.

Due to the complexity and scope of the matters disclosed in the “Claims related proceedings” and “Other proceedings” subsections below and the many uncertainties that exist, the ultimate outcome of these matters cannot be predicted and in the Company’s judgment, a loss, in excess of amounts accrued, if any, is not probable. In the event of an unfavorable outcome in one or more of these matters, the ultimate

liability may be in excess of amounts currently accrued, if any, and may be material to the Company’s operating results or cash flows for a particular quarterly or annual period. However, based on information currently known to it, management believes that the ultimate outcome of all matters described below, as they are resolved over time, is not likely to have a material effect on the financial position of the Company.

Claims related proceedings The Company is managing various disputes challenging the method in which it has applied deductibles relating to claims for personal injury protection benefits under Florida auto policies. These disputes include a putative class action and litigation involving individual plaintiffs.

Gail Pierce, et al. v. Allstate Insurance Company is a putative class action filed on August 13, 2013 in the Circuit Court of the 17th Judicial Circuit in and for Broward County, Florida. It is brought on behalf of all insureds and their health care provider assignees who submitted claims for personal injury protection under auto policies in effect from March 2008. In the policies at issue, the Company applied the personal injury protection deductible to health care provider charges after the Company reduced those charges for reasonableness. In *Pierce* and the individual matters, plaintiffs seek determinations that the Company must apply the personal injury protection deductible to the full amount charged by the providers. In addition to the difference in policy benefits that may result from applying the deductible to the full amount charged, plaintiffs also seek recovery of attorneys’ fees and costs pursuant to Florida statutes.

The question concerning how the personal injury protection deductible is to be applied under Florida law was recently decided by the Florida Supreme Court in a matter involving another insurer, *Progressive v. Florida Hospital*. The Florida Supreme Court ruled in favor of the providers, and held that under the Florida law, the personal injury protection deductible must be applied to the full amount charged by the providers before any other adjustments are applied. The Company has taken steps to comply with the Florida Supreme Court’s ruling in this case, including the recalculation of benefits recorded.

Other proceedings The case of *Jack Jimenez, et al. v. Allstate Insurance Company* was filed in the United States District Court for the Central District of California on September 30, 2010. Plaintiffs allege off-the-clock wage and hour claims and other California Labor Code violations resulting from purported unpaid overtime. Plaintiffs seek recovery of unpaid compensation, liquidated damages, penalties, and attorneys’ fees and costs. The court certified a class that includes all adjusters in the state of California, except auto field adjusters, from September 29, 2006 to final judgment. Allstate’s appeals to the Ninth Circuit Court of Appeals and then to the U.S. Supreme Court did not result in decertification. No trial date is calendared.

The stockholder derivative actions described below are disclosed pursuant to SEC disclosure requirements for these types of matters, and the

putative class action has been disclosed because these matters involve similar allegations.

Biefeldt / IBEW Consolidated Action. Two separately filed stockholder derivative actions have been consolidated into a single proceeding that is pending in the Circuit Court for Cook County, Illinois, Chancery Division. The original complaint in the first-filed of those actions, *Biefeldt v. Wilson, et al.*, was filed on August 3, 2017, in that court by a plaintiff alleging that she is a stockholder of the Company. On June 29, 2018, the court granted defendants' motion to dismiss that complaint for failure to make a pre-suit demand on the Allstate board before instituting the suit, but granted the plaintiff permission to file an amended complaint. The original complaint in *IBEW Local No. 98 Pension Fund v. Wilson, et al.*, was filed on April 12, 2018, in the same court by another plaintiff alleging to be a stockholder of the Company. After the court issued its dismissal decision in the *Biefeldt* action, the plaintiffs agreed to consolidate the two actions and filed a consolidated amended complaint naming the Company's chairman, president and chief executive officer, its former president, and certain present or former members of the board of directors. In that complaint, the plaintiffs allege that the directors and officer defendants breached their fiduciary duties to the Company in connection with allegedly material misstatements or omissions concerning the Company's automobile insurance claim frequency statistics and the reasons for a claim frequency increase for Allstate brand auto insurance between October 2014 and August 3, 2015. The factual allegations are substantially similar to those at issue in *In re The Allstate Corp. Securities Litigation*. The plaintiffs further allege that a senior officer and several outside directors engaged in stock option exercises allegedly while in possession of material nonpublic information. The plaintiffs seek, on behalf of the Company, an unspecified amount of damages and various forms of equitable relief. Defendants moved to dismiss the consolidated complaint on September 24, 2018 for failure to make a demand on the Allstate board. The motion to dismiss was fully briefed as of December 10, 2018 and argument on the motion is scheduled for March 7, 2019.

In *Sundquist v. Wilson, et al.*, another plaintiff alleging to be a stockholder of the Company filed a stockholder derivative complaint in the United States District Court for the Northern District of Illinois on May 21, 2018. The plaintiff seeks, on behalf of the Company, an unspecified amount of damages and various forms of equitable relief. The complaint names as defendants the Company's chairman, president and chief executive officer, its former president, its former chief financial officer, who is now the Company's vice chairman, and certain present or former members of the board of directors. The complaint alleges breaches of fiduciary duty based on allegations similar to those asserted in *In re The Allstate Corp. Securities Litigation* as well as state law "misappropriation" claims based on stock option transactions by the Company's chairman, president and chief executive officer, its former chief financial officer, who is now the Company's vice chairman, and certain members of the board of

directors. Defendants moved to dismiss and/or stay the complaint on August 7, 2018. On December 4, 2018, the court granted the defendants' motion and stayed the case pending the resolution of the consolidated *Biefeldt/IBEW* matter.

In re The Allstate Corp. Securities Litigation is a putative class action filed on November 11, 2016 in the United States District Court for the Northern District of Illinois against the Company and two of its officers asserting claims under the federal securities laws. Plaintiffs allege that they purchased Allstate common stock during the putative class period and suffered damages as the result of the conduct alleged. Plaintiffs seek an unspecified amount of damages, costs, attorney's fees, and other relief as the court deems appropriate. Plaintiffs allege that the Company and certain senior officers made allegedly material misstatements or omissions concerning claim frequency statistics and the reasons for a claim frequency increase for Allstate brand auto insurance between October 2014 and August 3, 2015. Plaintiffs' further allege that a senior officer engaged in stock option exercises during that time allegedly while in possession of material nonpublic information about Allstate brand auto insurance claim frequency. The Company, its chairman, president and chief executive officer, and its former president are the named defendants. After the court denied their motion to dismiss on February 27, 2018, defendants answered the complaint, denying plaintiffs' allegations that there was any misstatement or omission or other misconduct. On June 22, 2018, plaintiffs filed their motion for class certification, which was fully briefed as of January 11, 2019 and is currently pending before the court. On September 12, 2018, the court allowed the lead plaintiffs to amend their complaint to add the City of Providence Employee Retirement System as a proposed class representative. The amended complaint was filed the same day.

Asbestos and environmental

Management believes its net loss reserves for asbestos, environmental and other discontinued lines exposures are appropriately established based on available facts, technology, laws and regulations. However, establishing net loss reserves for asbestos, environmental and other discontinued lines claims is subject to uncertainties that are much greater than those presented by other types of claims. The ultimate cost of losses may vary materially from recorded amounts, which are based on management's best estimate. Among the complications are lack of historical data, long reporting delays, uncertainty as to the number and identity of insureds with potential exposure and unresolved legal issues regarding policy coverage; unresolved legal issues regarding the determination, availability and timing of exhaustion of policy limits; plaintiffs' evolving and expanding theories of liability; availability and collectability of recoveries from reinsurance; retrospectively determined premiums and other contractual agreements; estimates of the extent and timing of any contractual liability; the impact of bankruptcy protection sought by various asbestos producers and other asbestos

defendants; and other uncertainties. There are also complex legal issues concerning the interpretation of various insurance policy provisions and whether those losses are covered, or were ever intended to be covered, and could be recoverable through retrospectively determined premium, reinsurance or other contractual agreements. Courts have reached different and sometimes inconsistent conclusions as to when losses are deemed to have occurred and which policies provide coverage; what types of losses are covered; whether there is an insurer obligation to defend; how policy limits are determined; how policy exclusions and conditions are applied and interpreted; and whether clean-up costs represent insured property damage. Further, insurers and claims administrators acting on behalf of insurers are increasingly pursuing evolving and expanding theories of reinsurance coverage for asbestos and environmental losses. Adjudication of reinsurance coverage is predominately

decided in confidential arbitration proceedings which may have limited precedential or predictive value further complicating management's ability to estimate probable loss for reinsured asbestos and environmental claims. Management believes these issues are not likely to be resolved in the near future, and the ultimate costs may vary materially from the amounts currently recorded resulting in material changes in loss reserves. In addition, while the Company believes that improved actuarial techniques and databases have assisted in its ability to estimate asbestos, environmental, and other discontinued lines net loss reserves, these refinements may subsequently prove to be inadequate indicators of the extent of probable losses. Due to the uncertainties and factors described above, management believes it is not practicable to develop a meaningful range for any such additional net loss reserves that may be required.

