

**United States Securities and Exchange Commission
Washington, D.C. 20549**

Form 10-K

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

For the fiscal year ended December 31, 2016.

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

For the transition period from _____ to _____.

Commission file number 0-4604

Cincinnati Financial Corporation

(Exact name of registrant as specified in its charter)

Ohio
(State of incorporation)

31-0746871
(I.R.S. Employer Identification No.)

6200 S. Gilmore Road
Fairfield, Ohio 45014-5141
(Address of principal executive offices) (Zip Code)
(513) 870-2000
(Registrant's telephone number, including area code)

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

None

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

\$2.00 par, common stock
(Title of Class)
6.125% Senior Notes due 2034
(Title of Class)
6.9% Senior Debentures due 2028
(Title of Class)
6.92% Senior Debentures due 2028
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

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

The aggregate market value of voting stock held by nonaffiliates of the Registrant based on the closing price of \$74.89 per share as reported on Nasdaq Global Select Market on June 30, 2016, was \$11,182,876,682.

As of February 20, 2017, there were 164,717,550 shares of common stock outstanding.

Document Incorporated by Reference

Portions of the definitive Proxy Statement for Cincinnati Financial Corporation's Annual Meeting of Shareholders to be held on May 6, 2017, are incorporated by reference into Part III of this Form 10-K.

2016 ANNUAL REPORT ON FORM 10-K
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Part I

ITEM 1. Business

Cincinnati Financial Corporation – Introduction

We are an Ohio corporation formed in 1968. Our lead subsidiary, The Cincinnati Insurance Company, was founded in 1950. Our main business is property casualty insurance marketed through independent insurance agencies in 41 states. Our headquarters is in Fairfield, Ohio. At year-end 2016, we employed 4,754 associates, including 3,201 headquarters associates who provide support to 1,553 field associates.

Cincinnati Financial Corporation owns 100 percent of three subsidiaries: The Cincinnati Insurance Company, CSU Producer Resources Inc. and CFC Investment Company. In addition, the parent company has an investment portfolio, owns the headquarters property and is responsible for corporate borrowings and shareholder dividends.

The Cincinnati Insurance Company owns 100 percent of four additional insurance subsidiaries. Our standard market property casualty insurance group includes two of those subsidiaries – The Cincinnati Casualty Company and The Cincinnati Indemnity Company. This group writes a broad range of business, homeowner and auto policies. The Cincinnati Insurance Company also conducts the business of our reinsurance assumed operations, known as Cincinnati ReSM. Other subsidiaries of The Cincinnati Insurance Company include: The Cincinnati Life Insurance Company (Cincinnati Life), which provides life insurance, disability income policies and fixed annuities; and The Cincinnati Specialty Underwriters Insurance Company (Cincinnati Specialty Underwriters), which offers excess and surplus lines insurance products. In this report and elsewhere we often refer to any or all of these five companies as The Cincinnati Insurance Companies.

The two noninsurance subsidiaries of Cincinnati Financial Corporation are CSU Producer Resources, which offers insurance brokerage services to our independent agencies so their clients can access our excess and surplus lines insurance products; and CFC Investment Company, which offers commercial leasing and financing services to our agencies, their clients and other customers.

Our filings with the U.S. Securities and Exchange Commission (SEC) are available on our website, cinfm.com/investors, as soon as possible after they have been filed with the SEC. Reports filed with the SEC may also be viewed at sec.gov or obtained at the SEC's Public Reference Room at 100 F Street, N.E., Washington D.C. Information regarding the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. These filings include annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. In this report we reference various websites. These websites, including our own, are not incorporated by reference in this Annual Report on Form 10-K.

Periodically, we refer to estimated industry data so that we can give information about our performance versus the overall U.S. insurance industry. Unless otherwise noted, the industry data is prepared by A.M. Best Co., a leading insurance industry statistical, analytical and insurer financial strength and credit rating organization. Information from A.M. Best is presented on a statutory accounting basis. When we provide our results on a comparable statutory accounting basis, we label it as such; all other company data is presented in accordance with accounting principles generally accepted in the United States of America (GAAP).

Our Business and Our Strategy

Introduction

The Cincinnati Insurance Company was founded more than 65 years ago by four independent insurance agents. They established the mission that continues to guide all of the companies in the Cincinnati Financial Corporation family – to grow profitably and enhance the ability of local independent insurance agents to deliver quality financial protection to the people and businesses they serve by:

- providing insurance market stability through financial strength
- producing competitive, up-to-date products and services
- developing associates committed to superior service

At year-end 2016, a select group of independent agencies in 41 states actively marketed our property casualty insurance within their communities. Standard market commercial lines and excess and surplus lines policies were marketed in 39 of those states, while personal lines policies were marketed in 35 of those states. Within our select group of agencies, we also seek to become the life insurance carrier of choice and to help agents and their clients – our policyholders – by offering leasing and financing services.

Three competitive advantages distinguish our company, positioning us to build shareholder value and to be successful overall:

- Commitment to our professional independent insurance agencies and to their continued success
- Financial strength to fulfill our promises and be a consistent market for our agents' business, supporting stability and confidence
- Operating structure that supports local decision making, showcasing our claims excellence and allowing us to balance growth with underwriting discipline

The primary sources of our company's net income are summarized below. We discuss the contribution to net income from each source in Item 7, Corporate Financial Highlights of Management's Discussion and Analysis.

- Underwriting profit (loss) – Includes revenues from earned premiums for insurance and reinsurance policies or contracts, reduced by losses and loss expenses from associated insurance coverages. Those revenues are further reduced by underwriting expenses associated with marketing policies or related to administration of our insurance operation. The net result represents an underwriting profit when revenues exceed losses and expenses.
- Investment income – Is generated primarily from investing the premiums collected for insurance policies sold, until funds are needed to pay losses for insurance claims or other expenses. Interest income from bond investments or dividend income from stock investments are the main categories of our investment income, with additional contribution from compounding effects over time.
- Realized investment gains (losses) – Occur from appreciation or depreciation of invested assets over time. Gains or losses are generally recognized when invested assets are sold or become impaired.

Independent Insurance Agency Marketplace

The U.S. property casualty insurance industry is a highly competitive marketplace with more than 2,000 stock and mutual companies operating independently or in groups. No single company or group dominates across all product lines and states. Standard market insurance companies (carriers) can market a broad array of products nationally or:

- choose to sell a limited product line or only one type of insurance (monoline carrier)
- target a certain segment of the market (for example, personal insurance)
- focus on one or more states or regions (regional carrier)

Standard market property casualty insurers generally offer insurance products through one or more distribution channels:

- independent agents, who represent multiple carriers
- captive agents, who represent one carrier exclusively
- direct marketing to consumers

For the most part, we compete with standard market insurance companies that market through independent insurance agents. Agencies marketing our commercial lines products typically represent six to 12 standard market insurance carriers for commercial lines products, including both national and regional carriers, most of which are mutual companies. Our agencies typically represent four to six standard personal lines carriers. We also compete with carriers that market personal lines products through captive agents and direct writers. Some of our agencies describe their roles as brokers instead of agents. Distribution through independent insurance agents or brokers represents nearly 60 percent of overall U.S. property casualty insurance premiums and approximately 80 percent of commercial property casualty insurance premiums, according to studies by the Independent Insurance Agents and Brokers of America.

We are fully committed to the independent agency channel for marketing our insurance policies, while our reinsurance assumed operation typically markets through broker organizations or similar intermediaries that specialize in reinsurance. The independent agencies that we choose to market our standard lines insurance products share our philosophies. They do business person to person; offer broad, value-added services; maintain sound balance sheets; and manage their agencies professionally, targeting long-term success. We develop our relationships with agencies that are active in their communities, providing important knowledge of local market trends, opportunities and challenges.

We work to support agencies with tools and resources that help communicate the value of our insurance policies to their clients and prospective clients. We plan to build on our recent marketing efforts and continue with our national advertising campaign in 2017. Our intent is to increase the visibility of our company, supporting our agents' efforts as they recommend policies and services offered through The Cincinnati Insurance Companies. We also continue to build our social media presence, focusing on providing content that agents can share on their own sites.

We help our agencies meet the broader needs of their clients and increase and diversify their revenues and profitability by offering insurance solutions beyond our standard market property casualty insurance products. We market life insurance products through the agencies that offer our property casualty products and through other independent life agencies that represent The Cincinnati Life Insurance Company without also representing our other subsidiaries. We operate our own excess and surplus lines insurance brokerage firm and insurance carrier so that we can offer our excess and surplus lines products exclusively to the independent agencies who market our other property casualty insurance products.

For our life insurance operation, property casualty agencies make up the main distribution system. To help that operation build scale, we also develop life insurance business from other independent life insurance agencies in geographic markets underserved through our property casualty agencies. We are careful to solicit business from these other agencies in a manner that does not compete with the life insurance marketing and sales efforts of our property casualty agencies. Cincinnati Life emphasizes up-to-date products, responsive underwriting, high-quality service and competitive pricing.

Our excess and surplus lines insurance operation helps meet the specific insurance needs of certain agency clients. Generally, excess and surplus lines insurance carriers provide insurance that is unavailable in the standard

market due to market conditions or characteristics of the insured persons or organizations that are caused by their nature, claim history or the characteristics of their business. Insurers operating in the excess and surplus lines marketplace generally market business through excess and surplus lines brokers, whether they are small specialty insurers or specialized divisions of larger insurance organizations. Agencies have access to Cincinnati Specialty Underwriters' product line through CSU Producer Resources, the wholly owned insurance brokerage subsidiary of Cincinnati Financial Corporation. By providing superior service, we can help our agencies grow while also profitably growing our property casualty business.

At year-end 2016, our 1,614 property casualty agency relationships were marketing our standard market insurance products from 2,090 reporting locations. An increasing number of agencies have multiple, separately identifiable locations, reflecting their growth as well as consolidation of ownership within the independent agency marketplace. The number of reporting agency locations indicates our agents' regional scope and the extent of our presence within our 41 active states. At year-end 2015, we had 1,526 agency relationships with 1,956 reporting locations.

We made 197 new property casualty agency appointments in 2016 and 114 new appointments in 2015, including 116 and 40, respectively, to market only personal lines insurance products for us. Of the total new appointments, 156 and 85, respectively, were new relationships. The remainder were either: new branch offices opened by existing Cincinnati agencies; or agencies that merged with another Cincinnati agency and we still believed would produce a meaningful amount of new business premiums. These new appointments may be partially offset by other changes in agency structures, such as consolidation through mergers or acquisitions. Our net increase in agency relationships was 88 in 2016 and 60 in 2015. The net increase in reporting agency locations for those same years was 134 and 72, respectively.

On average, we have a 9.7 percent share of the standard lines property casualty insurance purchased through our reporting agency locations, according to 2015 data from agency surveys. Our share is 15.8 percent in reporting agency locations that have represented us for more than 10 years; 8.1 percent in agencies that have represented us for six to 10 years; 3.0 percent in agencies that have represented us for two to five years; and 0.4 percent in agencies that have represented us for one year or less.

Our largest single agency relationship accounted for approximately 0.8 percent of our total property casualty earned premiums in 2016. No aggregate locations under a single ownership structure accounted for more than 4 percent of our earned premiums in 2016.

Financial Strength

We believe that our financial strength and strong capital and surplus position, reflected in our insurer financial strength ratings, are clear, competitive advantages in the segments of the insurance marketplace that we serve. This strength supports the consistent, predictable performance that our policyholders, agents, associates and shareholders have always expected and received, helping us withstand significant challenges.

While the potential exists for short-term financial performance variability due to our exposures to possible natural or man-made catastrophes or to significant capital market losses, the rating agencies consistently assert that we have built appropriate financial strength and flexibility to manage that variability. We remain committed to strategies that emphasize being a consistent, stable market for our agents' business rather than seeking short-term benefits that might accrue by quick, opportunistic reaction to changes in market conditions.

We use various principles and practices such as diversification and enterprise risk management to maintain strong capital. For example, we maintain a diversified investment portfolio by reviewing and applying diversification parameters and tolerances.

- Our \$10.085 billion fixed-maturity portfolio is diversified and exceeds total insurance reserves. The portfolio had an average rating of A3/A, and its fair value exceeded total insurance reserve liabilities by approximately 30 percent at December 31, 2016. No corporate bond exposure accounted for more than 0.7 percent of our fixed-maturity portfolio, and no municipal exposure accounted for more than 0.3 percent.
- The strength of our fixed-maturity portfolio provides an opportunity to invest for potential capital appreciation by purchasing equity securities. Our \$5.334 billion equity portfolio minimizes concentrations in single stocks or industries. At December 31, 2016, no single security accounted for more than 3.8 percent of our portfolio of publicly traded common stocks, and no single sector accounted for more than 18 percent.

Strong liquidity increases our flexibility through all periods to maintain our cash dividend and to continue to invest in and expand our insurance operations. At December 31, 2016, we held \$2.162 billion of our cash and invested assets at the parent-company level, of which \$1.832 billion, or 84.7 percent, was invested in common stocks, and \$248 million, or 11.5 percent, was cash and cash equivalents.

We minimize reliance on debt as a source of capital, maintaining a debt-to-total-capital ratio below 20 percent. At December 31, 2016, this ratio at 10.3 percent was well below the target limit. Long-term debt at year-end 2016 totaled \$787 million, up \$1 million from year-end 2015, and our short-term debt was \$20 million, down from \$35 million at the end of the prior year. The long-term debt consists of three nonconvertible, noncallable debentures, two due in 2028 and one in 2034. Ratings for our long-term debt are discussed in Item 7, Liquidity and Capital Resources, Additional Sources of Liquidity.

At year-end 2016 and 2015, risk-based capital (RBC) for our standard market property casualty insurance, excess and surplus lines insurance and life insurance subsidiaries was strong, far exceeding regulatory requirements.

- We ended 2016 with a 1.0-to-1 ratio of property casualty premiums to surplus, a key measure of property casualty insurance company capacity and security. A lower ratio indicates more security for policyholders and greater capacity for growth by an insurer. We believe our ratio provides ample flexibility to diversify risk by expanding our operations into new geographies and product areas. The estimated industry average ratio was 0.7-to-1 at year-end 2016.
- We ended 2016 with a 7.0 percent ratio of life statutory adjusted risk-based surplus to liabilities, a key measure of life insurance company capital strength. The estimated industry average ratio was 12.0 percent at year-end 2016. A higher ratio indicates an insurer's stronger security for policyholders and capacity to support business growth.

(Dollars in millions) Statutory Information	At December 31,	
	2016	2015
Standard market property casualty insurance subsidiary		
Statutory capital and surplus	\$ 4,686	\$ 4,412
Risk-based capital	4,715	4,431
Authorized control level risk-based capital	645	582
Risk-based capital to authorized control level risk-based capital ratio	7.3	7.6
Written premium to surplus ratio	1.0	1.0
Excess and surplus lines insurance subsidiary		
Statutory capital and surplus	\$ 372	\$ 306
Risk-based capital	372	306
Authorized control level risk-based capital	36	35
Risk-based capital to authorized control level risk-based capital ratio	10.4	8.8
Written premium to surplus ratio	0.5	0.6
Life insurance subsidiary		
Statutory capital and surplus	\$ 200	\$ 208
Risk-based capital	229	227
Authorized control level risk-based capital	40	36
Total liabilities excluding separate account business	3,317	3,132
Risk-based capital to authorized control level risk-based capital ratio	5.8	6.3
Life statutory risk-based adjusted surplus to liabilities ratio	7.0	7.3

The consolidated property casualty insurance group's ratio of investments in common stock, at fair value, to statutory capital and surplus was 69.9 percent at year-end 2016 compared with 65.6 percent at year-end 2015.

Cincinnati Financial Corporation's senior debt is rated by four independent rating firms. In addition, the rating firms award our property casualty and life operations insurance financial strength ratings based on their quantitative and qualitative analyses. These ratings assess an insurer's ability to meet financial obligations to policyholders and do not necessarily address all of the matters that may be important to shareholders. Ratings may be subject to revision or withdrawal at any time by the ratings agency, and each rating should be evaluated independently of any other rating.

At February 22, 2017, our insurance subsidiaries continued to be highly rated.

Insurer Financial Strength Ratings									
Rating agency	Standard market property casualty insurance subsidiary			Life insurance subsidiary			Excess and surplus lines insurance subsidiary		
	Rating		Tier	Rating		Tier	Rating		Tier
A. M. Best Co. <i>ambest.com</i>	A+	Superior	2 of 16	A	Excellent	3 of 16	A+	Superior	2 of 16
Fitch Ratings <i>fitchratings.com</i>	A+	Strong	5 of 21	A+	Strong	5 of 21	-	-	-
Moody's Investors Service <i>moody's.com</i>	A1	Good	5 of 21	-	-	-	-	-	-
S&P Global Ratings <i>spratings.com</i>	A+	Strong	5 of 21	A+	Strong	5 of 21	-	-	-

On December 13, 2016, A.M. Best affirmed the financial strength rating of The Cincinnati Insurance Company, and its property casualty insurance subsidiaries, that it had assigned in December 2008, continuing its stable outlook. On December 12, 2016, Fitch Ratings affirmed the ratings that it had assigned to us in August 2009, continuing its stable outlook. On May 24, 2016, Moody's Investors Service affirmed the ratings that it had assigned to us in September 2008, continuing its stable outlook. On June 28, 2016, S&P Global Ratings (formerly known as Standard & Poor's Ratings Services) affirmed the ratings that it had assigned to us in June 2015, continuing its stable outlook.

Our debt ratings are discussed in Item 7, Liquidity and Capital Resources, Additional Sources of Liquidity.

Operating Structure

We offer our broad array of insurance products through the independent agency distribution channel. We recognize that locally based independent agencies have relationships in their communities and local marketplace intelligence that can lead to profitable business and policyholder satisfaction and loyalty. Several of our strategic initiatives are intended not only to help us compete but also to enhance support of agencies that represent us, thereby contributing to agency success. We seek to be a consistent and predictable property casualty carrier that agencies can rely on to serve their clients.

In our 10 highest volume states for consolidated property casualty premiums, 1,140 reporting agency locations wrote 61.4 percent of our 2016 consolidated property casualty earned premium volume compared with 1,124 locations and 62.3 percent in 2015. We continue efforts to geographically diversify our property casualty risks.

Our 10 largest states based on property casualty premium volume are shown in the table below.

(Dollars in millions)				
	Earned premiums	% of total earned	Agency locations	Average premium per location
Year ended December 31, 2016				
Ohio	\$ 754	16.8%	247	\$ 3.1
Illinois	298	6.7	144	2.1
Indiana	270	6.0	113	2.4
Georgia	250	5.6	98	2.6
North Carolina	236	5.3	102	2.3
Pennsylvania	235	5.2	117	2.0
Michigan	233	5.2	141	1.7
Tennessee	174	3.9	62	2.8
Virginia	153	3.4	66	2.3
Kentucky	149	3.3	50	3.0

Field Focus Emphasizing Service

We rely on our force of 1,553 field associates to provide service and be accountable to our agencies for decisions we make at the local level. These associates live in the communities our agents serve, so they are readily available when agencies or policyholders need them. While their work is often conducted at the premises of the agency or policyholder, they also work from offices in their homes. Headquarters associates support agencies and field associates with underwriting, accounting, technology assistance, training and other services. Company executives and headquarters associates regularly travel to visit agencies, strengthening the personal relationships we have with these organizations. Agents have opportunities for direct, personal conversations with our senior management team, and headquarters associates have opportunities to refresh their knowledge of marketplace conditions and field activities.

The field team is coordinated by field marketing representatives responsible for underwriting new commercial lines business. They are joined by field representatives specializing in claims, loss control, personal lines, excess and surplus lines, machinery and equipment, bond, premium audit and life insurance. The field team provides a variety of services, such as recommending specific actions to improve the safety of the policyholder's operations. We seek to develop long-term relationships by understanding the unique needs of each agency's clients, who are also our policyholders.

Service using technology solutions gives our agencies access to our systems for ease of processing business transactions. Policyholders can also conveniently access pertinent policy information, helping to reduce costs for agencies and the company. We also offer and continue to develop enhanced, tailored services offered at the time a claim is reported for an insured loss event. Those services include assisting with car rental or towing, arranging temporary housing and coordinating emergency repairs to damaged homes so additional damage is minimized. Technology also helps our associates collaborate and process business efficiently, providing more time for personal service to agencies and their clients when needed.

Our claims philosophy reflects our belief that we prosper as a company by responding to claims person to person, paying covered claims promptly, preventing false claims from unfairly adding to overall premiums and building financial strength to meet future obligations.

Our 877 locally based field claims associates work from their homes and are assigned to specific agencies. They respond personally to policyholders and claimants, and are equipped to handle a claim from nearly anywhere. We believe we have a competitive advantage because of the person-to-person approach and the resulting high level of service that our field claims representatives provide. We also help our agencies provide prompt service to policyholders by giving most agencies authority to immediately pay most first-party claims under standard market policies up to \$2,500. We believe this same local approach to handling claims is a competitive advantage for our agents providing excess and surplus lines coverage in their communities. Handling of these claims includes guidance from headquarters-based excess and surplus lines claims managers.

Catastrophe response teams are comprised of volunteers from our experienced field claims staff who have the authority they need to do their jobs. In times of widespread loss, our field claims representatives confidently and quickly resolve claims, often providing claims payments on the same day they inspect the loss. Technology helps to enable fast initial contact with policyholders and easy sharing of information and data among storm teams, headquarters staff and local field claims representatives. When hurricanes or other weather events are predicted, we can identify through mapping technologies the expected number of our policyholders that may be impacted by the event and choose to have catastrophe response team members travel to strategic locations near the expected impact area. They are then in position to quickly get to the affected area, set up temporary offices and start calling on policyholders.

We staff a Special Investigations Unit (SIU) with former law enforcement and claims professionals whose qualifications make them well suited to gathering facts to uncover potential fraud. While we believe our job is to pay what is due under each policy contract, we also want to prevent false claims from unfairly increasing overall premiums. Our SIU also operates a computer forensics lab, using sophisticated software to recover data and mitigate the cost of computer-related claims for business interruption and loss of records.

We seek to attract and retain high-quality independent insurance agencies with knowledgeable, professional staffs. In turn, we make an exceptionally strong commitment to assist them in keeping their knowledge up to date and educating new people they bring on board as they grow. This includes offering classes, usually at no cost to agencies, except travel-related expenses they may incur, and other training support. We also offer noninsurance financial services. We believe that providing these services enhances agency relationships with the company and their clients, increasing loyalty while diversifying the agency's revenues.

Insurance Products

We provide well-designed property casualty and life insurance to bring policyholders convenience, discounts and a reduced risk of coverage gaps or disputes. For most agencies that represent us, we believe we offer insurance solutions for approximately 75 percent of the typical insurable risks of their clients. Products for various business lines within our reporting segments include insurance coverages for business property and liability, automobiles and homes.

The following table shows net written premiums by segment and business line at year-end 2016, 2015 and 2014:

(Dollars in millions)					
	2016	2015	2014		Percent of total 2016
Segment:					
Commercial lines insurance	\$ 3,122	\$ 3,025	\$ 2,922		64.2%
Personal lines insurance	1,198	1,128	1,068		24.6
Excess and surplus lines insurance	189	175	153		3.9
Life insurance	281	256	250		5.8
Other	71	33	—		1.5
Total	<u>\$ 4,861</u>	<u>\$ 4,617</u>	<u>\$ 4,393</u>		<u>100.0%</u>
Business line:					
Commercial lines insurance					
Commercial casualty	\$ 1,061	\$ 1,025	\$ 969		21.8%
Commercial property	880	845	776		18.1
Commercial auto	611	575	548		12.6
Workers' compensation	352	357	365		7.2
Other commercial	218	223	264		4.5
Total commercial lines insurance	<u>3,122</u>	<u>3,025</u>	<u>2,922</u>		<u>64.2</u>
Personal lines insurance					
Personal auto	563	524	489		11.5
Homeowner	500	474	456		10.3
Other personal	135	130	123		2.8
Total personal lines insurance	<u>1,198</u>	<u>1,128</u>	<u>1,068</u>		<u>24.6</u>
Excess and surplus lines insurance					
	189	175	153		3.9
Life insurance					
Term life insurance	156	145	138		3.2
Universal life insurance	36	41	41		0.8
Other life insurance, annuity and disability income products	89	70	71		1.8
Subtotal	<u>281</u>	<u>256</u>	<u>250</u>		<u>5.8</u>
Cincinnati Re					
	71	33	—		1.5
Total	<u>\$ 4,861</u>	<u>\$ 4,617</u>	<u>\$ 4,393</u>		<u>100.0%</u>

We discuss our commercial lines, personal lines and excess and surplus lines insurance segments as well as our life insurance segment in their respective sections later in this report.

Strategic Initiatives to Manage Insurance Profitability and Drive Premium Growth

Management has identified a strategy that can position us for long-term success. The board of directors and management expect execution of our strategic plan to create significant value for shareholders over time. We broadly group key strategic initiatives into two areas of focus – managing insurance profitability and driving premium growth. These areas correlate with how we measure progress toward our long-term financial objectives. Our strategic priorities include meeting the wants and needs of our agent customers, attracting and developing talented associates, providing comprehensive product solutions, achieving best-in-class field service and continually enhancing operational efficiency and effectiveness. We believe successful execution of our long-term strategy and related shorter-term initiatives will help us achieve our long-term objectives despite potential unfavorable shorter-term effects of difficult economic, market or pricing cycles. We describe our expectations for the results of these initiatives in Item 7, Executive Summary of Management's Discussion and Analysis.

Effective capital management is an important part of creating long-term shareholder value, serving as a foundation to support other strategic areas focused on profitable growth of our insurance business. Our capital management philosophy is intended to preserve and build our capital while maintaining appropriate liquidity. A strong capital position provides the capacity to support premium growth, and liquidity provides for our investment in the people and infrastructure needed to implement our strategic initiatives. Our strong capital and liquidity also provide financial flexibility for shareholder dividends or other capital management actions.

We continue to enhance our property casualty underwriting expertise and to effectively and efficiently underwrite individual policies and process transactions. Ongoing initiatives supporting this work include expanding our pricing and segmentation capabilities through experience and use of predictive analytics and additional data. Our segmentation efforts emphasize identification and retention of insurance policies we believe have relatively stronger pricing, while seeking more aggressive renewal terms and conditions on policies we believe have relatively weaker pricing. We will continue collaborative efforts to address underpriced or underperforming business in 2017, including improving underwriting and rate adequacy for our commercial auto and personal auto lines of business.

We take ongoing actions intended to improve efficiency and make it easier for agencies and their clients to do business with us. In addition to benefiting agencies we serve, improved processes support our strategy, helping to more quickly deploy product or service enhancements. They also help reduce internal costs and allow us to focus more resources on agency services and providing local, individualized insurance solutions for small businesses and other agency clients. Initiatives include continuing to enhance the experiences of agencies and policy consumers through real-time messaging to an agency's management system and further development of online portals providing more robust policy information for billing, claims and other areas. Other ongoing initiatives aim for continuous improvement of workflow tools and processes for underwriters.

We also seek to further penetrate insurance markets as we strive to be the best company serving independent insurance agencies. We expect initiatives aimed at specific market opportunities, along with enhancements to provide industry-leading services, to encourage our agents to grow and to increase our share of their business. Our growth plans incorporate general business statistics and historical profitability trends to estimate premium growth from existing agencies and to make careful projections to assess the number of additional agencies needed. Our focus remains on key components of agent satisfaction based on factors that agents tell us are most important.

We continue to appoint new agencies to develop additional points of distribution. In 2017, we are planning approximately 100 appointments of independent agencies that offer most or all of our property casualty insurance products. We generally earn a 10 percent share of an agency's business within 10 years of its appointment. See Item 1, Our Business and Our Strategy, Independent Insurance Agency Marketplace, for additional discussion.

We also plan to appoint other agencies that focus on high net worth personal lines clients. In 2017, we are targeting the appointment of approximately 100 agencies that market only personal lines insurance products for us, primarily ones with a high net worth focus. In 2016, we appointed 116 new agencies that meet that criteria. As we continue to expand availability of our Executive Capstone™ suite of insurance products and services to additional states over the next several years, we intend to appoint additional agencies as we work to become the carrier of choice for this portion of our agencies' accounts.

For all of our insurance products, we will work to increase penetration with recently appointed agencies. This includes increasing opportunities for agencies to cross-serve their clients by providing updated products and services that aim to meet their life insurance needs. We will also continue to add field marketing representatives or provide target market expertise where needed for additional agency support in selected areas. We expect our strategy and initiatives to contribute to our objective of being ranked the No. 1 or No. 2 carrier based on premium volume in agencies that have represented us for at least five years. We continued to reach that objective in nearly 75 percent of such agencies based on 2015 premiums.

During 2017, we will continue to produce premiums through the disciplined expansion of Cincinnati Re – our reinsurance assumed operation. Cincinnati Re assumes risks through reinsurance treaties covering various lines of business where we receive a share of premiums and associated liabilities from other insurers and reinsurers. We have staffed this operation with seasoned underwriting and analytical talent and strive to assume risks that we understand well, both quantitatively and qualitatively. We seek risks that have attractive underwriting margins on a stand-alone basis as well as on a diversified risk-adjusted return basis. We have adequate capital to support this operation and intend to be selective and patient in its expansion.

Our Segments

Consolidated financial results primarily reflect the results of our five reporting segments. These segments are defined based on financial information we use to evaluate performance and to determine the allocation of assets.

- Commercial lines insurance
- Personal lines insurance
- Excess and surplus lines insurance
- Life insurance
- Investments

Revenues, income before income taxes and identifiable assets for each segment are shown in Item 8, Note 18 of the Consolidated Financial Statements. Some of that information is discussed in this section, where we explain the business operations of each segment. The financial performance of each segment is discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Commercial Lines Insurance Segment

In 2016, the commercial lines insurance segment contributed net earned premiums of \$3.089 billion, representing 56.7 percent of consolidated total revenues. This segment reported profit before income taxes of \$184 million. Commercial lines net earned premiums rose 3 percent in 2016 and 5 percent in 2015.

