

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2017

OR

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

1-16725

(Commission file number)

PRINCIPAL FINANCIAL GROUP, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

42-1520346

(I.R.S. Employer Identification Number)

711 High Street, Des Moines, Iowa 50392

(Address of principal executive offices)

(515) 247-5111

(Registrant's telephone number, including area code)

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The total number of shares of the registrant's Common Stock, \$0.01 par value, outstanding as of October 25, 2017, was 288,754,689.

PRINCIPAL FINANCIAL GROUP, INC.

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PART I — FINANCIAL INFORMATION
Item 1. Financial Statements

Principal Financial Group, Inc.
Consolidated Statements of Financial Position

	September 30, 2017	December 31, 2016
	(Unaudited)	
	(in millions)	
Assets		
Fixed maturities, available-for-sale (2017 and 2016 include \$257.4 million and \$232.5 million related to consolidated variable interest entities)	\$ 59,137.8	\$ 54,846.1
Fixed maturities, trading (2017 and 2016 include \$0.0 million and \$82.4 million related to consolidated variable interest entities)	232.5	398.4
Equity securities, available-for-sale	118.3	98.9
Equity securities, trading (2017 and 2016 include \$788.3 million and \$721.9 million related to consolidated variable interest entities)	1,670.9	1,413.4
Mortgage loans	14,020.4	13,230.2
Real estate (2017 and 2016 include \$291.9 million and \$305.7 million related to consolidated variable interest entities)	1,650.2	1,368.8
Policy loans	812.0	823.8
Other investments (2017 and 2016 include \$105.5 million and \$89.8 million related to consolidated variable interest entities and \$88.9 million and \$86.2 million measured at fair value under the fair value option)	3,561.3	3,655.9
Total investments	81,203.4	75,835.5
Cash and cash equivalents	2,795.0	2,719.6
Accrued investment income	634.6	580.6
Premiums due and other receivables	1,516.6	1,361.9
Deferred acquisition costs	3,481.4	3,380.2
Property and equipment	754.6	699.0
Goodwill	1,055.2	1,020.8
Other intangibles	1,314.7	1,325.3
Separate account assets (2017 and 2016 include \$39,725.2 million and \$35,844.1 million related to consolidated variable interest entities)	154,085.9	139,832.6
Other assets	1,092.2	1,258.8
Total assets	\$ 247,933.6	\$ 228,014.3
Liabilities		
Contractholder funds (2017 and 2016 include \$374.5 million and \$358.7 million related to consolidated variable interest entities)	\$ 38,208.6	\$ 37,953.6
Future policy benefits and claims	32,129.1	29,000.7
Other policyholder funds	926.2	890.4
Short-term debt	58.8	51.4
Long-term debt	3,175.4	3,125.7
Income taxes currently payable	53.7	12.9
Deferred income taxes	1,515.2	972.4
Separate account liabilities (2017 and 2016 include \$39,725.2 million and \$35,844.1 million related to consolidated variable interest entities)	154,085.9	139,832.6
Other liabilities (2017 and 2016 include \$259.2 million and \$284.1 million related to consolidated variable interest entities, of which \$0.0 million and \$59.9 million are measured at fair value under the fair value option)	5,584.3	5,783.3
Total liabilities	235,737.2	217,623.0
Redeemable noncontrolling interest (2017 and 2016 include \$50.1 million and \$58.8 million related to consolidated variable interest entities)	129.1	97.5
Stockholders' equity		
Common stock, par value \$0.01 per share — 2,500.0 million shares authorized, 473.5 million and 469.2 million shares issued, and 288.5 million and 287.7 million shares outstanding in 2017 and 2016	4.7	4.7
Additional paid-in capital	9,886.8	9,686.0
Retained earnings	8,784.6	7,720.4
Accumulated other comprehensive income (loss)	47.0	(675.2)
Treasury stock, at cost (185.0 million and 181.5 million shares in 2017 and 2016)	(6,726.7)	(6,508.6)
Total stockholders' equity attributable to Principal Financial Group, Inc.	11,996.4	10,227.3
Noncontrolling interest	70.9	66.5
Total stockholders' equity	12,067.3	10,293.8
Total liabilities and stockholders' equity	\$ 247,933.6	\$ 228,014.3

See accompanying notes.

Principal Financial Group, Inc.
Consolidated Statements of Operations
(Unaudited)

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions, except per share data)</i>			
Revenues				
Premiums and other considerations	\$ 2,126.1	\$ 1,002.7	\$ 4,826.8	\$ 3,561.1
Fees and other revenues	987.1	915.0	2,882.8	2,687.7
Net investment income	838.0	856.1	2,581.8	2,417.0
Net realized capital gains, excluding impairment losses on available-for-sale securities	693.2	55.5	623.7	283.9
Net other-than-temporary impairment (losses) recoveries on for-sale securities	2.6	(22.0)	(27.1)	(81.0)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified to (from) other comprehensive income	(19.2)	10.7	(32.5)	11.6
Net impairment losses on available-for-sale securities	(16.6)	(11.3)	(59.6)	(69.4)
Net realized capital gains	676.6	44.2	564.1	214.5
Total revenues	<u>4,627.8</u>	<u>2,818.0</u>	<u>10,855.5</u>	<u>8,880.3</u>
Expenses				
Benefits, claims and settlement expenses	2,504.6	1,482.2	6,020.7	4,800.6
Dividends to policyholders	32.6	45.5	92.7	122.3
Operating expenses	932.8	919.6	2,804.7	2,747.0
Total expenses	<u>3,470.0</u>	<u>2,447.3</u>	<u>8,918.1</u>	<u>7,669.9</u>
Income before income taxes	1,157.8	370.7	1,937.4	1,210.4
Income taxes	344.6	43.3	455.8	186.8
Net income	<u>813.2</u>	<u>327.4</u>	<u>1,481.6</u>	<u>1,023.6</u>
Net income attributable to noncontrolling interest	3.0	19.2	13.0	25.1
Net income attributable to Principal Financial Group, Inc.	<u>\$ 810.2</u>	<u>\$ 308.2</u>	<u>\$ 1,468.6</u>	<u>\$ 998.5</u>
Earnings per common share				
Basic earnings per common share	<u>\$ 2.80</u>	<u>\$ 1.07</u>	<u>\$ 5.08</u>	<u>\$ 3.45</u>
Diluted earnings per common share	<u>\$ 2.76</u>	<u>\$ 1.06</u>	<u>\$ 5.02</u>	<u>\$ 3.41</u>
Dividends declared per common share	<u>\$ 0.47</u>	<u>\$ 0.41</u>	<u>\$ 1.38</u>	<u>\$ 1.18</u>

See accompanying notes.

Principal Financial Group, Inc.
Consolidated Statements of Comprehensive Income
(Unaudited)

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Net income	\$ 813.2	\$ 327.4	\$ 1,481.6	\$ 1,023.6
Other comprehensive income, net:				
Net unrealized gains on available-for-sale securities	70.1	120.3	569.1	827.9
Noncredit component of impairment losses on fixed maturities, available-for-sale	13.3	(5.3)	21.0	(6.9)
Net unrealized gains (losses) on derivative instruments	(11.1)	3.7	(29.3)	16.2
Foreign currency translation adjustment	88.6	(16.0)	151.3	127.8
Net unrecognized postretirement benefit obligation	4.2	8.0	12.8	24.0
Other comprehensive income	<u>165.1</u>	<u>110.7</u>	<u>724.9</u>	<u>989.0</u>
Comprehensive income	<u>978.3</u>	<u>438.1</u>	<u>2,206.5</u>	<u>2,012.6</u>
Comprehensive income attributable to noncontrolling interest	5.0	18.8	15.7	30.5
Comprehensive income attributable to Principal Financial Group, Inc.	<u>\$ 973.3</u>	<u>\$ 419.3</u>	<u>\$ 2,190.8</u>	<u>\$ 1,982.1</u>

See accompanying notes.

Principal Financial Group, Inc.
Consolidated Statements of Stockholders' Equity
(Unaudited)

	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss) <i>(in millions)</i>	Treasury stock	Noncontrolling interest	Total stockholders' equity
Balances as of January 1, 2016	\$ 4.7	\$ 9,544.8	\$ 6,875.9	\$ (882.5)	\$ (6,231.3)	\$ 65.8	\$ 9,377.4
Common stock issued	—	25.7	—	—	—	—	25.7
Stock-based compensation and additional related tax benefits	—	65.0	(5.2)	—	—	0.3	60.1
Treasury stock acquired, common	—	—	—	—	(245.2)	—	(245.2)
Dividends to common stockholders	—	—	(341.1)	—	—	—	(341.1)
Distributions to noncontrolling interest	—	—	—	—	—	(3.7)	(3.7)
Contributions from noncontrolling interest	—	—	—	—	—	0.7	0.7
Purchase of subsidiary shares from noncontrolling interest (1)	—	15.1	—	(9.3)	—	—	5.8
Adjustments to redemption amount of redeemable noncontrolling interest	—	(4.1)	—	—	—	—	(4.1)
Net income (1)	—	—	998.5	—	—	4.3	1,002.8
Other comprehensive income (1)	—	—	—	983.6	—	1.8	985.4
Balances as of September 30, 2016	<u>\$ 4.7</u>	<u>\$ 9,646.5</u>	<u>\$ 7,528.1</u>	<u>\$ 91.8</u>	<u>\$ (6,476.5)</u>	<u>\$ 69.2</u>	<u>\$ 10,863.8</u>
Balances as of January 1, 2017	\$ 4.7	\$ 9,686.0	\$ 7,720.4	\$ (675.2)	\$ (6,508.6)	\$ 66.5	\$ 10,293.8
Common stock issued	—	143.1	—	—	—	—	143.1
Stock-based compensation	—	68.1	(5.9)	—	—	0.2	62.4
Treasury stock acquired, common	—	—	—	—	(218.1)	—	(218.1)
Dividends to common stockholders	—	—	(398.5)	—	—	—	(398.5)
Distributions to noncontrolling interest	—	—	—	—	—	(6.1)	(6.1)
Contributions from noncontrolling interest	—	—	—	—	—	4.2	4.2
Purchase of subsidiary shares from noncontrolling interest (1)	—	(7.6)	—	—	—	(1.3)	(8.9)
Adjustments to redemption amount of redeemable noncontrolling interest	—	(2.8)	—	—	—	—	(2.8)
Net income (1)	—	—	1,468.6	—	—	6.1	1,474.7
Other comprehensive income (1)	—	—	—	722.2	—	1.3	723.5
Balances as of September 30, 2017	<u>\$ 4.7</u>	<u>\$ 9,886.8</u>	<u>\$ 8,784.6</u>	<u>\$ 47.0</u>	<u>\$ (6,726.7)</u>	<u>\$ 70.9</u>	<u>\$ 12,067.3</u>

(1) Excludes amounts attributable to redeemable noncontrolling interest. See Note 9, Stockholders' Equity, for further details.

See accompanying notes.

Principal Financial Group, Inc.
Consolidated Statements of Cash Flows
(Unaudited)

	For the nine months ended	
	September 30,	
	2017	2016
	<i>(in millions)</i>	
Operating activities		
Net income	\$ 1,481.6	\$ 1,023.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Amortization of deferred acquisition costs	173.8	264.0
Additions to deferred acquisition costs	(307.2)	(293.6)
Accrued investment income	(54.0)	(67.8)
Net cash flows for trading securities	55.3	25.6
Premiums due and other receivables	(158.2)	68.9
Contractholder and policyholder liabilities and dividends	2,693.5	1,594.4
Current and deferred income taxes	456.0	75.6
Net realized capital gains	(564.1)	(214.5)
Depreciation and amortization expense	144.8	139.6
Real estate acquired through operating activities	(55.2)	(31.2)
Real estate sold through operating activities	1.3	21.4
Stock-based compensation	62.2	58.7
Other	(301.1)	262.6
Net adjustments	2,147.1	1,903.7
Net cash provided by operating activities	3,628.7	2,927.3
Investing activities		
Available-for-sale securities:		
Purchases	(10,425.7)	(10,590.0)
Sales	1,011.2	1,138.1
Maturities	6,577.2	5,836.0
Mortgage loans acquired or originated	(2,036.5)	(2,116.3)
Mortgage loans sold or repaid	1,297.4	1,440.8
Real estate acquired	(113.6)	(90.2)
Real estate sold	457.1	35.5
Net purchases of property and equipment	(133.3)	(109.1)
Net change in other investments	48.5	(42.4)
Net cash used in investing activities	(3,317.7)	(4,497.6)
Financing activities		
Issuance of common stock	143.1	25.7
Acquisition of treasury stock	(218.1)	(245.2)
Proceeds from financing element derivatives	0.1	0.3
Payments for financing element derivatives	(59.5)	(67.3)
Excess tax benefits from share-based payment arrangements	—	5.9
Purchase of subsidiary shares from noncontrolling interest	(13.3)	(2.4)
Dividends to common stockholders	(398.5)	(341.1)
Issuance of long-term debt	—	11.0
Principal repayments of long-term debt	(56.2)	—
Net proceeds from (repayments of) short-term borrowings	4.9	(143.4)
Investment contract deposits	8,244.4	8,108.5
Investment contract withdrawals	(7,963.1)	(6,201.4)
Net increase in banking operation deposits	79.8	69.6
Other	0.8	3.5
Net cash provided by (used in) financing activities	(235.6)	1,223.7
Net increase (decrease) in cash and cash equivalents	75.4	(346.6)
Cash and cash equivalents at beginning of period	2,719.6	2,564.8
Cash and cash equivalents at end of period	\$ 2,795.0	\$ 2,218.2
Supplemental disclosure of non-cash activities:		
Assets and liability changes resulting from exchange agreement to exit real estate joint ventures:		
Real estate properties received	\$ 743.2	\$ —
Long-term debt assumed on real estate properties received	\$ 269.0	\$ —
Increase in other investments due to discontinuing equity method accounting	\$ 222.4	\$ —

See accompanying notes.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements
September 30, 2017
(Unaudited)

1. Nature of Operations and Significant Accounting Policies

Basis of Presentation

The accompanying unaudited consolidated financial statements of Principal Financial Group, Inc. (“PFG”) have been prepared in conformity with accounting principles generally accepted in the U.S. (“U.S. GAAP”) for interim financial statements and with the instructions to Form 10-Q and Article 10 of Regulation S-X. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included. Operating results for the three and nine months ended September 30, 2017, are not necessarily indicative of the results that may be expected for the year ended December 31, 2017. These interim unaudited consolidated financial statements should be read in conjunction with our annual audited financial statements as of December 31, 2016, included in our Form 10-K for the year ended December 31, 2016, filed with the United States Securities and Exchange Commission (“SEC”). The accompanying consolidated statement of financial position as of December 31, 2016, has been derived from the audited consolidated statement of financial position but does not include all of the information and footnotes required by U.S. GAAP for complete financial statements.

Consolidation

We have relationships with various special purpose entities and other legal entities that must be evaluated to determine if the entities meet the criteria of a variable interest entity (“VIE”) or a voting interest entity (“VOE”). This assessment is performed by reviewing contractual, ownership and other rights, including involvement of related parties, and requires use of judgment. First, we determine if we hold a variable interest in an entity by assessing if we have the right to receive expected losses and expected residual returns of the entity. If we hold a variable interest, then the entity is assessed to determine if it is a VIE. An entity is a VIE if the equity at risk is not sufficient to support its activities, if the equity holders lack a controlling financial interest or if the entity is structured with non-substantive voting rights. In addition to the previous criteria, if the entity is a limited partnership or similar entity, it is a VIE if the limited partners do not have the power to direct the entity’s most significant activities through substantive kick-out rights or participating rights. A VIE is evaluated to determine the primary beneficiary. The primary beneficiary of a VIE is the enterprise with (1) the power to direct the activities of a VIE that most significantly impact the entity’s economic performance and (2) the obligation to absorb losses of the entity or the right to receive benefits from the entity that could potentially be significant to the VIE. When we are the primary beneficiary, we are required to consolidate the entity in our financial statements. We reassess our involvement with VIEs on a quarterly basis. For further information about VIEs, refer to Note 2, Variable Interest Entities.

If an entity is not a VIE, it is considered a VOE. VOEs are generally consolidated if we own a greater than 50% voting interest. If we determine our involvement in an entity no longer meets the requirements for consolidation under either the VIE or VOE models, the entity is deconsolidated. Entities in which we have significant management influence over the operating and financing decisions but are not required to consolidate, other than investments accounted for at fair value under the fair value option, are reported using the equity method.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Recent Accounting Pronouncements

Description	Date of adoption	Effect on our consolidated financial statements or other significant matters
<i>Standards not yet adopted:</i>		
<p>Goodwill impairment testing This authoritative guidance simplifies how an entity is required to test goodwill for impairment by eliminating Step 2 (which measures a goodwill impairment loss by comparing the implied fair value of a reporting unit’s goodwill to the carrying amount of that goodwill) from the goodwill impairment test. A goodwill impairment loss will be the amount by which a reporting unit’s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. Entities will continue to have the option to perform a qualitative assessment to determine if a quantitative impairment test is necessary. Early adoption is permitted.</p>	January 1, 2020	We are currently evaluating the impact this guidance will have on our consolidated financial statements.
<p>Credit losses This authoritative guidance requires entities to use a current expected credit loss (“CECL”) model to measure impairment for most financial assets that are not recorded at fair value through net income. Under the CECL model, an entity will estimate lifetime expected credit losses considering available relevant information about historical events, current conditions and reasonable and supportable forecasts. The CECL model does not apply to available-for-sale debt securities. This guidance also expands the required credit loss disclosures and will be applied using a modified retrospective approach by recording a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. Early adoption is permitted.</p>	January 1, 2020	We are currently evaluating the impact this guidance will have on our consolidated financial statements. We believe estimated credit losses under the CECL model will generally result in earlier loss recognition for loans and other receivables.
<p>Targeted improvements to accounting for hedging activities This authoritative guidance updates certain recognition and measurement requirements for hedge accounting. The objective of the guidance is to more closely align the economics of a company’s risk management activities in its financial results and reduce the complexity of applying hedge accounting. The updates include the expansion of hedging strategies that are eligible for hedge accounting, elimination of the separate measurement and reporting of hedge ineffectiveness, presentation of the changes in the fair value of the hedging instrument in the same consolidated statement of operations line as the earnings effect of the hedged item and simplification of hedge effectiveness assessments. This guidance also includes new disclosures and will be applied using a modified retrospective approach by recording a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. Early adoption is permitted.</p>	January 1, 2019	We are currently evaluating the impact this guidance will have on our consolidated financial statements.
<p>Premium amortization on purchased callable debt securities This authoritative guidance applies to entities that hold certain non-contingently callable debt securities, where the amortized cost basis is at a premium to the price repayable by the issuer at the earliest call date. Under the guidance the premium will be amortized to the first call date. This guidance requires adoption through a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. Early adoption is permitted.</p>	January 1, 2019	We are currently evaluating the impact this guidance will have on our consolidated financial statements.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Description	Date of adoption	Effect on our consolidated financial statements or other significant matters
<p>Leases This authoritative guidance requires lessee recognition of lease assets and lease liabilities on the balance sheet. The concept of an operating lease, where the lease assets and liabilities are off balance sheet, is eliminated under the new guidance. For lessors, the guidance modifies lease classification criteria and accounting for certain types of leases. Other key aspects of the guidance relate to the removal of the current real estate-specific guidance and new presentation and disclosure requirements. Lessees and lessors are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach, which includes certain optional practical expedients that may be elected. Early adoption is permitted.</p>	January 1, 2019	We have primarily focused our implementation efforts on identifying our leases that are within the scope of the guidance and will be added to our balance sheet. We are currently evaluating other impacts this guidance will have on our consolidated financial statements.
<p>Nonfinancial asset derecognition and partial sales of nonfinancial assets This authoritative guidance clarifies the scope of the recently established guidance on nonfinancial asset derecognition and the accounting for partial sales of nonfinancial assets. The guidance conforms the derecognition guidance on nonfinancial assets with the model for transactions in the new revenue recognition standard.</p>	January 1, 2018	We have nearly completed our evaluation of this guidance and do not expect it to have a material impact on our consolidated financial statements.
<p>Presentation of net periodic pension cost and net periodic postretirement benefit cost This authoritative guidance requires that an employer disaggregate the service cost component from the other components of net benefit cost. The guidance also provides explicit guidance on the presentation of the service cost component and the other components of net benefit cost in the consolidated statement of operations and allows only the service cost component of net benefit cost to be eligible for capitalization.</p>	January 1, 2018	This guidance is not expected to have a material impact on our consolidated financial statements.
<p>Definition of a business This authoritative guidance clarifies the definition of a business to assist with evaluating when transactions involving an integrated set of assets and activities (a “set”) should be accounted for as acquisitions or disposals of assets or businesses. The guidance requires that when substantially all of the fair value of the gross assets acquired or disposed of is concentrated in a single identifiable asset or a group of similar identifiable assets, the set is not a business. The guidance also requires a set to include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output to be considered a business. Lastly, the guidance removes the evaluation of whether a market participant could replace missing elements and narrows the definition of outputs by more closely aligning it with how outputs are described in the revenue recognition guidance. The guidance will be applied prospectively. Early application is permitted in certain circumstances.</p>	January 1, 2018	We have nearly completed our evaluation of this guidance and do not expect it to have a material impact on our consolidated financial statements.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Description	Date of adoption	Effect on our consolidated financial statements or other significant matters
<p>Financial instruments - recognition and measurement</p> <p>This authoritative guidance addresses certain aspects of recognition, measurement, presentation and disclosure of financial instruments. The primary focus of this guidance is to supersede the guidance to classify equity securities with readily determinable fair values into different categories (trading or available-for-sale) and rather requires these equity securities to be measured at fair value with changes in the fair value recognized through net income. This guidance requires adoption through a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption.</p>	January 1, 2018	As of September 30, 2017, we did not hold material equity securities accounted for at fair value through other comprehensive income that will be accounted for at fair value through net income under the updated guidance. We have nearly completed our evaluation of this guidance and do not expect it to have a material impact on our consolidated financial statements.
<p>Revenue recognition</p> <p>This authoritative guidance replaces all general and most industry specific revenue recognition guidance currently prescribed by U.S. GAAP. The core principle is that an entity recognizes revenue to reflect the transfer of a promised good or service to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for that good or service. This guidance also provides clarification on when an entity is a principal or an agent in a transaction. In addition, the guidance updates the accounting for certain costs associated with obtaining and fulfilling a customer contract. The guidance may be applied using one of the following two methods: (1) retrospectively to each prior reporting period presented, or (2) retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application.</p>	January 1, 2018	Only a portion of our total revenues, less than 20%, are subject to this guidance as it does not apply to revenue on contracts accounted for under the insurance contracts or financial instruments standards. Our evaluation process is substantially complete and included, but was not limited to, identifying contracts within the scope of the guidance, reviewing and documenting our accounting for these contracts, identifying and determining the accounting for any related contract costs, and preparing the required financial statement disclosures. To date, we have identified financial statement changes related to deferring and amortizing certain sales compensation related to obtaining customer contracts, but we do not expect the impact of these changes to be material. We have not identified material changes in the timing of our revenue recognition. We plan to adopt the guidance on January 1, 2018, using the modified retrospective application.

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(Unaudited)

Description	Date of adoption	Effect on our consolidated financial statements or other significant matters
<p>Income tax - intra-entity transfers of assets This authoritative guidance requires entities to recognize current and deferred income tax resulting from an intra-entity asset transfer when the transfer occurs. Prior to issuance of this guidance, U.S. GAAP did not allow recognition of income tax consequences until the asset had been sold to a third party. This guidance requires adoption through a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption with early adoption permitted.</p>	January 1, 2018	We have nearly completed our evaluation of this guidance and do not expect it to have a material impact on our consolidated financial statements.
<i>Standards adopted:</i>		
<p>Employee share-based payment accounting This authoritative guidance changes certain aspects of accounting for and reporting share-based payments to employees including changes related to the income tax effects of share-based payments, tax withholding requirements and accounting for forfeitures. Various transition methods will apply depending on the situation being addressed.</p>	January 1, 2017	The guidance was adopted prospectively as indicated by the guidance for each area of change and did not have a material impact on our consolidated financial statements.
<p>Short-duration insurance contracts This authoritative guidance requires additional disclosures related to short-duration insurance contracts.</p>	December 31, 2016	The disclosure requirements of this guidance were adopted retrospectively.
<p>Net asset value per share as a practical expedient for fair value This authoritative guidance removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient.</p>	January 1, 2016	The guidance was adopted retrospectively and did not have a material impact on our consolidated financial statements. See Note 10, Fair Value Measurements, for further details.
<p>Simplifying the presentation of debt issuance costs This authoritative guidance requires debt issuance costs related to a recognized debt liability to be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts.</p>	January 1, 2016	The guidance was adopted retrospectively and did not have a material impact on our consolidated financial statements.
<p>Consolidations This authoritative guidance makes changes to both the variable interest and voting interest consolidation models and eliminates the investment company deferral for portions of the variable interest model. The amendments in the standard impact the consolidation analysis for interests in investment companies and limited partnerships and similar entities.</p>	January 1, 2016	The guidance was adopted using the modified retrospective approach. See Note 2, Variable Interest Entities, for further details.

When we adopt new accounting standards, we have a process in place to perform a thorough review of the pronouncement, identify the financial statement and system impacts and create an implementation plan among our impacted business units to ensure we are compliant with the pronouncement on the date of adoption. This includes having effective processes and controls in place to support the reported amounts. Each of the standards listed above is in varying stages in our implementation process based on its issuance and adoption dates. We are on track to implement guidance by the respective effective dates.

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Notes to Consolidated Financial Statements – (continued)
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Derivatives

Over-The-Counter Derivatives Cleared on Chicago Mercantile Exchange

We use certain over-the-counter (“OTC”) interest rate contracts that are subject to derivative clearing agreements. These agreements require the daily cash settlement of variation margin based on changes in the fair value of the derivative instrument. Prior to 2017, variation margin for all such interest rate contracts was treated as collateral, which was accounted for separately as an interest-bearing asset or liability. For reporting purposes, we did not offset fair value amounts recognized for the right to reclaim variation margin collateral or the obligation to return variation margin collateral against fair value amounts recognized for derivative instruments executed with the same counterparties under master netting agreements.

Effective January 2017, the Chicago Mercantile Exchange (“CME”) rulebook was amended to legally characterize variation margin payments for cleared OTC derivatives as settlements of the derivative exposure rather than collateral against the derivative exposure. The economic cash flows exchanged do not change and therefore hedge accounting is unchanged; however, the variation margin and derivative instrument are considered a single unit of account for accounting and presentation purposes. As settlements, variation margin receipts and payments are considered cash flows of the derivative and reduce the recognized asset or liability arising from the derivative’s mark-to-market for balance sheet presentation, effectively resulting in the derivative having a fair value that approximates zero. As of December 31, 2016, our consolidated statements of financial position included \$528.0 million in other investments and \$527.7 million in other liabilities related to OTC interest rate contracts cleared with the CME. The balance of those line items was reduced by those amounts in January 2017 as a result of the CME rulebook amendment. The rulebook amendment did not have an impact on net income. Additionally, the change by the CME did not impact the accounting for our OTC derivatives not cleared with the CME.

Separate Accounts

The separate accounts are legally segregated and are not subject to the claims that arise out of any of our other business. The client, rather than us, directs the investments and bears the investment risk of these funds. The separate account assets represent the fair value of funds that are separately administered by us for contracts with equity, real estate and fixed income investments and are presented as a summary total within the consolidated statements of financial position. An equivalent amount is reported as separate account liabilities, which represent the obligation to return the monies to the client. We receive fees for mortality, withdrawal and expense risks, as well as administrative, maintenance and investment advisory services that are included in the consolidated statements of operations. Net deposits, net investment income and realized and unrealized capital gains and losses of the separate accounts are not reflected in the consolidated statements of operations.

Separate account assets and separate account liabilities include certain international retirement accumulation products where the segregated funds and associated obligation to the client are consolidated within our financial statements. We have determined that summary totals are the most meaningful presentation for these funds.

As of September 30, 2017 and December 31, 2016, the separate accounts included a separate account valued at \$162.9 million and \$158.4 million, respectively, which primarily included shares of our stock that were allocated and issued to eligible participants of qualified employee benefit plans administered by us as part of the policy credits issued under our 2001 demutualization. These shares are included in both basic and diluted earnings per share calculations. In the consolidated statements of financial position, the separate account shares are recorded at fair value and are reported as separate account assets with a corresponding separate account liability to eligible participants of the qualified plan. Changes in fair value of the separate account shares are reflected in both the separate account assets and separate account liabilities and do not impact our results of operations.

2. Variable Interest Entities

We have relationships with various types of entities which may be VIEs. Certain VIEs are consolidated in our financial results. See Note 1, Nature of Operations and Significant Accounting Policies, under the caption “Consolidation” for further details of our consolidation accounting policies. We did not provide financial or other support to investees designated as VIEs for the periods ended September 30, 2017 and December 31, 2016.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
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Consolidated Variable Interest Entities

Grantor Trusts

We contributed undated subordinated floating rate notes to three grantor trusts. The trusts separated their cash flows by issuing an interest-only certificate and a residual certificate related to each note contributed. Each interest-only certificate entitles the holder to interest on the stated note for a specified term, while the residual certificate entitles the holder to interest payments subsequent to the term of the interest-only certificate and to all principal payments. We retained the interest-only certificates and the residual certificates were subsequently sold to third parties. We determined these grantor trusts are VIEs due to insufficient equity to sustain them. We determined we are the primary beneficiary as a result of our contribution of securities into the trusts and our significant continuing interest in the trusts.

Collateralized Private Investment Vehicles

We invest in synthetic and cash collateralized debt obligations, collateralized bond obligations, collateralized loan obligations and other collateralized structures, which are VIEs due to insufficient equity to sustain the entities (collectively known as “collateralized private investment vehicles”). The performance of the notes of these synthetic structures is primarily linked to a synthetic portfolio by derivatives; each note has a specific loss attachment and detachment point. The notes and related derivatives are collateralized by a pool of permitted investments. The investments are held by a trustee and can only be liquidated to settle obligations of the trusts. These obligations primarily include derivatives and the notes due at maturity or termination of the trusts. We determined we were the primary beneficiary for one of these synthetic entities because we acted as the investment manager of the underlying portfolio and we had the power to make decisions and to receive benefits and the obligation to absorb losses that could be potentially significant to the VIE. This synthetic entity matured in the first quarter of 2017.

Commercial Mortgage-Backed Securities

We sold commercial mortgage loans to a real estate mortgage investment conduit trust. The trust issued various commercial mortgage-backed securities (“CMBS”) certificates using the cash flows of the underlying commercial mortgages it purchased. This is considered a VIE due to insufficient equity to sustain itself. We determined we are the primary beneficiary as we retained the special servicing role for the assets within the trust as well as the ownership of the bond class that controls the unilateral kick-out rights of the special servicer.

Mandatory Retirement Savings Funds

We hold an equity interest in Chilean mandatory privatized social security funds in which we provide asset management services. We determined the mandatory privatized social security funds, which also include contributions for voluntary pension savings, voluntary non-pension savings and compensation savings accounts, are VIEs. This is because the equity holders as a group lack the power, due to voting rights or similar rights, to direct the activities of the entity that most significantly impact the entity’s economic performance and also because equity investors are protected from below-average market investment returns relative to the industry’s return, due to a regulatory guarantee that we provide. Further we concluded we are the primary beneficiary through our power to make decisions and our significant variable interest in the funds. The purpose of the funds, which reside in legally segregated entities, is to provide long-term retirement savings. The obligation to the customer is directly related to the assets held in the funds and, as such, we present the assets as separate account assets and the obligation as separate account liabilities within our consolidated statements of financial position.

Principal International Hong Kong offers retirement pension schemes in which we provide trustee, administration and asset management services to employers and employees under the Hong Kong Mandatory Provident Fund (“MPF”) and Occupational Retirement Schemes Ordinance (“ORSO”) pension schemes. Each pension scheme has various guaranteed and non-guaranteed constituent funds, or investment options, in which customers can invest their money. The guaranteed funds provide either a guaranteed rate of return to the customer or a minimum guarantee on withdrawals under certain qualifying events. We determined the guaranteed funds are VIEs due to the fact the equity holders, as a group, lack the obligation to absorb expected losses due to the guarantee we provide. We concluded we are the primary beneficiary because we have the power to make decisions and to receive benefits and the obligation to absorb losses that could be potentially significant to the VIE. Therefore, we consolidate the underlying assets and liabilities of the funds and present as separate accounts or within the general account, depending on the terms of the guarantee.

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Real Estate

We invest in several real estate limited partnerships and limited liability companies. The entities invest in real estate properties. Certain of these entities are VIEs based on the combination of our significant economic interest and related voting rights. We determined we are the primary beneficiary as a result of our power to control the entities through our significant ownership. Due to the nature of these real estate investments, the investment balance will fluctuate as we purchase and sell interests in the entities and as capital expenditures are made to improve the underlying real estate.

Sponsored Investment Funds

We sponsor and invest in certain investment funds for which we provide asset management services. Although our asset management fee is commensurate with the services provided and consistent with fees for similar services negotiated at arms-length, we have a variable interest for funds where our other interests are more than insignificant. The funds are VIEs as the equity holders lack power through voting rights to direct the activities of the entity that most significantly impact its economic performance. We determined we are the primary beneficiary of the VIEs where our interest in the entity is more than insignificant and we are the asset manager.

Assets and Liabilities of Consolidated Variable Interest Entities

The carrying amounts of our consolidated VIE assets, which can only be used to settle obligations of consolidated VIEs, and liabilities of consolidated VIEs for which creditors do not have recourse were as follows:

	September 30, 2017		December 31, 2016	
	Total assets	Total liabilities	Total assets	Total liabilities
	<i>(in millions)</i>			
Grantor trusts (1)	\$ 258.2	\$ 242.5	\$ 233.3	\$ 212.3
Collateralized private investment vehicle (2)	—	—	82.4	61.5
CMBS	10.1	—	12.5	—
Mandatory retirement savings funds (3)	40,473.3	40,099.7	36,526.7	36,202.8
Real estate (4)	318.6	14.2	329.2	26.8
Sponsored investment funds (5)	144.2	1.7	114.3	0.9
Total	\$ 41,204.4	\$ 40,358.1	\$ 37,298.4	\$ 36,504.3

- (1) The assets of grantor trusts are primarily fixed maturities, available-for-sale. The liabilities are primarily other liabilities that reflect an embedded derivative of the forecasted transaction to deliver the underlying securities.
- (2) The assets of the collateralized private investment vehicle were primarily fixed maturities, trading. The liabilities included derivative liabilities and an obligation to redeem notes at maturity or termination of the trusts, which were reported in other liabilities.
- (3) The assets of the mandatory retirement savings funds include separate account assets and equity securities, trading. The liabilities include separate account liabilities and contractholder funds.
- (4) The assets of the real estate VIEs primarily include real estate, other investments and cash. Liabilities primarily include other liabilities.
- (5) The assets of sponsored investment funds are primarily fixed maturities and equity securities, which are reported in other investments, and cash. The consolidated statements of financial position included a \$50.1 million and \$58.8 million redeemable noncontrolling interest for sponsored investment funds as of September 30, 2017 and December 31, 2016, respectively.

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Unconsolidated Variable Interest Entities

Invested Securities

We hold a variable interest in a number of VIEs where we are not the primary beneficiary. Our investments in these VIEs are reported in fixed maturities, available-for-sale; fixed maturities, trading; equity securities, trading and other investments in the consolidated statements of financial position and are described below.

Unconsolidated VIEs include certain CMBS, residential mortgage-backed pass-through securities (“RMBS”) and other asset-backed securities (“ABS”). All of these entities were deemed VIEs because the equity within these entities is insufficient to sustain them. We determined we are not the primary beneficiary in the entities within these categories of investments. This determination was based primarily on the fact we do not own the class of security that controls the unilateral right to replace the special servicer or equivalent function.

As previously discussed, we invest in several types of collateralized private investment vehicles that are VIEs. These include synthetic and cash structures that we do not manage. We have determined we are not the primary beneficiary of these collateralized private investment vehicles primarily because we do not control the economic performance of the entities and were not involved with the design of the entities.

We have invested in various VIE trusts and similar entities as a debt holder. Most of these entities are classified as VIEs due to insufficient equity to sustain them. In addition, we have an entity classified as a VIE based on the combination of our significant economic interest and lack of voting rights. We have determined we are not the primary beneficiary primarily because we do not control the economic performance of the entities and were not involved with the design of the entities.

We have invested in partnerships and other funds, which are classified as VIEs. The entities are VIEs as equity holders lack the power to control the most significant activities of the entities because the equity holders do not have either the ability by a simple majority to exercise substantive kick-out rights or substantive participating rights. We have determined we are not the primary beneficiary because we do not have the power to direct the most significant activities of the entities.

As previously discussed, we sponsor and invest in certain investment funds that are VIEs. We determined we are not the primary beneficiary of the VIEs for which we are the asset manager but do not have a potentially significant variable interest in the funds.

We hold an equity interest in Mexican mandatory privatized social security funds in which we provide asset management services. Our equity interest in the funds is considered a variable interest. We concluded the funds are VIEs because the equity holders as a group lack decision-making ability through their voting rights. We are not the primary beneficiary of the VIEs because although we, as the asset manager, have the power to direct the activities of the VIEs, we do not have a potentially significant variable interest in the funds.

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The carrying value and maximum loss exposure for our unconsolidated VIEs were as follows:

	<u>Asset carrying value</u>	<u>Maximum exposure to loss (1)</u>
	<i>(in millions)</i>	
September 30, 2017		
Fixed maturities, available-for-sale:		
Corporate	\$ 405.1	\$ 337.3
Residential mortgage-backed pass-through securities	2,637.9	2,591.0
Commercial mortgage-backed securities	3,749.5	3,761.3
Collateralized debt obligations	1,239.2	1,249.3
Other debt obligations	5,375.9	5,351.2
Fixed maturities, trading:		
Residential mortgage-backed pass-through securities	15.9	15.9
Commercial mortgage-backed securities	0.7	0.7
Equity securities, trading	82.3	82.3
Other investments:		
Other limited partnership and fund interests	743.7	1,325.7
December 31, 2016		
Fixed maturities, available-for-sale:		
Corporate	\$ 368.4	\$ 298.6
Residential mortgage-backed pass-through securities	2,834.7	2,798.0
Commercial mortgage-backed securities	4,096.5	4,153.2
Collateralized debt obligations	758.6	780.1
Other debt obligations	5,036.1	5,048.9
Fixed maturities, trading:		
Residential mortgage-backed pass-through securities	19.9	19.9
Commercial mortgage-backed securities	1.9	1.9
Collateralized debt obligations	10.6	10.6
Equity securities, trading	68.3	68.3
Other investments:		
Other limited partnership and fund interests	654.6	1,127.8

(1) Our risk of loss is limited to our initial investment measured at amortized cost for fixed maturities, available-for-sale. Our risk of loss is limited to our investment measured at fair value for our fixed maturities, trading and equity securities, trading. Our risk of loss is limited to our carrying value plus any unfunded commitments and/or guarantees for our other investments. Unfunded commitments are not liabilities on our consolidated statements of financial position because we are only required to fund additional equity when called upon to do so by the general partner or investment manager.

Money Market Fund

We are the investment manager for a money market mutual fund. This type of fund is exempt from assessment under any consolidation model due to a scope exception for money market funds registered under Rule 2a-7 of the Investment Company Act of 1940 or similar funds. As of September 30, 2017 and December 31, 2016, the fund we manage held \$0.7 billion and \$0.8 billion in total assets, respectively. We have no contractual obligation to contribute to the fund; however, we provide support through the waiver of fees and through expense reimbursements. The amount of fees waived and expenses reimbursed was insignificant.

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3. Investments

Fixed Maturities and Equity Securities

Fixed maturities include bonds, ABS, redeemable preferred stock and certain non-redeemable preferred securities. Equity securities include mutual funds, common stock, non-redeemable preferred stock and required regulatory investments. We classify fixed maturities and equity securities as either available-for-sale or trading at the time of the purchase and, accordingly, carry them at fair value. See Note 10, Fair Value Measurements, for methodologies related to the determination of fair value. Unrealized gains and losses related to available-for-sale securities, excluding those in fair value hedging relationships, are reflected in stockholders' equity, net of adjustments associated with deferred acquisition costs ("DAC") and related actuarial balances, derivatives in cash flow hedge relationships and applicable income taxes. Unrealized gains and losses related to hedged portions of available-for-sale securities in fair value hedging relationships and mark-to-market adjustments on certain trading securities are reflected in net realized capital gains (losses). Mark-to-market adjustments related to certain securities carried at fair value with an investment objective to realize economic value through mark-to-market changes are reflected in net investment income.

The cost of fixed maturities is adjusted for amortization of premiums and accrual of discounts, both computed using the interest method. The cost of fixed maturities and equity securities classified as available-for-sale is adjusted for declines in value that are other than temporary. Impairments in value deemed to be other than temporary are primarily reported in net income as a component of net realized capital gains (losses), with noncredit impairment losses for certain fixed maturities, available-for-sale reported in other comprehensive income ("OCI"). For loan-backed and structured securities, we recognize income using a constant effective yield based on currently anticipated cash flows.

The amortized cost, gross unrealized gains and losses, other-than-temporary impairments in accumulated other comprehensive income ("AOCI") and fair value of fixed maturities and equity securities available-for-sale were as follows:

	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Other-than- temporary impairments in AOCI (1)
	<i>(in millions)</i>				
September 30, 2017					
Fixed maturities, available-for-sale:					
U.S. government and agencies	\$ 1,427.3	\$ 37.4	\$ 7.0	\$ 1,457.7	\$ —
Non-U.S. governments	932.0	141.3	2.0	1,071.3	—
States and political subdivisions	6,354.6	322.8	21.8	6,655.6	—
Corporate	34,660.1	2,357.1	128.9	36,888.3	9.4
Residential mortgage-backed pass-through securities	2,591.0	63.7	16.8	2,637.9	—
Commercial mortgage-backed securities	3,761.3	34.0	45.8	3,749.5	58.5
Collateralized debt obligations	1,249.3	3.2	13.3	1,239.2	0.3
Other debt obligations	5,413.1	50.9	25.7	5,438.3	45.7
Total fixed maturities, available-for-sale	<u>\$ 56,388.7</u>	<u>\$ 3,010.4</u>	<u>\$ 261.3</u>	<u>\$ 59,137.8</u>	<u>\$ 113.9</u>
Total equity securities, available-for-sale	<u>\$ 117.4</u>	<u>\$ 7.2</u>	<u>\$ 6.3</u>	<u>\$ 118.3</u>	
December 31, 2016					
Fixed maturities, available-for-sale:					
U.S. government and agencies	\$ 1,426.7	\$ 17.2	\$ 10.9	\$ 1,433.0	\$ —
Non-U.S. governments	781.7	119.3	7.4	893.6	—
States and political subdivisions	5,463.9	192.4	87.1	5,569.2	1.1
Corporate	32,699.7	1,843.5	350.8	34,192.4	17.2
Residential mortgage-backed pass-through securities	2,798.0	67.3	30.6	2,834.7	—
Commercial mortgage-backed securities	4,153.2	31.2	87.9	4,096.5	77.5
Collateralized debt obligations	780.1	2.8	24.3	758.6	0.3
Other debt obligations	5,080.9	37.0	49.8	5,068.1	50.3
Total fixed maturities, available-for-sale	<u>\$ 53,184.2</u>	<u>\$ 2,310.7</u>	<u>\$ 648.8</u>	<u>\$ 54,846.1</u>	<u>\$ 146.4</u>
Total equity securities, available-for-sale	<u>\$ 104.9</u>	<u>\$ 4.9</u>	<u>\$ 10.9</u>	<u>\$ 98.9</u>	

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- (1) Excludes \$120.1 million and \$120.9 million as of September 30, 2017 and December 31, 2016, respectively, of net unrealized gains on impaired fixed maturities, available-for-sale related to changes in fair value subsequent to the impairment date, which are included in gross unrealized gains and gross unrealized losses.

The amortized cost and fair value of fixed maturities available-for-sale as of September 30, 2017, by expected maturity, were as follows:

	Amortized cost	Fair value
	<i>(in millions)</i>	
Due in one year or less	\$ 2,986.9	\$ 3,010.1
Due after one year through five years	11,894.1	12,308.5
Due after five years through ten years	9,865.0	10,256.6
Due after ten years	18,628.0	20,497.7
Subtotal	<u>43,374.0</u>	<u>46,072.9</u>
Mortgage-backed and other asset-backed securities	13,014.7	13,064.9
Total	<u>\$ 56,388.7</u>	<u>\$ 59,137.8</u>

Actual maturities may differ because borrowers may have the right to call or prepay obligations. Our portfolio is diversified by industry, issuer and asset class. Credit concentrations are managed to established limits.

Net Realized Capital Gains and Losses

Net realized capital gains and losses on sales of investments are determined on the basis of specific identification. In general, in addition to realized capital gains and losses on investment sales and periodic settlements on derivatives not designated as hedges, we report gains and losses related to the following in net realized capital gains (losses): other-than-temporary impairments of securities and subsequent realized recoveries, mark-to-market adjustments on certain trading securities, mark-to-market adjustments on sponsored investment funds, fair value hedge and cash flow hedge ineffectiveness, mark-to-market adjustments on derivatives not designated as hedges, changes in the mortgage loan valuation allowance provision, impairments of real estate held for investment and impairments on equity method investments. Investment gains and losses on sales of certain real estate held for sale due to investment strategy and mark-to-market adjustments on certain securities carried at fair value with an investment objective to realize economic value through mark-to-market changes are reported as net investment income and are excluded from net realized capital gains (losses). The major components of net realized capital gains (losses) on investments were as follows:

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Fixed maturities, available-for-sale:				
Gross gains	\$ 2.1	\$ 15.3	\$ 12.3	\$ 65.4
Gross losses	(1.6)	(3.1)	(17.1)	(6.6)
Net impairment losses	(16.6)	(11.0)	(59.6)	(67.7)
Hedging, net	(1.2)	(9.1)	(17.2)	(2.7)
Fixed maturities, trading	(3.0)	5.6	(1.2)	15.7
Equity securities, available-for-sale:				
Net impairment losses	—	(0.3)	—	(1.7)
Equity securities, trading	14.8	21.6	51.2	17.4
Mortgage loans	1.2	1.4	0.9	4.0
Derivatives	(38.1)	(4.9)	(148.4)	152.8
Other (1)	719.0	28.7	743.2	37.9
Net realized capital gains	<u>\$ 676.6</u>	<u>\$ 44.2</u>	<u>\$ 564.1</u>	<u>\$ 214.5</u>

- (1) See Note 3, Investments – Real Estate Transactions, for further details.

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Proceeds from sales of investments (excluding call and maturity proceeds) in fixed maturities, available-for-sale were \$163.2 million and \$490.4 million for the three months ended September 30, 2017 and 2016, and \$968.6 million and \$1,150.8 million for the nine months ended September 30, 2017 and 2016, respectively.

Other-Than-Temporary Impairments

We have a process in place to identify fixed maturity and equity securities that could potentially have an impairment that is other than temporary. This process involves monitoring market events that could impact issuers' credit ratings, business climate, management changes, litigation and government actions and other similar factors. This process also involves monitoring late payments, pricing levels, downgrades by rating agencies, key financial ratios, financial statements, revenue forecasts and cash flow projections as indicators of credit issues.

Each reporting period, all securities are reviewed to determine whether an other-than-temporary decline in value exists and whether losses should be recognized. We consider relevant facts and circumstances in evaluating whether a credit or interest rate-related impairment of a security is other than temporary. Relevant facts and circumstances considered include: (1) the extent and length of time the fair value has been below cost; (2) the reasons for the decline in value; (3) the financial position and access to capital of the issuer, including the current and future impact of any specific events; (4) for structured securities, the adequacy of the expected cash flows; (5) for fixed maturities, our intent to sell a security or whether it is more likely than not we will be required to sell the security before the recovery of its amortized cost which, in some cases, may extend to maturity and (6) for equity securities, our ability and intent to hold the security for a period of time that allows for the recovery in value. To the extent we determine a security is deemed to be other than temporarily impaired, an impairment loss is recognized.

Impairment losses on equity securities are recognized in net income and are measured as the difference between amortized cost and fair value. The way in which impairment losses on fixed maturities are recognized in the financial statements is dependent on the facts and circumstances related to the specific security. If we intend to sell a security or it is more likely than not that we would be required to sell a security before the recovery of its amortized cost, we recognize an other-than-temporary impairment in net income for the difference between amortized cost and fair value. If we do not expect to recover the amortized cost basis, we do not plan to sell the security and if it is not more likely than not that we would be required to sell a security before the recovery of its amortized cost, the recognition of the other-than-temporary impairment is bifurcated. We recognize the credit loss portion in net income and the noncredit loss portion in OCI ("bifurcated OTTI").