Note 15 Income Taxes

The Company and its domestic subsidiaries file a consolidated federal income tax return. Tax liabilities and benefits realized by the consolidated group are allocated as generated by the respective entities.

Deferred income taxes result from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements that will result in taxable or deductible amounts in future years. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in years in which those temporary differences are expected to be recovered or settled. Deferred tax assets and liabilities are adjusted through income tax expense as changes in tax laws or rates are enacted.

Tax Legislation On December 22, 2017, the Tax Legislation became effective and impacted the Company generally in four areas:

1. Amended the U.S. Internal Revenue Code of 1986, as amended, which among other items, permanently reduced the corporate income tax rate from a maximum of 35% to 21% beginning January 1, 2018. As a result, the corporate tax rate is not comparable between periods.
2. Changed international taxation to a modified territorial tax system whereby U.S. federal income taxes are generally eliminated on dividends from foreign subsidiaries, and certain earnings of controlled foreign corporations are included in U.S. federal taxable income.
3. Contained several other provisions, such as limitations of deductibility of executive compensation, meals and entertainment and lobbying expenses and changes to the dividends received deduction.
4. Affected the timing of certain tax deductions for reserves and deferred acquisition costs, but does not impact the Company's overall income tax expense.

The Company recorded a net tax benefit of \$509 million, recognized as a reduction to income tax expense in the Company's Consolidated Statements of Operations for the year ended December 31, 2017. The net benefit was primarily due to re-measurement of the Company's deferred tax assets and liabilities from 35% to 21%. This was partially offset by the transition to a modified territorial system for international taxation which required the Company to recognize a liability based on non-U.S. income from international subsidiaries that had not been repatriated to the U.S. parent company (the "Transition Tax"). The Company's effective income tax rate for 2017 was 21.9% and included a one-time benefit of 11.2%.

During 2018, the impact of the Tax Legislation was adjusted from the Company's preliminary estimates due to, among other things, changes in interpretations and assumptions the Company previously made, guidance that was issued and actions the Company took as a result of the Tax Legislation, resulting in a net tax benefit of \$29 million, recognized as a reduction to income tax expense in the Company's Consolidated Statements of Operations. The accounting for income tax effects of the Tax Legislation has been completed.

Regulatory tax examinations The Internal Revenue Service ("IRS") is currently examining the Company's 2015 and 2016 federal income tax returns, with the 2017 tax year exam scheduled to begin mid-2019. The 2015-17 cycle is expected to be completed in 2020. The 2013 and 2014 federal income tax return audit is complete through the exam phase and the Company will progress to the appeals process for one unagreed issue in 2019. Any adjustments that may result from IRS examinations of the Company's tax returns are not expected to have a material effect on the consolidated financial statements.

Unrecognized tax benefits The Company recognizes tax positions in the consolidated financial statements only when it is more likely than not that the position will be sustained on examination by the relevant taxing authority based on the technical merits

of the position. A position that meets this standard is measured at the largest amount of benefit that will more likely than not be realized on settlement. A liability is established for differences between positions

taken in a tax return and amounts recognized in the consolidated financial statements.

Reconciliation of the change in the amount of unrecognized tax benefits

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Balance – beginning of year	\$ 55	\$ 10	\$ 7
Increase for tax positions taken in a prior year	3	34	—
Increase for tax positions taken in the current year	12	11	3
Balance – end of year	\$ 70	\$ 55	\$ 10

The Company believes it is reasonably possible that a decrease of up to \$58 million in unrecognized tax benefits may occur within the next twelve months due to IRS settlements.

Components of the deferred income tax assets and liabilities

(\$ in millions)	As of December 31,	
	2018	2017
Deferred tax assets		
Unearned premium reserves	\$ 594	\$ 545
Accrued compensation	145	137
Pension	192	86
Discount on loss reserves	67	53
Net operating loss carryover	50	50
Other assets	57	49
Other postretirement benefits	45	48
Total deferred tax assets	1,150	968
Deferred tax liabilities		
DAC	(854)	(770)
Unrealized net capital gains	(2)	(422)
Life and annuity reserves	(194)	(241)
Intangible assets	(145)	(113)
Investments	(278)	(106)
Other liabilities	(102)	(98)
Total deferred tax liabilities	(1,575)	(1,750)
Net deferred tax liability	\$ (425)	\$ (782)

Although realization is not assured, management believes it is more likely than not that the deferred tax assets will be realized based on the Company's assessment that the deductions ultimately recognized for tax purposes will be fully utilized. As of December 31, 2018, the Company has U.S. federal and foreign net operating loss carryforwards of \$209 million and \$30 million, respectively.

The provisions of the Tax Cuts and Jobs Act eliminated the 20-year carryforward period and made it indefinite for federal net operating losses generated in tax years after December 31, 2017. For such amounts generated prior to 2018, the 20-year carryforward period continues to apply.

Components of the net operating loss carryforwards as of December 31, 2018

(\$ in millions)	20-Year	Indefinite	Total
	Carryforward Expires in 2025- 2036	Carryforward Period	
US Federal	\$ 149	\$ 60	\$ 209
Foreign	—	30	30
Total	\$ 149	\$ 90	\$ 239

Components of income tax expense

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Current	\$ 704	\$ 1,018	\$ 654
Deferred	(236)	(23)	188
Total income tax expense	\$ 468	\$ 995	\$ 842

The Company paid income taxes of \$731 million, \$968 million and \$359 million in 2018, 2017 and 2016, respectively.

The Company had a current income tax receivable of \$124 million and a current tax payable of \$44 million as of December 31, 2018 and 2017, respectively.

Reconciliation of the statutory federal income tax rate to the effective income tax rate

	For the years ended December 31,		
	2018	2017	2016
Statutory federal income tax rate on income from operations	21.0 %	35.0 %	35.0 %
Tax Legislation benefit	(1.1)	(11.2)	—
Share-based payments	(0.6)	(1.4)	—
Tax-exempt income	(0.9)	(0.7)	(1.2)
Tax credits	(1.3)	(1.3)	(1.3)
Non-deductible goodwill impairment	—	1.0	—
Other	0.7	0.5	(0.7)
Effective income tax rate on income from operations	17.8 %	21.9 %	31.8 %

Note 16 Statutory Financial Information and Dividend Limitations

Allstate's domestic property and casualty and life insurance subsidiaries prepare their statutory-basis financial statements in conformity with accounting practices prescribed or permitted by the insurance department of the applicable state of domicile. Prescribed statutory accounting practices include a variety of publications of the National Association of Insurance Commissioners ("NAIC"), as well as state laws, regulations and general administrative rules. Permitted statutory accounting practices encompass all accounting practices not so prescribed.

All states require domiciled insurance companies to prepare statutory-basis financial statements in conformity with the NAIC Accounting Practices and Procedures Manual, subject to any deviations prescribed or permitted by the applicable insurance commissioner and/or director. Statutory accounting practices differ from GAAP primarily since they require charging policy acquisition and certain sales inducement costs to expense as incurred, establishing life insurance reserves based on different actuarial assumptions, and valuing certain investments and establishing deferred taxes on a different basis.

Statutory net income (loss) and capital and surplus of Allstate's domestic insurance subsidiaries

(\$ in millions)	Net income (loss)			Capital and surplus	
	2018	2017	2016	2018	2017
Amounts by major business type:					
Property and casualty insurance	\$ 2,939	\$ 3,050	\$ 1,520	\$ 14,328	\$ 14,903
Life insurance, annuities and voluntary accident and health insurance	465	327	197	3,819	3,727
Amount per statutory accounting practices	\$ 3,404	\$ 3,377	\$ 1,717	\$ 18,147	\$ 18,630

Dividend Limitations

There are no regulatory restrictions that limit the payment of dividends by the Corporation, except those generally applicable to corporations incorporated in Delaware. Dividends are payable only out of certain components of shareholders' equity as permitted by Delaware law. However, the ability of the Corporation to pay dividends is dependent on business conditions, income, cash requirements of the Company, receipt of dividends from AIC and other relevant factors.