We believe that our commercial lines business is best measured and evaluated on a segment basis. However, we also provide selected line of business data to summarize growth and profitability trends separately for our business lines. The five commercial business lines are:

- Commercial casualty – Provides coverage to businesses against third-party liability from accidents occurring on their premises or arising out of their operations, including injuries sustained from products or liability related to professional services. Specialized casualty policies may include similar coverage such as umbrella liability or employment practices. The commercial casualty business line includes liability coverage written as part of commercial package policies.
- Commercial property – Provides coverage for loss or damage to buildings, inventory and equipment caused by covered causes of loss such as fire, wind, hail, water, theft and vandalism, as well as business interruption resulting from a covered loss. Commercial property also includes other coverages such as inland marine, which covers losses related to builder's risk, cargo or equipment. Various property coverages can be written as stand-alone policies or can be added to a commercial package policy.
- Commercial auto – Protects businesses against liability to others for both bodily injury and property damage, medical payments to insureds and occupants of their vehicles, physical damage to an insured's own vehicle from collision and various other perils, and damages caused by uninsured motorists.
- Workers' compensation – Covers employers for government-specified benefits from work-related injuries to employees.
- Other commercial lines – This includes several other types of insurance products for businesses, including:
 - Management liability and surety – Includes director and officer (D&O) liability insurance, which covers liability for actual or alleged errors in judgment, breaches of duty or other wrongful acts related to activities of organizations and can optionally include other liability coverages. We market primarily to nonprofit organizations, privately held businesses, healthcare organizations, financial institutions and educational institutions. The for-profit portion includes approximately 225 bank or savings and loan financial institutions, with only seven having assets of \$1 billion or more. The surety portion includes contract and commercial surety bonds for losses resulting from dishonesty, failure to perform and other acts and also includes fidelity bonds for fraudulent acts by specified individuals or dishonest acts by employees.
 - Specialty packages – Includes coverages for property, liability and business interruption tailored to meet the needs of specific industry classes such as artisan contractors, dentists or smaller main street businesses.
 - Machinery and equipment – Specialized coverage provides protection for loss or damage to boilers and machinery, including production and computer equipment and business interruption, due to sudden and accidental mechanical breakdown, steam explosion or artificially generated electrical current.

Our history of emphasizing products and services that agencies can market to small to midsized businesses in their communities remains a critical piece of our strategy even as we expand our appetite to insure larger businesses. While some of our property casualty agencies market only our personal lines or management liability and surety products, approximately 90 percent offer some or all of our standard market commercial insurance products.

In 2016, our 10 highest volume commercial lines states generated 59.4 percent of our earned premiums compared with 59.3 percent in 2015 as we continued efforts to geographically diversify our property casualty risks. Earned premiums in the 10 highest volume states increased 3 percent in 2016 and also increased 3 percent in the remaining states. The aggregate number of reporting agency locations in our 10 highest volume states increased to 1,115 in 2016 from 1,101 in 2015.

Our 10 largest states based on commercial lines premium volume are shown in the table below.

(Dollars in millions)					
		Earned premiums	% of total earned	Agency locations	Average premium per location
Year ended December 31, 2016					
Ohio	\$	449	14.5%	244	\$ 1.8
Illinois		217	7.0	138	1.6
Pennsylvania		199	6.4	110	1.8
Indiana		183	5.9	111	1.6
North Carolina		157	5.1	100	1.6
Georgia		141	4.6	90	1.6
Michigan		138	4.5	132	1.0
Tennessee		123	4.0	60	2.1
Virginia		121	3.9	62	2.0
Texas		108	3.5	68	1.6

For new commercial lines business, case-by-case underwriting and pricing is coordinated by our locally based field marketing representatives who are also responsible for selecting new independent agencies. Our agents and our team of field associates get to know the people and businesses in their communities and can make informed decisions about each risk.

Commercial lines policy renewals are managed by headquarters underwriters who are assigned to specific agencies and consult with local field staff as needed. As part of our team approach, headquarters underwriters also help oversee agency growth and profitability. They are responsible for formal issuance of all new business and renewal policies as well as policy endorsements. Further, the headquarters underwriters provide day-to-day customer service to agencies and our field marketing representatives by offering product training, answering underwriting questions, helping to determine underwriting eligibility and assisting with the mechanics of premium determination. We also continue a target markets emphasis to analyze opportunities and to develop new products and services, new coverage options and improvements to existing insurance products.

Understanding evolving market conditions is a critical function for our success, accomplished through both informal commentary and formal reviews. Informally, our field marketing representatives, underwriters and product development associates routinely receive market intelligence from a variety of channels, including from the agencies with which they work. This market information helps identify the top competitors and our market strengths and weaknesses. The information obtained encompasses pricing, breadth of coverage and use of underwriting guidelines.

Our historical emphasis on small to midsized businesses is reflected in the mix of our commercial lines premium volume by policy size. Approximately 80 percent of our commercial in-force policies have annual premiums of \$10,000 or less, accounting in total for approximately one-quarter of our 2016 commercial lines premium volume. The remainder of policies have annual premiums greater than \$10,000, including policies with annual premiums greater than \$100,000 that account for approximately 19 percent of our 2016 commercial lines premium volume.

Our commercial lines packages typically are offered on a three-year policy term for most insurance coverages – a key competitive advantage. In our experience, multi-year packages appeal to the quality-conscious insurance buyers who we believe are typical clients of our independent agents. Customized insurance programs on a three-year term complement the long-term relationships these policyholders typically have with their agents and with our company. By reducing annual administrative efforts, multi-year policies lower expenses for our company and for our agents. The commitment we make to policyholders encourages long-term relationships and reduces their need to annually re-evaluate their insurance carrier or agency. We believe that the advantages of three-year policies in terms of improved policyholder convenience, increased account retention and reduced administrative costs outweigh the potential disadvantage of these policies, even in periods of rising rates.

Although we offer three-year policy terms, premiums for some coverages within those policies are adjustable at anniversary for the next annual period, and policies may be canceled at any time at the discretion of the policyholder. Contract terms often provide that rates for property, general liability, inland marine and crime coverages, as well as policy terms and conditions, are fixed for the term of the policy. However, the exposure we insure is reviewed annually, near the policy anniversary date, and the amount of premiums may be adjusted based on changes to that exposure.

The general liability exposure basis may be audited annually. Commercial auto, workers' compensation, professional liability and most umbrella liability coverages within multi-year packages are rated at each of the policy's annual anniversaries for the next one-year period. The annual pricing could incorporate rate changes approved by state insurance regulatory authorities between the date the policy was written and its annual anniversary date, as well as changes in risk exposures and premium credits or debits relating to loss experience and other underwriting judgment factors. We estimate that approximately 75 percent of 2016 commercial premiums were subject to annual rating or were written on a one-year policy term. That 75 percent includes approximately one-third of policies offered on a three-year policy term that expire during any given year.

We believe our commercial lines insurance segment premiums reflect a higher concentration, relative to industry commercial lines premiums, in contractor-related businesses. Since economic activity related to construction, which can heavily influence insured exposures of contractors, may experience cycles that vary significantly with the economy as a whole, our commercial lines premium trends could vary from commercial lines premium trends for the property casualty insurance industry. In 2016, we estimated that 40 percent of our general liability premiums, and 39 percent of our workers' compensation premiums, came from the construction industry based on North American Industry Classification System (NAICS) codes.

Personal Lines Insurance Segment

The personal lines insurance segment contributed net earned premiums of \$1.161 billion to 2016 consolidated total revenues, or 21.3 percent of the total, and reported a loss before income taxes of \$12 million. Personal lines net earned premiums rose 6 percent in 2016 and 5 percent in 2015.

We prefer to write personal lines coverage in accounts that include both auto and homeowner coverages as well as coverages that are part of our other personal business line. At the end of 2016, for example, 83.3 percent of our homeowner policies were accompanied by a personal auto policy in the same account. As a result of our account-based approach, we believe that our personal lines business is best measured and evaluated on a segment basis. However, we provide line of business data to summarize growth and profitability trends separately for three business lines:

- Personal auto – Protects against liability to others for both bodily injury and property damage, medical payments to insureds and occupants of their vehicle, physical damage to an insured's own vehicle from collision and various other perils, and damages caused by uninsured motorists. In addition, many states require policies to provide first-party personal injury protection, frequently referred to as no-fault coverage.
- Homeowner – Protects against losses to dwellings and contents from a wide variety of perils, as well as liability arising out of personal activities both on and off the covered premises. We also offer coverage for condominium unit owners and renters.
- Other personal lines – This includes the other types of insurance products we offer to individuals, including dwelling fire, inland marine, personal umbrella liability and watercraft coverages.

At year-end 2016, we marketed personal lines insurance products through 1,511, or approximately 72 percent, of our 2,090 agency reporting locations. The 1,511 personal lines agency locations are in 35 of the 41 states in which we offered property casualty insurance. Those agencies produced more than 1.1 million personal lines policies in force for us, representing approximately 450,000 policyholders.

We continue to evaluate opportunities to expand our marketing of personal lines to other states. Primary factors considered in the evaluation of a potential new state include market opportunity or potential, weather-related catastrophe history and the legal climate.

Expansion of our personal lines insurance segment includes marketing through independent agencies to profitably grow our premiums for products and services offered to their high net worth personal lines clients. In 2016, California, New Jersey and Colorado became new states for our personal lines operation when we began offering our Executive Capstone program for high net worth clients and appointing new agencies. At year-end 2016, our appointed agencies produced for us nearly \$180 million in annual premiums from policyholders with insured home values of \$1 million or more. We estimate those policyholders represent approximately 5 percent of our total personal lines policyholders.

In 2016, our 10 highest volume personal lines states generated 77.1 percent of our earned premiums compared with 78.5 percent in 2015. Earned premiums in the five highest volume states increased 4 percent in 2016 while increasing 8 percent in the remaining states, reflecting progress toward our long-term objective of geographic diversification through new states for our personal lines operation. The aggregate number of reporting agency locations in our 10 highest volume states decreased to 878 in 2016 from 883 in 2015.

Our 10 largest states based on personal lines premium volume are shown in the table below.

(Dollars in millions)

	Earned premiums	% of total earned	Agency locations	Average premium per location
Year ended December 31, 2016				
Ohio	\$ 290	25.0%	224	\$ 1.3
Georgia	97	8.4	86	1.1
Michigan	87	7.5	107	0.8
Indiana	76	6.5	86	0.9
North Carolina	71	6.1	86	0.8
Illinois	68	5.9	95	0.7
Alabama	59	5.1	48	1.2
Kentucky	55	4.7	43	1.3
Tennessee	47	4.0	48	1.0
Minnesota	45	3.9	55	0.8

New and renewal personal lines business reflects our risk-specific underwriting philosophy. Each agency selects personal lines business primarily from within the geographic territory that it serves, based in part on agency staff's knowledge of the risks in those communities or familiarity with the policyholder. At year-end 2016, we had 17 full-time personal lines field marketing representatives who have underwriting authority and visit agencies on a regular basis. They focus primarily on key states targeted for growth, reinforcing the advantages of our personal lines products and offering training in the use of our policy processing system. Personal lines activities are further supported by headquarters associates assigned to individual agencies.

Excess and Surplus Lines Insurance Segment

The excess and surplus lines segment contributed net earned premiums of \$183 million to 2016 consolidated total revenues, or 3.4 percent of the total, and reported profit before income taxes of \$62 million. Excess and surplus lines net earned premium increased 9 percent in 2016 and 14 percent in 2015.

Our excess and surplus lines policies typically cover business risks with unique characteristics, such as the nature of the business or its claim history, that are difficult to profitably insure in the standard commercial lines market. Excess and surplus lines insurers have more flexibility in coverage terms and rates compared with standard lines companies, generally resulting in policies with higher rates and terms and conditions customized for specific risks, including restricted coverage where appropriate. We target small to midsized risks, and policyholders in many cases also have standard market insurance with one of our other subsidiaries. Our average excess and surplus lines policy size is approximately \$6,000 in annual premiums, and the majority have coverage limits of \$1 million or less. All of our excess and surplus lines policies are written for a maximum term of one year. Approximately 88 percent of our 2016 earned premiums for the excess and surplus lines insurance segment provided commercial casualty coverages and about 12 percent provided commercial property coverages. Those coverages are described below.

- **Commercial casualty** – Covers businesses for third-party liability from accidents occurring on their premises or arising out of their operations, including injuries sustained from products. Other coverages available include miscellaneous errors and omissions, professional liability and excess liability. Typical businesses covered include contractors, manufacturers, real estate owners and managers, retail, consultants, and bars or taverns. Policies covering liability at special events are also available.
- **Commercial property** – Insures buildings, inventory, equipment and business income from loss or damage due to causes such as fire, wind, hail, water, theft and vandalism. Examples of property we commonly insure with excess and surplus lines policies include temporarily vacant buildings, habitational, restaurants and relatively higher-hazard manufacturing classes.

At the end of 2016, we marketed excess and surplus lines insurance products in each of the 39 states in which we offer standard market commercial lines insurance. Offering excess and surplus lines helps agencies representing The Cincinnati Insurance Companies meet the insurance needs of their clients when coverage is unavailable in the

standard market. By providing outstanding service, we can help agencies grow and prosper while also profitably growing our property casualty business.

In 2016, our 10 highest volume excess and surplus lines states generated 58.1 percent of our earned premiums compared with 59.2 percent in 2015.

Our 10 largest states based on excess and surplus lines premium volume are shown in the table below.

(Dollars in millions)	Earned premiums	% of total earned
Year ended December 31, 2016		
Texas	\$ 16	8.8%
Ohio	16	8.5
Illinois	13	7.2
Georgia	12	6.6
Indiana	11	6.2
Alabama	8	4.4
North Carolina	8	4.2
Michigan	8	4.1
Pennsylvania	8	4.1
Missouri	7	4.0

Agencies representing The Cincinnati Insurance Companies produce approximately \$3 billion in annual premiums for all carriers writing excess and surplus lines policies for their clients. We estimate that approximately half of that premium volume matches the targeted business types and coverages we offer through our excess and surplus lines insurance segment. We structured the operations of this segment to meet the needs of these agencies and to market exclusively through them.

Agencies have access to Cincinnati Specialty Underwriters' product line through CSU Producer Resources, the wholly owned insurance brokerage subsidiary of Cincinnati Financial Corporation. CSU Producer Resources has binding authority on all classes of business written through Cincinnati Specialty Underwriters and maintains appropriate agent and surplus lines licenses.

We seek to earn a share of each agency's best excess and surplus lines accounts by offering several unique benefits. Agency producers have direct access through CSU Producer Resources to a group of our underwriters who focus exclusively on excess and surplus lines business. Those underwriters can tap into broader services we offer to provide policyholders additional value and help producers build the relationship through experienced and responsive loss control services and claims handling. CSU Producer Resources gives extra support to our independent agency producers by remitting surplus lines taxes and stamping fees and retaining admitted market diligent search affidavits, where required. Agencies marketing through CSU Producer Resources instead of a competing brokerage generally receive a higher commission because use of our internal brokerage subsidiary eliminates some of the intermediary costs. This business is factored in their profit-sharing agreement with The Cincinnati Insurance Companies. We also offer prompt service, generally issuing approximately 95 percent of policies within 24 hours of a request to bind a policy.

Life Insurance Segment

The life insurance segment contributed \$228 million of net earned premiums, representing 4.2 percent of 2016 consolidated total revenues, and reported a profit before income taxes of \$1 million. Life insurance net earned premiums grew 9 percent in 2016 and 6 percent in 2015.

The Cincinnati Life Insurance Company supports our agency-centered business model by deepening the relationships we have with agents while also diversifying revenue and profitability for both the agency and our company. We primarily focus on life products that feature a steady stream of premium payments and that have the potential for generating revenue growth through increasing demand.

Life Insurance Business Lines

Four lines of business – term life insurance, universal life insurance, worksite products and whole life insurance – account for 95.3 percent of the life insurance segment's revenues:

- Term life insurance – Policies under which a death benefit is payable only if the insured dies during a specific period of time. Policy options include a return of premium provision, a benefit equal to the sum of all paid base premiums that is payable if the insured person survives to the end of the term. The policies are fully underwritten utilizing traditional and accelerated methods.
- Universal life insurance – Long-duration life insurance policies that are fully underwritten. Contract premiums are neither fixed nor guaranteed; however, the contract does specify a minimum interest crediting rate and a maximum cost of insurance charge and expense charge. The cash values, available as a loan collateralized by the cash surrender value, are not guaranteed and depend on the amount and timing of actual premium payments and the amount of actual contract assessments.
- Worksite products – Term life insurance, return of premium term life insurance, whole life insurance, universal life and disability insurance offered to employees through their employer. Premiums are collected by the employer using payroll deduction. Policies are issued using a simplified underwriting approach and on a guaranteed issue basis. Worksite insurance products provide our property casualty agency force with excellent cross-serving opportunities for both commercial and personal accounts.
- Whole life insurance – Policies that provide life insurance for the entire lifetime of the insured. The death benefit is guaranteed never to decrease and premiums are guaranteed never to increase. While premiums are fixed, they must be paid as scheduled. These policies provide guaranteed cash values that are available as loans collateralized by the cash surrender value. The policies are fully underwritten.

In addition, Cincinnati Life markets:

- Disability income insurance that provides monthly benefits to offset the loss of income when the insured person is unable to work due to accident or illness.
- Deferred annuities that provide regular income payments that commence after the end of a specified period or when the annuitant attains a specified age. During the deferral period, any payments made under the contract accumulate at the crediting rate declared by the company but not less than a contract-specified guaranteed minimum interest rate. A deferred annuity may be surrendered during the deferral period for a cash value equal to the accumulated payments plus interest less the surrender charge, if any.
- Immediate annuities that provide some combination of regular income and lump-sum payments in exchange for a single premium.

Life Insurance Distribution

Our life insurance subsidiary is licensed in 49 states and the District of Columbia. At year-end 2016, approximately 83 percent of our 2,090 property casualty agency reporting locations offered Cincinnati Life products to their clients. We also develop life business from approximately 575 other independent life insurance agencies. We are careful to solicit business from these other agencies in a manner that does not conflict with or compete with the marketing and sales efforts of our property casualty agencies.

When marketing through our property casualty agencies, we have specific competitive advantages:

- Because our property casualty operations are held in high regard, property casualty agency management is predisposed to consider selling our life products.
- Marketing efforts for both our property casualty and life insurance businesses are directed by our field marketing department, which assures consistency of communication and operations. Life field marketing representatives are available to meet face-to-face with agency personnel and their clients as well. Our life headquarters underwriters and other associates are available to the agents and field team to assist in the placement of business.

We continue to emphasize the cross-serving opportunities of our life insurance, including term and worksite products, for the property casualty agency's personal and commercial accounts. In both the property casualty and independent life agency distribution systems, we enjoy the advantages of offering competitive, up-to-date products and providing personal attention in combination with financial strength and stability.

- Term life insurance is our largest life insurance product line. We continue to introduce new term products with features our agents indicate are important, such as a return of premium benefit and an option for an accelerated underwriting product for our personal lines agents.
- We also offer products addressing the needs of businesses with key person and buy-sell coverages. We offer quality, personal life insurance coverage to personal and commercial clients of our agencies.

Because of our strong capital position, we can offer a competitive product portfolio, including guaranteed products, giving our agents a marketing edge. Our life insurance company maintains strong insurer financial strength ratings: A.M. Best, A (Excellent); Fitch, A+ (Strong); and S&P Global Ratings A+ (Strong). Our life insurance company has chosen not to establish a Moody's rating.

In 2016, our five highest volume states for life insurance premiums, based on information contained in statements filed with state insurance departments, are reflected in the table below.

(Dollars in millions)		
	Premiums	% of total earned
Year ended December 31, 2016		
Ohio	\$ 50	17.9%
Pennsylvania	20	7.2
Illinois	17	6.2
Indiana	17	6.1
Georgia	14	5.0

Investments Segment

Revenues of the investments segment are primarily from net investment income and from net realized investment gains and losses from investment portfolios managed for the holding company and each of the operating subsidiaries.

Our investment department operates under guidelines set forth in our investment policy along with oversight of the investment committee of our board of directors. These guidelines set parameters for risk tolerances governing, among other items, the allocation of the portfolio as well as security and sector concentrations. These parameters are part of an integrated corporate risk management program. When allocating cash to various asset classes, we consider market-based factors such as risk adjusted after-tax yields as well as internal measures based in part on insurance department regulations and rating agency guidance.

The fair value of our investment portfolio was \$15.419 billion and \$14.356 billion at year-end 2016 and 2015, respectively, as shown in the table below. The overall portfolio remained in an unrealized gain position as equity markets were up in 2016. Value stocks and stocks with above market yields, similar to the general makeup of our portfolio, outperformed the broader market in 2016. The unrealized gain position in our fixed-maturity investments decreased slightly in 2016, due to a general increase in interest rates somewhat offset by a tightening in corporate credit spreads.

	At December 31, 2016				At December 31, 2015			
	Cost or amortized cost	Percent of total	Fair value	Percent of total	Cost or amortized cost	Percent of total	Fair value	Percent of total
Taxable fixed maturities	\$ 6,381	49.9%	\$ 6,630	43.0%	\$ 6,170	50.3%	\$ 6,353	44.3%
Tax-exempt fixed maturities	3,418	26.7	3,455	22.4	3,154	25.7	3,297	23.0
Common equity securities	2,812	22.0	5,123	33.2	2,749	22.4	4,485	31.2
Nonredeemable preferred equity securities	183	1.4	211	1.4	189	1.6	221	1.5
Total	\$ 12,794	100.0%	\$ 15,419	100.0%	\$ 12,262	100.0%	\$ 14,356	100.0%

The cash we generate from insurance operations historically has been invested in two broad categories of investments:

- Fixed-maturity investments – Includes taxable and tax-exempt bonds and redeemable preferred stocks. During 2016, purchases offset the combined effect of a net decrease in unrealized gains and sales and calls of fixed-maturity securities in our portfolio. Likewise during 2015, purchases offset the combined effect of a net decrease in unrealized gains, sales and calls.
- Equity investments – Includes common and nonredeemable preferred stocks. During 2016, purchases and a net increase in unrealized gains offset sales of equity securities in our portfolio. During 2015, the combined effect of a net decrease in unrealized gains and sales offset purchases.

At year-end 2016, less than 1 percent of the value of our investment portfolio was made up of securities that are classified as Level 3 assets and that require management's judgment to develop pricing or valuation techniques. We generally obtain at least two outside valuations for these assets and generally use the more conservative estimate. These investments include private placements, small issues and various thinly traded securities. See Item 7, Critical Accounting Estimates, Fair Value Measurements, and Item 8, Note 3 of the Consolidated Financial Statements, for additional discussion of our valuation techniques.

In addition to securities held in our investment portfolio, other invested assets included \$31 million of life policy loans, \$23 million of private equity investments and \$27 million of real estate through direct property ownership and development projects in the United States at year-end 2016.

Our investment portfolio is further described below. Additional information about the composition of investments is included in Item 8, Note 2 of the Consolidated Financial Statements. A detailed listing of our portfolio is updated on our website, cinfm.com/investors, each quarter when we report our quarterly financial results.

Fixed-Maturity Securities Investments

By maintaining a well-diversified fixed-maturity portfolio, we attempt to manage overall interest rate, reinvestment, credit and liquidity risk. We pursue a buy-and-hold strategy and do not attempt to make large-scale changes to the portfolio in anticipation of rate movements. By investing new money on a regular basis and analyzing risk-adjusted after-tax yields, we work to achieve a laddering effect to our portfolio that may mitigate some of the effects of adverse interest rate movements.

At December 31, 2016, our investment-grade and noninvestment-grade fixed-maturity securities represented 88.4 percent and 4.4 percent of the portfolio, respectively. The remaining 7.2 percent represented fixed-maturity securities that were not rated by Moody's or S&P Global Ratings. Our nonrated securities include smaller municipal issues and private placement corporate securities. Many of these, although not rated by Moody's or Standard & Poor's, are rated by the NAIC's Securities' Valuation Office. Also included in this category are smaller public corporate securities, many of which carry a rating by an agency other than Moody's or S&P, such as Fitch or Kroll.

Other selected attributes of the fixed-maturity portfolio are shown in the table below. Additional maturity periods and other information for our fixed-maturity portfolio are shown in Item 8, Note 2 of the Consolidated Financial Statements.

	At December 31,	
	2016	2015
Weighted average yield-to-amortized cost	4.54 %	4.70 %
Weighted average maturity	7.1 yrs	6.9 yrs
Effective duration	5.0 yrs	4.7 yrs

The fair values of our taxable fixed-maturity securities portfolio at the end of the last two years were:

(Dollars in millions)	At December 31,	
	2016	2015
Investment-grade corporate	\$ 5,336	\$ 5,060
States, municipalities and political subdivisions	373	314
Noninvestment-grade corporate	445	393
Commercial mortgage-backed	287	289
Government-sponsored enterprises	164	278
Foreign government	10	10
United States government	10	4
Convertibles and bonds with warrants attached	5	5
Total	\$ 6,630	\$ 6,353

While our strategy typically is to buy and hold fixed-maturity investments to maturity, we monitor credit profiles and fair value movements when determining holding periods for individual securities. With the exception of U.S. agency issues, no individual issuer's securities accounted for more than 1.1 percent of the taxable fixed-maturity portfolio at year-end 2016. Investment-grade corporate bonds had an average rating of Baa2 by Moody's or BBB+ by S&P at year-end 2016. Most of the \$373 million of securities issued by states, municipalities and political subdivisions included in our taxable fixed-maturity portfolio at the end of 2016 were Build America Bonds.

Relative to a broad bond market index such as the Barclay's Aggregate, we are most heavily exposed to the investment grade corporate bond asset class. Within that asset class we have a weighting of 42.5 percent, higher than the 29 percent weighting for the financial sector of the Banc of America/Merrill Lynch U.S. Corporate Bond index. Relative to the Barclay's Aggregate Index we are overweight in the commercial mortgage-backed securities asset class while having no exposure to the much larger residential mortgage-backed market.

At December 31, 2016, we had \$3.455 billion of tax-exempt fixed-maturity securities with an average rating of Aa2/AA by Moody's and S&P. The portfolio is well diversified among more than 1,400 municipal bond issues. No single municipal issuer accounted for more than 0.7 percent of the tax-exempt fixed-maturity portfolio at year-end 2016.

Equity Securities Investments

After covering both our intermediate and long-range insurance obligations with fixed-maturity investments, we historically have used some available cash flow to invest in equity securities. Our equity securities portfolio includes common stocks and nonredeemable preferred stocks. Investment in equity securities has played an important role in achieving our portfolio objectives and has contributed to portfolio appreciation. We remain committed to our long-term equity focus, which we believe is key to our company's long-term growth and stability. We believe our strategy of primarily investing in a diversified selection of larger-capitalization, high-quality, dividend-increasing companies generally results in reduced volatility relative to the broader equity markets.

At year-end 2016, no holding had a fair value greater than 3.8 percent of our common stock portfolio. JP Morgan Chase & Co. (NYSE:JPM) was our largest single common stock investment, comprising 3.8 percent of our publicly traded common stock portfolio and 1.3 percent of the entire investment portfolio. The parent company held 35.8 percent of our common stock holdings (measured by fair value). The distribution of the portfolio among industry sectors is shown in the table below.

Common Stock Portfolio Industry Sector Distribution

Sector:	Percent of common stock portfolio			
	At December 31, 2016		At December 31, 2015	
	Cincinnati Financial	S&P 500 Industry Weightings	Cincinnati Financial	S&P 500 Industry Weightings
Information technology	17.6%	20.8%	18.4%	20.7%
Financial	15.6	14.8	15.4	16.5
Industrials	14.9	10.3	14.0	10.0
Healthcare	12.6	13.6	12.2	15.1
Consumer discretionary	10.4	12.0	10.6	12.9
Consumer staples	10.3	9.4	11.0	10.1
Energy	8.5	7.5	7.7	6.5
Materials	5.8	2.8	4.9	2.8
Utilities	2.2	3.2	3.8	3.0
Telecomm services	2.1	2.7	2.0	2.4
Real estate	—	2.9	—	—
Total	100.0%	100.0%	100.0%	100.0%

We evaluate nonredeemable preferred stocks in a manner similar to our evaluation of fixed-maturity investments, seeking attractive relative yields. We generally focus on investment-grade nonredeemable preferred stocks issued by companies with strong histories of paying common dividends, providing us with another layer of protection. Consideration is also given to nonredeemable preferred stocks that offer a dividend received deduction for income tax purposes. We did not purchase any nonredeemable preferred stocks and sold \$7 million in this portfolio during 2016. During 2015, we purchased \$65 million and sold \$20 million.

Other

We report as Other the noninvestment operations of the parent company and its noninsurer subsidiary CFC Investment Company. At year-end 2016, this subsidiary had \$51 million in receivables related to its commercial leasing and financing services, compared with \$62 million in receivables at year-end 2015.

Beginning in 2015, we also reported results of our Cincinnati Re reinsurance assumed operations. Cincinnati Re has contracts, also referred to as treaties, with other insurance or reinsurance companies to assume a portion of their insured risk in exchange for a portion of premiums from insurance policies covering those risks. The treaties and their exposure to losses are diverse in nature, including various lines of business and geographies for the reinsured risks. Some of our treaties reflect a type of contract commonly referred to as participating or proportional, typically sharing premiums and losses between the reinsured entity and us, as reinsurer, on a pro rata basis. Some are a contract type commonly referred to as excess of loss, where we indemnify the reinsured entity only for losses exceeding a predetermined amount.

Net written premiums for Cincinnati Re totaled \$71 million in 2016, and nearly half was for property exposures that include risk of loss from natural catastrophes. The remainder was primarily for casualty exposures from various liability risks. Less than 10 percent was a combination of what we consider to be more specialized coverages that include transactional liability and credit risk transfer related to residential mortgages. At year-end 2016, Cincinnati Re increased other property casualty catastrophe probable maximum loss estimates disclosed in Item 7, Liquidity and Capital Resources, 2017 Reinsurance Ceded Programs, by the following amounts: \$45 million for a once-in-a-100-year event and \$44 million for a once-in-a-250-year event. Those effects represent a single hurricane event and are net of income taxes, based on probable maximum loss estimates from Applied Insurance Research's Touchstone version 4.0 catastrophe model.

Regulation

The business of insurance is primarily regulated by state law. All of our insurance company subsidiaries are domiciled in the state of Ohio except The Cincinnati Specialty Underwriters Insurance Company, which is domiciled in Delaware. Each insurance subsidiary is primarily governed by the insurance laws and regulations in its respective state of domicile. We also are subject to regulatory authorities of all states in which we write insurance. The state laws and regulations that have the most significant effect on our insurance operations and financial reporting are discussed below.

- **Insurance Holding Company Regulation** – We are regulated as an insurance holding company system in the respective states of domicile of our primary standard market property casualty company subsidiary and its surplus lines and life insurance subsidiaries. These regulations require that we annually furnish financial and other information about the operations of the individual companies within the holding company system. Information about the risks posed by any noninsurance company subsidiaries must also be disclosed. All transactions within a holding company system affecting insurers must be fair and equitable. Notice to the state insurance commissioner is required prior to the consummation of transactions affecting the ownership or control of an insurer and prior to certain material transactions between an insurer and any person or entity in its holding company group. In addition, some of those transactions cannot be consummated without the commissioner's prior approval.
- **Subsidiary Dividends** – The Cincinnati Insurance Company is fully owned by Cincinnati Financial Corporation. The dividend-paying capacity of The Cincinnati Insurance Company and its fully owned subsidiaries is regulated by the laws of the applicable state of domicile. Under these laws, our insurance subsidiaries must provide a 10-day advance informational notice to the insurance commissioner for the domiciliary state prior to payment of any dividend or distribution to its shareholders. Generally, the most our insurance subsidiary can pay without prior regulatory approval is the greater of 10 percent of statutory capital and surplus or 100 percent of statutory net income for the prior calendar year.