Total other-than-temporary impairment losses, net of recoveries from the sale of previously impaired securities, were as follows:

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Fixed maturities, available-for-sale	\$ 2.6	\$ (21.7)	\$ (27.1)	\$ (79.3)
Equity securities, available-for-sale	—	(0.3)	—	(1.7)
Total other-than-temporary impairment losses, net of recoveries from the sale of previously impaired securities	2.6	(22.0)	(27.1)	(81.0)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified to (from) OCI (1)	(19.2)	10.7	(32.5)	11.6
Net impairment losses on available-for-sale securities	<u>\$ (16.6)</u>	<u>\$ (11.3)</u>	<u>\$ (59.6)</u>	<u>\$ (69.4)</u>

(1) Represents the net impact of (a) gains resulting from reclassification of noncredit impairment losses for fixed maturities with bifurcated OTTI from net realized capital gains (losses) to OCI and (b) losses resulting from reclassification of previously recognized noncredit impairment losses from OCI to net realized capital gains (losses) for fixed maturities with bifurcated OTTI that had additional credit losses or fixed maturities that previously had bifurcated OTTI that have now been sold or are intended to be sold.

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We estimate the amount of the credit loss component of a fixed maturity security impairment as the difference between amortized cost and the present value of the expected cash flows of the security. The present value is determined using the best estimate cash flows discounted at the effective interest rate implicit to the security at the date of purchase or the current yield to accrete an asset-backed or floating rate security. The methodology and assumptions for establishing the best estimate cash flows vary depending on the type of security. The ABS cash flow estimates are based on security specific facts and circumstances that may include collateral characteristics, expectations of delinquency and default rates, loss severity and prepayment speeds and structural support, including subordination and guarantees. The corporate security cash flow estimates are derived from scenario-based outcomes of expected corporate restructurings or liquidations using bond specific facts and circumstances including timing, security interests and loss severity.

The following table provides a rollforward of accumulated credit losses for fixed maturities with bifurcated credit losses. The purpose of the table is to provide detail of (1) additions to the bifurcated credit loss amounts recognized in net realized capital gains (losses) during the period and (2) decrements for previously recognized bifurcated credit losses where the loss is no longer bifurcated and/or there has been a positive change in expected cash flows or accretion of the bifurcated credit loss amount.

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Beginning balance	\$ (154.8)	\$ (155.8)	\$ (139.9)	\$ (131.5)
Credit losses for which an other-than-temporary impairment was not previously recognized	—	(5.7)	(14.4)	(32.7)
Credit losses for which an other-than-temporary impairment was previously recognized	(6.5)	(5.2)	(28.7)	(19.3)
Reduction for credit losses previously recognized on fixed maturities now sold, paid down or intended to be sold	33.6	11.5	50.9	28.3
Net reduction for positive changes in cash flows expected to be collected and amortization (1)	3.3	2.4	7.8	2.6
Foreign currency translation adjustment	—	(0.1)	(0.1)	(0.3)
Ending balance	<u>\$ (124.4)</u>	<u>\$ (152.9)</u>	<u>\$ (124.4)</u>	<u>\$ (152.9)</u>

(1) Amounts are recognized in net investment income.

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Gross Unrealized Losses for Fixed Maturities and Equity Securities

For fixed maturities and equity securities available-for-sale with unrealized losses, including other-than-temporary impairment losses reported in OCI, the gross unrealized losses and fair value, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position were as follows:

	September 30, 2017					
	Less than twelve months		Greater than or equal to twelve months		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
	<i>(in millions)</i>					
Fixed maturities, available-for-sale:						
U.S. government and agencies	\$ 421.1	\$ 4.2	\$ 56.6	\$ 2.8	\$ 477.7	\$ 7.0
Non-U.S. governments	55.3	0.2	17.3	1.8	72.6	2.0
States and political subdivisions	791.4	6.0	449.8	15.8	1,241.2	21.8
Corporate	3,305.4	53.0	1,363.9	75.9	4,669.3	128.9
Residential mortgage-backed pass-through securities	738.3	9.4	232.6	7.4	970.9	16.8
Commercial mortgage-backed securities	1,092.5	11.3	764.8	34.5	1,857.3	45.8
Collateralized debt obligations	260.2	0.7	44.2	12.6	304.4	13.3
Other debt obligations	1,740.2	8.8	608.2	16.9	2,348.4	25.7
Total fixed maturities, available-for-sale	<u>\$ 8,404.4</u>	<u>\$ 93.6</u>	<u>\$ 3,537.4</u>	<u>\$ 167.7</u>	<u>\$ 11,941.8</u>	<u>\$ 261.3</u>
Total equity securities, available-for-sale	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 39.6</u>	<u>\$ 6.3</u>	<u>\$ 39.6</u>	<u>\$ 6.3</u>

Of the total amounts, Principal Life Insurance Company's ("Principal Life's") consolidated portfolio represented \$11,507.4 million in available-for-sale fixed maturities with gross unrealized losses of \$246.0 million. Of those fixed maturity securities in Principal Life's consolidated portfolio with a gross unrealized loss position, 96% were investment grade (rated AAA through BBB-) with an average price of 98 (carrying value/amortized cost) as of September 30, 2017. Gross unrealized losses in our fixed maturities portfolio decreased during the nine months ended September 30, 2017, primarily due to tightening of credit spreads and a decrease in interest rates.

For those securities that had been in a continuous unrealized loss position for less than twelve months, Principal Life's consolidated portfolio held 1,061 securities with a carrying value of \$8,037.0 million and unrealized losses of \$83.8 million reflecting an average price of 99 as of September 30, 2017. Of this portfolio, 99% was investment grade (rated AAA through BBB-) as of September 30, 2017, with associated unrealized losses of \$81.8 million. The unrealized losses on these securities can primarily be attributed to changes in market interest rates and changes in credit spreads since the securities were acquired.

For those securities that had been in a continuous unrealized loss position greater than or equal to twelve months, Principal Life's consolidated portfolio held 600 securities with a carrying value of \$3,470.4 million and unrealized losses of \$162.2 million. The average credit rating of this portfolio was A+ with an average price of 96 as of September 30, 2017. Of the \$162.2 million in unrealized losses, the corporate sector accounts for \$72.3 million in unrealized losses with an average price of 95 and an average credit rating of BBB+. The remaining unrealized losses also include \$34.1 million within the commercial mortgage-backed securities sector with an average price of 96 and an average credit rating of AA+. The unrealized losses on these securities can primarily be attributed to changes in market interest rates and changes in credit spreads since the securities were acquired.

Because we expected to recover our amortized cost, it was not our intent to sell the fixed maturity available-for-sale securities with unrealized losses and it was not more likely than not that we would be required to sell these securities before recovery of the amortized cost, which may be maturity, we did not consider these investments to be other-than-temporarily impaired as of September 30, 2017.

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	December 31, 2016					
	Less than twelve months		Greater than or equal to twelve months		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
	<i>(in millions)</i>					
Fixed maturities, available-for-sale:						
U.S. government and agencies	\$ 570.3	\$ 10.9	\$ 8.2	\$ —	\$ 578.5	\$ 10.9
Non-U.S. governments	198.0	5.4	12.2	2.0	210.2	7.4
States and political subdivisions	2,229.4	86.6	4.8	0.5	2,234.2	87.1
Corporate	6,559.7	189.2	1,285.6	161.6	7,845.3	350.8
Residential mortgage-backed pass-through securities	1,265.6	29.8	16.0	0.8	1,281.6	30.6
Commercial mortgage-backed securities	1,637.2	41.0	612.5	46.9	2,249.7	87.9
Collateralized debt obligations	265.7	0.9	195.6	23.4	461.3	24.3
Other debt obligations	2,229.4	32.8	376.2	17.0	2,605.6	49.8
Total fixed maturities, available-for-sale	<u>\$ 14,955.3</u>	<u>\$ 396.6</u>	<u>\$ 2,511.1</u>	<u>\$ 252.2</u>	<u>\$ 17,466.4</u>	<u>\$ 648.8</u>
Total equity securities, available-for-sale	<u>\$ 18.2</u>	<u>\$ 0.4</u>	<u>\$ 35.4</u>	<u>\$ 10.5</u>	<u>\$ 53.6</u>	<u>\$ 10.9</u>

Of the total amounts, Principal Life's consolidated portfolio represented \$16,918.9 million in available-for-sale fixed maturities with gross unrealized losses of \$615.1 million. Of those fixed maturity securities in Principal Life's consolidated portfolio with a gross unrealized loss position, 94% were investment grade (rated AAA through BBB-) with an average price of 96 (carrying value/amortized cost) as of December 31, 2016. Gross unrealized losses in our fixed maturities portfolio decreased during the year ended December 31, 2016, primarily due to tightening of credit spreads, partially offset by an increase in interest rates.

For those securities that had been in a continuous unrealized loss position for less than twelve months, Principal Life's consolidated portfolio held 1,911 securities with a carrying value of \$14,549.4 million and unrealized losses of \$384.6 million reflecting an average price of 97 as of December 31, 2016. Of this portfolio, 98 % was investment grade (rated AAA through BBB-) as of December 31, 2016, with associated unrealized losses of \$374.1 million. The unrealized losses on these securities can primarily be attributed to changes in market interest rates and changes in credit spreads since the securities were acquired.

For those securities that had been in a continuous unrealized loss position greater than or equal to twelve months, Principal Life's consolidated portfolio held 453 securities with a carrying value of \$2,369.5 million and unrealized losses of \$230.5 million. The average credit rating of this portfolio was A- with an average price of 91 as of December 31, 2016. Of the \$230.5 million in unrealized losses, the corporate sector accounts for \$141.9 million in unrealized losses with an average price of 89 and an average credit rating of BBB-. The remaining unrealized losses consist primarily of \$46.9 million within the commercial mortgage-backed securities sector with an average price of 93 and an average credit rating of AA-. The unrealized losses on these securities can primarily be attributed to changes in market interest rates and changes in credit spreads since the securities were acquired.

Because we expected to recover our amortized cost, it was not our intent to sell the fixed maturity available-for-sale securities with unrealized losses and it was not more likely than not that we would be required to sell these securities before recovery of the amortized cost, which may be maturity, we did not consider these investments to be other-than-temporarily impaired as of December 31, 2016.

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Net Unrealized Gains and Losses on Available-for-Sale Securities and Derivative Instruments

The net unrealized gains and losses on investments in available-for-sale securities, the noncredit component of impairment losses on fixed maturities available-for-sale and the net unrealized gains and losses on derivative instruments in cash flow hedge relationships are reported as separate components of stockholders' equity. The cumulative amount of net unrealized gains and losses on available-for-sale securities and derivative instruments in cash flow hedge relationships net of adjustments related to DAC and related actuarial balances and applicable income taxes was as follows:

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Net unrealized gains on fixed maturities, available-for-sale (1)	\$ 2,830.4	\$ 1,727.8
Noncredit component of impairment losses on fixed maturities, available-for-sale	(113.9)	(146.4)
Net unrealized gains (losses) on equity securities, available-for-sale	0.9	(6.0)
Adjustments for assumed changes in amortization patterns	(169.8)	(121.9)
Adjustments for assumed changes in policyholder liabilities	(630.7)	(469.2)
Net unrealized gains on derivative instruments	133.0	186.5
Net unrealized gains on equity method subsidiaries and noncontrolling interest adjustments	52.6	68.0
Provision for deferred income taxes	(714.7)	(411.8)
Net unrealized gains on available-for-sale securities and derivative instruments	<u>\$ 1,387.8</u>	<u>\$ 827.0</u>

(1) Excludes net unrealized gains (losses) on fixed maturities, available-for-sale included in fair value hedging relationships.

Mortgage Loans

Mortgage loans consist of commercial and residential mortgage loans. We evaluate risks inherent in our commercial mortgage loans in two classes: (1) brick and mortar property loans, including mezzanine loans, where we analyze the property's rent payments as support for the loan, and (2) credit tenant loans ("CTL"), where we rely on the credit analysis of the tenant for the repayment of the loan. We evaluate risks inherent in our residential mortgage loan portfolio in two classes: (1) home equity mortgages and (2) first lien mortgages. The carrying amount of our mortgage loan portfolio was as follows:

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Commercial mortgage loans	\$ 12,773.5	\$ 12,055.2
Residential mortgage loans	1,290.6	1,219.9
Total amortized cost	<u>14,064.1</u>	<u>13,275.1</u>
Valuation allowance	(43.7)	(44.9)
Total carrying value	<u>\$ 14,020.4</u>	<u>\$ 13,230.2</u>

We periodically purchase mortgage loans as well as sell mortgage loans we have originated. Mortgage loans purchased and sold were as follows:

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Commercial mortgage loans:				
Purchased	\$ 41.2	\$ 25.8	\$ 97.2	\$ 122.8
Sold	—	—	—	0.3
Residential mortgage loans:				
Purchased	68.4	88.8	222.8	212.7
Sold	17.5	11.0	47.9	39.9

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Our commercial mortgage loan portfolio consists primarily of non-recourse, fixed rate mortgages on stabilized properties. Our commercial mortgage loan portfolio is diversified by geographic region and specific collateral property type as follows:

	September 30, 2017		December 31, 2016	
	Amortized cost	Percent of total	Amortized cost	Percent of total
	<i>(\$ in millions)</i>			
Geographic distribution				
New England	\$ 601.6	4.7 %	\$ 532.1	4.4 %
Middle Atlantic	3,697.0	29.0	3,317.3	27.5
East North Central	714.7	5.6	652.6	5.4
West North Central	176.3	1.4	185.6	1.5
South Atlantic	2,287.2	17.9	2,189.5	18.2
East South Central	371.8	2.9	239.3	2.0
West South Central	1,111.1	8.7	1,211.7	10.1
Mountain	919.7	7.2	932.6	7.7
Pacific	2,748.0	21.5	2,707.2	22.5
International	146.1	1.1	87.3	0.7
Total	\$ 12,773.5	100.0 %	\$ 12,055.2	100.0 %
Property type distribution				
Office	\$ 4,543.5	35.6 %	\$ 4,417.6	36.6 %
Retail	2,719.0	21.3	2,671.1	22.2
Industrial	1,943.6	15.2	1,802.4	15.0
Apartments	3,168.9	24.8	2,741.4	22.7
Hotel	152.4	1.2	260.7	2.2
Mixed use/other	246.1	1.9	162.0	1.3
Total	\$ 12,773.5	100.0 %	\$ 12,055.2	100.0 %

Our residential mortgage loan portfolio is composed of home equity mortgages with an amortized cost of \$125.7 million and \$165.6 million and first lien mortgages with an amortized cost of \$1,164.9 million and \$1,054.3 million as of September 30, 2017 and December 31, 2016, respectively. Our residential home equity mortgages are concentrated in the United States and are generally second lien mortgages comprised of closed-end loans and lines of credit. Our first lien loans are concentrated in Chile and the United States.

Mortgage Loan Credit Monitoring

Commercial Credit Risk Profile Based on Internal Rating

We actively monitor and manage our commercial mortgage loan portfolio. All commercial mortgage loans are analyzed regularly and substantially all are internally rated, based on a proprietary risk rating cash flow model, in order to monitor the financial quality of these assets. The model stresses expected cash flows at various levels and at different points in time depending on the durability of the income stream, which includes our assessment of factors such as location (macro and micro markets), tenant quality and lease expirations. Our internal rating analysis presents expected losses in terms of an S&P Global (“S&P”) bond equivalent rating. As the credit risk for commercial mortgage loans increases, we adjust our internal ratings downward with loans in the category “B+ and below” having the highest risk for credit loss. Internal ratings on commercial mortgage loans are updated at least annually and potentially more often for certain loans with material changes in collateral value or occupancy and for loans on an internal “watch list”.

Commercial mortgage loans that require more frequent and detailed attention than other loans in our portfolio are identified and placed on an internal “watch list”. Among the criteria that would indicate a potential problem are significant negative changes in ratios of loan to value or contract rents to debt service, major tenant vacancies or bankruptcies, borrower sponsorship problems, late payments, delinquent taxes and loan relief/restructuring requests.

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The amortized cost of our commercial mortgage loan portfolio by credit risk, as determined by our internal rating system expressed in terms of an S&P bond equivalent rating, was as follows:

	September 30, 2017		
	Brick and mortar	CTL	Total
	<i>(in millions)</i>		
A- and above	\$ 11,414.2	\$ 150.2	\$ 11,564.4
BBB+ thru BBB-	887.7	87.9	975.6
BB+ thru BB-	162.9	—	162.9
B+ and below	70.2	0.4	70.6
Total	\$ 12,535.0	\$ 238.5	\$ 12,773.5

	December 31, 2016		
	Brick and mortar	CTL	Total
	<i>(in millions)</i>		
A- and above	\$ 10,612.8	\$ 158.5	\$ 10,771.3
BBB+ thru BBB-	1,009.8	100.6	1,110.4
BB+ thru BB-	160.5	—	160.5
B+ and below	12.1	0.9	13.0
Total	\$ 11,795.2	\$ 260.0	\$ 12,055.2

Residential Credit Risk Profile Based on Performance Status

Our residential mortgage loan portfolio is monitored based on performance of the loans. Monitoring on a residential mortgage loan increases when the loan is delinquent or earlier if there is an indication of potential impairment. We define non-performing residential mortgage loans as loans 90 days or greater delinquent or on non-accrual status.

The amortized cost of our performing and non-performing residential mortgage loans was as follows:

	September 30, 2017		
	Home equity	First liens	Total
	<i>(in millions)</i>		
Performing	\$ 118.8	\$ 1,150.9	\$ 1,269.7
Non-performing	6.9	14.0	20.9
Total	\$ 125.7	\$ 1,164.9	\$ 1,290.6

	December 31, 2016		
	Home equity	First liens	Total
	<i>(in millions)</i>		
Performing	\$ 156.8	\$ 1,043.1	\$ 1,199.9
Non-performing	8.8	11.2	20.0
Total	\$ 165.6	\$ 1,054.3	\$ 1,219.9

Non-Accrual Mortgage Loans

Commercial and residential mortgage loans are placed on non-accrual status if we have concern regarding the collectability of future payments or if a loan has matured without being paid off or extended. Factors considered may include conversations with the borrower, loss of major tenant, bankruptcy of borrower or major tenant, decreased property cash flow for commercial mortgage loans or number of days past due and other circumstances for residential mortgage loans. Based on an assessment as to the collectability of the principal, a determination is made to apply any payments received either against the principal or according to the contractual terms of the loan. When a loan is placed on non-accrual status, the accrued unpaid interest receivable is reversed against interest income. Accrual of interest resumes after factors resulting in doubts about collectability have improved. Residential first lien mortgages in the Chilean market are carried on accrual for a longer period of delinquency than domestic loans, as assessment of collectability is based on the nature of the loans and collection practices in that market.

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The amortized cost of mortgage loans on non-accrual status was as follows:

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Commercial:		
Brick and mortar	\$ 64.1	\$ —
Residential:		
Home equity	6.9	8.8
First liens	3.8	5.6
Total	\$ 74.8	\$ 14.4

The aging of our mortgage loans, based on amortized cost, was as follows:

	September 30, 2017						
	30-59 days past due	60-89 days past due	90 days or more past due	Total past due <i>(in millions)</i>	Current	Total loans	
Commercial-brick and mortar	\$ —	\$ —	\$ —	\$ —	\$ 12,535.0	\$ 12,535.0	\$ —
Commercial-CTL	—	—	—	—	238.5	238.5	—
Residential-home equity	1.3	0.6	0.8	2.7	123.0	125.7	—
Residential-first liens	51.2	5.8	13.1	70.1	1,094.8	1,164.9	10.2
Total	\$ 52.5	\$ 6.4	\$ 13.9	\$ 72.8	\$ 13,991.3	\$ 14,064.1	\$ 10.2
	December 31, 2016						
	30-59 days past due	60-89 days past due	90 days or more past due	Total past due <i>(in millions)</i>	Current	Total loans	
Commercial-brick and mortar	\$ —	\$ —	\$ —	\$ —	\$ 11,795.2	\$ 11,795.2	\$ —
Commercial-CTL	—	—	—	—	260.0	260.0	—
Residential-home equity	1.9	1.1	1.4	4.4	161.2	165.6	—
Residential-first liens	40.1	11.3	10.0	61.4	992.9	1,054.3	5.6
Total	\$ 42.0	\$ 12.4	\$ 11.4	\$ 65.8	\$ 13,209.3	\$ 13,275.1	\$ 5.6

Mortgage Loan Valuation Allowance

We establish a valuation allowance to provide for the risk of credit losses inherent in our portfolio. The valuation allowance includes loan specific reserves for loans that are deemed to be impaired as well as reserves for pools of loans with similar risk characteristics where a property risk or market specific risk has not been identified but for which we anticipate a loss may occur. Mortgage loans on real estate are considered impaired when, based on current information and events, it is probable we will be unable to collect all amounts due according to contractual terms of the loan agreement. When we determine a loan is impaired, a valuation allowance is established equal to the difference between the carrying amount of the mortgage loan and the estimated value reduced by the cost to sell. Estimated value is based on either the present value of the expected future cash flows discounted at the loan's effective interest rate, the loan's observable market price or fair value of the collateral. Subsequent changes in the estimated value are reflected in the valuation allowance. Amounts on loans deemed to be uncollectible are charged off and removed from the valuation allowance. The change in the valuation allowance provision is included in net realized capital gains (losses) on our consolidated statements of operations.

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The valuation allowance is maintained at a level believed adequate by management to absorb estimated probable credit losses. Management’s periodic evaluation and assessment of the valuation allowance adequacy is based on known and inherent risks in the portfolio, adverse situations that may affect a borrower’s ability to repay, the estimated value of the underlying collateral, composition of the loan portfolio, portfolio delinquency information, underwriting standards, peer group information, current economic conditions, loss experience and other relevant factors. The evaluation of our impaired loan component is subjective, as it requires the estimation of timing and amount of future cash flows expected to be received on impaired loans.

We review our commercial mortgage loan portfolio and analyze the need for a valuation allowance for any loan that is delinquent for 60 days or more, in process of foreclosure, restructured, on the internal “watch list” or that currently has a valuation allowance. In addition to establishing allowance levels for specifically identified impaired commercial mortgage loans, management determines an allowance for all other loans in the portfolio for which historical experience and current economic conditions indicate certain losses exist. These loans are segregated by risk rating level with an estimated loss ratio applied against each risk rating level. The loss ratio is generally based upon historical loss experience for each risk rating level as adjusted for certain current environmental factors management believes to be relevant.

For our residential mortgage loan portfolio, we separate the loans into several homogeneous pools, each of which consist of loans of a similar nature including but not limited to loans similar in collateral, term and structure and loan purpose or type. We evaluate loan pools based on aggregated risk ratings, estimated specific loss potential in the different classes of credits, and historical loss experience by pool type. We adjust these quantitative factors for qualitative factors of present conditions. Qualitative factors include items such as economic and business conditions, changes in the portfolio, value of underlying collateral and concentrations. Residential mortgage loan pools exclude loans that have been restructured or impaired, as those loans are evaluated individually.

A rollforward of our valuation allowance and ending balances of the allowance and loan balance by basis of impairment method was as follows:

	For the three months ended September 30, 2017		
	Commercial	Residential <i>(in millions)</i>	Total
Beginning balance	\$ 28.0	\$ 16.6	\$ 44.6
Provision	0.1	(1.2)	(1.1)
Charge-offs	—	(1.2)	(1.2)
Recoveries	—	1.4	1.4
Ending balance	<u>\$ 28.1</u>	<u>\$ 15.6</u>	<u>\$ 43.7</u>
	For the nine months ended September 30, 2017		
	Commercial	Residential <i>(in millions)</i>	Total
Beginning balance	\$ 27.4	\$ 17.5	\$ 44.9
Provision	0.7	(1.2)	(0.5)
Charge-offs	—	(4.3)	(4.3)
Recoveries	—	3.6	3.6
Ending balance	<u>\$ 28.1</u>	<u>\$ 15.6</u>	<u>\$ 43.7</u>
Allowance ending balance by basis of impairment method:			
Individually evaluated for impairment	\$ —	\$ 4.8	\$ 4.8
Collectively evaluated for impairment	28.1	10.8	38.9
Allowance ending balance	<u>\$ 28.1</u>	<u>\$ 15.6</u>	<u>\$ 43.7</u>
Loan balance by basis of impairment method:			
Individually evaluated for impairment	\$ —	\$ 12.8	\$ 12.8
Collectively evaluated for impairment	12,773.5	1,277.8	14,051.3
Loan ending balance	<u>\$ 12,773.5</u>	<u>\$ 1,290.6</u>	<u>\$ 14,064.1</u>

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
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	For the three months ended September 30, 2016		
	Commercial	Residential <i>(in millions)</i>	Total
Beginning balance	\$ 28.2	\$ 20.9	\$ 49.1
Provision	1.0	(2.3)	(1.3)
Charge-offs	—	(1.1)	(1.1)
Recoveries	—	1.2	1.2
Ending balance	<u>\$ 29.2</u>	<u>\$ 18.7</u>	<u>\$ 47.9</u>
	For the nine months ended September 30, 2016		
	Commercial	Residential <i>(in millions)</i>	Total
Beginning balance	\$ 27.5	\$ 24.1	\$ 51.6
Provision	1.7	(5.5)	(3.8)
Charge-offs	—	(2.7)	(2.7)
Recoveries	—	2.8	2.8
Ending balance	<u>\$ 29.2</u>	<u>\$ 18.7</u>	<u>\$ 47.9</u>
Allowance ending balance by basis of impairment method:			
Individually evaluated for impairment	\$ 2.9	\$ 6.3	\$ 9.2
Collectively evaluated for impairment	26.3	12.4	38.7
Allowance ending balance	<u>\$ 29.2</u>	<u>\$ 18.7</u>	<u>\$ 47.9</u>
Loan balance by basis of impairment method:			
Individually evaluated for impairment	\$ 9.5	\$ 19.8	\$ 29.3
Collectively evaluated for impairment	11,910.1	1,195.1	13,105.2
Loan ending balance	<u>\$ 11,919.6</u>	<u>\$ 1,214.9</u>	<u>\$ 13,134.5</u>

Impaired Mortgage Loans

Impaired mortgage loans are loans with a related specific valuation allowance, loans whose carrying amount has been reduced to the expected collectible amount because the impairment has been considered other than temporary or a loan modification has been classified as a troubled debt restructuring (“TDR”). Based on an assessment as to the collectability of the principal, a determination is made to apply any payments received either against the principal or according to the contractual terms of the loan. Our recorded investment in and unpaid principal balance of impaired loans along with the related loan specific allowance for losses, if any, and the average recorded investment and interest income recognized during the time the loans were impaired were as follows:

	September 30, 2017		
	Recorded investment	Unpaid principal balance <i>(in millions)</i>	Related allowance
With no related allowance recorded:			
Residential-first liens	\$ 0.6	\$ 0.6	\$ —
With an allowance recorded:			
Residential-home equity	8.2	9.2	4.6
Residential-first liens	4.0	3.9	0.2
Total:			
Residential	<u>\$ 12.8</u>	<u>\$ 13.7</u>	<u>\$ 4.8</u>

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	December 31, 2016					
	Recorded investment		Unpaid principal balance		Related allowance	
	<i>(in millions)</i>					
With no related allowance recorded:						
Residential-first liens	\$	1.5	\$	1.5	\$	—
With an allowance recorded:						
Residential-home equity		13.0		14.1		5.5
Residential-first liens		4.7		4.6		0.4
Total:						
Residential	\$	19.2	\$	20.2	\$	5.9

	For the three months ended September 30, 2017				For the nine months ended September 30, 2017			
	Average recorded investment		Interest income recognized		Average recorded investment		Interest income recognized	
	<i>(in millions)</i>							
With no related allowance recorded:								
Residential-first liens	\$	0.6	\$	—	\$	1.1	\$	—
With an allowance recorded:								
Residential-home equity		8.4		0.1		10.6		0.2
Residential-first liens		4.1		—		4.4		0.1
Total:								
Residential	\$	13.1	\$	0.1	\$	16.1	\$	0.3

	For the three months ended September 30, 2016				For the nine months ended September 30, 2016			
	Average recorded investment		Interest income recognized		Average recorded investment		Interest income recognized	
	<i>(in millions)</i>							
With no related allowance recorded:								
Residential-first liens	\$	2.1	\$	—	\$	2.8	\$	—
With an allowance recorded:								
Commercial-brick and mortar		4.8		—		4.8		—
Residential-home equity		13.0		0.1		13.4		0.2
Residential-first liens		4.9		—		5.4		0.1
Total:								
Commercial	\$	4.8	\$	—	\$	4.8	\$	—
Residential	\$	20.0	\$	0.1	\$	21.6	\$	0.3

Mortgage Loan Modifications

Our commercial and residential mortgage loan portfolios can include loans that have been modified. We assess loan modifications on a case-by-case basis to evaluate whether a TDR has occurred. When we have commercial mortgage loan TDRs, they are modified to delay or reduce principal payments and to reduce or delay interest payments. The commercial mortgage loan modifications result in delayed cash receipts, a decrease in interest income and loan rates that are considered below market. When we have residential mortgage loan TDRs, they include modifications of interest-only payment periods, delays in principal balloon payments and interest rate reductions. Residential mortgage loan modifications result in delayed or decreased cash receipts and a decrease in interest income.

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The following table includes information about outstanding loans that were modified and met the criteria of a TDR during the periods indicated. In addition, the table includes information for loans that were modified and met the criteria of a TDR within the past twelve months that were in payment default during the periods indicated:

	For the three months ended September 30, 2017			
	TDRs		TDRs in payment default	
	Number of contracts	Recorded investment <i>(in millions)</i>	Number of contracts	Recorded investment <i>(in millions)</i>
Residential-home equity	3	\$ 0.1	—	\$ —
Residential-first liens	1	0.1	—	—
Total	4	\$ 0.2	—	\$ —
	For the three months ended September 30, 2016			
	TDRs		TDRs in payment default	
	Number of contracts	Recorded investment <i>(in millions)</i>	Number of contracts	Recorded investment <i>(in millions)</i>
Residential-home equity	4	\$ 0.2	—	\$ —
Total	4	\$ 0.2	—	\$ —
	For the nine months ended September 30, 2017			
	TDRs		TDRs in payment default	
	Number of contracts	Recorded investment <i>(in millions)</i>	Number of contracts	Recorded investment <i>(in millions)</i>
Residential-home equity	10	\$ 0.5	—	\$ —
Residential-first liens	1	0.1	1	0.1
Total	11	\$ 0.6	1	\$ 0.1
	For the nine months ended September 30, 2016			
	TDRs		TDRs in payment default	
	Number of contracts	Recorded investment <i>(in millions)</i>	Number of contracts	Recorded investment <i>(in millions)</i>
Residential-home equity	7	\$ 0.4	—	\$ —
Residential-first liens	1	0.1	—	—
Total	8	\$ 0.5	—	\$ —

Commercial mortgage loans that have been designated as a TDR have been previously reserved for in the mortgage loan valuation allowance at the estimated fair value of the underlying collateral reduced by the cost to sell.

Residential mortgage loans that have been designated as a TDR are specifically reserved for in the mortgage loan valuation allowance if losses result from the modification. Residential mortgage loans that have defaulted or have been discharged through bankruptcy are reduced to the expected collectible amount.

Real Estate Transactions

In September 2017, we entered an exchange agreement to exit certain real estate joint ventures. The transaction resulted in us transferring our interest in certain real estate properties in exchange for our joint venture partner's interest in certain other real estate properties. In a subsequent transaction we sold certain of these real estate properties to a third party. Both transactions closed in September 2017.

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We recognized a net pre-tax realized capital gain of \$690.9 million (net after-tax realized capital gain of \$410.8 million) for both the three and nine months ended September 30, 2017, as a result of these transactions. The following consolidated statement of financial position line items were most significantly impacted by the transactions, each having a net increase as of September 30, 2017, (in millions):

Real estate	\$	293.4
Other investments		222.4
Cash and cash equivalents		219.6
Long-term debt		49.4
Income taxes currently payable		179.1
Deferred income taxes		101.0

Securities Posted as Collateral

As of September 30, 2017 and December 31, 2016, we posted \$2,872.0 million and \$2,562.8 million, respectively, in commercial mortgage loans and home equity mortgages to satisfy collateral requirements associated with our obligation under funding agreements with Federal Home Loan Bank of Des Moines (“FHLB Des Moines”). In addition, as of September 30, 2017 and December 31, 2016, we posted \$2,384.7 million and \$2,233.2 million, respectively, in fixed maturities, available-for-sale securities to satisfy collateral requirements primarily associated with a reinsurance arrangement, our derivative credit support annex (collateral) agreements, Futures Commission Merchant (“FCM”) agreements, a lending arrangement and our obligation under funding agreements with FHLB Des Moines. Since we did not relinquish ownership rights on these instruments, they are reported as mortgage loans and fixed maturities, available-for-sale, respectively, on our consolidated statements of financial position. Of the securities posted as collateral, as of September 30, 2017 and December 31, 2016, \$150.1 million and \$272.8 million, respectively, could be sold or repledged by the secured party.

Balance Sheet Offsetting

Financial assets subject to master netting agreements or similar agreements were as follows:

	Gross amount of recognized assets (1)	Gross amounts not offset in the consolidated statements of financial position		Net amount
		Financial instruments (2)	Collateral received	
<i>(in millions)</i>				
September 30, 2017				
Derivative assets	\$ 308.5	\$ (121.2)	\$ (179.1)	\$ 8.2
Reverse repurchase agreements	46.3	—	(46.3)	—
Total	<u>\$ 354.8</u>	<u>\$ (121.2)</u>	<u>\$ (225.4)</u>	<u>\$ 8.2</u>
December 31, 2016				
Derivative assets	\$ 887.2	\$ (294.2)	\$ (582.0)	\$ 11.0
Reverse repurchase agreements	41.1	—	(41.1)	—
Total	<u>\$ 928.3</u>	<u>\$ (294.2)</u>	<u>\$ (623.1)</u>	<u>\$ 11.0</u>

- (1) The gross amount of recognized derivative and reverse repurchase agreement assets are reported with other investments and cash and cash equivalents, respectively, on the consolidated statements of financial position. The above excludes \$12.7 million and \$6.4 million of derivative assets as of September 30, 2017 and December 31, 2016, respectively, that are not subject to master netting agreements or similar agreements. The gross amounts of derivative and reverse repurchase agreement assets are not netted against offsetting liabilities for presentation on the consolidated statements of financial position. See Note 1, Nature of Operations and Significant Accounting Policies, under the caption “Over-The-Counter Derivatives Cleared on Chicago Mercantile Exchange” for details of the CME variation margin rule change that impacted the amounts presented for 2017.
- (2) Represents amount of offsetting derivative liabilities that are subject to an enforceable master netting agreement or similar agreement that are not netted against the gross derivative assets for presentation on the consolidated statements of financial position.

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Financial liabilities subject to master netting agreements or similar agreements were as follows:

	Gross amount of recognized liabilities (1)	Gross amounts not offset in the consolidated statements of financial position		Net amount
		Financial instruments (2)	Collateral pledged	
<i>(in millions)</i>				
September 30, 2017				
Derivative liabilities	\$ 260.1	\$ (121.2)	\$ (114.6)	\$ 24.3
Repurchase agreements	15.1	—	(15.1)	—
Total	<u>\$ 275.2</u>	<u>\$ (121.2)</u>	<u>\$ (129.7)</u>	<u>\$ 24.3</u>
December 31, 2016				
Derivative liabilities	\$ 567.5	\$ (294.2)	\$ (243.9)	\$ 29.4
Repurchase agreements	9.7	—	(9.7)	—
Total	<u>\$ 577.2</u>	<u>\$ (294.2)</u>	<u>\$ (253.6)</u>	<u>\$ 29.4</u>

- (1) The gross amount of recognized derivative liabilities are reported with other liabilities on the consolidated statements of financial position. The above excludes \$385.0 million and \$394.3 million of derivative liabilities as of September 30, 2017 and December 31, 2016, respectively, which are primarily embedded derivatives that are not subject to master netting agreements or similar agreements. The gross amount of recognized repurchase agreement liabilities are reported with short-term debt on the consolidated statements of financial position. The gross amounts of derivative and repurchase agreement liabilities are not netted against offsetting assets for presentation on the consolidated statements of financial position. See Note 1, Nature of Operations and Significant Accounting Policies, under the caption “Over-The-Counter Derivatives Cleared on Chicago Mercantile Exchange” for details of the CME variation margin rule change that impacted the amounts presented for 2017.
- (2) Represents amount of offsetting derivative assets that are subject to an enforceable master netting agreement or similar agreement that are not netted against the gross derivative liabilities for presentation on the consolidated statements of financial position.

The financial instruments that are subject to master netting agreements or similar agreements include right of setoff provisions. Derivative instruments include provisions to setoff positions covered under the agreements with the same counterparties and provisions to setoff positions outside of the agreements with the same counterparties in the event of default by one of the parties. Derivative instruments also include collateral or variation margin provisions, which are generally settled daily with each counterparty. See Note 4, Derivative Financial Instruments, for further details.

Repurchase and reverse repurchase agreements include provisions to setoff other repurchase and reverse repurchase balances with the same counterparty. Repurchase and reverse repurchase agreements also include collateral provisions with the counterparties. For reverse repurchase agreements we require the counterparties to pledge collateral with a value greater than the amount of cash transferred. We have the right but do not sell or repledge collateral received in reverse repurchase agreements. Repurchase agreements are structured as secured borrowings for all counterparties. We pledge fixed maturities available-for-sale, which the counterparties have the right to sell or repledge. Interest incurred on repurchase agreements is reported as part of operating expenses on the consolidated statements of operations. Net proceeds related to repurchase agreements are reported as a component of financing activities on the consolidated statements of cash flows.

4. Derivative Financial Instruments

Derivatives are generally used to hedge or reduce exposure to market risks associated with assets held or expected to be purchased or sold and liabilities incurred or expected to be incurred. Derivatives are used to change the characteristics of our asset/liability mix consistent with our risk management activities. Derivatives are also used in asset replication strategies.

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Types of Derivative Instruments

Interest Rate Contracts

Interest rate risk is the risk we will incur economic losses due to adverse changes in interest rates. Sources of interest rate risk include the difference between the maturity and interest rate changes of assets with the liabilities they support, timing differences between the pricing of liabilities and the purchase or procurement of assets and changing cash flow profiles from original projections due to prepayment options embedded within asset and liability contracts. We use various derivatives to manage our exposure to fluctuations in interest rates.

Interest rate swaps are contracts in which we agree with other parties to exchange, at specified intervals, the difference between fixed rate and floating rate interest amounts based upon designated market rates or rate indices and an agreed upon notional principal amount. Generally, no cash is exchanged at the outset of the contract and no principal payments are made by any party. Cash is paid or received based on the terms of the swap. We use interest rate swaps primarily to more closely match the interest rate characteristics of assets and liabilities and to mitigate the risks arising from timing mismatches between assets and liabilities (including duration mismatches). We also use interest rate swaps to hedge against changes in the value of assets we anticipate acquiring and other anticipated transactions and commitments. Interest rate swaps are used to hedge against changes in the value of the guaranteed minimum withdrawal benefit (“GMWB”) liability. The GMWB rider on our variable annuity products provides for guaranteed minimum withdrawal benefits regardless of the actual performance of various equity and/or fixed income funds available with the product.

Interest rate options, including interest rate caps and interest rate floors, which can be combined to form interest rate collars, are contracts that entitle the purchaser to pay or receive the amounts, if any, by which a specified market rate exceeds a cap strike interest rate, or falls below a floor strike interest rate, respectively, at specified dates. We use interest rate collars to manage interest rate risk related to guaranteed minimum interest rate liabilities in our individual annuities contracts and lapse risk associated with higher interest rates.

A swaption is an option to enter into an interest rate swap at a future date. We purchase swaptions to offset or modify existing exposures. Swaptions provide us the benefit of the agreed-upon strike rate if the market rates for liabilities are higher, with the flexibility to enter into the current market rate swap if the market rates for liabilities are lower. Swaptions not only hedge against the downside risk, but also allow us to take advantage of any upside benefits.

In exchange-traded futures transactions, we agree to purchase or sell a specified number of contracts, the values of which are determined by the values of designated classes of securities, and to post variation margin on a daily basis in an amount equal to the difference in the daily market values of those contracts. We enter into exchange-traded futures with regulated futures commissions merchants who are members of a trading exchange. We have used exchange-traded futures to reduce market risks from changes in interest rates and to alter mismatches between the assets in a portfolio and the liabilities supported by those assets.

Foreign Exchange Contracts

Foreign currency risk is the risk we will incur economic losses due to adverse fluctuations in foreign currency exchange rates. This risk arises from foreign currency-denominated funding agreements we issue, foreign currency-denominated fixed maturity and equity securities we invest in, capital transactions with our international operations and the financial results of our international operations. We use various derivatives to manage our exposure to fluctuations in foreign currency exchange rates.

Currency swaps are contracts in which we agree with other parties to exchange, at specified intervals, a series of principal and interest payments in one currency for that of another currency. Generally, the principal amount of each currency is exchanged at the beginning and termination of the currency swap by each party. The interest payments are primarily fixed-to-fixed rate; however, they may also be fixed-to-floating rate or floating-to-fixed rate. These transactions are entered into pursuant to master agreements that provide for a single net payment to be made by one counterparty for payments made in the same currency at each due date. We use currency swaps to reduce market risks from changes in currency exchange rates with respect to investments or liabilities denominated in foreign currencies that we either hold or intend to acquire or sell.

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Currency forwards are contracts in which we agree with other parties to deliver or receive a specified amount of an identified currency at a specified future date. Typically, the price is agreed upon at the time of the contract and payment for such a contract is made at the specified future date. We use currency forwards to reduce market risks from changes in currency exchange rates with respect to investments or liabilities denominated in foreign currencies that we either hold or intend to acquire or sell. We sometimes use currency forwards to hedge the currency risk associated with a business combination or to hedge certain net equity investments in or expected cash flows from our foreign operations.

Currency options are contracts that give the holder the right, but not the obligation to buy or sell a specified amount of the identified currency within a limited period of time at a contracted price. The contracts are net settled in cash, based on the differential in the current foreign exchange rate and the strike price. Purchased and sold options can be combined to form a foreign currency collar where we receive a payment if the foreign exchange rate is below the purchased option strike price and make a payment if the foreign exchange rate is above the sold option strike price. We use currency options to hedge expected cash flows from our foreign operations.

Equity Contracts

Equity risk is the risk that we will incur economic losses due to adverse fluctuations in common stock prices. We use various derivatives to manage our exposure to equity risk, which arises from products in which the interest we credit is tied to an external equity index as well as products subject to minimum contractual guarantees.

We purchase equity call spreads to hedge the equity participation rates promised to contractholders in conjunction with our fixed deferred annuity and universal life products that credit interest based on changes in an external equity index. We use exchange-traded futures and equity put options to hedge against changes in the value of the GMWB liability related to the GMWB rider on our variable annuity product, as previously explained. The premium associated with certain options is paid quarterly over the life of the option contract.

Credit Contracts

Credit risk relates to the uncertainty associated with the continued ability of a given obligor to make timely payments of principal and interest. We use credit default swaps to enhance the return on our investment portfolio by providing comparable exposure to fixed income securities that might not be available in the primary market. They are also used to hedge credit exposures in our investment portfolio. Credit derivatives are used to sell or buy credit protection on an identified name or names on an unfunded or synthetic basis in return for receiving or paying a quarterly premium. The premium generally corresponds to a referenced name's credit spread at the time the agreement is executed. In cases where we sell protection, we also buy a quality cash bond to match against the credit default swap, thereby entering into a synthetic transaction replicating a cash security. When selling protection, if there is an event of default by the referenced name, as defined by the agreement, we are obligated to pay the counterparty the referenced amount of the contract and receive in return the referenced security in a principal amount equal to the notional value of the credit default swap.

Total return swaps are contracts in which we agree with other parties to exchange, at specified intervals, an amount determined by the difference between the previous price and the current price of a reference asset based upon an agreed upon notional principal amount plus an additional amount determined by the financing spread. We have used futures traded on an exchange ("exchange-traded") and total return swaps referencing equity indices to hedge our portfolio from potential credit losses related to systemic events.

Other Contracts

Embedded Derivatives. We purchase or issue certain financial instruments or products that contain a derivative instrument that is embedded in the financial instrument or product. When it is determined that the embedded derivative possesses economic characteristics that are not clearly or closely related to the economic characteristics of the host contract and a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is bifurcated from the host instrument for measurement purposes. The embedded derivative, which is reported with the host instrument in the consolidated statements of financial position, is carried at fair value.

We had investment contracts in which the return was tied to a leveraged inflation index. We economically hedged the risk associated with these investment contracts.

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We offer group annuity contracts that have guaranteed separate accounts as an investment option. We also offer funds with embedded fixed-rate guarantees as investment options in our defined contribution plans in Hong Kong.

We have structured investment relationships with trusts we have determined to be VIEs, which are consolidated in our financial statements. The notes issued by these trusts include obligations to deliver an underlying security to residual interest holders and the obligations contain an embedded derivative of the forecasted transaction to deliver the underlying security.

We have fixed deferred annuities and universal life contracts that credit interest based on changes in an external equity index. We also have certain variable annuity products with a GMWB rider, which allows the customer to make withdrawals of a specified annual amount, either for a fixed number of years or for the lifetime of the customer, even if the account value is fully exhausted. Declines in the equity markets may increase our exposure to benefits under contracts with the GMWB. We economically hedge the exposure in these contracts, as previously explained.

Exposure

Our risk of loss is typically limited to the fair value of our derivative instruments and not to the notional or contractual amounts of these derivatives. We are also exposed to credit losses in the event of nonperformance of the counterparties. Our current credit exposure is limited to the value of derivatives that have become favorable to us. This credit risk is minimized by purchasing such agreements from financial institutions with high credit ratings and by establishing and monitoring exposure limits. We also utilize various credit enhancements, including collateral and credit triggers to reduce the credit exposure to our derivative instruments.

Derivatives may be exchange-traded or they may be privately negotiated contracts, which are usually referred to as OTC derivatives. Certain of our OTC derivatives are cleared and settled through central clearing counterparties (“OTC cleared”), while others are bilateral contracts between two counterparties (“bilateral OTC”). Our derivative transactions are generally documented under International Swaps and Derivatives Association, Inc. (“ISDA”) Master Agreements. Management believes that such agreements provide for legally enforceable set-off and close-out netting of exposures to specific counterparties. Under such agreements, in connection with an early termination of a transaction, we are permitted to set off our receivable from a counterparty against our payables to the same counterparty arising out of all included transactions. For reporting purposes, we do not offset fair value amounts of bilateral OTC derivatives for the right to reclaim cash collateral or the obligation to return cash collateral against fair value amounts recognized for derivative instruments executed with the same counterparties under master netting agreements. OTC cleared derivatives have variation margin that is legally characterized as settlement of the derivative exposure, which reduces their fair value in the consolidated statements of financial position.

We posted \$160.8 million and \$322.4 million in cash and securities under collateral arrangements as of September 30, 2017 and December 31, 2016, respectively, to satisfy collateral and initial margin requirements associated with our derivative credit support agreements and FCM agreements.

Certain of our derivative instruments contain provisions that require us to maintain an investment grade rating from each of the major credit rating agencies on our debt. If the ratings on our debt were to fall below investment grade, it would be in violation of these provisions and the counterparties to the derivative instruments could request immediate payment or demand immediate and ongoing full overnight collateralization on derivative instruments in net liability positions. The aggregate fair value, inclusive of accrued interest, of all derivative instruments with credit-risk-related contingent features that were in a liability position without regard to netting under derivative credit support annex agreements as of September 30, 2017 and December 31, 2016, was \$258.4 million and \$454.7 million, respectively. Cleared derivatives have contingent features that require us to post excess margin as required by the FCM. The terms surrounding excess margin vary by FCM agreement. With respect to derivatives containing collateral triggers, we posted collateral and initial margin of \$160.8 million and \$322.4 million as of September 30, 2017 and December 31, 2016, respectively, in the normal course of business, which reflects netting under derivative agreements. If the credit-risk-related contingent features underlying these agreements were triggered on September 30, 2017, we would be required to post an additional \$40.8 million of collateral to our counterparties.

As of September 30, 2017 and December 31, 2016, we had received \$172.6 million and \$576.3 million, respectively, of cash collateral associated with our derivative credit support annex agreements and FCM agreements, for which we recorded a corresponding liability reflecting our obligation to return the collateral.