The payment of shareholder dividends by AIC without the prior approval of the Illinois Department of Insurance ("IL DOI") is limited to formula amounts based on net income and capital and surplus, determined in conformity with statutory accounting practices, as well as the timing and amount of dividends paid in the preceding twelve months. AIC paid dividends of \$2.87 billion in 2018. The maximum amount of dividends AIC will be able to pay without prior IL DOI approval at a given point in time during 2019 is \$2.73 billion, less dividends paid during the

preceding twelve months measured at that point in time. The payment of a dividend in excess of this amount requires 30 days advance written notice to the IL DOI. The dividend is deemed approved, unless the IL DOI disapproves it within the 30 day notice period. Additionally, any dividend must be paid out of unassigned surplus excluding unrealized appreciation from investments, which for AIC totaled \$11.15 billion as of December 31, 2018, and cannot result in capital and surplus being less than the minimum amount required by law.

Under state insurance laws, insurance companies are required to maintain paid up capital of not less than the minimum capital requirement applicable to the types of insurance they are authorized to write. Insurance companies are also subject to risk-based capital ("RBC") requirements adopted by state insurance regulators. A company's "authorized control level RBC" is calculated using various factors applied to certain financial balances and activity. Companies that do not maintain adjusted statutory capital and surplus

at a level in excess of the company action level RBC, which is two times authorized control level RBC, are required to take specified actions. Company action level RBC is significantly in excess of the minimum capital requirements. Total adjusted statutory capital and surplus and authorized control level RBC of AIC were \$17.29 billion and \$3.01 billion, respectively, as of December 31, 2018. Substantially all of the Corporation's insurance subsidiaries are subsidiaries of and/or reinsure all of their business to AIC, including ALIC. AIC's subsidiaries are included as a component of AIC's total statutory capital and surplus.

The amount of restricted net assets, as represented by the Corporation's investment in its insurance subsidiaries, was \$25 billion as of December 31, 2018.

Intercompany transactions

Notification and approval of intercompany lending activities is also required by the IL DOI for transactions that exceed a level that is based on a formula using statutory admitted assets and statutory surplus.

Note 17 Benefit Plans

Change in accounting principle

As discussed in Note 2, the Company changed its accounting principle for recognizing actuarial gains and losses and expected return on plan assets for its pension and other postretirement plans to a more preferable policy under U.S. GAAP. Under the new principle, remeasurement of projected benefit obligation and plan assets are immediately recognized through earnings and are referred to as pension and other postretirement remeasurement gains and losses on the Consolidated Statements of Operations. This change has been applied on a retrospective basis. See Note 2 for further information regarding the impact of the change in accounting principle on the consolidated financial statements.

Pension and other postretirement plans

Defined benefit pension plans cover most full-time employees, certain part-time employees and employee-agents. Benefits under the pension plans are based upon the employee's length of service, eligible annual compensation and, prior to January 1, 2014, either a cash balance or final average pay formula. A cash balance formula applies to all eligible employees hired after August 1, 2002. Eligible employees hired before August 1, 2002 chose between the cash balance formula and the final average pay formula. In July 2013, the Company amended its primary plans effective January 1, 2014 to introduce a new cash balance formula to replace the previous formulas (including the final average pay formula and the previous cash balance formula) under which eligible employees accrue benefits.

The Company also provides a medical coverage subsidy for eligible employees hired before January 1, 2003, including their eligible dependents, when they retire and certain life insurance benefits for eligible retirees ("postretirement benefits"). In July 2013, the Company amended the plan to eliminate the life insurance benefits effective January 1, 2014 for current eligible employees and effective January 1, 2016 for eligible retirees who retired after 1989. The Company

continues to pay life insurance premiums for certain retiree plaintiffs subject to a court order requiring it to do so until such time as their lawsuit seeking to keep their life insurance benefits intact is resolved. Qualified employees may become eligible for a medical subsidy if they retire in accordance with the terms of the applicable plans and are continuously insured under the Company's group plans or other approved plans in accordance with the plan's participation requirements. The Company shares the cost of retiree medical benefits with non Medicare-eligible retirees based on years of service, with the Company's share being subject to a 5% limit on future annual medical cost inflation after retirement. For Medicare-eligible retirees, the Company provides a fixed Company contribution based on years of service and other factors, which is not subject to adjustments for inflation.

The Company has reserved the right to modify or terminate its benefit plans at any time and for any reason.

Obligations and funded status

The Company calculates benefit obligations based upon generally accepted actuarial methodologies using the projected benefit obligation ("PBO") for pension plans and the accumulated postretirement benefit obligation ("APBO") for other postretirement plans. The determination of pension costs and other postretirement obligations are determined using a December 31 measurement date. The benefit obligations represent the actuarial present value of all benefits attributed to employee service rendered as of the measurement date. The PBO is measured using the pension benefit formulas and assumptions as to future compensation levels. A plan's funded status is calculated as the difference between the benefit obligation and the fair value of plan assets. The Company's funding policy for the pension plans is to make contributions at a level in accordance with regulations under the Internal Revenue Code ("IRC") and generally accepted actuarial principles.

Change in projected benefit obligation, plan assets and funded status

(\$ in millions)	As of December 31,			
	Pension benefits		Postretirement benefits	
	2018	2017	2018	2017
Change in projected benefit obligation				
Benefit obligation, beginning of year	\$ 6,815	\$ 6,591	\$ 386	\$ 373
Service cost	110	111	7	8
Interest cost	255	254	15	15
Participant contributions	—	—	13	12
Actuarial (gains) losses	(255)	406	(4)	8
Benefits paid	(646)	(553)	(35)	(35)
Translation adjustment and other	(55)	6	(7)	5
Benefit obligation, end of year	\$ 6,224	\$ 6,815	\$ 375	\$ 386
Change in plan assets				
Fair value of plan assets, beginning of year	\$ 6,284	\$ 5,650		
Actual return on plan assets	(300)	1,051		
Employer contribution	16	131		
Benefits paid	(646)	(553)		
Translation adjustment and other	(55)	5		
Fair value of plan assets, end of year	\$ 5,299	\$ 6,284		
Funded status ^{(1) (2) (3)}	\$ (925)	\$ (531)	\$ (375)	\$ (386)
Amounts recognized in AOCI				
Unamortized pension and other postretirement prior service credit	\$ (198)	\$ (254)	\$ (16)	\$ (37)

(1) The primary qualified employee plan represents 78% of the pension benefits' underfunded status as of December 31, 2018.

(2) The funded status is recorded within other liabilities and accrued expenses on the Consolidated Statements of Financial Position.

(3) The Company's other postretirement benefit plans are not funded.

Changes in items not yet recognized as a component of net cost for pension and other postretirement plans

(\$ in millions)	Pension benefits		Postretirement benefits	
Items not yet recognized as a component of net cost – December 31, 2017	\$	(254)	\$	(37)
Prior service credit amortized to net cost		56		21
Items not yet recognized as a component of net cost – December 31, 2018	\$	(198)	\$	(16)

The prior service credit is recognized as a component of net cost for pension and other postretirement plans amortized over the average remaining service period of active employees expected to receive benefits. The prior service credit that will be amortized to net cost for pension and postretirement plans in 2019 is estimated to be \$56 million and \$3 million, respectively.

The accumulated benefit obligation ("ABO") for all defined benefit pension plans was \$6.15 billion and \$6.74 billion as of December 31, 2018 and 2017, respectively. The ABO is the actuarial present value of all benefits attributed by the pension benefit formula

to employee service rendered at the measurement date. However, it differs from the PBO due to the exclusion of an assumption as to future compensation levels.

The PBO, ABO and fair value of plan assets for the Company's pension plans with an ABO in excess of plan assets were \$5.99 billion, \$5.93 billion and \$5.07 billion, respectively, as of December 31, 2018 and \$6.42 billion, \$6.36 billion and \$5.89 billion, respectively, as of December 31, 2017. Included in the accrued benefit cost of the pension benefits are certain unfunded non-qualified plans with accrued benefit costs of \$135 million and \$140 million for 2018 and 2017, respectively.

Components of net cost (benefit) for pension and other postretirement plans

(\$ in millions)	For the years ended December 31,					
	Pension benefits			Postretirement benefits		
	2018	2017	2016	2018	2017	2016
Service cost	\$ 110	\$ 111	\$ 113	\$ 7	\$ 8	\$ 9
Interest cost	255	254	286	15	15	18
Expected return on plan assets	(427)	(419)	(387)	—	—	—
Amortization of prior service credit	(56)	(56)	(56)	(21)	(25)	(21)
Costs and expenses	(118)	(110)	(44)	1	(2)	6
Remeasurement of projected benefit obligation	(255)	406	388	(4)	8	(14)
Remeasurement of plan assets	727	(631)	(104)	—	—	—
Remeasurement gains and losses	472	(225)	284	(4)	8	(14)
Total net cost (benefit)	\$ 354	\$ (335)	\$ 240	\$ (3)	\$ 6	\$ (8)

The service cost component is the actuarial present value of the benefits attributed by the plans' benefit formula to services rendered by the employees during the period.