The insurance company subsidiaries must give 30 days of notice to, and obtain prior approval from, the state insurance commissioner before the payment of an extraordinary dividend as defined by the state's insurance code. You can find information about the dividends paid by our insurance subsidiary in 2016 in Item 8, Note 9 of the Consolidated Financial Statements.

- **Insurance Operations** – All of our insurance subsidiaries are subject to licensing and supervision by departments of insurance in the states in which they do business. The nature and extent of such regulations vary, but generally are rooted in statutes that delegate regulatory, supervisory and administrative powers to state insurance departments. Such regulations, supervision and administration of the insurance subsidiaries include: the

standards of solvency that must be met and maintained; the licensing of insurers and their agents and brokers; the nature and limitations on investments; deposits of securities for the benefit of policyholders; regulation of standard market policy forms and premium rates; policy cancellations and nonrenewals; test audit programs; periodic examination of the affairs of insurance companies; annual and other reports required to be filed on the financial condition of insurers or for other purposes; requirements regarding reserves for unearned premiums, losses and other matters; the nature of and limitations on dividends to policyholders and shareholders; the nature and extent of required participation in insurance guaranty funds; the involuntary assumption of hard-to-place or high-risk insurance business, primarily workers' compensation insurance; and the collection, remittance and reporting of certain taxes and fees. Our primary insurance regulators have adopted the Model Audit Rule for annual statutory financial reporting. This regulation closely mirrors the Sarbanes-Oxley Act on matters such as auditor independence, corporate governance and internal controls over financial reporting. The regulation permits the audit committee of Cincinnati Financial Corporation's board of directors to also serve as the audit committee of each of our insurance subsidiaries for purposes of this regulation.

- **Insurance Guaranty Associations** – For certain obligations of insolvent insurance companies to policyholders and claimants, states assess each member insurer in an amount relative to the insurer's proportionate share of business written by all member insurers in the state. While the amount of such assessments has not been material in recent years, we cannot predict the amount and timing of any future assessments or refunds on our insurance subsidiaries under these laws.
- **Shared Market and Joint Underwriting Plans** – Assigned risk plans, reinsurance facilities and joint underwriting associations are mechanisms that generally provide applicants with various basic insurance coverages when they are not available in voluntary markets. States can require participation based upon the amount of an insurance company's voluntary market share, and underwriting results related to these pools could be adverse to our company.
- **Statutory Accounting** – For public reporting, insurance companies prepare financial statements in accordance with GAAP. However, certain data also must be calculated according to statutory accounting rules as defined in the NAIC's Accounting Practices and Procedures Manual. While not a substitute for any GAAP measure of performance, statutory data frequently is used by industry analysts and other recognized reporting sources to facilitate comparisons of the performance of insurance companies.
- **Insurance Reserves** – State insurance laws require that property casualty and life insurers annually analyze the adequacy of reserves. Our appointed actuaries must submit an opinion that reserves are adequate for policy claims-paying obligations and related expenses.
- **Investment Regulation** – Insurance company investments must comply with laws and regulations pertaining to the type, quality and concentration of investments. Such laws and regulations permit investments in federal, state and municipal obligations, corporate bonds, preferred and common equity securities, mortgage loans, real estate and certain other investments, subject to specified limits and other qualifications. At December 31, 2016, the company believed it was in compliance with these laws and regulations in all material respects.
- **Risk-Based Capital Requirements** – The NAIC's risk-based capital (RBC) requirements for property casualty and life insurers serve as an early warning tool for the NAIC and state regulators to identify companies that may be undercapitalized and may merit further regulatory action. The NAIC has a standard formula for annually assessing RBC. The formula for calculating RBC for property casualty companies takes into account asset and credit risks but places more emphasis on underwriting factors for reserving and pricing. The formula for calculating RBC for life insurance companies takes into account factors relating to insurance, business, asset and interest-rate risks.

Although the federal government and its regulatory agencies generally do not directly regulate the business of insurance, federal legislation and administrative rules adopted can affect our business. Privacy laws, such as the Gramm-Leach-Bliley Act, the Fair Credit Reporting Act and the Health Insurance Portability and Accounting Act (HIPAA) are the federal laws that most affect our day-to-day operations. These apply to us because we gather and use personal nonpublic information to underwrite insurance and process claims. We also are subject to other federal laws, such as the Terrorism Risk Insurance Act (TRIA), anti-money laundering statute (AML), the Nonadmitted and Reinsurance Reform Act (NRRA), and the rules and regulations of the Office of Foreign Assets Control (OFAC).

Title V of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) created the Federal Insurance Office to monitor the insurance industry and gather information to identify issues or gaps in the regulation of insurers that could contribute to a systemic crisis in the insurance industry that affects the United States' financial system and to recommend to the Financial Stability Oversight Council that it designate an insurer

as a systemically significant entity requiring additional supervision by the Federal Reserve Board. We do not expect Dodd-Frank to result in federal oversight of our operations as a systemically significant entity.

We do not expect to have any material effects on our expenditures, earnings or competitive position as a result of compliance with any federal, state or local provisions enacted or adopted relating to the protection of the environment. We currently do not have any material estimated capital expenditures for environmental control facilities.

Enterprise Risk Management

We manage enterprise risk through formal risk management programs overseen by our chief risk officer, an executive officer of the company. Our ERM framework includes an enterprise risk management committee, which is responsible for overseeing risk activities and is comprised of senior executive-level risk owners from across the enterprise. The risk committee's activities are supported by a team of representatives from business areas that focus on identifying, evaluating and developing risk plans for emerging risks. A comprehensive report is provided quarterly to our chairman, our president and chief executive officer, our board of directors and our senior executive team, as appropriate, on the status of risk metrics relative to identified tolerances and limits, risk assessments and risk plans. Our use of operational audits, strategic plans and departmental business plans, as well as our culture of open communications and our fundamental respect for our Code of Conduct, continue to help us manage risks on an ongoing basis.

Our risk management programs include a formalized risk appetite element and a risk identification and quantification process. The overall enterprise objective is to appropriately balance risk and reward to achieve an appropriate return on risk capital. The company's key risks are discussed in Item 1A, Risk Factors, including risks related to natural catastrophes, investments and operations.

We continue to study emerging risks, including climate-change risk and its potential financial effects on our results of operation and on those we insure. These effects include deterioration in the credit quality of our municipal or corporate bond portfolios and increased losses without sufficient corresponding increases in premiums. As with any risk, we seek to identify the extent of the risk exposure and possible actions to mitigate potential negative effects of risk at an enterprise level.

ITEM 1A. Risk Factors

Our business involves various risks and uncertainties that may affect achievement of our business objectives. Many of the risks could have ramifications across our organization. For example, while risks related to setting insurance rates and establishing and adjusting loss reserves are insurance activities, errors in these areas could have an impact on our investment activities, growth and overall results.

The following discussion should be viewed as a starting point for understanding the significant risks we face. It is not a definitive summary of their potential impacts or of our strategies to manage and control the risks. Please see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, for a discussion of those strategies.

If any risks or uncertainties discussed here develop into actual events, they could have a material adverse effect on our business, financial condition or results of operations. In that case, the market price of our common stock could decline materially. The failure of our risk management strategies could have a material adverse impact on our financial condition and/or results of operations.

Readers should carefully consider this information together with the other information we have provided in this report and in other reports and materials we file periodically with the Securities and Exchange Commission as well as news releases and other information we disseminate publicly.

We rely primarily on independent insurance agents to distribute our products.

We market our main products, insurance policies for businesses and individuals, through independent, nonexclusive insurance agents. These agents are not obligated to promote our products and can and do sell our competitors' products. We must offer insurance products that meet the needs of these agents and their clients. We need to maintain good relationships with the agents who market our products. If we do not, these agents may market our competitors' products instead of ours, which may lead to us having a less desirable mix of business and could affect our results of operations.

In addition to insurance policies for businesses and individuals, a relatively small part of our business is reinsuring policies written by other insurance companies. Reinsurance assumed is marketed through reinsurance intermediaries and is generally not offered by the typical independent agents who market our insurance policies.

Certain events or conditions could diminish our agents' desire to produce business for us and the competitive advantage that our independent agents enjoy, including:

- Downgrade of the financial strength ratings of our insurance subsidiaries. We believe our strong insurer financial strength ratings, in particular, the A+ (Superior) ratings from A.M. Best for our standard market property casualty insurance group and each subsidiary in that group, are an important competitive advantage. See Item 1, Our Business and Our Strategy, Financial Strength, for additional discussion of our financial strength ratings.
- Concerns that doing business with us is difficult or not profitable, perceptions that our level of service is no longer a distinguishing characteristic in the marketplace, perceptions that our products do not meet the needs of our agents' clients or perceptions that our business practices are not compatible with agents' business models.
- Mergers and acquisitions could result in a concentration of a significant amount of premium in one agency.
- Delays in the development, implementation, performance and benefits of technology systems and enhancements or independent agent perceptions that our technology solutions do not match their needs.

A reduction in the number of independent agencies marketing our products, the failure of agencies to successfully market our products or pay amounts due to us, changes in the strategy or operations of agencies or the choice of agencies to reduce their writings of our products could affect our results of operations if we were unable to replace them with agencies that produce adequate and profitable premiums.

Further, policyholders may choose a competitor's product rather than our own because of real or perceived differences in price, terms and conditions, coverage or service. If the quality of the independent agencies with which we do business were to decline, that also might cause policyholders to purchase their insurance through different agencies or channels. Consumers, especially in the personal insurance industry segment, may increasingly choose to purchase insurance from distribution channels other than independent insurance agents, such as

direct marketers. Increased advertising by insurers, especially direct marketers, could cause consumers to shift their buying habits, bypassing independent agents altogether.

Our credit ratings or financial strength ratings of our insurance subsidiaries could be downgraded.

A downgrade in one or more of our company's credit or debt ratings could adversely impact our borrowing costs or limit our access to capital. Financial strength ratings reflect a rating agency's opinion of our insurance subsidiaries' financial strength, operating performance, strategic position and ability to meet obligations to policyholders. Our ratings are subject to periodic review and there is no assurance that our ratings will not be changed. Ratings agencies could change or expand their requirements or could find that our insurance subsidiaries no longer meet the criteria established for current ratings. If our property casualty insurer financial strength ratings were to be downgraded, our agents might find it more difficult to market our products or might choose to emphasize the products of other carriers. See Item 7, Liquidity and Capital Resources, Additional Sources of Liquidity, for additional discussion of ratings for our long-term debt.

We could experience an unusually high level of losses due to catastrophic, terrorism or pandemic events or risk concentrations.

In the normal course of our business, both in our insurance and reinsurance operations, we provide coverage against perils for which estimates of losses are highly uncertain, in particular catastrophic and terrorism events. Catastrophes can be man-made or caused by natural perils. Man-made catastrophes to which we may be exposed include, but are not limited to, industrial accidents, terrorist attacks, social unrest and riot. Natural peril catastrophe events to which we may be exposed include, but are not limited to, hurricanes, tornadoes, windstorms, earthquakes, landslides, hailstorms, flooding, severe winter weather and wildfires. Due to the nature of these events, we are unable to predict precisely the frequency or potential cost of catastrophe occurrences. Various scientists and other experts believe that changing climate conditions have added to the unpredictability, frequency and severity of such natural disasters in certain parts of the world and have created additional uncertainty as to future trends and exposures. We cannot predict the impact that changing climate conditions may have on our results of operations nor can we predict how any legal, regulatory or social responses to concerns about climate change may impact our business. Additionally, man-made events, such as hydraulic fracturing, could cause damage from earth movement or create environmental and/or health hazards.

The extent of losses from a catastrophe is a function of both the total amount of insured and reinsured exposure in the area affected by the event and the severity of the event. Our ability to appropriately manage catastrophe risk depends partially on catastrophe models, which may be affected by inaccurate or incomplete data, the uncertainty of the frequency and severity of future events and the uncertain impact of climate change. Additionally, these models are recalibrated and changed over time, with more data availability and changing opinions regarding the effect of current or emerging loss patterns and conditions. Please see Item 7, Liquidity and Capital Resources, 2017 Reinsurance Programs, for a discussion of modeled losses considered in evaluating our risk mitigation strategy, which includes our ceded reinsurance program.

The geographic regions in which we market insurance and reinsurance are exposed to numerous natural catastrophes, such as:

- Hurricanes in the gulf, eastern, southeastern and northeastern coastal regions.
- Earthquakes in many regions, most particularly in the New Madrid fault zone, which lies within the central Mississippi valley, extending from northeast Arkansas through southeast Missouri, western Tennessee and western Kentucky to southern Illinois, southern Indiana and parts of Ohio.
- Tornado, wind and hail in the Midwest, South, Southeast, Southwest and the mid-Atlantic.
- Wildfires.
- On a worldwide basis, in the event of a severe catastrophic event or terrorist attack we may be exposed to material losses through our reinsurance assumed operations.

The occurrence of terrorist attacks in the geographic areas we serve could result in substantially higher claims under our insurance policies than we have anticipated. While our insurance policies provide terrorism risk in all areas we serve, we have identified our major terrorism exposure geographically as general commercial risks in the Tier 1 cities of metropolitan Chicago, Dallas and New York areas, and to a much lesser degree, Houston, Los Angeles and Washington D.C. We have a greater amount of business in less hazardous Tier 2 cities such as Atlanta, Cincinnati, Cleveland, Denver, Minneapolis, Phoenix-Mesa, Pittsburgh, St. Louis and Tampa-St.

Petersburg. We have exposure to small co-op utilities, water utilities, wholesale fuel distributors, small shopping malls and small colleges throughout our 41 active states and, because of the number of associates located there, our Fairfield, Ohio, headquarters. Additionally, our life insurance subsidiary could be adversely affected in the event of a terrorist event or an epidemic such as the avian or swine flu, particularly if the epidemic were to affect a broad range of the population beyond just the very young or the very old. Our associate health plan is self-funded and could similarly be affected.

Our results of operations would be adversely affected if the level of losses we experience over a period of time were to exceed our actuarially determined expectations. In addition, our financial condition may be adversely affected if we were required to sell securities prior to maturity or at unfavorable prices to pay an unusually high level of loss and loss expenses. Securities pricing might be even less favorable if a number of insurance or other companies and other investors needed to sell securities during a short period of time because of unusually high losses from catastrophic events.

Our geographic concentration ties our performance to business, economic, environmental and regulatory conditions in certain states. We market our standard market property casualty insurance products in 41 states, but our business is concentrated in the Midwest and Southeast. We also have exposure in states where we do not actively market insurance when clients of our independent agencies have businesses or properties in multiple states.

The Cincinnati Insurance Company is expanding in the area of reinsurance assumed and has staffed this operation with seasoned underwriting and analytical talent and strive to assume risks that we understand well, both quantitatively and qualitatively. Business written includes treaties that provide coverage for property catastrophe and terrorism events on a worldwide basis. At year-end 2016, the largest loss exposure to us for our Cincinnati Re reinsurance assumed operation is from natural catastrophe events. That exposure includes probable maximum loss estimates of the following amounts: \$45 million for a once-in-a-100-year event and \$44 million for a once-in-a-250-year event. Those effects represent a single hurricane event and are net of income taxes. If there is a high frequency of large property catastrophe or terrorism events, or a single extreme event, during the coverage period of these treaties, our financial position and results of operations could be materially affected.

Additionally, the companies we invest in might be severely affected by a severe catastrophic event or terrorist attack, which could affect our financial condition and results of operations. Our reinsurers might experience significant losses, potentially jeopardizing their ability to pay losses we cede to them. It could also reduce the availability of reinsurance. If we cannot obtain adequate coverage at a reasonable cost, it could constrain where we can write business or reduce the amount of business we can write in certain areas. We also may be exposed to state guaranty fund assessments if other carriers in a state cannot meet their obligations to policyholders. A catastrophe or epidemic event also could affect our operations by damaging our headquarters facility, injuring associates and visitors at our Fairfield, Ohio, headquarters or disrupting our associates' ability to perform their assigned tasks.

Our ability to achieve our performance objectives could be affected by changes in the financial, credit and capital markets or the general economy.

We invest premiums received from policyholders and other available cash to generate investment income and capital appreciation, while also maintaining sufficient liquidity to pay covered claims and operating expenses, service our debt obligations and pay dividends. The value of our invested assets is an important component of shareholders' equity, also known as book value. Changes in the valuation of invested assets can significantly affect changes in book value per share, a key performance objective as discussed in Item 7, Executive Summary of Management's Discussion and Analysis.

For fixed-maturity investments such as bonds, which represented 65.4 percent of the fair value of our investment portfolio at the end of 2016, the inverse relationship between interest rates and bond prices leads to falling bond values during periods of increasing interest rates. A significant increase in the general level of interest rates could have an adverse effect on our shareholders' equity.

Investment income is an important component of our revenues and net income. The ability to increase investment income and generate longer-term growth in book value is affected by factors beyond our control, such as: inflation, economic growth, interest rates, world political conditions, changes in laws and regulations, terrorism attacks or threats, adverse events affecting other companies in our industry or the industries in which we invest, market events leading to credit constriction, and other widespread unpredictable events. These events may adversely

affect the economy generally and could cause our investment income or the value of securities we own to decrease. A significant decline in our investment income could have an adverse effect on our net income, and thereby on our shareholders' equity and our statutory capital and surplus. For example, a significant increase in the general level of interest rates could lead to falling bond values. For a more detailed discussion of risks associated with our investments, please refer to Item 7A, Quantitative and Qualitative Disclosures About Market Risk.

We have issued life contracts with guaranteed minimum returns, referred to as bank-owned life insurance contracts (BOLIs). BOLI investment assets must meet certain criteria established by the regulatory authorities in the jurisdiction for which the group contract holder is subject. Therefore, sales of investments may be mandated to maintain compliance with these regulations, possibly requiring gains or losses to be recorded. We could experience losses if the assets in the accounts were less than liabilities at the time of maturity or termination.

Our investment performance also could suffer because of the types of investments, industry groups and/or individual securities in which we choose to invest. Market value changes related to these choices could cause a material change in our financial condition or results of operations.

At year-end 2016, common stock holdings made up 33.2 percent of our investment portfolio. Adverse news or events affecting the global or U.S. economy or the equity markets could affect our net income, book value and overall results, as well as our ability to pay our common stock dividend. See Item 7, Investments Results, and Item 7A, Quantitative and Qualitative Disclosures About Market Risk, for a discussion of our investment activities.

Deterioration in the banking sector or in banks with which we have relationships could affect our results of operations. Our ability to maintain or obtain short-term lines of credit could be affected if the banks from which we obtain these lines are acquired, fail or are otherwise negatively affected. We may lose premium revenue if a bank that owns appointed agencies were to change its strategies. We could experience increased losses in our director and officer liability line of business if claims were made against insured financial institutions.

A deterioration of credit and market conditions could also impair our ability to access credit markets and could affect existing or future lending arrangements.

Our overall results could be affected if a significant portion of our commercial lines policyholders, including those purchasing surety bonds, are adversely affected by marked or prolonged economic downturns and events such as a downturn in construction and related sectors, tightening credit markets and higher fuel costs. Such events could make it more difficult for policyholders to finance new projects, complete projects or expand their businesses, leading to lower premiums from reduced payrolls and sales and lower purchases of equipment and vehicles. These events could also cause claims, including surety claims, to increase due to a policyholder's inability to secure necessary financing to complete projects or to collect on underlying lines of credit in the claims process. Such economic downturns and events could have a greater impact in the construction sector where we have a concentration of risks and in geographic areas that are hardest hit by economic downturns.

Deteriorating economic conditions could also increase the degree of credit risk associated with amounts due from independent agents who collect premiums for payment to us and could hamper our ability to recover amounts due from reinsurers.

Our ability to properly underwrite and price risks and increased competition could adversely affect our results.

Our financial condition, cash flow and results of operations depend on our ability to underwrite and set rates accurately for a full spectrum of risks. We establish our pricing based on assumptions about the level of losses that may occur within classes of business, geographic regions and other criteria.

To properly price our products, we must collect, properly analyze and use data to make decisions and take appropriate action; the data must be sufficient, reliable and accessible; we need to develop appropriate rating methodologies and formulae; and we may need to identify and respond to trends quickly. We may overestimate or underestimate loss cost trends or these trends may unexpectedly change, leading to losing business by pricing risks above our competitors or charging rates too low to maintain profitability. Inflation trends, especially outside of historical norms, may make it more difficult to determine adequate pricing. If rates are not accurate, we may not generate enough premiums to offset losses and expenses, or we may not be competitive in the marketplace.

Our ability to set appropriate rates could be hampered if states where we write business refuse to allow rate increases that we believe are necessary to cover the risks insured. A state could also hamper our ability to set appropriate rates if it no longer allowed us to use factors that we believe are predictive of loss, such as credit-based factors. Multiple states require us to purchase reinsurance from a mandatory reinsurance fund. Such reinsurance funds can create a credit risk for insurers if not adequately funded by the state and, in some cases, the existence of a reinsurance fund could affect the prices charged for our policies. The effect of these and similar arrangements could reduce our profitability in any given period or limit our ability to grow our business.

The insurance industry is cyclical and intensely competitive. From time to time, the insurance industry goes through prolonged periods of intense competition during which it is more difficult to attract new business, retain existing business and maintain profitability. Competition in our insurance business is based on many factors, including:

- Competitiveness of premiums charged
- Relationships among carriers, agents, brokers and policyholders
- Underwriting and pricing methodologies that allow insurers to identify and flexibly price risks
- Compensation provided to agents
- Underwriting discipline
- Terms and conditions of insurance coverage
- Speed with which products are brought to market
- Product and marketing innovations, including advertising
- Technological competence and innovation
- Ability to control expenses
- Adequacy of financial strength ratings by independent ratings agencies such as A.M. Best
- Quality of services and tools provided to agents and policyholders
- Claims satisfaction and reputation

We compete with major U.S., Bermuda, European, and other international insurers and reinsurers and with underwriting syndicates, some of which have greater financial, marketing and management resources than we do. Recent industry consolidation, including business combinations among insurance and other financial services companies, has resulted in larger competitors with even greater financial resources. We also compete with new companies that continue to enter the insurance and reinsurance markets. In addition, capital market participants have created alternative products that are intended to compete with reinsurance products that we sell in our reinsurance assumed operations. Increased competition could result in fewer submissions, lower premium rates, and less favorable policy terms and conditions, which could reduce our underwriting margins and have a material adverse effect on our results of operations and financial condition.

If our pricing was incorrect or we were unable to compete effectively because of one or more of these factors, our premium writings could decline and our results of operations and financial condition could be materially adversely affected. Large competitors could intentionally disrupt the market by targeting certain lines or underpricing the market.

Please see the discussion of our Commercial Lines, Personal Lines, Excess and Surplus Lines and Life Insurance Segments in Item 1, Our Segments, for a discussion of our competitive position in the insurance marketplace.

Our pricing and capital models could be flawed.

We use various predictive pricing models, stochastic models and/or forecasting techniques to help us understand our business, analyze risk and estimate future trends. The output of these models is used to assist us in making underwriting, pricing, reinsurance, reserving and capital decisions and helps us set our strategic direction. These models contain numerous assumptions, including the assumption that the data used is sufficient and accurate. They are also subject to uncertainties and limitations inherent in any statistical analysis. Actual results may be materially different from modeled output, resulting in pricing our products incorrectly, overestimating or underestimating reserves, or inaccurately forecasting the impact of modeled events on our results. This could materially adversely impact the results of our operations.

Our loss reserves, our largest liability, are based on estimates and could be inadequate to cover our actual losses.

Our consolidated financial statements are prepared using GAAP. These principles require us to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying Notes. Actual results could differ materially from those estimates. For a discussion of the significant accounting policies we use to prepare our financial statements, the material implications of uncertainties associated with the methods, assumptions and estimates underlying our critical accounting policies and the process used to determine our loss reserves, please refer to Item 8, Note 1 of the Consolidated Financial Statements, and Item 7, Critical Accounting Estimates, Property Casualty Insurance Loss and Loss Expense Reserves and Life Insurance Policy Reserves.

Our most critical accounting estimate is loss reserves. Loss reserves are the amounts we expect to pay for covered claims and expenses we incur to settle those claims. The loss reserves we establish in our financial statements represent an estimate of amounts needed to pay and administer claims arising from insured events that have already occurred, including events that have not yet been reported to us. Loss reserves are estimates and are inherently uncertain; they do not and cannot represent an exact measure of liability. Inflationary scenarios, especially scenarios outside of historical norms or regulatory changes that affect the assumptions underlying our critical accounting estimates, may make it more difficult to estimate loss reserves. Accordingly, our loss reserves for past periods could prove to be inadequate to cover our actual losses and related expenses. Any changes in these estimates are reflected in our results of operations during the period in which the changes are made. An increase in our loss reserves would decrease earnings, while a decrease in our loss reserves would increase earnings.

Unforeseen losses, the type and magnitude of which we cannot predict, may emerge. These additional losses could arise from changes in the legal environment, laws and regulations, climate change, catastrophic events, increases in loss severity or frequency, environmental claims, mass torts or other causes. Such future losses could be substantial. Inflationary scenarios may cause the cost of claims, especially medical claims, to rise, impacting reserve adequacy and our results of operations.

In addition to the risks stated above, reinsurance assumed reserves are subject to uncertainty because a reinsurer relies on the original underwriting decisions made by ceding companies. As a result, we are subject to the risk that our ceding companies may not have adequately evaluated the risks reinsured by us and the premiums ceded may not adequately compensate us for the risks we assume. In addition, there is generally a longer lapse of time from the occurrence of the event to the reporting of the loss or benefit to the reinsurer and ultimate resolution or settlement of the loss.

Our ability to obtain or collect on our reinsurance protection could affect our business, financial condition, results of operations and cash flows.

We buy property casualty and life reinsurance coverage to mitigate the liquidity risk and earnings volatility risk of an unexpected rise in claims severity or frequency from catastrophic events or a single large loss. The availability, amount and cost of reinsurance depend on market conditions and may vary significantly. If we were unable to obtain reinsurance on acceptable terms and in appropriate amounts, our business and financial condition could be adversely affected.

In addition, we are subject to credit risk with respect to our reinsurers. Although we purchase reinsurance to manage our risks and exposures to losses, this reinsurance does not discharge our direct obligations under the policies we write. We would remain liable to our policyholders even if we were unable to recover what we believe we are entitled to receive under our reinsurance contracts. Reinsurers might refuse or fail to pay losses that we cede to them, or they might delay payment. For long-tail claims, the creditworthiness of our reinsurers may change before we can recover amounts to which we are entitled. A reinsurer's insolvency, inability or unwillingness to make payments under the terms of its reinsurance agreement with our insurance subsidiaries could have a material adverse effect on our financial position, results of operations and cash flows.

Please see Item 7, Liquidity and Capital Resources, 2017 Reinsurance Ceded Programs, for a discussion of selected reinsurance transactions.

Our business depends on the uninterrupted operation of our facilities, systems and business functions.

Our business depends on our associates' ability to perform necessary business functions, such as processing new and renewal policies and handling claims. We increasingly rely on technology and systems to accomplish these business functions in an efficient and uninterrupted fashion. Our inability to access our headquarters facilities or a

failure of technology, telecommunications or other systems or the loss or failure of services provided by key vendors, could significantly impair our ability to perform such functions on a timely basis or affect the accuracy of transactions. If sustained or repeated, such a business interruption or system failure could result in a deterioration of our ability to write and process new and renewal business, serve our agents and policyholders, pay claims in a timely manner, collect receivables or perform other necessary business functions. If our disaster recovery and business continuity plans did not sufficiently consider, address or reverse the circumstances of an interruption or failure, this could result in a materially adverse effect on our operating results and financial condition. This risk is exacerbated because approximately 67 percent of our associates work at our Fairfield, Ohio, headquarters.

Our ability to successfully execute business functions also depends on hiring and retaining qualified associates. Competition for high-quality executives and other key associates occurs within the insurance industry and from other industries. We also must effectively develop and manage associates, including providing training and resources. Such tools and information can allow them to effectively perform critical business functions and adapt to changing business needs. If we were unable to attract and retain certain associates, or if we fail to provide adequate training or resources, we could limit the success of executing our strategic plans and vital business functions.

The effects of changes in industry practices, laws and regulations on our business are uncertain.

As industry practices and legal, judicial, legislative, regulatory, political, social and other environmental conditions change, unexpected and unintended issues related to insurance pricing, claims and coverage may emerge. These issues may adversely affect our business by impeding our ability to obtain adequate rates for covered risks or otherwise extending coverage beyond our underwriting intent, by increasing the number or size of claims, by varying assumptions underlying our critical accounting estimates or by increasing duties owed to policyholders beyond contractual obligations. In some instances, unforeseeable emerging and latent claim and coverage issues may not become apparent until sometime after we have issued the insurance policies that could be affected by the changes. As a result, the full extent of liability under our insurance contracts may not be known for many years after a policy is issued and our pricing and reserve estimates may not accurately reflect its effect.

We are required to adopt new or revised accounting standards issued by recognized authoritative organizations, including the Financial Accounting Standards Board (FASB) and the SEC. Future changes required to be adopted could change the current accounting treatment that we apply and could result in material adverse effects on our results of operations and financial condition.

Our investment income benefits from tax rate preferences for municipal bond interest and dividend income from equity securities. Market valuations for these securities also benefit from the tax-preference aspect of current tax laws, affecting the value of our investment portfolio and also shareholders' equity. Future changes in tax laws could result in material adverse effects on our results of operations and financial condition.

The NAIC, state insurance regulators and state legislators continually re-examine existing laws and regulations governing insurance companies and insurance holding companies, specifically focusing on modifications to statutory accounting principles, interpretations of existing laws, regulations relating to product forms and pricing methodologies and the development of new laws and regulations that affect a variety of financial and nonfinancial components of our business. Any proposed or future legislation, regulation or NAIC initiatives, if adopted, may be more restrictive on our ability to conduct business than current regulatory requirements or may result in higher costs. The loss or significant restriction on the use of a particular variable, such as credit, in pricing and underwriting our products could lead to future unprofitability and increased costs.