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Notional amounts are used to express the extent of our involvement in derivative transactions and represent a standard measurement of the volume of our derivative activity. Notional amounts represent those amounts used to calculate contractual flows to be exchanged and are not paid or received, except for contracts such as currency swaps. Credit exposure represents the gross amount owed to us under derivative contracts as of the valuation date. The notional amounts and credit exposure of our derivative financial instruments by type were as follows:

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Notional amounts of derivative instruments		
Interest rate contracts:		
Interest rate swaps	\$ 24,048.9	\$ 23,520.4
Interest rate options	4,028.2	4,950.5
Interest rate futures	64.0	96.0
Swaptions	14.0	77.0
Foreign exchange contracts:		
Currency swaps	959.0	1,552.0
Currency forwards	819.9	851.3
Currency options	484.1	—
Equity contracts:		
Equity options	3,456.3	3,505.8
Equity futures	325.4	545.1
Credit contracts:		
Credit default swaps	750.5	961.3
Total return swaps	—	90.0
Futures	—	11.9
Other contracts:		
Embedded derivatives	10,380.1	10,209.5
Total notional amounts at end of period	\$ 45,330.4	\$ 46,370.8
Credit exposure of derivative instruments		
Interest rate contracts:		
Interest rate swaps	\$ 189.6	\$ 733.1
Interest rate options	24.1	27.3
Foreign exchange contracts:		
Currency swaps	82.9	106.2
Currency forwards	17.0	6.4
Currency options	0.5	—
Equity contracts:		
Equity options	15.4	28.2
Credit contracts:		
Credit default swaps	5.8	7.0
Total return swaps	—	0.7
Total gross credit exposure	335.3	908.9
Less: collateral received	200.2	586.8
Net credit exposure	\$ 135.1	\$ 322.1

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The fair value of our derivative instruments classified as assets and liabilities was as follows:

	Derivative assets (1)		Derivative liabilities (2)	
	September 30, 2017	December 31, 2016	September 30, 2017	December 31, 2016
	<i>(in millions)</i>			
Derivatives designated as hedging instruments				
Interest rate contracts	\$ 0.9	\$ 4.4	\$ 27.4	\$ 71.3
Foreign exchange contracts	50.9	86.8	26.1	143.4
Total derivatives designated as hedging instruments	<u>\$ 51.8</u>	<u>\$ 91.2</u>	<u>\$ 53.5</u>	<u>\$ 214.7</u>
Derivatives not designated as hedging instruments				
Interest rate contracts	\$ 196.9	\$ 739.3	\$ 42.1	\$ 200.6
Foreign exchange contracts	51.5	27.2	32.3	56.2
Equity contracts	15.4	28.2	135.0	95.9
Credit contracts	5.6	7.7	1.5	5.7
Other contracts	—	—	380.7	388.7
Total derivatives not designated as hedging instruments	<u>269.4</u>	<u>802.4</u>	<u>591.6</u>	<u>747.1</u>
Total derivative instruments	<u>\$ 321.2</u>	<u>\$ 893.6</u>	<u>\$ 645.1</u>	<u>\$ 961.8</u>

(1) The fair value of derivative assets is reported with other investments on the consolidated statements of financial position.

(2) The fair value of derivative liabilities is reported with other liabilities on the consolidated statements of financial position, with the exception of certain embedded derivative liabilities. Embedded derivative liabilities with a fair value of \$138.2 million and \$176.5 million as of September 30, 2017 and December 31, 2016, respectively, are reported with contractholder funds on the consolidated statements of financial position.

Credit Derivatives Sold

When we sell credit protection, we are exposed to the underlying credit risk similar to purchasing a fixed maturity security instrument. The majority of our credit derivative contracts sold reference a single name or reference security (referred to as “single name credit default swaps”). The remainder of our credit derivatives reference either a basket or index of securities. These instruments are either referenced in an OTC credit derivative transaction or embedded within an investment structure that has been fully consolidated into our financial statements.

These credit derivative transactions are subject to events of default defined within the terms of the contract, which normally consist of bankruptcy, failure to pay, or modified restructuring of the reference entity and/or issue. If a default event occurs for a reference name or security, we are obligated to pay the counterparty an amount equal to the notional amount of the credit derivative transaction. As a result, our maximum future payment is equal to the notional amount of the credit derivative. In certain cases, we also have purchased credit protection with identical underlyings to certain of our sold protection transactions. As of September 30, 2017 and December 31, 2016, we did not purchase credit protection relating to our sold protection transactions. In certain circumstances, our potential loss could also be reduced by any amount recovered in the default proceedings of the underlying credit name.

We purchased an investment structure with embedded credit features that is fully consolidated into our financial statements. This consolidation results in recognition of the underlying credit derivatives and collateral within the structure, typically high quality fixed maturities that are owned by a special purpose vehicle. These credit derivatives reference several names in a basket structure. In the event of default, the collateral within the structure would typically be liquidated to pay the claims of the credit derivative counterparty.

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The following tables show our credit default swap protection sold by types of contract, types of referenced/underlying asset class and external agency rating for the underlying reference security. The maximum future payments are undiscounted and have not been reduced by the effect of any offsetting transactions, collateral or recourse features described above.

	September 30, 2017			
	Notional amount	Fair value <i>(in millions)</i>	Maximum future payments	Weighted average expected life (in years)
Single name credit default swaps				
Corporate debt				
AAA	\$ 30.0	\$ 0.4	\$ 30.0	1.5
AA	55.0	0.2	55.0	0.5
A	95.0	0.6	95.0	0.9
BBB	310.0	2.9	310.0	1.3
B	20.0	(0.3)	20.0	2.1
Government/municipalities				
AA	30.0	0.4	30.0	1.6
Sovereign				
A	10.0	0.1	10.0	2.0
BBB	55.0	0.8	55.0	2.6
Total single name credit default swaps	<u>605.0</u>	<u>5.1</u>	<u>605.0</u>	<u>1.4</u>
Total credit default swap protection sold	<u>\$ 605.0</u>	<u>\$ 5.1</u>	<u>\$ 605.0</u>	<u>1.4</u>

	December 31, 2016			
	Notional amount	Fair value <i>(in millions)</i>	Maximum future payments	Weighted average expected life (in years)
Single name credit default swaps				
Corporate debt				
AAA	\$ 30.0	\$ 0.6	\$ 30.0	2.2
AA	94.0	0.8	94.0	1.2
A	145.0	1.2	145.0	1.3
BBB	290.0	2.3	290.0	2.1
B	20.0	(1.8)	20.0	2.8
Near default	10.0	0.2	10.0	3.0
Government/municipalities				
AA	30.0	0.4	30.0	2.3
Sovereign				
AA	10.0	0.1	10.0	2.7
BBB	40.0	0.3	40.0	2.7
Total single name credit default swaps	<u>669.0</u>	<u>4.1</u>	<u>669.0</u>	<u>1.9</u>
Basket and index credit default swaps				
Corporate debt				
Near default (1)	82.3	(1.6)	82.3	0.2
Government/municipalities				
AA	30.0	(0.4)	30.0	0.7
Structured finance				
AA	3.5	—	3.5	0.8
Total basket and index credit default swaps	<u>115.8</u>	<u>(2.0)</u>	<u>115.8</u>	<u>0.4</u>
Total credit default swap protection sold	<u>\$ 784.8</u>	<u>\$ 2.1</u>	<u>\$ 784.8</u>	<u>1.7</u>

(1) Includes \$60.0 million as of December 31, 2016, notional of derivatives in consolidated collateralized private investment vehicle VIEs where the credit risk is borne by third party investors.

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We also have invested in fixed maturities classified as trading that contain credit default swaps. These securities are subject to the credit risk of the issuer, normally a special purpose vehicle, which consists of the underlying credit default swaps and high quality fixed maturities that serve as collateral. A default event occurs if the cumulative losses exceed a specified attachment point, which is typically not the first loss of the portfolio. If a default event occurs that exceeds the specified attachment point, our investment may not be fully returned. We would have no future potential payments under these investments. The following tables show, by the types of referenced/underlying asset class and external rating, our fixed maturities with embedded credit derivatives.

	September 30, 2017		
	Amortized cost	Carrying value	Weighted average expected life (in years)
	<i>(in millions)</i>		
Structured finance			
AA	\$ 1.8	\$ 1.8	0.1
Total structured finance	<u>1.8</u>	<u>1.8</u>	<u>0.1</u>
Total fixed maturities with credit derivatives	<u>\$ 1.8</u>	<u>\$ 1.8</u>	<u>0.1</u>

	December 31, 2016		
	Amortized cost	Carrying value	Weighted average expected life (in years)
	<i>(in millions)</i>		
Structured finance			
AA	\$ 14.1	\$ 14.1	0.6
BBB	3.5	3.5	0.8
BB	2.3	2.3	0.8
CCC	4.7	4.7	1.2
Total structured finance	<u>24.6</u>	<u>24.6</u>	<u>0.8</u>
Total fixed maturities with credit derivatives	<u>\$ 24.6</u>	<u>\$ 24.6</u>	<u>0.8</u>

Fair Value Hedges

We use fixed-to-floating rate interest rate swaps to more closely align the interest rate characteristics of certain assets and liabilities. In general, these swaps are used in asset and liability management to modify duration, which is a measure of sensitivity to interest rate changes.

We enter into currency exchange swap agreements to convert certain foreign denominated assets and liabilities into U.S. dollar floating-rate denominated instruments to eliminate the exposure to future currency volatility on those items.

The net interest effect of interest rate swap and currency swap transactions for derivatives in fair value hedges is recorded as an adjustment to income or expense of the underlying hedged item in our consolidated statements of operations.

Hedge effectiveness testing for fair value relationships is performed utilizing a regression analysis approach for both prospective and retrospective evaluations. This regression analysis will consider multiple data points for the assessment that the hedge continues to be highly effective in achieving offsetting changes in fair value. In certain periods, the comparison of the change in value of the derivative and the change in the value of the hedged item may not be offsetting at a specific period in time due to small movements in value. However, any amounts recorded as fair value hedges have shown to be highly effective in achieving offsetting changes in fair value both for present and future periods.

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The following table shows the effect of derivatives in fair value hedging relationships and the related hedged items on the consolidated statements of operations. All gains or losses on derivatives were included in the assessment of hedge effectiveness.

Derivatives in fair value hedging relationships	Amount of gain (loss) recognized in net income on derivatives for the three months ended September 30, (1)		Hedged items in fair value hedging relationships	Amount of gain (loss) recognized in net income on related hedged item for the three months ended September 30, (1)	
	2017	2016		2017	2016
	<i>(in millions)</i>			<i>(in millions)</i>	
Interest rate contracts	\$ 1.1	\$ 8.9	Fixed maturities, available-for-sale	\$ (1.1)	\$ (8.5)
Interest rate contracts	0.1	(1.9)	Investment contracts	(0.1)	2.0
Total	<u>\$ 1.2</u>	<u>\$ 7.0</u>	Total	<u>\$ (1.2)</u>	<u>\$ (6.5)</u>

Derivatives in fair value hedging relationships	Amount of gain (loss) recognized in net income on derivatives for the nine months ended September 30, (1)		Hedged items in fair value hedging relationships	Amount of gain (loss) recognized in net income on related hedged item for the nine months ended September 30, (1)	
	2017	2016		2017	2016
	<i>(in millions)</i>			<i>(in millions)</i>	
Interest rate contracts	\$ 2.1	\$ 1.3	Fixed maturities, available-for-sale	\$ (2.4)	\$ (0.9)
Interest rate contracts	(0.6)	1.4	Investment contracts	0.6	(1.3)
Total	<u>\$ 1.5</u>	<u>\$ 2.7</u>	Total	<u>\$ (1.8)</u>	<u>\$ (2.2)</u>

(1) The gain (loss) on both derivatives and hedged items in fair value relationships is reported in net realized capital gains (losses) on the consolidated statements of operations. The net amount represents the ineffective portion of our fair value hedges.

The following table shows the periodic settlements on interest rate contracts and foreign exchange contracts in fair value hedging relationships.

Hedged item	Amount of gain (loss) for the three months ended September 30,		Amount of gain (loss) for the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Fixed maturities, available-for-sale (1)	\$ (2.4)	\$ (9.6)	\$ (8.1)	\$ (34.6)
Investment contracts (2)	0.1	0.6	0.9	2.0

- (1) Reported in net investment income on the consolidated statements of operations.
(2) Reported in benefits, claims and settlement expenses on the consolidated statements of operations.

Cash Flow Hedges

We utilize floating-to-fixed rate interest rate swaps to eliminate the variability in cash flows of recognized financial assets and liabilities and forecasted transactions.

We enter into currency exchange swap agreements to convert both principal and interest payments of certain foreign denominated assets and liabilities into U.S. dollar denominated fixed-rate instruments to eliminate the exposure to future currency volatility on those items.

The net interest effect of interest rate swap and currency swap transactions for derivatives in cash flow hedges is recorded as an adjustment to income or expense of the underlying hedged item in our consolidated statements of operations.

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The maximum length of time we are hedging our exposure to the variability in future cash flows for forecasted transactions, excluding those related to the payments of variable interest on existing financial assets and liabilities, is 2.8 years. As of September 30, 2017, we had \$3.5 million of net gains reported in AOCI on the consolidated statements of financial position related to active hedges of forecasted transactions. If a hedged forecasted transaction is no longer probable of occurring, cash flow hedge accounting is discontinued. If it is probable that the hedged forecasted transaction will not occur, the deferred gain or loss is immediately reclassified from AOCI into net income. During the nine months ended September 30, 2017 and 2016, we did not have any reclassifications from AOCI into net realized capital gains (losses) as a result of the determination that hedged cash flows were probable of not occurring.

The following table shows the effect of derivatives in cash flow hedging relationships on the consolidated statements of operations and consolidated statements of financial position. All gains or losses on derivatives were included in the assessment of hedge effectiveness.

Derivatives in cash flow hedging relationships	Related hedged item	Amount of gain (loss) recognized in AOCI on derivatives (effective portion) for the three months ended September 30,		Location of gain (loss) reclassified from AOCI into net income (effective portion)	Amount of gain (loss) reclassified from AOCI on derivatives (effective portion) for the three months ended September 30,	
		2017	2016		2017	2016
		<i>(in millions)</i>			<i>(in millions)</i>	
Interest rate contracts	Fixed maturities, available-for-sale	\$ (5.1)	\$ (35.3)	Net investment income	\$ 5.4	\$ 4.9
Interest rate contracts	Debt	—	—	Operating expense	(2.8)	(2.3)
Foreign exchange contracts	Fixed maturities, available-for-sale	(17.1)	(2.0)	Net realized capital losses	(0.1)	—
Foreign exchange contracts	Investment contracts	—	1.3	Benefits, claims and settlement expenses	—	—
Total		<u>\$ (22.2)</u>	<u>\$ (36.0)</u>	Total	<u>\$ 2.5</u>	<u>\$ 2.6</u>

Derivatives in cash flow hedging relationships	Related hedged item	Amount of gain (loss) recognized in AOCI on derivatives (effective portion) for the nine months ended September 30,		Location of gain (loss) reclassified from AOCI into net income (effective portion)	Amount of gain (loss) reclassified from AOCI on derivatives (effective portion) for the nine months ended September 30,	
		2017	2016		2017	2016
		<i>(in millions)</i>			<i>(in millions)</i>	
Interest rate contracts	Fixed maturities, available-for-sale	\$ (44.2)	\$ (13.6)	Net investment income	\$ 15.7	\$ 14.3
Interest rate contracts	Investment contracts	—	1.6	Net realized capital losses	(0.7)	—
Interest rate contracts	Debt	—	—	Benefits, claims and settlement expenses	—	—
Foreign exchange contracts	Fixed maturities, available-for-sale	(46.7)	3.5	Operating expense	(8.0)	(6.8)
Foreign exchange contracts	Investment contracts	0.1	5.2	Net realized capital gains	14.0	1.2
Total		<u>\$ (90.8)</u>	<u>\$ (3.3)</u>	Total	<u>\$ 21.0</u>	<u>\$ 8.7</u>

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The following table shows the periodic settlements on interest rate contracts and foreign exchange contracts in cash flow hedging relationships.

Hedged item	Amount of gain (loss) for the three months ended September 30,		Amount of gain (loss) for the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Fixed maturities, available-for-sale (1)	\$ 1.9	\$ 1.4	\$ 5.3	\$ 4.3
Investment contracts (2)	(0.1)	(3.5)	(1.0)	(12.8)

- (1) Reported in net investment income on the consolidated statements of operations.
(2) Reported in benefits, claims and settlement expenses on the consolidated statements of operations.

The ineffective portion of our cash flow hedges is reported in net realized capital gains (losses) on the consolidated statements of operations. The net gain (loss) resulting from the ineffective portion of derivatives in cash flow hedging relationships was \$0.0 million and \$0.1 million for the three months ended September 30, 2017 and 2016, respectively. The net gain (loss) resulting from the ineffective portion of derivatives in cash flow hedging relationships was \$0.0 million and \$0.0 million for the nine months ended September 30, 2017 and 2016, respectively.

We expect to reclassify net gains of \$16.9 million from AOCI into net income in the next 12 months, which includes net deferred gains on discontinued hedges and net losses on periodic settlements of active hedges. Actual amounts may vary from this amount as a result of market conditions.

Derivatives Not Designated as Hedging Instruments

Our use of futures, certain swaptions and swaps, collars, options and forwards are effective from an economic standpoint, but they have not been designated as hedges for financial reporting purposes. As such, periodic changes in the market value of these instruments, which includes mark-to-market gains and losses as well as periodic and final settlements, primarily flow directly into net realized capital gains (losses) on the consolidated statements of operations.

The following table shows the effect of derivatives not designated as hedging instruments, including fair value changes of embedded derivatives that have been bifurcated from the host contract, on the consolidated statements of operations.

Derivatives not designated as hedging instruments	Amount of gain (loss) recognized in net income on derivatives for the three months ended September 30,		Amount of gain (loss) recognized in net income on derivatives for the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Interest rate contracts	\$ (2.0)	\$ 29.0	\$ (46.2)	\$ 289.7
Foreign exchange contracts	28.7	9.1	47.0	32.2
Equity contracts	(63.8)	(61.6)	(162.5)	(46.6)
Credit contracts	(3.7)	14.6	(16.1)	39.1
Other contracts	8.1	(2.3)	33.9	(152.6)
Total	\$ (32.7)	\$ (11.2)	\$ (143.9)	\$ 161.8

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5. Insurance Liabilities

Liability for Unpaid Claims

The liability for unpaid claims is reported in future policy benefits and claims within our consolidated statements of financial position. Activity associated with unpaid claims was as follows:

	For the nine months ended September 30,	
	2017	2016
	<i>(in millions)</i>	
Balance at beginning of period	\$ 2,001.3	\$ 1,872.2
Less reinsurance recoverable	340.3	314.1
Net balance at beginning of period	<u>1,661.0</u>	<u>1,558.1</u>
Incurred:		
Current year	867.2	816.4
Prior years	42.2	30.7
Total incurred	<u>909.4</u>	<u>847.1</u>
Payments:		
Current year	527.8	500.5
Prior years	318.3	266.5
Total payments	<u>846.1</u>	<u>767.0</u>
Net balance at end of period	<u>1,724.3</u>	<u>1,638.2</u>
Plus reinsurance recoverable	369.9	334.8
Balance at end of period	<u>\$ 2,094.2</u>	<u>\$ 1,973.0</u>
Amounts not included in the rollforward above:		
Claim adjustment expense liabilities	\$ 50.5	\$ 49.2

Incurred liability adjustments relating to prior years, which affected current operations during 2017 and 2016, resulted in part from developed claims for prior years being different than were anticipated when the liabilities for unpaid claims were originally estimated. These trends have been considered in establishing the current year liability for unpaid claims.

6. Income Taxes

Effective Income Tax Rate

Our provision for income taxes may not have the customary relationship of taxes to income. A reconciliation between the U.S. corporate income tax rate and the effective income tax rate was as follows:

	For the three months ended		For the nine months ended	
	September 30,		September 30,	
	2017	2016	2017	2016
U.S. corporate income tax rate	35 %	35 %	35 %	35 %
Dividends received deduction	(4)	(11)	(7)	(10)
Tax credits	(2)	(4)	(2)	(2)
Impact of equity method presentation	(1)	(3)	(2)	(3)
Local country permanent tax adjustments	(1)	(2)	(1)	(1)
Interest exclusion from taxable income	(1)	(2)	(1)	(1)
Impact of noncontrolling interest presentation	—	(2)	—	(1)
State income taxes	4	—	2	—
Other	—	1	—	(2)
Effective income tax rate	<u>30 %</u>	<u>12 %</u>	<u>24 %</u>	<u>15 %</u>

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Unrecognized Tax Benefits

A summary of the changes in unrecognized tax benefits follows:

	For the nine months ended September 30, 2017	For the year ended December 31, 2016
	<i>(in millions)</i>	
Balance at beginning of period	\$ 207.8	\$ 219.0
Additions based on tax positions related to the current year	7.0	0.8
Additions for tax positions of prior years	19.3	0.8
Reductions for tax positions related to the current year	(0.3)	(12.6)
Reductions for tax positions of prior years	(0.5)	(0.2)
Settlements	(36.7)	—
Balance at end of period (1)	<u>\$ 196.6</u>	<u>\$ 207.8</u>

(1) Of this amount, \$44.4 million, if recognized, would reduce the 2017 effective income tax rate. We recognize interest and penalties related to uncertain tax positions in operating expenses.

As of September 30, 2017 and December 31, 2016, we had recognized \$124.3 million and \$142.4 million of accumulated pre-tax interest and penalties related to unrecognized tax benefits, respectively.

7. Employee and Agent Benefits

Components of Net Periodic Benefit Cost

	Pension benefits		Other postretirement benefits	
	For the three months ended September 30,		For the three months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Service cost	\$ 16.7	\$ 16.2	\$ —	\$ 0.6
Interest cost	31.1	33.7	1.0	1.7
Expected return on plan assets	(36.0)	(38.7)	(7.0)	(8.1)
Amortization of prior service benefit	(0.6)	(0.6)	(8.6)	(5.1)
Recognized net actuarial (gain) loss	17.0	19.3	(0.1)	—
Net periodic benefit cost (income)	<u>\$ 28.2</u>	<u>\$ 29.9</u>	<u>\$ (14.7)</u>	<u>\$ (10.9)</u>

	Pension benefits		Other postretirement benefits	
	For the nine months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Service cost	\$ 50.3	\$ 48.7	\$ 0.1	\$ 1.8
Interest cost	93.3	101.1	3.0	5.0
Expected return on plan assets	(108.1)	(116.2)	(20.7)	(24.4)
Amortization of prior service benefit	(1.7)	(1.7)	(25.9)	(15.2)
Recognized net actuarial (gain) loss	51.0	57.8	(0.1)	0.1
Net periodic benefit cost (income)	<u>\$ 84.8</u>	<u>\$ 89.7</u>	<u>\$ (43.6)</u>	<u>\$ (32.7)</u>

Contributions

Our funding policy for our qualified pension plan is to fund the plan annually in an amount at least equal to the minimum annual contribution required under the Employee Retirement Income Security Act (“ERISA”) and, generally, not greater than the maximum amount that can be deducted for federal income tax purposes. The minimum annual contribution for 2017 will be zero so we will not be required to fund our qualified pension plan during 2017. However, it is possible that we may fund the qualified and nonqualified pension plans in 2017 for a combined total of up to \$125.0 million. During the three and nine months ended September 30, 2017, we contributed \$13.2 million and \$83.5 million to these plans, respectively.

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8. Contingencies, Guarantees and Indemnifications

Litigation and Regulatory Contingencies

We are regularly involved in litigation, both as a defendant and as a plaintiff, but primarily as a defendant. Litigation naming us as a defendant ordinarily arises out of our business operations as a provider of asset management and accumulation products and services; individual life insurance, specialty benefits insurance and our investment activities. Some of the lawsuits may be class actions, or purport to be, and some may include claims for unspecified or substantial punitive and treble damages.

We may discuss such litigation in one of three ways. We accrue a charge to income and disclose legal matters for which the chance of loss is probable and for which the amount of loss can be reasonably estimated. We may disclose contingencies for which the chance of loss is reasonably possible and provide an estimate of the possible loss or range of loss or a statement that such an estimate cannot be made. Finally, we may voluntarily disclose loss contingencies for which the chance of loss is remote in order to provide information concerning matters that potentially expose us to possible losses.

In addition, regulatory bodies such as state insurance departments, the SEC, the Financial Industry Regulatory Authority, the Department of Labor (“DOL”) and other regulatory agencies regularly make inquiries and conduct examinations or investigations concerning our compliance with, among other things, insurance laws, securities laws, ERISA and laws governing the activities of broker-dealers. We receive requests from regulators and other governmental authorities relating to industry issues and may receive additional requests, including subpoenas and interrogatories, in the future.

On December 30, 2015, Mary Ventura, William Littlejohn and Ryan Kadota filed a lawsuit in the United States District Court for the Southern District of Iowa against Principal Management Corporation (“PMC”). The lawsuit alleges PMC breached its fiduciary duty under Section 36(b) of the Investment Company Act by charging excessive fees on the LargeCap Growth I Fund, SmallCap Growth I Fund, SmallCap Fund, High Yield Fund, MidCap Fund and the MidCap Value III Fund. Plaintiffs’ counsel dismissed this case with prejudice. The stipulation of dismissal was filed on October 16, 2017.

On August 29, 2013, American Chemicals & Equipment, Inc. 401(k) Retirement Plan (“ACE”) filed a lawsuit in the United States District Court for the Northern District of Alabama against PMC and Principal Global Investors, LLC (the “ACE Defendants”). The lawsuit alleged the ACE Defendants breached their fiduciary duty under Section 36(b) of the Investment Company Act by charging excessive fees on certain of the LifeTime series target date funds. Principal Global Investors, LLC was dismissed from the case on December 29, 2015. PMC was granted summary judgment on February 8, 2016, and the case was dismissed. ACE appealed the grant of summary judgment and subsequent dismissal to the Eighth Circuit Court of Appeals. On July 24, 2017, the Eighth Circuit issued a decision affirming the grant of summary judgment in favor of PMC and dismissing the case. Plaintiff elected not to file a petition for writ of certiorari to the U.S. Supreme Court; as such, the dismissal stands as affirmed and the case is concluded.

In 2008, Principal Life received approximately \$440.0 million in connection with the termination of certain structured transactions and the resulting prepayment of Principal Life’s investment in those transactions. The transactions involved Lehman Brothers Special Financing Inc. and Lehman Brothers Holdings Inc. (collectively, “Lehman”) in various capacities. Subsequent to Lehman’s 2008 bankruptcy filing, its bankruptcy estate initiated several lawsuits seeking to recover from numerous sources significant amounts to which it claims entitlement under various theories. We are one of a large group of defendants to this action. The estate’s claim against Principal Life, including interest, was approximately \$600.0 million. On June 28, 2016, the bankruptcy court granted the Defendants’ motion to dismiss directed at common issues and dismissed with prejudice all claims against Principal Life. Lehman has appealed the bankruptcy court’s decision to the U.S. District Court for the Southern District of New York.

While the outcome of any pending or future litigation or regulatory matter cannot be predicted, management does not believe any such matter will have a material adverse effect on our business or financial position. As of September 30, 2017, we had no estimated losses accrued related to the legal matters discussed above because we believe the chance of loss from these matters is not probable and the amount of loss cannot be reasonably estimated.

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We believe all of the litigation contingencies discussed above involve a chance of loss that is either remote or reasonably possible. Unless otherwise noted, all of these matters involve unspecified claim amounts, in which the respective plaintiffs seek an indeterminate amount of damages. To the extent such matters present a reasonably possible chance of loss, we are generally not able to estimate the possible loss or range of loss associated therewith.

The outcome of such matters is always uncertain, and unforeseen results can occur. It is possible such outcomes could require us to pay damages or make other expenditures or establish accruals in amounts we could not estimate as of September 30, 2017.

Guarantees and Indemnifications

In the normal course of business, we have provided guarantees to third parties primarily related to former subsidiaries and joint ventures. The terms of these agreements range in duration and often are not explicitly defined. The maximum exposure under these agreements as of September 30, 2017, was approximately \$149.0 million. At inception, the fair value of such guarantees was insignificant. In addition, we believe the likelihood is remote that material payments will be required. Therefore, any liability accrued within our consolidated statements of financial position is insignificant. Should we be required to perform under these guarantees, we generally could recover a portion of the loss from third parties through recourse provisions included in agreements with such parties, the sale of assets held as collateral that can be liquidated in the event performance is required under the guarantees or other recourse generally available to us; therefore, such guarantees would not result in a material adverse effect on our business or financial position. While the likelihood is remote, such outcomes could materially affect net income in a particular quarter or annual period.

We manage mandatory privatized social security funds in Chile. By regulation, we have a required minimum guarantee on the funds' relative return. Because the guarantee has no limitation with respect to duration or amount, the maximum exposure of the guarantee in the future is indeterminable.

We are also subject to various other indemnification obligations issued in conjunction with divestitures, acquisitions and financing transactions whose terms range in duration and often are not explicitly defined. Certain portions of these indemnifications may be capped, while other portions are not subject to such limitations; therefore, the overall maximum amount of the obligation under the indemnifications cannot be reasonably estimated. At inception, the fair value of such indemnifications was insignificant. In addition, we believe the likelihood is remote that material payments will be required. Therefore, any liability accrued within our consolidated statements of financial position is insignificant. While we are unable to estimate with certainty the ultimate legal and financial liability with respect to these indemnifications, we believe that performance under these indemnifications would not result in a material adverse effect on our business or financial position. While the likelihood is remote, performance under these indemnifications could materially affect net income in a particular quarter or annual period.

9. Stockholders' Equity

Reconciliation of Outstanding Common Shares

	For the nine months ended September 30,	
	2017	2016
	<i>(in millions)</i>	
Beginning balance	287.7	291.4
Shares issued	4.3	2.5
Treasury stock acquired	(3.5)	(6.2)
Ending balance	288.5	287.7

In October 2015, our Board of Directors authorized a share repurchase program of up to \$150.0 million of our outstanding common stock, which was completed in March 2016. In February 2016, our Board of Directors authorized a share repurchase program of up to \$400.0 million of our outstanding common stock. In May 2017, our Board of Directors authorized a share repurchase program of up to \$250.0 million of our outstanding common stock. Shares repurchased under these programs are accounted for as treasury stock, carried at cost and reflected as a reduction to stockholders' equity.

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Other Comprehensive Income

	For the three months ended September 30, 2017			For the nine months ended September 30, 2017		
	Pre-Tax	Tax	After-Tax	Pre-Tax	Tax	After-Tax
	<i>(in millions)</i>					
Net unrealized gains on available-for-sale securities during the period	\$ 137.3	\$ (52.6)	\$ 84.7	\$ 1,044.2	\$ (365.9)	\$ 678.3
Reclassification adjustment for losses included in net income (1)	0.3	0.2	0.5	49.9	(17.0)	32.9
Adjustments for assumed changes in amortization patterns	(0.2)	(0.1)	(0.3)	(48.4)	16.9	(31.5)
Adjustments for assumed changes in policyholder liabilities	(23.7)	8.9	(14.8)	(167.2)	56.6	(110.6)
Net unrealized gains on available-for-sale securities	<u>113.7</u>	<u>(43.6)</u>	<u>70.1</u>	<u>878.5</u>	<u>(309.4)</u>	<u>569.1</u>
Noncredit component of impairment losses on fixed maturities, available-for-sale during the period	19.2	(5.1)	14.1	32.5	(9.8)	22.7
Adjustments for assumed changes in amortization patterns	(1.0)	0.4	(0.6)	(2.1)	0.8	(1.3)
Adjustments for assumed changes in policyholder liabilities	(0.2)	—	(0.2)	(0.6)	0.2	(0.4)
Noncredit component of impairment losses on fixed maturities, available-for-sale (2)	<u>18.0</u>	<u>(4.7)</u>	<u>13.3</u>	<u>29.8</u>	<u>(8.8)</u>	<u>21.0</u>
Net unrealized losses on derivative instruments during the period	(17.0)	5.9	(11.1)	(32.5)	11.1	(21.4)
Reclassification adjustment for gains included in net income (3)	(2.5)	0.8	(1.7)	(21.0)	7.2	(13.8)
Adjustments for assumed changes in amortization patterns	0.6	(0.2)	0.4	2.6	(0.9)	1.7
Adjustments for assumed changes in policyholder liabilities	1.9	(0.6)	1.3	6.3	(2.1)	4.2
Net unrealized losses on derivative instruments	<u>(17.0)</u>	<u>5.9</u>	<u>(11.1)</u>	<u>(44.6)</u>	<u>15.3</u>	<u>(29.3)</u>
Foreign currency translation adjustment	<u>95.7</u>	<u>(7.1)</u>	<u>88.6</u>	<u>155.3</u>	<u>(4.0)</u>	<u>151.3</u>
Amortization of amounts included in net periodic benefit cost (4)	7.7	(3.5)	4.2	23.3	(10.5)	12.8
Net unrecognized postretirement benefit obligation	<u>7.7</u>	<u>(3.5)</u>	<u>4.2</u>	<u>23.3</u>	<u>(10.5)</u>	<u>12.8</u>
Other comprehensive income	<u>\$ 218.1</u>	<u>\$ (53.0)</u>	<u>\$ 165.1</u>	<u>\$ 1,042.3</u>	<u>\$ (317.4)</u>	<u>\$ 724.9</u>

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	For the three months ended September 30, 2016			For the nine months ended September 30, 2016		
	Pre-Tax	Tax	After-Tax	Pre-Tax	Tax	After-Tax
	<i>(in millions)</i>					
Net unrealized gains on available-for-sale securities during the period	\$ 312.3	\$ (96.2)	\$ 216.1	\$ 2,178.4	\$ (739.7)	\$ 1,438.7
Reclassification adjustment for (gains) losses included in net income						
(1)	0.6	(2.2)	(1.6)	20.6	(9.2)	11.4
Adjustments for assumed changes in amortization patterns	(7.6)	2.6	(5.0)	(119.7)	41.9	(77.8)
Adjustments for assumed changes in policyholder liabilities	(126.5)	37.3	(89.2)	(813.7)	269.3	(544.4)
Net unrealized gains on available-for-sale securities	<u>178.8</u>	<u>(58.5)</u>	<u>120.3</u>	<u>1,265.6</u>	<u>(437.7)</u>	<u>827.9</u>
Noncredit component of impairment losses on fixed maturities, available-for-sale during the period	(10.7)	3.4	(7.3)	(11.6)	3.7	(7.9)
Adjustments for assumed changes in amortization patterns	2.1	(0.7)	1.4	0.5	(0.1)	0.4
Adjustments for assumed changes in policyholder liabilities	0.9	(0.3)	0.6	0.9	(0.3)	0.6
Noncredit component of impairment losses on fixed maturities, available-for-sale (2)	<u>(7.7)</u>	<u>2.4</u>	<u>(5.3)</u>	<u>(10.2)</u>	<u>3.3</u>	<u>(6.9)</u>
Net unrealized gains (losses) on derivative instruments during the period	(1.2)	0.3	(0.9)	20.7	(7.3)	13.4
Reclassification adjustment for gains included in net income (3)	(2.6)	0.9	(1.7)	(8.7)	2.7	(6.0)
Adjustments for assumed changes in amortization patterns	0.4	(0.2)	0.2	1.4	(0.5)	0.9
Adjustments for assumed changes in policyholder liabilities	9.5	(3.4)	6.1	12.2	(4.3)	7.9
Net unrealized gains on derivative instruments	<u>6.1</u>	<u>(2.4)</u>	<u>3.7</u>	<u>25.6</u>	<u>(9.4)</u>	<u>16.2</u>
Foreign currency translation adjustment	<u>(21.4)</u>	<u>5.4</u>	<u>(16.0)</u>	<u>142.6</u>	<u>(14.8)</u>	<u>127.8</u>
Amortization of amounts included in net periodic benefit cost (4)	<u>13.6</u>	<u>(5.6)</u>	<u>8.0</u>	<u>41.0</u>	<u>(17.0)</u>	<u>24.0</u>
Net unrecognized postretirement benefit obligation	<u>13.6</u>	<u>(5.6)</u>	<u>8.0</u>	<u>41.0</u>	<u>(17.0)</u>	<u>24.0</u>
Other comprehensive income	<u>\$ 169.4</u>	<u>\$ (58.7)</u>	<u>\$ 110.7</u>	<u>\$ 1,464.6</u>	<u>\$ (475.6)</u>	<u>\$ 989.0</u>

- (1) Pre-tax reclassification adjustments relating to available-for-sale securities are reported in net realized capital gains (losses) on the consolidated statements of operations.
- (2) Represents the net impact of (1) unrealized gains resulting from reclassification of previously recognized noncredit impairment losses from OCI to net realized capital gains (losses) for fixed maturities with bifurcated OTTI that had additional credit losses or fixed maturities that previously had bifurcated OTTI that have now been sold or are intended to be sold and (2) unrealized losses resulting from reclassification of noncredit impairment losses for fixed maturities with bifurcated OTTI from net realized capital gains (losses) to OCI.
- (3) See Note 4, Derivative Financial Instruments – Cash Flow Hedges, for further details.
- (4) Amount is comprised of amortization of prior service cost (benefit) and recognized net actuarial (gain) loss, which is reported in operating expenses on the consolidated statements of operations. See Note 7, Employee and Agent Benefits – Components of Net Periodic Benefit Cost, for further details.

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Accumulated Other Comprehensive Income (Loss)

	Net unrealized gains on available-for-sale securities	Noncredit component of impairment losses on fixed maturities available-for-sale	Net unrealized gains on derivative instruments	Foreign currency translation adjustment	Unrecognized postretirement benefit obligation	Accumulated other comprehensive income (loss)
	<i>(in millions)</i>					
Balances as of January 1, 2016	\$ 732.1	\$ (86.0)	\$ 69.8	\$ (1,148.2)	\$ (450.2)	\$ (882.5)
Other comprehensive income during the period, net of adjustments	816.5	(6.9)	22.2	122.4	—	954.2
Amounts reclassified from AOCI	11.4	—	(6.0)	—	24.0	29.4
Other comprehensive income	<u>827.9</u>	<u>(6.9)</u>	<u>16.2</u>	<u>122.4</u>	<u>24.0</u>	<u>983.6</u>
Purchase of subsidiary shares from noncontrolling interest	—	—	—	(9.3)	—	(9.3)
Balances as of September 30, 2016	<u>\$ 1,560.0</u>	<u>\$ (92.9)</u>	<u>\$ 86.0</u>	<u>\$ (1,035.1)</u>	<u>\$ (426.2)</u>	<u>\$ 91.8</u>
Balances as of January 1, 2017	\$ 831.2	\$ (89.5)	\$ 85.3	\$ (1,093.8)	\$ (408.4)	\$ (675.2)
Other comprehensive income during the period, net of adjustments	536.2	—	(15.5)	148.6	—	669.3
Amounts reclassified from AOCI	32.9	21.0	(13.8)	—	12.8	52.9
Other comprehensive income	<u>569.1</u>	<u>21.0</u>	<u>(29.3)</u>	<u>148.6</u>	<u>12.8</u>	<u>722.2</u>
Balances as of September 30, 2017	<u>\$ 1,400.3</u>	<u>\$ (68.5)</u>	<u>\$ 56.0</u>	<u>\$ (945.2)</u>	<u>\$ (395.6)</u>	<u>\$ 47.0</u>

Noncontrolling Interest

Interests held by unaffiliated parties in consolidated entities are reflected in noncontrolling interest, which represents the noncontrolling partners' share of the underlying net assets of our consolidated subsidiaries. Noncontrolling interest that is not redeemable is reported in the equity section of the consolidated statements of financial position.

The noncontrolling interest holders in certain of our consolidated entities maintain an equity interest that is redeemable at the option of the holder, which may be exercised on varying dates. Since redemption of the noncontrolling interest is outside of our control, this interest is presented on the consolidated statements of financial position line item titled "Redeemable noncontrolling interest." Our redeemable noncontrolling interest primarily relates to consolidated sponsored investment funds for which interests are redeemed at fair value from the net assets of the funds.

For our redeemable noncontrolling interest related to other consolidated subsidiaries, redemptions are required to be purchased at fair value or a value based on a formula that management intended to reasonably approximate fair value based on a fixed multiple of earnings over a measurement period. The carrying value of the redeemable noncontrolling interest is compared to the redemption value at each reporting period. Any adjustments to the carrying amount of the redeemable noncontrolling interest for changes in redemption value prior to exercise of the redemption option are determined after the attribution of net income or loss of the subsidiary and are recognized in the redemption value as they occur. Adjustments to the carrying value of redeemable noncontrolling interest result in adjustments to additional paid-in capital and/or retained earnings. Adjustments are recorded in retained earnings to the extent the redemption value of the redeemable noncontrolling interest exceeds its fair value and will impact the numerator in our earnings per share calculations. All other adjustments to the redeemable noncontrolling interest are recorded in additional paid-in capital.

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Following is a reconciliation of the changes in the redeemable noncontrolling interest (in millions):

Balance as of January 1, 2016	\$	85.7
Net income attributable to redeemable noncontrolling interest		20.8
Redeemable noncontrolling interest of newly consolidated entities (1)		179.5
Redeemable noncontrolling interest of deconsolidated entities (2)		(181.2)
Contributions from redeemable noncontrolling interest		132.5
Distributions to redeemable noncontrolling interest		(46.9)
Purchase of subsidiary shares from redeemable noncontrolling interest		(8.2)
Change in redemption value of redeemable noncontrolling interest		4.1
Other comprehensive income attributable to redeemable noncontrolling interest		3.6
Balance as of September 30, 2016	<u>\$</u>	<u>189.9</u>
Balance as of January 1, 2017	\$	97.5
Net income attributable to redeemable noncontrolling interest		6.9
Redeemable noncontrolling interest of deconsolidated entities (2)		(1.4)
Contributions from redeemable noncontrolling interest		54.5
Distributions to redeemable noncontrolling interest		(28.2)
Purchase of subsidiary shares from redeemable noncontrolling interest		(4.4)
Change in redemption value of redeemable noncontrolling interest		2.8
Other comprehensive income attributable to redeemable noncontrolling interest		1.4
Balance as of September 30, 2017	<u>\$</u>	<u>129.1</u>

- (1) Effective January 1, 2016, certain sponsored investment funds were consolidated as a result of the implementation of new accounting guidance.
(2) We deconsolidated certain sponsored investment funds as they no longer met the requirements for consolidation.

Dividend Limitations

Under Iowa law, Principal Life may pay dividends only from the earned surplus arising from its business and must receive the prior approval of the Commissioner of Insurance of the State of Iowa (“the Commissioner”) to pay stockholder dividends or make any other distribution if such dividends or distributions would exceed certain statutory limitations. Iowa law gives the Commissioner discretion to disapprove requests for distributions in excess of these limitations. Extraordinary dividends include those made, together with dividends and other distributions, within the preceding twelve months that exceed the greater of (i) 10% of Principal Life’s statutory policyholder surplus as of the previous year-end or (ii) the statutory net gain from operations from the previous calendar year, not to exceed earned surplus. Based on December 31, 2016, statutory results, the dividend limitation for Principal Life is approximately \$1,143.3 million in ordinary dividends in 2017 without prior regulatory approval. However, because the dividend test is based on dividends previously paid over rolling 12-month periods, if paid before a specified date during 2017, some or all of such dividends may be extraordinary and require regulatory approval.

On May 1, 2017, Principal Life sold its ownership interest in Principal Global Investors, LLC to Principal Life’s direct parent, Principal Financial Services, Inc. in connection with a corporate reorganization designed to better utilize and allocate capital internally. Subsequent to the sale, Principal Life paid an extraordinary dividend of \$1,068.4 million to its parent, which was approved by the Commissioner, primarily from proceeds received from the sale.

10. Fair Value Measurements

We use fair value measurements to record fair value of certain assets and liabilities and to estimate fair value of financial instruments not recorded at fair value but required to be disclosed at fair value. Certain financial instruments, particularly policyholder liabilities other than investment contracts, are excluded from these fair value disclosure requirements.

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Valuation Hierarchy

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 (an exit price). The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety considering factors specific to the asset or liability.

- **Level 1** – Fair values are based on unadjusted quoted prices in active markets for identical assets or liabilities. Our Level 1 assets and liabilities primarily include exchange traded equity securities, mutual funds and U.S. Treasury bonds.
- **Level 2** – Fair values are based on inputs other than quoted prices within Level 1 that are observable for the asset or liability, either directly or indirectly. Our Level 2 assets and liabilities primarily include fixed maturities (including public and private bonds), equity securities, cash equivalents, derivatives and other investments.
- **Level 3** – Fair values are based on at least one significant unobservable input for the asset or liability. Our Level 3 assets and liabilities primarily include fixed maturities, real estate and commercial mortgage loan investments of our separate accounts, complex derivatives and embedded derivatives.

Determination of Fair Value

The following discussion describes the valuation methodologies and inputs used for assets and liabilities measured at fair value on a recurring basis or disclosed at fair value. The techniques utilized in estimating the fair value of financial instruments are reliant on the assumptions used. Care should be exercised in deriving conclusions about our business, its value or financial position based on the fair value information of financial instruments presented below.

Fair value estimates are made based on available market information and judgments about the financial instrument at a specific point in time. Such estimates do not consider the tax impact of the realization of unrealized gains or losses. In addition, the disclosed fair value may not be realized in the immediate settlement of the financial instrument. We validate prices through an investment analyst review process, which includes validation through direct interaction with external sources, review of recent trade activity or use of internal models. In circumstances where broker quotes are used to value an instrument, we generally receive one non-binding quote. Broker quotes are validated through an investment analyst review process, which includes validation through direct interaction with external sources and use of internal models or other relevant information. We did not make any significant changes to our valuation processes during 2017.

Fixed Maturities

Fixed maturities include bonds, ABS, redeemable preferred stock and certain non-redeemable preferred securities. When available, the fair value of fixed maturities is based on quoted prices of identical assets in active markets. These are reflected in Level 1 and primarily include U.S. Treasury bonds and actively traded redeemable corporate preferred securities.

When quoted prices of identical assets in active markets are not available, our first priority is to obtain prices from third party pricing vendors. We have regular interaction with these vendors to ensure we understand their pricing methodologies and to confirm they are utilizing observable market information. Their methodologies vary by asset class and include inputs such as estimated cash flows, benchmark yields, reported trades, broker quotes, credit quality, industry events and economic events. Fixed maturities with validated prices from pricing services, which includes the majority of our public fixed maturities in all asset classes, are generally reflected in Level 2. Also included in Level 2 are corporate bonds when quoted market prices are not available, for which an internal model using substantially all observable inputs or a matrix pricing valuation approach is used. In the matrix approach, securities are grouped into pricing categories that vary by sector, rating and average life. Each pricing category is assigned a risk spread based on studies of observable public market data from the investment professionals assigned to specific security classes. The expected cash flows of the security are then discounted back at the current Treasury curve plus the appropriate risk spread. Although the matrix valuation approach provides a fair valuation of each pricing category, the valuation of an individual security within each pricing category may actually be impacted by company specific factors.

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If we are unable to price a fixed maturity security using prices from third party pricing vendors or other sources specific to the asset class, we may obtain a broker quote or utilize an internal pricing model specific to the asset utilizing relevant market information, to the extent available and where at least one significant unobservable input is utilized. These are reflected in Level 3 in the fair value hierarchy and can include fixed maturities across all asset classes. As of September 30, 2017, less than 1% of our total fixed maturities were Level 3 securities valued using internal pricing models.

The primary inputs, by asset class, for valuations of the majority of our Level 2 investments from third party pricing vendors or our internal pricing valuation approach are described below.

U.S. Government and Agencies/Non-U.S. Governments . Inputs include recently executed market transactions, interest rate yield curves, maturity dates, market price quotations and credit spreads relating to similar instruments.

States and Political Subdivisions . Inputs include Municipal Securities Rulemaking Board reported trades, U.S. Treasury and other benchmark curves, material event notices, new issue data and obligor credit ratings.

Corporate . Inputs include recently executed transactions, market price quotations, benchmark yields, issuer spreads and observations of equity and credit default swap curves related to the issuer . For private placement corporate securities valued through the matrix valuation approach inputs include the current Treasury curve and risk spreads based on sector, rating and average life of the issuance.

RMBS, CMBS, Collateralized Debt Obligations and Other Debt Obligations . Inputs include cash flows, priority of the tranche in the capital structure, expected time to maturity for the specific tranche, reinvestment period remaining and performance of the underlying collateral including prepayments, defaults, deferrals, loss severity of defaulted collateral and, for RMBS, prepayment speed assumptions. Other inputs include market indices and recently executed market transactions.