Interest cost is the increase in the PBO in the period due to the passage of time at the discount rate. Interest cost fluctuates as the discount rate changes and is also impacted by the related change in the size of the PBO.

The expected return on plan assets is determined as the product of the expected long-term rate of return on plan assets and the fair value of plan assets.

Pension and other postretirement service cost, interest cost, expected return on plan assets and

amortization of prior service credits are reported in property and casualty insurance claims and claims expense, operating costs and expenses, net investment income and (if applicable) restructuring and related charges on the Consolidated Statements of Operations.

Remeasurement gains and losses relate to changes in discount rates, the differences between actual return on plan assets and the expected long-term rate of return on plan assets, and differences between actual plan experience and actuarial assumptions. The Company remeasures its pension and postretirement plans on a quarterly basis.

Weighted average assumptions used to determine net pension cost and net postretirement benefit cost

(\$ in millions)	For the years ended December 31,					
	Pension benefits			Postretirement benefits		
	2018	2017	2016	2018	2017	2016
Discount rate	4.06%	3.96%	4.78%	3.95%	3.91%	4.56%
Rate of increase in compensation levels	3.15	3.16	3.16	n/a	n/a	n/a
Expected long-term rate of return on plan assets	7.33	7.32	7.30	n/a	n/a	n/a

Weighted average assumptions used to determine benefit obligations

	For the years ended December 31,			
	Pension benefits		Postretirement benefits	
	2018	2017	2018	2017
Discount rate	4.31%	3.67%	4.22%	3.63%
Rate of increase in compensation levels	3.16	3.15	n/a	n/a

The weighted average health care cost trend rate used in measuring the accumulated postretirement benefit cost is 5.9% for 2019, gradually declining to 4.5% in 2038 and remaining at that level thereafter.

Pension plan assets In general, the Company's pension plan assets are managed in accordance with investment policies approved by pension investment committees. The purpose of the policies is to ensure the plans' long-term ability to meet benefit obligations by prudently investing plan assets and Company contributions, while taking into consideration regulatory and legal requirements and current market conditions. The investment policies are reviewed periodically and specify target plan asset allocation by asset category. In addition, the policies specify various

asset allocation and other risk limits. The target asset allocation takes the plans' funding status into consideration, among other factors, including anticipated demographic changes or liquidity requirements that may affect the funding status such as the potential impact of lump sum settlements as well as existing or expected market conditions. In general, the allocation has a lower overall investment risk when a plan is in a stronger funded status position since there is less economic incentive to take risk to increase the expected returns on the plan assets. As a result, the primary employee plan has a greater allocation to equity securities than the employee-agent plan. The primary qualified employee plan comprises 81% of total plan assets and 82% of equity securities. The pension plans' asset exposure within each asset

category is tracked against widely accepted established benchmarks for each asset class with limits on variation from the benchmark established in the investment policy. Pension plan assets are regularly

monitored for compliance with these limits and other risk limits specified in the investment policies.

Weighted average target asset allocation and actual percentage of plan assets by asset category

Pension plan's asset category	As of December 31, 2018		
	Target asset allocation (1)	Actual percentage of plan assets	
	2018	2018	2017
Equity securities (2)	36 - 53%	47%	58%
Fixed income securities	40 - 53%	41	34
Limited partnership interests	0 - 15%	9	6
Short-term investments and other	—	3	2
Total without securities lending (3)		100%	100%

(1) The target asset allocation considers risk based exposure while the actual percentage of plan assets utilizes a financial reporting view excluding exposure provided through derivatives.

(2) The actual percentage of plan assets for equity securities includes 1% and 2% of private equity investments in 2018 and 2017, respectively, that are subject to the limited partnership interests target allocation and 4% and 3% of fixed income mutual funds in 2018 and 2017, respectively, that are subject to the fixed income securities target allocation.

(3) Securities lending collateral reinvestment of \$208 million and \$202 million is excluded from the table above in 2018 and 2017, respectively.

The target asset allocation for an asset category may be achieved either through direct investment holdings, through replication using derivative instruments (e.g., futures or swaps) or net of hedges using derivative instruments to reduce exposure to an asset category. The net notional amount of derivatives used for replication and hedges is limited to 105% or 115% of total plan assets depending on the plan. Market performance of the different asset categories may, from time to time, cause deviation from the target

asset allocation. The asset allocation mix is reviewed on a periodic basis and rebalanced to bring the allocation within the target ranges.

Outside the target asset allocation, the pension plans participate in a securities lending program to enhance returns. As of December 31, 2018, U.S. government fixed income securities and U.S. equity securities are lent out and cash collateral is invested in short-term investments.

Fair values of pension plan assets as of December 31, 2018

(\$ in millions)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Balance as of December 31, 2018
Equity securities	\$ 51	\$ 265	\$ —	\$ 316
Fixed income securities:				
U.S. government and agencies	172	509	—	681
Corporate	—	1,479	5	1,484
Short-term investments	122	198	—	320
Free-standing derivatives:				
Assets	—	19	—	19
Liabilities	—	(11)	—	(11)
Total plan assets at fair value	\$ 345	\$ 2,459	\$ 5	2,809
% of total plan assets at fair value	12.3%	87.5%	0.2%	100.0%
Investments measured using the net asset value practical expedient				2,687
Securities lending obligation ⁽¹⁾				(222)
Derivatives Counterparty and Cash Collateral Netting				(6)
Other net plan assets ⁽²⁾				31
Total reported plan assets				\$ 5,299

⁽¹⁾ The securities lending obligation represents the plan's obligation to return securities lending collateral received under a securities lending program. The terms of the program allow both the plan and the counterparty the right and ability to redeem/return the securities loaned on short notice. Due to its relatively short-term nature, the outstanding balance of the obligation approximates fair value.

⁽²⁾ Other net plan assets represent cash and cash equivalents, interest and dividends receivable and net receivables related to settlements of investment transactions, such as purchases and sales.

Fair values of pension plan assets as of December 31, 2017

(\$ in millions)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Balance as of December 31, 2017
Equity securities	\$ 126	\$ 264	\$ 29	\$ 419
Fixed income securities:				
U.S. government and agencies	174	420	—	594
Corporate	—	1,543	10	1,553
Short-term investments	97	197	—	294
Cash and cash equivalents	21	—	—	21
Free-standing derivatives:				
Assets	—	1	—	1
Total plan assets at fair value	\$ 418	\$ 2,425	\$ 39	2,882
% of total plan assets at fair value	14.5%	84.1%	1.4%	100.0%
Investments measured using the net asset value practical expedient				3,598
Securities lending obligation				(216)
Other net plan assets				20
Total reported plan assets				\$ 6,284

The fair values of pension plan assets are estimated using the same methodologies and inputs as those used to determine the fair values for the respective asset category of the Company. These methodologies and inputs are disclosed in Note 6.

Rollforward of Level 3 plan assets during December 31, 2018

(\$ in millions)	Balance as of December 31, 2017	Actual return on plan assets:		Purchases, sales and settlements, net	Net transfers in and/or (out) of Level 3	Balance as of December 31, 2018
		Relating to assets sold during the period	Relating to assets still held at the reporting date			
Equity securities	\$ 29	\$ —	\$ 3	\$ —	\$ (32)	\$ —
Fixed income securities:						
Corporate	10	—	—	(5)	—	5
Total Level 3 plan assets	\$ 39	\$ —	\$ 3	\$ (5)	\$ (32)	\$ 5

Rollforward of Level 3 plan assets during December 31, 2017

(\$ in millions)	Balance as of December 31, 2016	Actual return on plan assets:		Purchases, sales and settlements, net	Net transfers in and/or (out) of Level 3	Balance as of December 31, 2017
		Relating to assets sold during the period	Relating to assets still held at the reporting date			
Equity securities	\$ —	\$ —	\$ —	\$ 29	\$ —	\$ 29
Fixed income securities:						
Corporate	10	—	—	—	—	10
Total Level 3 plan assets	\$ 10	\$ —	\$ —	\$ 29	\$ —	\$ 39