Federal laws and regulations and the influence of international laws and regulations, including those that may be enacted in the wake of the financial and credit crises, may have adverse effects on our business, potentially including a change from a state-based system of regulation to a system of federal regulation, the repeal of the McCarran Ferguson Act, and/or measures under the Dodd-Frank Act that establish the Federal Insurance Office and provide for a determination that a nonbank financial company presents systemic risk and therefore should be subject to heightened supervision by the Federal Reserve Board. It is not known how this federal office will coordinate and interact with the NAIC and state insurance regulators. Adoption or implementation of any of these measures may restrict our ability to conduct our insurance business, govern our corporate affairs or increase our cost of doing business. Implementation of the Affordable Care Act (ACA) may affect the ability of the company to grow profitably.

The effects of such changes could adversely affect our results of operations. Please see Item 7, Critical Accounting Estimates, Property Casualty Insurance Loss and Loss Expense Reserves and Life Insurance Policy Reserves, for a discussion of our reserving practices.

Managing technology initiatives and meeting data security requirements are significant challenges.

While technology can streamline many business processes and ultimately reduce the costs of operations, technology initiatives present short-term cost and also have implementation and operational risks. In addition, we may have inaccurate expense projections, implementation schedules or expectations regarding the effectiveness and user acceptance of the end product. These issues could escalate over time. If we were unable to find and retain associates with key technical knowledge, our ability to develop and deploy key technology solutions could be hampered.

We necessarily collect, use and hold data concerning individuals and businesses with whom we have a relationship. Threats to data security, including unauthorized access and cyberattacks, rapidly emerge and change, exposing us to additional costs for protection or remediation and competing time constraints to secure our data in accordance with customer expectations and statutory and regulatory requirements.

While we take commercially reasonable measures to keep our systems and data secure, it is difficult or impossible to defend against every risk being posed by changing technologies as well as criminals intent on committing cybercrime. Increasing sophistication of cyber criminals and terrorists make keeping up with new threats difficult and could result in a breach. Patching and other measures to protect existing systems and servers could be inadequate, especially on systems that are being retired. Controls employed by our U.S., off-shore and cloud vendors could prove inadequate. We could also experience a breach by intentional or negligent conduct on the part of associates or other internal sources. Our systems and those of our third-party vendors may become vulnerable to damage or disruption due to circumstances beyond our or their control, such as from catastrophic events, power anomalies or outages, natural disasters, network failures, and viruses and malware.

A breach of our security or the security of a vendor that results in unauthorized access to our data could expose us to a disruption or challenges relating to our daily operations as well as to data loss, litigation, damages, fines and penalties, significant increases in compliance costs and reputational damage.

Our status as an insurance holding company with no direct operations could affect our ability to pay dividends in the future.

Cincinnati Financial Corporation is a holding company that transacts substantially all of its business through its subsidiaries. Our primary assets are the stock in our operating subsidiaries and our investments. Consequently, our cash flow to pay cash dividends and interest on our long-term debt depends on dividends we receive from our operating subsidiaries and income earned on investments held at the parent-company level.

Dividends received from our insurance subsidiary are restricted by the insurance laws of Ohio, its domiciliary state. These laws establish minimum solvency and liquidity thresholds and limits. In 2017, the maximum dividend that may be paid without prior regulatory approval is limited to the greater of 10 percent of statutory capital and surplus or 100 percent of statutory net income for the prior calendar year, up to the amount of statutory unassigned capital and surplus as of the end of the prior calendar year. Dividends exceeding these limitations may be paid only with prior approval of the Ohio Department of Insurance. We might not be able to receive dividends from our insurance subsidiary, or we might not receive dividends in the amounts necessary to meet our debt obligations or to pay dividends on our common stock without liquidating securities. This could affect our financial position.

Please see Item 1, Regulation, and Item 8, Note 9 of the Consolidated Financial Statements, for a discussion of insurance holding company dividend regulations.

ITEM 1B. Unresolved Staff Comments

None

ITEM 2. Properties

Cincinnati Financial Corporation owns our headquarters building located on 100 acres of land in Fairfield, Ohio. This building has 1,508,200 square feet of total space. The property, including land is recorded in our financial statements at \$130 million at December 31, 2016, and is classified as land, building and equipment, net, for company use. John J. & Thomas R. Schiff & Co. Inc., a related party, occupies 6,750 square feet (less than 1 percent). This property is used for all operations reported in the Consolidated Financial Statements and accompanying Notes.

Cincinnati Financial Corporation owns Gilmore Pointe, located on the northwest corner of our headquarters property. This four-story building contains approximately 103,000 square feet of usable space. The property is recorded in the financial statements at \$6 million at December 31, 2016, and is classified as investment property in Other Invested Assets, net. At December 31, 2016, unaffiliated tenants occupied 77 percent, Cincinnati Financial affiliates occupy 12 percent, and the remaining 11 percent was in a lease negotiation with a current unaffiliated tenant.

The Cincinnati Insurance Company owns the CFC Winton Center used for multiple operations with approximately 48,000 square feet of total space, located approximately six miles from our headquarters. The property, including land, is recorded in our financial statements at \$9 million at December 31, 2016, and is classified as land, building and equipment, net, for company use.

ITEM 3. Legal Proceedings

Neither the company nor any of our subsidiaries is involved in any material litigation other than ordinary, routine litigation incidental to the nature of its business.

ITEM 4. Mine Safety Disclosures

This item is not applicable to the company.

Part II

ITEM 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Cincinnati Financial Corporation had approximately 112,000 shareholders of record as of December 31, 2016. While approximately 13,000 shareholders are registered, the majority of shareholders are beneficial owners whose shares are held in "street name" by brokers and institutional accounts. We believe many of our independent agent representatives and most of the 4,754 associates of our subsidiaries own the company's common stock.

Our common shares are traded under the symbol CINF on Nasdaq.

(Source: Nasdaq Global Select Market)								
					2016			
Quarter:	1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th
High	\$ 65.99	\$ 74.89	\$ 78.09	\$ 79.60	\$ 54.92	\$ 54.25	\$ 56.94	\$ 61.59
Low	53.64	63.87	73.88	68.11	50.12	49.74	49.72	52.63
Period-end close	65.36	74.89	75.42	75.75	53.28	50.18	53.80	59.17
Cash dividends declared	0.48	0.48	0.48	0.48	0.46	0.46	0.46	0.92

We discuss the factors that affect our ability to pay cash dividends and repurchase shares in Item 7, Liquidity and Capital Resources. Regulatory restrictions on dividends our insurance subsidiary can pay to the parent company are discussed in Item 8, Note 9 of the Consolidated Financial Statements.

The following summarizes securities authorized for issuance under our equity compensation plans as of December 31, 2016:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights at December 31, 2016	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plan (excluding securities reflected in column (a)) at December 31, 2016
	(a)	(b)	(c)
Equity compensation plans approved by security holders	3,012,091	\$ 42.12	12,972,457
Equity compensation plans not approved by security holders	—	—	—
Total	3,012,091	\$ 42.12	12,972,457

The number of securities remaining available for future issuance includes: 10 million shares available for issuance under the Cincinnati Financial Corporation 2016 Stock Compensation Plan (the 2016 Plan), 2,834,149 shares available for issuance under the Cincinnati Financial Corporation 2012 Stock Compensation Plan (the 2012 Plan), and 138,308 shares available for issuance of share grants under the Director's Stock Plan of 2009. The number of securities remaining available for future issuance assumes the number of securities to be issued from performance-based awards are issued at the target-level performance level. Both the 2016 Plan and 2012 Plan allow for issuance of stock options, service-based or performance-based restricted stock units, stock appreciation rights or other equity-based grants. Awards other than stock options granted from the 2016 and 2012 plans are counted as three shares against the plan for each one share of common stock actually issued. Additional information about share-based associate compensation granted under our equity compensation plans is available in Item 8, Note 17 of the Consolidated Financial Statements.

The following summarizes shares purchased under our repurchase programs:

Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
January 1-31, 2016	—	—	—	4,099,493
February 1-29, 2016	—	—	—	4,099,493
March 1-31, 2016	—	—	—	4,099,493
April 1-30, 2016	—	—	—	4,099,493
May 1-31, 2016	—	—	—	4,099,493
June 1-30, 2016	35,000	\$ 69.56	35,000	4,064,493
July 1-31, 2016	—	—	—	4,064,493
August 1-31, 2016	—	—	—	4,064,493
September 1-30, 2016	—	—	—	4,064,493
October 1-31, 2016	—	—	—	4,064,493
November 1-30, 2016	522,428	70.13	522,428	3,542,065
December 1-31, 2016	—	—	—	3,542,065
Totals	<u>557,428</u>	<u>70.09</u>	<u>557,428</u>	

We did not sell any of our shares that were not registered under the Securities Act during 2016. Our repurchase program was expanded on October 22, 2007, to increase our repurchase authorization to approximately 13 million shares. Our repurchase program does not have an expiration date. We have 3,542,065 shares available for purchase under our program at December 31, 2016.

Cumulative Total Return

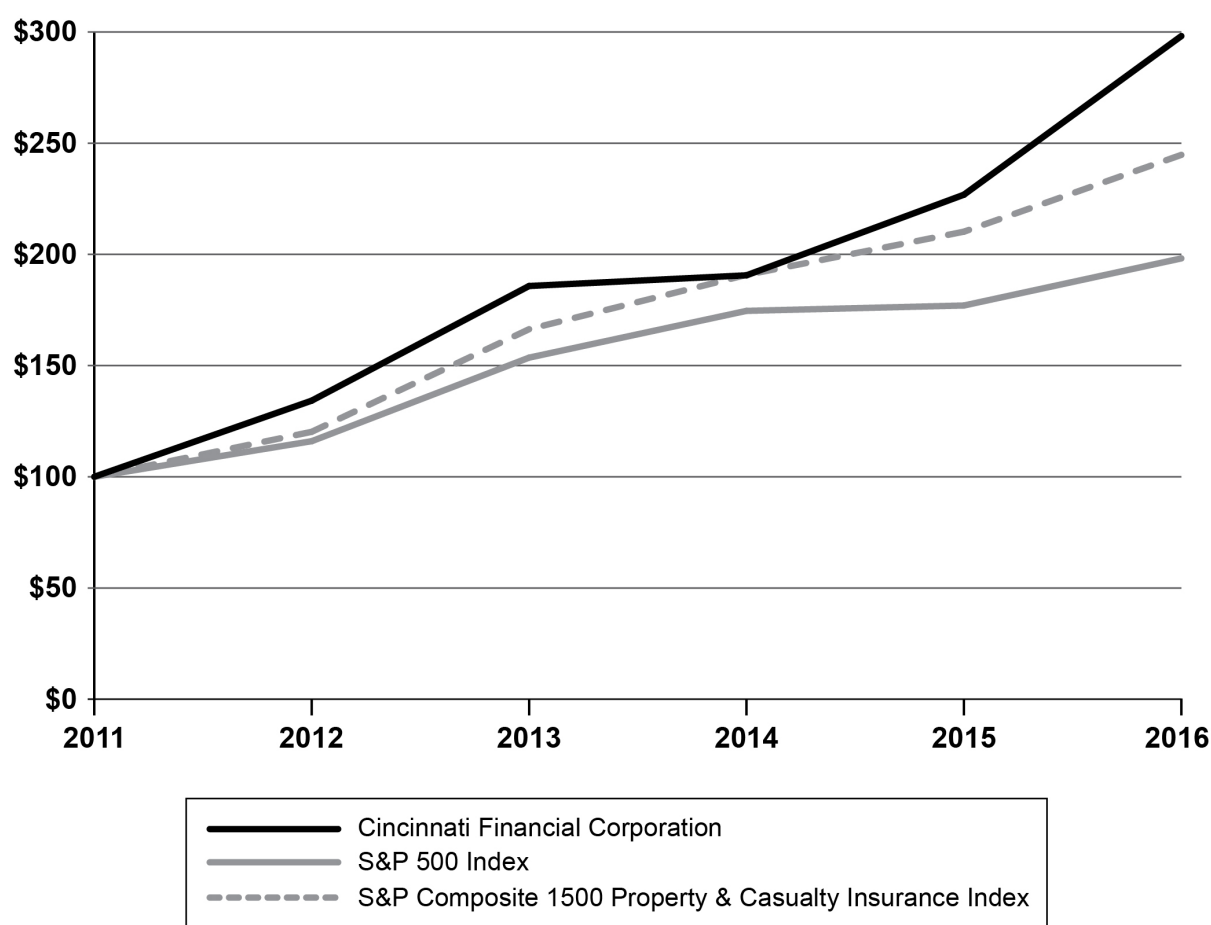
As depicted in the graph below, the five-year total return on a \$100 investment made December 31, 2011, assuming the reinvestment of all dividends, was 198.1 percent for Cincinnati Financial Corporation's common stock compared with 144.7 percent for the Standard & Poor's Composite 1500 Property & Casualty Insurance Index and 98.2 percent for the Standard & Poor's 500 Index.

The Standard & Poor's Composite 1500 Property & Casualty Insurance Index included 25 companies at year-end 2016: The Allstate Corporation, Amerisafe Inc., Aspen Insurance Holdings Limited, The Chubb Corporation, Cincinnati Financial Corporation, Employers Holdings Inc., First American Financial Corporation, The Hanover Insurance Group Inc., HCI Group Inc., Infinity Property and Casualty Corporation, Mercury General Corporation, The Navigators Group Inc., Old Republic International Corporation, ProAssurance Corporation, The Progressive Corporation, RLI Corp., Safety Insurance Group Inc., Selective Insurance Group Inc., Stewart Information Services Corporation, The Travelers Companies Inc., United Fire & Casualty Company, United Insurance Holdings Corporation, Universal Insurance Holdings Inc., W. R. Berkley Corporation and XL Group Public Limited Company.

The Standard & Poor's 500 Index includes a representative sample of 500 leading companies in a cross section of industries of the U.S. economy. Although this index focuses on the large capitalization segment of the market, it is widely viewed as a proxy for the total market.

The following graph depicts \$100 invested on December 31, 2011, in stock or index, including reinvestment of dividends. The years shown represent each respective fiscal year ending December 31.

Comparison of Five-Year Cumulative Total Return



ITEM 6. Selected Financial Data

(In millions except per share data and shares outstanding in thousands)

	Years ended December 31,				
	2016	2015	2014	2013	2012
Consolidated Income Statement Data					
Earned premiums	\$ 4,710	\$ 4,480	\$ 4,243	\$ 3,902	\$ 3,522
Investment income, net of expenses	595	572	549	529	531
Realized investment gains, net *	124	70	133	83	42
Total revenues	5,449	5,142	4,945	4,531	4,111
Net income	591	634	525	517	421
Net income per common share:					
Basic	\$ 3.59	\$ 3.87	\$ 3.21	\$ 3.16	\$ 2.59
Diluted	3.55	3.83	3.18	3.12	2.57
Cash dividends per common share:					
Ordinary declared	1.92	1.84	1.760	1.66	1.620
Ordinary paid	1.90	1.82	1.7400	1.643	1.6150
Special declared and paid	—	0.46	—	—	—
Diluted weighted average shares outstanding	166.5	165.6	165.1	165.4	163.7
Consolidated Balance Sheet Data					
Total investments	\$ 15,500	\$ 14,423	\$ 14,386	\$ 13,564	\$ 12,534
Net unrealized investment portfolio gains	2,625	2,094	2,719	2,335	1,875
Deferred policy acquisition costs	637	616	578	565	470
Total assets	20,386	18,888	18,748	17,657	16,543
Gross loss and loss expense reserves	5,085	4,718	4,485	4,311	4,230
Life policy and investment contract reserves	2,671	2,583	2,497	2,390	2,295
Long-term debt	787	786	786	785	785
Shareholders' equity	7,060	6,427	6,573	6,070	5,453
Book value per share	42.95	39.20	40.14	37.21	33.48
Shares outstanding	164,387	163,944	163,747	163,109	162,874
Value creation ratio	14.5%	3.4%	12.6%	16.1%	12.6%
Consolidated Property Casualty Operations Data					
Earned premiums	\$ 4,482	\$ 4,271	\$ 4,045	\$ 3,713	\$ 3,344
Unearned premiums	2,306	2,200	2,081	1,970	1,790
Gross loss and loss expense reserves	5,035	4,660	4,438	4,241	4,169
Investment income, net of expenses	384	368	358	348	351
Loss and loss expense ratio	63.8%	60.2%	65.0%	61.9%	63.9%
Underwriting expense ratio	31.0	30.9	30.6	31.9	32.2
Combined ratio	94.8%	91.1%	95.6%	93.8%	96.1%

We retrospectively adopted ASU 2015-15, *Interest-Imputation of Interest: Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*, as of December 31, 2015. All prior year information has been restated.

On January 1, 2012, we retrospectively adopted ASU 2010-26, *Accounting for Costs Associated with Acquiring or Renewing Insurance Contracts*. All prior year information has been restated.

* Realized investment gains and losses are integral to our financial results over the long term, but our substantial discretion in the timing of investment sales may cause this value to fluctuate substantially. Also, applicable accounting standards require us to recognize gains and losses from certain changes in fair values of securities and embedded derivatives without actual realization of those gains and losses. We discuss realized investment gains for the past three years in Item 7, Investments Results.

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

Introduction

The purpose of Management's Discussion and Analysis is to provide an understanding of Cincinnati Financial Corporation's consolidated results of operations and financial condition. Our Management's Discussion and Analysis should be read in conjunction with Item 6, Selected Financial Data, and Item 8, Consolidated Financial Statements and related Notes. We present per share data on a diluted basis unless otherwise noted, adjusting those amounts for all stock splits and stock dividends.

We begin with an executive summary of our results of operations, followed by other highlights, an overview of our strategy, an outlook for future performance and details about critical accounting estimates. In several instances, we refer to estimated industry data so that we can provide information on our performance within the context of the overall insurance industry. Unless otherwise noted, the industry data is prepared by A.M. Best Co., a leading insurance industry statistical, analytical and financial strength rating organization. Information from A.M. Best is presented on a statutory accounting basis. When we provide our results on a comparable statutory accounting basis, we label it as such; all other company data is presented in accordance with accounting principles generally accepted in the United States of America (GAAP).

Through The Cincinnati Insurance Company, Cincinnati Financial Corporation is one of the 25 largest property casualty insurers in the nation, based on net written premium volume for the first nine months of 2016, among approximately 2,000 U.S. stock and mutual insurer groups. We market our insurance products through a select group of independent insurance agencies in 41 states as discussed in Item 1, Our Business and Our Strategy.

The U.S. economy, the insurance industry and our company continue to face many challenges. Our long-term perspective has allowed us to address immediate challenges while also focusing on the major decisions that best position the company for success through all market cycles. We believe that this forward-looking view consistently benefits our shareholders, agents, policyholders and associates.

To measure our progress, we have defined a measure of value creation that we believe captures the contribution of our insurance operations, the success of our investment strategy and the importance we place on paying cash dividends to shareholders. We refer to this measure as our value creation ratio, or VCR, and it is made up of two primary components: (1) our rate of growth in book value per share plus (2) the ratio of dividends declared per share to beginning book value per share. This measure, intended to be all-inclusive regarding changes in book value per share, uses originally reported book value per share in cases where book value per share has been adjusted, such as after the adoption of Accounting Standards Updates with a cumulative effect of a change in accounting.

Executive Summary

Our value creation ratio, defined above, is our primary performance target. VCR trends are shown in the table below.

	One year	Three-year % average	Five-year % average
Value creation ratio:			
As of December 31, 2016	14.5%	10.2%	11.8%
As of December 31, 2015	3.4	10.7	10.1
As of December 31, 2014	12.6	13.8	11.7

For the period 2013 through 2017, we are targeting an annual value creation ratio averaging 10 percent to 13 percent. At 14.5 percent for 2016, we exceeded the high end of that range. We were within that range for the three-year and five-year periods that ended in December 2016.

The next two tables show the primary components of our value creation ratio, first on a percentage basis and then on a per-outstanding-share basis. Analysis of the components aids understanding of our financial performance. Our financial results are further analyzed in the Corporate Financial Highlights section below.

	Years ended December 31,		
	2016	2015	2014
Value creation ratio major components:			
Net income before net realized gains	7.9 %	8.9 %	7.2 %
Change in fixed-maturity securities, realized and unrealized gains	(0.2)	(2.6)	1.2
Change in equity securities, realized and unrealized gains	6.8	(2.9)	4.3
Other	0.0	0.0	(0.1)
Value creation ratio	14.5 %	3.4 %	12.6 %

The 2016 value creation ratio improved by 11.1 percentage points, compared with 2015, and again included strong operating results as its primary contributor. The 2016 ratio improvement included 9.7 percentage points from a rise in market valuation for our equity securities investment portfolio. The 2015 value creation ratio was 9.2 percentage points lower than in 2014, driven by an 11.0 point reduction in the contribution from realized gains plus the change in unrealized gains from our investment portfolios in aggregate.

(Dollars are per share)		Years ended December 31,		
		2016	2015	2014
Book value change per share:				
End of period book value	\$	42.95	\$ 39.20	\$ 40.14
Less beginning of period book value		39.20	40.14	37.21
Change in book value	\$	3.75	\$ (0.94)	\$ 2.93
Change in book value:				
Net income before realized gains	\$	3.11	\$ 3.59	\$ 2.69
Change in fixed-maturity securities, realized and unrealized gains		(0.07)	(1.04)	0.43
Change in equity securities, realized and unrealized gains		2.65	(1.16)	1.61
Dividend declared to shareholders		(1.92)	(2.30)	(1.76)
Other		(0.02)	(0.03)	(0.04)
Change in book value	\$	3.75	\$ (0.94)	\$ 2.93

We believe our value creation ratio, a non-GAAP measure, is a useful supplement to GAAP information. With the continuation of economic and market uncertainty in recent years, the long-term nature of this measure provides a meaningful measure of our long-term progress in creating shareholder value. A reconciliation of this non-GAAP measure to comparable GAAP measures is shown in the table below.

(Dollars are per share)	Years ended December 31,		
	2016	2015	2014
Value creation ratio:			
End of year book value	\$ 42.95	\$ 39.20	\$ 40.14
Less beginning of year book value	39.20	40.14	37.21
Change in book value	3.75	(0.94)	2.93
Dividend declared to shareholders	1.92	2.30	1.76
Total value creation	\$ 5.67	\$ 1.36	\$ 4.69
Value creation ratio from change in book value*	9.6%	(2.3)%	7.9%
Value creation ratio from dividends declared to shareholders**	4.9	5.7	4.7
Value creation ratio	14.5%	3.4 %	12.6%

* Change in book value divided by the beginning of year book value

** Dividend declared to shareholders divided by beginning of year book value

When looking at our longer-term objectives, we see three primary performance drivers for our value creation ratio:

- **Premium growth** – We believe over any five-year period our agency relationships and initiatives can lead to a property casualty written premium growth rate that exceeds the industry average. The compound annual growth rate of our net written premiums was 8.1 percent over the five-year period 2012 through 2016, approximately double the 3.8 percent estimated growth rate for the property casualty insurance industry. The industry's growth rate excludes its mortgage and financial guaranty lines of business.
- **Combined ratio** – We believe our underwriting philosophy and initiatives can drive performance to achieve our underwriting profitability target of a GAAP combined ratio over any five-year period that consistently averages within the range of 95 percent to 100 percent. Our GAAP combined ratio averaged 94.3 percent over the five-year period 2012 through 2016, better than the performance target range. Performance as measured by the combined ratio is discussed in Consolidated Property Casualty Insurance Results. Our statutory combined ratio averaged 93.7 percent over the five-year period 2012 through 2016 compared with an estimated 99.1 percent for the property casualty industry. The industry's ratio again excludes its mortgage and financial guaranty lines of business.
- **Investment contribution** – We believe our investment philosophy and initiatives can drive investment income growth and lead to a total return on our equity investment portfolio over a five-year period that exceeds the five-year total return of the Standard & Poor's 500 Index.
 - Investment income growth, on a pretax basis, had a compound annual growth rate of 2.5 percent over the five-year period 2012 through 2016 and 4.0 percent over the three-year period 2014 through 2016. It has grown every year since 2009, except for 2013 with its slight decrease of less than 1 percent.
 - Over the five years ended December 31, 2016, our equity portfolio compound annual total return was 13.3 percent compared with a compound annual total return of 14.7 percent for the Index. Our equity portfolio favors larger-capitalization, high-quality, dividend growing stocks with a slight value orientation. In recent years, returns for this type of stocks have generally lagged the broader market. For the year 2016, our annual equity portfolio total return was 18.2 percent, compared with 12.0 percent for the Index.

The board of directors is committed to rewarding shareholders directly through cash dividends and share repurchase authorizations. Through 2016, the company has increased the annual cash dividend rate for 56 consecutive years, a record we believe is matched by only eight other publicly traded U.S. companies. In addition to regular dividends, excellent company performance provided the opportunity to further reward shareholders and was the main driver of a special dividend paid in December 2015. The board regularly evaluates relevant factors in dividend-related decisions, and the 2016 increase to the regular dividend reflected confidence in our strong capital, liquidity and financial flexibility, as well as progress through our initiatives to

improve earnings performance while growing insurance premium revenues. We discuss our financial position in more detail in Liquidity and Capital Resources.

Corporate Financial Highlights

In addition to the value creation ratio discussion and analysis in the Executive Summary, we further analyze our financial results in the sections below.

Balance Sheet Data

	At December 31,		At December 31,	
	2016		2015	
(Dollars in millions except share data)				
Total investments	\$	15,500	\$	14,423
Total assets		20,386		18,888
Short-term debt		20		35
Long-term debt		787		786
Shareholders' equity		7,060		6,427
Book value per share		42.95		39.20
Debt-to-total-capital ratio		10.3%		11.3%

Total investments grew 7 percent during 2016 on a fair value basis, with an increase in our securities portfolio valuation that added to the 4 percent increase in its cost basis. Entering 2017, we believe the portfolio continues to be well diversified and is well positioned to withstand short-term fluctuations. We discuss our investment strategy in Item 1, Investments Segment, and results for the segment in Investments Results. Total assets rose 8 percent. Shareholders' equity and book value per share each grew by 10 percent, for reasons discussed in the preceding Executive Summary.

The amount of our debt obligations decreased by \$14 million in 2016, compared with 2015. Our 10.3 percent ratio of debt to total capital (debt plus shareholders' equity) at year-end 2016 decreased by 1.0 percentage point compared with the prior-year ratio and remained comfortably within our target range.

Income Statement and Per Share Data

	Years ended December 31,			2016-2015	
	2016	2015	2014	Change %	2015-2014
(Dollars in millions except per share data)					Change %
Earned premiums	\$ 4,710	\$ 4,480	\$ 4,243	5	6
Investment income, net of expenses (pretax)	595	572	549	4	4
Realized investment gains, net (pretax)	124	70	133	77	(47)
Total revenues	5,449	5,142	4,945	6	4
Net income	591	634	525	(7)	21
Comprehensive income	940	234	765	302	(69)
Net income per share - diluted	3.55	3.83	3.18	(7)	20
Cash dividends declared per share	1.92	2.30	1.76	(17)	31
Diluted weighted average shares outstanding	166.5	165.6	165.1	1	0

Net income in 2016 decreased \$43 million or 7 percent compared with 2015, driven by a decrease in property casualty underwriting income of \$94 million after taxes, including \$114 million from higher catastrophe losses. The 2016 decrease in property casualty underwriting income was partially offset by a \$35 million increase in net realized investment gains after taxes and \$17 million in investment income after taxes. Dividend income rose 7 percent in 2016 while interest income rose 3 percent, driving a net increase in pretax investment income of \$23 million, or 4 percent. Our investment operation's performance is discussed further in Investments Results.

Net income increased \$109 million in 2015, compared with 2014, primarily due to a \$130 million increase in property casualty underwriting income after taxes that included \$28 million from lower catastrophe losses.

As discussed in Investments Results, sales of securities that had appreciated in value led to realized investment gains in all three years. Realized and unrealized investment gains and losses are integral to our financial results over the long term. We have substantial discretion in the timing of investment sales and, therefore, the gains or losses that are recognized in any period. That discretion generally is independent of the insurance underwriting process.

Contribution from Insurance Operations

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Consolidated property casualty data:					
Net written premiums	\$ 4,580	\$ 4,361	\$ 4,143	5	5
Earned premiums	4,482	4,271	4,045	5	6
Underwriting profit	242	386	186	(37)	108
				Pt. Change	Pt. Change
GAAP combined ratio	94.8%	91.1%	95.6%	3.7	(4.5)
Statutory combined ratio	94.5	90.6	95.1	3.9	(4.5)
Written premium to statutory surplus	1.0	1.0	0.9	0.0	0.1

Property casualty net written premiums and earned premiums each grew 5 percent in 2016, reflecting average renewal price increases, a higher level of insured exposures and premium growth initiatives. Premium growth rates in 2016 were similar to 2015. Trends and related factors are discussed in Commercial Lines, Personal Lines and Excess and Surplus Lines Insurance Results, respectively.

Our property casualty insurance operations generated significant underwriting profits for each of the three years ending in 2016. The \$144 million decrease in 2016, compared with 2015, included a \$175 million increase in losses from natural catastrophe events. The \$200 million increase in 2015, compared with 2014, included a \$43 million decrease in losses from natural catastrophe events.

We measure property casualty underwriting profitability primarily by the combined ratio. Our combined ratio measures the percentage of each earned premium dollar spent on claims plus all expenses related to our property casualty operations, all on a pretax basis. A lower ratio indicates more favorable results and better underlying performance. A ratio below 100 percent represents an underwriting profit. Initiatives to improve our combined ratio are discussed in Item 1, Our Business and Our Strategy, Strategic Initiatives. In 2016, 2015 and 2014, favorable development on reserves for claims that occurred in prior accident years helped offset other incurred losses and loss expenses. Reserve development is discussed further in Property Casualty Loss and Loss Expense Obligations and Reserves. Losses from weather-related catastrophes are another important item influencing the combined ratio and are discussed along with other factors in Financial Results for our property casualty business and related segments.

Our life insurance segment reported a \$1 million profit in 2016 and a \$2 million loss in 2015. We discuss results for the segment in Life Insurance Results. Most of this segment's investment income is included in our investments segment results. In addition to investment income, realized investment gains from the life insurance investment portfolio are also included in our investments segment results.

Strategic Initiatives Overview

Management has worked to identify a strategy that can lead to long-term success, with concurrence by the board of directors. Our strategy is intended to position us to compete successfully in the markets we have targeted while appropriately managing risk. We discuss our long-term, proven strategy in Item 1, Our Business and Our Strategy. We believe successful implementation of initiatives that support our strategy will help us better serve our agent customers and reduce volatility in our financial results while we also grow earnings and book value over the long term, successfully navigating challenging economic, market or industry pricing cycles.