Equity Securities

Equity securities include mutual funds, common stock, non-redeemable preferred stock and required regulatory investments. Fair values of equity securities are determined using quoted prices in active markets for identical assets when available, which are reflected in Level 1. When quoted prices are not available, we may utilize internal valuation methodologies appropriate for the specific asset that use observable inputs such as underlying share prices or the net asset value (“NAV”), which are reflected in Level 2. Fair values might also be determined using broker quotes or through the use of internal models or analysis that incorporate significant assumptions deemed appropriate given the circumstances and consistent with what other market participants would use when pricing such securities, which are reflected in Level 3.

Derivatives

The fair values of exchange-traded derivatives are determined through quoted market prices, which are reflected in Level 1. Exchange-traded derivatives include futures that are settled daily, which reduces their fair value in the consolidated statements of financial position. The fair values of OTC cleared derivatives are determined through market prices published by the clearinghouses, which are reflected in Level 2. The clearinghouses may utilize the overnight indexed swap (“OIS”) curve in their valuation. Beginning in 2017, variation margin associated with OTC cleared derivatives is settled daily, which reduces their fair value in the consolidated statements of financial position. The fair values of bilateral OTC derivative instruments are determined using either pricing valuation models that utilize market observable inputs or broker quotes. The majority of our bilateral OTC derivatives are valued with models that use market observable inputs, which are reflected in Level 2. Significant inputs include contractual terms, interest rates, currency exchange rates, credit spread curves, equity prices and volatilities. These valuation models consider projected discounted cash flows, relevant swap curves and appropriate implied volatilities. Certain bilateral OTC derivatives utilize unobservable market data, primarily independent broker quotes that are nonbinding quotes based on models that do not reflect the result of market transactions, which are reflected in Level 3.

Our non-cleared derivative contracts are generally documented under ISDA Master Agreements, which provide for legally enforceable set-off and close-out netting of exposures to specific counterparties. Collateral arrangements are bilateral and based on current ratings of each entity. We utilize the LIBOR interest rate curve to value our positions, which includes a credit spread. This credit spread incorporates an appropriate level of nonperformance risk into our valuations given the current ratings of our counterparties, as well as the collateral agreements in place. Counterparty credit risk is routinely monitored to ensure our

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adjustment for non-performance risk is appropriate. Our centrally cleared derivative contracts are conducted with regulated centralized clearinghouses, which provide for daily exchange of cash collateral or variation margin equal to the difference in the daily market values of those contracts that eliminates the non-performance risk on these trades.

Interest Rate Contracts. For non-cleared contracts we use discounted cash flow valuation techniques to determine the fair value of interest rate swaps using observable swap curves as the inputs. These are reflected in Level 2. For centrally cleared contracts we use published prices from clearinghouses. These are reflected in Level 2. In addition, we have a limited number of complex inflation-linked interest rate swaps, interest rate collars and swaptions that are valued using broker quotes. These are reflected in Level 3.

Foreign Exchange Contracts. We use discounted cash flow valuation techniques that utilize observable swap curves and exchange rates as the inputs to determine the fair value of foreign currency swaps. These are reflected in Level 2. Currency forwards and currency options are valued using observable market inputs, including forward currency exchange rates. These are reflected in Level 2. In addition, we have a limited number of non-standard currency swaps and currency options that are valued using broker quotes. These are reflected within Level 3.

Equity Contracts. We use an option pricing model using observable implied volatilities, dividend yields, index prices and swap curves as the inputs to determine the fair value of equity options. These are reflected in Level 2.

Credit Contracts. We use either the ISDA Credit Default Swap Standard discounted cash flow model that utilizes observable default probabilities and recovery rates as inputs or broker prices to determine the fair value of credit default swaps. These are reflected in Level 3. In addition, we had a limited number of total return swaps that were valued based on the observable quoted price of underlying equity indices. These are reflected in Level 2.

Other Investments

Other investments reported at fair value include invested assets of consolidated sponsored investment funds, unconsolidated sponsored investment funds, other investment funds reported at fair value or for which the fair value option was elected, commercial mortgage loans of consolidated VIEs for which the fair value option was elected and equity method real estate investments for which the fair value option was elected.

Invested assets of consolidated sponsored investment funds include equity securities, fixed maturities and other investments, for which fair values are determined as previously described, and are reflected in Level 1 and Level 2.

The fair value of unconsolidated sponsored investment funds and other investment funds is determined using the NAV of the fund. The NAV of the fund represents the price at which we would be able to initiate a transaction. Investments for which the NAV represents a quoted price in an active market for identical assets are reflected in Level 1. Investments that do not have a quoted price in an active market are reflected in Level 2.

Commercial mortgage loans of consolidated VIEs are valued using the more observable fair value of the liabilities of the consolidated collateralized financing entities (“CCFEs”) under the measurement alternative guidance and are reflected in Level 2. The liabilities are affiliated so are not reflected in our consolidated results.

Equity method real estate investments for which the fair value option was elected are reflected in Level 3. The equity method real estate investments consist of underlying real estate and debt. The real estate fair value is estimated using a discounted cash flow valuation model that utilizes public real estate market data inputs such as transaction prices, market rents, vacancy levels, leasing absorption, market cap rates and discount rates. The debt fair value is estimated using a discounted cash flow analysis based on our incremental borrowing rate for similar borrowing arrangements.

Cash Equivalents

Certain cash equivalents are reported at fair value on a recurring basis and include money market instruments and other short-term investments with maturities of three months or less. Fair values of these cash equivalents may be determined using public quotations, when available, which are reflected in Level 1. When public quotations are not available, because of the highly liquid nature of these assets, carrying amounts may be used to approximate fair values, which are reflected in Level 2.

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Separate Account Assets

Separate account assets include equity securities, debt securities and derivative instruments, for which fair values are determined as previously described, and are reflected in Level 1, Level 2 and Level 3. Separate account assets also include commercial mortgage loans, for which the fair value is estimated by discounting the expected total cash flows using market rates that are applicable to the yield, credit quality and maturity of the loans. The market clearing spreads vary based on mortgage type, weighted average life, rating and liquidity. These are reflected in Level 3. Finally, separate account assets include real estate, for which the fair value is estimated using discounted cash flow valuation models that utilize various public real estate market data inputs. In addition, each property is appraised annually by an independent appraiser. The real estate included in separate account assets is recorded net of related mortgage encumbrances for which the fair value is estimated using discounted cash flow analysis based on our incremental borrowing rate for similar borrowing arrangements. The real estate within the separate accounts is reflected in Level 3.

Investment Contracts

Certain annuity contracts and other investment contracts include embedded derivatives that have been bifurcated from the host contract and are measured at fair value on a recurring basis, which are reflected in Level 3. The key assumptions for calculating the fair value of the embedded derivative liabilities are market assumptions (such as equity market returns, interest rate levels, market volatility and correlations) and policyholder behavior assumptions (such as lapse, mortality, utilization and withdrawal patterns). Risk margins are included in the policyholder behavior assumptions. The assumptions are based on a combination of historical data and actuarial judgment. The embedded derivative liabilities are valued using stochastic models that incorporate a spread reflecting our own creditworthiness.

The assumption for our own non-performance risk for investment contracts and any embedded derivatives bifurcated from certain annuity and investment contracts is based on the current market credit spreads for debt-like instruments we have issued and are available in the market.

Other Liabilities

Certain obligations reported in other liabilities include embedded derivatives to deliver underlying securities of structured investments to third parties. The fair value of the embedded derivatives is calculated based on the value of the underlying securities that are valued based on prices obtained from third party pricing vendors as utilized and described in our discussion of how fair value is determined for fixed maturities, which are reflected in Level 2.

As of December 31, 2016, obligations of consolidated VIEs for which the fair value option was elected were included in other liabilities. The VIEs' unaffiliated obligations were valued utilizing internal pricing models, which were reflected in Level 3.

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Assets and Liabilities Measured at Fair Value on a Recurring Basis

Assets and liabilities measured at fair value on a recurring basis were as follows:

	September 30, 2017				
	Assets/ (liabilities) measured at fair value	Amount measured at net asset value (5)	Fair value hierarchy level		
			Level 1	Level 2	Level 3
<i>(in millions)</i>					
Assets					
Fixed maturities, available-for-sale:					
U.S. government and agencies	\$ 1,457.7	\$ —	\$ 1,007.0	\$ 450.7	\$ —
Non-U.S. governments	1,071.3	—	3.3	1,013.8	54.2
States and political subdivisions	6,655.6	—	—	6,655.6	—
Corporate	36,888.3	—	21.0	36,625.2	242.1
Residential mortgage-backed securities	2,637.9	—	—	2,637.9	—
Commercial mortgage-backed securities	3,749.5	—	—	3,734.8	14.7
Collateralized debt obligations	1,239.2	—	—	1,077.3	161.9
Other debt obligations	5,438.3	—	—	5,435.7	2.6
Total fixed maturities, available-for-sale	<u>59,137.8</u>	<u>—</u>	<u>1,031.3</u>	<u>57,631.0</u>	<u>475.5</u>
Fixed maturities, trading	232.5	—	—	232.5	—
Equity securities, available-for-sale	118.3	—	68.5	47.1	2.7
Equity securities, trading	1,670.9	—	500.9	1,170.0	—
Derivative assets (1)	321.2	—	—	291.9	29.3
Other investments (2)	555.6	88.3	154.8	277.6	34.9
Cash equivalents (3)	1,892.4	—	67.7	1,824.7	—
Sub-total excluding separate account assets	<u>63,928.7</u>	<u>88.3</u>	<u>1,823.2</u>	<u>61,474.8</u>	<u>542.4</u>
Separate account assets	<u>154,085.9</u>	<u>118.6</u>	<u>86,763.9</u>	<u>59,740.1</u>	<u>7,463.3</u>
Total assets	<u><u>\$ 218,014.6</u></u>	<u><u>\$ 206.9</u></u>	<u><u>\$ 88,587.1</u></u>	<u><u>\$ 121,214.9</u></u>	<u><u>\$ 8,005.7</u></u>
Liabilities					
Investment contracts (4)	\$ (138.2)	\$ —	\$ —	\$ —	\$ (138.2)
Derivative liabilities (1)	(264.4)	—	—	(256.7)	(7.7)
Other liabilities (4)	(242.8)	—	—	(242.8)	—
Total liabilities	<u><u>\$ (645.4)</u></u>	<u><u>\$ —</u></u>	<u><u>\$ —</u></u>	<u><u>\$ (499.5)</u></u>	<u><u>\$ (145.9)</u></u>
Net assets	<u><u>\$ 217,369.2</u></u>	<u><u>\$ 206.9</u></u>	<u><u>\$ 88,587.1</u></u>	<u><u>\$ 120,715.4</u></u>	<u><u>\$ 7,859.8</u></u>

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	December 31, 2016				
	Assets/ (liabilities) measured at fair value	Amount measured at net asset value (5)	Fair value hierarchy level		
			Level 1	Level 2	Level 3
<i>(in millions)</i>					
Assets					
Fixed maturities, available-for-sale:					
U.S. government and agencies	\$ 1,433.0	\$ —	\$ 996.5	\$ 436.5	\$ —
Non-U.S. governments	893.6	—	3.0	828.5	62.1
States and political subdivisions	5,569.2	—	—	5,569.2	—
Corporate	34,192.4	—	21.2	33,912.1	259.1
Residential mortgage-backed securities	2,834.7	—	—	2,834.7	—
Commercial mortgage-backed securities	4,096.5	—	—	4,025.4	71.1
Collateralized debt obligations	758.6	—	—	725.0	33.6
Other debt obligations	5,068.1	—	—	4,976.6	91.5
Total fixed maturities, available-for-sale	54,846.1	—	1,020.7	53,308.0	517.4
Fixed maturities, trading	398.4	—	—	305.5	92.9
Equity securities, available-for-sale	98.9	—	55.2	41.0	2.7
Equity securities, trading	1,413.4	—	445.7	967.7	—
Derivative assets (1)	893.6	—	—	859.7	33.9
Other investments (2)	470.0	92.7	169.8	170.6	36.9
Cash equivalents (3)	1,947.1	—	51.2	1,895.9	—
Sub-total excluding separate account assets	60,067.5	92.7	1,742.6	57,548.4	683.8
Separate account assets	139,832.6	—	79,688.1	52,789.7	7,354.8
Total assets	\$ 199,900.1	\$ 92.7	\$ 81,430.7	\$ 110,338.1	\$ 8,038.6
Liabilities					
Investment contracts (4)	\$ (176.5)	\$ —	\$ —	\$ —	\$ (176.5)
Derivative liabilities (1)	(573.0)	—	—	(550.4)	(22.6)
Other liabilities (4)	(272.2)	—	—	(212.3)	(59.9)
Total liabilities	\$ (1,021.7)	\$ —	\$ —	\$ (762.7)	\$ (259.0)
Net assets	\$ 198,878.4	\$ 92.7	\$ 81,430.7	\$ 109,575.4	\$ 7,779.6

- (1) Within the consolidated statements of financial position, derivative assets are reported with other investments and derivative liabilities are reported with other liabilities. Refer to Note 4, Derivative Financial Instruments, for further information on fair value by class of derivative instruments. Our derivatives are primarily Level 2, with the exception of certain credit default swaps, interest rate collars and other swaps that are Level 3.
- (2) Primarily includes sponsored investment funds, other investment funds, equity method investments reported at fair value and commercial mortgage loans of consolidated VIEs.
- (3) Includes money market instruments and short-term investments with a maturity date of three months or less when purchased.
- (4) Includes bifurcated embedded derivatives that are reported at fair value within the same line item in the consolidated statements of financial position in which the host contract is reported. As of December 31, 2016, other liabilities also include obligations of consolidated VIEs reported at fair value.
- (5) Certain investments are measured at fair value using the NAV per share (or its equivalent) practical expedient and have not been classified in the fair value hierarchy. Other investments using the NAV practical expedient consist of certain fund interests that are restricted until maturity with unfunded commitments totaling \$47.7 million and \$57.6 million as of September 30, 2017 and December 31, 2016, respectively. Separate account assets using the NAV practical expedient consist of hedge funds with varying investment strategies that also have a variety of redemption terms and conditions. We do not have unfunded commitments associated with these hedge funds.

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September 30, 2017
(Unaudited)

Changes in Level 3 Fair Value Measurements

The reconciliation for all assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) was as follows:

	For the three months ended September 30, 2017						Ending asset/ (liability) balance as of September 30, 2017	Changes in unrealized gains (losses) included in net income relating to positions still held (1)
	Beginning asset/ (liability) balance as of June 30, 2017	Total realized/unrealized gains (losses)		Net purchases, sales, issuances and settlements (4)	Transfers into Level 3	Transfers out of Level 3		
	Included in net income (1)	Included in other comprehensive income (3)	(4)	Level 3	Level 3	September 30, 2017	held (1)	
<i>(in millions)</i>								
Assets								
Fixed maturities, available-for-sale:								
Non-U.S. governments	\$ 65.1	\$ (0.1)	\$ (0.1)	\$ (10.7)	\$ —	\$ —	\$ 54.2	\$ (0.1)
Corporate	202.9	(0.3)	3.7	35.8	—	—	242.1	(0.2)
Commercial mortgage-backed securities	61.5	(4.1)	1.4	(0.2)	6.1	(50.0)	14.7	(4.0)
Collateralized debt obligations	128.1	—	3.5	2.2	55.4	(27.3)	161.9	—
Other debt obligations	2.8	—	—	(0.2)	—	—	2.6	—
Total fixed maturities, available-for-sale	460.4	(4.5)	8.5	26.9	61.5	(77.3)	475.5	(4.3)
Equity securities, available-for-sale	2.7	—	—	—	—	—	2.7	—
Derivative assets	31.6	(3.0)	—	0.7	—	—	29.3	(2.4)
Other investments	35.2	(0.4)	—	0.1	—	—	34.9	(0.3)
Separate account assets (2)	7,412.9	234.9	—	(171.0)	0.5	(14.0)	7,463.3	183.1
Liabilities								
Investment contracts	(146.6)	8.0	—	0.4	—	—	(138.2)	7.6
Derivative liabilities	(12.6)	4.4	—	0.5	—	—	(7.7)	4.3

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Notes to Consolidated Financial Statements – (continued)
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	For the three months ended September 30, 2016						Ending asset/ (liability) balance as of September 30, 2016	Changes in unrealized gains (losses) included in net income relating to positions still held (1)
	Beginning asset/ (liability) balance as of June 30, 2016	Total realized/unrealized gains (losses)		Net purchases, sales, issuances and settlements (4)	Transfers into Level 3	Transfers out of Level 3		
		Included in net income (1)	Included in other comprehensive income (3)					
<i>(in millions)</i>								
Assets								
Fixed maturities, available-for-sale:								
Non-U.S. governments	\$ 67.5	\$ (0.1)	\$ 0.2	\$ (3.8)	\$ —	\$ —	\$ 63.8	\$ (0.1)
Corporate	241.7	(0.3)	(0.4)	18.1	—	—	259.1	(0.1)
Commercial mortgage-backed securities	15.5	—	0.7	10.0	—	—	26.2	—
Collateralized debt obligations	62.8	—	(0.1)	(10.5)	—	—	52.2	—
Other debt obligations	6.8	—	0.4	18.6	—	—	25.8	—
Total fixed maturities, available-for-sale	394.3	(0.4)	0.8	32.4	—	—	427.1	(0.2)
Fixed maturities, trading	117.8	0.1	—	(0.1)	—	—	117.8	(0.1)
Equity securities, available-for-sale	2.7	—	—	—	—	—	2.7	—
Derivative assets	61.1	(4.2)	—	0.5	—	—	57.4	(3.9)
Other investments	36.1	0.6	—	0.1	—	—	36.8	0.7
Separate account assets (2)	7,408.3	233.5	—	(39.3)	—	(0.1)	7,602.4	196.9
Liabilities								
Investment contracts	(324.3)	(2.7)	—	0.6	—	—	(326.4)	(4.7)
Derivative liabilities	(28.5)	9.8	—	—	—	—	(18.7)	9.7
Other liabilities	(58.6)	(1.6)	—	—	—	—	(60.2)	(1.6)

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Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

	For the nine months ended September 30, 2017							Changes in unrealized gains (losses) included in net income relating to positions still held (1)
	Beginning asset/ (liability) balance as of December 31, 2016	Total realized/unrealized gains (losses)		Net purchases, sales, issuances and settlements (4)	Transfers into Level 3	Transfers out of Level 3	Ending asset/ (liability) balance as of September 30, 2017	
	Included in net income (1)	Included in other comprehensive income (3)						
<i>(in millions)</i>								
Assets								
Fixed maturities, available-for-sale:								
Non-U.S. governments	\$ 62.1	\$ (0.2)	\$ 0.1	\$ (7.8)	\$ —	\$ —	\$ 54.2	\$ (0.2)
Corporate	259.1	(2.2)	3.3	(3.0)	22.2	(37.3)	242.1	(0.6)
Commercial mortgage-backed securities	71.1	(9.8)	11.2	(0.7)	24.1	(81.2)	14.7	(4.0)
Collateralized debt obligations	33.6	—	2.8	9.1	143.7	(27.3)	161.9	—
Other debt obligations	91.5	—	—	(0.7)	0.1	(88.3)	2.6	—
Total fixed maturities, available-for-sale	517.4	(12.2)	17.4	(3.1)	190.1	(234.1)	475.5	(4.8)
Fixed maturities, trading	92.9	(2.4)	—	(92.4)	1.9	—	—	—
Equity securities, available-for-sale	2.7	—	—	—	—	—	2.7	—
Equity securities, trading	—	—	—	(0.7)	0.7	—	—	—
Derivative assets	33.9	(7.1)	—	2.5	—	—	29.3	(6.0)
Other investments	36.9	1.5	—	(3.5)	—	—	34.9	1.6
Separate account assets (2)	7,354.8	593.1	(0.9)	(449.9)	2.6	(36.4)	7,463.3	510.3
Liabilities								
Investment contracts	(176.5)	31.5	0.3	6.5	—	—	(138.2)	28.9
Derivative liabilities	(22.6)	15.5	—	(0.6)	—	—	(7.7)	13.7
Other liabilities	(59.9)	(0.1)	—	60.0	—	—	—	—

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(Unaudited)

	For the nine months ended September 30, 2016						Ending asset/ (liability) balance as of September 30, 2016	Changes in unrealized gains (losses) included in net income relating to positions still held (1)
	Beginning asset/ (liability) balance as of December 31, 2015	Total realized/unrealized gains (losses)		Net purchases, sales, issuances and settlements (4)	Transfers into Level 3	Transfers out of Level 3		
<i>(in millions)</i>								
Assets								
Fixed maturities, available-for-sale:								
Non-U.S. governments	\$ 79.1	\$ (0.2)	\$ 2.7	\$ 14.8	\$ —	\$ (32.6)	\$ 63.8	\$ (0.2)
Corporate	223.9	(0.6)	(4.1)	25.9	15.7	(1.7)	259.1	(0.6)
Commercial mortgage-backed securities	4.8	—	0.7	23.0	—	(2.3)	26.2	—
Collateralized debt obligations	63.5	—	(0.6)	(10.7)	—	—	52.2	—
Other debt obligations	7.5	—	0.4	17.9	—	—	25.8	—
Total fixed maturities, available-for-sale	378.8	(0.8)	(0.9)	70.9	15.7	(36.6)	427.1	(0.8)
Fixed maturities, trading	135.5	0.4	—	(18.1)	—	—	117.8	0.4
Equity securities, available-for-sale	4.1	(1.3)	(0.1)	—	—	—	2.7	(1.4)
Derivative assets	47.2	9.0	—	1.2	—	—	57.4	10.5
Other investments	35.1	1.3	—	0.4	—	—	36.8	1.4
Separate account assets (2)	7,013.9	526.6	(0.1)	61.9	0.9	(0.8)	7,602.4	495.3
Liabilities								
Investment contracts	(177.4)	(154.0)	—	5.0	—	—	(326.4)	(158.3)
Derivative liabilities	(50.5)	30.3	0.5	1.0	—	—	(18.7)	27.1
Other liabilities	(68.1)	(9.5)	—	17.4	—	—	(60.2)	(7.8)

- (1) Both realized gains (losses) and mark-to-market unrealized gains (losses) are generally reported in net realized capital gains (losses) within the consolidated statements of operations. Realized and unrealized gains (losses) on certain fixed maturities, trading and certain derivatives used in relation to certain trading portfolios are reported in net investment income within the consolidated statements of operations.
- (2) Gains and losses for separate account assets do not impact net income as the change in value of separate account assets is offset by a change in value of separate account liabilities. Foreign currency translation adjustments related to the Principal International segment separate account assets are recorded in AOCI and are offset by foreign currency translation adjustments of the corresponding separate account liabilities.
- (3) Includes foreign currency translation adjustments related to our Principal International segment.
- (4) Gross purchases, sales, issuances and settlements were:

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Notes to Consolidated Financial Statements – (continued)
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(Unaudited)

	For the three months ended September 30, 2017				
	Purchases	Sales	Issuances	Settlements	Net purchases, sales, issuances and settlements
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale:					
Non-U.S. governments	\$ 18.9	\$ (29.3)	\$ —	\$ (0.3)	\$ (10.7)
Corporate	65.3	(8.2)	—	(21.3)	35.8
Commercial mortgage-backed securities	—	—	—	(0.2)	(0.2)
Collateralized debt obligations	9.9	—	—	(7.7)	2.2
Other debt obligations	—	—	—	(0.2)	(0.2)
Total fixed maturities, available-for-sale	94.1	(37.5)	—	(29.7)	26.9
Derivative assets	0.3	0.4	—	—	0.7
Other investments	0.1	—	—	—	0.1
Separate account assets (5)	79.7	(193.8)	(61.1)	4.2	(171.0)
Liabilities					
Investment contracts	—	—	(0.3)	0.7	0.4
Derivative liabilities	—	0.5	—	—	0.5

	For the three months ended September 30, 2016				
	Purchases	Sales	Issuances	Settlements	Net purchases, sales, issuances and settlements
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale:					
Non-U.S. governments	\$ —	\$ (3.4)	\$ —	\$ (0.4)	\$ (3.8)
Corporate	22.6	(1.4)	—	(3.1)	18.1
Commercial mortgage-backed securities	11.3	—	—	(1.3)	10.0
Collateralized debt obligations	—	—	—	(10.5)	(10.5)
Other debt obligations	20.0	—	—	(1.4)	18.6
Total fixed maturities, available-for-sale	53.9	(4.8)	—	(16.7)	32.4
Fixed maturities, trading	—	—	—	(0.1)	(0.1)
Derivative assets	0.3	0.2	—	—	0.5
Other investments	0.1	—	—	—	0.1
Separate account assets (5)	109.0	(86.5)	(140.0)	78.2	(39.3)
Liabilities					
Investment contracts	—	—	(0.6)	1.2	0.6

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Notes to Consolidated Financial Statements – (continued)
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	For the nine months ended September 30, 2017				
	Purchases	Sales	Issuances	Settlements	Net purchases, sales, issuances and settlements
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale:					
Non-U.S. governments	\$ 40.7	\$ (47.5)	\$ —	\$ (1.0)	\$ (7.8)
Corporate	97.9	(59.1)	—	(41.8)	(3.0)
Commercial mortgage-backed securities	—	—	—	(0.7)	(0.7)
Collateralized debt obligations	22.9	—	—	(13.8)	9.1
Other debt obligations	—	—	—	(0.7)	(0.7)
Total fixed maturities, available-for-sale	<u>161.5</u>	<u>(106.6)</u>	<u>—</u>	<u>(58.0)</u>	<u>(3.1)</u>
Fixed maturities, trading	—	—	—	(92.4)	(92.4)
Equity securities, trading	—	—	—	(0.7)	(0.7)
Derivative assets	2.5	—	—	—	2.5
Other investments	0.6	(4.1)	—	—	(3.5)
Separate account assets (5)	259.0	(575.2)	(196.8)	63.1	(449.9)
Liabilities					
Investment contracts	—	—	0.1	6.4	6.5
Derivative liabilities	(1.2)	0.6	—	—	(0.6)
Other liabilities	—	—	—	60.0	60.0
For the nine months ended September 30, 2016					
	Purchases	Sales	Issuances	Settlements	Net purchases, sales, issuances and settlements
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale:					
Non-U.S. governments	\$ 19.3	\$ (3.4)	\$ —	\$ (1.1)	\$ 14.8
Corporate	54.4	(10.7)	—	(17.8)	25.9
Commercial mortgage-backed securities	25.0	—	—	(2.0)	23.0
Collateralized debt obligations	—	—	—	(10.7)	(10.7)
Other debt obligations	20.0	—	—	(2.1)	17.9
Total fixed maturities, available-for-sale	<u>118.7</u>	<u>(14.1)</u>	<u>—</u>	<u>(33.7)</u>	<u>70.9</u>
Fixed maturities, trading	—	(18.0)	—	(0.1)	(18.1)
Derivative assets	0.3	0.9	—	—	1.2
Other investments	0.4	—	—	—	0.4
Separate account assets (5)	399.1	(152.6)	(280.0)	95.4	61.9
Liabilities					
Investment contracts	—	—	0.5	4.5	5.0
Derivative liabilities	—	1.0	—	—	1.0
Other liabilities	—	17.4	—	—	17.4

(5) Issuances and settlements include amounts related to mortgage encumbrances associated with real estate in our separate accounts.

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Notes to Consolidated Financial Statements – (continued)
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Transfers

Transfers of assets and liabilities measured at fair value on a recurring basis between fair value hierarchy levels were as follows:

For the three months ended September 30, 2017						
Transfers out of Level 1 into Level 2	Transfers out of Level 1 into Level 3	Transfers out of Level 2 into Level 1	Transfers out of Level 2 into Level 3	Transfers out of Level 3 into Level 1	Transfers out of Level 3 into Level 2	
<i>(in millions)</i>						
Assets						
Fixed maturities, available-for-sale:						
Commercial mortgage-backed securities	\$ —	\$ —	\$ —	\$ 6.1	\$ —	\$ 50.0
Collateralized debt obligations	—	—	—	55.4	—	27.3
Total fixed maturities, available-for-sale	—	—	—	61.5	—	77.3
Separate account assets	5.9	—	5.4	0.5	—	14.0
For the three months ended September 30, 2016						
Transfers out of Level 1 into Level 2	Transfers out of Level 1 into Level 3	Transfers out of Level 2 into Level 1	Transfers out of Level 2 into Level 3	Transfers out of Level 3 into Level 1	Transfers out of Level 3 into Level 2	
<i>(in millions)</i>						
Assets						
Separate account assets	\$ 5.3	\$ —	\$ —	\$ —	\$ —	\$ 0.1
For the nine months ended September 30, 2017						
Transfers out of Level 1 into Level 2	Transfers out of Level 1 into Level 3	Transfers out of Level 2 into Level 1	Transfers out of Level 2 into Level 3	Transfers out of Level 3 into Level 1	Transfers out of Level 3 into Level 2	
<i>(in millions)</i>						
Assets						
Fixed maturities, available-for-sale:						
Corporate	\$ —	\$ —	\$ —	\$ 22.2	\$ —	\$ 37.3
Commercial mortgage-backed securities	—	—	—	24.1	—	81.2
Collateralized debt obligations	—	—	—	143.7	—	27.3
Other debt obligations	—	—	—	0.1	—	88.3
Total fixed maturities, available-for-sale	—	—	—	190.1	—	234.1
Fixed maturities, trading	—	—	—	1.9	—	—
Equity securities, trading	—	—	—	0.7	—	—
Separate account assets	12.3	—	5.6	2.6	—	36.4

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	For the nine months ended September 30, 2016					
	Transfers out of Level 1 into Level 2	Transfers out of Level 1 into Level 3	Transfers out of Level 2 into Level 1	Transfers out of Level 2 into Level 3	Transfers out of Level 3 into Level 1	Transfers out of Level 3 into Level 2
	<i>(in millions)</i>					
Assets						
Fixed maturities, available-for-sale:						
Non-U.S. governments	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 32.6
Corporate	—	—	—	15.7	—	1.7
Commercial mortgage-backed securities	—	—	—	—	—	2.3
Total fixed maturities, available-for-sale	—	—	—	15.7	—	36.6
Separate account assets	31.7	—	4.7	0.9	—	0.8

Transfers between fair value hierarchy levels are recognized at the beginning of the reporting period.

Separate account assets transferred between Level 1 and Level 2 during the three and nine months ended September 30, 2017 and 2016, primarily related to foreign equity securities. When these securities are valued at the close price of the local exchange where the assets traded, they are reflected in Level 1. When events materially affecting the value occur between the close of the local exchange and the New York Stock Exchange, we use adjusted prices determined by a third party pricing vendor to update the foreign market closing prices and the fair value is reflected in Level 2.

Assets transferred into Level 3 during the three and nine months ended September 30, 2017 and 2016, primarily included those assets for which we are now unable to obtain pricing from a recognized third party pricing vendor as well as assets that were previously priced using a matrix valuation approach that may no longer be relevant when applied to asset-specific situations.

Assets transferred out of Level 3 during the three and nine months ended September 30, 2017 and 2016, included those for which we are now able to obtain pricing from a recognized third party pricing vendor or from internal models using substantially all market observable information.

Quantitative Information about Level 3 Fair Value Measurements

The following table provides quantitative information about the significant unobservable inputs used for recurring fair value measurements categorized within Level 3, excluding assets and liabilities for which significant quantitative unobservable inputs are not developed internally, which primarily consists of those valued using broker quotes or the measurement alternative for CCFEs. Refer to “Assets and liabilities measured at fair value on a recurring basis” for a complete valuation hierarchy summary.

	September 30, 2017				
	Assets / (liabilities) measured at fair value	Valuation technique(s)	Unobservable input description	Input/range of inputs	Weighted average
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale:					
Non-U.S. governments	\$ 6.5	Discounted cash flow	Discount rate (1)	2.4%	2.4%
			Illiquidity premium	50 basis points (“bps”)	50bps
			Comparability adjustment	(25)bps	(25)bps

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September 30, 2017					
Assets / (liabilities) measured at fair value <i>(in millions)</i>	Valuation technique(s)	Unobservable input description	Input/range of inputs	Weighted average	
Corporate	50.3	Discounted cash flow	Discount rate (1)	1.6%-7.7%	4.5%
			Illiquidity premium	0bps-60bps	22bps
Commercial mortgage-backed securities	4.3	Discounted cash flow	Discount rate (1)	10.1%-20.8%	17.8%
			Probability of default	9.1%-23.7%	13.3%
			Potential loss severity	18.0%-47.0%	38.7%
Other debt obligations	2.6	Discounted cash flow	Discount rate (1)	5.0%	5.0%
			Illiquidity premium	500bps	500bps
Other investments	34.9	Discounted cash flow - equity method real estate investments	Discount rate (1)	7.5%	7.5%
			Terminal capitalization rate	6.8%	6.8%
			Average market rent growth rate	2.9%	2.9%
		Discounted cash flow - equity method real estate investments - debt	Loan to value	49.8%	49.8%
			Credit spread rate	2.0%	2.0%
Separate account assets	7,301.7	Discounted cash flow - mortgage loans	Discount rate (1)	2.0%-8.0%	4.7%
			Illiquidity premium	0bps-60bps	14bps
			Credit spread rate	68bps-695bps	273bps
		Discounted cash flow - real estate	Discount rate (1)	5.8%-9.8%	6.9%
			Terminal capitalization rate	4.3%-9.3%	6.0%
			Average market rent growth rate	1.8%-4.7%	2.9%
		Discounted cash flow - real estate debt	Loan to value	22.0%-71.5%	46.0%
			Market interest rate	3.2%-5.2%	3.7%

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September 30, 2017

Assets / (liabilities) measured at fair value <i>(in millions)</i>	Valuation technique(s)	Unobservable input description	Input/range of inputs	Weighted average
Liabilities				
Investment contracts	(138.2)	Discounted cash flow	Long duration interest rate	2.5% (2)
			Long-term equity market volatility	18.0%-42.5%
			Non-performance risk	0.2%-1.4%
			Utilization rate	See note (3)
			Lapse rate	1.3%-16.0%
			Mortality rate	See note (4)

December 31, 2016

Assets / (liabilities) measured at fair value <i>(in millions)</i>	Valuation technique(s)	Unobservable input description	Input/range of inputs	Weighted average
Assets				
Fixed maturities, available-for-sale:				
Non-U.S. governments	\$ 7.6	Discounted cash flow	Discount rate (1)	2.3%
			Illiquidity premium	50bps
			Comparability adjustment	(25)bps
Corporate	49.8	Discounted cash flow	Discount rate (1)	1.5%-7.6%
			Illiquidity premium	0bps-60bps
			Comparability adjustment	0bps-20bps
Commercial mortgage-backed securities	49.3	Discounted cash flow	Discount rate (1)	3.1%-12.8%
			Probability of default	0.0%-10.0%
			Potential loss severity	0.0%-99.5%
Collateralized debt obligations	0.2	Discounted cash flow	Discount rate (1)	95.1%
			Probability of default	100.0%
			Potential loss severity	91.2%
Other debt obligations	6.8	Discounted cash flow	Discount rate (1)	5.0%
			Illiquidity premium	500bps
Fixed maturities, trading	10.5	Discounted cash flow	Discount rate (1)	2.3%-9.0%
			Illiquidity premium	0bps-300bps

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December 31, 2016				
Assets / (liabilities) measured at fair value <i>(in millions)</i>	Valuation technique(s)	Unobservable input description	Input/range of inputs	Weighted average
Other investments	Discounted cash flow - equity method real estate investments	Discount rate (1)	7.6%	7.6%
		Terminal capitalization rate	6.8%	6.8%
		Average market rent growth rate	2.9%	2.9%
	Discounted cash flow - equity method real estate investments - debt	Loan to value	52.5%	52.5%
		Credit spread rate	2.1%	2.1%
Separate account assets	Discounted cash flow - mortgage loans	Discount rate (1)	1.4%-5.3%	3.7%
		Illiquidity premium	0bps-60bps	13bps
		Credit spread rate	83bps-472bps	227bps
	Discounted cash flow - real estate	Discount rate (1)	5.8%-16.2%	7.0%
		Terminal capitalization rate	4.3%-9.3%	6.1%
		Average market rent growth rate	1.8%-4.3%	2.9%
	Discounted cash flow - real estate debt	Loan to value	6.3%-69.7%	47.0%
		Market interest rate	3.3%-4.6%	3.9%

Liabilities				
Investment contracts	Discounted cash flow	Long duration interest rate	2.6%-2.7% (2)	
		Long-term equity market volatility	16.0%-45.9%	
		Non-performance risk	0.3%-1.7%	
		Utilization rate	See note (3)	
		Lapse rate	0.5%-14.1%	
		Mortality rate	See note (4)	

(1) Represents market comparable interest rate or an index adjusted rate used as the base rate in the discounted cash flow analysis prior to any credit spread, illiquidity or other adjustments, where applicable.

(2) Represents the range of rate curves used in the valuation analysis that we have determined market participants would use when pricing the instrument. Derived from interpolation between various observable swap rates.

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- (3) This input factor is the number of contractholders taking withdrawals as well as the amount and timing of the withdrawals and a range does not provide a meaningful presentation.
- (4) This input is based on an appropriate industry mortality table and a range does not provide a meaningful presentation.

Market comparable discount rates are used as the base rate in the discounted cash flows used to determine the fair value of certain assets. Increases or decreases in the credit spreads on the comparable assets could cause the fair value of the assets to significantly decrease or increase, respectively. Additionally, we may adjust the base discount rate or the modeled price by applying an illiquidity premium given the highly structured nature of certain assets. Increases or decreases in this illiquidity premium could cause significant decreases or increases, respectively, in the fair value of the asset.

Embedded derivatives can be either assets or liabilities within the investment contracts line item, depending on certain inputs at the reporting date. Increases to an asset or decreases to a liability are described as increases to fair value. Increases or decreases in market volatilities could cause significant decreases or increases, respectively, in the fair value of embedded derivatives in investment contracts. Long duration interest rates are used as the mean return when projecting the growth in the value of associated account value and impact the discount rate used in the discounted future cash flows valuation. The amount of claims will increase if account value is not sufficient to cover guaranteed withdrawals. Increases or decreases in risk free rates could cause the fair value of the embedded derivative to significantly increase or decrease, respectively. Increases or decreases in our own credit risks, which impact the rates used to discount future cash flows, could significantly increase or decrease, respectively, the fair value of the embedded derivative. All of these changes in fair value would impact net income.

Decreases or increases in the mortality rate assumption could cause the fair value of the embedded derivative to decrease or increase, respectively. Decreases or increases in the overall lapse rate assumption could cause the fair value of the embedded derivative to decrease or increase, respectively. The lapse rate assumption varies dynamically based on the relationship of the guarantee and associated account value. A stronger or weaker dynamic lapse rate assumption could cause the fair value of the embedded derivative to decrease or increase, respectively. The utilization rate assumption includes how many contractholders will take withdrawals, when they will take them and how much of their benefit they will take. Increases or decreases in the assumption of the number of contractholders taking withdrawals could cause the fair value of the embedded derivative to decrease or increase, respectively. Assuming contractholders take withdrawals earlier or later could cause the fair value of the embedded derivative to decrease or increase, respectively. Assuming contractholders take more or less of their benefit could cause the fair value of the embedded derivative to decrease or increase, respectively.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

Certain assets are measured at fair value on a nonrecurring basis. During the nine months ended September 30, 2017, certain mortgage loans had been marked to fair value of \$0.8 million. The net impact of write-downs of loans reclassified to held-for-sale, impairments and improvements in estimated fair value of previously impaired loans resulted in a net loss of \$0.0 million and \$0.3 million for the three and nine months ended September 30, 2017, respectively, that was recorded in net realized capital gains (losses) as part of the mortgage loan valuation allowance. This includes the impact of certain loans no longer on our books. These collateral-dependent mortgage loans are a Level 3 fair value measurement, as fair value is based on the fair value of the underlying real estate collateral, which is estimated using appraised values that involve significant unobservable inputs.

During the nine months ended September 30, 2016, certain mortgage loans had been marked to fair value of \$7.7 million. The net impact of write-downs of loans reclassified to held-for-sale, impairments and improvements in estimated fair value of previously impaired loans resulted in a net loss of \$3.0 million and \$3.1 million for the three and nine months ended September 30, 2016, respectively, that was recorded in net realized capital gains (losses) as part of the mortgage loan valuation allowance. This includes the impact of certain loans no longer on our books. These collateral dependent mortgage loans are a Level 3 fair value measurement, as fair value is based on the fair value of the underlying real estate collateral, which is estimated using appraised values that involve significant unobservable inputs. Significant inputs used in the discounted cash flow calculation include: a discount rate, terminal capitalization rate and average market rent growth. The ranges of inputs used in the fair value measurements for the mortgage loans marked to fair value during 2016 were:

Discount rate = 10.0%
Terminal capitalization rate = 9.0%
Average market rent growth = 1.0% - 3.5%

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Fair Value Option

We elected fair value accounting for:

- Certain commercial mortgage loans of consolidated VIEs for which it was not practicable for us to determine the carrying value. In addition, as of December 31, 2016, we had certain obligations of consolidated VIEs for which it was not practicable for us to determine the carrying value. The synthetic entity that had these obligations matured in the first quarter of 2017.
- Certain real estate ventures that are subject to the equity method of accounting because the nature of the investments is to add value to the properties and generate income from the operations of the properties. Other equity method real estate investments are not fair valued because the investments mainly generate income from the operations of the underlying properties.
- Certain investment funds for which we do not have enough influence to account for under the equity method in order to reflect the economics of the investment in the financial statements. We do not elect the fair value option for other similar investments as these investments are generally accounted for under the equity method of accounting.

The following tables present information regarding the assets and liabilities for which the fair value option was elected.

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Commercial mortgage loans of consolidated VIEs (1) (2)		
Fair value	\$ 10.0	\$ 12.4
Aggregate contractual principal	9.8	12.0
Obligations of consolidated VIEs (3)		
Fair value	—	59.9
Aggregate unpaid principal	—	60.0
Real estate ventures (1)		
Fair value	34.9	36.9
Investment funds (1)		
Fair value	44.0	36.9

(1) Reported with other investments in the consolidated statements of financial position.

(2) None of the loans were more than 90 days past due or in non-accrual status.

(3) Reported with other liabilities in the consolidated statements of financial position.

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	For the three months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Commercial mortgage loans of consolidated VIEs				
Change in fair value pre-tax loss (1) (2)	\$ (0.1)	\$ (0.1)	\$ (0.3)	\$ (0.4)
Interest income (3)	0.2	0.3	0.7	0.9
Obligations of consolidated VIEs				
Change in fair value pre-tax loss - instrument specific credit risk (2) (4)	—	(1.6)	(0.1)	(10.1)
Change in fair value pre-tax loss (2)	—	(1.6)	(0.1)	(10.1)
Interest expense (5)	—	0.3	0.3	0.8
Real estate ventures				
Change in fair value pre-tax gain (loss) (6)	(0.3)	0.7	1.6	1.4
Investment funds				
Change in fair value pre-tax gain (loss) (6) (7)	0.4	(2.6)	0.6	2.5
Dividend income (6)	—	—	1.9	0.3

- (1) None of the change in fair value related to instrument-specific credit risk.
- (2) Reported in net realized capital gains (losses) on the consolidated statements of operations.
- (3) Reported in net investment income on the consolidated statements of operations and recorded based on the effective interest rates as determined at the closing of the loan.
- (4) Estimated based on credit spreads and quality ratings.
- (5) Reported in operating expenses on the consolidated statements of operations.
- (6) Reported in net investment income on the consolidated statements of operations.
- (7) Absent the fair value election, the change in fair value on the investments would be reported in OCI.

Financial Instruments Not Reported at Fair Value

The carrying value and estimated fair value of financial instruments not recorded at fair value on a recurring basis but required to be disclosed at fair value were as follows:

	September 30, 2017				
	Carrying amount	Fair value	Fair value hierarchy level		
			Level 1	Level 2	Level 3
	<i>(in millions)</i>				
Assets (liabilities)					
Mortgage loans	\$ 14,020.4	\$ 14,366.7	\$ —	\$ —	\$ 14,366.7
Policy loans	812.0	1,012.3	—	—	1,012.3
Other investments	224.5	229.5	—	149.5	80.0
Cash and cash equivalents	902.6	902.6	856.2	46.4	—
Investment contracts	(31,237.9)	(30,863.9)	—	(4,859.2)	(26,004.7)
Short-term debt	(58.8)	(58.8)	—	(58.8)	—
Long-term debt	(3,175.4)	(3,425.2)	—	(3,378.8)	(46.4)
Separate account liabilities	(140,715.0)	(139,488.4)	—	—	(139,488.4)
Bank deposits	(2,279.6)	(2,275.7)	(1,706.5)	(569.2)	—
Cash collateral payable	(174.6)	(174.6)	(174.6)	—	—

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	December 31, 2016				
	Carrying amount	Fair value	Fair value hierarchy level		
			Level 1	Level 2	Level 3
<i>(in millions)</i>					
Assets (liabilities)					
Mortgage loans	\$ 13,230.2	\$ 13,453.2	\$ —	\$ —	\$ 13,453.2
Policy loans	823.8	1,011.0	—	—	1,011.0
Other investments	230.3	236.8	—	157.7	79.1
Cash and cash equivalents	772.5	772.5	731.4	41.1	—
Investment contracts	(31,089.4)	(30,622.6)	—	(5,400.8)	(25,221.8)
Short-term debt	(51.4)	(51.4)	—	(51.4)	—
Long-term debt	(3,125.7)	(3,242.0)	—	(3,242.0)	—
Separate account liabilities	(127,452.1)	(126,282.0)	—	—	(126,282.0)
Bank deposits	(2,199.8)	(2,204.1)	(1,585.1)	(619.0)	—
Cash collateral payable	(575.7)	(575.7)	(575.7)	—	—

Mortgage Loans

Fair values of commercial and residential mortgage loans are primarily determined by discounting the expected cash flows at current treasury rates plus an applicable risk spread, which reflects credit quality and maturity of the loans. The risk spread is based on market clearing levels for loans with comparable credit quality, maturities and risk. The fair value of mortgage loans may also be based on the fair value of the underlying real estate collateral less cost to sell, which is estimated using appraised values. These are reflected in Level 3.

Policy Loans

Fair values of policy loans are estimated by discounting expected cash flows using a risk-free rate based on the Treasury curve. The expected cash flows reflect an estimate of timing of the repayment of the loans. These are reflected in Level 3.

Other Investments

The fair value of commercial loans and certain consumer loans included in other investments is calculated by discounting expected cash flows through the estimated maturity date using market interest rates that reflect the credit and interest rate risk inherent in the loans. The estimate of term to maturity is based on historical experience, adjusted as required, for current economic and lending conditions. The effect of non-performing loans is considered in assessing the credit risk inherent in the fair value estimate. These are reflected in Level 3. The fair value of certain tax credit investments are estimated by discounting expected future tax benefits using estimated investment return rates. These are reflected in Level 3. The carrying value of the remaining investments reported in this line item approximate their fair value. These are reflected in Level 2.

Cash and Cash Equivalents

Certain cash equivalents not reported at fair value include short-term investments with maturities of three months or less for which public quotations are not available to use in determining fair value. Because of the highly liquid nature of these assets, carrying amounts are used to approximate fair value, which are reflected in Level 2. The carrying amount of the remaining cash approximates its fair value, which is reflected in Level 1 given the nature of cash.

Investment Contracts

The fair values of our reserves and liabilities for investment contracts are determined via a third party pricing vendor or using discounted cash flow analyses when we are unable to find a price from third party pricing vendors. Third party pricing on various outstanding medium-term notes and funding agreements is based on observable inputs such as benchmark yields and spreads based on reported trades for our medium-term notes and funding agreement issuances. These are reflected in Level 2. The discounted cash flow analyses for the remaining contracts is based on current interest rates, including non-performance risk, being offered for similar contracts with maturities consistent with those remaining for the investment contracts being valued. These are reflected in Level 3. Investment contracts include insurance, annuity and other contracts that do not involve significant mortality or morbidity risk and are only a portion of the policyholder liabilities appearing in

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the consolidated statements of financial position. Insurance contracts include insurance, annuity and other contracts that do involve significant mortality or morbidity risk. The fair values for our insurance contracts, other than investment contracts, are not required to be disclosed.

Short-Term Debt

The carrying amount of short-term debt approximates its fair value because of the relatively short time between origination of the debt instrument and its maturity, which is reflected in Level 2.

Long-Term Debt

Long-term debt includes senior note issuances for which the fair values are determined using inputs that are observable in the market or that can be derived from or corroborated with observable market data. These are reflected in Level 2. Additionally, our long-term debt includes non-recourse mortgages and notes payable that are primarily financings for real estate developments for which the fair values are estimated using discounted cash flow analysis based on our incremental borrowing rate for similar borrowing arrangements. These are reflected in Level 3.