Rollforward of Level 3 plan assets during December 31, 2016

(\$ in millions)	Balance as of December 31, 2015	Actual return on plan assets:		Purchases, sales and settlements, net	Net transfers in and/or (out) of Level 3	Balance as of December 31, 2016
		Relating to assets sold during the period	Relating to assets still held at the reporting date			
Equity securities	\$ 1	\$ (1)	\$ —	\$ —	\$ —	\$ —
Fixed income securities:						
Municipal	7	—	—	(7)	—	—
Corporate	10	—	—	(5)	5	10
Total Level 3 plan assets	\$ 18	\$ (1)	\$ —	\$ (12)	\$ 5	\$ 10

The expected long-term rate of return on plan assets reflects the average rate of earnings expected on plan assets. The Company's assumption for the expected long-term rate of return on plan assets is reviewed annually giving consideration to appropriate financial data including, but not limited to, the plan asset allocation, forward-looking expected returns for the period over which benefits will be paid, historical returns on plan assets and other relevant market data. Given the long-term forward looking nature of this assumption, the actual returns in any one year do not immediately result in a change. In giving consideration to the targeted plan asset allocation, the Company evaluated returns using the same sources it has used historically which include: historical average asset class returns from an independent nationally recognized vendor of this type of data blended together using the asset allocation policy weights for the Company's pension plans; asset class return forecasts from a large global independent asset management firm that specializes in providing multi-asset class investment fund products which were blended together using the asset allocation policy weights; and expected portfolio returns from a proprietary simulation methodology of a widely recognized external investment consulting firm that performs asset allocation and actuarial services for corporate pension plan sponsors. This same methodology has been applied on a consistent basis

each year. All of these were consistent with the Company's weighted average long-term rate of return on plan assets assumption of 7.33% used for 2018 and 7.33% that will be used for 2019. The assumption for the primary qualified employee plan is 7.75% and the employee-agent plan is 5.75% for both years. The employee-agent plan assumption is lower than the primary qualified employee plan assumption due to a lower investment allocation to equity securities and a higher allocation to fixed income securities. As of the 2018 measurement date, the arithmetic average of the annual actual return on plan assets for the most recent 10 and 5 years was 9.0% and 6.6%, respectively.

Cash flows There was no required cash contribution necessary to satisfy the minimum funding requirement under the Internal Revenue Code for the tax qualified pension plans as of December 31, 2018. The Company currently plans to contribute \$26 million to its unfunded non-qualified plans and zero to its qualified funded pension plans in 2019.

The Company contributed \$22 million and \$23 million to the postretirement benefit plans in 2018 and 2017, respectively. Contributions by participants were \$13 million and \$12 million in 2018 and 2017, respectively.

Estimated future benefit payments expected to be paid in the next 10 years

(\$ in millions)	As of December 31, 2018	
	Pension benefits	Postretirement benefits
2019	\$ 448	\$ 24
2020	462	25
2021	495	26
2022	509	27
2023	528	28
2024-2028	2,383	142
Total benefit payments	\$ 4,825	\$ 272

Allstate 401(k) Savings Plan

Employees of the Company, with the exception of those employed by the Company's international, SquareTrade, Esurance and Answer Financial subsidiaries, are eligible to become members of the Allstate 401(k) Savings Plan ("Allstate Plan"). The Company's contributions are based on the Company's matching obligation. The Company is responsible for funding its anticipated contribution to the Allstate Plan, and may, at the discretion of management, use the ESOP to pre-fund certain portions. In connection with the Allstate Plan, the Company has a note from the ESOP with a principal balance of \$2 million as of

December 31, 2018. The ESOP note has a fixed interest rate of 7.9% and matures in 2019. The Company records dividends on the ESOP shares in retained income and all the shares held by the ESOP are included in basic and diluted weighted average common shares outstanding.

The Company's contribution to the Allstate Plan was \$89 million, \$81 million and \$80 million in 2018, 2017 and 2016, respectively. These amounts were reduced by the ESOP benefit.

ESOP benefit

(\$ in millions)	For the years December 31,		
	2018	2017	2016
Interest expense recognized by ESOP	\$ —	\$ —	\$ 1
Less: dividends accrued on ESOP shares	(1)	(1)	(3)
Cost of shares allocated	—	3	7
Compensation expense	(1)	2	5
Reduction of defined contribution due to ESOP	1	38	60
ESOP benefit	\$ (2)	\$ (36)	\$ (55)

The Company made zero, \$1 million and \$2 million in contributions to the ESOP in 2018, 2017 and 2016, respectively. As of December 31, 2018, total committed to be released, allocated and unallocated ESOP shares were zero, 39 million and 0.4 million, respectively.

Allstate's Canadian, SquareTrade, Esurance and Answer Financial subsidiaries sponsor defined contribution plans for their eligible employees. Expense for these plans was \$15 million, \$12 million and \$10 million in 2018, 2017 and 2016, respectively.

Note 18 Equity Incentive Plans

The Company currently has equity incentive plans under which the Company grants nonqualified stock options, restricted stock units and performance stock awards to certain employees and directors of the Company. The total compensation expense related to equity awards was \$125 million, \$106 million and \$80 million and the total income tax benefits were \$22 million, \$22 million and \$28 million for 2018, 2017 and 2016, respectively. Total cash received from the exercise of options was \$92 million, \$178 million and \$187 million for 2018, 2017 and 2016, respectively. Total tax benefit realized on options exercised and the release of stock restrictions was \$28 million, \$96 million and \$61 million for 2018, 2017 and 2016, respectively.

The Company records compensation expense related to awards under these plans over the shorter of the period in which the requisite service is rendered or retirement eligibility is attained. Compensation expense for performance share awards is based on the probable number of awards expected to vest using the performance level most likely to be achieved at the end of the performance period. As of December 31, 2018, total unrecognized compensation cost related to all nonvested awards was \$89 million, of which \$29 million related to nonqualified stock options which is expected to be recognized over the weighted average vesting period of 1.71 years, \$23 million related to restricted stock units which is expected to be recognized over the weighted average vesting period of 1.69 years and \$37 million related to performance stock awards which is expected to be recognized over the weighted average vesting period of 1.59 years.

Options are granted to employees with exercise prices equal to the closing share price of the Company's common stock on the applicable grant date. Options granted to employees on or after February 18, 2014 vest ratably over a three-year period. Options granted prior to February 18, 2014 vest 50% on the second anniversary of the grant date and 25% on each of the third and fourth anniversaries of the grant date. Vesting is subject to continued service, except for employees who are retirement eligible and in certain other limited circumstances. Options may be exercised once vested and will expire no later than ten years after the date of grant.

Restricted stock units for directors vest immediately and convert into shares of stock on the earlier of the day of the third anniversary of the grant date or the date the director's service terminates, unless a deferred period of restriction is elected. Restricted stock units granted to directors prior to

June 1, 2016 convert upon leaving the board. Restricted stock units granted to employees on or after February 18, 2014 vest on the day prior to the third anniversary of the grant date. Awards granted to employees prior to February 18, 2014 vest 50% on the day prior to the second anniversary of the grant date and 25% on each of the days prior to the third and fourth anniversaries of the grant date. Restricted stock units granted to employees subsequently convert into shares of stock on the day of the respective anniversary of the grant date. Vesting is subject to continued service, except for employees who are retirement eligible and in certain other limited circumstances.

Performance stock awards vest into shares of stock on the day prior to the third anniversary of the grant date. Vesting of the number of performance stock awards earned based on the attainment of performance goals for each of the performance periods is subject to continued service, except for employees who are retirement eligible and in certain other limited circumstances, and achievement of performance goals. Performance stock awards subsequently convert into shares of stock in full the day of the anniversary of the grant date.

A total of 98.0 million shares of common stock were authorized to be used for awards under the plans, subject to adjustment in accordance with the plans' terms. As of December 31, 2018, 15.0 million shares were reserved and remained available for future issuance under these plans. The Company uses its treasury shares for these issuances.