- Manage insurance profitability – Implementation of these initiatives is intended to enhance underwriting expertise and knowledge, thereby increasing our ability to manage our business while also gaining efficiency. Better profit margins can arise from additional information and more focused action on underperforming product lines,

plus pricing capabilities we are expanding through the use of technology and analytics. In addition to enhancing company efficiency, improving internal processes also supports the ability of the independent agencies that represent us to grow profitably by allowing them to serve clients faster and to more efficiently manage agency expenses.

- Drive premium growth – Implementation of these initiatives is intended to further penetrate each market we serve through our independent agencies. Strategies aimed at specific market opportunities, along with service enhancements, can help our agents grow and increase our share of their business. Premium growth initiatives also include expansion of Cincinnati Re. Diversified growth also may reduce variability of losses from weather-related catastrophes.

Detailed discussion of recent-year financial performance influenced by our strategic initiatives appears below in Financial Results and Liquidity and Capital Resources.

Factors Influencing Our Future Performance

Our view of the shareholder value we can create over the next five years relies largely on three assumptions – each highly dependent on the external environment. First, we anticipate our property casualty average insurance prices will increase in proportion to, or in excess of, our loss cost trends. Second, we assume that the economy can maintain a long-term growth track. Third, we assume that valuations of our marketable securities will vary within a typical range over time, based on historical trends. If those assumptions prove to be inaccurate, we may not be able to achieve our performance targets even if we accomplish our strategic objectives.

Other factors that could influence our ability to achieve our targets include:

- We expect the insurance marketplace to remain competitive, which is likely to cause carriers to pursue strategies that they believe could lead to economies of scale, market share gains or the potential for an improved competitive posture.
- We expect the independent insurance agency system to remain strong, with continued agency consolidation. If soft insurance market conditions return in the near term, it will create additional risk for agencies.
- A return of soft insurance market pricing could significantly affect growth rates and earned premium levels for some time into the future. If the economy falters, we may experience low or no premium growth for our property casualty segments. Premium growth also may lag as some of our growth initiatives require more time to reach their full contribution. In addition, economic factors, including inflation, may increase our claims and settlement expenses related to medical care, litigation and construction.
- Financial markets continued to display volatility in recent years, and some predict more turbulence in the future from effects such as changes in government policy, growth challenges for emerging country economies or other geopolitical events that could also affect the U.S. economy and markets. Should financial markets decline temporarily, which could occur as part of typical market volatility patterns, the related book value component of our value creation ratio could also register a weak or negative result.

We discuss in Item 1A, Risk Factors, many potential risks to our business and our ability to achieve our qualitative and quantitative objectives. These are real risks, but their probability of occurring may not be high. We also believe that our risk management programs generally could mitigate their potential effects, in the event they would occur.

Critical Accounting Estimates

Cincinnati Financial Corporation's financial statements are prepared using U.S. GAAP. These principles require management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying Notes. Actual results could differ materially from those estimates.

The significant accounting policies used in the preparation of the financial statements are discussed in Item 8, Note 1 of the Consolidated Financial Statements. In conjunction with that discussion, material implications of uncertainties associated with the methods, assumptions and estimates underlying the company's critical accounting policies are discussed below. The audit committee of the board of directors reviews the annual financial statements with management and the independent registered public accounting firm. These discussions cover the quality of earnings, review of reserves and accruals, reconsideration of the suitability of accounting principles, review of highly judgmental areas including critical accounting estimates, audit adjustments and such other inquiries as may be appropriate.

Property Casualty Insurance Loss and Loss Expense Reserves

We establish loss and loss expense reserves for our property casualty insurance business as balance sheet liabilities. Unpaid loss and loss expenses are the estimated amounts necessary to pay for and settle all outstanding insured claims, including incurred but not reported (IBNR) claims. These reserves account for unpaid loss and loss expenses as of a financial statement date.

For some lines of business that we write, a considerable and uncertain amount of time can elapse between the occurrence, reporting and payment of insured claims. The amount we will actually have to pay for such claims also can be highly uncertain. This uncertainty, together with the size of our reserves, makes the loss and loss expense reserves our most significant estimate. Gross loss and loss expense reserves were \$5.035 billion at year-end 2016 compared with \$4.660 billion at year-end 2015.

How Reserves Are Established

Our field claims representatives establish case reserves when claims are reported to the company to provide for our unpaid loss and loss expense obligation associated with individual claims. Field claims managers supervise and review all claims with case reserves less than \$100,000. Additionally, a headquarters supervisor and regional claims manager review all claims under \$100,000 if litigation or a certain specialty claim is involved. All claims with case reserves of \$100,000 or greater are reviewed and approved by an experienced headquarters supervisor and regional claims manager – up from a threshold amount of \$35,000 for several years prior to 2015. Upper-level headquarters claims managers also review case reserves of \$175,000 or more – up from a threshold amount of \$100,000 for several years prior to 2015.

Our claims representatives base their case reserve estimates primarily upon case-by-case evaluations that consider:

- type of claim involved
- circumstances surrounding each claim
- policy provisions pertaining to each claim
- potential for subrogation or salvage recoverable
- general insurance reserving practices

Case reserves of all sizes are subject to review on a 90-day cycle, or more frequently if new information about a loss becomes available. As part of the review process, we monitor industry trends, cost trends, relevant court cases, legislative activity and other current events in an effort to ascertain new or additional loss exposures.

We also establish IBNR reserves to provide for all unpaid loss and loss expenses not accounted for by case reserves:

- For events designated as natural catastrophes, we calculate bulk reserves directly as a result of an estimated IBNR claim count and an estimated average claim amount for each event. Once case reserves are established for a catastrophe event, we reduce the bulk reserves. Our claims department management coordinates the assessment of these events and prepares the related bulk reserve estimates. Such an assessment involves a comprehensive analysis of the nature of the event, of policyholder exposures within the

affected geographic area and of available claims intelligence. Depending on the nature of the event, available claims intelligence could include surveys of field claims associates within the affected geographic area, feedback from a catastrophe claims team sent into the area, as well as data on claims reported as of the financial statement date. To determine whether an event is designated as a catastrophe, we generally use the catastrophe definition provided by Property Claims Service (PCS), a division of Insurance Services Office (ISO). PCS defines a catastrophe as an event that causes countrywide damage of \$25 million or more in insured property losses and affects a significant number of policyholders and insureds.

- For asbestos and environmental claims, we calculate IBNR reserves by deriving an actuarially-based estimate of total unpaid loss and loss expenses. We then reduce the estimate by total case reserves. We discuss the reserve analysis that applies to asbestos and environmental reserves in Liquidity and Capital Resources, Asbestos and Environmental Reserves.
- For loss expenses that pertain primarily to salaries and other costs related to our claims department associates, also referred to as adjusting and other expense or AOE, we calculate reserves based on an analysis of the relationship between paid losses and paid AOE. Reserves for AOE are allocated to company, line of business and accident year based on a claim count algorithm. Claim counts reported and used in the reserving process are primarily measured by insurance coverages that are triggered when a loss occurs and a reserve is established. Coverages are defined as unique combinations of certain attributes such as line of business and cause of loss. Claims that are opened and closed without payment are included in the reported claim counts. Claim counts are presented on a direct basis only and do not reflect any assumed or ceded reinsurance. In 2009, we refined our claim count logic such that the definition of an open claim, a closed claim, and a claim that closes without payment was uniform amongst all of our systems, including legacy systems.
- For all other claims and events, including reinsurance assumed, IBNR reserves are calculated as the difference between an actuarial estimate of the ultimate cost of total loss and loss expenses incurred reduced by the sum of total loss and loss expense payments and total case reserves estimated for individual claims. We discuss below the development of actuarially based estimates of the ultimate cost of total loss and loss expenses incurred.

Our actuarial staff applies significant judgment in selecting models and estimating model parameters when preparing reserve analyses. Unpaid loss and loss expenses are inherently uncertain as to timing and amount. Uncertainties relating to model appropriateness, parameter estimates and actual loss and loss expense amounts are referred to as model, parameter and process uncertainty, respectively. Our management and actuarial staff address these uncertainties in the reserving process in a variety of ways.

Our actuarial staff bases its IBNR reserve estimates for these losses primarily on the indications of methods and models that analyze accident year data. Accident year is the year in which an insured claim, loss or loss expense occurred. The specific methods and models that our actuaries have used for the past several years are:

- paid and reported loss development methods
- paid and reported loss Bornhuetter-Ferguson methods
- individual and multiple probabilistic trend family models

Our actuarial staff uses diagnostics provided by stochastic reserving software to evaluate the appropriateness of the models and methods listed above. The software's diagnostics have indicated that the appropriateness of these models and methods for estimating IBNR reserves for our lines of business tends to depend on a line's tail. Tail refers to the time interval between a typical claim's occurrence and its settlement. For our long-tail lines such as workers' compensation and commercial casualty, models from the probabilistic trend family tend to provide superior fits and to validate well compared with models underlying the loss development and Bornhuetter-Ferguson methods. The loss development and Bornhuetter-Ferguson methods, particularly the reported loss variations, tend to produce the more appropriate IBNR reserve estimates for our short-tail lines such as homeowner and commercial property. For our mid-tail lines such as personal and commercial auto liability, all models and methods provide useful insights.

Our actuarial staff also devotes significant time and effort to the estimation of model and method parameters. The loss development and Bornhuetter-Ferguson methods require the estimation of numerous loss development factors. The Bornhuetter-Ferguson methods also involve the estimation of numerous ultimate loss ratios by accident year. Models from the probabilistic trend family require the estimation of development trends, calendar year inflation trends and exposure levels. Consequently, our actuarial staff monitors a number of trends and measures to gain key business insights necessary for exercising appropriate judgment when estimating the parameters mentioned, such as:

- company and industry pricing
- company and industry exposure
- company and industry loss frequency and severity
- past large loss events such as hurricanes
- company and industry premium
- company in-force policy count

These trends and measures also support the estimation of ultimate accident year loss ratios needed for applying the Bornhuetter-Ferguson methods and for assessing the reasonability of all IBNR reserve estimates computed. Our actuarial staff reviews these trends and measures quarterly, updating parameters derived from them as necessary.

Quarterly, our actuarial staff summarizes their reserve analysis by preparing an actuarial best estimate and a range of reasonable IBNR reserves intended to reflect the uncertainty of the estimate. An inter-departmental committee that includes our actuarial management team reviews the results of each quarterly reserve analysis. The committee establishes management's best estimate of IBNR reserves, which is the amount that is included in each period's financial statements. In addition to the information provided by actuarial staff, the committee also considers factors such as:

- large loss activity and trends in large losses
- new business activity
- judicial decisions
- general economic trends such as inflation
- trends in litigiousness and legal expenses
- product and underwriting changes
- changes in claims practices

The determination of management's best estimate, like the preparation of the reserve analysis that supports it, involves considerable judgment. Changes in reserving data or the trends and factors that influence reserving data may signal fundamental shifts or may simply reflect single-period anomalies. Even if a change reflects a fundamental shift, the full extent of the change may not become evident until years later. Moreover, since our methods and models do not explicitly relate many of the factors we consider directly to reserve levels, we typically cannot quantify the precise impact of such factors on the adequacy of reserves prospectively or retrospectively.

Due to the uncertainties described above, our ultimate loss experience could prove better or worse than our carried reserves reflect. To the extent that reserves are inadequate and increased, the amount of the increase is a charge in the period that the deficiency is recognized, raising our loss and loss expense ratio and reducing earnings. To the extent that reserves are redundant and released, the amount of the release is a credit in the period that the redundancy is recognized, reducing our loss and loss expense ratio and increasing earnings.

Key Assumptions – Loss Reserving

Our actuarial staff makes a number of key assumptions when using their methods and models to derive IBNR reserve estimates. Appropriate reliance on these key assumptions essentially entails determinations of the likelihood that statistically significant patterns in historical data may extend into the future. The four most significant of the key assumptions used by our actuarial staff and approved by management are:

- Emergence of loss and defense and cost containment expenses, also referred to as DCCE, on an accident year basis. Historical paid loss, reported loss and paid DCCE data for the business lines we analyze contain patterns that reflect how unpaid losses, unreported losses and unpaid DCCE as of a financial statement date will emerge in the future on an accident year basis. Unless our actuarial staff or management identifies reasons or factors that invalidate the extension of historical patterns into the future, these patterns can be used to make projections necessary for estimating IBNR reserves. Our actuaries significantly rely on this assumption in the application of all methods and models mentioned above.
- Calendar year inflation. For long-tail and mid-tail business lines, calendar year inflation trends for future paid losses and paid DCCE do not vary significantly from a stable, long-term average. Our actuaries base reserve estimates derived from probabilistic trend family models on this assumption.
- Exposure levels. Historical earned premiums, when adjusted to reflect common levels of product pricing and loss cost inflation, can serve as a proxy for historical exposures. Our actuaries require this assumption to estimate ultimate loss ratios and ultimate DCCE ratios used by the Bornhuetter-Ferguson reserving methods. They may also use this assumption to establish exposure levels for recent accident years, characterized by “green” or immature data, when working with probabilistic trend family models.
- Claims having atypical emergence patterns. Characteristics of certain subsets of claims, such as high frequency, high severity, or mass tort claims, have the potential to distort patterns contained in historical paid loss, reported loss and paid DCCE data. When testing indicates this to be the case for a particular subset of claims, our actuaries segregate these claims from the data and analyze them separately. Subsets of claims that could fall into this category include hurricane claims or claims for other weather events where total losses we incurred were very large, individual large claims and asbestos and environmental claims.

These key assumptions have not changed since 2005, when our actuarial staff began using probabilistic trend family models to estimate IBNR reserves.

Paid losses, reported losses and paid DCCE are subject to random as well as systematic influences. As a result, actual paid losses, reported losses and paid DCCE are virtually certain to differ from projections. Such differences are consistent with what specific models for our business lines predict and with the related patterns in the historical data used to develop these models. As a result, management does not closely monitor statistically insignificant differences between actual and projected data.

Reserve Estimate Variability

Management believes that the standard error of a reserve estimate, a measure of the estimate's variability, provides the most appropriate measure of the estimate's sensitivity. The reserves we establish depend on the models we use and the related parameters we estimate in the course of conducting reserve analyses. However, the actual amount required to settle all outstanding insured claims, including IBNR claims, as of a financial statement date depends on stochastic, or random, elements as well as the systematic elements captured by our models and estimated model parameters. For the lines of business we write, process uncertainty – the inherent variability of loss and loss expense payments – typically contributes more to the imprecision of a reserve estimate than parameter uncertainty.

Consequently, a sensitivity measure that ignores process uncertainty would provide an incomplete picture of the reserve estimate's sensitivity. Since a reserve estimate's standard error accounts for both process and parameter uncertainty, it reflects the estimate's full sensitivity to a range of reasonably likely scenarios.

The table below provides standard errors and reserve ranges by major property casualty lines of business and in total for net loss and loss expense reserves as well as the potential effects on our net income, assuming a 35 percent federal tax rate. Standard errors and reserve ranges for assorted groupings of these lines of business cannot be computed by simply adding the standard errors and reserve ranges of the component lines of business, since such an approach would ignore the effects of product diversification. See Liquidity and Capital Resources, Property Casualty Loss and Loss Expense Obligations and Reserves, Range of Reasonable Reserves, for more details on our total reserve range. While the table reflects our assessment of the most likely range within which each line's actual unpaid loss and loss expenses may fall, one or more lines' actual unpaid loss and loss expenses could nonetheless fall outside of the indicated ranges.

	Net loss and loss expense range of reserves				
	Carried reserves	Low point	High point	Standard error	Net income effect
At December 31, 2016					
Total	\$ 4,737	\$ 4,449	\$ 4,894	\$ 222	\$ 144
Commercial casualty	\$ 1,900	\$ 1,707	\$ 2,094	\$ 193	\$ 125
Commercial property	321	289	332	22	14
Commercial auto	558	532	589	29	19
Workers' compensation	954	822	1,002	90	59
Personal auto	287	278	301	12	8
Homeowners	150	138	153	8	5
At December 31, 2015					
Total	\$ 4,379	\$ 4,125	\$ 4,507	\$ 191	\$ 124
Commercial casualty	\$ 1,768	\$ 1,570	\$ 1,885	\$ 157	\$ 102
Commercial property	250	211	253	21	14
Commercial auto	480	466	505	19	12
Workers' compensation	955	857	1,038	91	59
Personal auto	245	243	263	10	7
Homeowners	115	102	118	8	5

Life Policy and Investment Contract Reserves

We establish the reserves for traditional life insurance policies based on expected expenses, mortality, morbidity, withdrawal rates and investment yields, including a provision for uncertainty. Once these assumptions are established, they generally are maintained throughout the lives of the contracts. We use both our own experience and industry experience adjusted for historical trends in arriving at our assumptions for expected mortality, morbidity and withdrawal rates. We use our own experience and historical trends for setting our assumptions for expected expenses. We base our assumptions for expected investment income on our own experience adjusted for current economic conditions.

We establish reserves for our universal life, deferred annuity and investment contracts equal to the cumulative account balances, which include premium deposits plus credited interest less charges and withdrawals. Some of our universal life insurance policies contain no-lapse guarantee provisions. For these policies, we establish a reserve in addition to the account balance based on expected no-lapse guarantee benefits and expected policy assessments.

Asset Impairment

Our fixed-maturity and equity investment portfolios are our largest assets. The company's asset impairment committee continually monitors the holdings in these portfolios and all other assets for signs of other-than-temporary or permanent impairment. The committee monitors decreases in the fair value of invested assets; an accumulation of company costs in excess of the amount originally expected to acquire or construct an asset; uncollectability of all receivable assets; or other factors such as bankruptcy, deterioration of creditworthiness, failure to pay interest or dividends; signs indicating that the receivable carrying amount may not be recoverable; and changes in legal factors or in the business climate.

The application of our impairment policy resulted in other-than-temporary impairment (OTTI) charges that reduced our income before income taxes by \$2 million in 2016, \$52 million in 2015 and \$24 million in 2014. OTTI losses represent noncash charges to income and are reported as realized investment losses.

Our internal investment portfolio managers monitor their assigned portfolios. If a security is valued below cost or amortized cost, the portfolio managers undertake additional reviews. Such declines often occur in conjunction with events taking place in the overall economy and market, combined with events specific to the industry or operations of the issuing organization. Managers review quantitative measurements such as a declining trend in fair value, the extent of the fair value decline and the length of time the value of the security has been depressed, as well as qualitative measures such as pending events, credit ratings and issuer liquidity. We are even more proactive when these declines in valuation are greater than might be anticipated when viewed in the context of overall economic and market conditions. We provide information about valuations of our invested assets in Item 8, Note 2 of the Consolidated Financial Statements.

All securities valued below 100 percent of cost or amortized cost are reported to the asset impairment committee for evaluation. Securities valued between 95 percent and 100 percent of cost or amortized cost are reviewed but not monitored separately by the committee. When evaluating for OTTI, the committee considers the company's intent and ability to retain a security for a period adequate to recover its cost.

Securities that have previously been other-than-temporarily impaired are evaluated based on their adjusted cost or amortized cost and further written down if deemed appropriate. We provide detailed information about securities fair valued in a continuous loss position at year-end 2016 in Item 7A, Application of Asset Impairment Policy.

Impairment charges are recorded for other-than-temporary declines in value if fair value is below cost or amortized cost and, in the asset impairment committee's judgment, the fair value is not expected to be recouped within a designated recovery period. When determining OTTI charges for our fixed-maturity portfolio, management places significant emphasis on whether issuers of debt are current on contractual payments and whether future contractual amounts are likely to be paid. Our invested asset impairment policy states that fixed maturities below their amortized cost that the company (1) intends to sell or (2) more likely than not will be required to sell before recovery of their amortized cost basis are deemed to be OTTI. The amortized cost of any such securities is reduced to fair value as the new cost basis, and a realized loss is recorded in the period in which it is recognized. When these two criteria are not met, and the company believes that full collection of interest and/or principal is not likely, we determine the net present value of future cash flows by using the effective interest rate implicit in the security at the date of acquisition as the discount rate and compare that amount with the amortized cost and fair value of

the security. The difference between the net present value of the expected future cash flows and amortized cost of the security is considered a credit loss and recognized as a realized loss in the period in which it occurred. The difference between the fair value and the net present value of the cash flows of the security, the noncredit loss, is recognized in other comprehensive income as an unrealized loss.

When determining OTTI charges for our equity portfolio, our invested asset impairment policy considers qualitative and quantitative factors, including facts and circumstances specific to individual securities, asset classes, the financial condition of the issuer, changes in dividend payment, the length of time fair value had been less than cost, the severity of the decline in fair value below cost, the volatility of the security and our ability and intent to hold each position until its forecasted recovery.

For each of our equity securities in an unrealized loss position at December 31, 2016, we applied the objective quantitative and qualitative criteria of our invested asset impairment policy for OTTI. Based on the individual qualitative and quantitative factors, as discussed above, we evaluate and determine an expected recovery period for each security. A change in the condition of a security can warrant impairment before the expected recovery period. If the security has not recovered cost within the expected recovery period, the security is other-than-temporarily impaired. Our long-term equity investment philosophy, emphasizing companies with strong indications of paying and growing dividends, combined with our strong statutory capital and surplus, liquidity and cash flow, provide us the ability to hold these investments through what we believe to be slightly longer recovery periods during times of historic levels of market volatility.

Securities considered to have a temporary decline would be expected to recover their cost or amortized cost, which may be at maturity. Under the same accounting treatment as fair value gains, temporary declines (changes in the fair value of these securities) are reflected in shareholders' equity on our Consolidated Balance Sheets in accumulated other comprehensive income (AOCI), net of tax, and have no impact on net income.

Fair Value Measurements

Valuation of Financial Instruments

Accounting Standards Codification (ASC) 820-10, *Fair Value Measurements and Disclosures*, defines fair value as the exit price or the amount that would be (1) received to sell an asset or (2) paid to transfer a liability in an orderly transaction between marketplace participants at the measurement date. When determining an exit price, we must, whenever possible, rely upon observable market data.

We have categorized our financial instruments, based on the priority of the inputs to the valuation technique, into a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure the financial instruments fall within different levels of the hierarchy, the categorization is based on the lowest level that is significant to the fair value measurement of the instrument. While we consider pricing data from outside services, we ultimately determine whether the data or inputs used by these outside services are observable or unobservable.

Financial assets and liabilities recorded in the Consolidated Balance Sheets are categorized based on the inputs to the valuation techniques as described in Item 8, Note 3 of the Consolidated Financial Statements.

Level 1 and Level 2 Valuation Techniques

Over 99 percent of the \$15.419 billion of securities in our investment portfolio at year-end 2016, measured at fair value, are classified as Level 1 or Level 2. Financial assets that fall within Level 1 and Level 2 are priced according to observable data from identical or similar securities that have traded in the marketplace. Also within Level 2 are securities that are valued by outside services or brokers where we have evaluated and verified the pricing methodology and determined that the inputs are observable.

Level 3 Valuation Techniques

At December 31, 2016, total Level 3 assets were less than 1 percent of our investment portfolio measured at fair value. Financial assets that fall within the Level 3 hierarchy are valued based upon unobservable market inputs, normally because they are not actively traded on a public market. Pricing for each Level 3 security is based upon inputs that are market driven, including quotes from brokers or other external sources. We placed in the Level 3 hierarchy securities for which we were unable to obtain the pricing methodology or we could not consider the price provided as binding. Pricing for securities classified as Level 3 could not be corroborated by similar securities priced using observable inputs.

Management ultimately determined the pricing for each Level 3 security that we considered to be the best exit price valuation. Broker quotes are obtained for thinly traded securities that subsequently fall within the Level 3 hierarchy. We have generally obtained and evaluated two nonbinding quotes from brokers; our investment professionals determine our best estimate of fair value.

Employee Benefit Pension Plan

We have a defined benefit pension plan that was modified during 2008; refer to Item 8, Note 13 of the Consolidated Financial Statements, for additional information. Contributions and pension costs are developed from annual actuarial valuations. These valuations involve key assumptions including discount rates, expected return on plan assets and compensation increase rates, which are updated annually. Any adjustments to these assumptions are based on considerations of current market conditions. Therefore, changes in the related pension costs or credits may occur in the future due to changes in assumptions.

Key assumptions used in developing the benefit obligation at year-end 2016 for our qualified plan were a 4.30 percent discount rate and rates of compensation increases ranging from 2.75 percent to 3.25 percent. To determine the discount rate, a theoretical settlement portfolio of high-quality, rated corporate bonds was chosen to provide payments approximately matching the plan's projected benefit payments. A single interest rate was determined, resulting in a discounted value of the plan's benefit payments that equates to the market value of the selected bonds. The discount rate is reflective of current market interest rate conditions and our plan's liability characteristics.

Key assumptions used in developing the 2016 net pension expense for our qualified plan were a 4.55 percent discount rate, a 7.25 percent expected return on plan assets and rates of compensation increases ranging from 2.75 percent to 3.25 percent.

In 2016, the net pension expense was \$9 million. In 2017, we expect the net pension expense to be approximately \$6 million.

Holding all other assumptions constant, a 0.5 percentage-point decrease in the discount rate would decrease our 2017 income before income taxes by \$1 million. A 0.5 percentage-point decrease in the expected return on plan assets would decrease our 2017 income before income taxes by \$1 million.

The fair value of the plan assets exceeded the accumulated benefit obligation by \$6 million and were less than the accumulated benefit obligation by \$15 million at year-end 2016 and 2015, respectively. The fair value of the plan assets were \$25 million and \$45 million less than the projected plan benefit obligation at year-end 2016 and at year-end 2015, respectively. Market conditions and interest rates significantly affect future assets and liabilities of the pension plan. During the first quarter of 2017, we contributed \$5 million to our qualified plan.

Deferred Policy Acquisition Costs

We establish a deferred asset for expenses associated with successfully acquiring property casualty and life insurance policies, primarily commissions, premium taxes and underwriting costs. Underlying assumptions are updated periodically to reflect actual experience, and we evaluate our deferred acquisition cost recoverability.

For property casualty insurance policies, deferred acquisition costs are amortized over the terms of the policies. These costs are principally agent commissions, premium taxes and certain underwriting costs related to successful contract acquisition, which are deferred and amortized into net income as premiums are earned. We assess recoverability of deferred acquisition costs at the segment level, consistent with the ways we acquire, service, manage and measure profitability. Deferred acquisition costs track with the change in premiums.

For life insurance policies, acquisition costs are amortized into income either over the premium-paying period of the policies or the life of the policy, depending on the policy type. These costs are principally agent commissions and underwriting costs related to successful contract acquisition. We analyze our acquisition cost assumptions periodically to reflect actual experience; we evaluate our deferred acquisition cost for recoverability; and we regularly conduct reviews for potential premium deficiencies or loss recognition. Changes in the amounts or timing of estimated future profits could result in adjustments to the accumulated amortization of these costs.

Recent Accounting Pronouncements

Information about recent accounting pronouncements is provided in Item 8, Note 1 of the Consolidated Financial Statements.

Financial Results

Consolidated financial results primarily reflect the results of our five reporting segments. These segments are defined based on financial information we use to evaluate performance and to determine the allocation of assets.

- Commercial lines insurance
- Personal lines insurance
- Excess and surplus lines insurance
- Life insurance
- Investments

We report as Other the noninvestment operations of the parent company and its noninsurer subsidiary, CFC Investment Company, and the financial results of our reinsurance assumed operations.

We measure profit or loss for our commercial lines, personal lines and excess and surplus lines and life insurance segments based upon underwriting results (profit or loss), which represent net earned premium less loss and loss expenses and underwriting expenses on a pretax basis. We also evaluate results for our consolidated property casualty insurance operations. That is the total of our standard market segments (commercial lines and personal lines), our excess and surplus lines insurance segment and our reinsurance assumed operations. For analysis of our consolidated property casualty insurance results, it is important to include our reinsurance assumed operations earned premiums, loss and loss expenses and also underwriting expenses reported as Other. Underwriting results and segment pretax operating income are not substitutes for net income determined in accordance with GAAP.

For our consolidated property casualty insurance operations as well as the insurance segments, statutory accounting data and ratios are key performance indicators that we use to assess business trends and to make comparisons to industry results, since GAAP-based industry data generally is not as readily available.

Investments held by the parent company and the investment portfolios for the insurance subsidiaries are managed and reported as the investments segment, separate from our underwriting business. Net investment income and net realized investment gains and losses for our investment portfolios are discussed in the Investments Results.

The calculations of segment data are described in more detail in Item 8, Note 18, of the Consolidated Financial Statements. The following sections provide analysis and discussion of results of operations for each of the five segments.

Consolidated Property Casualty Insurance Results

Earned and net written premiums for our consolidated property casualty operations grew in 2016, reflecting average renewal price increases, a higher level of insured exposures and strategic initiatives for targeted growth. A key measure of property casualty profitability is underwriting profit or loss. Our 2016 underwriting profit of \$242 million was \$144 million less than in 2015, driven by a \$175 million unfavorable effect from a higher amount of natural catastrophe losses, mostly caused by severe weather. The benefits of higher pricing, and our ongoing initiatives to improve pricing precision and loss experience related to claims and loss control practices, were largely responsible for the remainder of the change in 2016 underwriting profit compared with 2015. That improvement is discussed further below and includes prior accident year loss experience before catastrophes during 2016 that was slightly less favorable than in 2015.

The table below highlights property casualty results, with analysis and discussion in the sections that follow. That analysis and discussion includes sections by segment.

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Earned premiums	\$ 4,482	\$ 4,271	\$ 4,045	5	6
Fee revenues	10	8	6	25	33
Total revenues	4,492	4,279	4,051	5	6
Loss and loss expenses from:					
Current accident year before catastrophe losses	2,684	2,579	2,495	4	3
Current accident year catastrophe losses	345	177	230	95	(23)
Prior accident years before catastrophe losses	(159)	(168)	(72)	5	(133)
Prior accident years catastrophe losses	(9)	(16)	(26)	44	38
Loss and loss expenses	2,861	2,572	2,627	11	(2)
Underwriting expenses	1,389	1,321	1,238	5	7
Underwriting profit	\$ 242	\$ 386	\$ 186	(37)	108
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year before catastrophe losses	59.8 %	60.4 %	61.7 %	(0.6)	(1.3)
Current accident year catastrophe losses	7.7	4.1	5.7	3.6	(1.6)
Prior accident years before catastrophe losses	(3.5)	(3.9)	(1.8)	0.4	(2.1)
Prior accident years catastrophe losses	(0.2)	(0.4)	(0.6)	0.2	0.2
Loss and loss expenses	63.8	60.2	65.0	3.6	(4.8)
Underwriting expenses	31.0	30.9	30.6	0.1	0.3
Combined ratio	94.8 %	91.1 %	95.6 %	3.7	(4.5)
Combined ratio:	94.8 %	91.1 %	95.6 %	3.7	(4.5)
Contribution from catastrophe losses and prior years reserve development	4.0	(0.2)	3.3	4.2	(3.5)
Combined ratio before catastrophe losses and prior years reserve development	90.8 %	91.3 %	92.3 %	(0.5)	(1.0)

Performance highlights for consolidated property casualty operations include:

- Premiums – Agency renewal written premiums rose \$147 million in 2016 and were the primary contributor of growth in earned premiums and net written premiums that rose in each of our property casualty segments. The renewal premium increase was largely due to average renewal price increases and a higher level of insured exposures. Price increases with enhanced precision continue to benefit operating results.