Separate Account Liabilities

Fair values of separate account liabilities, excluding insurance-related elements, are estimated based on market assumptions around what a potential acquirer would pay for the associated block of business, including both the separate account assets and liabilities. As the applicable separate account assets are already reflected at fair value, any adjustment to the fair value of the block is an assumed adjustment to the separate account liabilities. To compute fair value, the separate account liabilities are originally set to equal separate account assets because these are pass-through contracts. The separate account liabilities are reduced by the amount of future fees expected to be collected that are intended to offset upfront acquisition costs already incurred that a potential acquirer would not have to pay. The estimated future fees are adjusted by an adverse deviation discount and the amount is then discounted at a risk-free rate as measured by the yield on Treasury securities at maturities aligned with the estimated timing of fee collection. These are reflected in Level 3.

Bank Deposits

The fair value of deposits of our Principal Bank subsidiary with no stated maturity is equal to the amount payable on demand (i.e., their carrying amounts). These are reflected in Level 1. The fair value of certificates of deposit is based on the discounted value of contractual cash flows. The discount is estimated using the rates currently offered for deposits of similar remaining maturities. These are reflected in Level 2.

Cash Collateral Payable

The carrying amount of the payable associated with our obligation to return the cash collateral received under derivative credit support annex (collateral) agreements approximates its fair value, which is reflected in Level 1.

11. Segment Information

We provide financial products and services through the following segments: Retirement and Income Solutions, Principal Global Investors, Principal International and U.S. Insurance Solutions. In addition, we have a Corporate segment. The segments are managed and reported separately because they provide different products and services, have different strategies or have different markets and distribution channels.

The Retirement and Income Solutions segment provides retirement and related financial products and services primarily to businesses, their employees and other individuals.

The Principal Global Investors segment provides asset management services to our asset accumulation business, our insurance operations, the Corporate segment and third party clients. This segment also includes our mutual fund business.

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The Principal International segment has operations in Latin America (Brazil, Chile and Mexico) and Asia (China, Hong Kong Special Administrative Region, India and Southeast Asia). We focus on locations with large middle classes, favorable demographics and growing long-term savings, ideally with voluntary or mandatory pension markets. We entered these locations through acquisitions, start-up operations and joint ventures.

The U.S. Insurance Solutions segment provides specialty benefits insurance, which consists of group dental and vision insurance, individual and group disability insurance, group life insurance and non-medical fee-for-service claims administration, and individual life insurance, which provides solutions for the business market as well as our retail customers throughout the United States.

Our Corporate segment manages the assets representing capital that has not been allocated to any other segment. Financial results of the Corporate segment primarily reflect our financing activities (including financing costs), income on capital not allocated to other segments, inter-segment eliminations, income tax risks and certain income, expenses and other adjustments not allocated to the segments based on the nature of such items. Results of Principal Securities, Inc., our retail broker-dealer and registered investment advisor, and our exited group medical and long-term care insurance businesses are reported in this segment.

Management uses segment pre-tax operating earnings in evaluating performance, which is consistent with the financial results provided to and discussed with securities analysts. We determine segment pre-tax operating earnings by adjusting U.S. GAAP income before income taxes for pre-tax net realized capital gains (losses), as adjusted, pre-tax other adjustments that management believes are not indicative of overall operating trends and certain adjustments related to equity method investments and noncontrolling interest. Pre-tax net realized capital gains (losses), as adjusted, are net of related changes in the amortization pattern of DAC and related actuarial balances, recognition of deferred front-end fee revenues for sales charges on retirement and life insurance products and services, amortization of hedge accounting book value adjustments for certain discontinued hedges, net realized capital gains and losses distributed, certain adjustments related to equity method investments, certain adjustments related to sponsored investment funds and certain market value adjustments to fee revenues. Pre-tax net realized capital gains (losses), as adjusted, exclude periodic settlements and accruals on derivative instruments not designated as hedging instruments and exclude certain market value adjustments of embedded derivatives and realized capital gains (losses) associated with our exited group medical insurance business. Segment operating revenues exclude net realized capital gains (losses) (except periodic settlements and accruals on derivatives not designated as hedging instruments), including their impact on recognition of front-end fee revenues, certain market value adjustments to fee revenues, certain adjustments related to equity method investments, certain adjustments related to sponsored investment funds and amortization of hedge accounting book value adjustments for certain discontinued hedges; certain adjustments related to equity method investments, pre-tax other adjustments management believes are not indicative of overall operating trends and revenue from our exited group medical insurance business. While these items may be significant components in understanding and assessing the consolidated financial performance, management believes the presentation of segment pre-tax operating earnings enhances the understanding of our results of operations by highlighting pre-tax earnings attributable to the normal, ongoing operations of the business.

The accounting policies of the segments are consistent with the accounting policies for the consolidated financial statements, with the exception of: (1) pension and other postretirement employee benefit (“OPEB”) cost allocations and (2) income tax allocations. For purposes of determining pre-tax operating earnings, the segments are allocated the service component of pension and other postretirement benefit costs. The Corporate segment reflects the non-service components of pension and other postretirement benefit costs as assumptions are established and funding decisions are managed from a company-wide perspective. The Corporate segment functions to absorb the risk inherent in interpreting and applying tax law. For purposes of determining operating earnings, the segments are allocated tax adjustments consistent with the positions we took on tax returns. The Corporate segment results reflect any differences between the tax returns and the estimated resolution of any disputes.

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The following tables summarize select financial information by segment, including operating revenues for our products and services, and reconcile segment totals to those reported in the consolidated financial statements:

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
Assets:		
Retirement and Income Solutions	\$ 166,508.0	\$ 152,721.7
Principal Global Investors	2,417.1	1,952.1
Principal International	49,704.6	45,118.3
U.S. Insurance Solutions	24,496.8	23,144.2
Corporate	4,807.1	5,078.0
Total consolidated assets	\$ 247,933.6	\$ 228,014.3

	For the three months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Operating revenues by segment:				
Retirement and Income Solutions:				
Retirement and Income Solutions – Fee	\$ 455.3	\$ 452.5	\$ 1,357.2	\$ 1,294.6
Retirement and Income Solutions – Spread	1,915.5	791.9	4,180.0	2,888.4
Total Retirement and Income Solutions (1)	2,370.8	1,244.4	5,537.2	4,183.0
Principal Global Investors (2)	367.5	346.2	1,068.9	1,007.0
Principal International	274.7	334.4	915.4	939.7
U.S. Insurance Solutions:				
Specialty benefits insurance	550.1	510.9	1,615.9	1,492.0
Individual life insurance	435.4	399.5	1,296.7	1,217.4
Eliminations	—	—	(0.1)	(0.1)
Total U.S. Insurance Solutions	985.5	910.4	2,912.5	2,709.3
Corporate	(20.3)	(21.0)	(41.6)	(51.6)
Total segment operating revenues	3,978.2	2,814.4	10,392.4	8,787.4
Net realized capital gains, net of related revenue adjustments	668.7	21.7	525.5	142.8
Adjustments related to equity method investments	(19.1)	(18.1)	(62.4)	(49.9)
Total revenues per consolidated statements of operations	\$ 4,627.8	\$ 2,818.0	\$ 10,855.5	\$ 8,880.3

Pre-tax operating earnings (losses) by segment:				
Retirement and Income Solutions	\$ 210.1	\$ 206.9	\$ 698.1	\$ 583.0
Principal Global Investors	130.2	112.9	345.6	310.1
Principal International	72.4	84.2	251.7	222.1
U.S. Insurance Solutions	83.2	70.2	273.8	254.3
Corporate	(43.0)	(57.8)	(149.0)	(165.6)
Total segment pre-tax operating earnings	452.9	416.4	1,420.2	1,203.9
Pre-tax net realized capital gains (losses), as adjusted (3)	720.7	(30.1)	570.6	50.7
Adjustments related to equity method investments and noncontrolling interest	(15.8)	(15.6)	(53.4)	(44.2)
Income before income taxes per consolidated statements of operations	\$ 1,157.8	\$ 370.7	\$ 1,937.4	\$ 1,210.4

- (1) Reflects inter-segment revenues of \$103.7 million and \$96.3 million for the three months ended September 30, 2017 and 2016, respectively, \$296.6 million and \$278.1 million for the nine months ended September 30, 2017 and 2016, respectively.
- (2) Reflects inter-segment revenues of \$68.2 million and \$59.5 million for the three months ended September 30, 2017 and 2016, respectively, \$188.7 million and \$170.8 million for the nine months ended September 30, 2017 and 2016, respectively.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
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(3) Pre-tax net realized capital gains (losses), as adjusted, is derived as follows:

	For the three months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in millions)</i>			
Net realized capital gains:				
Net realized capital gains	\$ 676.6	\$ 44.2	\$ 564.1	\$ 214.5
Derivative and hedging-related adjustments	(10.8)	(24.2)	(45.3)	(74.5)
Adjustments related to equity method investments	1.3	(0.1)	2.4	(0.3)
Market value adjustments to fee revenues	(0.1)	(0.1)	(0.1)	(2.4)
Adjustments related to sponsored investment funds	1.6	1.7	4.5	5.0
Recognition of front-end fee revenue	0.1	0.2	(0.1)	0.5
Net realized capital gains, net of related revenue adjustments	<u>668.7</u>	<u>21.7</u>	<u>525.5</u>	<u>142.8</u>
Amortization of deferred acquisition costs and other actuarial balances	23.4	(80.8)	41.5	(134.3)
Capital gains distributed	(11.5)	(17.4)	(39.6)	(7.4)
Market value adjustments of embedded derivatives	40.1	46.4	43.2	49.6
Pre-tax net realized capital gains (losses), as adjusted (a)	<u>\$ 720.7</u>	<u>\$ (30.1)</u>	<u>\$ 570.6</u>	<u>\$ 50.7</u>

(a) As adjusted before noncontrolling interest capital gains (losses).

12. Stock-Based Compensation Plans

As of September 30, 2017, we had the 2014 Stock Incentive Plan, the Employee Stock Purchase Plan, the 2014 Directors Stock Plan, the Amended and Restated 2010 Stock Incentive Plan, the 2005 Directors Stock Plan, the Stock Incentive Plan and the Directors Stock Plan (“Stock-Based Compensation Plans”). As of May 20, 2014, no new grants will be made under the Amended and Restated 2010 Stock Incentive Plan or the 2005 Directors Stock Plan. No grants have been made under the Stock Incentive Plan or the Directors Stock Plan since at least 2005. Under the terms of the 2014 Stock Incentive Plan, grants may be nonqualified stock options, incentive stock options qualifying under Section 422 of the Internal Revenue Code, restricted stock, restricted stock units, stock appreciation rights, performance shares, performance units or other stock-based awards. The 2014 Directors Stock Plan provides for the grant of nonqualified stock options, restricted stock, restricted stock units or other stock-based awards to our nonemployee directors. To date, we have not granted any incentive stock options, restricted stock or performance units under any plans.

As of September 30, 2017, the maximum number of new shares of common stock available for grant under the 2014 Stock Incentive Plan and the 2014 Directors Stock Plan was 9.1 million.

For awards with graded vesting, we use an accelerated expense attribution method. The compensation cost that was charged against net income for stock-based awards granted under the Stock-Based Compensation Plans was as follows:

	For the nine months ended September 30,	
	2017	2016
	<i>(in millions)</i>	
Compensation cost	\$ 61.5	\$ 52.5
Related income tax benefit	20.9	16.2
Capitalized as part of an asset	1.6	1.9

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Notes to Consolidated Financial Statements – (continued)
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Nonqualified Stock Options

Nonqualified stock options were granted to certain employees under the 2014 Stock Incentive Plan. Total options granted were 0.7 million for the nine months ended September 30, 2017. The fair value of stock options is estimated using the Black-Scholes option pricing model. The following is a summary of the assumptions used in this model for the stock options granted during the period:

	<u>For the nine months ended</u> <u>September 30, 2017</u>
Expected volatility	27.6 %
Expected term (in years)	7.0
Risk-free interest rate	2.2 %
Expected dividend yield	2.87 %
Weighted average estimated fair value per common share	\$ 15.31

As of September 30, 2017, we had \$5.5 million of total unrecognized compensation cost related to nonvested stock options. The cost is expected to be recognized over a weighted-average service period of approximately 1.2 years.

Performance Share Awards

Performance share awards were granted to certain employees under the 2014 Stock Incentive Plan. Total performance share awards granted were 0.2 million for the nine months ended September 30, 2017. The performance share awards granted represent initial target awards and do not reflect potential increases or decreases resulting from the final performance results to be determined at the end of the performance period. The actual number of common shares to be awarded at the end of each performance period will range between 0% and 150% of the initial target awards. The fair value of performance share awards is determined based on the closing stock price of our common shares on the grant date. The weighted-average grant date fair value of these performance share awards granted was \$62.98 per common share.

As of September 30, 2017, we had \$7.0 million of total unrecognized compensation cost related to nonvested performance share awards granted. The cost is expected to be recognized over a weighted-average service period of approximately 1.1 years.

Restricted Stock Units

Restricted stock units were issued to certain employees and agents pursuant to the 2014 Stock Incentive Plan and non-employee directors pursuant to the 2014 Directors Stock Plan. Total restricted stock units granted were 0.8 million for the nine months ended September 30, 2017. The fair value of restricted stock units is determined based on the closing stock price of our common shares on the grant date. The weighted-average grant date fair value of these restricted stock units granted was \$62.81 per common share.

As of September 30, 2017, we had \$55.2 million of total unrecognized compensation cost related to nonvested restricted stock unit awards granted. The cost is expected to be recognized over a weighted-average period of approximately 1.8 years.

Employee Stock Purchase Plan

Under the Employee Stock Purchase Plan, employees purchased 0.3 million shares for the nine months ended September 30, 2017. The weighted average fair value of the discount on the stock purchased was \$14.28 per share.

As of September 30, 2017, a total of 3.1 million of new shares were available to be made issuable by us for this plan.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

13. Earnings Per Common Share

The computations of the basic and diluted per share amounts were as follows:

	For the three months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
Net income	\$ 813.2	\$ 327.4	\$ 1,481.6	\$ 1,023.6
Subtract:				
Net income attributable to noncontrolling interest	3.0	19.2	13.0	25.1
Total	<u>\$ 810.2</u>	<u>\$ 308.2</u>	<u>\$ 1,468.6</u>	<u>\$ 998.5</u>
Weighted-average shares outstanding:				
Basic	289.3	288.1	288.8	289.8
Dilutive effects:				
Stock options	1.7	1.4	1.8	1.1
Restricted stock units	1.9	1.6	1.9	1.6
Performance share awards	0.2	0.3	0.2	0.3
Diluted	<u>293.1</u>	<u>291.4</u>	<u>292.7</u>	<u>292.8</u>
Net income per common share:				
Basic	<u>\$ 2.80</u>	<u>\$ 1.07</u>	<u>\$ 5.08</u>	<u>\$ 3.45</u>
Diluted	<u>\$ 2.76</u>	<u>\$ 1.06</u>	<u>\$ 5.02</u>	<u>\$ 3.41</u>

The calculation of diluted earnings per share for the three and nine months ended September 30, 2017 and 2016, excludes the incremental effect related to certain outstanding stock-based compensation grants due to their anti-dilutive effect.

14. Condensed Consolidating Financial Information

Principal Life has established special purpose entities to issue secured medium-term notes. Under the program, the payment obligations of principal and interest on the notes are secured by funding agreements issued by Principal Life. Principal Life's payment obligations on the funding agreements are fully and unconditionally guaranteed by PFG. All of the outstanding stock of Principal Life is indirectly owned by PFG and PFG is the only guarantor of the payment obligations of the funding agreements.

The following tables set forth condensed consolidating financial information of (i) PFG, (ii) Principal Life, (iii) Principal Financial Services, Inc. ("PFS") and all other direct and indirect subsidiaries of PFG on a combined basis and (iv) the eliminations necessary to arrive at the information for PFG on a consolidated basis as of September 30, 2017 and December 31, 2016, and for the nine months ended September 30, 2017 and 2016.

In presenting the condensed consolidating financial statements, the equity method of accounting has been applied to (i) PFG's interest in all direct subsidiaries of PFG, (ii) Principal Life's interest in all direct subsidiaries of Principal Life and (iii) PFS's interest in Principal Life even though all such subsidiaries meet the requirements to be consolidated under U.S. GAAP. Earnings of subsidiaries are, therefore, reflected in the parent's investment and earnings. All intercompany balances and transactions, including elimination of the parent's investment in subsidiaries, between PFG, Principal Life and PFS and all other subsidiaries have been eliminated, as shown in the column "Eliminations." These condensed consolidating financial statements should be read in conjunction with the consolidated financial statements. The financial information may not necessarily be indicative of results of operations, cash flows or financial position had the subsidiaries operated as independent entities.

PFG sponsors nonqualified benefit plans for select employees and agents and is responsible for the obligations of these plans. Nonqualified plan assets are held in Rabbi trusts for the benefit of all nonqualified plan participants. The Rabbi trusts are separate legal entities and are not a part of PFG on a stand-alone basis. The plan assets are available to satisfy the claims of general creditors only in the event of bankruptcy and are, therefore, consolidated in our statements of financial position.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
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Condensed Consolidating Statements of Financial Position
September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined (1)	Eliminations	Principal Financial Group, Inc. Consolidated
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale	\$ —	\$ 52,455.8	\$ 7,049.8	\$ (367.8)	\$ 59,137.8
Fixed maturities, trading	—	55.7	176.8	—	232.5
Equity securities, available-for-sale	—	92.9	25.4	—	118.3
Equity securities, trading	—	6.3	1,664.6	—	1,670.9
Mortgage loans	—	13,288.9	1,420.9	(689.4)	14,020.4
Real estate	—	4.2	1,646.0	—	1,650.2
Policy loans	—	770.5	41.5	—	812.0
Investment in unconsolidated entities	14,631.1	2,466.1	7,063.8	(23,310.4)	850.6
Other investments	10.4	4,674.9	2,065.0	(4,039.6)	2,710.7
Cash and cash equivalents	618.1	781.3	2,160.3	(764.7)	2,795.0
Accrued investment income	—	561.4	75.6	(2.4)	634.6
Premiums due and other receivables	—	1,678.7	3,288.4	(3,450.5)	1,516.6
Deferred acquisition costs	—	3,265.6	215.8	—	3,481.4
Property and equipment	—	654.2	100.4	—	754.6
Goodwill	—	54.3	1,000.9	—	1,055.2
Other intangibles	—	22.1	1,292.6	—	1,314.7
Separate account assets	—	113,959.3	40,126.6	—	154,085.9
Other assets	539.9	1,019.3	4,349.4	(4,816.4)	1,092.2
Total assets	<u>\$ 15,799.5</u>	<u>\$ 195,811.5</u>	<u>\$ 73,763.8</u>	<u>\$ (37,441.2)</u>	<u>\$ 247,933.6</u>
Liabilities					
Contractholder funds	\$ —	\$ 35,562.5	\$ 2,989.8	\$ (343.7)	\$ 38,208.6
Future policy benefits and claims	—	27,109.2	5,899.0	(879.1)	32,129.1
Other policyholder funds	—	802.4	125.5	(1.7)	926.2
Short-term debt	—	—	58.8	—	58.8
Long-term debt	3,127.7	—	709.5	(661.8)	3,175.4
Income taxes currently payable	—	—	338.9	(285.2)	53.7
Deferred income taxes	—	1,152.0	1,366.4	(1,003.2)	1,515.2
Separate account liabilities	—	113,959.3	40,126.6	—	154,085.9
Other liabilities	675.4	7,915.9	7,411.7	(10,418.7)	5,584.3
Total liabilities	<u>3,803.1</u>	<u>186,501.3</u>	<u>59,026.2</u>	<u>(13,593.4)</u>	<u>235,737.2</u>
Redeemable noncontrolling interest	—	—	129.1	—	129.1
Stockholders' equity					
Common stock	4.7	2.5	—	(2.5)	4.7
Additional paid-in capital	9,886.8	6,340.6	9,037.8	(15,378.4)	9,886.8
Retained earnings	8,784.6	1,723.2	5,037.1	(6,760.3)	8,784.6
Accumulated other comprehensive income	47.0	1,243.9	457.6	(1,701.5)	47.0
Treasury stock, at cost	(6,726.7)	—	—	—	(6,726.7)
Total stockholders' equity attributable to PFG	<u>11,996.4</u>	<u>9,310.2</u>	<u>14,532.5</u>	<u>(23,842.7)</u>	<u>11,996.4</u>
Noncontrolling interest	—	—	76.0	(5.1)	70.9
Total stockholders' equity	<u>11,996.4</u>	<u>9,310.2</u>	<u>14,608.5</u>	<u>(23,847.8)</u>	<u>12,067.3</u>
Total liabilities and stockholders' equity	<u>\$ 15,799.5</u>	<u>\$ 195,811.5</u>	<u>\$ 73,763.8</u>	<u>\$ (37,441.2)</u>	<u>\$ 247,933.6</u>

(1) PFG sponsors nonqualified benefit plans. Nonqualified benefit plan assets and liabilities held in Rabbi trusts were \$631.2 million and \$532.6 million, respectively.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Financial Position
December 31, 2016

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined (1)	Eliminations	Principal Financial Group, Inc. Consolidated
	<i>(in millions)</i>				
Assets					
Fixed maturities, available-for-sale	\$ —	\$ 48,672.1	\$ 6,559.9	\$ (385.9)	\$ 54,846.1
Fixed maturities, trading	—	135.6	262.8	—	398.4
Equity securities, available-for-sale	—	96.3	2.6	—	98.9
Equity securities, trading	—	8.2	1,405.2	—	1,413.4
Mortgage loans	—	12,460.7	1,289.4	(519.9)	13,230.2
Real estate	—	4.4	1,364.4	—	1,368.8
Policy loans	—	784.8	39.0	—	823.8
Investment in unconsolidated entities	12,597.9	2,071.1	6,493.7	(20,389.5)	773.2
Other investments	9.8	4,740.0	1,783.0	(3,650.1)	2,882.7
Cash and cash equivalents	882.6	675.1	2,082.8	(920.9)	2,719.6
Accrued investment income	—	513.7	74.5	(7.6)	580.6
Premiums due and other receivables	—	1,538.0	2,836.0	(3,012.1)	1,361.9
Deferred acquisition costs	—	3,184.2	196.0	—	3,380.2
Property and equipment	—	610.4	88.6	—	699.0
Goodwill	—	54.3	966.5	—	1,020.8
Other intangibles	—	23.5	1,301.8	—	1,325.3
Separate account assets	—	103,661.9	36,170.7	—	139,832.6
Other assets	573.7	969.5	3,507.7	(3,792.1)	1,258.8
Total assets	<u>\$ 14,064.0</u>	<u>\$ 180,203.8</u>	<u>\$ 66,424.6</u>	<u>\$ (32,678.1)</u>	<u>\$ 228,014.3</u>
Liabilities					
Contractholder funds	\$ —	\$ 35,337.7	\$ 2,949.2	\$ (333.3)	\$ 37,953.6
Future policy benefits and claims	—	24,392.6	5,312.1	(704.0)	29,000.7
Other policyholder funds	—	780.7	111.0	(1.3)	890.4
Short-term debt	—	—	51.4	—	51.4
Long-term debt	3,126.4	—	495.1	(495.8)	3,125.7
Income taxes currently payable	—	—	124.3	(111.4)	12.9
Deferred income taxes	—	533.6	1,111.9	(673.1)	972.4
Separate account liabilities	—	103,661.9	36,170.7	—	139,832.6
Other liabilities	710.3	7,300.9	7,425.9	(9,653.8)	5,783.3
Total liabilities	<u>3,836.7</u>	<u>172,007.4</u>	<u>53,751.6</u>	<u>(11,972.7)</u>	<u>217,623.0</u>
Redeemable noncontrolling interest	—	—	97.5	—	97.5
Stockholders' equity					
Common stock	4.7	2.5	—	(2.5)	4.7
Additional paid-in capital	9,686.0	5,305.6	9,010.9	(14,316.5)	9,686.0
Retained earnings	7,720.4	2,139.9	3,724.3	(5,864.2)	7,720.4
Accumulated other comprehensive income (loss)	(675.2)	748.4	(230.9)	(517.5)	(675.2)
Treasury stock, at cost	(6,508.6)	—	—	—	(6,508.6)
Total stockholders' equity attributable to PFG	<u>10,227.3</u>	<u>8,196.4</u>	<u>12,504.3</u>	<u>(20,700.7)</u>	<u>10,227.3</u>
Noncontrolling interest	—	—	71.2	(4.7)	66.5
Total stockholders' equity	<u>10,227.3</u>	<u>8,196.4</u>	<u>12,575.5</u>	<u>(20,705.4)</u>	<u>10,293.8</u>
Total liabilities and stockholders' equity	<u>\$ 14,064.0</u>	<u>\$ 180,203.8</u>	<u>\$ 66,424.6</u>	<u>\$ (32,678.1)</u>	<u>\$ 228,014.3</u>

(1) PFG sponsors nonqualified benefit plans. Nonqualified benefit plan assets and liabilities held in Rabbi trusts were \$570.9 million and \$477.3 million, respectively.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
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(Unaudited)

Condensed Consolidating Statements of Operations
For the nine months ended September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined	Eliminations	Principal Financial Group, Inc. Consolidated
	<i>(in millions)</i>				
Revenues					
Premiums and other considerations	\$ —	\$ 4,512.5	\$ 314.3	\$ —	\$ 4,826.8
Fees and other revenues	7.8	1,584.2	1,607.2	(316.4)	2,882.8
Net investment income	7.4	1,883.5	1,836.6	(1,145.7)	2,581.8
Net realized capital gains (losses), excluding impairment losses on available-for-sale securities	—	(119.2)	743.6	(0.7)	623.7
Net other-than-temporary impairment losses on available-for-sale securities	—	(27.8)	0.7	—	(27.1)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified from other comprehensive income	—	(26.1)	(6.4)	—	(32.5)
Net impairment losses on available-for-sale securities	—	(53.9)	(5.7)	—	(59.6)
Net realized capital gains (losses)	—	(173.1)	737.9	(0.7)	564.1
Total revenues	15.2	7,807.1	4,496.0	(1,462.8)	10,855.5
Expenses					
Benefits, claims and settlement expenses	—	5,529.9	498.9	(8.1)	6,020.7
Dividends to policyholders	—	92.7	—	—	92.7
Operating expenses	152.1	1,570.2	1,345.8	(263.4)	2,804.7
Total expenses	152.1	7,192.8	1,844.7	(271.5)	8,918.1
Income (loss) before income taxes	(136.9)	614.3	2,651.3	(1,191.3)	1,937.4
Income taxes (benefits)	(57.2)	34.1	481.9	(3.0)	455.8
Equity in the net income (loss) of subsidiaries (1)	1,548.3	566.5	(613.1)	(1,501.7)	—
Net income	1,468.6	1,146.7	1,556.3	(2,690.0)	1,481.6
Net income attributable to noncontrolling interest	—	—	13.0	—	13.0
Net income attributable to PFG	\$ 1,468.6	\$ 1,146.7	\$ 1,543.3	\$ (2,690.0)	\$ 1,468.6
Net income	\$ 1,468.6	\$ 1,146.7	\$ 1,556.3	\$ (2,690.0)	\$ 1,481.6
Other comprehensive income	719.9	495.8	750.1	(1,240.9)	724.9
Comprehensive income	\$ 2,188.5	\$ 1,642.5	\$ 2,306.4	\$ (3,930.9)	\$ 2,206.5

(1) Principal Life Insurance Company Only includes income from discontinued operations of \$35.5 million related to its sale of Principal Global Investors, LLC to PFS in connection with a corporate reorganization.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Operations
For the nine months ended September 30, 2016

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined <i>(in millions)</i>	Eliminations	Principal Financial Group, Inc. Consolidated
Revenues					
Premiums and other considerations	\$ —	\$ 3,291.6	\$ 269.5	\$ —	\$ 3,561.1
Fees and other revenues	—	1,455.6	1,519.3	(287.2)	2,687.7
Net investment income	2.3	1,714.5	1,442.2	(742.0)	2,417.0
Net realized capital gains (losses), excluding impairment losses on available-for-sale securities	—	810.3	(526.4)	—	283.9
Net other-than-temporary impairment losses on available-for-sale securities	—	(75.4)	(5.6)	—	(81.0)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified to other comprehensive income	—	8.9	2.7	—	11.6
Net impairment losses on available-for-sale securities	—	(66.5)	(2.9)	—	(69.4)
Net realized capital gains (losses)	—	743.8	(529.3)	—	214.5
Total revenues	2.3	7,205.5	2,701.7	(1,029.2)	8,880.3
Expenses					
Benefits, claims and settlement expenses	—	4,297.8	511.1	(8.3)	4,800.6
Dividends to policyholders	—	122.3	—	—	122.3
Operating expenses	170.5	1,616.7	1,201.8	(242.0)	2,747.0
Total expenses	170.5	6,036.8	1,712.9	(250.3)	7,669.9
Income (loss) before income taxes	(168.2)	1,168.7	988.8	(778.9)	1,210.4
Income taxes (benefits)	(68.2)	272.2	(15.6)	(1.6)	186.8
Equity in the net income (loss) of subsidiaries (1)	1,098.5	(107.5)	114.2	(1,105.2)	—
Net income	998.5	789.0	1,118.6	(1,882.5)	1,023.6
Net income attributable to noncontrolling interest	—	—	25.1	—	25.1
Net income attributable to PFG	\$ 998.5	\$ 789.0	\$ 1,093.5	\$ (1,882.5)	\$ 998.5
Net income	\$ 998.5	\$ 789.0	\$ 1,118.6	\$ (1,882.5)	\$ 1,023.6
Other comprehensive income	978.6	781.9	1,001.8	(1,773.3)	989.0
Comprehensive income	\$ 1,977.1	\$ 1,570.9	\$ 2,120.4	\$ (3,655.8)	\$ 2,012.6

(1) Principal Life Insurance Company Only includes income from discontinued operations of \$94.1 million related to its sale of Principal Global Investors, LLC to PFS in connection with a corporate reorganization.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Cash Flows
For the nine months ended September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined	Eliminations	Principal Financial Group, Inc. Consolidated
	<i>(in millions)</i>				
Operating activities					
Net cash provided by (used in) operating activities	\$ (36.7)	\$ 4,946.3	\$ (1,094.7)	\$ (186.2)	\$ 3,628.7
Investing activities					
Available-for-sale securities:					
Purchases	—	(9,431.3)	(994.4)	—	(10,425.7)
Sales	—	731.7	292.4	(12.9)	1,011.2
Maturities	—	5,964.6	612.6	—	6,577.2
Mortgage loans acquired or originated	—	(2,078.4)	(278.2)	320.1	(2,036.5)
Mortgage loans sold or repaid	—	1,244.6	200.5	(147.7)	1,297.4
Real estate acquired	—	—	(113.6)	—	(113.6)
Real estate sold	—	—	457.1	—	457.1
Net purchases of property and equipment	—	(92.9)	(40.4)	—	(133.3)
Dividends and returns of capital received from unconsolidated entities	250.1	32.0	1,243.5	(1,525.6)	—
Net change in other investments	(4.4)	58.3	(354.2)	348.8	48.5
Net cash provided by (used in) investing activities	245.7	(3,571.4)	1,025.3	(1,017.3)	(3,317.7)
Financing activities					
Issuance of common stock	143.1	—	—	—	143.1
Acquisition of treasury stock	(218.1)	—	—	—	(218.1)
Proceeds from financing element derivatives	—	0.1	—	—	0.1
Payments for financing element derivatives	—	(59.5)	—	—	(59.5)
Purchase of subsidiary shares from noncontrolling interest	—	—	(14.6)	1.3	(13.3)
Sale of subsidiary shares to noncontrolling interest	—	—	1.3	(1.3)	—
Dividends to common stockholders	(398.5)	—	—	—	(398.5)
Issuance of long-term debt	—	—	313.5	(313.5)	—
Principal repayments of long-term debt	—	—	(203.8)	147.6	(56.2)
Net proceeds from short-term borrowings	—	—	4.9	—	4.9
Dividends and capital paid to parent	—	(1,243.5)	(282.1)	1,525.6	—
Investment contract deposits	—	7,976.5	267.9	—	8,244.4
Investment contract withdrawals	—	(7,943.1)	(20.0)	—	(7,963.1)
Net increase in banking operation deposits	—	—	79.8	—	79.8
Other	—	0.8	—	—	0.8
Net cash provided by (used in) financing activities	(473.5)	(1,268.7)	146.9	1,359.7	(235.6)
Net increase (decrease) in cash and cash equivalents	(264.5)	106.2	77.5	156.2	75.4
Cash and cash equivalents at beginning of period	882.6	675.1	2,082.8	(920.9)	2,719.6
Cash and cash equivalents at end of period	\$ 618.1	\$ 781.3	\$ 2,160.3	\$ (764.7)	\$ 2,795.0

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Cash Flows
For the nine months ended September 30, 2016

	Principal Financial Group, Inc. Parent Only	Principal Life Insurance Company Only	Principal Financial Services, Inc. and Other Subsidiaries Combined	Eliminations	Principal Financial Group, Inc. Consolidated
	<i>(in millions)</i>				
Operating activities					
Net cash provided by (used in) operating activities	\$ (45.0)	\$ 2,607.3	\$ 955.8	\$ (590.8)	\$ 2,927.3
Investing activities					
Available-for-sale securities:					
Purchases	—	(9,913.5)	(685.5)	9.0	(10,590.0)
Sales	—	718.1	420.0	—	1,138.1
Maturities	—	5,351.3	484.7	—	5,836.0
Mortgage loans acquired or originated	—	(1,958.6)	(215.7)	58.0	(2,116.3)
Mortgage loans sold or repaid	—	1,251.7	202.8	(13.7)	1,440.8
Real estate acquired	—	—	(90.2)	—	(90.2)
Real estate sold	—	3.5	32.0	—	35.5
Net purchases of property and equipment	—	(79.4)	(29.7)	—	(109.1)
Dividends and returns of capital received from unconsolidated entities	795.2	2.3	745.0	(1,542.5)	—
Net change in other investments	(6.8)	386.3	(727.6)	305.7	(42.4)
Net cash provided by (used in) investing activities	<u>788.4</u>	<u>(4,238.3)</u>	<u>135.8</u>	<u>(1,183.5)</u>	<u>(4,497.6)</u>
Financing activities					
Issuance of common stock	25.7	—	—	—	25.7
Acquisition of treasury stock	(245.2)	—	—	—	(245.2)
Proceeds from financing element derivatives	—	0.3	—	—	0.3
Payments for financing element derivatives	—	(67.3)	—	—	(67.3)
Excess tax benefits from share-based payment arrangements	0.2	2.2	3.5	—	5.9
Purchase of subsidiary shares from noncontrolling interest	—	—	(3.4)	1.0	(2.4)
Sale of subsidiary shares to noncontrolling interest	—	—	1.0	(1.0)	—
Dividends to common stockholders	(341.1)	—	—	—	(341.1)
Issuance of long-term debt	—	—	62.2	(51.2)	11.0
Principal repayments of long-term debt	—	—	(13.8)	13.8	—
Net repayments of short-term borrowings	—	—	(143.4)	—	(143.4)
Dividends and capital paid to parent	—	(745.0)	(797.5)	1,542.5	—
Investment contract deposits	—	7,894.4	214.1	—	8,108.5
Investment contract withdrawals	—	(6,186.7)	(14.7)	—	(6,201.4)
Net increase in banking operation deposits	—	—	69.6	—	69.6
Other	—	3.3	0.2	—	3.5
Net cash provided by (used in) financing activities	<u>(560.4)</u>	<u>901.2</u>	<u>(622.2)</u>	<u>1,505.1</u>	<u>1,223.7</u>
Net increase (decrease) in cash and cash equivalents	183.0	(729.8)	469.4	(269.2)	(346.6)
Cash and cash equivalents at beginning of period	578.7	1,127.9	1,253.7	(395.5)	2,564.8
Cash and cash equivalents at end of period	<u>\$ 761.7</u>	<u>\$ 398.1</u>	<u>\$ 1,723.1</u>	<u>\$ (664.7)</u>	<u>\$ 2,218.2</u>

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

On May 3, 2017, our shelf registration statement was filed with the SEC and became effective, replacing the shelf registration that had been in effect since May 2014. Under our current shelf registration, we have the ability to issue, in unlimited amounts, unsecured senior debt securities or subordinated debt securities, junior subordinated debt, preferred stock, common stock, warrants, depository shares, stock purchase contracts and stock purchase units of PFG, trust preferred securities of three subsidiary trusts and guarantees by PFG of these trust preferred securities. Our wholly owned subsidiary, PFS, may guarantee, fully and unconditionally or otherwise, our obligations with respect to any non-convertible securities, other than common stock, described in the shelf registration.

The following tables set forth condensed consolidating financial information of (i) PFG, (ii) PFS, (iii) Principal Life and all other direct and indirect subsidiaries of PFG on a combined basis and (iv) the eliminations necessary to arrive at the information for PFG on a consolidated basis as of September 30, 2017 and December 31, 2016, and for the nine months ended September 30, 2017 and 2016.

In presenting the condensed consolidating financial statements, the equity method of accounting has been applied to (i) PFG's interest in all direct subsidiaries of PFG and (ii) PFS's interest in Principal Life and all other subsidiaries, where applicable, even though all such subsidiaries meet the requirements to be consolidated under U.S. GAAP. Earnings of subsidiaries are, therefore, reflected in the parent's investment and earnings. All intercompany balances and transactions, including elimination of the parent's investment in subsidiaries, between PFG, PFS and Principal Life and all other subsidiaries have been eliminated, as shown in the column "Eliminations." These condensed consolidating financial statements should be read in conjunction with the consolidated financial statements. The financial information may not necessarily be indicative of results of operations, cash flows or financial position had the subsidiaries operated as independent entities.

PFG sponsors nonqualified benefit plans for select employees and agents and is responsible for the obligations of these plans. Nonqualified plan assets are held in Rabbi trusts for the benefit of all nonqualified plan participants. The Rabbi trusts are separate legal entities and are not a part of PFG on a stand-alone basis. The plan assets are available to satisfy the claims of general creditors only in the event of bankruptcy and are, therefore, consolidated in our statements of financial position.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Financial Position
September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Financial Services, Inc. Only	Principal Life Insurance Company and Other Subsidiaries Combined (1)	Eliminations	Principal Financial Group, Inc. Consolidated
			<i>(in millions)</i>		
Assets					
Fixed maturities, available-for-sale	\$ —	\$ —	\$ 59,137.8	\$ —	\$ 59,137.8
Fixed maturities, trading	—	—	232.5	—	232.5
Equity securities, available-for-sale	—	—	118.3	—	118.3
Equity securities, trading	—	5.6	1,665.3	—	1,670.9
Mortgage loans	—	—	14,020.4	—	14,020.4
Real estate	—	—	1,650.2	—	1,650.2
Policy loans	—	—	812.0	—	812.0
Investment in unconsolidated entities	14,631.1	14,855.9	746.2	(29,382.6)	850.6
Other investments	10.4	105.5	2,594.8	—	2,710.7
Cash and cash equivalents	618.1	1,282.0	2,561.4	(1,666.5)	2,795.0
Accrued investment income	—	—	634.6	—	634.6
Premiums due and other receivables	—	0.5	1,944.9	(428.8)	1,516.6
Deferred acquisition costs	—	—	3,481.4	—	3,481.4
Property and equipment	—	—	754.6	—	754.6
Goodwill	—	—	1,055.2	—	1,055.2
Other intangibles	—	—	1,314.7	—	1,314.7
Separate account assets	—	—	154,085.9	—	154,085.9
Other assets	539.9	179.5	1,479.9	(1,107.1)	1,092.2
Total assets	<u>\$ 15,799.5</u>	<u>\$ 16,429.0</u>	<u>\$ 248,290.1</u>	<u>\$ (32,585.0)</u>	<u>\$ 247,933.6</u>
Liabilities					
Contractholder funds	\$ —	\$ —	\$ 38,208.6	\$ —	\$ 38,208.6
Future policy benefits and claims	—	—	32,129.1	—	32,129.1
Other policyholder funds	—	—	926.2	—	926.2
Short-term debt	—	—	58.8	—	58.8
Long-term debt	3,127.7	429.0	47.7	(429.0)	3,175.4
Income taxes currently payable	—	—	171.5	(117.8)	53.7
Deferred income taxes	—	—	2,511.3	(996.1)	1,515.2
Separate account liabilities	—	—	154,085.9	—	154,085.9
Other liabilities	675.4	1,467.5	5,035.5	(1,594.1)	5,584.3
Total liabilities	<u>3,803.1</u>	<u>1,896.5</u>	<u>233,174.6</u>	<u>(3,137.0)</u>	<u>235,737.2</u>
Redeemable noncontrolling interest	—	—	129.1	—	129.1
Stockholders' equity					
Common stock	4.7	—	11.0	(11.0)	4.7
Additional paid-in capital	9,886.8	9,037.8	11,352.4	(20,390.2)	9,886.8
Retained earnings	8,784.6	5,037.1	3,216.5	(8,253.6)	8,784.6
Accumulated other comprehensive income	47.0	457.6	337.6	(795.2)	47.0
Treasury stock, at cost	(6,726.7)	—	(2.0)	2.0	(6,726.7)
Total stockholders' equity attributable to PFG	<u>11,996.4</u>	<u>14,532.5</u>	<u>14,915.5</u>	<u>(29,448.0)</u>	<u>11,996.4</u>
Noncontrolling interest	—	—	70.9	—	70.9
Total stockholders' equity	<u>11,996.4</u>	<u>14,532.5</u>	<u>14,986.4</u>	<u>(29,448.0)</u>	<u>12,067.3</u>
Total liabilities and stockholders' equity	<u>\$ 15,799.5</u>	<u>\$ 16,429.0</u>	<u>\$ 248,290.1</u>	<u>\$ (32,585.0)</u>	<u>\$ 247,933.6</u>

(1) PFG sponsors nonqualified benefit plans. Nonqualified benefit plan assets and liabilities held in Rabbi trusts were \$631.2 million and \$532.6 million, respectively.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Financial Position
December 31, 2016

	Principal Financial Group, Inc. Parent Only	Principal Financial Services, Inc. Only	Principal Life Insurance Company and Other Subsidiaries Combined (1)	Eliminations	Principal Financial Group, Inc. Consolidated
			<i>(in millions)</i>		
Assets					
Fixed maturities, available-for-sale	\$ —	\$ —	\$ 54,846.1	\$ —	\$ 54,846.1
Fixed maturities, trading	—	—	398.4	—	398.4
Equity securities, available-for-sale	—	—	98.9	—	98.9
Equity securities, trading	—	—	1,413.4	—	1,413.4
Mortgage loans	—	—	13,230.2	—	13,230.2
Real estate	—	—	1,368.8	—	1,368.8
Policy loans	—	—	823.8	—	823.8
Investment in unconsolidated entities	12,597.9	12,532.4	697.5	(25,054.6)	773.2
Other investments	9.8	135.9	2,737.0	—	2,882.7
Cash and cash equivalents	882.6	1,203.4	2,114.8	(1,481.2)	2,719.6
Accrued investment income	—	0.1	580.5	—	580.6
Premiums due and other receivables	—	0.3	1,503.1	(141.5)	1,361.9
Deferred acquisition costs	—	—	3,380.2	—	3,380.2
Property and equipment	—	—	699.0	—	699.0
Goodwill	—	—	1,020.8	—	1,020.8
Other intangibles	—	—	1,325.3	—	1,325.3
Separate account assets	—	—	139,832.6	—	139,832.6
Other assets	573.7	185.6	1,200.9	(701.4)	1,258.8
Total assets	<u>\$ 14,064.0</u>	<u>\$ 14,057.7</u>	<u>\$ 227,271.3</u>	<u>\$ (27,378.7)</u>	<u>\$ 228,014.3</u>
Liabilities					
Contractholder funds	\$ —	\$ —	\$ 37,953.6	\$ —	\$ 37,953.6
Future policy benefits and claims	—	—	29,000.7	—	29,000.7
Other policyholder funds	—	—	890.4	—	890.4
Short-term debt	—	—	127.9	(76.5)	51.4
Long-term debt	3,126.4	142.1	(0.8)	(142.0)	3,125.7
Income taxes currently payable	—	—	68.3	(55.4)	12.9
Deferred income taxes	—	—	1,619.3	(646.9)	972.4
Separate account liabilities	—	—	139,832.6	—	139,832.6
Other liabilities	710.3	1,411.3	4,962.1	(1,300.4)	5,783.3
Total liabilities	<u>3,836.7</u>	<u>1,553.4</u>	<u>214,454.1</u>	<u>(2,221.2)</u>	<u>217,623.0</u>
Redeemable noncontrolling interest	—	—	97.5	—	97.5
Stockholders' equity					
Common stock	4.7	—	17.8	(17.8)	4.7
Additional paid-in capital	9,686.0	9,010.9	10,045.9	(19,056.8)	9,686.0
Retained earnings	7,720.4	3,724.3	2,940.2	(6,664.5)	7,720.4
Accumulated other comprehensive loss	(675.2)	(230.9)	(348.7)	579.6	(675.2)
Treasury stock, at cost	(6,508.6)	—	(2.0)	2.0	(6,508.6)
Total stockholders' equity attributable to PFG	<u>10,227.3</u>	<u>12,504.3</u>	<u>12,653.2</u>	<u>(25,157.5)</u>	<u>10,227.3</u>
Noncontrolling interest	—	—	66.5	—	66.5
Total stockholders' equity	<u>10,227.3</u>	<u>12,504.3</u>	<u>12,719.7</u>	<u>(25,157.5)</u>	<u>10,293.8</u>
Total liabilities and stockholders' equity	<u>\$ 14,064.0</u>	<u>\$ 14,057.7</u>	<u>\$ 227,271.3</u>	<u>\$ (27,378.7)</u>	<u>\$ 228,014.3</u>

(1) PFG sponsors nonqualified benefit plans. Nonqualified benefit plan assets and liabilities held in Rabbi trusts were \$570.9 million and \$477.3 million, respectively.