The fair value of each option grant is estimated on the date of grant using a binomial lattice model. The Company uses historical data to estimate option exercise and employee termination within the valuation model. In addition, separate groups of employees that have similar historical exercise behavior are considered separately for valuation purposes. The expected term of options granted is derived from the output of the binomial lattice model and represents the period of time that options granted are expected to be outstanding. The expected volatility of the price of the underlying shares is implied based on traded options and historical volatility of the Company's common stock. The expected dividends were based on the current dividend yield of the Company's stock as of the date of the grant. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

Option grant assumptions

	2018	2017	2016
Weighted average expected term	5.7 years	6.1 years	5.0 years
Expected volatility	15.6 - 30.7%	15.7 - 32.7%	16.0 - 34.3%
Weighted average volatility	19.8%	21.0%	24.3%
Expected dividends	1.5 - 2.2%	1.4 - 1.9%	1.9 - 2.1%
Weighted average expected dividends	2.0%	1.9%	2.1%
Risk-free rate	1.3 - 3.2%	0.5 - 2.5%	0.2 - 2.4%

Summary of option activity

	Number (in 000s)	For the year ended December 31, 2018		
		Weighted average exercise price	Aggregate intrinsic value (in 000s)	Weighted average remaining contractual term (years)
Outstanding as of January 1, 2018	11,262	\$ 58.46		
Granted	2,388	93.04		
Exercised	(1,710)	53.57		
Forfeited	(206)	80.79		
Expired	(4)	52.21		
Outstanding as of December 31, 2018	11,730	65.82	\$ 221,999	6.3
Outstanding, net of expected forfeitures	11,614	65.59	221,832	6.3
Outstanding, exercisable ("vested")	6,968	54.14	198,747	5.0

The weighted average grant date fair value of options granted was \$17.03, \$14.60 and \$12.25 during 2018, 2017 and 2016, respectively. The intrinsic value, which is the difference between the fair value and the exercise price, of options exercised was \$72 million, \$199 million and \$119 million during 2018, 2017 and 2016, respectively.

Changes in restricted stock units

	For the year ended December 31, 2018	
	Number (in 000s)	Weighted average grant date fair value
Nonvested as of January 1, 2018	1,241	\$ 67.93
Granted	255	93.16
Vested	(498)	67.45
Forfeited	(41)	75.40
Nonvested as of December 31, 2018	957	74.58

The fair value of restricted stock units is based on the market value of the Company's stock as of the date of the grant. The market value in part reflects the payment of future dividends expected. The weighted average grant date fair value of restricted stock units granted was \$93.16, \$80.12 and \$63.51 during 2018, 2017 and 2016, respectively. The total fair value of restricted stock units vested was \$47 million, \$58 million and \$29 million during 2018, 2017 and 2016, respectively.

Changes in performance stock awards

	For the year ended December 31, 2018	
	Number (in 000s)	Weighted average grant date fair value
Nonvested as of January 1, 2018	1,090	\$ 70.35
Granted	402	92.88
Adjustment for performance achievement	(34)	70.53
Vested	(161)	70.53
Forfeited	(49)	76.33
Nonvested as of December 31, 2018	1,248	77.35

The change in PSA's comprises those initially granted in 2018 and the adjustment to previously granted PSA's for performance achievement. The fair value of performance stock awards is based on the market value of the Company's stock as of the date of the grant. The market value in part reflects the payment of future dividends expected. The weighted average grant date fair value of performance stock awards granted was \$92.88, \$78.47 and \$62.32 during 2018, 2017 and 2016, respectively. The total fair value of performance stock awards vested was \$15 million, \$17 million and \$28 million during 2018, 2017 and 2016, respectively.

Under the employee share-based payment accounting standard adopted in 2017, the Company recognizes all tax effects related to share-based payments at settlement or expiration through the income statement. Prior to the adoption, the Company recognized excess tax effects through the statement of shareholders' equity. The tax benefit recognized through the statement of shareholders' equity related to tax deductions from stock option exercises was \$23 million in 2016. The tax benefit recognized through shareholders' equity related to all stock-based compensation was \$30 million in 2016.

Note 19 Supplemental Cash Flow Information

Non-cash investing activities include \$94 million, \$106 million and \$326 million related to mergers and exchanges completed with equity securities, fixed income securities and limited partnerships, and modifications of certain mortgage loans and other investments in 2018, 2017 and 2016, respectively. Non-cash financing activities include \$32 million, \$43 million and \$41 million related to the issuance of Allstate common shares for vested equity awards in 2018, 2017 and 2016, respectively. Non-cash financing activities also included \$90 million and \$34 million related to debt acquired in conjunction with purchases of investments in 2017 and 2016, respectively.

Liabilities for collateral received in conjunction with the Company's securities lending program were \$1.44 billion as of December 31, 2018, and \$1.12 billion as of both December 31, 2017 and 2016, and are reported in other liabilities and accrued expenses. Obligations to return cash collateral for OTC and cleared derivatives were \$21 million, \$3 million and \$5 million as of December 31, 2018, 2017 and 2016, respectively, and are reported in other liabilities and accrued expenses or other investments.

The accompanying cash flows are included in cash flows from operating activities in the Consolidated Statements of Cash Flows along with the activities resulting from management of the proceeds as follows:

(\$ in millions)	For the years ended December 31,		
	2018	2017	2016
Net change in proceeds managed			
Net change in fixed income securities	\$ 234	\$ 259	\$ (584)
Net change in short-term investments	(568)	(255)	295
Operating cash flow (used) provided	(334)	4	(289)
Net change in cash	—	1	—
Net change in proceeds managed	\$ (334)	\$ 5	\$ (289)
Cash flows from operating activities			
Net change in liabilities			
Liabilities for collateral, beginning of year	\$ (1,124)	\$ (1,129)	\$ (840)
Liabilities for collateral, end of year	(1,458)	(1,124)	(1,129)
Operating cash flow provided (used)	\$ 334	\$ (5)	\$ 289

Note 20 Other Comprehensive Income**Components of other comprehensive income (loss) on a pre-tax and after-tax basis**

(\$ in millions)	For the years ended December 31,								
	2018			2017			2016		
	Pre-tax	Tax	After-tax	Pre-tax	Tax	After-tax	Pre-tax	Tax	After-tax
Unrealized net holding gains and losses arising during the period, net of related offsets	\$ (1,142)	\$ 241	\$ (901)	\$ 866	\$ (304)	\$ 562	\$ 486	\$ (170)	\$ 316
Less: reclassification adjustment of realized capital gains and losses	(186)	39	(147)	374	(131)	243	(180)	63	(117)
Unrealized net capital gains and losses	(956)	202	(754)	492	(173)	319	666	(233)	433
Unrealized foreign currency translation adjustments	(61)	13	(48)	69	(24)	45	14	(5)	9
Unamortized pension and other postretirement prior service credit arising during the period	—	2	2	1	—	1	22	(5)	17
Less: reclassification adjustment of prior service credit amortized into operating costs and expenses	77	(16)	61	81	(28)	53	77	(27)	50
Unamortized pension and other postretirement prior service credit	(77)	18	(59)	(80)	28	(52)	(55)	22	(33)
Other comprehensive (loss) income	\$ (1,094)	\$ 233	\$ (861)	\$ 481	\$ (169)	\$ 312	\$ 625	\$ (216)	\$ 409

Note 21 **Quarterly Results (unaudited)**

As adjusted (\$ in millions, except per share data)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2018	2017	2018	2017	2018	2017	2018	2017
Revenues	\$ 9,770	\$ 9,644	\$ 10,099	\$ 9,813	\$ 10,465	\$ 9,888	\$ 9,481	\$ 10,062
Net income (loss) applicable to common shareholders	977	785	678	549	942	810	(585)	1,294
Earnings per common share - Basic	2.76	2.15	1.94	1.51	2.72	2.24	(1.71)	3.62
Earnings per common share - Diluted	2.71	2.11	1.91	1.49	2.68	2.21	(1.71)	3.56

Impact of change (\$ in millions, except per share data)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2018	2017	2018	2017	2018	2017	2018	2017
Revenues	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Net income (loss) applicable to common shareholders	31	119	41	(1)	109	173	(273)	74
Earnings per common share - Basic	0.09	0.33	0.12	—	0.31	0.48	(0.80)	0.21
Earnings per common share - Diluted	0.08	0.32	0.11	—	0.31	0.47	(0.80)	0.21

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
The Allstate Corporation
Northbrook, Illinois 60062

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying Consolidated Statements of Financial Position of The Allstate Corporation and subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related Consolidated Statements of Operations, Comprehensive Income, Shareholders' Equity, and Cash Flows for each of the three years in the period ended December 31, 2018, and the related notes and the schedules listed in the Index at Item 15 (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission – ("COSO").

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the COSO.

Change in Adopted Accounting Principles

As discussed in Note 2 to the financial statements, the Company changed its presentation and method of accounting for the recognition and measurement of financial assets and financial liabilities on January 1, 2018, due to the adoption of FASB Accounting Standards Update No. 2016-01, Financial Instruments - Overall (Subtopic 825-10).