New business written premiums produced through agencies increased \$19 million in 2016, compared with 2015. Agents appointed during 2016 or 2015 produced a 2016 increase in standard lines new business of \$38 million. Growth initiatives also favorably affect growth in subsequent years, particularly as newer agency relationships mature over time.

Net written premiums increased \$38 million in 2016 from expansion of reinsurance assumed operations, known as Cincinnati ReSM. Cincinnati Re assumes risks through reinsurance treaties and in some cases cedes part of the risk and related premiums to one or more unaffiliated reinsurance companies through transactions known as retrocessions. In 2016, earned premiums for Cincinnati Re totaled \$49 million.

Other written premiums consist primarily of premiums ceded to reinsurers as part of our ceded reinsurance program and in total contributed \$15 million more in 2016 to net written premiums than in 2015. A decrease in ceded premiums, other than Cincinnati Re premiums, contributed \$1 million to net written premium growth in 2016, compared with 2015. Other written premiums also included a more favorable adjustment for 2016, compared with 2015, for estimated direct written premiums of policies in effect but not yet processed in our commercial lines insurance segment. This written premium adjustment has an immaterial effect on earned premiums.

The table below analyzes premium revenue components and trends.

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Agency renewal written premiums	\$ 4,072	\$ 3,925	\$ 3,794	4	3
Agency new business written premiums	551	532	503	4	6
Cincinnati Re net written premiums	71	33	—	115	nm
Other written premiums	(114)	(129)	(154)	12	16
Net written premiums	4,580	4,361	4,143	5	5
Unearned premium change	(98)	(90)	(98)	(9)	8
Earned premiums	\$ 4,482	\$ 4,271	\$ 4,045	5	6

- Combined ratio – The 2016 combined ratio increased 3.7 percentage points compared with 2015, reflecting a 3.8 percentage-point increase in the ratio for natural catastrophe losses. The 2016 ratio for current accident year losses and loss expenses before catastrophes decreased by 0.6 percentage points, and reflects our belief that our loss experience is improving due to recent-year initiatives to improve pricing precision and claims and loss control practices. The remainder of the 2016 combined ratio increase included 0.4 percentage-points less benefit in the ratio for prior accident year losses and loss expenses before catastrophes. We further discuss ratios related to reserve development in the sections that follow the Catastrophe Losses Incurred table below.

Our statutory combined ratio was 94.5 percent in 2016 compared with 90.6 percent in 2015 and 95.1 percent in 2014. The estimated statutory combined ratio for the property casualty industry, with the industry's ratio excluding its mortgage and financial guaranty lines of business, was 100.7 percent in 2016, 98.3 percent in 2015 and 97.4 percent in 2014. The contribution of catastrophe losses to our statutory combined ratio was 7.5 percentage points in 2016, 3.7 percentage points in 2015 and 5.1 percentage points in 2014, compared with industry estimates of 4.9, 3.5 and 4.0 percentage points, respectively. Components of the combined ratio are discussed below.

Catastrophe loss trends are an important factor in assessing trends for overall underwriting results. Our 10-year historical annual average contribution of catastrophe losses to the combined ratio was 6.2 percentage points at December 31, 2016. Our five-year average was 6.1 percentage points.

The following table shows catastrophe losses incurred for the past three calendar years, net of reinsurance, as well as the effect of loss development on prior period catastrophe reserves. We individually list declared catastrophe events for which our incurred losses reached or exceeded \$10 million.

Catastrophe Losses Incurred

(Dollars in millions, net of reinsurance)

Dates	Events	Regions	Commercial lines	Personal lines	Excess and surplus lines	Cincinnati Re	Total
2016							
Apr. 2-3	Hail, wind	Midwest, Northeast, South	\$ 5	\$ 7	\$ —	\$ —	\$ 12
Apr. 10-15	Flood, hail, wind	South	48	—	1	—	49
Apr. 25-28	Flood, hail, wind	Midwest, South	8	4	—	—	12
Apr. 29-May 3	Flood, hail, wind	Midwest, South	17	8	—	—	25
May 7-10	Flood, hail, wind	Midwest, South, West	17	11	—	—	28
May 11-12	Flood, hail, wind	Midwest, South	9	2	—	—	11
May 21-28	Flood, hail, wind	Midwest, South, West	12	3	—	—	15
Jul. 28-29	Flood, hail, wind	West	10	—	—	—	10
Sep. 19-23	Flood, hail, wind	Midwest	7	5	—	—	12
Oct. 6-9	Flood, wind	South	22	23	—	3	48
Nov. 28-30	Fire	South	25	20	1	—	46
Nov. 28-Dec. 1	Flood, hail, wind	South	7	3	—	—	10
All other 2016 catastrophes			39	27	1	—	67
Development on 2015 and prior catastrophes			(5)	(4)	—	—	(9)
Calendar year incurred total			<u>\$ 221</u>	<u>\$ 109</u>	<u>\$ 3</u>	<u>\$ 3</u>	<u>\$ 336</u>
2015							
Feb. 16-27	Freezing, ice, snow, wind	Midwest, Northeast, South	\$ 35	\$ 9	\$ —	\$ —	\$ 44
Apr. 7-10	Flood, hail, wind	Midwest, South	7	14	—	—	21
Apr. 18-20	Flood, hail, wind	Midwest, South	4	6	—	—	10
Jul. 12-14	Flood, hail, wind	Midwest, South	5	7	—	—	12
All other 2015 catastrophes			54	35	1	—	90
Development on 2014 and prior catastrophes			(12)	(3)	(1)	—	(16)
Calendar year incurred total			<u>\$ 93</u>	<u>\$ 68</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 161</u>
2014							
Jan. 5-8	Freezing, ice, snow, wind	Midwest, Northeast, South	\$ 45	\$ 24	\$ 1	\$ —	\$ 70
Apr. 27-May 1	Flood, hail, wind	Midwest, Northeast, South	4	9	—	—	13
May 10-13	Flood, hail, wind	Midwest	6	7	—	—	13
May 18-19	Flood, hail, wind	Midwest, South, West	23	19	1	—	43
Jun. 3-4	Flood, hail, wind	Midwest	9	1	—	—	10
All other 2014 catastrophes			48	32	1	—	81
Development on 2013 and prior catastrophes			(15)	(11)	—	—	(26)
Calendar year incurred total			<u>\$ 120</u>	<u>\$ 81</u>	<u>\$ 3</u>	<u>\$ —</u>	<u>\$ 204</u>

Consolidated Property Casualty Insurance Loss and Loss Expenses

Loss and loss expenses include both net paid losses and reserve changes for unpaid losses as well as the associated loss expenses. For all property casualty lines of business in aggregate, net loss and loss expense reserves at December 31, 2016, were \$358 million higher than at year-end 2015, including \$218 million for incurred but not reported (IBNR) reserves. The \$358 million reserve increase raised year-end 2016 net loss and loss expense reserves by 8 percent, compared with a 5 percent increase in 2016 earned premiums.

For our commercial casualty line of business in 2016, we experienced a rising trend in paid losses and loss expenses that was more than we expected. As a result, we increased our actuarial best estimates of ultimate loss and loss expense ratios at the end of 2016, compared with year-end 2015. Net loss and loss expense reserves at December 31, 2016, for our commercial casualty line of business was \$132 million higher than at year-end 2015. The IBNR portion of the reserve increase was \$103 million.

Most of the incurred losses and loss expenses shown in the consolidated property casualty insurance results three-year highlights table are for the respective current accident years, with reserve development on prior accident years shown separately. Since less than half of our consolidated property casualty current accident year incurred losses and loss expenses represents net paid amounts, the majority represents reserves for our estimate of ultimate losses and loss expenses. These reserves develop over time, and we re-estimate previously reported reserves as we learn more about the development of the related claims. The table below illustrates that development. For example, the 64.5 percent accident year 2015 loss and loss expense ratio reported as of December 31, 2015, developed favorably by 2.1 percentage points to 62.4 percent due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2016. Accident years 2015 and 2014 have both developed favorably, as indicated by the progression over time for the ratios in the table.

(Dollars in millions)

Accident year loss and loss expenses incurred and ratios to earned premiums:

Accident year:	2016	2015	2014	2016	2015	2014
as of December 31, 2016	\$ 3,029	\$ 2,664	\$ 2,625	67.5%	62.4%	64.9%
as of December 31, 2015		2,756	2,665		64.5	65.9
as of December 31, 2014			2,725			67.4

Catastrophe loss trends, discussed above, accounted for some of the movement in current accident year loss and loss expense ratio for 2016, compared with 2015. Catastrophe losses added 7.7 percentage points in 2016, 4.1 points in 2015 and 5.7 points in 2014 to the respective consolidated property casualty current accident year loss and loss expense ratios in the table above.

The 59.8 percent ratio for current accident year loss and loss expenses before catastrophe losses for 2016 decreased 0.6 percentage points compared with the 60.4 percent accident year 2015 ratio measured as of December 31, 2015. Contributors to the decrease included favorable effects from initiatives, such as ones to improve pricing precision and loss experience related to claims and loss control practices, and were partially offset by more current accident year losses of \$1 million or more per claim, shown in the table below.

Reserve development on prior accident years continued to net to a favorable amount in 2016, and was primarily due to lower-than-anticipated loss emergence on known claims. We recognized \$168 million of favorable development in 2016, compared with \$184 million in 2015 and \$98 million in 2014. Of the \$16 million decrease in 2016, compared with 2015, \$43 million was attributable to our commercial casualty line of business. Approximately 70 percent of our net favorable reserve development on prior accident years recognized during 2016 occurred in our commercial casualty, commercial property and workers' compensation lines of business. In 2015, our commercial casualty and workers' compensation lines of business were responsible for approximately 85 percent of the favorable reserve development. As discussed in Liquidity and Capital Resources, Property Casualty Loss and Loss Expense Obligations and Reserves, Property Casualty Insurance Development of Estimated Reserves by Accident Year, commercial casualty and workers' compensation are considered long-tail lines with the potential for revisions inherent in estimating reserves. Favorable development recognized during 2014 was primarily from our commercial property and workers' compensation lines of business. Development by accident year is further discussed in Property Casualty Insurance Development of Estimated Reserves by Accident Year.

Consolidated Property Casualty Insurance Losses by Size

(Dollars in millions, net of reinsurance)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ 26	\$ 29	\$ 30	(10)	(3)
Current accident year losses \$1,000,000-\$5,000,000	185	161	172	15	(6)
Large loss prior accident year reserve development	(6)	27	7	nm	286
Total large losses incurred	205	217	209	(6)	4
Losses incurred but not reported	164	70	133	134	(47)
Other losses excluding catastrophe losses	1,699	1,682	1,660	1	1
Catastrophe losses	327	156	197	110	(21)
Total losses incurred	\$ 2,395	\$ 2,125	\$ 2,199	13	(3)
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.6 %	0.7%	0.7%	(0.1)	0.0
Current accident year losses \$1,000,000-\$5,000,000	4.1	3.8	4.3	0.3	(0.5)
Large loss prior accident year reserve development	(0.1)	0.6	0.2	(0.7)	0.4
Total large loss ratio	4.6	5.1	5.2	(0.5)	(0.1)
Losses incurred but not reported	3.7	1.6	3.3	2.1	(1.7)
Other losses excluding catastrophe losses	37.8	39.5	41.0	(1.7)	(1.5)
Catastrophe losses	7.3	3.6	4.9	3.7	(1.3)
Total loss ratio	53.4 %	49.8%	54.4%	3.6	(4.6)

In 2016, total large losses incurred decreased by \$12 million, or 6 percent, net of reinsurance. The corresponding ratio decreased 0.5 percentage points. Our analysis of large losses incurred indicated no unexpected concentration of these losses and reserve increases by geographic region, policy inception, agency or field marketing territory. We believe the inherent volatility of aggregate loss experience for our portfolio of larger policies is greater than that of our portfolio of smaller policies, and we continue to monitor the volatility in addition to general inflationary trends in loss costs.

Consolidated Property Casualty Insurance Underwriting Expenses

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Commission expenses	\$ 819	\$ 792	\$ 744	3	6
Other underwriting expenses	555	514	478	8	8
Policyholder dividends	15	15	16	0	(6)
Total underwriting expenses	\$ 1,389	\$ 1,321	\$ 1,238	5	7
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Commission expenses	18.3%	18.5%	18.4%	(0.2)	0.1
Other underwriting expenses	12.4	12.1	11.8	0.3	0.3
Policyholder dividends	0.3	0.3	0.4	0.0	(0.1)
Total underwriting expense ratio	31.0%	30.9%	30.6%	0.1	0.3

Consolidated property casualty commission expenses rose \$27 million, or 3 percent, in 2016, with profit-sharing commissions for agencies decreasing by less than \$1 million. Commission expenses as a percent of earned premiums resulted in a ratio that decreased by 0.2 percentage-points compared with 2015, as earned premiums rose 5 percent. The 2016 ratio for other underwriting expenses was 0.3 percentage-points higher than 2015, reflecting an 8 percent increase in those expenses that outpaced growth in earned premiums. During 2016, we continued to carefully manage expenses while also making strategic investments that include enhancement of underwriting expertise, such as personal lines staff additions to support high net worth market expansion.

Commission expenses include our profit-sharing commissions, which are primarily based on one-year and three-year profitability of an agency's business. The aggregate profit trend for agencies that earn these profit-based commissions can differ from the aggregate profit trend for all agencies reflected in our consolidated property casualty results.

Salaries, benefits and payroll taxes for our associates account for approximately half of our property casualty other underwriting expenses. Most of our associates either provide direct service to the property casualty portion of our agencies' businesses or provide support to those associates.

Discussions below of our property casualty insurance segments provide additional details about our results.

Commercial Lines Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Earned premiums	\$ 3,089	\$ 2,996	\$ 2,856	3	5
Fee revenues	5	4	4	25	0
Total revenues	3,094	3,000	2,860	3	5
Loss and loss expenses from:					
Current accident year before catastrophe losses	1,831	1,757	1,734	4	1
Current accident year catastrophe losses	226	105	135	115	(22)
Prior accident years before catastrophe losses	(124)	(142)	(42)	13	(238)
Prior accident years catastrophe losses	(5)	(12)	(15)	58	20
Loss and loss expenses	1,928	1,708	1,812	13	(6)
Underwriting expenses	982	947	902	4	5
Underwriting profit	\$ 184	\$ 345	\$ 146	(47)	136
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year before catastrophe losses	59.3 %	58.6 %	60.7 %	0.7	(2.1)
Current accident year catastrophe losses	7.3	3.5	4.8	3.8	(1.3)
Prior accident years before catastrophe losses	(4.0)	(4.7)	(1.5)	0.7	(3.2)
Prior accident years catastrophe losses	(0.2)	(0.4)	(0.5)	0.2	0.1
Loss and loss expenses	62.4	57.0	63.5	5.4	(6.5)
Underwriting expenses	31.8	31.6	31.6	0.2	0.0
Combined ratio	94.2 %	88.6 %	95.1 %	5.6	(6.5)
Combined ratio:	94.2 %	88.6 %	95.1 %	5.6	(6.5)
Contribution from catastrophe losses and prior years reserve development	3.1	(1.6)	2.8	4.7	(4.4)
Combined ratio before catastrophe losses and prior years reserve development	91.1 %	90.2 %	92.3 %	0.9	(2.1)

Performance highlights for the commercial lines insurance segment include:

- Premiums – Earned premiums and net written premiums rose in 2016, primarily due to a \$76 million increase in renewal written premiums that continued to include a price increase for an average policy. New business written premiums in 2016 increased \$7 million, or 2 percent, compared with 2015. The increase was driven by production from agencies appointed since the beginning of 2015, offsetting effects of a softening commercial insurance market.
- Combined ratio – The 2016 combined ratio increased 5.6 percentage points compared with 2015, including a 4.0 percentage-point increase in the ratio for natural catastrophe losses. The 2016 ratio for current accident year losses and loss expenses before catastrophes increased by 0.7 percentage points, including 1.4 points from more current accident year losses of \$1 million or more per claim, shown in the table below. Development on prior accident years' loss and loss expense reserves before catastrophes during 2016 was 0.7 percentage points less favorable than in 2015, including 1.9 points from re-estimates of IBNR reserves for losses and loss expenses.

Our largest commercial line of business, commercial casualty, drove the IBNR component of the increase in the commercial lines segment ratio for loss and loss expenses from prior accident years before catastrophe losses. That higher estimate for IBNR reserves reflected paid loss trends emerging at levels higher than we previously expected. Despite the reserve increase, our commercial casualty 2016 loss and loss expense ratio remained below 58 percent, indicating a healthy underwriting profit once underwriting expenses are considered.

As discussed in Critical Accounting Estimates, Property Casualty Insurance Loss and Loss Expense Reserves, stable historical paid loss patterns are a key assumption used to make projections necessary for estimating IBNR

reserves. During 2016, we observed paid losses or re-estimates of case reserves emerging at levels higher than expected for commercial casualty, including a large umbrella liability claim for accident year 2007 and a large general liability claim for accident year 2012. Considering that new data at December 31, 2016, we estimated commercial casualty IBNR reserves for several older accident years at levels more likely to be adequate, compared with estimates at the end of 2015.

Commercial auto, representing 19 percent of 2016 earned premiums for our commercial lines insurance segment, was the only major line of business in that segment with a 2016 total loss and loss expense ratio significantly higher than we desired. During 2016, our commercial auto policies experienced average renewal price percentage increases in the mid-single-digit range, which we believe will help improve future profitability. We also continued to improve premium rate classification and use of other rating variables in risk selection and pricing.

Pricing precision and other initiatives to improve commercial lines underwriting profitability complement our business practices that continue to leverage the local presence of our field staff. Field marketing representatives meet with local agencies to assess each risk, determine limits of insurance and establish appropriate terms and conditions. They continue to underwrite new business while field loss control, machinery and equipment and claims representatives continue to conduct on-site inspections. Field claims representatives also assist underwriters by preparing full reports on their first-hand observations of risk quality.

Our commercial lines statutory combined ratio was 93.9 percent in 2016, compared with 88.3 percent in 2015 and 94.3 percent in 2014. The estimated commercial lines combined ratio for the industry was 98.2 percent in 2016, 97.5 percent in 2015 and 97.1 percent in 2014. The industry's ratio excludes its mortgage and financial guaranty lines of business. The contribution of catastrophe losses to our commercial lines statutory combined ratio was 7.1 percentage points in 2016, 3.1 percentage points in 2015 and 4.3 percentage points in 2014, compared with industry estimates of 3.2, 2.1 and 2.4 percentage points, respectively.

Commercial Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Agency renewal written premiums	\$ 2,832	\$ 2,756	\$ 2,678	3	3
Agency new business written premiums	372	365	360	2	1
Other written premiums	(82)	(96)	(116)	15	17
Net written premiums	3,122	3,025	2,922	3	4
Unearned premium change	(33)	(29)	(66)	(14)	56
Earned premiums	\$ 3,089	\$ 2,996	\$ 2,856	3	5

We continue to refine our use of predictive analytics tools to improve pricing precision as we further segment commercial lines policies, emphasizing identification and retention of policies we believe have relatively stronger price adequacy. These tools better align individual insurance policy pricing to risk attributes, providing our underwriters with enhanced abilities to target profitability and to discuss pricing impacts with agency personnel. We also continue to leverage our local relationships with agents through the efforts of our teams that work closely with them. We believe our field focus is unique and has several advantages, including providing us with quality intelligence on local market conditions. We seek to maintain appropriate pricing discipline for both new and renewal business as management continues to emphasize the importance of our agencies and underwriters assessing account quality to make careful decisions on a case-by-case basis whether to write or renew a policy. Premium rate credits may be used to retain renewals of quality business and to earn new business, but we do so selectively in order to avoid commercial accounts that we believe have insufficient profit margins.

Our 3 percent increase in 2016 agency renewal written premiums included higher average pricing. We measure average changes in commercial lines renewal pricing as the rate of change in renewal premium for the new policy period compared with the premium for the expiring policy period, assuming no change in the level of insured exposures or policy coverage between those periods for respective policies. In 2016, our standard commercial lines policies averaged an estimated pricing change at a percentage in the low-single-digit range, slightly lower than in 2015 that was near the middle of that range, compared with near the high end of that range in 2014. Our average commercial lines pricing change includes the flat pricing effect of certain coverages within package policies written for a three-year term that were in force but did not expire during the period being measured. Therefore, the average

commercial lines pricing change we report reflects a blend of policies that did not expire and other policies that did expire during the measurement period.

For only those commercial lines policies that did expire and were then renewed during 2016, we estimate that the average price increase was near the high end of the low-single-digit range, compared with near the low end of the mid-single-digit range in 2015. During 2016, we continued to further segment our commercial lines policies, emphasizing identification and retention of policies we believed had relatively stronger price adequacy. Conversely, we continued to seek more aggressive renewal terms and conditions on policies we believed had relatively weaker pricing, in turn retaining fewer of those policies. As a result, the average change in commercial lines renewal pricing tended to be lower than in 2015.

Changes in the economy can affect insured exposures that directly relate to premium amounts charged for some policies. For commercial accounts, we usually calculate initial estimates for general liability premiums based on estimated sales or payroll volume, while we calculate workers' compensation premiums based on estimated payroll volume. A change in sales or payroll volume generally indicates a change in demand for a business's goods or services, as well as a change in its exposure to risk. Policyholders who experience sales or payroll volume changes due to economic factors may also have other exposures requiring insurance, such as commercial auto or commercial property. Premium levels for these other types of coverages generally are not linked directly to sales or payroll volumes.

Premiums resulting from audits of actual sales or payrolls that confirmed or adjusted initial premium estimates have had a mixed effect on premium trends in recent years. On an earned premium basis for our commercial lines insurance segment, audits contributed negative \$5 million to the \$93 million earned premiums increase in 2016, \$23 million to the \$140 million earned premiums increase in 2015 and \$5 million to the \$220 million earned premiums increase in 2014. On a net written premium basis, audits contributed negative \$1 million to the \$97 million net written premiums increase in 2016, \$20 million to the \$103 million net written premiums increase in 2015 and \$9 million to the \$162 million net written premiums increase in 2014. These net written premium amounts are included with agency renewal written premiums in the Commercial Lines Insurance Premiums table above.

In 2016, our commercial lines new business premiums written by our agencies increased \$7 million, or 2 percent, compared with 2015. New business premium volume in recent years has been significantly influenced by new agency appointments. Agencies appointed since the beginning of 2015 produced commercial lines new business written premiums of \$27 million, in aggregate, during 2016, up \$17 million from what they produced during 2015. All other agencies contributed the remaining \$345 million, down \$10 million from the \$355 million they produced in 2015.

For new business, our field associates are frequently in our agents' offices to: help judge the quality of each account; emphasize the Cincinnati value proposition; call on sales prospects with those agents; carefully evaluate risk exposure; and provide their best quotes. Some of our new business comes from accounts that are not new to the agent. We believe these seasoned accounts tend to be priced more accurately than business that is new to us and the agency. As we appoint new agencies who choose to move accounts to us, we report these accounts as new business to us.

Other written premiums primarily consist of premiums that are ceded to reinsurers and that lower our net written premiums. An increase in ceded premiums contributed negative \$1 million to net written premium growth for 2016, compared with 2015. Other written premiums also included a more favorable adjustment for 2016, compared with 2015, for estimated direct written premiums of policies in effect but not yet processed in our commercial lines insurance segment. This written premium adjustment has an immaterial effect on earned premiums.

Commercial Lines Insurance Loss and Loss Expenses

Loss and loss expenses include both net paid losses and reserve changes for unpaid losses as well as the associated loss expenses. For our commercial casualty and commercial auto lines of business in 2016, we experienced a rising trend in paid losses and loss expenses that was more than we expected for certain accident years. As a result, we increased our actuarial best estimate of ultimate loss and loss expense ratios for several accident years within those lines at the end of 2016, compared with year-end 2015. Net loss and loss expense reserves for commercial casualty at December 31, 2016, were \$132 million, or 7 percent, higher than at year-end 2015. The IBNR portion of the reserve increase was \$103 million. Net loss and loss expense reserves for

commercial auto at December 31, 2016, were \$77 million, or 16 percent, higher than at year-end 2015. The IBNR portion of the reserve increase was \$34 million.

Most of the incurred losses and loss expenses shown in the commercial lines insurance segment three-year highlights table are for the respective current accident years, with reserve development on prior accident years shown separately. Since less than half of our commercial lines insurance segment current accident year incurred losses and loss expenses represents net paid amounts, the majority represents reserves for our estimate of ultimate losses and loss expenses. These reserves develop over time, and we re-estimate previously reported reserves as we learn more about the development of the related claims. The table below illustrates that development. For example, the 62.1 percent accident year 2015 loss and loss expense ratio reported as of December 31, 2015, developed favorably by 2.1 percentage points to 60.0 percent due to claims settling for less than previously estimated, or due to updates to reserve estimates for unpaid claims, as of December 31, 2015. Accident years 2015 and 2014 for the commercial lines insurance segment have both developed favorably, as indicated by the progression over time of the ratios in the table.

(Dollars in millions)

Accident year loss and loss expenses incurred and ratios to earned premiums:

Accident year:	2016	2015	2014	2016	2015	2014
as of December 31, 2016	\$ 2,057	\$ 1,797	\$ 1,803	66.6%	60.0%	63.1%
as of December 31, 2015		1,862	1,843		62.1	64.5
as of December 31, 2014			1,869			65.5

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain some of the movement in current accident year loss and loss expense ratio for accident year 2016, compared with 2015. Catastrophe losses added 7.3 percentage points in 2016, 3.5 points in 2015 and 4.8 points in 2014 to the respective commercial lines current accident year loss and loss expense ratios in the table above.

The 59.3 percent ratio for current accident year loss and loss expenses before catastrophe losses for 2016 increased 0.7 percentage points compared with the 58.6 percent accident year 2015 ratio measured as of December 31, 2015. Higher commercial casualty IBNR reserves in 2016, noted above, contributed to the increase. Large losses, described below, and the corresponding ratios for new losses above \$1 million, contributed a 1.4 percentage-point increase to the 2016 ratio. Those unfavorable contributions offset the favorable effects from initiatives, such as those to improve pricing precision and loss experience related to claims and loss control practices.

Commercial lines reserve development on prior accident years of \$129 million in 2016 continued to net to a favorable amount, but provided a smaller benefit than the \$154 million recognized in 2015. The \$25 million net decrease in 2016 included \$43 million from our commercial casualty line of business. Most of our commercial lines reserve net favorable development on prior accident years recognized during 2016 occurred in our commercial casualty, commercial property and workers' compensation lines of business, with workers' compensation representing 53 percent. Favorable development recognized during 2015 was mostly from our commercial casualty and workers' compensation lines of business. Favorable development recognized during 2014 was mostly from our workers' compensation line of business. Development by accident year and other trends for commercial lines loss and loss expenses and the related ratios are further discussed in Liquidity and Capital Resources, Property Casualty Insurance Development of Estimated Reserves by Accident Year.

Commercial Lines Insurance Losses by Size

(Dollars in millions, net of reinsurance)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ 26	\$ 29	\$ 30	(10)	(3)
Current accident year losses \$1,000,000-\$5,000,000	162	112	149	45	(25)
Large loss prior accident year reserve development	2	25	7	(92)	257
Total large losses incurred	190	166	186	14	(11)
Losses incurred but not reported	125	51	90	145	(43)
Other losses excluding catastrophe losses	1,055	1,076	1,096	(2)	(2)
Catastrophe losses	214	88	114	143	(23)
Total losses incurred	\$ 1,584	\$ 1,381	\$ 1,486	15	(7)
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.8%	1.0%	1.0%	(0.2)	0.0
Current accident year losses \$1,000,000-\$5,000,000	5.3	3.7	5.2	1.6	(1.5)
Large loss prior accident year reserve development	0.1	0.8	0.3	(0.7)	0.5
Total large loss ratio	6.2	5.5	6.5	0.7	(1.0)
Losses incurred but not reported	4.0	1.7	3.1	2.3	(1.4)
Other losses excluding catastrophe losses	34.2	35.9	38.4	(1.7)	(2.5)
Catastrophe losses	6.9	3.0	4.0	3.9	(1.0)
Total loss ratio	51.3%	46.1%	52.0%	5.2	(5.9)

In 2016, total large losses incurred increased by \$24 million, or 14 percent, net of reinsurance. The corresponding ratio increased 0.7 percentage points. The 2016 increases on both a dollar and ratio basis were primarily due to higher amounts for our commercial casualty and commercial property lines of business. In 2015, total large losses incurred and the corresponding ratio was lower than it was in 2014, largely due to a lower amount of large losses for our commercial casualty and commercial property lines of business. Our analysis indicated no unexpected concentration of these losses and reserve increases by geographic region, policy inception, agency or field marketing territory. We believe the inherent volatility of aggregate loss experience for our portfolio of larger policies is greater than that of our portfolio of smaller policies, and we continue to monitor the volatility in addition to general inflationary trends in loss costs.

Commercial Lines Insurance Underwriting Expenses

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Commission expenses	\$ 565	\$ 550	\$ 526	3	5
Other underwriting expenses	402	382	360	5	6
Policyholder dividends	15	15	16	0	(6)
Total underwriting expenses	\$ 982	\$ 947	\$ 902	4	5
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Commission expenses	18.3%	18.4%	18.4%	(0.1)	0.0
Other underwriting expenses	13.0	12.7	12.7	0.3	0.0
Policyholder dividends	0.5	0.5	0.5	0.0	0.0
Total underwriting expense ratio	31.8%	31.6%	31.6%	0.2	0.0

Commercial lines commission expenses as a percent of earned premiums decreased slightly in 2016, compared with 2015, reflecting a decrease in the ratio for agency profit-sharing commissions. The ratio for 2015 matched 2014. In 2016, other underwriting expenses as a percent of earned premiums also increased compared with 2015, as strategic investments that include enhancement of underwriting expertise offset the favorable effects of higher earned premiums and ongoing expense management efforts. In 2015, the ratio matched 2014.