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Operations
For the nine months ended September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Financial Services, Inc. Only	Principal Life Insurance Company and Other Subsidiaries Combined <i>(in millions)</i>	Eliminations	Principal Financial Group, Inc. Consolidated
Revenues					
Premiums and other considerations	\$ —	\$ —	\$ 4,826.8	\$ —	\$ 4,826.8
Fees and other revenues	7.8	0.2	2,881.9	(7.1)	2,882.8
Net investment income (loss)	7.4	(2.0)	2,572.0	4.4	2,581.8
Net realized capital gains, excluding impairment losses on available-for-sale securities	—	4.5	619.2	—	623.7
Net other-than-temporary impairment losses on available-for-sale securities	—	—	(27.1)	—	(27.1)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified from other comprehensive income	—	—	(32.5)	—	(32.5)
Net impairment losses on available-for-sale securities	—	—	(59.6)	—	(59.6)
Net realized capital gains	—	4.5	559.6	—	564.1
Total revenues	<u>15.2</u>	<u>2.7</u>	<u>10,840.3</u>	<u>(2.7)</u>	<u>10,855.5</u>
Expenses					
Benefits, claims and settlement expenses	—	—	6,020.7	—	6,020.7
Dividends to policyholders	—	—	92.7	—	92.7
Operating expenses	152.1	38.5	2,620.6	(6.5)	2,804.7
Total expenses	<u>152.1</u>	<u>38.5</u>	<u>8,734.0</u>	<u>(6.5)</u>	<u>8,918.1</u>
Income (loss) before income taxes	(136.9)	(35.8)	2,106.3	3.8	1,937.4
Income taxes (benefits)	(57.2)	(15.3)	529.5	(1.2)	455.8
Equity in the net income of subsidiaries	1,548.3	1,563.8	—	(3,112.1)	—
Net income	<u>1,468.6</u>	<u>1,543.3</u>	<u>1,576.8</u>	<u>(3,107.1)</u>	<u>1,481.6</u>
Net income attributable to noncontrolling interest	—	—	13.0	—	13.0
Net income attributable to PFG	<u>\$ 1,468.6</u>	<u>\$ 1,543.3</u>	<u>\$ 1,563.8</u>	<u>\$ (3,107.1)</u>	<u>\$ 1,468.6</u>
Net income	\$ 1,468.6	\$ 1,543.3	\$ 1,576.8	\$ (3,107.1)	\$ 1,481.6
Other comprehensive income	719.9	686.1	688.9	(1,370.0)	724.9
Comprehensive income	<u>\$ 2,188.5</u>	<u>\$ 2,229.4</u>	<u>\$ 2,265.7</u>	<u>\$ (4,477.1)</u>	<u>\$ 2,206.5</u>

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Operations
For the nine months ended September 30, 2016

	<u>Principal Financial Group, Inc. Parent Only</u>	<u>Principal Financial Services, Inc. Only</u>	<u>Principal Life Insurance Company and Other Subsidiaries Combined</u>	<u>Eliminations</u>	<u>Principal Financial Group, Inc. Consolidated</u>
	<i>(in millions)</i>				
Revenues					
Premiums and other considerations	\$ —	\$ —	\$ 3,561.1	\$ —	\$ 3,561.1
Fees and other revenues	—	0.6	2,693.1	(6.0)	2,687.7
Net investment income	2.3	17.9	2,391.6	5.2	2,417.0
Net realized capital gains (losses), excluding impairment losses on available-for-sale securities	—	(5.6)	289.5	—	283.9
Net other-than-temporary impairment losses on available-for- sale securities	—	—	(81.0)	—	(81.0)
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified to other comprehensive income	—	—	11.6	—	11.6
Net impairment losses on available-for-sale securities	—	—	(69.4)	—	(69.4)
Net realized capital gains (losses)	—	(5.6)	220.1	—	214.5
Total revenues	<u>2.3</u>	<u>12.9</u>	<u>8,865.9</u>	<u>(0.8)</u>	<u>8,880.3</u>
Expenses					
Benefits, claims and settlement expenses	—	—	4,800.6	—	4,800.6
Dividends to policyholders	—	—	122.3	—	122.3
Operating expenses	170.5	7.6	2,574.7	(5.8)	2,747.0
Total expenses	<u>170.5</u>	<u>7.6</u>	<u>7,497.6</u>	<u>(5.8)</u>	<u>7,669.9</u>
Income (loss) before income taxes	(168.2)	5.3	1,368.3	5.0	1,210.4
Income taxes (benefits)	(68.2)	(22.0)	277.0	—	186.8
Equity in the net income of subsidiaries	1,098.5	1,066.2	—	(2,164.7)	—
Net income	<u>998.5</u>	<u>1,093.5</u>	<u>1,091.3</u>	<u>(2,159.7)</u>	<u>1,023.6</u>
Net income attributable to noncontrolling interest	—	—	25.1	—	25.1
Net income attributable to PFG	<u>\$ 998.5</u>	<u>\$ 1,093.5</u>	<u>\$ 1,066.2</u>	<u>\$ (2,159.7)</u>	<u>\$ 998.5</u>
Net income	\$ 998.5	\$ 1,093.5	\$ 1,091.3	\$ (2,159.7)	\$ 1,023.6
Other comprehensive income	978.6	942.1	969.3	(1,901.0)	989.0
Comprehensive income	<u>\$ 1,977.1</u>	<u>\$ 2,035.6</u>	<u>\$ 2,060.6</u>	<u>\$ (4,060.7)</u>	<u>\$ 2,012.6</u>

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Cash Flows
For the nine months ended September 30, 2017

	Principal Financial Group, Inc. Parent Only	Principal Financial Services, Inc. Only	Principal Life Insurance Company and Other Subsidiaries Combined <i>(in millions)</i>	Eliminations	Principal Financial Group, Inc. Consolidated
Operating activities					
Net cash provided by (used in) operating activities	\$ (36.7)	\$ 449.3	\$ 3,721.0	\$ (504.9)	\$ 3,628.7
Investing activities					
Available-for-sale securities:					
Purchases	—	—	(10,425.7)	—	(10,425.7)
Sales	—	—	1,011.2	—	1,011.2
Maturities	—	—	6,577.2	—	6,577.2
Mortgage loans acquired or originated	—	—	(2,036.5)	—	(2,036.5)
Mortgage loans sold or repaid	—	—	1,297.4	—	1,297.4
Real estate acquired	—	—	(113.6)	—	(113.6)
Real estate sold	—	—	457.1	—	457.1
Net purchases of property and equipment	—	—	(133.3)	—	(133.3)
Dividends and returns of capital received from (contributed to) unconsolidated entities	250.1	(37.0)	—	(213.1)	—
Net change in other investments	(4.4)	(70.5)	(106.6)	230.0	48.5
Net cash provided by (used in) investing activities	245.7	(107.5)	(3,472.8)	16.9	(3,317.7)
Financing activities					
Issuance of common stock	143.1	—	—	—	143.1
Acquisition of treasury stock	(218.1)	—	—	—	(218.1)
Proceeds from financing element derivatives	—	—	0.1	—	0.1
Payments for financing element derivatives	—	—	(59.5)	—	(59.5)
Purchase of subsidiary shares from noncontrolling interest	—	—	(13.3)	—	(13.3)
Dividends to common stockholders	(398.5)	—	—	—	(398.5)
Issuance of long-term debt	—	6.4	—	(6.4)	—
Principal repayments of long-term debt	—	(19.5)	(56.2)	19.5	(56.2)
Net proceeds from (repayments of) short-term borrowings	—	—	(71.6)	76.5	4.9
Capital received from (dividends and capital paid to) parent	—	(250.1)	37.0	213.1	—
Investment contract deposits	—	—	8,244.4	—	8,244.4
Investment contract withdrawals	—	—	(7,963.1)	—	(7,963.1)
Net increase in banking operation deposits	—	—	79.8	—	79.8
Other	—	—	0.8	—	0.8
Net cash provided by (used in) financing activities	(473.5)	(263.2)	198.4	302.7	(235.6)
Net increase (decrease) in cash and cash equivalents	(264.5)	78.6	446.6	(185.3)	75.4
Cash and cash equivalents at beginning of period	882.6	1,203.4	2,114.8	(1,481.2)	2,719.6
Cash and cash equivalents at end of period	\$ 618.1	\$ 1,282.0	\$ 2,561.4	\$ (1,666.5)	\$ 2,795.0

Principal Financial Group, Inc.
Notes to Consolidated Financial Statements – (continued)
September 30, 2017
(Unaudited)

Condensed Consolidating Statements of Cash Flows
For the nine months ended September 30, 2016

	<u>Principal Financial Group, Inc. Parent Only</u>	<u>Principal Financial Services, Inc. Only</u>	<u>Principal Life Insurance Company and Other Subsidiaries Combined</u>	<u>Eliminations</u>	<u>Principal Financial Group, Inc. Consolidated</u>
	<i>(in millions)</i>				
Operating activities					
Net cash provided by (used in) operating activities	\$ (45.0)	\$ (2.5)	\$ 2,849.7	\$ 125.1	\$ 2,927.3
Investing activities					
Available-for-sale securities:					
Purchases	—	—	(10,590.0)	—	(10,590.0)
Sales	—	—	1,138.1	—	1,138.1
Maturities	—	—	5,836.0	—	5,836.0
Mortgage loans acquired or originated	—	—	(2,116.3)	—	(2,116.3)
Mortgage loans sold or repaid	—	—	1,440.8	—	1,440.8
Real estate acquired	—	—	(90.2)	—	(90.2)
Real estate sold	—	—	35.5	—	35.5
Net purchases of property and equipment	—	—	(109.1)	—	(109.1)
Dividends and returns of capital received from unconsolidated entities	795.2	886.0	—	(1,681.2)	—
Net change in other investments	(6.8)	220.3	121.2	(377.1)	(42.4)
Net cash provided by (used in) investing activities	<u>788.4</u>	<u>1,106.3</u>	<u>(4,334.0)</u>	<u>(2,058.3)</u>	<u>(4,497.6)</u>
Financing activities					
Issuance of common stock	25.7	—	—	—	25.7
Acquisition of treasury stock	(245.2)	—	—	—	(245.2)
Proceeds from financing element derivatives	—	—	0.3	—	0.3
Payments for financing element derivatives	—	—	(67.3)	—	(67.3)
Excess tax benefits from share-based payment arrangements	0.2	—	5.7	—	5.9
Purchase of subsidiary shares from noncontrolling interest	—	—	(2.4)	—	(2.4)
Dividends to common stockholders	(341.1)	—	—	—	(341.1)
Issuance of long-term debt	—	5.0	78.0	(72.0)	11.0
Principal repayments of long-term debt	—	(20.0)	—	20.0	—
Net repayments of short-term borrowings	—	—	(166.0)	22.6	(143.4)
Dividends and capital paid to parent	—	(795.2)	(886.0)	1,681.2	—
Investment contract deposits	—	—	8,108.5	—	8,108.5
Investment contract withdrawals	—	—	(6,201.4)	—	(6,201.4)
Net increase in banking operation deposits	—	—	69.6	—	69.6
Other	—	—	3.5	—	3.5
Net cash provided by (used in) financing activities	<u>(560.4)</u>	<u>(810.2)</u>	<u>942.5</u>	<u>1,651.8</u>	<u>1,223.7</u>
Net increase (decrease) in cash and cash equivalents	183.0	293.6	(541.8)	(281.4)	(346.6)
Cash and cash equivalents at beginning of period	578.7	730.5	2,413.3	(1,157.7)	2,564.8
Cash and cash equivalents at end of period	<u>\$ 761.7</u>	<u>\$ 1,024.1</u>	<u>\$ 1,871.5</u>	<u>\$ (1,439.1)</u>	<u>\$ 2,218.2</u>

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following analysis discusses our financial condition as of September 30, 2017, compared with December 31, 2016, and our consolidated results of operations for the three and nine months ended September 30, 2017 and 2016, prepared in conformity with U.S. GAAP. The discussion and analysis includes, where appropriate, factors that may affect our future financial performance. The discussion should be read in conjunction with our Form 10-K, for the year ended December 31, 2016, filed with the SEC and the unaudited consolidated financial statements and the related notes to the financial statements and the other financial information included elsewhere in this Form 10-Q.

Forward-Looking Information

Our narrative analysis below contains forward-looking statements intended to enhance the reader’s ability to assess our future financial performance. Forward-looking statements include, but are not limited to, statements that represent our beliefs concerning future operations, strategies, financial results or other developments, and contain words and phrases such as “anticipate,” “believe,” “plan,” “estimate,” “expect,” “intend” and similar expressions. Forward-looking statements are made based upon management’s current expectations and beliefs concerning future developments and their potential effects on us. Such forward-looking statements are not guarantees of future performance.

Actual results may differ materially from those included in the forward-looking statements as a result of risks and uncertainties including, but not limited to, the following: (1) adverse capital and credit market conditions may significantly affect our ability to meet liquidity needs, as well as our access to capital and cost of capital; (2) conditions in the global capital markets and the economy generally may materially and adversely affect our business and results of operations; (3) volatility or declines in the equity, bond or real estate markets could reduce our assets under management (“AUM”) and may result in investors withdrawing from the markets or decreasing their rates of investment, all of which could reduce our revenues and net income; (4) changes in interest rates or credit spreads or a sustained low interest rate environment may adversely affect our results of operations, financial condition and liquidity, and our net income can vary from period to period; (5) our investment portfolio is subject to several risks that may diminish the value of our invested assets and the investment returns credited to customers, which could reduce our sales, revenues, AUM and net income; (6) our valuation of investments and the determinations of the amount of allowances and impairments taken on our investments may include methodologies, estimations and assumptions which are subject to differing interpretations and, if changed, could materially adversely affect our results of operations or financial condition; (7) any impairments of or valuation allowances against our deferred tax assets could adversely affect our results of operations and financial condition; (8) we may face losses if our actual experience differs significantly from our pricing and reserving assumptions; (9) the pattern of amortizing our DAC asset and other actuarial balances on our universal life-type insurance contracts, participating life insurance policies and certain investment contracts may change, impacting both the level of our DAC asset and other actuarial balances and the timing of our net income; (10) we may not be able to protect our intellectual property and may be subject to infringement claims; (11) our ability to pay stockholder dividends and meet our obligations may be constrained by the limitations on dividends Iowa insurance laws impose on Principal Life; (12) changes in laws or regulations may reduce our profitability; (13) changes in accounting standards may reduce the transparency of our reported profitability and financial condition; (14) results of litigation and regulatory investigations may affect our financial strength or reduce our profitability; (15) from time to time we may become subject to tax audits, tax litigation or similar proceedings, and as a result we may owe additional taxes, interest and penalties in amounts that may be material; (16) applicable laws and our certificate of incorporation and by-laws may discourage takeovers and business combinations that some stockholders might consider in their best interests; (17) competition from companies that may have greater financial resources, broader arrays of products, higher ratings and stronger financial performance may impair our ability to retain existing customers, attract new customers and maintain our profitability; (18) Damage to our reputation may adversely affect our revenues and profitability; (19) a downgrade in our financial strength or credit ratings may increase policy surrenders and withdrawals, reduce new sales and terminate relationships with distributors, impact existing liabilities and increase our cost of capital, any of which could adversely affect our profitability and financial condition; (20) client terminations or withdrawals or changes in investor preferences may lead to a reduction in revenues for our asset management and accumulation businesses; (21) guarantees within certain of our products that protect policyholders may decrease our earnings or increase the volatility of our results of operations or financial position under U.S. GAAP if our hedging or risk management strategies prove ineffective or insufficient; (22) if we are unable to attract and retain qualified employees and sales representatives and develop new distribution sources, our results of operations, financial condition and sales of our products may be adversely impacted; (23) our international businesses face political, legal, operational and other risks that could reduce our profitability in those businesses; (24) we may need to fund deficiencies in our Closed Block assets; (25) a pandemic, terrorist attack, military action or other catastrophic event could adversely affect our net income; (26) our reinsurers could default on their obligations or increase their rates, which could adversely impact our net income and financial condition; (27) we face risks arising from acquisitions of businesses; (28) a computer system failure or security breach could disrupt our business, damage our reputation and adversely impact our profitability; (29) loss of key vendor relationships or failure of a vendor to protect information of our customers or employees could adversely affect our business or result in losses; (30) our enterprise risk management framework may not be fully

effective in identifying or mitigating all of the risks to which we are exposed and (31) our financial results may be adversely impacted by global climate changes.

Overview

We provide financial products and services through the following reportable segments:

- Retirement and Income Solutions is organized into Retirement and Income Solutions – Fee, which includes full service accumulation, trust services and individual variable annuities; and Retirement and Income Solutions – Spread, which includes individual fixed annuities, investment only, full service payout and banking services. We offer a comprehensive portfolio of products and services for retirement savings and retirement income:
 - To businesses of all sizes with a concentration on small and medium-sized businesses, we offer products and services for defined contribution plans, including 401(k) and 403(b) plans, defined benefit pension plans, nonqualified executive benefit plans, employee stock ownership plan services and pension closeout services. For more basic retirement services, we offer SIMPLE Individual Retirement Accounts (“IRA”) and payroll deduction plans;
 - To large institutional clients, we also offer investment only products, including investment only guaranteed investment contracts (“GICs”); and
 - To employees of businesses and other individuals, we offer the ability to accumulate savings for retirement and other purposes through mutual funds, individual annuities and bank products, along with retirement income options.
- Principal Global Investors, which includes our mutual fund business, manages assets for sophisticated investors around the world, using a multi-boutique strategy that provides diverse investment capabilities including equity, fixed income, real estate and other alternative investments. We also have experience in asset allocation, stable value management and other structured investment strategies. We focus on providing services to our other segments in addition to our retail mutual fund and third party institutional clients.
- Principal International, which offers pension accumulation products and services, mutual funds, asset management, income annuities and life insurance accumulation products through operations in Latin America (Brazil, Chile and Mexico) and Asia (China, Hong Kong Special Administrative Region, India and Southeast Asia).
- U.S. Insurance Solutions provides specialty benefits insurance, which consists of group dental and vision insurance, individual and group disability insurance, group life insurance and non-medical fee-for-service claims administration, and individual life insurance, which provides solutions for the business market as well as our retail customers in the U.S. Our individual life insurance products include universal life, variable universal life, indexed universal life and traditional life insurance.
- Corporate, which manages the assets representing capital that has not been allocated to any other segment. Financial results of the Corporate segment primarily reflect our financing activities (including financing costs), income on capital not allocated to other segments, inter-segment eliminations, income tax risks and certain income, expenses and other adjustments not allocated to the segments based on the nature of such items. Results of Principal Securities, Inc., our retail broker-dealer and registered investment advisor, and our exited group medical and long-term care insurance businesses are reported in this segment.

Recent Event

MetLife AFORE

On October 26, 2017, we announced we will acquire MetLife’s AFORE pension business in Mexico. The purchase price is subject to factors known and final at the time of close, which is expected in the first quarter of 2018, subject to regulatory approvals. Upon approval, the acquisition would grow the scale of our existing AFORE operations within the Principal International segment by increasing AUM by approximately \$3.9 billion USD and adding 0.7 million customers. The combined AFORE business is expected to be the 5th largest in terms of AUM and 6th in terms of customers in Mexico.

Transactions Affecting Comparability of Results of Operations

Actuarial Assumption Updates

We periodically review and update actuarial assumptions that are inputs to the models for DAC and other actuarial balances and make model refinements as necessary. During the third quarter of 2017, assumption updates and model refinements were made resulting in an unlocking of DAC and other actuarial balances that decreased total company net income by \$26.6 million for both the three and nine months ended September 30, 2017. The pre-tax operating earnings

impact was \$(32.8) million for our U.S. Insurance Solutions segment, \$(21.8) million for our Retirement and Income Solutions segment and \$(11.8) million for our Principal International segment for both the three and nine months ended September 30, 2017.

During the third quarter of 2016, assumption updates and model refinements were made resulting in an unlocking of DAC and other actuarial balances that decreased total company net income by \$68.8 million for both the three and nine months ended September 30, 2016. The pre-tax operating earnings impact was \$(33.2) million for our U.S. Insurance Solutions segment and \$(31.6) million for our Retirement and Income Solutions segment and \$(8.9) million for our Principal International segment for both the three and nine months ended September 30, 2016.

The individual life insurance business actuarial assumption updates and model refinements had the most significant impact and affected several line items within our income statement. The following table presents the increase (decrease) on the individual life insurance income statement line items for both the three and nine months ended September 30, 2017 and 2016.

	For the three and nine months ended		
	September 30,		
	2017		2016
		<i>(in millions)</i>	
Pre-tax operating earnings	\$	(47.0)	\$ (43.2)
Fee revenues		14.2	(9.5)
Benefits, claims and settlement expenses		18.5	53.6
Dividends to policyholders		—	8.2
Operating expenses		42.7	(28.1)

Real Estate Transactions

In an effort to adjust the concentration of our real estate holdings in Southern California, improve the liquidity of our real estate portfolio and gain control of certain properties that were jointly owned, we entered an exchange agreement to exit certain real estate joint ventures in September 2017. The transaction resulted in us transferring our interest in certain real estate properties in exchange for our joint venture partner's interest in certain other real estate properties. In a subsequent transaction we sold certain of these real estate properties to a third party. Both transactions closed in September 2017.

We recognized a \$690.9 million net pre-tax realized capital gain (\$410.8 million net after-tax realized capital gain) for both the three and nine months ended September 30, 2017, as a result of these transactions. For additional information related to these transactions, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 3, Investments" under the caption, "Real Estate Transactions."

Other Factor Affecting Comparability of Results of Operations

Fluctuations in Foreign Currency to U.S. Dollar Exchange Rates

Fluctuations in foreign currency to U.S. dollar exchange rates for countries in which we have operations can affect reported financial results. In years when foreign currencies weaken against the U.S. dollar, translating foreign currencies into U.S. dollars results in fewer U.S. dollars to be reported. When foreign currencies strengthen, translating foreign currencies into U.S. dollars results in more U.S. dollars to be reported.

Foreign currency exchange rate fluctuations create variances in our financial statement line items. The most significant impact occurs within our Principal International segment where pre-tax operating earnings were positively impacted \$1.3 million and \$10.2 million for the three and nine months ended September 30, 2017, respectively, as a result of fluctuations in foreign currency to U.S. dollar exchange rates. This impact was calculated by comparing (a) the difference between current year results and prior year results to (b) the difference between current year results and prior year results translated using current year exchange rates for both periods. We use this approach to calculate the impact of exchange rates on all revenue and expense line items. For a discussion of our approaches to managing foreign currency exchange rate risk, see Item 3. "Quantitative and Qualitative Disclosures About Market Risk — Foreign Currency Risk."

Regulatory Change

On June 9, 2017, most provisions of the DOL's fiduciary rule became applicable. The final applicability date for certain provisions of the rule, such as parts of the Best Interest Contract Exemption, is currently January 1, 2018. However, the DOL has recently proposed changing this final applicability date to July 1, 2019. The regulation broadens the definition

of a fiduciary under ERISA to include persons providing investment advice to an employee benefit plan or an IRA for a fee or other compensation. The DOL also released two new prohibited transaction class exemptions and amendments to current prohibited transaction exemptions. Broker-dealers and advisors continue to work through the implications of the regulation on business models, and how they proceed could impact our business. Even with this fluid environment, our assessment of the regulation's impact to our business and future financial results indicates the costs will not have a significant effect on our financial condition or results of operations.

Recent Accounting Changes

For recent accounting changes, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 1, Nature of Operations and Significant Accounting Policies" under the caption, "Recent Accounting Pronouncements."

Results of Operations

The following table presents summary consolidated financial information for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
<i>(in millions)</i>						
Revenues:						
Premiums and other considerations	\$ 2,126.1	\$ 1,002.7	\$ 1,123.4	\$ 4,826.8	\$ 3,561.1	\$ 1,265.7
Fees and other revenues	987.1	915.0	72.1	2,882.8	2,687.7	195.1
Net investment income	838.0	856.1	(18.1)	2,581.8	2,417.0	164.8
Net realized capital gains, excluding impairment losses on available-for-sale securities	693.2	55.5	637.7	623.7	283.9	339.8
Net other-than-temporary impairment (losses) recoveries on available-for-sale securities	2.6	(22.0)	24.6	(27.1)	(81.0)	53.9
Other-than-temporary impairment losses on fixed maturities, available-for-sale reclassified to (from) other comprehensive income	(19.2)	10.7	(29.9)	(32.5)	11.6	(44.1)
Net impairment losses on available-for-sale securities	(16.6)	(11.3)	(5.3)	(59.6)	(69.4)	9.8
Net realized capital gains	676.6	44.2	632.4	564.1	214.5	349.6
Total revenues	4,627.8	2,818.0	1,809.8	10,855.5	8,880.3	1,975.2
Expenses:						
Benefits, claims and settlement expenses	2,504.6	1,482.2	1,022.4	6,020.7	4,800.6	1,220.1
Dividends to policyholders	32.6	45.5	(12.9)	92.7	122.3	(29.6)
Operating expenses	932.8	919.6	13.2	2,804.7	2,747.0	57.7
Total expenses	3,470.0	2,447.3	1,022.7	8,918.1	7,669.9	1,248.2
Income before income taxes	1,157.8	370.7	787.1	1,937.4	1,210.4	727.0
Income taxes	344.6	43.3	301.3	455.8	186.8	269.0
Net income	813.2	327.4	485.8	1,481.6	1,023.6	458.0
Net income attributable to noncontrolling interest	3.0	19.2	(16.2)	13.0	25.1	(12.1)
Net income attributable to Principal Financial Group, Inc.	\$ 810.2	\$ 308.2	\$ 502.0	\$ 1,468.6	\$ 998.5	\$ 470.1

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Net Income Attributable to Principal Financial Group, Inc.

Net income attributable to Principal Financial Group, Inc. increased primarily due to an increase in after-tax net realized capital gains due to net gains resulting from real estate transactions in 2017.

Total Revenues

Premiums increased \$1,105.2 million for the Retirement and Income Solutions segment primarily due to higher sales of single premium group and individual annuities with life contingencies. The single premium group annuity product, which is typically used to fund defined benefit plan terminations, can generate large premiums from very few customers and therefore premiums tend to vary from period to period.

Fees and other revenues increased for the U.S. Insurance Solutions segment primarily due to a \$23.7 million increase resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to an unfavorable impact in 2016 and \$10.3 million related to growth in the business. Fees and other revenues increased \$22.4 million for the Principal Global Investors segment primarily due to an increase in management fee revenue resulting from higher AUM. Fees and other revenues increased \$16.8 million for the Retirement and Income Solutions segment primarily due to higher fees stemming from an increase in mean account values, which resulted from an increase in the daily average equity markets since 2016 .

Net investment income decreased primarily due to a \$26.4 million decrease in variable investment income, \$26.0 million due to lower inflation-based investment returns on average invested assets and cash as a result of lower inflation in Latin America and \$11.1 million due to unfavorable relative market performance on our required regulatory investments in the pension funds of our Latin America business. These were partially offset by an increase of \$40.9 million attributable to higher average invested assets in our U.S. operations. For additional information, see “Investments — Investment Results – Net Investment Income.”

Net realized capital gains (losses) can be volatile due to other-than-temporary impairments of invested assets, mark-to-market adjustments of certain invested assets and our decision to sell invested assets. Net realized capital gains increased primarily due to net gains resulting from real estate transactions in 2017. For additional information, see “Investments — Investment Results.”

Total Expenses

Benefits, claims and settlement expenses increased \$1,102.6 million for the Retirement and Income Solutions segment primarily due to a larger change in reserves resulting from higher sales of single premium group and individual annuities with life contingencies.

Dividends to policyholders decreased primarily resulting from an unfavorable impact associated with actuarial assumption updates and model refinements in 2016 and no impact in 2017.

Operating expenses increased primarily resulting from a more unfavorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to 2016.

Income Taxes

The effective income tax rate increased to 30% for the three months ended September 30, 2017, from 12% for the three months ended September 30, 2016, primarily due to the detriments of 11% related to an increase in pre-tax income with no proportionate increase in permanent tax differences and 11% from state income taxes, both of which were impacted by real estate transactions in 2017. These detriments were partially offset by a 2% benefit related to the dividends received deduction. See Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 6, Income Taxes ” for a reconciliation between the U.S. corporate income tax rate and the effective income tax rate.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Net Income Attributable to Principal Financial Group, Inc.

Net income attributable to Principal Financial Group, Inc. increased primarily due to an increase in after-tax net realized capital gains due to \$410.8 million in net gains resulting from real estate transactions in 2017 as described in “Transactions Affecting Comparability of Results of Operations – Real Estate Transactions” and \$216.3 million related to higher segment pre-tax earnings due to growth in the businesses. These increases were partially offset by a \$202.3 million change in derivatives not designated as hedging instruments that had losses in 2017 verses gains in 2016.

Total Revenues

Premiums increased \$1,187.3 million for the Retirement and Income Solutions segment primarily due to higher sales of single premium group and individual annuities with life contingencies.

Fees and other revenues increased \$62.6 million for the Retirement and Income Solutions segment primarily due to higher fees stemming from an increase in mean account values, which resulted from an increase in the daily average equity markets since 2016. Fees and other revenues increased \$61.3 million for the Principal Global Investors segment primarily due to an increase in management fee revenue resulting from higher AUM. Fees and other revenues increased \$57.0 million for the U.S. Insurance Solutions segment primarily due to growth in the business.

Net investment income increased primarily due to higher average invested assets in our U.S. operations. For additional information, see “Investments — Investment Results – Net Investment Income.”

Net realized capital gains (losses) can be volatile due to other-than-temporary impairments of invested assets, mark-to-market adjustments of certain invested assets and our decision to sell invested assets. Net realized capital gains increased primarily due to \$690.9 million in net gains resulting from real estate transactions in 2017 as described in “Transactions Affecting Comparability of Results of Operations – Real Estate Transactions.” This increase was partially offset by a \$311.3 million change in derivatives not designated as hedging instruments that had losses in 2017 versus gains in 2016. For additional information, see “Investments — Investment Results.”

Total Expenses

Benefits, claims and settlement expenses increased \$1,205.5 million for the Retirement and Income Solutions segment primarily due to a larger change in reserves resulting from higher sales of single premium group and individual annuities with life contingencies.

Operating expenses increased primarily due to higher staff-related costs.

Income Taxes

The effective income tax rate increased to 24% for the nine months ended September 30, 2017, from 15% for the nine months ended September 30, 2016, primarily due to the detriments of 7% related to an increase in pre-tax income with no proportionate increase in permanent tax differences and 5% from state income taxes, both of which were impacted by real estate transactions in 2017. These detriments were partially offset by a 2% benefit related to the dividends received deduction. See Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 6, Income Taxes” for a reconciliation between the U.S. corporate income tax rate and the effective income tax rate.

Results of Operations by Segment

For results of operations by segment see Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 11, Segment Information.”

Retirement and Income Solutions Segment

Retirement and Income Solutions Segment Summary Financial Data

Net revenue is a key metric used to understand Retirement and Income Solutions earnings growth. Net revenue is defined as operating revenues less benefits, claims and settlement expenses less dividends to policyholders. Net revenue from Retirement and Income Solutions – Fee is primarily fee based and is impacted by changes in the equity markets. Net revenue from Retirement and Income Solutions – Spread is driven by the difference between investment income earned on the underlying general account assets and the interest rate credited to the contracts.

The following table presents the Retirement and Income Solutions net revenue for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Retirement and Income Solutions – Fee	\$ 372.1	\$ 364.8	\$ 7.3	\$ 1,181.7	\$ 1,110.0	\$ 71.7
Retirement and Income Solutions – Spread	131.0	122.0	9.0	420.0	358.4	61.6
Total Retirement and Income Solutions	<u>\$ 503.1</u>	<u>\$ 486.8</u>	<u>\$ 16.3</u>	<u>\$ 1,601.7</u>	<u>\$ 1,468.4</u>	<u>\$ 133.3</u>

The following table presents certain summary financial data relating to the Retirement and Income Solutions segment for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Operating revenues:						
Premiums and other considerations	\$ 1,496.1	\$ 390.9	\$ 1,105.2	\$ 2,935.5	\$ 1,748.2	\$ 1,187.3
Fees and other revenues	352.3	335.5	16.8	1,032.0	971.7	60.3
Net investment income	522.4	518.0	4.4	1,569.7	1,463.1	106.6
Total operating revenues	<u>2,370.8</u>	<u>1,244.4</u>	<u>1,126.4</u>	<u>5,537.2</u>	<u>4,183.0</u>	<u>1,354.2</u>
Expenses:						
Benefits, claims and settlement expenses, including dividends to policyholders	1,867.7	757.6	1,110.1	3,935.5	2,714.6	1,220.9
Operating expenses	293.0	279.9	13.1	903.6	885.4	18.2
Total expenses	<u>2,160.7</u>	<u>1,037.5</u>	<u>1,123.2</u>	<u>4,839.1</u>	<u>3,600.0</u>	<u>1,239.1</u>
Pre-tax operating earnings	<u>\$ 210.1</u>	<u>\$ 206.9</u>	<u>\$ 3.2</u>	<u>\$ 698.1</u>	<u>\$ 583.0</u>	<u>\$ 115.1</u>

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings decreased in our Fee business primarily due to a \$14.8 million unfavorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016, a \$14.3 million decrease in variable investment income and a \$7.2 million increase in staff-related costs. The decrease in our Fee business pre-tax operating earnings was partially offset by \$16.7 million in higher fees stemming from an increase in mean account values, which resulted from an increase in the daily average equity markets since 2016. Pre-tax operating earnings increased in our Spread business primarily due to a \$24.6 million favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016 and a \$16.6 million increase due to higher mean account values stemming from growth in the business. The increase in our Spread business pre-tax operating earnings was partially offset by an \$11.2 million decrease in variable investment income.

Net Revenue

Net revenue increased in our Fee business primarily due to \$16.7 million higher fees stemming from an increase in mean account values, which resulted from an increase in the daily average equity markets since 2016 and a \$4.3 million favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016. The increase in our Fee business net revenue was partially offset by a \$14.3 million decrease in variable investment income. Net revenue increased in our Spread business primarily due to a \$16.6 million increase due to higher mean account values stemming from growth in the business and a \$3.9 million favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016. The increase in our Spread net revenue was partially offset by an \$11.2 million decrease in variable investment income.

Operating Expenses

Operating expenses increased in our Fee business primarily due to a \$19.1 million increase in DAC amortization expense resulting from an unfavorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016 and a \$7.2 million increase in staff-related costs. Operating expenses decreased in our Spread business primarily due to \$20.7 million decrease in DAC amortization expense resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings increased in our Fee business primarily due to \$59.4 million in higher fees stemming from an increase in mean account values resulting from an increase in the daily average equity markets since 2016. The increase in our Fee business pre-tax operating earnings was partially offset by a \$14.9 million increase in non-deferrable commission expenses resulting from an increase in mean account values and a \$14.8 million unfavorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016. Pre-tax operating earnings increased in our Spread business primarily due to a \$34.6 million increase in fees due to higher mean account values stemming from growth in the business, a \$24.6 million favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016 and a \$14.2 million increase in variable investment income.

Net Revenue

Net revenue increased in our Fee business primarily due to \$59.4 million in higher fees stemming from an increase in mean account values, which resulted from an increase in the daily average equity markets since 2016. Net revenue increased in our Spread business primarily due to a \$34.6 million increase in fees due to higher mean account values stemming from growth in the business and a \$14.2 million increase in variable investment income.

Operating Expenses

Operating expenses increased in our Fee business primarily due to a \$19.1 million increase in DAC amortization expense resulting from an unfavorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016 and a \$14.9 million increase in non-deferrable commission expense, which resulted from an increase in mean account values compared to the nine months ended September 30, 2016. Operating expenses decreased in our Spread business primarily due to \$20.7 million decrease in DAC amortization expense resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to 2016.

Principal Global Investors Segment

Principal Global Investors Segment Summary Financial Data

AUM is a key indicator of earnings growth for the Principal Global Investors segment, as AUM is the base by which we generate revenues. Net cash flow and market performance are the two main drivers of AUM growth. Net cash flow reflects our ability to attract and retain client deposits. Market performance reflects equity, fixed income, real estate and other alternative investment market performance. The percentage growth in revenues of the segment will generally track with the percentage growth in AUM. This trend may vary due to changes in business and/or product mix.

The following table presents the AUM rollforward for assets managed by Principal Global Investors for the periods indicated:

	For the three months ended September 30,		For the nine months ended September 30,	
	2017	2016	2017	2016
	<i>(in billions)</i>			
AUM, beginning of period	\$ 410.4	\$ 382.8	\$ 390.5	\$ 360.8
Net cash flow	2.5	4.2	(0.5)	10.6
Investment performance (1)	10.4	10.2	33.4	25.1
Other	—	0.1	(0.1)	0.8
AUM, end of period	<u>\$ 423.3</u>	<u>\$ 397.3</u>	<u>\$ 423.3</u>	<u>\$ 397.3</u>

(1) Variations in investment performance are primarily the result of fluctuations in market performance over time.

The following table presents certain summary financial data relating to the Principal Global Investors segment for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Operating revenues:						
Fees and other revenues	\$ 366.7	\$ 344.3	\$ 22.4	\$ 1,065.6	\$ 1,004.3	\$ 61.3
Net investment income	<u>0.8</u>	<u>1.9</u>	<u>(1.1)</u>	<u>3.3</u>	<u>2.7</u>	<u>0.6</u>
Total operating revenues	<u>367.5</u>	<u>346.2</u>	<u>21.3</u>	<u>1,068.9</u>	<u>1,007.0</u>	<u>61.9</u>
Expenses:						
Total expenses	235.7	231.7	4.0	718.6	692.8	25.8
Pre-tax operating earnings attributable to noncontrolling interest	<u>1.6</u>	<u>1.6</u>	<u>—</u>	<u>4.7</u>	<u>4.1</u>	<u>0.6</u>
Pre-tax operating earnings	<u>\$ 130.2</u>	<u>\$ 112.9</u>	<u>\$ 17.3</u>	<u>\$ 345.6</u>	<u>\$ 310.1</u>	<u>\$ 35.5</u>

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings increased primarily due to a \$19.6 million increase in management fee revenue resulting from higher AUM. This increase was partially offset by a \$4.0 million increase in expenses supporting the business.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings increased primarily due to a \$69.2 million increase in management fee revenue resulting from higher AUM and a \$6.0 million increase in transaction-based fees in our real estate business. These increases were partially offset by a \$25.8 million increase in expenses supporting the business and a \$14.7 million decrease in performance fee revenue primarily due to a prior year triennial fee in our real estate business.

Principal International Segment

Principal International Segment Summary Financial Data

AUM is generally a key indicator of earnings growth for the segment, as AUM is the base by which we can generate local currency profits. The Cuprum business in Chile differs in that the majority of fees are collected with each deposit by the mandatory retirement customers, based on a capped salary level, as opposed to asset levels. Net customer cash flow and market performance are the two main drivers of local currency AUM growth. Net customer cash flow reflects our ability to attract and retain client deposits. Market performance reflects the investment returns on our underlying AUM. Our financial results are also impacted by fluctuations of the foreign currency to U.S. dollar exchange rates for the countries in which we have business. AUM of our foreign subsidiaries is translated into U.S. dollar equivalents at the end of the reporting period using the spot foreign exchange rates. Revenue and expenses for our foreign subsidiaries are translated into U.S. dollar equivalents at the average foreign exchange rates for the reporting period.

The following table presents the Principal International segment AUM rollforward for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016		2017	2016	
	<i>(in billions)</i>					
AUM, beginning of period	\$ 147.7	\$ 130.9		\$ 137.1	\$ 109.9	
Net cash flow	2.1	2.5		3.8	6.6	
Investment performance (1)	3.6	4.7		11.8	9.0	
Effect of exchange rates	5.1	(1.3)		6.0	11.5	
Other	0.1	(0.5)		(0.1)	(0.7)	
AUM, end of period	<u>\$ 158.6</u>	<u>\$ 136.3</u>		<u>\$ 158.6</u>	<u>\$ 136.3</u>	

(1) Variations in investment performance are primarily the result of fluctuations in market performance over time.

Net revenue is a key metric used to understand the earnings growth for the Principal International segment. The following table presents the net revenue of the Principal International segment for the periods indicated.

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Net revenue	\$ 181.8	\$ 186.0	\$ (4.2)	\$ 566.4	\$ 510.4	\$ 56.0

The following table presents certain summary financial data relating to the Principal International segment for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Operating revenues:						
Premiums and other considerations	\$ 43.3	\$ 68.2	\$ (24.9)	\$ 150.7	\$ 198.9	\$ (48.2)
Fees and other revenues	110.7	105.4	5.3	320.6	306.0	14.6
Net investment income	120.7	160.8	(40.1)	444.1	434.8	9.3
Total operating revenues	<u>274.7</u>	<u>334.4</u>	<u>(59.7)</u>	<u>915.4</u>	<u>939.7</u>	<u>(24.3)</u>
Expenses:						
Benefits, claims and settlement expenses	92.9	148.4	(55.5)	349.0	429.3	(80.3)
Operating expenses	108.1	100.9	7.2	311.4	286.7	24.7
Total expenses	<u>201.0</u>	<u>249.3</u>	<u>(48.3)</u>	<u>660.4</u>	<u>716.0</u>	<u>(55.6)</u>
Pre-tax operating earnings attributable to noncontrolling interest	<u>1.3</u>	<u>0.9</u>	<u>0.4</u>	<u>3.3</u>	<u>1.6</u>	<u>1.7</u>
Pre-tax operating earnings	<u>\$ 72.4</u>	<u>\$ 84.2</u>	<u>\$ (11.8)</u>	<u>\$ 251.7</u>	<u>\$ 222.1</u>	<u>\$ 29.6</u>

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings decreased in Latin America primarily due to unfavorable relative market performance on our required regulatory investments.

Net Revenue

Net revenue decreased \$7.5 million in Latin America primarily due to \$11.3 million of unfavorable relative market performance in our required regulatory investments. This decrease was offset by \$4.0 million due to the strengthening of the Latin American currencies against the U.S. dollar. Net revenue in Asia increased \$3.5 million due to continued growth in the business.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016
Pre-Tax Operating Earnings

Pre-tax operating earnings increased \$18.8 million in Latin America of which \$12.0 million was due to strengthening of currencies against the U.S. dollar. In addition, Asia earnings increased \$17.9 million due to continued growth in the business.

Net Revenue

Net revenue increased \$40.5 million in Latin America primarily due to higher earnings in our equity method investment in Brazil. Net revenue in Asia increased \$15.5 million due to continued growth in the business.

U.S. Insurance Solutions Segment
U.S. Insurance Solutions Segment Summary Financial Data

Premium and fees are a key metric for growth in the U.S. Insurance Solutions segment. We receive premiums on our specialty benefits insurance products as well as our traditional life insurance products. Fees are generated from our specialty benefits fee-for-service products as well as our universal life, variable universal life and indexed universal life insurance products.

In our specialty benefits insurance business, premium and fees growth is a result of strong retention and sales, as well as continued in-group growth. In our individual life insurance business, premium and fees growth is driven by strong sales with a focus on maintaining an optimal balance within our product portfolio.

The following table presents the U.S. Insurance Solutions segment premium and fees for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Premium and fees:						
Specialty benefits insurance	\$ 513.7	\$ 469.3	\$ 44.4	\$ 1,500.5	\$ 1,383.2	\$ 117.3
Individual life insurance	273.8	241.0	32.8	814.0	747.1	66.9

The following table presents certain summary financial data relating to the U.S. Insurance Solutions segment for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Operating revenues:						
Premiums and other considerations	\$ 586.7	\$ 543.6	\$ 43.1	\$ 1,740.6	\$ 1,614.0	\$ 126.6
Fees and other revenues (1)	200.8	166.7	34.1	573.8	516.2	57.6
Net investment income	198.0	200.1	(2.1)	598.1	579.1	19.0
Total operating revenues	985.5	910.4	75.1	2,912.5	2,709.3	203.2
Expenses:						
Benefits, claims and settlement expenses (1)	588.1	604.8	(16.7)	1,769.7	1,675.4	94.3
Dividends to policyholders (1)	32.6	45.4	(12.8)	92.6	121.9	(29.3)
Operating expenses (1)	281.6	190.0	91.6	776.4	657.7	118.7
Total expenses	902.3	840.2	62.1	2,638.7	2,455.0	183.7
Pre-tax operating earnings (1)	\$ 83.2	\$ 70.2	\$ 13.0	\$ 273.8	\$ 254.3	\$ 19.5

(1) For further details related to the impact associated with actuarial assumption updates and model refinements for the three and nine months ended September 30, 2017 and 2016, see “Transactions Affecting Comparability of Results of Operations — Actuarial Assumption Updates.”

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings increased primarily due to a \$7.9 million increase resulting from a focus on disciplined expense control and \$6.7 million related to growth in the business.

Operating Revenues

Premium and fees increased \$44.4 million in our specialty benefits insurance business primarily due to growth in the business. Premium and fees increased in our individual life insurance business primarily due to a \$23.7 million increase resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to an unfavorable impact in 2016 and \$9.1 million related to growth in the business.

Total Expenses

Benefits, claims and settlement expenses increased in our specialty benefits insurance business primarily due to a \$23.4 million increase associated with growth in the business. This increase was partially offset by a \$16.3 million decrease resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2017 compared to an unfavorable impact in 2016. Benefits, claims and settlement expenses decreased in our individual life insurance business primarily due to a \$35.1 million decrease resulting from a less unfavorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to 2016. This decrease was partially offset by a \$6.7 million increase related to growth in the business.

Operating expenses increased in our specialty benefits insurance business primarily due to a \$13.8 million increase associated with growth in the business and a \$12.1 million increase resulting from a favorable impact associated with actuarial assumption updates and model refinements in 2016 and no impact in 2017. Operating expenses increased \$69.4 million in our individual life insurance business primarily resulting from an unfavorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to a favorable impact in 2016.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Pre-Tax Operating Earnings

Pre-tax operating earnings increased primarily due to growth in the business.

Operating Revenues

Premium and fees increased primarily due to growth in the business.

Total Expenses

Benefits, claims and settlement expenses increased \$63.7 million in our specialty benefits insurance business primarily due to growth in the business. Benefits, claims and settlement expenses increased in our individual life insurance business primarily due to a \$44.9 million increase associated with growth in the business and a \$20.8 million increase related to higher claims. These increases were partially offset by a \$35.1 million decrease resulting from a less unfavorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to 2016.

Operating expenses increased \$46.3 million in our specialty benefits insurance business primarily due to growth in the business. Operating expenses increased \$72.4 million in our individual life insurance business primarily resulting from an unfavorable impact associated with actuarial assumption updates and model refinements in 2017 as compared to a favorable impact in 2016.

Corporate Segment

Corporate Segment Summary Financial Data

The following table presents certain summary financial data relating to the Corporate segment for the periods indicated:

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Operating revenues:						
Total operating revenues	\$ (20.3)	\$ (21.0)	\$ 0.7	\$ (41.6)	\$ (51.6)	\$ 10.0
Expenses:						
Total expenses	22.3	36.8	(14.5)	106.4	114.0	(7.6)
Pre-tax operating earnings attributable to noncontrolling interest	0.4	—	0.4	1.0	—	1.0
Pre-tax operating losses	\$ (43.0)	\$ (57.8)	\$ 14.8	\$ (149.0)	\$ (165.6)	\$ 16.6

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Pre-Tax Operating Losses

Pre-tax operating losses decreased primarily due to a \$5.3 million reduction in pension and OPEB expenses, a \$4.4 million reduction in financing activities and a \$3.9 million refund of an uncertain tax position penalty with the IRS.

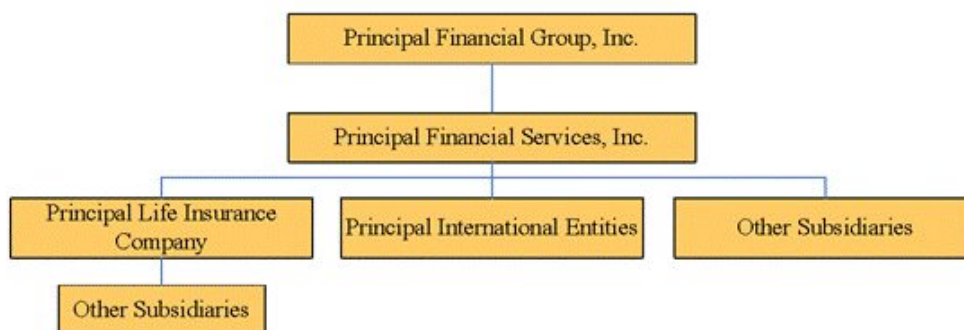
Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Pre-Tax Operating Losses

Pre-tax operating losses decreased primarily due to a reduction in pension and OPEB expenses.

Liquidity and Capital Resources

Liquidity and capital resources represent the overall strength of a company and its ability to generate strong cash flows, borrow funds at a competitive rate and raise new capital to meet operating and growth needs. Our legal entity structure has an impact on our ability to meet cash flow needs as an organization. Following is a simplified organizational structure.



Liquidity

Our liquidity requirements have been and will continue to be met by funds from consolidated operations as well as the issuance of commercial paper, common stock, debt or other capital securities and borrowings from credit facilities. We believe the cash flows from these sources are sufficient to satisfy the current liquidity requirements of our operations, including reasonably foreseeable contingencies.

We maintain a level of cash and securities which, combined with expected cash inflows from investments and operations, is believed to be adequate to meet anticipated short-term and long-term payment obligations. We will continue our prudent capital management practice of regularly exploring options available to us to maximize capital flexibility, including accessing the capital markets and careful attention to and management of expenses.

We perform rigorous liquidity stress testing to ensure our asset portfolio includes sufficient high quality liquid assets that could be utilized to bolster our liquidity position under increasingly stressed market conditions. These assets could be utilized as collateral for secured borrowing transactions with various third parties or by selling the securities in the open market if needed.

We also manage liquidity risk by limiting the sales of liabilities with features such as puts or other options that can be exercised against the company at inopportune times. For example, as of September 30, 2017, approximately \$9.5 billion, or 99%, of our institutional guaranteed investment contracts and funding agreements cannot be redeemed by contractholders prior to maturity. Our individual annuity liabilities also contain surrender charges and other provisions limiting early surrenders.

The following table summarizes the withdrawal characteristics of our domestic general account investment contracts as of September 30, 2017.

	<u>Contractholder funds</u> <i>(in millions)</i>	<u>Percentage</u>
Not subject to discretionary withdrawal	\$ 10,515.2	34.4%
Subject to discretionary withdrawal with adjustments:		
Specified surrender charges	7,132.5	23.3
Market value adjustments	6,529.7	21.4
Subject to discretionary withdrawal without adjustments	6,405.3	20.9
Total domestic investment contracts	<u>\$ 30,582.7</u>	<u>100.0%</u>

Universal life insurance and certain traditional life insurance policies are also subject to discretionary withdrawals by policyholders. However, life insurance policies tend to be less susceptible to withdrawal than our investment contracts because policyholders may be subject to a new underwriting process in order to obtain a new life insurance policy. In addition, our life insurance liabilities include surrender charges to discourage early surrenders.