As discussed in Note 2 to the financial statements, the Company elected to change its principles of accounting for recognizing pension and other postretirement benefit plan costs effective January 1, 2019.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Item 9A. Controls and Procedures*. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois

February 15, 2019 (May 16, 2019, as to the effects of the retrospective adoption of the change in principles of accounting for recognizing pension and other postretirement benefit plan costs.)

We have served as the Company's auditor since 1992.

Item 15. (a) (2)

The following additional financial statement schedules are furnished herewith pursuant to the requirements of Form 10-K.

The Allstate Corporation		Page
Schedules required to be filed under the provisions of Regulation S-X Article 7:		
Schedule I	Summary of Investments – Other than Investments in Related Parties	193
Schedule II	Condensed Financial Information of Registrant (The Allstate Corporation)	194
Schedule III	Supplementary Insurance Information	198
Schedule IV	Reinsurance	199
Schedule V	Valuation Allowances and Qualifying Accounts	200

All other schedules are omitted because they are not applicable, or not required, or because the required information is included in the Consolidated Financial Statements or in notes thereto.

The Allstate Corporation and Subsidiaries
Schedule I — Summary of Investments Other than Investments in Related Parties

(\$ in millions)	As of December 31, 2018		
	Cost/amortized cost	Fair value (if applicable)	Amount shown in the Balance Sheet
Type of investment			
Fixed maturities:			
Bonds:			
United States government, government agencies and authorities	\$ 5,386	\$ 5,517	\$ 5,517
States, municipalities and political subdivisions	8,963	9,169	9,169
Foreign governments	739	747	747
Public utilities	5,410	5,514	5,514
All other corporate bonds	35,126	34,622	34,622
Asset-backed securities	1,049	1,045	1,045
Residential mortgage-backed securities	377	464	464
Commercial mortgage-backed securities	63	70	70
Redeemable preferred stocks	21	22	22
Total fixed maturities	57,134	\$ 57,170	57,170
Equity securities:			
Common stocks:			
Public utilities	78	93	93
Banks, trusts and insurance companies	452	525	525
Industrial, miscellaneous and all other	3,737	4,159	4,159
Nonredeemable preferred stocks	222	259	259
Total equity securities	4,489	\$ 5,036	5,036
Mortgage loans on real estate	4,670	4,703	4,670
Real estate (none acquired in satisfaction of debt)	624		624
Policy loans	891		891
Derivative instruments	117	117	117
Limited partnership interests	7,505		7,505
Other long-term investments	2,220		2,220
Short-term investments	3,027	3,027	3,027
Total investments	\$ 80,677		\$ 81,260

The Allstate Corporation and Subsidiaries
Schedule II — Condensed Financial Information of Registrant Statement of Operations

(\$ in millions)	Year Ended December 31,		
	2018	2017	2016
Revenues			
Investment income, less investment expense	\$ 25	\$ 10	\$ 11
Realized capital gains and losses	(10)	(2)	2
Other income	3	36	55
	18	44	68
Expenses			
Interest expense	337	334	295
Pension and other postretirement remeasurement gains and losses	454	(219)	264
Pension and other postretirement benefit expense	(116)	(224)	(159)
Other operating expenses	50	50	28
	725	(59)	428
(Loss) gain from operations before income tax benefit and equity in net income of subsidiaries	(707)	103	(360)
Income tax (benefit) expense	(136)	105	(148)
Loss before equity in net income of subsidiaries	(571)	(2)	(212)
Equity in net income of subsidiaries	2,731	3,556	2,020
Net income	2,160	3,554	1,808
Preferred stock dividends	148	116	116
Net income applicable to common shareholders	2,012	3,438	1,692
Other comprehensive income (loss), after-tax			
Changes in:			
Unrealized net capital gains and losses	(754)	319	433
Unrealized foreign currency translation adjustments	(48)	45	9
Unamortized pension and other postretirement prior service credit	(59)	(52)	(33)
Other comprehensive (loss) income, after-tax	(861)	312	409
Comprehensive income	\$ 1,299	\$ 3,866	\$ 2,217

See accompanying notes to condensed financial information and notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Schedule II (Continued) — Condensed Financial Information of Registrant Statement of Financial Position

(\$ in millions, except par value data)	December 31,	
	2018	2017
Assets		
Investments in subsidiaries	\$ 29,301	\$ 29,126
Fixed income securities, at fair value (amortized cost \$355 and \$361)	356	362
Short-term investments, at fair value (amortized cost \$285 and \$171)	285	171
Receivable from subsidiaries	426	427
Deferred income taxes	225	124
Other assets	92	150
Total assets	\$ 30,685	\$ 30,360
Liabilities		
Long-term debt	\$ 6,451	\$ 6,350
Pension and other postretirement benefit obligations	1,050	675
Deferred compensation	281	297
Payable to subsidiaries	3	—
Notes due to subsidiaries	1,250	250
Dividends payable to shareholders	198	167
Other liabilities	140	70
Total liabilities	9,373	7,809
Shareholders' equity		
Preferred stock and additional capital paid-in, \$1 par value, 25 million shares authorized, 79.8 thousand and 72.2 thousand shares issued and outstanding, \$1,995 and \$1,805 aggregate liquidation preference	1,930	1,746
Common stock, \$.01 par value, 2.0 billion shares authorized and 900 million issued, 332 million and 355 million shares outstanding	9	9
Additional capital paid-in	3,310	3,313
Retained income	44,033	41,579
Deferred ESOP expense	(3)	(3)
Treasury stock, at cost (568 million and 545 million shares)	(28,085)	(25,982)
Accumulated other comprehensive income:		
Unrealized net capital gains and losses	(2)	1,662
Unrealized foreign currency translation adjustments	(49)	(1)
Unamortized pension and other postretirement prior service credit	169	228
Total accumulated other comprehensive income	118	1,889
Total shareholders' equity	21,312	22,551
Total liabilities and shareholders' equity	\$ 30,685	\$ 30,360

See accompanying notes to condensed financial information and notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Schedule II (Continued) — Condensed Financial Information of Registrant Statement of Cash Flows

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Cash flows from operating activities			
Net income	\$ 2,160	\$ 3,554	\$ 1,808
Adjustments to reconcile net income to net cash provided by operating activities:			
Equity in net income of subsidiaries	(2,731)	(3,556)	(2,020)
Dividends received from subsidiaries	2,059	1,671	1,874
Realized capital gains and losses	10	2	(2)
Pension and other postretirement rereasurement gains and losses	454	(219)	264
Changes in:			
Pension and other postretirement benefits	(116)	(224)	(159)
Income taxes	(28)	232	(20)
Operating assets and liabilities	160	56	43
Net cash provided by operating activities	1,968	1,516	1,788
Cash flows from investing activities			
Proceeds from sales of investments	1,370	880	389
Proceeds from sales of investments to subsidiaries	390	—	—
Investment purchases	(1,037)	(748)	(243)
Investment collections	108	13	60
Capital contribution or return of capital from subsidiaries	(975)	42	(1,500)
Transfers to subsidiaries through intercompany loan agreement	—	—	(30)
Change in short-term investments, net	(115)	48	58
Net cash (used in) provided by investing activities	(259)	235	(1,266)
Cash flows from financing activities			
Proceeds from borrowings from subsidiaries	1,250	300	—
Repayment of notes due to subsidiaries	(250)	(50)	—
Proceeds from issuance of long-term debt	498	—	1,236
Redemption of preferred stock	(385)	—	—
Redemption and repayment of long-term debt	(400)	—	(17)
Proceeds from issuance of preferred stock	557	—	—
Dividends paid on common stock	(614)	(525)	(486)
Dividends paid on preferred stock	(134)	(116)	(116)
Treasury stock purchases	(2,303)	(1,495)	(1,337)
Shares reissued under equity incentive plans, net	73	135	164
Excess tax benefits on share-based payment arrangements	—	—	32
Other	(1)	(2)	—
Net cash used in financing activities	(1,709)	(1,753)	(524)
Net decrease in cash	—	(2)	(2)
Cash at beginning of year	—	2	4
Cash at end of year	\$ —	\$ —	\$ 2

See accompanying notes to condensed financial information and notes to consolidated financial statements.

The Allstate Corporation and Subsidiaries
Schedule II (Continued) — Condensed Financial Information of Registrant
Notes to Condensed Financial Information

1. General

Pursuant to rules and regulations of the SEC, the unconsolidated condensed financial statements of the Parent Company do not reflect all of the information and notes normally included with financial statements prepared in accordance with GAAP. Therefore, these condensed financial statements of the Registrant should be read in conjunction with the consolidated financial statements and notes thereto included in Item 8.