Commercial Lines Insurance Outlook

Net written premiums for the commercial lines industry in 2017 are projected to essentially match 2016, with the industry statutory combined ratio estimated at approximately 101 percent, excluding its mortgage and financial guaranty lines of business. Over the past several years, renewal and new business pricing has experienced significant competitive pressure, reinforcing the need for more pricing analytics and careful risk selection. While competition remains intense, industrywide commercial lines market pricing turned positive toward the end of 2011 and continued to firm for a period of time, according to several industry surveys. Average renewal pricing for our commercial lines insurance segment generally followed a similar trend. According to a variety of reports that focus on the commercial lines market, commercial lines pricing is expected to continue to soften during 2017. Despite challenging market conditions from strong competition, we believe we can manage our business and execute strategic initiatives to offset market pressures to some extent and profitably grow our commercial lines insurance segment.

We intend to keep marketing our products to a broad range of business classes with a package approach, while also continuing to improve our pricing precision and further segmenting among commercial lines policies. We intend to maintain our underwriting selectivity and carefully manage our rate levels as well as our programs that seek to accurately match exposures with appropriate premiums. We will continue to evaluate each risk individually and to make decisions about rates, the use of three-year commercial policies and other policy conditions on a case-by-case basis, even in lines and classes of business that are under competitive pressure. For our commercial auto line of business, we will continue to improve premium rate classification and use of other rating variables in risk selection and pricing. We believe that our initiatives to improve pricing precision and lower loss costs will continue to benefit commercial lines profitability during 2017, and that recent-year premium growth initiatives will continue to grow commercial lines premiums at a rate exceeding the industry.

Personal Lines Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Earned premiums	\$ 1,161	\$ 1,097	\$ 1,041	6	5
Fee revenues	4	3	2	33	50
Total revenues	1,165	1,100	1,043	6	5
Loss and loss expenses from:					
Current accident year before catastrophe losses	731	713	660	3	8
Current accident year catastrophe losses	113	71	92	59	(23)
Prior accident years before catastrophe losses	—	8	(1)	(100)	nm
Prior accident years catastrophe losses	(4)	(3)	(11)	(33)	73
Loss and loss expenses	840	789	740	6	7
Underwriting expenses	337	323	293	4	10
Underwriting (loss) profit	\$ (12)	\$ (12)	\$ 10	0	nm
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year before catastrophe losses	63.0 %	64.9 %	63.4 %	(1.9)	1.5
Current accident year catastrophe losses	9.7	6.5	8.8	3.2	(2.3)
Prior accident years before catastrophe losses	0.0	0.8	(0.1)	(0.8)	0.9
Prior accident years catastrophe losses	(0.3)	(0.3)	(1.0)	0.0	0.7
Loss and loss expenses	72.4	71.9	71.1	0.5	0.8
Underwriting expenses	29.0	29.4	28.1	(0.4)	1.3
Combined ratio	101.4 %	101.3 %	99.2 %	0.1	2.1
Combined ratio:					
	101.4 %	101.3 %	99.2 %	0.1	2.1
Contribution from catastrophe losses and prior years reserve development	9.4	7.0	7.7	2.4	(0.7)
Combined ratio before catastrophe losses and prior years reserve development	92.0 %	94.3 %	91.5 %	(2.3)	2.8

Performance highlights for the personal lines insurance segment include:

- **Premiums** – Earned premiums and net written premiums continued to grow in 2016, primarily due to higher renewal written premiums that included price increases. Renewal written premiums rose \$58 million, or 6 percent, in 2016, compared with 2015.
- **Combined ratio** – The 2016 combined ratio rose 0.1 percentage points, compared with 2015, driven by a 3.2 percentage-point increase in the ratio for 2016 natural catastrophe losses. The total large loss ratio for losses of \$1 million or more per claim, shown in the table below, decreased by 3.0 percentage points, largely due to lower losses for homeowner claims and personal umbrella claims related to auto accidents.

Personal auto, representing 47 percent of 2016 earned premiums for our personal lines insurance segment, was the only major line of business in that segment with a 2016 total loss and loss expense ratio significantly higher than we desired. During 2016, our personal auto policies experienced premium rate increases averaging near the high end of the mid-single-digit range. We believe rate increase and other actions to improve pricing precision and reduce loss costs will improve future profitability. A similar approach was used to improve the total loss and loss expense ratio for our homeowner line of business to a satisfactory result in recent years.

We have increased our pricing precision and implemented numerous rate increases in recent years to improve our personal lines insurance segment results. In addition, we have made greater use of higher minimum loss deductibles and nonrenewed policies in select areas more prone to natural catastrophes. We have worked to improve our geographic diversification by expanding our personal lines operation to several states less prone to catastrophes.

Our personal lines statutory combined ratio was 100.8 percent in 2016, up from 100.0 percent in 2015 and 99.1 percent in 2014. By comparison, the estimated industry personal lines combined ratio was 102.6 percent in 2016, 99.6 percent in 2015 and 98.8 percent in 2014. Our concentration of business in areas affected by catastrophe events contributed to recent-year results that differed from the overall industry, an issue we are addressing in part through gradual geographic expansion. The contribution of catastrophe losses to our personal lines statutory combined ratio was 9.4 percentage points in 2016, 6.2 percentage points in 2015 and 7.8 percentage points in 2014, compared with industry estimates of 6.0, 4.8 and 5.5 percentage points, respectively.

Personal Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Agency renewal written premiums	\$ 1,099	\$ 1,041	\$ 1,005	6	4
Agency new business written premiums	122	111	92	10	21
Other written premiums	(23)	(24)	(29)	4	17
Net written premiums	1,198	1,128	1,068	6	6
Unearned premium change	(37)	(31)	(27)	(19)	(15)
Earned premiums	\$ 1,161	\$ 1,097	\$ 1,041	6	5

Personal lines insurance is a strategic component of our overall relationship with most of our agencies and is an important component of our agencies' relationships with their clients. We believe agents recommend our personal insurance products to their clients who seek to balance quality and price and who are attracted by our superior claims service and the benefits of our package approach. We also believe our continuing efforts to improve pricing precision are helping us attract and retain more of our agencies' preferred business, while also obtaining higher rates for more thinly priced business. Our progress toward broader geographic diversification is reflected in part through premium growth trends. Personal lines earned premiums in our five highest volume states increased in aggregate by 4 percent in 2016, while premiums for the remaining states that include our newer areas of operation increased 8 percent in aggregate.

The 6 percent increase in agency renewal written premiums in 2016 largely reflected various rate changes. We estimate that premium rates for our personal auto line of business increased at average percentages near the high end of the mid-single-digit range during 2016, with some individual policies experiencing lower or higher rate changes based on enhanced pricing precision enabled by predictive models. For our homeowner line of business, we estimate that rate increases during 2016 averaged in the mid-single-digit range. Similar to our personal auto line of business, that average varied widely by state, and some individual policies experienced lower or higher rate changes based on pricing precision and current rate level indications that help determine appropriate premium rates.

Personal lines new business written premiums grew \$11 million, or 10 percent, during 2016, compared with 2015. That growth was driven by policies from high net worth clients of our agencies. Personal lines new business written premiums from our high net worth policies totaled approximately \$30 million for 2016, compared with \$17 million for 2015. The decrease of approximately \$2 million in new business written premiums for the part of our personal lines segment we sometimes refer to as middle market business is largely a reflection of a slight decline in policy retention due to significant premium rate increases for our personal auto policies during 2016. Some of what we report as new business came from accounts that were not new to our agents. We believe our agents' seasoned accounts tend to be priced more accurately than business that may be less familiar to them.

Personal lines new business written premiums grew significantly in 2015, compared with 2014. Key factors contributing to that increase included an increase in larger-sized policy submissions due to underwriting appetite and pricing changes made to our existing personal lines products, increased visibility of underwriters and additional marketing efforts directed toward our agencies. In addition, in 2014 we began rolling out advanced quote discounts for home and auto and new home purchase discounts in most states, allowing us to compete more effectively in the comparative raters environment.

Other written premiums primarily consist of premiums that are ceded to reinsurers and that lower our net written premiums. Ceded premiums for 2016 essentially matched 2015.

Personal Lines Insurance Loss and Loss Expenses

Loss and loss expenses include both net paid losses and reserve changes for unpaid losses as well as the associated loss expenses. For our personal auto line of business in 2016, we experienced a rising trend in paid losses and loss expenses that was more than we expected. As a result, we increased our actuarial best estimate of ultimate loss and loss expense ratios for that line at the end of 2016, compared with year-end 2015. Net loss and loss expense reserves for our personal auto line of business at December 31, 2016, were \$43 million, or 18 percent, higher than at year-end 2015. The IBNR portion of the reserve increase was \$27 million.

Most of the incurred losses and loss expenses shown in the personal lines insurance segment three-year highlights table are for the respective current accident years, with reserve development on prior accident years shown separately. Since approximately two-thirds of our personal lines current accident year incurred losses and loss expenses represent net paid amounts, the remaining one-third represents reserves for our estimate of ultimate losses and loss expenses. These reserves develop over time, and we re-estimate previously reported reserves as we learn more about the development of the related claims. The table below illustrates that development. For example, the 71.4 percent accident year 2015 loss and loss expense ratio reported as of December 31, 2015, developed favorably by 1.0 percentage points to 70.4 percent due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2016. Accident year 2014 for the personal lines insurance segment developed favorably during 2015 and then developed unfavorably during 2016, as indicated by the progression over time for the ratios in the table. The unfavorable development during 2016 reflects the personal auto reserve addition described above.

(Dollars in millions)

Accident year loss and loss expenses incurred and ratios to earned premiums:

Accident year:	2016	2015	2014	2016	2015	2014
as of December 31, 2016	\$ 844	\$ 773	\$ 739	72.7%	70.4%	71.0%
as of December 31, 2015		784	732		71.4	70.4
as of December 31, 2014			752			72.2

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain much of the movement in current accident year loss and loss expense ratio for accident year 2016, compared with accident year 2015. Catastrophe losses added 9.7 percentage points in 2016, 6.5 points in 2015 and 8.8 points in 2014 to the respective personal lines current accident year loss and loss expense ratios in the table above. Personal lines catastrophe losses for 2016 resulted in a ratio near our 10.9 percent 10-year annual average for personal lines that included 22.8 percent for 2011. Our personal lines catastrophe loss ratios for 2015 and 2014 were closer to our 8.7 percent 10-year annual average for the years 2001 through 2010. Personal lines catastrophe losses also are inherently volatile, as discussed above and in Consolidated Property Casualty Insurance Results.

The 63.0 percent ratio for current accident year loss and loss expenses before catastrophe losses for 2016 improved 1.9 percentage points compared with the 64.9 percent accident year 2015 ratio measured as of December 31, 2015. The improvement was largely due to a 2.4 percentage-point decrease in the ratio for current accident year losses of \$1 million or more per claim, shown in the table below, that were primarily for homeowner claims and personal umbrella claims related to auto accidents.

Personal lines loss and loss expense reserve development on prior accident years recognized in 2016 was favorable by \$4 million, in aggregate, compared with an unfavorable net amount of \$5 million in 2015. The 2016 net favorable reserve development included an unfavorable \$18 million for our personal auto line of business, primarily for accident years 2013 through 2015, favorable \$8 million for our homeowner line business and the remainder was favorable for our other personal line of business. In 2016, personal auto included a refinement to reserves for loss expenses, transferring approximately \$10 million of reserves to various lines of business in our commercial lines segment. For losses only, our 2016 personal auto prior accident year net reserve development was unfavorable by \$25 million. The 2015 unfavorable development was driven by \$15 million of unfavorable development for our personal auto line of business, including \$10 million for accident year 2013. Our personal lines 2015 net unfavorable reserve development on prior accident years included \$12 million of favorable development in our homeowner line of business. Favorable development recognized during 2015 and 2014 was primarily from our

homeowner line of business. Development by accident year and other trends for personal lines loss and loss expenses and the related ratios are further discussed in Liquidity and Capital Resources, Property Casualty Insurance Development of Estimated Reserves by Accident Year.

Personal Lines Insurance Losses by Size

(Dollars in millions, net of reinsurance)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ —	\$ —	\$ —	nm	nm
Current accident year losses \$1,000,000-\$5,000,000	19	45	20	(58)	125
Large loss prior accident year reserve development	(7)	—	1	nm	(100)
Total large losses incurred	12	45	21	(73)	114
Losses incurred but not reported	35	18	19	94	(5)
Other losses excluding catastrophe losses	592	566	539	5	5
Catastrophe losses	107	66	79	62	(16)
Total losses incurred	\$ 746	\$ 695	\$ 658	7	6
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.0 %	0.0%	0.0%	0.0	0.0
Current accident year losses \$1,000,000-\$5,000,000	1.7	4.1	1.9	(2.4)	2.2
Large loss prior accident year reserve development	(0.6)	0.0	0.1	(0.6)	(0.1)
Total large loss ratio	1.1	4.1	2.0	(3.0)	2.1
Losses incurred but not reported	3.0	1.6	1.8	1.4	(0.2)
Other losses excluding catastrophe losses	51.0	51.6	51.9	(0.6)	(0.3)
Catastrophe losses	9.2	6.0	7.6	3.2	(1.6)
Total loss ratio	64.3 %	63.3%	63.3%	1.0	0.0

In 2016, personal lines total large losses incurred decreased by \$33 million, or 73 percent, compared with 2015, net of reinsurance. The ratio for 2016 large losses as a percent of earned premiums decreased 3.0 percentage points. The 2016 decreases on both a dollar and ratio basis were largely due to lower amounts for homeowner claims and personal umbrella claims related to auto accidents. In 2015, total large losses increased, compared with 2014, primarily due to higher amounts of personal umbrella claims related to auto accidents. Our analysis indicated no unexpected concentration of these losses and reserve increases by risk category, geographic region, policy inception, agency or field marketing territory. We believe the inherent volatility of aggregate loss experience for our portfolio of larger policies is greater than that of our portfolio of smaller policies, and we continue to monitor the volatility in addition to general inflationary trends in loss costs.

Personal Lines Insurance Underwriting Expenses

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Commission expenses	\$ 209	\$ 206	\$ 191	1	8
Other underwriting expenses	128	117	102	9	15
Total underwriting expenses	\$ 337	\$ 323	\$ 293	4	10
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Commission expenses	18.0%	18.8%	18.3%	(0.8)	0.5
Other underwriting expenses	11.0	10.6	9.8	0.4	0.8
Total underwriting expense ratio	29.0%	29.4%	28.1%	(0.4)	1.3

Personal lines commission expense as a percent of earned premiums decreased in 2016 compared with 2015. The decrease reflected an unusually high 2015 ratio from changes in estimates related to allocations of deferred acquisition costs by segment. Other underwriting expenses as a percent of earned premiums rose in 2016.

The ratio increase was largely due to strategic investments that included enhancement of underwriting expertise, such as personal lines staff additions to support our high net worth market expansion.

Personal Lines Insurance Outlook

A.M. Best projections for 2017 indicate personal lines written premiums for the U.S. property casualty industry may grow approximately 3 percent, with an industry statutory combined ratio estimated at approximately 100 percent. We believe our growth rate will likely be higher than the industry projection for 2017, driven by our rate increases, stable policy retention rate, accelerated pace of new agency appointments in recent years and increased focus on the high net worth personal lines market. Our high net worth initiative, along with various other actions to improve performance in our personal lines insurance segment, is discussed in greater detail in Item 1, Our Business and Our Strategy, Strategic Initiatives and Personal Lines Insurance Results. Our personal lines pricing trends need to exceed loss trends to improve personal lines profitability, thereby helping to achieve our corporate financial targets. We discuss our overall outlook for our property casualty insurance operations in the Executive Summary.

Excess and Surplus Lines Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Earned premiums	\$ 183	\$ 168	\$ 148	9	14
Fee revenues	1	1	—	0	nm
Total revenues	184	169	148	9	14
Loss and loss expenses from:					
Current accident year before catastrophe losses	99	104	101	(5)	3
Current accident year catastrophe losses	3	1	3	200	(67)
Prior accident years before catastrophe losses	(34)	(34)	(29)	0	(17)
Prior accident years catastrophe losses	—	(1)	—	nm	nm
Loss and loss expenses	68	70	75	(3)	(7)
Underwriting expenses	54	48	43	13	12
Underwriting profit	\$ 62	\$ 51	\$ 30	22	70
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year before catastrophe losses	54.4 %	62.1 %	68.1 %	(7.7)	(6.0)
Current accident year catastrophe losses	1.6	0.5	1.8	1.1	(1.3)
Prior accident years before catastrophe losses	(18.3)	(20.6)	(19.6)	2.3	(1.0)
Prior accident years catastrophe losses	(0.1)	(0.1)	0.2	0.0	(0.3)
Loss and loss expenses	37.6	41.9	50.5	(4.3)	(8.6)
Underwriting expenses	29.4	28.1	28.9	1.3	(0.8)
Combined ratio	67.0 %	70.0 %	79.4 %	(3.0)	(9.4)
Combined ratio:					
	67.0 %	70.0 %	79.4 %	(3.0)	(9.4)
Contribution from catastrophe losses and prior years reserve development	(16.8)	(20.2)	(17.6)	3.4	(2.6)
Combined ratio before catastrophe losses and prior years reserve development	83.8 %	90.2 %	97.0 %	(6.4)	(6.8)

Our excess and surplus lines insurance segment includes results of The Cincinnati Specialty Underwriters Insurance Company and CSU Producer Resources Inc. Performance highlights for this segment include:

- Premiums – Earned premiums and net written premiums continued to grow during 2016. Growth was driven by higher renewal written premiums that included average renewal price increases near the high end of the low-single-digit range. New business written premiums grew 2 percent in 2016, a slower rate than in 2015, as we continued to carefully underwrite each policy in a highly competitive market. Within the excess and surplus lines market during 2016, some standard market carriers sought to increase market share by writing policies for larger risks formerly considered excess and surplus lines business.
- Combined ratio – The combined ratio improved 3.0 percentage points in 2016, primarily due to improved experience in current accident year losses and loss expenses before catastrophe losses that reflects careful underwriting.

Excess and Surplus Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Agency renewal written premiums	\$ 141	\$ 128	\$ 111	10	15
Agency new business written premiums	57	56	51	2	10
Other written premiums	(9)	(9)	(9)	0	0
Net written premiums	189	175	153	9	14
Unearned premium change	(6)	(7)	(5)	14	(40)
Earned premiums	\$ 183	\$ 168	\$ 148	9	14

The \$13 million increase in 2016 renewal premiums reflected the opportunity to renew many policies for the first time as well as higher renewal pricing. Average renewal price increases were near the high end of the low-single-digit range during 2016, while 2015 was near the low end of the mid-single-digit range. We measure average changes in excess and surplus lines renewal pricing as the rate of change in renewal premium for the new policy period compared with the premium for the expiring policy period, assuming no change in the level of insured exposures or policy coverage between those periods for respective policies.

New business written premiums and other written premiums in 2016 were similar to amounts in 2015. Other written premiums are primarily premiums that are ceded to reinsurers and that lower our net written premiums.

Excess and Surplus Lines Loss and Loss Expenses

Loss and loss expenses include both net paid losses and reserve changes for unpaid losses, as well as the associated loss expenses. The majority of the total incurred losses and loss expenses shown above in the three-year highlights table are for the respective current accident years, with reserve development on prior accident years shown separately. Since less than 20 percent of our 2016 excess and surplus lines current accident year incurred losses and loss expenses represents net paid amounts, a large majority represents reserves for our estimate of unpaid losses and loss expenses. These reserves develop over time, and we update our estimates of previously reported reserves as we learn more about the development of the related claims. The table below illustrates that development. For example, the 62.6 percent accident year 2015 loss and loss expense ratio reported as of December 31, 2015, developed favorably by 8.7 percentage points to 53.9 percent due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2016. Accident years 2015 and 2014 for this segment have both developed favorably, as indicated by the progression over time of the ratios in the table.

(Dollars in millions)						
Accident year loss and loss expenses incurred and ratios to earned premiums:						
Accident year:	2016	2015	2014	2016	2015	2014
as of December 31, 2016	\$ 102	\$ 91	\$ 83	56.0%	53.9%	55.8%
as of December 31, 2015		105	90		62.6	60.5
as of December 31, 2014			104			69.9

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain some of the movement in current accident year loss and loss expense ratio for accident year 2016, compared with 2015. Catastrophe losses added 1.6 percentage points in 2016, 0.5 percentage points in 2015 and 1.8 percentage points in 2014, to the respective excess and surplus lines current accident year loss and loss expense ratios in the table above.

The 54.4 percent ratio for current accident year loss and loss expenses before catastrophe losses for 2016 decreased 7.7 percentage points compared with the 62.1 percent accident year 2015 ratio measured as of December 31, 2015. We also recognized significant favorable reserve development on prior accident years during both 2016 and 2015, with a ratio effect of approximately 20 percentage points for each year.

Excess and surplus lines reserve development on prior accident years continued to net to a favorable amount in 2016 as \$34 million was recognized, compared with \$35 million in 2015. Approximately two-thirds of the

2016 favorable development was for accident years 2015 and 2014 in aggregate, and was primarily due to lower-than-anticipated loss emergence on known claims.

We believe the loss and loss expense reserves for our excess and surplus lines business are adequate. The amount of outstanding reserves for our excess and surplus lines operation can be seen in a table in Liquidity and Capital Resources, Property Casualty Loss and Loss Expense Obligations and Reserves. One indication of how long it takes for most of the outstanding reserves to be settled is to measure outstanding reserves by accident year at different points in time. For accident year 2011 and all accident years prior to that, at December 31, 2011, we reported reserves for estimated unpaid losses and loss expenses of \$77 million, net of reinsurance. At December 31, 2016, our estimate for the remaining unpaid losses and loss expenses that occurred in those accident years was approximately \$4 million. The inherent uncertainty in estimating reserves is discussed in Liquidity and Capital Resources, Property Casualty Insurance Loss and Loss Expense Obligations and Reserves. Development trends by accident year are further discussed in Property Casualty Insurance Development of Estimated Reserves by Accident Year.

Excess and Surplus Lines Insurance Losses by Size

(Dollars in millions, net of reinsurance)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ —	\$ —	\$ —	nm	nm
Current accident year losses \$1,000,000-\$5,000,000	3	4	3	(25)	33
Large loss prior accident year reserve development	—	3	(1)	nm	nm
Total large losses incurred	3	7	2	(57)	250
Losses incurred but not reported	5	2	24	150	(92)
Other losses excluding catastrophe losses	31	35	25	(11)	40
Catastrophe losses	3	1	4	200	(75)
Total losses incurred	\$ 42	\$ 45	\$ 55	(7)	(18)
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.0 %	0.0%	0.0 %	0.0	0.0
Current accident year losses \$1,000,000-\$5,000,000	1.7	2.4	2.3	(0.7)	0.1
Large loss prior accident year reserve development	(0.3)	1.7	(0.9)	(2.0)	2.6
Total large loss ratio	1.4	4.1	1.4	(2.7)	2.7
Losses incurred but not reported	2.9	1.0	16.4	1.9	(15.4)
Other losses excluding catastrophe losses	16.8	21.2	17.2	(4.4)	4.0
Catastrophe losses	1.5	0.4	1.8	1.1	(1.4)
Total loss ratio	22.6 %	26.7%	36.8 %	(4.1)	(10.1)

In 2016, total large losses incurred decreased by \$4 million or 57 percent, net of reinsurance. The ratio for 2016 large losses as a percent of earned premiums decreased 2.7 percentage points. That ratio for 2015 trended in the opposite direction, due to 2015 total large losses increasing from 2014. Our analysis indicated no unexpected concentration of these losses and reserve increases by risk category, geographic region, policy inception, agency or field marketing territory. We believe the inherent volatility of aggregate loss experience for our portfolio of larger policies is greater than that of our portfolio of smaller policies, and we continue to monitor the volatility in addition to general inflationary trends in loss costs.

Excess and Surplus Lines Insurance Underwriting Expenses

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Commission expenses	\$ 36	\$ 33	\$ 27	9	22
Other underwriting expenses	18	15	16	20	(6)
Total underwriting expenses	<u>\$ 54</u>	<u>\$ 48</u>	<u>\$ 43</u>	<u>13</u>	<u>12</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Commission expenses	19.4%	19.2%	18.3%	0.2	0.9
Other underwriting expenses	10.0	8.9	10.6	1.1	(1.7)
Total underwriting expenses ratio	<u>29.4%</u>	<u>28.1%</u>	<u>28.9%</u>	<u>1.3</u>	<u>(0.8)</u>

Excess and surplus lines commission expense as a percent of earned premiums for 2016 rose slightly from 2015, driven by an increase in profit-sharing commissions for agencies. Other underwriting expenses increased in 2016, compared with 2015, largely due to strategic investments that include enhancement of underwriting expertise, such as upgrades to systems used in underwriting excess and surplus lines insurance policies. Those ratio-increase effects offset the favorable ratio-decrease effects of higher earned premiums and ongoing expense management efforts. In 2015, the ratio declined, largely due to earned premiums rising faster than those expenses.

Excess and Surplus Lines Outlook

The excess and surplus lines market is expected to see the magnitude of rate increases continue to decline on several classes of business due to increased capacity in the market. Competition is expected to remain strong, especially on large accounts, due primarily to standard market insurance companies insuring businesses that previously were written by excess and surplus lines insurers. Firming is expected to continue for specific classes of business where loss costs are exceeding rates, such as habitational for property coverages and general liability for liquor liability coverages.

Industry reports suggest that there are opportunities for profitability and growth through greater use of technology. Technology and data are also being used by excess and surplus lines insurance companies to identify new exposures in emerging businesses that need insurance protection or other value-added services.

Our strategy of providing superior service is expected to continue to grow our excess and surplus lines insurance segment and to achieve profitability despite challenging market conditions. We intend to keep carefully selecting and pricing risks, providing prompt delivery of insurance quotes and policies and giving outstanding claims and loss control service from local field representatives who also handle the standard lines business for their assigned agencies. These local representatives are supported by headquarters underwriters and claims managers who specialize in excess and surplus lines.

Life Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Earned premiums	\$ 228	\$ 209	\$ 198	9	6
Fee revenues	5	5	6	0	(17)
Total revenues	233	214	204	9	5
Contract holders' benefits incurred	246	236	229	4	3
Investment interest credited to contract holders'	(90)	(86)	(83)	(5)	(4)
Underwriting expenses incurred	76	66	63	15	5
Total benefits and expenses	232	216	209	7	3
Life insurance segment profit (loss)	\$ 1	\$ (2)	\$ (5)	nm	(60)

Performance highlights for the life insurance segment include:

- Revenues – Earned premiums rose 9 percent for the year 2016, as shown in the table below that includes details by major line of business. Our largest life insurance product line, term life insurance, rose 10 percent. Net in-force policy face amounts rose 8 percent to \$56.808 billion at year-end 2016 from \$52.735 billion at year-end 2015 and \$50.356 billion at year-end 2014.
- Profitability – The life insurance segment frequently reports only a small profit or loss because most of its investment income is included in the investments segment results. We include only investment income credited to contract holders (interest assumed in life insurance policy reserve calculations) in life insurance segment results. The segment reported a \$1 million profit in 2016, following losses of \$2 million in 2015 and \$5 million in 2014. It has averaged a profit of less than \$1 million over the past five years.

Earned premiums rose \$19 million in 2016, primarily due to growth in our term life insurance business, as shown in the table below. Growth in 2015 was primarily due to term life insurance and universal life insurance.

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Term life insurance	\$ 149	\$ 136	\$ 131	10	4
Universal life insurance	37	39	35	(5)	11
Other life insurance, annuity and disability income products	42	34	32	24	6
Net earned premiums	\$ 228	\$ 209	\$ 198	9	6

We market term, whole and universal life products, fixed annuities and disability income products. In addition, we offer term, whole and universal life and disability insurance to employees at their worksite. These products provide our property casualty agency force with excellent cross-serving opportunities for both commercial and personal accounts.

Over the past several years, we have worked to maintain a portfolio of simple, yet competitive, products primarily under the LifeHorizons banner. Our product development efforts emphasize death benefit protection and guarantees. Distribution expansion within our property casualty insurance agencies remains a high priority. Our 34 life field marketing representatives work in partnership with our 138 property casualty field marketing representatives. Approximately 62 percent of our term and other life insurance product premiums were generated through our property casualty insurance agency relationships.

Life insurance segment expenses consist principally of:

- Contract holders' benefits incurred, related to traditional life and interest-sensitive products, accounted for 76.4 percent of 2016 total benefits and expenses compared with 78.1 percent in 2015 and 78.4 percent in 2014. Total contract holders' benefits increased as life policy reserves were higher in 2016, compared with 2015.

Net death claims decreased slightly from 2015, and were below our mortality projections while remaining within our range of pricing expectations.

- Underwriting expenses incurred, net of deferred acquisition costs, accounted for 23.6 percent of 2016 total benefits and expenses compared with 21.9 percent in 2015 and 21.6 percent in 2014. Expenses in 2016 increased 15 percent, more than the 9 percent growth in earned premiums, primarily due to increased operating expenses related to premium growth and technology initiatives. In 2015, the percentage increase for expenses was slightly less than growth earned premiums.

Life insurance segment profitability depends largely on premium levels, the adequacy of product pricing, underwriting skill and operating efficiencies. This segment's results include only investment interest credited to contract holders (interest assumed in life insurance policy reserve calculations). The remaining investment income is reported in the investments segment results. The life investment portfolio is managed to earn target spreads between earned investment rates on general account assets and rates credited to policyholders. We consider the value of assets under management and investment income for the life investment portfolio as key performance indicators for the life insurance segment.

We seek to maintain a competitive advantage with respect to benefits paid and reserve increases by consistently achieving better than average claims experience due to skilled underwriting. Commissions paid by the life insurance operation are on par with industry averages.

We recognize that assets under management, capital appreciation and investment income are integral to evaluation of the success of the life insurance segment because of the long duration of life products. On a basis that includes investment income and realized gains or losses from life insurance-related invested assets, our life insurance subsidiary reported net income of \$48 million in 2016, compared with net income of \$41 million in 2015 and \$39 million in 2014. The life insurance subsidiary portfolio had after-tax net realized investment gains of \$5 million in 2016, compared with less than \$1 million in 2015 and \$3 million in 2014. Realized investment gains and losses are discussed under Investments Results. We exclude most of our life insurance company investment income from investments segment results.

Life Insurance Outlook

We view the life insurance market as having significant pockets of growth opportunities. The traditional life distribution system is in a state of mild disruption. The combination of low interest rates, new technology and historic low ownership rates provide us with ample room to grow our term focused life insurance book through our independent agency model.

To further capitalize on this disruption, we recently piloted a new term product that allows our property casualty agents to quickly market and sell life insurance to our personal lines customers using accelerated underwriting through a predictive model. We expect to expand this initiative in 2017 and will continue to look for ways to improve the overall buying experience that we believe has contributed to the decline in ownership rates.