As of September 30, 2017 and December 31, 2016, we had short-term credit facilities with various financial institutions in an aggregate amount of \$905.0 million and \$1,005.0 million, respectively. As of September 30, 2017 and December 31, 2016, we had \$58.8 million and \$51.4 million, respectively, of outstanding borrowings, with no assets pledged as support. During the first quarter of 2017, we extended or renewed \$789.0 million of our revolving credit facilities. The facilities and their new maturity dates include a \$600.0 million 5-year facility with PFG, PFS and Principal Life as co-borrowers that matures March 2022 and a \$200.0 million 5-year credit facility, with PFG, PFS, Principal Life and Principal Financial Services V (UK) LTD as co-borrowers, of which \$11.0 million matures March 2020 and \$189.0 million matures March 2022. The revolving credit facilities are committed and provide 100% back-stop support for our commercial paper program. The \$600.0 million facility is supported by seventeen banks and the \$200.0 million facility is supported by fifteen banks through March 2020, reduced to \$189.0 million supported by fourteen banks thereafter. Most of the banks have other relationships with us. In addition to the revolving credit facilities, Principal International Chile has the capacity to access up to \$60.0 million in unsecured lines of credit offered by Chilean financial institutions and Principal Life has a \$45.0 million unsecured line of credit. Due to the financial strength and the strong relationships we have with these providers, we are comfortable we have very low risk the financial institutions would be unable or unwilling to fund these facilities.

The Holding Companies: Principal Financial Group, Inc. and Principal Financial Services, Inc. The principal sources of funds available to our parent holding company, PFG, to meet its obligations, including the payments of dividends on common stock, debt service and the repurchase of stock, are dividends from subsidiaries as well as its ability to borrow funds at competitive rates and raise capital to meet operating and growth needs. The declaration and payment of common stock dividends by us is subject to the discretion of our Board of Directors and will depend on our overall financial condition, results of operations, capital levels, cash requirements, future prospects, receipt of dividends from Principal Life (as described below), risk management considerations and other factors deemed relevant by the Board. No significant restrictions limit the payment of dividends by PFG, except those generally applicable to corporations incorporated in Delaware. Dividends from Principal Life, our primary subsidiary, are limited by Iowa law.

Under Iowa law, Principal Life may pay dividends only from the earned surplus arising from its business and must receive the prior approval of the Commissioner of Insurance of the State of Iowa (“the Commissioner”) to pay stockholder dividends or make any other distribution if such dividends or distributions would exceed certain statutory limitations. Iowa

law gives the Commissioner discretion to disapprove requests for distributions in excess of these limitations. Extraordinary dividends include those made, together with dividends and other distributions, within the preceding twelve months that exceed the greater of (i) 10% of Principal Life's statutory policyholder surplus as of the previous year-end or (ii) the statutory net gain from operations from the previous calendar year, not to exceed earned surplus. Based on December 31, 2016, statutory results, the dividend limitation for Principal Life is approximately \$1,143.3 million in ordinary dividends in 2017 without prior regulatory approval. However, because the dividend test is based on dividends previously paid over rolling 12-month periods, if paid before a specified date during 2017, some or all of such dividends may be extraordinary and require regulatory approval.

On May 1, 2017, Principal Life sold its ownership interest in Principal Global Investors, LLC to Principal Life's direct parent, PFS, in connection with a corporate reorganization designed to better utilize and allocate capital internally. Subsequent to the sale, Principal Life paid an extraordinary dividend of \$1,068.4 million to its parent, which was approved by the Commissioner, primarily from proceeds received from the sale.

Total stockholder dividends paid by Principal Life to its parent as of September 30, 2017, including distribution of the proceeds from sale, were \$1,218.4 million, all of which was extraordinary and approved by the Commissioner. As of September 30, 2017, we had \$1,809.7 million of cash and liquid assets held in our holding companies and other subsidiaries which is available for corporate purposes.

Operations. Our primary consolidated cash flow sources are premiums from insurance products, pension and annuity deposits, asset management fee revenues, administrative services fee revenues, income from investments and proceeds from the sales or maturity of investments. Cash outflows consist primarily of payment of benefits to policyholders and beneficiaries, income and other taxes, current operating expenses, payment of dividends to policyholders, payments in connection with investments acquired, payments made to acquire subsidiaries, payments relating to policy and contract surrenders, withdrawals, policy loans, interest payments and repayment of short-term debt and long-term debt. Our investment strategies are generally intended to provide adequate funds to pay benefits without forced sales of investments. For a discussion of our investment objectives and strategies, see "Investments."

Cash Flows. Activity, as reported in our consolidated statements of cash flows, provides relevant information regarding our sources and uses of cash. The following discussion of our operating, investing and financing portions of the cash flows excludes cash flows attributable to the separate accounts.

Net cash provided by operating activities was \$3,628.7 million and \$2,927.3 million for the nine months ended September 30, 2017 and 2016, respectively. Our insurance business typically generates positive cash flows from operating activities, as premiums collected from our insurance products and income received from our investments exceed acquisition costs, benefits paid, redemptions and operating expenses. These positive cash flows are then invested to support the obligations of our insurance and investment products and required capital supporting these products. Our cash flows from operating activities are affected by the timing of premiums, fees and investment income received and benefits and expenses paid. The increase in cash provided by operating activities in 2017 compared to 2016 was the result of fluctuations in receivables and payables associated with the timing of settlements.

Net cash used in investing activities was \$3,317.7 million and \$4,497.6 million for the nine months ended September 30, 2017 and 2016, respectively. The decrease in cash used in investing activities was driven by decreased net purchases of available-for-sale securities and the sale of real estate.

Net cash used in financing activities was \$235.6 million for the nine months ended September 30, 2017, compared to net cash provided by financing activities of \$1,223.7 million for the nine months ended September 30, 2016. The increase in cash used in financing activities was the result of lower net investment contract deposits in 2017 as compared to 2016 primarily in the pension business.

Shelf Registration. Under our current shelf registration, we have the ability to issue, in unlimited amounts, unsecured senior debt securities or subordinated debt securities, junior subordinated debt, preferred stock, common stock, warrants, depository shares, stock purchase contracts and stock purchase units of PFG, trust preferred securities of three subsidiary trusts and guarantees by PFG of these trust preferred securities. Our wholly owned subsidiary, PFS, may guarantee, fully and unconditionally or otherwise, our obligations with respect to any non-convertible securities, other than common stock, described in the shelf registration.

Short-Term Debt. The components of short-term debt were as follows:

	September 30, 2017	December 31, 2016
	(in millions)	
Other recourse short-term debt	\$ 58.8	\$ 51.4
Total short-term debt	<u>\$ 58.8</u>	<u>\$ 51.4</u>

The short-term credit facilities are used for general corporate purposes and borrowings outstanding can fluctuate as part of working capital management.

Long-Term Debt. As of September 30, 2017, there have been no significant changes to long-term debt since December 31, 2016.

Stockholders' Equity. The following table summarizes our dividends to stockholders and repurchase of common stock.

	For the nine months ended September 30, 2017	For the year ended December 31, 2016
	(in millions)	
Dividends to stockholders	\$ 398.5	\$ 464.9
Repurchase of common stock	218.1	277.3
Total cash returned to common stockholders	<u>\$ 616.6</u>	<u>\$ 742.2</u>

For additional stockholders' equity information, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 9, Stockholders' Equity."

Capitalization

The following table summarizes our capital structure:

	September 30, 2017	December 31, 2016
	(\$ in millions)	
Debt:		
Short-term debt	\$ 58.8	\$ 51.4
Long-term debt	3,175.4	3,125.7
Total debt	<u>3,234.2</u>	<u>3,177.1</u>
Equity excluding AOCI	11,949.4	10,902.5
Total capitalization excluding AOCI	<u>\$ 15,183.6</u>	<u>\$ 14,079.6</u>
Debt to equity excluding AOCI	27%	29%
Debt to capitalization excluding AOCI	21%	23%

Contractual Obligations and Contractual Commitments

As of September 30, 2017, there have been no significant changes to contractual obligations and contractual commitments since December 31, 2016.

Off-Balance Sheet Arrangements

Variable Interest Entities. We have relationships with various types of special purpose entities and other entities where we have a variable interest as described in Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 2, Variable Interest Entities."

Guarantees and Indemnifications. As of September 30, 2017, there have been no significant changes to guarantees and indemnifications since December 31, 2016. For guarantee and indemnification information, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 8, Contingencies, Guarantees and Indemnifications" under the caption, "Guarantees and Indemnifications."

Financial Strength and Credit Ratings

Our ratings are influenced by the relative ratings of our peers/competitors as well as many other factors including our operating and financial performance, capital levels, asset quality, liquidity, asset/liability management, overall portfolio mix, financial leverage (i.e., debt), risk exposures, operating leverage and other factors.

In October 2017, Fitch affirmed the ‘AA-’ financial strength ratings of Principal Life and Principal National Life. Fitch also affirmed PFG’s long-term senior unsecured debt at ‘A-’. The outlook on all ratings remains ‘stable’. The rating reflects very strong and stable operating profitability and a very strong business profile, reflecting strong market position and significant operating scale focusing on small and midsize businesses in the retirement market.

In April 2017, S&P affirmed PFG’s credit ratings and the financial strength ratings of Principal Life and Principal National Life Insurance Company (“PNLIC”) at ‘A+’. The outlook remains ‘stable’ for all ratings. Principal Life’s enterprise risk management rating was affirmed as ‘Strong’. The rating affirmation reflects S&P’s view that we have a very strong competitive position as a leader in the U.S. small to midsize 401(k) market, with strong asset management and insurance solution capabilities.

In January 2017, A.M. Best affirmed the financial strength ratings of Principal Life and PNLIC at ‘A+’. The outlook remains ‘stable’ for all ratings. The affirmation reflects continued solid risk-adjusted capitalization, well-managed balance sheet, strong business profile and consistently favorable operating results.

In November 2016, Moody’s affirmed the financial strength ratings of Principal Life and PNLIC at ‘A1’. The outlook remains ‘stable’. The affirmation is based on the leading, broad-based position of Principal Life in the U.S. group pension market, with earnings diversification from retail life and annuity businesses.

A.M. Best, Moody’s and Fitch maintain a ‘negative’ outlook on the U.S. life insurance sector. Continued low interest rates, an uncertain regulatory environment, exposure to asset management and international risks and low domestic growth are pressuring the sector. S&P maintains a ‘stable’ outlook on the U.S. life insurance sector. S&P’s view is that while the outlook remains ‘stable’ for the North American life sector, there are multiple factors pressuring the sector, such as low interest rates, slow growth prospects, pressures on operating performance and regulatory changes.

The following table summarizes our significant financial strength and debt ratings from the major independent rating organizations. The debt ratings shown are indicative ratings. Outstanding issuances are rated the same as indicative ratings unless otherwise noted. Actual ratings can differ from indicative ratings based on contractual terms. A rating is not a recommendation to buy, sell or hold securities. Such a rating may be subject to revision or withdrawal at any time by the assigning rating agency. Each rating should be evaluated independently of any other rating.

	A.M. Best	Fitch	S&P Global	Moody’s
Principal Financial Group				
Senior Unsecured Debt (1)	a-		BBB+	Baa2
Junior Subordinated Debt (2)	bbb+		BBB	Baa3
Principal Financial Services				
Senior Unsecured Debt	a-		BBB+	Baa1
Principal Life Insurance Company				
Insurer Financial Strength	A+	AA-	A+	A1
Issuer Credit Rating	aa-			
Commercial Paper	AMB-1+		A-1+	P-1
Enterprise Risk Management Rating			Strong	
Principal National Life Insurance Company				
Insurer Financial Strength	A+	AA-	A+	A1

(1) Principal Financial Group’s senior debt issuance has been rated “Baa1” by Moody’s.

(2) Principal Financial Group’s junior subordinated debt issuance has been rated “BBB-” by S&P Global and “Baa2” by Moody’s.

Fair Value Measurement

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 (an exit price). The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three levels. The fair value hierarchy gives the highest priority (Level 1) to unadjusted quoted prices in active markets for identical assets or liabilities and gives the lowest priority (Level 3) to unobservable inputs. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety considering factors specific to the asset or liability. See Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 10, Fair Value Measurements” for further details, including a reconciliation of changes in Level 3 fair value measurements.

As of September 30, 2017, 41% of our net assets (liabilities) were Level 1, 55% were Level 2 and 4% were Level 3. Excluding separate account assets as of September 30, 2017, 3% of our net assets (liabilities) were Level 1, 96% were Level 2 and 1% were Level 3.

As of December 31, 2016, 41% of our net assets (liabilities) were Level 1, 55% were Level 2 and 4% were Level 3. Excluding separate account assets as of December 31, 2016, 3% of our net assets (liabilities) were Level 1, 96% were Level 2 and 1% were Level 3.

Changes in Level 3 Fair Value Measurements

Net assets (liabilities) measured at fair value on a recurring basis using significant unobservable inputs (Level 3) as of September 30, 2017, were \$7,859.8 million as compared to \$7,779.6 million as of December 31, 2016. The increase was primarily related to gains in our separate account assets. These gains were offset by net sales of our separate account assets.

Net assets (liabilities) measured at fair value on a recurring basis using significant unobservable inputs (Level 3) as of September 30, 2016, were \$7,838.9 million as compared to \$7,318.6 million as of December 31, 2015. The increase was primarily related to gains in our separate account assets. The increase was partially offset by losses on bifurcated embedded derivatives in investment contracts.

Investments

We had total consolidated assets as of September 30, 2017, of \$247,933.6 million, of which \$81,203.4 million were invested assets. The rest of our total consolidated assets are comprised primarily of separate account assets for which we do not bear investment risk; therefore, the discussion and financial information below does not include such assets.

Overall Composition of Invested Assets

Invested assets as of September 30, 2017, were predominantly high quality and broadly diversified across asset class, individual credit, industry and geographic location. Asset allocation is determined based on cash flow and the risk/return requirements of our products. As shown in the following table, the major categories of invested assets are fixed maturities and commercial mortgage loans. The remainder is invested in other investments, equity securities, real estate and residential mortgage loans. In addition, policy loans are included in our invested assets.

	September 30, 2017		December 31, 2016	
	Carrying amount	% of total	Carrying amount	% of total
(\$ in millions)				
Fixed maturities:				
Public	\$ 41,638.9	51 %	\$ 39,170.3	52 %
Private	17,731.4	22	16,074.2	21
Equity securities	1,789.2	2	1,512.3	2
Mortgage loans:				
Commercial	12,745.4	16	12,027.8	16
Residential	1,275.0	2	1,202.4	1
Real estate held for sale	185.4	—	130.7	—
Real estate held for investment	1,464.8	2	1,238.1	2
Policy loans	812.0	1	823.8	1
Other investments	3,561.3	4	3,655.9	5
Total invested assets	<u>81,203.4</u>	<u>100 %</u>	<u>75,835.5</u>	<u>100 %</u>
Cash and cash equivalents	2,795.0		2,719.6	
Total invested assets and cash	<u>\$ 83,998.4</u>		<u>\$ 78,555.1</u>	

Investment Results

Net Investment Income

The following table presents the yield and investment income, excluding net realized capital gains and losses, for our invested assets for the periods indicated. We calculate annualized yields using a simple average of asset classes at the beginning and end of the reporting period. The yields for available-for-sale fixed maturities and available-for-sale equity securities are calculated using amortized cost and cost, respectively. All other yields are calculated using carrying amounts.

	For the three months ended September 30,						For the nine months ended September 30,					
	2017		2016		Increase (decrease)		2017		2016		Increase (decrease)	
	Yield	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield	Amount
(\$ in millions)												
Fixed maturities	4.1 %	\$ 580.0	4.3 %	\$ 574.5	(0.2) %	\$ 5.5	4.2 %	\$ 1,745.6	4.4 %	\$ 1,692.6	(0.2) %	\$ 53.0
Equity securities	2.7	11.7	6.0	22.3	(3.3)	(10.6)	4.7	58.5	4.5	48.3	0.2	10.2
Mortgage loans — commercial	4.3	135.5	4.4	127.5	(0.1)	8.0	4.4	405.3	4.3	377.9	0.1	27.4
Mortgage loans — residential	4.1	12.9	5.2	15.2	(1.1)	(2.3)	4.8	45.0	5.4	46.6	(0.6)	(1.6)
Real estate	9.8	37.8	4.9	18.3	4.9	19.5	9.7	110.4	5.1	56.8	4.6	53.6
Policy loans	5.7	11.4	5.7	11.8	—	(0.4)	5.6	34.2	5.6	34.5	—	(0.3)
Cash and cash equivalents	1.3	7.6	0.6	3.4	0.7	4.2	0.9	19.4	0.6	10.6	0.3	8.8
Other investments	7.6	65.5	9.9	104.3	(2.3)	(38.8)	8.5	230.3	7.7	212.7	0.8	17.6
Total	4.3	862.4	4.6	877.3	(0.3)	(14.9)	4.4	2,648.7	4.5	2,480.0	(0.1)	168.7
Investment expenses	(0.1)	(24.4)	(0.1)	(21.2)	—	(3.2)	(0.1)	(66.9)	(0.1)	(63.0)	—	(3.9)
Net investment income	<u>4.2 %</u>	<u>\$ 838.0</u>	<u>4.5 %</u>	<u>\$ 856.1</u>	<u>(0.3) %</u>	<u>\$ (18.1)</u>	<u>4.3 %</u>	<u>\$ 2,581.8</u>	<u>4.4 %</u>	<u>\$ 2,417.0</u>	<u>(0.1) %</u>	<u>\$ 164.8</u>

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Net investment income decreased primarily due to a decrease in variable investment income related to the sale of value-add joint venture real estate in the third quarter of 2016, lower inflation-based investment returns on average invested assets and cash as a result of lower inflation in Latin America and unfavorable relative market performance on our required regulatory investments in the pension funds of our Latin America business. These were partially offset by an increase due to higher average invested assets in our U.S. operations.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Net investment income increased primarily due to higher average invested assets in our U.S. operations and an increase in variable investment income primarily related to higher income from other alternative investments.

Net Realized Capital Gains (Losses)

The following table presents the contributors to net realized capital gains and losses for the periods indicated.

	For the three months ended September 30,			For the nine months ended September 30,		
	2017	2016	Increase (decrease)	2017	2016	Increase (decrease)
	<i>(in millions)</i>					
Fixed maturities, available-for-sale – credit impairments (1)	\$ (16.6)	\$ (11.0)	\$ (5.6)	\$ (58.8)	\$ (67.5)	\$ 8.7
Commercial mortgages – credit impairments	(0.1)	(0.9)	0.8	(0.3)	(1.6)	1.3
Other – credit impairments	1.3	2.0	(0.7)	1.2	3.9	(2.7)
Fixed maturities, available-for-sale and trading – noncredit	(2.5)	17.8	(20.3)	(6.8)	74.3	(81.1)
Derivatives and related hedge activities	(35.4)	(13.1)	(22.3)	(157.5)	153.8	(311.3)
Other gains	729.9	49.4	680.5	786.3	51.6	734.7
Net realized capital gains	<u>\$ 676.6</u>	<u>\$ 44.2</u>	<u>\$ 632.4</u>	<u>\$ 564.1</u>	<u>\$ 214.5</u>	<u>\$ 349.6</u>

- (1) Includes credit impairments as well as losses on sales of fixed maturities to reduce credit risk, net of realized credit recoveries on the sale of previously impaired securities. Credit gains on sales, excluding associated foreign currency fluctuations that are included in derivatives and related hedging activities, were a net gain of \$0.0 million and \$0.0 million for the three months ended September 30, 2017 and 2016, and \$0.8 million and \$0.2 million for the nine months ended September 30, 2017 and 2016, respectively.

Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

Other gains increased primarily due to net gains resulting from real estate transactions in 2017.

Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

Fixed maturities, available-for-sale and trading — noncredit had net losses in 2017 as compared to net gains in 2016 primarily due to the sale of a long dated structured security in 2016 and other noncredit sales at losses in 2017 versus gains in 2016.

Derivatives and related hedge activities had net losses in 2017 as compared to net gains in 2016 primarily due to losses in 2017 versus gains in 2016 on interest rate swap derivatives not designated as hedging instruments due to changes in interest rates and on the GMWB embedded derivatives, including changes in the spread reflecting our own creditworthiness, and related hedging instruments.

Other gains increased primarily due to net gains resulting from real estate transactions in 2017.

U.S. Investment Operations

Of our invested assets, \$73,417.2 million were held by our U.S. operations as of September 30, 2017. Our U.S. invested assets are managed primarily by our Principal Global Investors segment. Our Investment Committee, appointed by our Board of Directors, is responsible for establishing investment policies and monitoring risk limits and tolerances. Our primary investment objective is to maximize after-tax returns consistent with acceptable risk parameters. We seek to protect customers' benefits by optimizing the risk/return relationship on an ongoing basis, through asset/liability matching, reducing credit risk, avoiding high levels of investments that may be redeemed by the issuer, maintaining sufficiently liquid investments and avoiding undue asset concentrations through diversification. We are exposed to two primary sources of investment risk:

- credit risk, relating to the uncertainty associated with the continued ability of an obligor to make timely payments of principal and interest and
- interest rate risk, relating to the market price and/or cash flow variability associated with changes in market yield curves.

Our ability to manage credit risk is essential to our business and our profitability. We devote considerable resources to the credit analysis of each new investment. We manage credit risk through industry, issuer and asset class diversification.

A dedicated committee, comprised of senior investment professional staff members, approves the credit rating for the fixed maturities we purchase. We have teams of security analysts, organized by industry and asset class, that analyze and monitor these investments. Investments held in the portfolio are monitored on a continuous basis with a formal review documented annually or more frequently if material events affect the issuer. The analysis includes both fundamental and technical factors. The fundamental analysis encompasses both quantitative and qualitative analysis of the issuer. The qualitative analysis includes an assessment of both accounting and management aggressiveness of the issuer. In addition, technical indicators such as stock price volatility and credit default swap levels are monitored. We regularly review our investments to determine whether we should re-rate them, employing the following criteria:

- material changes in the issuer's revenues, margins, capital structure or collateral values;
- significant management or organizational changes;
- significant changes regarding the issuer's industry;
- debt service coverage or cash flow ratios that fall below industry-specific thresholds;
- violation of financial covenants and
- other business factors that relate to the issuer.

We purchase credit default swaps to hedge certain credit exposures in our investment portfolio and total return swaps and futures to hedge a portion of our investment portfolio from credit losses. We economically hedged credit exposure in our portfolio by purchasing credit default swaps with a notional amount of \$145.5 million and \$176.5 million as of September 30, 2017 and December 31, 2016, respectively. As of December 31, 2016, we also economically hedged credit exposure in our portfolio using total return swaps with a notional of \$90.0 million and futures with a notional of \$11.9 million. We sell credit default swaps to offer credit protection to investors when entering into synthetic replicating transactions. When selling credit protection, if there is an event of default by the referenced name, we are obligated to pay the counterparty the referenced amount of the contract and receive in return the referenced security. For further information on credit derivatives sold, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 4, Derivative Financial Instruments" under the caption, "Credit Derivatives Sold."

Our use of derivatives exposes us to counterparty risk, or the risk that the counterparty fails to perform the terms of the derivative contract. We actively manage this risk by:

- obtaining approval of all new counterparties by the Investment Committee;
- establishing exposure limits that take into account non-derivative exposure we have with the counterparty as well as derivative exposure;
- performing similar credit analysis prior to approval on each derivatives counterparty that we do when lending money on a long-term basis;
- diversifying our risk across numerous approved counterparties;
- implementing credit support annex (collateral) agreements ("CSAs") for over-the-counter derivative transactions or similar agreements with a majority of our counterparties to further limit counterparty exposures, which provide for netting of exposures;
- limiting exposure to A credit or better for over-the-counter derivative counterparties without CSAs;
- conducting stress-test analysis to determine the maximum exposure created during the life of a prospective transaction;
- daily monitoring of counterparty credit ratings, exposures and associated collateral levels and
- trading mandatorily cleared contracts through centralized clearinghouses.

We manage our exposure on a net basis, whereby we net positive and negative exposures for each counterparty with agreements in place. For further information on derivative exposure, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 3, Investments" under the caption, "Balance Sheet Offsetting."

A dedicated risk management team is responsible for centralized monitoring of the commercial mortgage loan portfolio. We apply a variety of strategies to minimize credit risk in our commercial mortgage loan portfolio. When considering new commercial mortgage loans, we review the cash flow fundamentals of the property, make a physical assessment of the underlying security, conduct a comprehensive market analysis and compare against industry lending practices. We use a proprietary risk rating model to evaluate all new and substantially all existing loans within the portfolio. The proprietary risk model is designed to stress projected cash flows under simulated economic and market downturns. Our lending guidelines are typically 75% or less loan-to-value ratio and a debt service coverage ratio of at least 1.2 times. We analyze investments outside of these guidelines based on cash flow quality, tenancy and other factors. The following table presents loan-to-value and debt service coverage ratios for our brick and mortar commercial mortgages, excluding Principal Global Investors segment mortgages:

	Weighted average loan-to-value ratio		Debt service coverage ratio	
	September 30, 2017	December 31, 2016	September 30, 2017	December 31, 2016
New mortgages	52%	52%	2.4X	2.6X
Entire mortgage portfolio	46%	46%	2.7X	2.7X

We also seek to manage call or prepayment risk arising from changes in interest rates. We assess and price for call or prepayment risks in all of our investments and monitor these risks in accordance with asset/liability management policies.

The amortized cost and weighted average yield, calculated using amortized cost, of non-structured fixed maturity securities that will be callable at the option of the issuer, excluding securities with a make-whole provision, were \$2,717.0 million and 3.4%, respectively, as of September 30, 2017 and \$2,075.9 million and 3.5%, respectively, as of December 31, 2016. In addition, the amortized cost and weighted average yield of residential mortgage-backed pass-through securities, residential collateralized mortgage obligations, and asset-backed securities - home equity with material prepayment risk were \$5,120.9 million and 3.1%, respectively, as of September 30, 2017 and \$4,891.3 million and 3.2%, respectively, as of December 31, 2016.

Our investment decisions and objectives are a function of the underlying risks and product profiles of each primary business operation. In addition, we diversify our product portfolio offerings to include products that contain features that will protect us against fluctuations in interest rates. Those features include adjustable crediting rates, policy surrender charges and market value adjustments on liquidations. For further information on our management of interest rate risk, see Item 3. "Quantitative and Qualitative Disclosures About Market Risk – Interest Rate Risk."

Overall Composition of U.S. Invested Assets

As shown in the following table, the major categories of U.S. invested assets are fixed maturities and commercial mortgage loans. The remainder is invested in other investments, real estate, residential mortgage loans and equity securities. In addition, policy loans are included in our invested assets. The following discussion analyzes the composition of U.S. invested assets, but excludes invested assets of the separate accounts.

	September 30, 2017		December 31, 2016	
	Carrying amount	% of total	Carrying amount	% of total
	(\$ in millions)			
Fixed maturities:				
Public	\$ 37,674.9	51 %	\$ 35,524.8	52 %
Private	17,717.2	24	16,065.2	23
Equity securities	393.5	1	342.6	1
Mortgage loans:				
Commercial	12,599.3	17	11,940.5	17
Residential	734.3	1	680.5	1
Real estate held for sale	183.2	—	128.7	—
Real estate held for investment	1,463.1	2	1,236.5	2
Policy loans	788.0	1	800.7	1
Other investments	1,863.7	3	2,088.7	3
Total invested assets	<u>73,417.2</u>	<u>100 %</u>	<u>68,808.2</u>	<u>100 %</u>
Cash and cash equivalents	2,553.2		2,335.5	
Total invested assets and cash	<u>\$ 75,970.4</u>		<u>\$ 71,143.7</u>	

Fixed Maturities

Fixed maturities include bonds, ABS, redeemable preferred stock and certain non-redeemable preferred securities. Included in the privately placed category as of September 30, 2017 and December 31, 2016, were \$12.6 billion and \$11.2 billion, respectively, of securities subject to certain holding periods and resale restrictions pursuant to Rule 144A of the Securities Act of 1933.

Fixed maturities were diversified by category of issuer, as shown in the following table for the periods indicated.

	September 30, 2017		December 31, 2016	
	Carrying amount	Percent of total	Carrying amount	Percent of total
	<i>(\$ in millions)</i>			
U.S. government and agencies	\$ 1,434.6	3 %	\$ 1,415.7	3%
States and political subdivisions	6,656.2	12	5,625.6	11
Non-U.S. governments	663.9	1	542.0	1
Corporate - public	20,633.7	37	19,117.9	37
Corporate - private	12,971.1	23	12,140.2	23
Residential mortgage-backed pass-through securities	2,643.0	5	2,842.5	5
Commercial mortgage-backed securities	3,720.5	7	4,070.2	8
Residential collateralized mortgage obligations	2,318.3	4	1,827.8	4
Asset-backed securities	4,350.8	8	4,008.1	8
Total fixed maturities	<u>\$ 55,392.1</u>	<u>100 %</u>	<u>\$ 51,590.0</u>	<u>100%</u>

We believe it is desirable to hold residential mortgage-backed pass-through securities due to their credit quality and liquidity as well as portfolio diversification characteristics. Our portfolio is comprised of Government National Mortgage Association, Federal National Mortgage Association and Federal Home Loan Mortgage Corporation pass-through securities. In addition, our residential collateralized mortgage obligation portfolio offers structural features that allow cash flows to be matched to our liabilities.

We purchase CMBS to diversify the overall credit risks of the fixed maturities portfolio and to provide attractive returns. The primary risks in holding CMBS are structural and credit risks. Structural risks include the security's priority in the issuer's capital structure, the adequacy of and ability to realize proceeds from the collateral and the potential for prepayments. Credit risks involve collateral and issuer/servicer risk where collateral and servicer performance may deteriorate. CMBS are predominantly comprised of large pool securitizations that are diverse by property type, borrower and geographic dispersion. The risks to any CMBS deal are determined by the credit quality of the underlying loans and how those loans perform over time. Another key risk is the vintage of the underlying loans and the state of the markets during a particular vintage. In the CMBS market, there is a material difference in the outlook for the performance of loans originated in 2004 and earlier relative to loans originated in 2005 through 2008. For loans originated prior to 2005, underwriting assumptions were more conservative regarding required debt service coverage and loan-to-value ratios. For the 2005 through 2008 vintages, real estate values peaked and the underwriting expectations were that values would continue to increase, which makes those loan values more sensitive to market declines. The 2009 and later vintages represent a return to debt service coverage ratios and loan-to-value ratios that more closely resemble loans originated prior to 2005.

Similar to CMBS, we purchase ABS for diversification and to provide attractive returns. The primary risks in holding ABS are also structural and credit risks, which are similar to those noted above for CMBS. Our ABS portfolio is diversified by type of asset, issuer, and vintage. We actively monitor holdings of ABS to recognize adverse changes in the risk profile of each security. Prepayments in the ABS portfolio are, in general, insensitive to changes in interest rates or are insulated from such changes by call protection features. In the event we are subject to prepayment risk, we monitor the factors that impact the level of prepayment and prepayment speed for those ABS. In addition, we hold a diverse class of securities, which limits our exposure to any one security.

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The international exposure held in our U.S. operation’s fixed maturities portfolio was 21% of total fixed maturities as of both September 30, 2017 and December 31, 2016. It is comprised of corporate and foreign government fixed maturities. The following table presents the carrying amount of our international exposure for our U.S. operation’s fixed maturities portfolio for the periods indicated.

	September 30, 2017	December 31, 2016
	<i>(in millions)</i>	
European Union, excluding UK	\$ 3,489.1	\$ 3,419.4
United Kingdom	2,481.2	2,282.4
Asia-Pacific	1,522.2	1,517.1
Australia/New Zealand	1,418.6	1,338.4
Latin America	1,014.0	950.4
Europe, non-European Union	730.2	740.4
Middle East and Africa	436.0	365.3
Other (1)	297.9	261.7
Total	\$ 11,389.2	\$ 10,875.1

(1) Includes exposure from two countries and various supranational organizations as of both September 30, 2017, and December 31, 2016.

International fixed maturities exposure is determined by the country of domicile of the parent entity of an individual asset. All international fixed maturities held by our U.S. operations are either denominated in U.S. dollars or have been swapped into U.S. dollar equivalents. Our international investments are analyzed internally by country and industry credit investment professionals. We control concentrations using issuer and country level exposure benchmarks, which are based on the credit quality of the issuer and the country. Our investment policy limits total international fixed maturities investments and we are within those internal limits. Exposure to Canada is not included in our international exposure. As of September 30, 2017 and December 31, 2016, our investments in Canada totaled \$1,741.4 million and \$1,604.5 million, respectively.

Fixed Maturities Credit Concentrations. One aspect of managing credit risk is through industry, issuer and asset class diversification. Our credit concentrations are managed to established limits. The following table presents our top ten exposures as of September 30, 2017.

	Amortized cost
	<i>(in millions)</i>
Mars, Incorporated	\$ 252.3
Wells Fargo & Company	212.3
Berkshire Hathaway Inc.	209.5
Duke Energy Corporation	192.1
Bank of America Corporation	188.8
Comcast Corporation	185.9
Province of Quebec	185.0
BP p.l.c.	170.3
People’s Republic of China	166.3
Morgan Stanley	159.7
Total top ten exposures	\$ 1,922.2

Fixed Maturities Valuation and Credit Quality. Valuation techniques for the fixed maturities portfolio vary by security type and the availability of market data. The use of different pricing techniques and their assumptions could produce different financial results. See Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 10, Fair Value Measurements” for further details regarding our pricing methodology. Once prices are determined, they are reviewed by pricing analysts for reasonableness based on asset class and observable market data. Investment analysts who are familiar with specific securities review prices for reasonableness through direct interaction with external sources, review of recent trade activity or use of internal models. All fixed maturities placed on the “watch list” are periodically analyzed by investment analysts or analysts that focus on troubled securities (“Workout Group”). This group then meets with the Chief Investment Officer and the Portfolio Managers to determine reasonableness of prices. The valuation of impaired bonds for which there is no quoted price is typically based on the present value of the future cash flows expected to be received. Although we believe these values reasonably reflect the fair value of those securities, the key assumptions about risk premiums, performance of underlying collateral (if any) and other market factors involve qualitative and unobservable inputs.

The Securities Valuation Office (“SVO”) of the National Association of Insurance Commissioners (“NAIC”) monitors the bond investments of insurers for regulatory capital and reporting purposes and, when required, assigns securities to one of six categories referred to as NAIC designations. Although NAIC designations are not produced to aid the investment decision making process, NAIC designations may serve as a reasonable proxy for Nationally Recognized Statistical Rating Organizations’ (“NRSRO”) credit ratings for certain bonds. For most corporate bonds, NAIC designations 1 and 2 include bonds generally considered investment grade by such rating organizations. Bonds are considered investment grade when rated “Baa3” or higher by Moody’s, or “BBB-” or higher by S&P. NAIC designations 3 through 6 include bonds generally referred to as below investment grade. Bonds are considered below investment grade when rated “Ba1” or lower by Moody’s, or “BB+” or lower by S&P.

However, for loan-backed and structured securities, as defined by the NAIC, the NAIC designation is not always a reasonable indication of an NRSRO rating as described below. For CMBS and non-agency RMBS, Blackrock Solutions undertakes the modeling of those NAIC designations. Other loan-backed and structured securities may be subject to an intrinsic price matrix as provided by the NAIC. This may result in a final designation being higher or lower than the NRSRO credit rating.

The following table presents our total fixed maturities by NAIC designation as of the periods indicated as well as the percentage, based on fair value, that each designation comprises.

NAIC designation	September 30, 2017			December 31, 2016		
	Amortized cost	Carrying amount	Percent of carrying amount	Amortized cost	Carrying amount	Percent of carrying amount
	(\$ in millions)					
1	\$ 35,399.3	\$ 36,756.1	66 %	\$ 33,198.2	\$ 34,031.5	66 %
2	14,788.9	15,714.7	29	13,614.9	14,155.0	27
3	2,198.2	2,288.8	4	2,578.5	2,611.8	6
4	463.5	461.1	1	640.9	604.3	1
5	136.3	122.9	—	148.6	120.4	—
6	60.1	48.5	—	80.9	67.0	—
Total fixed maturities	\$ 53,046.3	\$ 55,392.1	100 %	\$ 50,262.0	\$ 51,590.0	100 %

Fixed maturities included 60 securities with an amortized cost of \$863.1 million, gross gains of \$51.3 million, gross losses of \$9.3 million and a carrying amount of \$905.1 million as of September 30, 2017, that were still pending a review and assignment of a designation by the SVO. Due to the timing of when fixed maturities are purchased, legal documents are filed and the review by the SVO is completed, we will always have securities in our portfolio that are unrated over a reporting period. In these instances, an equivalent designation is assigned based on our fixed income analyst’s assessment.

Commercial Mortgage-Backed Securities. As of September 30, 2017, based on amortized cost, 97% of our CMBS portfolio had an NAIC designation of 1 and 85% was issued during the more conservative underwriting periods prior to 2005 and after 2008.

The following tables present our exposure by credit quality, based on NAIC designations, and vintage for our CMBS portfolio as of the periods indicated.

NAIC designation	September 30, 2017							
	2004 and prior		2005 to 2008		2009 and after		Total	
	Amortized cost	Carrying amount	Amortized cost	Carrying amount	Amortized cost	Carrying amount	Amortized cost	Carrying amount
	(in millions)							
1	\$ 74.9	\$ 77.9	\$ 449.5	\$ 448.0	\$ 3,092.1	\$ 3,083.7	\$ 3,616.5	\$ 3,609.6
2	—	—	17.7	17.3	1.2	1.1	18.9	18.4
3	—	—	33.2	31.0	—	—	33.2	31.0
4	—	—	38.2	38.1	—	—	38.2	38.1
5	0.2	0.2	19.8	17.6	—	—	20.0	17.8
6	2.8	2.6	2.7	3.0	—	—	5.5	5.6
Total (1)	\$ 77.9	\$ 80.7	\$ 561.1	\$ 555.0	\$ 3,093.3	\$ 3,084.8	\$ 3,732.3	\$ 3,720.5

(1) The CMBS portfolio included agency CMBS with a \$356.4 million amortized cost and a \$353.8 million carrying amount.

NAIC designation	December 31, 2016							
	2004 and prior		2005 to 2008		2009 and after		Total	
	Amortized cost	Carrying amount	Amortized cost	Carrying amount	Amortized cost	Carrying amount	Amortized cost	Carrying amount
	(in millions)							
1	\$ 105.2	\$ 108.9	\$ 1,183.7	\$ 1,180.7	\$ 2,698.4	\$ 2,657.6	\$ 3,987.3	\$ 3,947.2
2	—	—	19.8	19.3	—	—	19.8	19.3
3	—	—	16.2	14.6	—	—	16.2	14.6
4	7.7	7.3	64.8	57.1	—	—	72.5	64.4
5	2.1	1.4	16.7	13.7	—	—	18.8	15.1
6	1.8	1.9	9.7	7.7	—	—	11.5	9.6
Total (1)	<u>\$ 116.8</u>	<u>\$ 119.5</u>	<u>\$ 1,310.9</u>	<u>\$ 1,293.1</u>	<u>\$ 2,698.4</u>	<u>\$ 2,657.6</u>	<u>\$ 4,126.1</u>	<u>\$ 4,070.2</u>

(1) The CMBS portfolio included agency CMBS with a \$393.3 million amortized cost and a \$389.0 million carrying amount.

Fixed Maturities Watch List. We monitor any decline in the credit quality of fixed maturities through the designation of “problem securities,” “potential problem securities” and “restructured securities”. We define problem securities in our fixed maturity portfolio as securities: (i) with principal and/or interest payments in default or where default is perceived to be imminent in the near term, or (ii) issued by a company that went into bankruptcy subsequent to the acquisition of such securities. We define potential problem securities in our fixed maturity portfolio as securities included on an internal “watch list” for which management has concerns as to the ability of the issuer to comply with the present debt payment terms and which may result in the security becoming a problem or being restructured. The decision whether to classify a performing fixed maturity security as a potential problem involves significant subjective judgments by our management as to the likely future industry conditions and developments with respect to the issuer. We define restructured securities in our fixed maturity portfolio as securities where a concession has been granted to the borrower related to the borrower’s financial difficulties that would not have otherwise been considered. We determine that restructures should occur in those instances where greater economic value will be realized under the new terms than through liquidation or other disposition and may involve a change in contractual cash flows. If the present value of the restructured cash flows is less than the current cost of the asset being restructured, a realized capital loss is recorded in net income and a new cost basis is established.

The following table presents the total carrying amount of our fixed maturities portfolio, as well as its problem, potential problem and restructured fixed maturities for the periods indicated.

	September 30, 2017	December 31, 2016
	(\$ in millions)	
Total fixed maturities (public and private)	<u>\$ 55,392.1</u>	<u>\$ 51,590.0</u>
Problem fixed maturities (1)	<u>\$ 50.1</u>	<u>\$ 74.1</u>
Potential problem fixed maturities	<u>88.8</u>	<u>154.8</u>
Restructured fixed maturities	<u>2.5</u>	<u>—</u>
Total problem, potential problem and restructured fixed maturities	<u>\$ 141.4</u>	<u>\$ 228.9</u>
Total problem, potential problem and restructured fixed maturities as a percent of total fixed maturities	0.26 %	0.44 %

(1) The problem fixed maturities carrying amount is net of other-than-temporary impairment losses.

Fixed Maturities Impairments. We have a process in place to identify securities that could potentially have an impairment that is other than temporary. This process involves monitoring market events that could impact issuers’ credit ratings, business climate, management changes, litigation and government actions and other similar factors. This process also involves monitoring late payments, pricing levels, downgrades by rating agencies, key financial ratios, financial statements, revenue forecasts and cash flow projections as indicators of credit issues.

Each reporting period, a group of individuals including the Chief Investment Officer, our Portfolio Managers, members of our Workout Group and representatives from Investment Accounting review all securities to determine whether an other-than-temporary decline in value exists and whether losses should be recognized. The analysis focuses on each issuer's ability to service its debts in a timely fashion. Formal documentation of the analysis and our decision is prepared and approved by management.

We consider relevant facts and circumstances in evaluating whether a credit or interest rate-related impairment of a security is other than temporary. Relevant facts and circumstances considered include: (1) the extent and length of time the fair value has been below cost; (2) the reasons for the decline in value; (3) the financial position and access to capital of the issuer, including the current and future impact of any specific events; (4) for structured securities, the adequacy of the expected cash flows and (5) our intent to sell the security or whether it is more likely than not we will be required to sell the security before recovery of its amortized cost which, in some cases, may extend to maturity. To the extent we determine a security is deemed to be other than temporarily impaired, an impairment loss is recognized. For additional details, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 3, Investments."

We would not consider a security with unrealized losses to be other than temporarily impaired when it is not our intent to sell the security, it is not more likely than not that we would be required to sell the security before recovery of the amortized cost, which may be maturity, and we expect to recover the amortized cost basis. However, we do sell securities under certain circumstances, such as when we have evidence of a change in the issuer's creditworthiness, when we anticipate poor relative future performance of securities, when a change in regulatory requirements modifies what constitutes a permissible investment or the maximum level of investments held or when there is an increase in capital requirements or a change in risk weights of debt securities. Sales generate both gains and losses.

A number of significant risks and uncertainties are inherent in the process of monitoring impairments and determining if an impairment is other than temporary. These risks and uncertainties include: (1) the risk that our assessment of an issuer's ability to meet all of its contractual obligations will change based on changes in the credit characteristics of that issuer, (2) the risk that the economic outlook will be worse than expected or have more of an impact on the issuer than anticipated, (3) the risk that our investment professionals are making decisions based on fraudulent or misstated information in the financial statements provided by issuers and (4) the risk that new information obtained by us or changes in other facts and circumstances lead us to change our intent to not sell the security prior to recovery of its amortized cost. Any of these situations could result in a charge to net income in a future period.

The net realized loss relating to other-than-temporary credit impairments and credit related sales of fixed maturities was \$14.5 million and \$9.4 million for the three months ended September 30, 2017 and 2016, respectively, and \$57.5 million and \$66.1 million for the nine months ended September 30, 2017 and 2016, respectively.

Fixed Maturities Available-for-Sale

The following tables present our fixed maturities available-for-sale by industry category and the associated gross unrealized gains and losses, including other-than-temporary impairment losses reported in AOCI, as of the periods indicated.

	September 30, 2017			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying amount
	<i>(in millions)</i>			
Finance — Banking	\$ 4,405.8	\$ 160.1	\$ 9.9	\$ 4,556.0
Finance — Brokerage	365.4	17.8	2.7	380.5
Finance — Finance Companies	319.2	9.8	—	329.0
Finance — Financial Other	557.9	35.9	5.4	588.4
Finance — Insurance	2,505.1	267.3	4.3	2,768.1
Finance — REITS	1,354.9	45.6	6.3	1,394.2
Industrial — Basic Industry	1,164.1	78.5	5.3	1,237.3
Industrial — Capital Goods	2,093.1	126.4	5.1	2,214.4
Industrial — Communications	2,376.0	242.6	4.1	2,614.5
Industrial — Consumer Cyclical	1,620.9	74.3	2.3	1,692.9
Industrial — Consumer Non-Cyclical	3,742.6	206.4	14.5	3,934.5
Industrial — Energy	2,588.1	225.8	19.5	2,794.4
Industrial — Other	407.3	15.0	0.3	422.0
Industrial — Technology	1,602.6	65.8	0.7	1,667.7
Industrial — Transportation	1,501.0	69.0	13.0	1,557.0
Utility — Electric	3,262.4	198.5	18.7	3,442.2
Utility — Natural Gas	448.0	20.0	2.4	465.6
Utility — Other	264.6	15.8	—	280.4
Government guaranteed	1,108.3	124.9	1.5	1,231.7
Total corporate securities	<u>31,687.3</u>	<u>1,999.5</u>	<u>116.0</u>	<u>33,570.8</u>
Residential mortgage-backed pass-through securities	2,580.9	63.0	16.8	2,627.1
Commercial mortgage-backed securities	3,731.6	33.6	45.4	3,719.8
Residential collateralized mortgage obligations	2,305.3	24.9	13.7	2,316.5
Asset-backed securities — Home equity (1)	217.0	16.2	4.0	229.2
Asset-backed securities — All other	2,880.7	9.7	8.0	2,882.4
Collateralized debt obligations — Credit	51.8	—	12.6	39.2
Collateralized debt obligations — CMBS	0.2	0.1	—	0.3
Collateralized debt obligations — Loans	1,197.3	3.1	0.7	1,199.7
Total mortgage-backed and other asset-backed securities	<u>12,964.8</u>	<u>150.6</u>	<u>101.2</u>	<u>13,014.2</u>
U.S. government and agencies	1,404.8	36.7	6.9	1,434.6
States and political subdivisions	6,351.1	322.8	21.7	6,652.2
Non-U.S. governments	581.9	82.3	0.3	663.9
Total fixed maturities, available-for-sale	<u>\$ 52,989.9</u>	<u>\$ 2,591.9</u>	<u>\$ 246.1</u>	<u>\$ 55,335.7</u>

(1) This exposure is all related to sub-prime mortgage loans.

	December 31, 2016			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying amount
	<i>(in millions)</i>			
Finance — Banking	\$ 4,214.3	\$ 92.1	\$ 80.0	\$ 4,226.4
Finance — Brokerage	333.8	12.2	2.3	343.7
Finance — Finance Companies	283.9	5.8	0.4	289.3
Finance — Financial Other	498.2	39.9	1.6	536.5
Finance — Insurance	2,380.6	197.7	14.4	2,563.9
Finance — REITS	1,141.8	28.7	13.8	1,156.7
Industrial — Basic Industry	1,135.4	49.0	13.3	1,171.1
Industrial — Capital Goods	1,860.6	100.4	13.3	1,947.7
Industrial — Communications	2,403.5	203.7	11.7	2,595.5
Industrial — Consumer Cyclical	1,525.7	67.8	4.0	1,589.5
Industrial — Consumer Non-Cyclical	3,485.3	145.5	31.3	3,599.5
Industrial — Energy	2,722.6	178.6	47.8	2,853.4
Industrial — Other	284.9	13.7	—	298.6
Industrial — Technology	1,292.2	40.7	5.3	1,327.6
Industrial — Transportation	1,428.5	52.7	26.7	1,454.5
Utility — Electric	3,189.6	167.1	44.2	3,312.5
Utility — Natural Gas	322.7	13.7	2.9	333.5
Utility — Other	255.0	15.5	—	270.5
Government guaranteed	1,182.5	100.3	8.7	1,274.1
Total corporate securities	<u>29,941.1</u>	<u>1,525.1</u>	<u>321.7</u>	<u>31,144.5</u>
Residential mortgage-backed pass-through securities	2,786.8	66.4	30.6	2,822.6
Commercial mortgage-backed securities	4,124.2	31.1	87.0	4,068.3
Residential collateralized mortgage obligations	1,822.9	14.4	23.6	1,813.7
Asset-backed securities — Home equity (1)	247.6	14.0	8.8	252.8
Asset-backed securities — All other	2,995.3	8.6	17.3	2,986.6
Collateralized debt obligations — Credit	52.0	—	21.7	30.3
Collateralized debt obligations — CMBS	0.3	—	—	0.3
Collateralized debt obligations — Loans	727.3	2.8	2.6	727.5
Total mortgage-backed and other asset-backed securities	<u>12,756.4</u>	<u>137.3</u>	<u>191.6</u>	<u>12,702.1</u>
U.S. government and agencies	1,409.3	17.1	10.7	1,415.7
States and political subdivisions	5,460.4	192.4	86.9	5,565.9
Non-U.S. governments	475.0	71.7	4.7	542.0
Total fixed maturities, available-for-sale	<u>\$ 50,042.2</u>	<u>\$ 1,943.6</u>	<u>\$ 615.6</u>	<u>\$ 51,370.2</u>

(1) This exposure is all related to sub-prime mortgage loans.