The long-term debt presented in Note 12 "Capital Structure" are direct obligations of the Registrant. A majority of the pension and other postretirement benefits plans presented in Note 17 "Benefit Plans" are direct obligations of the Registrant.

Participating subsidiaries fund the pension plans contributions under a master services cost sharing agreement. In addition, as a result of joint and several pension liability rules under the Internal Revenue Code and the Employee Retirement Income Security Act of 1974, as amended, many liabilities that arise in connection with pension plans are joint and several across all members of a controlled group of entities.

2. Notes due to subsidiaries

On October 11, 2018 and December 18, 2018 the Registrant issued \$250 million and \$1.00 billion notes, with a rate of 2.49% and 3.03% due on April 11, 2019 and June 18, 2019 respectively, both to its wholly owned subsidiary Kennett Capital Inc. The proceeds of these issuances were used for cash management purposes.

On December 11, 2017, the Registrant issued \$125 million and \$175 million notes, each with a rate of 1.59% and due on June 11, 2018, to its wholly owned subsidiaries Kennett Capital Inc. and Allstate Non-Insurance Holdings Inc ("ANIHI"), respectively. The proceeds of these issuances were used for cash management purposes. On December 20, 2017, the Registrant repaid \$50 million to ANIHI. On April 17, 2018, the Registrant repaid \$125 million and \$125 million to Kennett Capital Inc. and ANIHI, respectively.

3. Supplemental Disclosures of Cash Flow Information

The Registrant paid \$330 million, \$331 million and \$287 million of interest on debt in 2018, 2017 and 2016, respectively.

The Allstate Corporation and Subsidiaries
Schedule III — Supplementary Insurance Information

(\$ in millions)	As of December 31,				For the years ended December 31,				
	Deferred policy acquisition costs	Reserves for claims and claims expense, contract benefits and contractholder funds	Unearned premiums	Premium revenue and contract charges	Net investment income ⁽¹⁾	Claims and claims expense, contract benefits and interest credited to contractholders	Amortization of deferred policy acquisition costs	Other operating costs and expenses	Premiums written (excluding life)
Segment									
2018									
Property-Liability									
Allstate Protection	\$ 1,618	\$ 25,495	\$ 11,953	\$ 32,950		\$ 22,348	\$ 4,475	\$ 4,522	\$ 33,555
Discontinued Lines and Coverages	—	1,864	—	—		87	—	3	—
Total Property-Liability	1,618	27,359	11,953	32,950	\$ 1,464	22,435	4,475	4,525	33,555
Service Businesses ⁽²⁾	1,290	64	2,546	1,220	27	350	463	603	1,431
Allstate Life	1,300	10,333	3	1,315	505	1,094	132	364	—
Allstate Benefits	549	1,905	8	1,135	77	630	145	278	980
Allstate Annuities	27	18,341	—	15	1,096	903	7	31	—
Corporate and Other	—	—	—	—	71	—	—	880	—
Intersegment Eliminations ⁽²⁾	—	—	—	(122)	—	(7)	—	(115)	—
Total	\$ 4,784	\$ 58,002	\$ 14,510	\$ 36,513	\$ 3,240	\$ 25,405	\$ 5,222	\$ 6,566	\$ 35,966
2017									
Property-Liability									
Allstate Protection	\$ 1,510	\$ 24,336	\$ 11,409	\$ 31,433		\$ 21,388	\$ 4,205	\$ 4,239	\$ 31,648
Discontinued Lines and Coverages	—	1,893	—	—		96	—	3	—
Total Property-Liability	1,510	26,229	11,409	31,433	\$ 1,478	21,484	4,205	4,242	31,648
Service Businesses ⁽²⁾	954	96	2,052	977	16	369	296	565	1,094
Allstate Life	1,152	10,244	4	1,280	489	1,047	134	344	—
Allstate Benefits	541	1,869	8	1,084	72	599	142	261	919
Allstate Annuities	34	19,870	—	14	1,305	967	7	34	—
Corporate and Other	—	—	—	—	41	—	—	292	—
Intersegment Eliminations ⁽²⁾	—	—	—	(110)	—	(6)	—	(104)	—
Total	\$ 4,191	\$ 58,308	\$ 13,473	\$ 34,678	\$ 3,401	\$ 24,460	\$ 4,784	\$ 5,634	\$ 33,661
2016									
Property-Liability									
Allstate Protection	\$ 1,432	\$ 23,263	\$ 11,160	\$ 30,727		\$ 21,802	\$ 4,053	\$ 4,083	\$ 30,888
Discontinued Lines and Coverages	—	1,953	—	—		105	—	2	3
Total Property-Liability	1,432	25,216	11,160	30,727	\$ 1,253	21,907	4,053	4,085	30,891
Service Businesses ⁽²⁾	756	34	1,411	685	13	258	214	283	709
Allstate Life	1,200	10,042	4	1,250	482	1,027	131	332	—
Allstate Benefits	526	1,821	8	1,011	71	545	145	236	855
Allstate Annuities	40	20,636	—	14	1,181	1,011	7	31	—
Corporate and Other	—	—	—	—	42	—	—	594	—
Intersegment Eliminations ⁽²⁾	—	—	—	(105)	—	(5)	—	(100)	—
Total	\$ 3,954	\$ 57,749	\$ 12,583	\$ 33,582	\$ 3,042	\$ 24,743	\$ 4,550	\$ 5,461	\$ 32,455

⁽¹⁾ A single investment portfolio supports both Allstate Protection and Discontinued Lines and Coverages segments.

⁽²⁾ Includes intersegment premiums and service fees and the related incurred losses and expenses that are eliminated in the consolidated financial statements.

The Allstate Corporation and Subsidiaries
Schedule IV — Reinsurance

(\$ in millions)	Gross amount	Ceded to other companies ⁽¹⁾	Assumed from other companies	Net amount	Percentage of amount assumed to net
Year ended December 31, 2018					
Life insurance in force	\$ 207,434	\$ 81,186	\$ 243,161	\$ 369,409	65.8%
Premiums and contract charges:					
Life insurance	\$ 994	\$ 266	\$ 754	\$ 1,482	50.9%
Accident and health insurance	1,007	24	—	983	—%
Property and casualty insurance	34,977	1,016	87	34,048	0.3%
Total premiums and contract charges	\$ 36,978	\$ 1,306	\$ 841	\$ 36,513	2.3%
Year ended December 31, 2017					
Life insurance in force	\$ 188,186	\$ 86,642	\$ 259,671	\$ 361,215	71.9%
Premiums and contract charges:					
Life insurance	\$ 936	\$ 276	\$ 787	\$ 1,447	54.4%
Accident and health insurance	958	27	—	931	—%
Property and casualty insurance	33,221	971	50	32,300	0.2%
Total premiums and contract charges	\$ 35,115	\$ 1,274	\$ 837	\$ 34,678	2.4%
Year ended December 31, 2016					
Life insurance in force	\$ 167,355	\$ 90,011	\$ 275,008	\$ 352,352	78.0%
Premiums and contract charges:					
Life insurance	\$ 877	\$ 279	\$ 818	\$ 1,416	57.8%
Accident and health insurance	889	30	—	859	—%
Property and casualty insurance	32,249	987	45	31,307	0.1%
Total premiums and contract charges	\$ 34,015	\$ 1,296	\$ 863	\$ 33,582	2.6%

⁽¹⁾ No reinsurance or coinsurance income was netted against premium ceded in 2018, 2017 or 2016.

The Allstate Corporation and Subsidiaries
Schedule V — Valuation Allowances and Qualifying Accounts

Description	Balance as of beginning of period	Additions		Deductions	Balance as of end of period
		Charged to costs and expenses	Other additions		
(\$ in millions)					
Year ended December 31, 2018					
Allowance for reinsurance recoverables	\$ 70	\$ (5)	\$ —	\$ —	\$ 65
Allowance for premium installment receivable	77	118	—	118	77
Allowance for deferred tax assets	—	—	—	—	—
Allowance for estimated losses on mortgage loans	3	—	—	—	3
Year ended December 31, 2017					
Allowance for reinsurance recoverables	\$ 84	\$ (10)	\$ —	\$ 4	\$ 70
Allowance for premium installment receivable	84	109	—	116	77
Allowance for deferred tax assets	—	—	—	—	—
Allowance for estimated losses on mortgage loans	3	1	—	1	3
Year ended December 31, 2016					
Allowance for reinsurance recoverables	\$ 80	\$ 5	\$ —	\$ 1	\$ 84
Allowance for premium installment receivable	90	107	—	113	84
Allowance for deferred tax assets	—	—	—	—	—
Allowance for estimated losses on mortgage loans	3	—	—	—	3