Of the \$246.1 million in gross unrealized losses as of September 30, 2017, \$4.7 million in losses were attributed to securities scheduled to mature in one year or less, \$19.6 million attributed to securities scheduled to mature between one to five years, \$23.8 million attributed to securities scheduled to mature between five to ten years, \$96.8 million attributed to securities scheduled to mature after ten years and \$101.2 million related to mortgage-backed and other ABS that are not classified by maturity year. As of September 30, 2017, we were in a \$2,345.8 million net unrealized gain position as compared to a \$1,328.0 million net unrealized gain position as of December 31, 2016. The \$1,017.8 million increase in net unrealized gains for the nine months ended September 30, 2017, can primarily be attributed to tightening of credit spreads and an approximate 10 basis point decrease in interest rates.

Fixed Maturities Available-for-Sale Unrealized Losses. We believe our long-term fixed maturities portfolio is well diversified among industry types and between publicly traded and privately placed securities. Each year, we direct the majority of our net cash inflows into investment grade fixed maturities. Our current policy is to limit the percentage of cash flow invested in below investment grade assets to 10% of cash flow.

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We invest in privately placed fixed maturities to enhance the overall value of the portfolio, increase diversification and obtain higher yields than are possible with comparable quality public market securities. Generally, private placements provide broader access to management information, strengthened negotiated protective covenants, call protection features and, where applicable, a higher level of collateral. They are, however, generally not freely tradable because of restrictions imposed by federal and state securities laws and illiquid trading markets.

The following table presents our fixed maturities available-for-sale by investment grade and below investment grade and the associated gross unrealized gains and losses, including the other-than-temporary impairment losses reported in AOCI, as of the periods indicated.

	September 30, 2017				December 31, 2016			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying amount	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying amount
	<i>(in millions)</i>							
Investment grade:								
Public	\$ 34,533.3	\$ 1,838.6	\$ 138.2	\$ 36,233.7	\$ 32,818.8	\$ 1,347.3	\$ 368.8	\$ 33,797.3
Private	15,633.2	639.3	57.1	16,215.4	13,814.6	508.1	113.2	14,209.5
Below investment grade:								
Public	1,348.9	58.0	21.4	1,385.5	1,617.5	47.0	62.0	1,602.5
Private	1,474.5	56.0	29.4	1,501.1	1,791.3	41.2	71.6	1,760.9
Total fixed maturities, available-for-sale	<u>\$ 52,989.9</u>	<u>\$ 2,591.9</u>	<u>\$ 246.1</u>	<u>\$ 55,335.7</u>	<u>\$ 50,042.2</u>	<u>\$ 1,943.6</u>	<u>\$ 615.6</u>	<u>\$ 51,370.2</u>

The following tables present the carrying amount and the gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, on investment grade fixed maturities available-for-sale by aging category as of the periods indicated.

	September 30, 2017					
	Public		Private		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ 3,417.7	\$ 21.8	\$ 1,814.4	\$ 10.1	\$ 5,232.1	\$ 31.9
Greater than three to six months	260.0	2.3	276.9	7.2	536.9	9.5
Greater than six to nine months	130.1	1.0	76.9	0.3	207.0	1.3
Greater than nine to twelve months	2,448.0	66.3	990.0	21.8	3,438.0	88.1
Greater than twelve to twenty-four months	777.8	28.9	308.3	6.5	1,086.1	35.4
Greater than twenty-four to thirty-six months	258.7	6.9	45.7	1.2	304.4	8.1
Greater than thirty-six months	182.6	11.0	133.5	10.0	316.1	21.0
Total fixed maturities, available-for-sale	<u>\$ 7,474.9</u>	<u>\$ 138.2</u>	<u>\$ 3,645.7</u>	<u>\$ 57.1</u>	<u>\$ 11,120.6</u>	<u>\$ 195.3</u>

	December 31, 2016					
	Public		Private		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ 9,056.5	\$ 230.1	\$ 3,335.5	\$ 61.9	\$ 12,392.0	\$ 292.0
Greater than three to six months	985.0	55.9	512.5	18.6	1,497.5	74.5
Greater than six to nine months	79.5	1.0	58.9	0.9	138.4	1.9
Greater than nine to twelve months	93.7	7.9	176.0	6.5	269.7	14.4
Greater than twelve to twenty-four months	512.4	17.1	292.2	5.8	804.6	22.9
Greater than twenty-four to thirty-six months	108.1	4.4	38.8	3.8	146.9	8.2
Greater than thirty-six months	397.7	52.4	231.5	15.7	629.2	68.1
Total fixed maturities, available-for-sale	<u>\$ 11,232.9</u>	<u>\$ 368.8</u>	<u>\$ 4,645.4</u>	<u>\$ 113.2</u>	<u>\$ 15,878.3</u>	<u>\$ 482.0</u>

The following tables present the carrying amount and the gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, on below investment grade fixed maturities available-for-sale by aging category as of the periods indicated.

	September 30, 2017					
	Public		Private		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ —	\$ —	\$ 32.8	\$ 0.1	\$ 32.8	\$ 0.1
Greater than three to six months	—	—	49.0	0.8	49.0	0.8
Greater than nine to twelve months	—	—	4.4	0.1	4.4	0.1
Greater than twelve to twenty-four months	37.2	3.6	10.6	3.8	47.8	7.4
Greater than twenty-four to thirty-six months	110.9	11.1	36.3	9.3	147.2	20.4
Greater than thirty-six months	47.9	6.7	64.7	15.3	112.6	22.0
Total fixed maturities, available-for-sale	<u>\$ 196.0</u>	<u>\$ 21.4</u>	<u>\$ 197.8</u>	<u>\$ 29.4</u>	<u>\$ 393.8</u>	<u>\$ 50.8</u>

	December 31, 2016					
	Public		Private		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ 88.2	\$ 2.8	\$ 168.6	\$ 2.5	\$ 256.8	\$ 5.3
Greater than three to six months	10.9	1.3	62.2	3.8	73.1	5.1
Greater than six to nine months	—	0.1	6.2	0.1	6.2	0.2
Greater than nine to twelve months	3.4	0.5	1.0	0.1	4.4	0.6
Greater than twelve to twenty-four months	200.6	16.8	76.0	7.8	276.6	24.6
Greater than twenty-four to thirty-six months	147.8	17.6	93.6	22.7	241.4	40.3
Greater than thirty-six months	135.4	22.9	85.8	34.6	221.2	57.5
Total fixed maturities, available-for-sale	<u>\$ 586.3</u>	<u>\$ 62.0</u>	<u>\$ 493.4</u>	<u>\$ 71.6</u>	<u>\$ 1,079.7</u>	<u>\$ 133.6</u>

The following tables present the carrying amount and the gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, on fixed maturities available-for-sale where the estimated fair value had declined and remained below amortized cost by 20% or more as of the periods indicated.

	September 30, 2017					
	Problem, potential problem and restructured		All other fixed maturity securities		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ 2.2	\$ 2.3	\$ 0.1	\$ —	\$ 2.3	\$ 2.3
Greater than three to six months	10.6	3.9	11.2	6.1	21.8	10.0
Greater than nine to twelve months	2.5	1.1	3.6	1.5	6.1	2.6
Greater than twelve months	22.2	12.9	24.7	11.0	46.9	23.9
Total fixed maturities, available-for-sale	<u>\$ 37.5</u>	<u>\$ 20.2</u>	<u>\$ 39.6</u>	<u>\$ 18.6</u>	<u>\$ 77.1</u>	<u>\$ 38.8</u>

	December 31, 2016					
	Problem, potential problem and restructured		All other fixed maturity securities		Total	
	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses	Carrying amount	Gross unrealized losses
	<i>(in millions)</i>					
Three months or less	\$ 4.9	\$ 1.2	\$ 31.0	\$ 8.8	\$ 35.9	\$ 10.0
Greater than three to six months	25.8	16.2	2.2	1.2	28.0	17.4
Greater than six to nine months	—	—	0.1	0.1	0.1	0.1
Greater than nine to twelve months	4.6	2.5	0.1	0.2	4.7	2.7
Greater than twelve months	45.7	35.4	50.6	30.6	96.3	66.0
Total fixed maturities, available-for-sale	<u>\$ 81.0</u>	<u>\$ 55.3</u>	<u>\$ 84.0</u>	<u>\$ 40.9</u>	<u>\$ 165.0</u>	<u>\$ 96.2</u>

Mortgage Loans

Mortgage loans consist of commercial mortgage loans on real estate and residential mortgage loans. The carrying amount of our commercial mortgage loan portfolio was \$12,599.3 million and \$11,940.5 million as of September 30, 2017 and December 31, 2016, respectively. The carrying amount of our residential mortgage loan portfolio was \$734.3 million and \$680.5 million as of September 30, 2017 and December 31, 2016, respectively.

Commercial Mortgage Loans. We generally report commercial mortgage loans on real estate at cost adjusted for amortization of premiums and accrual of discounts, computed using the interest method and net of valuation allowances.

Commercial mortgage loans play an important role in our investment strategy by:

- providing strong risk-adjusted relative value in comparison to other investment alternatives;
- enhancing total returns and
- providing strategic portfolio diversification.

As a result, we have focused on constructing a high quality portfolio of mortgages. Our portfolio is generally comprised of mortgages originated with conservative loan-to-value ratios, high debt service coverages and general purpose property types with a strong credit tenancy.

Our commercial mortgage loan portfolio consists primarily of non-recourse, fixed rate mortgages on fully or near fully leased properties. The mortgage portfolio is comprised primarily of office properties, apartments, well anchored retail properties and general-purpose industrial properties.

Our commercial mortgage loan portfolio is diversified by geography and specific collateral property type. Commercial mortgage lending in the state of California accounted for 17 % and 18 % of our commercial mortgage loan portfolio before valuation allowance as of September 30, 2017 and December 31, 2016, respectively. We are, therefore, exposed to potential losses resulting from the risk of catastrophes, such as earthquakes, that may affect the region. Like other lenders, we generally do not require earthquake insurance for properties on which we make commercial mortgage loans. With respect to California properties, however, we obtain an engineering report specific to each property. The report assesses the building's design specifications, whether it has been upgraded to meet seismic building codes and the maximum loss that is likely to result from a variety of different seismic events. We also obtain a report that assesses, by building and geographic fault lines, the amount of loss our commercial mortgage loan portfolio might suffer under a variety of seismic events.

The typical borrower in our commercial loan portfolio is a single purpose entity or single asset entity. As of September 30, 2017 and December 31, 2016, the total number of commercial mortgage loans outstanding was 825 and 840, of which 52% and 55% were for loans with principal balances less than \$10.0 million, respectively. The average loan size of our commercial mortgage portfolio was \$15.3 million and \$14.2 million as of September 30, 2017 and December 31, 2016, respectively.

Commercial Mortgage Loan Credit Monitoring. For further details on monitoring and management of our commercial mortgage loan portfolio, see Item 1. "Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 3, Investments – Mortgage Loan Credit Monitoring."

We categorize loans that are 60 days or more delinquent, loans in process of foreclosure and loans with borrowers or credit tenants in bankruptcy that are delinquent as "problem" loans. Valuation allowances or charge-offs have been recognized on most problem loans. We categorize loans that are delinquent less than 60 days where the default is expected to be cured and loans with borrowers or credit tenants in bankruptcy that are current as "potential problem" loans. The decision whether to classify a loan delinquent less than 60 days as a potential problem involves significant subjective judgments by management as to the likely future economic conditions and developments with respect to the borrower. We categorize loans for which the original note rate has been reduced below market and loans for which the principal has been reduced as "restructured" loans. We also consider loans that are refinanced more than one year beyond the original maturity or call date at below market rates as restructured.

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The following table presents the carrying amounts of problem, potential problem and restructured commercial mortgages relative to the carrying amount of all commercial mortgages for the periods indicated.

	September 30, 2017	December 31, 2016
	(\$ in millions)	
Total commercial mortgages	\$ 12,599.3	\$ 11,940.5
Problem commercial mortgages	\$ 64.1	\$ —
Total problem, potential problem and restructured commercial mortgages	\$ 64.1	\$ —
Total problem, potential problem and restructured commercial mortgages as a percent of total commercial mortgages	0.51 %	— %

Commercial Mortgage Loan Valuation Allowance. The valuation allowance for commercial mortgage loans includes loan specific reserves for loans that are deemed to be impaired as well as reserves for pools of loans with similar risk characteristics where a property risk or market specific risk has not been identified but for which we anticipate a loss may occur. For further details on the commercial mortgage loan valuation allowance, see Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 3, Investments – Mortgage Loan Valuation Allowance.”

The following table represents our commercial mortgage loan valuation allowance for the periods indicated.

	For the nine months ended September 30, 2017	For the year ended December 31, 2016
	(\$ in millions)	
Balance, beginning of period	\$ 27.4	\$ 27.5
Provision	0.7	1.4
Charge-offs	—	(1.5)
Balance, end of period	\$ 28.1	\$ 27.4
Valuation allowance as % of carrying value before reserves	0.22%	0.23%

Residential Mortgage Loans. The residential mortgage loan portfolio is composed of home equity mortgages with an amortized cost of \$125.7 million and \$165.6 million and first lien mortgages with an amortized cost of \$623.3 million and \$531.9 million as of September 30, 2017 and December 31, 2016, respectively. The home equity loans are generally second lien mortgages made up of closed-end loans and lines of credit. Non-performing residential mortgage loans, which are defined as loans 90 days or greater delinquent plus non-accrual loans, totaled \$8.8 million and \$12.2 million as of September 30, 2017 and December 31, 2016, respectively.

We establish the residential mortgage loan valuation allowance at levels considered adequate to absorb estimated probable losses within the portfolio based on management’s evaluation of the size and current risk characteristics of the portfolio. Such evaluation considers numerous factors, including, but not limited to net charge-off trends, loss forecasts, collateral values, geographic location, borrower credit scores, delinquency rates, industry condition and economic trends. The changes in the valuation allowance are reported in net realized capital gains (losses) on our consolidated statements of operations.

Our residential mortgage loan portfolio, and in particular our home equity loan portfolio, experienced an increase in loss severity from sustained elevated levels of unemployment along with continued depressed collateral values beginning in 2010. While these factors continue to drive charge-offs, loss rates overall have stabilized and the home equity loan portfolio balance continues to decline. The following table represents our residential mortgage loan valuation allowance for the periods indicated.

	For the nine months ended September 30, 2017	For the year ended December 31, 2016
	(\$ in millions)	
Balance, beginning of period	\$ 17.0	\$ 23.9
Provision	(1.7)	(5.7)
Charge-offs	(4.2)	(4.8)
Recoveries	3.6	3.6
Balance, end of period	\$ 14.7	\$ 17.0
Valuation allowance as % of carrying value before reserves	1.96%	2.44%

Real Estate

Real estate consists primarily of commercial equity real estate. As of September 30, 2017 and December 31, 2016, the carrying amount of our equity real estate investment was \$1,646.3 million and \$1,365.2 million, respectively. Our commercial equity real estate is held in the form of wholly owned real estate, real estate acquired upon foreclosure of commercial mortgage loans and majority owned interests in real estate joint ventures.

Equity real estate is categorized as either “real estate held for investment” or “real estate held for sale.” Real estate held for investment totaled \$1,463.1 million and \$1,236.5 million as of September 30, 2017 and December 31, 2016, respectively. The carrying value of real estate held for investment is generally adjusted for impairments whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Such impairment adjustments are recorded as net realized capital losses in our consolidated results of operations. Impairment adjustments recorded for the year ended December 31, 2016 were \$0.8 million. No such impairment adjustments were recorded for the nine months ended September 30, 2017.

The carrying amount of real estate held for sale was \$183.2 million and \$128.7 million as of September 30, 2017 and December 31, 2016, respectively. Once we identify a real estate property to be sold and it is probable that it will be sold, we classify the property as held for sale. We establish a valuation allowance subject to periodic revisions, if necessary, to adjust the carrying value of the property to reflect the lower of its current carrying value or the fair value, less associated selling costs. The change in valuation allowance for the year ended December 31, 2016, was \$4.5 million. The valuation allowance did not change for the nine months ended September 30, 2017.

We use research, both internal and external, to recommend appropriate product and geographic allocations and changes to the equity real estate portfolio. We monitor product, geographic and industry diversification separately and together to determine the most appropriate mix.

Equity real estate is distributed across geographic regions of the country. As of September 30, 2017, our largest equity real estate portfolio concentration was in the Pacific (46%) region of the United States. By property type, our largest concentrations were in office (32%), apartments (29%), and industrial (28%) as of September 30, 2017.

Other Investments

Our other investments totaled \$1,863.7 million as of September 30, 2017, compared to \$2,088.7 million as of December 31, 2016. Derivative assets accounted for \$280.0 million and \$871.6 million in other investments as of September 30, 2017 and December 31, 2016, respectively. The remaining invested assets are primarily related to equity method investments, which include real estate properties owned jointly with venture partners and operated by the partners and sponsored investment funds.

International Investment Operations

Of our invested assets, \$7,786.2 million were held by our Principal International segment as of September 30, 2017. The assets are primarily managed by the local Principal International affiliate. Due to the regulatory constraints in each location, each company maintains its own investment policies. As shown in the following table, the major category of international invested assets is fixed maturities. The following table excludes invested assets of the separate accounts.

	September 30, 2017		December 31, 2016	
	Carrying amount	Percent of total	Carrying amount	Percent of total
<i>(\$ in millions)</i>				
Fixed maturities:				
Public	\$ 3,964.0	51 %	\$ 3,645.5	52 %
Private	14.2	—	9.0	—
Equity securities	1,395.7	18	1,169.7	17
Mortgage loans:				
Commercial	146.1	2	87.3	1
Residential	540.7	7	521.9	7
Real estate held for sale	2.2	—	2.0	—
Real estate held for investment	1.7	—	1.6	—
Policy loans	24.0	—	23.1	—
Other investments:				
Direct financing leases	909.5	12	875.2	13
Investment in unconsolidated entities	740.4	9	634.7	9
Derivative assets and other investments	47.7	1	57.3	1
Total invested assets	<u>7,786.2</u>	<u>100 %</u>	<u>7,027.3</u>	<u>100 %</u>
Cash and cash equivalents	241.8		384.1	
Total invested assets and cash	<u>\$ 8,028.0</u>		<u>\$ 7,411.4</u>	

Regulations in certain locations require investment in the funds we manage. These required regulatory investments are classified as equity securities, trading within our consolidated statements of financial position, with all mark-to-market changes reflected in net investment income. Our investment is primarily dictated by client activity and all investment performance is retained by us.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market Risk Exposures and Risk Management

Market risk is the risk we will incur losses due to adverse fluctuations in market rates and prices. Our primary market risk exposures are to interest rates, equity markets and foreign currency exchange rates. The active management of market risk is an integral part of our operations. We manage our overall market risk exposure within established risk tolerance ranges using several approaches, including:

- rebalancing our existing asset or liability portfolios;
- controlling the risk structure of newly acquired assets and liabilities and
- using derivative instruments to modify the market risk characteristics of existing assets or liabilities or assets expected to be purchased.

Interest Rate Risk

Interest rate risk is the risk of economic losses due to adverse changes in interest rates. Interest rate risk arises primarily from our holdings in interest sensitive assets and liabilities. Changes in interest rates impact numerous aspects of our operations, including but not limited to:

- yield on our invested assets;
- rate of interest we credit to contractholder account balances;
- timing of cash flows on assets and liabilities containing embedded prepayment options;
- cost of hedging our GMWB rider;
- discount rate used in valuing our pension and OPEB obligations;

- estimated gross profits and the amortization of our DAC asset and related actuarial balances;
- statutory reserve and capital requirements;
- asset-based fees earned on the fixed income assets we manage;
- interest expense on our long-term borrowings;
- fair value of intangible assets in our reporting units and
- fair value of financial assets and liabilities held at fair value on our consolidated statements of financial position.

Lower interest rates generally result in lower profitability in the long-term. Conversely, higher interest rates generally result in higher profitability in the long-term.

Impact of Changes in Long-Term Interest Rate Assumptions

We use long-term interest rate assumptions to calculate reserves, DAC, other actuarial balances and benefit plan obligations in accordance with U.S. GAAP. In setting these assumptions, we consider a variety of factors, including historical experience, emerging trends and future expectations. We evaluate our assumptions on at least an annual basis. Due to the long-term nature of our assumptions, we generally do not revise our assumptions in response to short-term fluctuations in market interest rates. However, we will consider revising our assumptions if a significant change occurs in the factors noted above.

A reduction in our long-term interest rate assumptions may result in increases in our reserves and/or unlocking of our DAC asset and other actuarial balances. For additional information, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates — Deferred Acquisition Costs and Other Actuarial Balances” in our Annual Report on Form 10-K for the year ended December 31, 2016.

In addition, we have implemented reinsurance transactions utilizing affiliated reinsurers and highly rated third parties to finance a portion of the statutory reserves for our term life insurance policies and universal life insurance policies with secondary guarantees. We calculate an economic reserve, which represents an estimate of our liability associated with these contracts. The excess of the required statutory reserve over the economic reserve is secured by financing provided by highly rated third parties. The long-term interest rate assumption is a key input in the calculation of the economic reserve. A reduction in our long-term interest rate assumption would reduce the portion of the statutory reserve that can be financed through affiliated reinsurers, thus increasing the amount of invested assets we must maintain to support statutory reserves. For additional information, see Item 8. “Financial Statements and Supplementary Data, Notes to Consolidated Financial Statements, Note 15, Statutory Insurance Financial Information” in our Annual Report on Form 10-K for the year ended December 31, 2016.

Impact of Changes in Interest Rates

Changes in interest rates or a sustained low interest rate environment may result in the following impacts, which would impact our financial position and results of operations:

Impact of Falling Interest Rates or Sustained Low Interest Rates	Impact of Rising Interest Rates
Adverse Impacts:	Positive Impacts:
A reduction in investment income, which may be partially offset by a reduction in the interest we credit on contractholder account balances; however, our ability to lower crediting rates may be constrained by guaranteed minimum interest rates and competitive pressures	An increase in investment income, which may be partially or fully offset by an increase in the interest we credit on contractholder account balances
An increase in the cost of hedging our GMWB rider	A decrease in the cost of hedging our GMWB rider
An increase in reserves and/or a true-up or unlocking of our DAC asset and other actuarial balances	A true-up or unlocking of our DAC asset and other actuarial balances
A reduction in the discount rate used in valuing our pension and OPEB obligations, leading to an increase in our Projected Benefit Obligation, Net Periodic Pension Cost, Accumulated Postretirement Benefit Obligation and Net Periodic Benefit Cost	An increase in the discount rate used in valuing our pension and OPEB obligations, leading to a decrease in our Projected Benefit Obligation, Net Periodic Pension Cost, Accumulated Postretirement Benefit Obligation and Net Periodic Benefit Cost
An increase in statutory capital we are required to hold as well as the amount of assets we must maintain to support statutory reserves	A decrease in statutory capital we are required to hold as well as the amount of assets we must maintain to support statutory reserves
An increase in prepayments or redemptions on mortgages and bonds we own, which would force us to reinvest the proceeds at lower interest rates	
Positive Impacts:	Adverse Impacts:
An increase in the value of the fixed income assets we manage, resulting in an increase in our fee revenue in the short-term	A decrease in the value of the fixed income assets we manage, resulting in a decrease in our fee revenue in the short-term
A decrease in the interest expense on our long-term borrowings, to the extent we are able to refinance our obligations at lower interest rates	An increase in the interest expense on our long-term borrowings, to the extent we refinance our obligations at higher interest rates
An increase in the fair value of certain financial assets held at fair value on our consolidated statements of financial position	A decrease in the fair value of certain financial assets held at fair value on our consolidated statements of financial position, as discussed below
	A reduction in the fair value of intangible assets in our reporting units, potentially leading to an impairment of goodwill or other intangible assets

We estimate a hypothetical 100 basis point immediate, parallel decrease in interest rates would reduce segment pre-tax operating earnings by less than 1% over the next 12 months excluding the impact of any potential unlocking of our DAC asset and other actuarial balances. This estimate reflects the impact of routine management actions in response to a drop in interest rates, such as reducing the interest rates we credit on contractholder account balances; however, it does not reflect the impact of other actions management may consider, such as curtailing sales of certain products. We anticipate the adverse segment pre-tax operating earnings impacts of a decrease in market interest rates will grow over time as assets mature and we are forced to reinvest at lower interest rates.

The selection of a 100 basis point immediate, parallel decrease in interest rates should not be construed as a prediction by us of future market events, but rather as an illustration of the impact of such an event. Our exposure will change as a result of ongoing portfolio transactions in response to new business, management’s assessment of changing market conditions and changes in our mix of business.

If market rates increase rapidly, policy surrenders, withdrawals and requests for policy loans may increase as customers seek to achieve higher returns. This may result in unlocking of our DAC and other actuarial balances. We may be required to sell assets to raise the cash necessary to respond to such surrenders, withdrawals and loans, thereby realizing capital losses on the assets sold.

Guaranteed Minimum Interest Rate Exposure . The following table provides detail on the differences between the interest rates being credited to contractholders as of September 30, 2017, and the respective guaranteed minimum interest rates (“GMIRs”). Account values are broken down by GMIR level within the Retirement and Income Solutions and U.S. Insurance Solutions segments.

	Account values (1)					Total
	Excess of crediting rates over GMIR:				Total	
At GMIR	Up to 0.50% above GMIR	0.51% to 1.00% above GMIR <i>(Sin millions)</i>	1.01% to 2.00% above GMIR	2.01% or more above GMIR		
Guaranteed minimum interest rate Retirement and Income Solutions						
Up to 1.00%	\$ 508.6	\$ 685.3	\$ 5,759.6	\$ 2,126.9	\$ 381.7	\$ 9,462.1
1.01% - 2.00%	325.3	1,310.7	0.7	—	—	1,636.7
2.01% - 3.00%	5,844.7	65.7	0.2	1.7	—	5,912.3
3.01% - 4.00%	216.1	—	—	—	—	216.1
Subtotal	<u>6,894.7</u>	<u>2,061.7</u>	<u>5,760.5</u>	<u>2,128.6</u>	<u>381.7</u>	<u>17,227.2</u>
U.S. Insurance Solutions						
Up to 1.00%	—	20.8	7.4	—	—	28.2
1.01% - 2.00%	320.9	—	224.0	247.7	63.9	856.5
2.01% - 3.00%	1,896.1	900.0	391.0	88.3	0.1	3,275.5
3.01% - 4.00%	1,490.5	49.4	7.7	25.4	3.7	1,576.7
4.01% - 5.00%	212.0	43.2	27.9	20.9	—	304.0
Subtotal	<u>3,919.5</u>	<u>1,013.4</u>	<u>658.0</u>	<u>382.3</u>	<u>67.7</u>	<u>6,040.9</u>
Total	<u>\$ 10,814.2</u>	<u>\$ 3,075.1</u>	<u>\$ 6,418.5</u>	<u>\$ 2,510.9</u>	<u>\$ 449.4</u>	<u>\$ 23,268.1</u>
Percentage of total	46.5 %	13.2 %	27.6 %	10.8 %	1.9 %	100.0 %

(1) Includes only the account values, net of policy loans, for products with GMIRs and discretionary crediting rates.

In addition to the domestic account values shown in the table above, Principal International had \$633.5 million and \$571.6 million of account values with GMIRs in Hong Kong and Brazil, respectively, as of September 30, 2017. The Brazil amount includes account values from an equity method subsidiary, adjusted to reflect the proportion of the subsidiary’s results reflected in our net income. Our liabilities in Principal International are generally denominated in the functional currency of the location of operation. The pattern of interest rate movements in our international operations will likely differ from the pattern of interest rate movements in the U.S.

Impact of Rising Interest Rates on the Fair Value of Financial Assets. An increase in market interest rates may cause a decline in the value of financial assets held at fair value on our consolidated statements of financial position. Although changes in the fair value of our financial assets due to changes in interest rates may impact the amount of equity reported in our consolidated statements of financial position, these changes will not cause an economic gain or loss unless we sell investments, terminate derivative positions, determine an investment is other than temporarily impaired, or determine a derivative instrument is no longer an effective hedge.

We estimate a hypothetical 100 basis point immediate, parallel increase in interest rates would reduce the net reported fair value of our financial assets and derivatives by \$3,692.4 million as of September 30, 2017, compared to \$3,100.1 million as of December 31, 2016. This estimate only reflects the change in fair value for financial assets and derivatives reported at fair value on our consolidated statements of financial position. Assets and liabilities not reported at fair value on our consolidated statements of financial position – including mortgage loans, liabilities relating to insurance contracts, investment contracts, debt and bank deposits – are excluded from this sensitivity analysis. We believe the excluded liability items would economically serve as a partial offset to the net interest rate risk of the financial instruments included in the sensitivity analysis. Separate account assets and liabilities are also excluded from this estimate, as any interest rate risk is borne by the holder of the separate account. For more information on fair value measurements, see Item 8. “Financial Statements and Supplementary Data, Notes to Consolidated Financial Statements, Note 14, Fair Value Measurements” in our Annual Report on Form 10-K for the year ended December 31, 2016.

Our selection of a 100 basis point immediate, parallel increase in interest rates is a hypothetical rate scenario we use to demonstrate potential risk. While a 100 basis point immediate, parallel increase does not represent our view of future market

changes, it is a near term reasonably possible hypothetical change that illustrates the potential impact of such events. While this sensitivity analysis provides a representation of interest rate sensitivity, it is based on our portfolio exposures at a point in time and may not be representative of future market results. These exposures will change as a result of ongoing portfolio transactions in response to new business, management's assessment of changing market conditions and available investment opportunities.

Our net estimated potential loss in fair value as of September 30, 2017, increased \$592.3 million from December 31, 2016, primarily due to an increase in our invested assets and an increase in the duration of our financial assets with interest rate risk.

Interest Rate Risk Management

We manage interest rate risk through the use of an integrated risk management framework. This helps us identify, assess, monitor, report and manage our risks within established limits and risk tolerances. Our internal risk committees monitor and discuss our risk profile and identify necessary actions to mitigate impacts from interest rate risk.

The product designs within our business units result in a variety of different interest rate risk profiles. Therefore, our business units use a variety of different approaches for managing their asset and liability interest rate risks.

- *Retirement Business Stable Cash Flows* – For stable and predictable cash flow liabilities, such as full service payout, full service accumulation, investment only, and newer deferred annuities, we use investment strategy and hedges to tightly align the cash flow run off of these asset and liability cash flows. Immunization and embedded value analysis are also utilized in the management of interest rate risk.
- *Retirement Business Dynamic Cash Flows* – Dynamic liability cash flows, such as older fixed annuities, are sensitive to policyholder behavior and the current interest rate environment. The risk and return metrics from deterministic and stochastic interest rate scenarios are used to manage the interest rate risk for these liabilities.
- *U.S. Insurance Stable Cash Flows* – Our insurance businesses in many instances contain long-term guarantees with stable and predictable liability cash flows and recurring premiums. We manage the interest rate risk through investment strategy, product crediting rates and analyzing duration and embedded value sensitivity.
- *Principal International* – Our international businesses operate within local regulations and financial market conditions (e.g., derivative markets, assets available) to achieve similar asset and liability cash flow management objectives. In locations with a limited availability of long-dated assets and derivative markets, the duration gap is managed to risk tolerances specific to each location.

We also limit our exposure to interest rate risk through our business mix and strategy. We have intentionally limited our exposure to specific products where investment margins are critical to the product's profitability, and we continue to emphasize the sale of products that generate revenues in the form of fees for service or premiums for insurance coverage and expose us to minimal interest rate risk.

Prepayment risk is controlled by limiting our exposure to investments that are prepayable without penalty prior to maturity at the option of the issuer. We also require additional yield on these investments to compensate for the risk the issuer will exercise such option. Prepayment risk is also controlled by limiting the sales of liabilities with features such as puts or other options that can be exercised against the company at inopportune times. We manage the interest rate risk associated with our long-term borrowings by monitoring the interest rate environment and evaluating refinancing opportunities as maturity dates approach.

The plan fiduciaries use a Dynamic Asset Allocation strategy for our qualified defined benefit pension plan, which strategically allocates an increasing portion of the assets of the pension plan to fixed income securities as the funding status improves. The intended purpose of using the Dynamic Asset Allocation strategy is that the expected change in the value of the plan assets and the change in pension benefit obligation due to market movements are more likely to have more correlation versus a static allocation of assets between categories. For more information see Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates — Benefit Plans" and Item 8. "Financial Statements and Supplementary Data, Notes to Consolidated Financial Statements, Note 11, Employee and Agent Benefits" in our Annual Report on Form 10-K for the year ended December 31, 2016.

Use of Derivatives to Manage Interest Rate Risk. We use or have previously used various derivative financial instruments to manage our exposure to fluctuations in interest rates, including interest rate swaps, interest rate collars, swaptions and futures. We use interest rate swaps and futures contracts to hedge changes in interest rates subsequent to the issuance of an insurance liability, such as a guaranteed investment contract, but prior to the purchase of a supporting asset, or during periods of holding assets in anticipation of near term liability sales. We use interest rate swaps primarily to more closely match the interest rate characteristics of assets and liabilities. They can be used to change the sensitivity to the interest rate of specific assets and liabilities as well as an entire portfolio. We use interest rate collars to manage interest rate risk related to GMIR liabilities in our individual annuities contracts and lapse risk associated with higher interest rates. We purchase swaptions to offset or modify existing exposures.

Foreign Currency Risk

Foreign currency risk is the risk we will incur economic losses due to adverse fluctuations in foreign currency exchange rates. This risk arises from foreign currency-denominated funding agreements issued to nonqualified institutional investors in the international market, foreign currency-denominated fixed maturity and equity securities, and our international operations, including potential acquisition and divestiture activity.

We estimate as of September 30, 2017, a 10% immediate unfavorable change in each of the foreign currency exchange rates to which we are exposed would result in no material change to the net fair value of our foreign currency-denominated instruments identified above because we effectively hedge foreign currency-denominated instruments to minimize exchange rate impacts, which is consistent with our estimate as of December 31, 2016. However, fluctuations in foreign currency exchange rates do affect the translation of segment pre-tax operating earnings and equity of our international operations into our consolidated financial statements.

For our Principal International segment, we estimate that a 10% immediate unfavorable change in each of the foreign currency exchange rates to which we were exposed would have resulted in a \$341.9 million, or 10%, reduction in the total equity excluding noncontrolling interests of our international operations as of September 30, 2017, as compared to an estimated \$306.0 million, or 10%, reduction as of December 31, 2016. We estimate a 10% unfavorable change in the average foreign currency exchange rates to which we were exposed through our international operations would have resulted in a \$9.2 million, or 13%, reduction in segment pre-tax operating earnings of our international operations for the three months ended September 30, 2017, as compared to an estimated \$10.1 million, or 12%, reduction for the three months ended September 30, 2016. In addition, we estimate that a 10% unfavorable change in the average foreign currency exchange rates to which we were exposed through our international operations would have resulted in a \$31.1 million, or 12%, reduction in segment pre-tax operating earnings of our international operations for the nine months ended September 30, 2017, as compared to an estimated \$27.5 million, or 12%, reduction for the nine months ended September 30, 2016.

The selection of a 10% immediate unfavorable change in all currency exchange rates should not be construed as a prediction by us of future market events, but rather as an illustration of the potential impact of such an event. These exposures will change as a result of a change in the size and mix of our foreign operations.

Use of Derivatives to Manage Foreign Currency Risk. The foreign currency risk on funding agreements and fixed maturities in our U.S. operations is mitigated by using currency swaps that swap the foreign currency interest and principal payments to our functional currency. The notional amount of our currency swap agreements associated with foreign-denominated liabilities was \$232.1 million and \$881.1 million as of September 30, 2017 and December 31, 2016, respectively. The notional amount of our currency swap agreements associated with foreign-denominated fixed maturities was \$514.9 million and \$452.8 million as of September 30, 2017 and December 31, 2016, respectively. The notional amount of our currency forwards hedging foreign-denominated equity securities was \$36.8 million and \$18.9 million as of September 30, 2017 and December 31, 2016, respectively.

With regard to our international operations, in order to enhance the diversification of our investment portfolios we may invest in bonds denominated in a currency that is different than the currency of our liabilities. We use foreign exchange derivatives to economically hedge the currency mismatch. Our Principal International operations had currency swaps with a notional amount of \$212.0 million and \$218.1 million as of September 30, 2017 and December 31, 2016, respectively. Our Principal International operations also utilized currency forwards with a notional amount of \$723.6 million and \$713.5 million as of September 30, 2017 and December 31, 2016, respectively.

We sometimes use derivatives to hedge currency risk associated with expected cash flows from our foreign operations. We held currency forwards with a notional amount of \$59.5 million and \$118.9 million as September 30, 2017 and December 31, 2016, respectively. We also utilized currency options with a notional amount of \$484.1 million and \$0.0 million as of September 30, 2017 and December 31, 2016, respectively.

Equity Risk

Equity risk is the risk we will incur economic losses due to adverse fluctuations in common stock prices. As of September 30, 2017 and December 31, 2016, the fair value of our equity securities was \$1,789.2 million and \$1,512.3 million, respectively. We estimate a 10% decline in the prices of the equity securities would result in a decline in fair value of our equity securities of \$178.9 million as of September 30, 2017, as compared to a decline in fair value of our equity securities of \$151.2 million as of December 31, 2016.

We are also exposed to the risk that asset-based fees decrease as a result of declines in assets under management due to changes in investment prices and the risk that asset management fees calculated by reference to performance could be lower. The risk of decreased asset-based and asset management fees could also impact our estimates of total gross profits used as a basis for amortizing DAC and other actuarial balances. For further discussion, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates — Deferred Acquisition Costs and Other Actuarial Balances” in our Annual Report on Form 10-K for the year ended December 31, 2016.

We also have equity risk associated with (1) fixed deferred annuity and universal life contracts that credit interest to customers based on changes in an external equity index; (2) variable annuity contracts that have a GMWB rider that allows the customer to make withdrawals of a specified annual amount, either for a fixed number of years or for the lifetime of the customer, even if the account value is reduced to zero; (3) variable annuity contracts that have a guaranteed minimum death benefit (“GMDB”) that allows the death benefit to be paid, even if the account value has fallen below the GMDB amount and (4) investment contracts in which the return is subject to minimum contractual guarantees. We are also subject to equity risk based upon the assets that support our employee benefit plans. For further discussion of equity risk associated with these plans, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates — Benefit Plans” in our Annual Report on Form 10-K for the year ended December 31, 2016.

We estimate an immediate 10% decline in the S&P 500 index, followed by a 2% per quarter increase would reduce our annual segment pre-tax operating earnings by approximately 4% to 6%. This estimate excludes the impact of any potential unlocking of our DAC asset and other actuarial balances. The selection of a 10% unfavorable change in the S&P 500 index should not be construed as a prediction by us of future market events, but rather as an illustration of the potential impact of such an event. Our exposure will change as a result of changes in our mix of business.

Use of Derivatives to Manage Equity Risk. We economically hedge the fixed deferred annuity and universal life products, where the interest credited is linked to an external equity index, by purchasing options that match the product’s profile or selling options to offset existing exposures. We economically hedged the GMWB exposure, which includes interest rate risk and equity risk, using futures, options and interest rate swaps with notional amounts of \$389.4 million, \$3,042.4 million, and \$4,333.8 million, respectively, as of September 30, 2017, and notional amounts of \$641.1 million, \$3,135.0 million, and \$3,996.6 million, respectively, as of December 31, 2016. The fair value of both the GMWB embedded derivative and associated hedging instruments are sensitive to financial market conditions and the variance related to the change in fair value of these items for a given period is largely dependent on market conditions at the end of the period.

Item 4. Controls and Procedures

Changes in Internal Control Over Financial Reporting

We had no change in our internal control over financial reporting during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Disclosure Controls and Procedures

In order to ensure that the information that we must disclose in our filings with the SEC is recorded, processed, summarized and reported on a timely basis, we have adopted disclosure controls and procedures. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file with or submit to the SEC is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our Chief Executive Officer, Daniel J. Houston, and our Chief Financial Officer, Deanna D. Strable-Soethout, have reviewed and evaluated our disclosure controls and procedures as of September 30, 2017, and have concluded our disclosure controls and procedures are effective.

PART II — OTHER INFORMATION**Item 1. Legal Proceedings**

Disclosure concerning material legal proceedings can be found in Part I, Item 1. “Financial Statements, Notes to Unaudited Consolidated Financial Statements, Note 8, Contingencies, Guarantees and Indemnifications” under the caption, “Litigation and Regulatory Contingencies,” which is incorporated here by this reference.

Item 1A. Risk Factors

In addition to the other information set forth in this report, consideration should be given to the factors discussed in Part I, Item 1A. “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2016. If any of those factors were to occur, they could materially adversely affect our business, financial condition or future results, and could cause actual results to differ materially from those expressed in forward-looking statements in this report. We have not had material changes with respect to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2016.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds**Issuer Purchases of Equity Securities**

The following table presents the amount of our common share purchase activity for the periods indicated.

Period	Total number of shares purchased (1)	Average price paid per share	Total number of shares purchased as part of publicly announced programs	Maximum dollar value of shares that may yet be purchased under the programs (in millions) (2)
January 1, 2017 — January 31, 2017	604,484	\$ 58.55	596,709	\$ 183.0
February 1, 2017 — February 28, 2017	655,087	\$ 60.57	376,814	\$ 160.8
March 1, 2017 — March 31, 2017	1,072,130	\$ 63.19	961,667	\$ 100.0
April 1, 2017 — April 30, 2017	1,125	\$ 62.75	—	\$ 100.0
May 1, 2017 — May 31, 2017	117,417	\$ 61.60	117,000	\$ 342.8
June 1, 2017 — June 30, 2017	302,843	\$ 63.45	302,843	\$ 323.6
July 1, 2017 — July 31, 2017	117,572	\$ 64.60	117,700	\$ 316.0
August 1, 2017 — August 31, 2017	297,683	\$ 63.61	297,196	\$ 297.1
September 1, 2017 — September 30, 2017	358,548	\$ 61.93	356,374	\$ 275.0
Total	3,526,889		3,126,303	

(1) Includes the number of shares of common stock utilized to execute certain stock incentive awards and shares purchased as part of publicly announced programs.

(2) In February 2016, our Board of Directors authorized a share repurchase program of up to \$400.0 million of our outstanding common stock. In May 2017, our Board of Directors authorized a share repurchase program of up to \$250.0 million of our outstanding common stock.

Item 6. Exhibits

Exhibit Number	Description
12	Statement Regarding Computation of Ratio of Earnings to Fixed Charges
31.1	Certification of Daniel J. Houston
31.2	Certification of Deanna D. Strable-Soethout
32.1	Certification Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code – Daniel J. Houston
32.2	Certification Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code – Deanna D. Strable-Soethout
101	The following materials from Principal Financial Group, Inc.’s Quarterly Report on Form 10-Q for the period ended September 30, 2017 formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Financial Position, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Stockholders’ Equity, (v) the Consolidated Statements of Cash Flows and (vi) the Notes to Unaudited Consolidated Financial Statements.

Exhibit Index

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SIGNATURE

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

Dated: November 1, 2017

PRINCIPAL FINANCIAL GROUP, INC.

By /s/ Deanna D. Strable-Soethout
Deanna D. Strable-Soethout
Executive Vice President and Chief Financial Officer

Duly Authorized Officer, Principal Financial Officer, and Principal
Accounting Officer

Principal Financial Group, Inc.
Computation of Earnings to Fixed Charges Ratio

The ratio of earnings to fixed charges is a measure of our ability to cover fixed costs with current period earnings. A high ratio indicates that earnings are sufficiently covering committed expenses. The following table sets forth, for the periods indicated, our ratios of: (1) earnings to fixed charges before interest credited on investment products and (2) earnings to fixed charges.

	For the nine months ended September 30,		For the year ended December 31,				
	2017	2016	2016	2015	2014	2013	2012
	<i>(in millions)</i>						
1. Income from continuing operations before income taxes	\$ 1,937.4	\$ 1,210.4	\$ 1,591.7	\$ 1,430.8	\$ 1,494.9	\$ 1,124.0	\$ 960.0
2. Interest expense	114.5	125.5	165.8	178.5	135.5	143.4	127.1
3. Interest factor of rental expense	3.8	3.6	5.1	4.9	5.9	5.7	6.1
4. Undistributed income from equity investees	(92.3)	(95.5)	(142.2)	(106.3)	(113.9)	(107.3)	(99.9)
5. Earnings before interest credited on investment products	<u>1,963.4</u>	<u>1,244.0</u>	<u>1,620.4</u>	<u>1,507.9</u>	<u>1,522.4</u>	<u>1,165.8</u>	<u>993.3</u>
6. Interest credited on investment products	138.7	130.0	173.9	152.0	189.6	256.6	366.3
7. Earnings	<u>\$ 2,102.1</u>	<u>\$ 1,374.0</u>	<u>\$ 1,794.3</u>	<u>\$ 1,659.9</u>	<u>\$ 1,712.0</u>	<u>\$ 1,422.4</u>	<u>\$ 1,359.6</u>
8. Interest expense	\$ 114.5	\$ 125.5	\$ 165.8	\$ 178.5	\$ 135.5	\$ 143.4	\$ 127.1
9. Interest factor of rental expense	3.8	3.6	5.1	4.9	5.9	5.7	6.1
10. Preferred stock dividends by registrant	—	—	—	16.5	33.0	33.0	33.0
11. Excess of redemption value over carrying value of preferred shares redeemed	—	—	—	8.2	—	—	—
12. Fixed charges before interest credited on investment products	<u>118.3</u>	<u>129.1</u>	<u>170.9</u>	<u>208.1</u>	<u>174.4</u>	<u>182.1</u>	<u>166.2</u>
13. Interest credited on investment products	138.7	130.0	173.9	152.0	189.6	256.6	366.3
14. Fixed charges	<u>\$ 257.0</u>	<u>\$ 259.1</u>	<u>\$ 344.8</u>	<u>\$ 360.1</u>	<u>\$ 364.0</u>	<u>\$ 438.7</u>	<u>\$ 532.5</u>
15. Ratio of earnings to fixed charges before interest credited on investment products (Line item 5/Line item 12)	16.6	9.6	9.5	7.2	8.7	6.4	6.0
16. Ratio of earnings to fixed charges (Line item 7/Line item 14)	8.2	5.3	5.2	4.6	4.7	3.2	2.6

CERTIFICATIONS

I, Daniel J. Houston, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Principal Financial Group, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 1, 2017

/s/ Daniel J. Houston

Daniel J. Houston

Chairman, President and Chief Executive Officer

CERTIFICATIONS

I, Deanna D. Strable-Soethout, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Principal Financial Group, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 1, 2017

/s/ Deanna D. Strable-Soethout

Deanna D. Strable-Soethout

Executive Vice President and Chief Financial Officer

**Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code**

I, Daniel J. Houston, Chairman, President and Chief Executive Officer of Principal Financial Group, Inc., certify that (i) the Form 10-Q for the period ended September 30, 2017, fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and (ii) the information contained in the Form 10-Q for the period ended September 30, 2017, fairly presents, in all material respects, the financial condition and results of operations of Principal Financial Group, Inc.

/s/ Daniel J. Houston

Daniel J. Houston

Chairman, President and Chief Executive Officer

Date: November 1, 2017

**Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code**

I, Deanna D. Strable-Soethout, Executive Vice President and Chief Financial Officer of Principal Financial Group, Inc., certify that (i) the Form 10-Q for the period ended September 30, 2017, fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and (ii) the information contained in the Form 10-Q for the period ended September 30, 2017, fairly presents, in all material respects, the financial condition and results of operations of Principal Financial Group, Inc.

/s/ Deanna D. Strable-Soethout

Deanna D. Strable-Soethout

Executive Vice President and Chief Financial Officer

Date: November 1, 2017