We are implementing statutory principle-based reserves for our core term product in 2017. We expect that action will begin to give us the ability to better manage the economic capital that is currently supporting the statutory reserves for our term book of business. While many term writers have used a variety of captive reinsurance solutions to deal with this statutory issue, we chose to carry the full reserve amounts on our balance sheet. That action has resulted in tremendous balance sheet strength and GAAP equity growth. It also, however, has made it difficult to achieve high rates of return.

We are cautiously optimistic about the potential for corporate tax reform. Should significant reform be implemented, we believe that our product pricing would be more favorably impacted than the industry.

Investments Results

Overview – Three-Year Highlights

Investments Results

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Total investment income, net of expenses	\$ 595	\$ 572	\$ 549	4	4
Investment interest credited to contract holders ¹	(90)	(86)	(83)	(5)	(4)
Realized investment gains, net	124	70	133	77	(47)
Investments profit, pretax	<u>\$ 629</u>	<u>\$ 556</u>	<u>\$ 599</u>	13	(7)

The investments segment contributes investment income and realized gains and losses to results of operations. Investments provide our primary source of pretax and after-tax profits.

- Investment income – Pretax investment income grew \$23 million, or 4 percent, in 2016, with increases from interest and dividends contributing nearly equal dollar amounts. Dividend income reflected rising dividend rates and net purchases of equity securities from available funds. Interest income also rose, as net purchases of fixed-maturity securities offset the continuing effects on bond yields of the low interest rate environment. Pretax investment income also rose 4 percent in 2015, reflecting increases in both dividend income and interest income. Average yields in the investment income table below are based on the average invested asset and cash amounts indicated in the table using fixed-maturity securities valued at amortized cost and all other securities at fair value.
- Realized investment gains and losses – We reported realized investment gains in all three years, largely due to investment sales that were discretionary in timing and amount. Those gains were somewhat offset by OTTI charges.

We believe it is useful to analyze our overall investment performance by using total investment return over several years. Total investment return considers changes in unrealized gains and losses, which are not included in net income, in addition to net investment income and realized investment gains and losses that are included in net income. Changes in unrealized gains and losses shown in the table below include other invested assets. Considering investment gains and losses, both realized and unrealized, over several years helps evaluate performance since gains and losses may experience typical variability during shorter periods of time.

The table below shows total return based on calculation assumptions that simplify cash flow timing that is commonly used in total return measures. This simplified calculation uses data shown in our consolidated financial statements or notes to those statements. Added to invested asset amounts from our consolidated balance sheets are 50 percent of annual amounts pertaining to invested asset categories included in net cash used in investing activities from our consolidated statements of cash flows. The cash flow amounts are reduced by realized gains on investments, with the net result reduced by 50 percent to represent estimated new cash invested during each respective year. All new cash is assumed to be invested at the midpoint of the year.

Total investment return of 8.5 percent in 2016 was significantly more than in 2015. The 2016 contribution from all three components of total investment return was higher than in 2015. Investment income rose \$23 million, realized investment gains rose \$54 million and the invested assets net change in unrealized gains and losses rose \$1.150 billion. The base component of the return calculation, annual average invested assets, was down less than 1 percent in 2016. For 2015 compared with 2014, total investment return declined 7.7 percentage points. The return contribution from the combination of 2015 investment income realized investment gains was nearly offset by a negative contribution from the net change in unrealized gains and losses. The base component of the return calculation, annual average invested assets, was up 7 percent in 2015.

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Invested assets beginning balance:					
Fixed maturities	\$ 9,650	\$ 9,460	\$ 9,121	2	4
Equity securities	4,706	4,858	4,375	(3)	11
Other invested assets	67	68	68	(1)	0
Invested assets beginning balance	14,423	14,386	13,564	—	6
Average acquisitions (dispositions), net	291	350	224	(17)	56
Annual average invested assets	\$ 14,714	\$ 14,736	\$ 13,788	—	7
Total investment return:					
Total investment income, net of expenses	\$ 595	\$ 572	\$ 549	4	4
Total realized investment gains	124	70	133	77	(47)
Total invested assets change in unrealized gains and losses	525	(625)	391	(184)	nm
Total	\$ 1,244	\$ 17	\$ 1,073	nm	(98)
Total return on invested assets before tax	8.5%	0.1%	7.8%		

Investment Income

The primary drivers of investment income were:

- Interest income rose \$12 million, or 3 percent, in 2016. The average fixed-maturity pretax yield declined by approximately 10 basis points but was offset by a larger average fixed-maturity portfolio that rose 5 percent on an amortized cost basis. Interest income also increased 3 percent in 2015 when that yield declined by approximately 6 basis points while the portfolio rose 5 percent on an amortized cost basis.
- Dividend income rose \$11 million, or 7 percent, in 2016, after rising 9 percent in 2015. Increases in dividend payment rates for most of the holdings in our common stock portfolio during both 2016 and 2015, plus a slight net increase in funds invested in that portfolio for both years, drove the increases in dividend income.

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Investment income:					
Interest	\$ 440	\$ 428	\$ 417	3	3
Dividends	161	150	138	7	9
Other	3	3	2	0	50
Less investment expenses	9	9	8	0	13
Investment income, pretax	595	572	549	4	4
Less income taxes	141	135	130	4	4
Total investment income, after-tax	\$ 454	\$ 437	\$ 419	4	4
Investment returns:					
Effective tax rate	23.8%	23.6%	23.7%		
Average invested assets plus cash and cash equivalents	\$ 15,316	\$ 14,515	\$ 13,951		
Average yield pretax	3.88%	3.94%	3.94%		
Average yield after-tax	2.96	3.01	3.00		
Fixed-maturity returns:					
Effective tax rate	27.3%	27.1%	27.0%		
Average amortized cost	\$ 9,562	\$ 9,098	\$ 8,755		
Average yield pretax	4.60%	4.70%	4.76%		
Average yield after-tax	3.35	3.43	3.48		

In 2016, we continued to invest available cash flow in both fixed income and equity securities in a manner that we believe balances current income needs with longer-term invested asset growth goals. While our bond portfolio more than covers our insurance reserve liabilities, we believe our diversified common stock portfolio of mainly blue chip, dividend-paying companies represents one of our best investment opportunities for the long term. We position our portfolio with consideration to both the challenges presented by the current low interest rate environment and the risks presented by potential future inflation. As bonds in our generally laddered portfolio mature or are called over the near term, we will be challenged to replace their current yield. The table below summarizes pretax yield to amortized costs excluding any book value adjustments due to impairment for bonds in our fixed-maturity portfolio by various maturity periods.

At December 31, 2016	% Yield	Principal redemptions
Fixed-maturity yield profile:		
Expected to mature during 2017	4.70%	\$ 649
Expected to mature during 2018	5.67	977
Expected to mature during 2019	6.22	785
Average yield and total expected redemptions from 2017 through 2019	5.59	\$ 2,411

The average pretax yield of 3.75 percent for fixed-maturity securities acquired during 2016, shown in the table below, was lower than the 4.54 percent average yield-to-amortized cost of the fixed-maturity securities portfolio at the end of 2016.

	Years ended December 31,	
	2016	2015
Average pretax yield-to-amortized cost on new fixed-maturities:		
Acquired taxable fixed-maturities	4.11%	4.48%
Acquired tax-exempt fixed-maturities	3.04	3.34
Average total fixed-maturities acquired	3.75	4.00

We discussed our portfolio strategies in Item 1, Investments Segment. We discuss risks related to our investment income and our fixed-maturity and equity investment portfolios in Item 7a, Quantitative and Qualitative Disclosures About Market Risk.

Net Realized Investment Gains and Losses

Net realized investment gains and losses are made up of gains or losses from the disposal of securities, changes in the valuation of embedded derivatives within certain convertible securities and OTTI charges from impaired securities. The factors we consider when evaluating impairments are discussed in Critical Accounting Estimates, Asset Impairment.

Investment gains or losses are recognized upon the sales of investments or as otherwise required under GAAP. The timing of realized gains or losses from sales can have a material effect on results in any given period. However, such gains or losses usually have little, if any, effect on total shareholders' equity because most equity and fixed-maturity investments are carried at fair value, with the unrealized gain or loss included as a component of other comprehensive income.

As appropriate, we buy, hold or sell both fixed-maturity and equity securities on an ongoing basis to help achieve our portfolio objectives. We generally purchase fixed-maturity securities with the intention to hold until maturity. If they no longer meet our investment criteria, they are divested. Sales of fixed-maturity securities are usually due to a change in credit fundamentals. Pretax realized investment gains in the past three years largely were due to the sale of equity holdings.

Net realized investment gains and losses totaling \$124 million for the year ended December 31, 2016, included:

- \$99 million in net realized gains from equity security sales.
- \$25 million in net realized gains from fixed-maturity security sales and calls.
- \$2 million in other net realized gains.
- \$2 million in OTTI charges to write down four holdings of equity and fixed-maturity securities.

The \$70 million net realized investment gains and losses in 2015 were primarily due to \$103 million in net realized gains from equity security sales and \$18 million from fixed-maturity security sales and calls, partially offset by \$52 million of OTTI charges for six securities.

In 2014, the \$133 million net realized investment gains and losses were primarily due to \$136 million in net realized gains from equity security sales and \$18 million from fixed-maturity security sales and calls, partially offset by \$24 million of OTTI charges for six securities.

OTTI charges from the investment portfolio by the asset classes we described in Item 1, Our Segments, Investments Segment, are summarized below:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Taxable fixed maturities:			
Impairment amount	\$ 2	\$ 18	\$ 15
New amortized cost	\$ 1	\$ 9	\$ 22
Percent to total amortized cost owned	—%	—%	—%
Number of securities other-than-temporarily impaired	2	2	1
Percent to number of securities owned	—%	—%	—%
Tax-exempt fixed maturities:			
Impairment amount	\$ —	\$ —	\$ —
New amortized cost	\$ 1	\$ —	\$ —
Percent to total amortized cost owned	—%	—%	—%
Number of securities other-than-temporarily impaired	2	1	1
Percent to number of securities owned	—%	—%	—%
Common equities:			
Impairment amount	\$ —	\$ 33	\$ 9
New cost	\$ —	\$ 43	\$ 79
Percent to total cost owned	—%	2%	3%
Number of securities other-than-temporarily impaired	—	14	4
Percent to number of securities owned	—%	21%	6%
Nonredeemable preferred equities:			
Impairment amount	\$ —	\$ 1	\$ —
New cost	\$ —	\$ 19	\$ —
Percent to total cost owned	—%	10%	—%
Number of securities other-than-temporarily impaired	—	3	—
Percent to number of securities owned	—%	8%	—%
Totals:			
Impairment amount	\$ 2	\$ 52	\$ 24
New cost or amortized cost	\$ 2	\$ 71	\$ 101
Percent to total cost or amortized cost owned	—%	1%	1%
Number of securities other-than-temporarily impaired	4	20	6
Percent to number of securities owned	—%	1%	—%

OTTI charges from the investment portfolio by industry are summarized as follows:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Fixed maturities:			
Basic industry	\$ —	\$ 18	\$ 15
Utilities	2	—	—
Total fixed maturities	2	18	15
Common equities:			
Consumer staples	—	—	6
Energy	—	33	3
Total common equities	—	33	9
Nonredeemable preferred equities:			
Financials	—	1	—
Total nonredeemable preferred equities	—	1	—
Total	\$ 2	\$ 52	\$ 24

Investments Outlook

Despite a rise in interest rates near the end of 2016, yields remain below both long-term market averages in general and our embedded portfolio yield specifically. For at least the near term, this is likely to continue to exert pressure on investment income growth.

We continue to focus on portfolio strategies to balance near-term income generation and long-term book value growth. In 2017, we expect to continue to allocate a portion of cash available for investment to equity securities, taking into consideration corporate liquidity and income requirements, as well as insurance department regulations and rating agency comments. We discuss our portfolio strategies in Item 1, Our Segments, Investments Segment.

We believe that a reversal of the slow but steady improvement in economic conditions could heighten the risk of renewed pressure on securities markets, which could lead to additional OTTI charges. Our asset impairment committee continues to monitor the investment portfolio. The current asset impairment policy is described in Critical Accounting Estimates, Asset Impairment.

Other

Total revenues in 2016 for our Other operations increased, compared with 2015, primarily due to earned premiums from our Cincinnati Re reinsurance assumed operations that began in 2015. Other also includes noninvestment operations of the parent company and its commercial leasing and financial services subsidiary, CFC Investment Company. Total expenses for Other also increased in 2016, primarily due to losses and loss expenses and underwriting expenses from our Cincinnati Re operations.

Other loss in the table below represents losses before income taxes. For each year shown, Other loss was largely driven by interest expense from debt of the parent company. The net result of Cincinnati Re was an underwriting profit of approximately \$8 million in 2016 and approximately \$1 million in 2015.

(Dollars in millions)	Years ended December 31,			2016-2015	2015-2014
	2016	2015	2014	Change %	Change %
Interest and fees on loans and leases	\$ 4	\$ 5	\$ 6	(20)	(17)
Earned premiums	49	10	—	390	nm
Other revenues	1	2	2	(50)	0
Total revenues	54	17	8	218	113
Interest expense	53	53	53	0	0
Loss and loss expenses	25	5	—	400	nm
Underwriting expenses	16	3	—	433	nm
Operating expenses	12	13	14	(8)	(7)
Total expenses	106	74	67	43	10
Other loss	\$ (52)	\$ (57)	\$ (59)	9	3

Taxes

We had \$221 million of income tax expense in 2016 compared with \$247 million in 2015 and \$196 million in 2014. Our corporate effective tax rate for 2016 was 27.2 percent compared with 28.0 percent in 2015 and 27.2 percent in 2014.

The change in our effective tax rate was primarily due to changes in pretax income from underwriting results and realized investment gains and losses, with immaterial changes in the amount of permanent book-tax differences.

Historically, we have pursued a strategy of investing some portion of cash flow in tax-advantaged fixed-maturity and equity securities to minimize our overall tax liability and maximize after-tax earnings. See Item 1, Our Segments, Tax-Exempt Fixed Maturities, for further discussion on municipal bond purchases in our fixed-maturity investment portfolio. For our property casualty insurance subsidiaries, approximately 85 percent of interest from tax-advantaged fixed-maturity investments and approximately 60 percent of dividends from qualified equities are exempt from federal tax after applying proration from the 1986 Tax Reform Act. Our noninsurance companies own an immaterial amount of tax-advantaged fixed-maturity investments. For our noninsurance companies, the dividend received deduction exempts 70 percent of dividends from qualified equities. Our life insurance company does not own tax-advantaged, fixed maturity investments or equities subject to the dividend received deduction. Our effective tax rate reconciliation is found in Item 8, Note 11 of the Consolidated Financial Statements.

Liquidity and Capital Resources

We seek to maintain prudent levels of liquidity and financial strength for the protection of our policyholders, creditors and shareholders. We manage liquidity at two levels to meet the short- and long-term cash requirements of business obligations and growth needs. The first is the liquidity of the parent company. The second is the liquidity of our insurance subsidiary. Management of liquidity at both levels is essential because each has different funding needs and sources, and each is subject to certain regulatory guidelines and requirements.

Parent Company Liquidity

At December 31, 2016, the parent company had \$2.133 billion in cash and marketable securities, providing strong liquidity to fund cash outflows, as needed. The payment of dividends to shareholders is largely based upon receiving subsidiary dividends. Alternatively, we could sell investments or use our line of credit to support the dividend payment.

The parent company's primary sources of cash inflows are dividends from our insurance subsidiary, investment income and sale proceeds from investments. The parent company's cash outflows are primarily interest and principal payments on long- and short-term debt, dividends to shareholders, common stock repurchases and general operating expenses. The table below shows a summary, by the direct cash flow method, of the major sources and uses of cash flow of the parent company.

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Sources of liquidity:			
Insurance subsidiary dividends received	\$ 475	\$ 447	\$ 400
Investment income received	56	53	46
Proceeds from stock options exercised	21	24	22
Uses of liquidity:			
Shareholders' dividend payments	\$ 306	\$ 366	\$ 278
Debt interest payments	52	52	52
Share repurchases	39	53	21
Short-term debt repayment	—	—	55
Pension contribution	13	5	5

Dividends received from the subsidiary in 2016 were \$28 million more than 2015, supported by strong property casualty insurance subsidiary net cash flow from operating activities. We expect 2017 parent company sources of cash flows to be similar to 2016. The majority of expenditures for the parent company have been consistent during the last three years, and we expect future expenditures to remain fairly stable. Share repurchases are discretionary, depending on cash availability and capital management decisions.

Insurance Subsidiary Liquidity

The parent company's insurance subsidiary is largely the operations of the property casualty segments. The primary sources of cash inflows are collection of premiums, investment income, maturity of fixed-income securities and sale proceeds from investments. Property casualty insurance premiums generally are received before losses are paid under the policies purchased with those premiums. Cash outflows are primarily loss and loss expenses, commissions, salaries, taxes, operating expenses and investment purchases. Over the three-year period ended December 31, 2016, premium receipts and investment income have been more than sufficient to pay claims and operating expenses. Excess cash flows were partially used to pay dividends to the parent company. We are not aware of any known trends that would materially change historical cash flow results other than fluctuations in catastrophe claims and other large losses either individually or in aggregate.

The table below shows a summary of operating cash flow for property casualty insurance (direct method). Historically, annual variation in operating cash flow has been largely related to changes in amounts of catastrophe losses.

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Premiums collected	\$ 4,466	\$ 4,379	\$ 4,147
Loss and loss expenses paid	(2,503)	(2,349)	(2,413)
Commissions and other underwriting expenses paid	(1,375)	(1,306)	(1,239)
Cash flow from underwriting	588	724	495
Investment income received	397	379	371
Cash flow from operations	\$ 985	\$ 1,103	\$ 866

Other Sources of Liquidity

Cash in excess of operating requirements is invested in fixed-maturity and equity securities. Cash generated from investment income provides an important investment contribution to cash flow and liquidity. The sale of investments could provide an additional source of liquidity at either the parent company or insurance subsidiary level, if required. In addition to possible sales of investments, proceeds of call or maturities of fixed-maturity securities also can provide liquidity. During the five-year period beginning in 2017, fair value of \$3.604 billion, or 35.7 percent, of our fixed-maturity portfolio is scheduled to mature. At year-end 2016, total unrealized gains in the investment portfolio, before deferred income taxes, were \$2.625 billion. Liquidity sourced from our investment portfolio is not materially at risk from European-based securities. At the end of 2016 this totaled \$314 million on a fair value basis, or 2.0 percent of our total investments. We own no European sovereign debt. Our European-based securities are summarized by country in Item 7A, Qualitative and Quantitative Disclosures About Market Risk.

Financial resources of the parent company also could be made available to our insurance subsidiaries, if circumstances required. This flexibility would include our ability to access the capital markets and short-term bank borrowings. We generally have minimized our reliance on debt financing although we may use the line of credit to fund short-term cash needs.

Long-Term Debt

We provide details of our three long-term notes in Item 8, Note 8 of the Consolidated Financial Statements. None of the notes are encumbered by rating triggers. The total principal amount of our long-term debt at December 31, 2016, was \$793 million and included:

- \$28 million aggregate principal amount of 6.900% senior debentures due 2028.
- \$391 million aggregate principal amount of 6.920% senior debentures due 2028.
- \$374 million aggregate principal amount of 6.125% senior debentures due 2034.

The company's senior debt is rated investment grade by independent rating firms. None of the four rating agencies made changes to our debt ratings in 2016. Our debt ratings at February 22, 2017, were: a- from A.M. Best, A from Fitch Ratings, A3 from Moody's Investors Service and BBB+ from Standard & Poor's.

Short-Term Debt

At December 31, 2016, we had a \$225 million line of credit with commercial banks, with \$20 million borrowed. That line of credit had a \$35 million balance at December 31, 2015. During 2016, we repaid \$15 million as part of routine cash management. Access to this line of credit requires compliance with various covenants, including maintaining a minimum consolidated net worth and not exceeding a 30 percent debt-to-total capital ratio, as defined by the agreement. At December 31, 2016, we had approximately \$1.0 billion in net worth compared with our covenant net worth requirement. We are considerably within compliance with all covenants under the credit agreement, and believe we will remain in compliance. The credit agreement provides alternative interest charges based on the type of borrowing and our debt rating. The interest rate charged is adjusted LIBOR plus an applicable margin.

The \$225 million unsecured revolving line of credit is administered by PNC Bank, N.A., a subsidiary of The PNC Financial Services Group Inc. (NYSE:PNC). The agreement was established in 2012, extended for two years in 2014, and will expire in May 2019. Our subsidiary CFC Investment Company also is a borrower under this line of credit. PNC Bank is the lead participant bookrunner with a \$65 million share. Fifth Third Bancorp (Nasdaq:FITB) is the syndication agent with a \$65 million share. U.S. Bancorp (NYSE:USB), BB&T Corp (NYSE:BBT) and Huntington Bancshares, Inc. (Nasdaq:HBAN) each provide \$25 million of capacity, and Northern Trust Corporation (Nasdaq:NTRS), provides \$20 million of capacity.

Capital Resources

Capital resources consisting of shareholders' equity and total debt represent our overall financial strength to support current obligations and growth in our insurance businesses. At December 31, 2016, we had total capital of \$7.867 billion. Shareholders' equity was \$7.060 billion, an increase of \$633 million, or 10 percent, from the prior year. Our total debt was \$807 million, down \$14 million from a year ago. We seek to maintain a solid financial position and provide capital flexibility by keeping our ratio of debt to total capital moderate. We target a ratio below 20 percent. At year-end 2016, the ratio was 10.3 percent, compared with 11.3 percent at year-end 2015.

At the discretion of the board of directors, the company can return capital directly to shareholders as discussed below.

- Dividends to shareholders –The ability of our company to continue paying cash dividends is subject to factors the board of directors deem relevant. While the board and management believe there is merit to sustaining the company's long record of dividend increases, our first priority is the company's financial strength. Over the past 10 years, the company has paid an average of 66 percent of net income as dividends. Through 2016, the board had increased our cash dividend for 56 consecutive years. The board decision in January 2017 to increase the dividend demonstrated confidence in the company's strong capital, liquidity, financial flexibility and initiatives to grow earnings.
- Common stock repurchase – Generally, our board believes that share repurchases can help fulfill our commitment to enhancing shareholder value. Consequently, the board has authorized the repurchase of outstanding shares, giving management discretion to purchase shares at reasonable prices in light of circumstances at the time of purchase. Our approach since mid-2008 has been to hold capital adequate to support future growth of our insurance operations and repurchase a minimal amount of shares. Those repurchases were intended to partially offset the issuance of shares through equity compensation plans, primarily due to vesting of service-based restricted stock units of equity awards granted in the past. Our corporate Code of Conduct restricts repurchases during certain time periods. The details of the repurchase authorizations and activity are described in Item 5, Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Obligations

We pay obligations to customers, suppliers and associates in the normal course of our business operations. Some are contractual obligations that define the amount, circumstances and/or timing of payments. We have other commitments for business expenditures; however, the amount, circumstances and/or timing of our other commitments are not dictated by contractual arrangements.

Contractual Obligations

At December 31, 2016, we estimated our future contractual obligations as follows:

(Dollars in millions)	Year 2017	Years 2018-2019	Years 2020-2021	There- after	Total
Payment due by period					
Gross property casualty loss and loss expense payments	\$ 1,707	\$ 1,632	\$ 695	\$ 1,001	\$ 5,035
Gross life policyholder obligations	87	117	163	5,075	5,442
Interest on long-term debt	52	104	104	475	735
Long-term debt	—	—	—	793	793
Short-term debt	20	—	—	—	20
Profit-sharing commissions	130	—	—	—	130
Capital lease obligations	12	17	8	2	39
Other liabilities	25	31	5	14	75
Total	<u>\$ 2,033</u>	<u>\$ 1,901</u>	<u>\$ 975</u>	<u>\$ 7,360</u>	<u>\$ 12,269</u>

Other Commitments

At December 31, 2016, we believe our most significant other commitments were:

- Commissions – We expect commission payments to generally track with written premiums.
- Other operating expenses – Many of our operating expenses are not contractual obligations but reflect the ongoing expenses of our business. For example, we anticipate capitalizing development costs for approximately \$6 million in spending for key technology initiatives in 2017, compared with actual capitalization totaling \$8 million in 2016 and \$6 million in 2015. These activities are conducted at our discretion, and we have no material contractual obligations for activities planned as part of these projects.
- Other invested assets – We may invest up to \$27 million in private equity investments over the next four years.

Liquidity and Capital Resources Outlook

At December 31, 2016, we had \$777 million in cash and cash equivalents. During 2017, our insurance subsidiary can declare \$469 million in dividends to our parent company without regulatory approval. That strong liquidity and our consistent cash flows give us the flexibility to meet current obligations and commitments while building value by prudently investing where we see potential for both current income and long-term return. Our cash provides adequate financial cushion when short-term operating results do not meet our objectives.

A long-term perspective governs our liquidity and capital resources decisions, with the goal of benefiting our policyholders, agents, shareholders and associates over time. Our underwriting philosophy and initiatives can drive performance to achieve our underwriting profitability target of a GAAP combined ratio over any five-year period that consistently averages within the range of 95 percent to 100 percent. Our GAAP combined ratio averaged 94.3 percent over the five-year period 2012 through 2016, resulting in strong underwriting profits.

In any year, we consider the most likely source of pressure on liquidity would be an unusually high level of catastrophe loss payments within a short period of time. There could be additional obligations for our insurance operations due to increasing severity or frequency of noncatastrophe claims. To address the risk of unusually large insurance loss obligations including catastrophe events, we maintain property casualty reinsurance contracts with highly rated reinsurers, as discussed under 2017 Reinsurance Ceded Programs. We also monitor the financial condition of our reinsurers because their insolvency could jeopardize a portion of our \$545 million reinsurance recoverable asset at December 31, 2016. Parent-company liquidity could also be constrained by Ohio regulatory requirements that restrict the dividends insurance subsidiaries can pay.

Economic weakness also has the potential to affect our liquidity and capital resources in a number of different ways, including delinquent payments from agencies, defaults on interest payments by fixed-maturity holdings in our portfolio, dividend reductions by holdings in our equity portfolio or declines in the market value of holdings in our portfolio.

Off-Balance-Sheet Arrangements

We do not use any special-purpose financing vehicles or have any undisclosed off-balance-sheet arrangements (as that term is defined in applicable SEC rules) that are reasonably likely to have a current or future material effect on the company's financial condition, results of operation, liquidity, capital expenditures or capital resources.

Property Casualty Loss and Loss Expense Obligations and Reserves

Our estimate of future gross property casualty loss and loss expense payments of \$5.035 billion is lower than loss and loss expense reserves of \$5.085 billion reported on our balance sheet at December 31, 2016. The \$50 million difference is due to certain life and health loss reserves. Reserving practices are discussed in Critical Accounting Estimates, Property Casualty Insurance Loss and Loss Expense Reserves.

For the business lines in the commercial and personal lines insurance segments, and in total for the excess and surplus lines insurance segment, the following table details gross reserves among case, IBNR and loss expense reserves, net of salvage and subrogation. The \$375 million increase in total gross reserves was primarily due to a \$150 million increase in case loss reserves and a \$187 million increase in IBNR loss reserves. Total gross reserves for our commercial casualty line of business rose \$136 million, for our commercial auto line of business they rose \$78 million, for our commercial property line of business they rose \$77 million and for our personal auto line of business they rose \$45 million.

Property Casualty Gross Loss and Loss Expense Reserves

(Dollars in millions)

	Loss reserves		Loss expense reserves	Total gross reserves	Percent of total
	Case reserves	IBNR reserves			
At December 31, 2016					
Commercial lines insurance:					
Commercial casualty	\$ 928	\$ 553	\$ 556	\$ 2,037	40.5%
Commercial property	253	28	58	339	6.7
Commercial auto	374	86	103	563	11.2
Workers' compensation	382	553	95	1,030	20.4
Other commercial	116	19	75	210	4.2
Subtotal	2,053	1,239	887	4,179	83.0
Personal lines insurance:					
Personal auto	228	24	66	318	6.3
Homeowner	102	22	29	153	3.0
Other personal	46	47	5	98	2.0
Subtotal	376	93	100	569	11.3
Excess and surplus lines	94	86	61	241	4.8
Cincinnati Re	8	37	1	46	0.9
Total	\$ 2,531	\$ 1,455	\$ 1,049	\$ 5,035	100.0%
At December 31, 2015					
Commercial lines insurance:					
Commercial casualty	\$ 897	\$ 462	\$ 542	\$ 1,901	40.8%
Commercial property	192	28	42	262	5.6
Commercial auto	330	66	89	485	10.4
Workers' compensation	389	549	91	1,029	22.1
Other commercial	139	17	92	248	5.3
Subtotal	1,947	1,122	856	3,925	84.2
Personal lines insurance:					
Personal auto	211	(7)	69	273	5.9
Homeowner	80	13	25	118	2.5
Other personal	52	50	5	107	2.3
Subtotal	343	56	99	498	10.7
Excess and surplus lines	91	80	56	227	4.9
Cincinnati Re	—	10	—	10	0.2
Total	\$ 2,381	\$ 1,268	\$ 1,011	\$ 4,660	100.0%

Asbestos and Environmental Loss and Loss Expense Reserves

We carried \$85 million of net loss and loss expense reserves for asbestos and environmental claims and \$45 million of reserves for mold claims at year-end 2016, compared with \$84 million and \$45 million, respectively, for such claims at year-end 2015. The asbestos and environmental claims amounts for each respective year constituted 1.8 percent and 1.9 percent of total net loss and loss expense reserves at these year-end dates.

We believe our exposure to asbestos and environmental claims is limited, largely because our reinsurance retention was \$500,000 or below prior to 1987. We also were predominantly a personal lines company in the 1960s and 1970s, when asbestos and pollution exclusions were not widely used by commercial lines insurers. During the 1980s and early 1990s, commercial lines grew as a percentage of our overall business and our exposure to asbestos and environmental claims grew accordingly. Over that period, we endorsed to or included in most policies an asbestos and environmental exclusion.

Additionally, since 2002, we have revised policy terms where permitted by state regulation to limit our exposure to mold claims prospectively and further reduce our exposure to other environmental claims generally. Finally, we have not engaged in any mergers or acquisitions through which such a liability could have been assumed. We continue to monitor our claims for evidence of material exposure to other mass tort classes such as silicosis, but we have found no such credible evidence to date.

Reserving data for asbestos and environmental claims has characteristics that limit the usefulness of the methods and models used to analyze loss and loss expense reserves for other claims. Specifically, asbestos and environmental loss and loss expenses for different accident years do not emerge independently of one another as loss development and Bornhuetter-Ferguson methods assume. In addition, asbestos and environmental loss and loss expense data available to date did not reflect a well-defined tail, greatly complicating the identification of an appropriate probabilistic trend family model. At year-end 2016, we used a weighted average of a paid survival ratio method and report year method to estimate reserves for IBNR asbestos and environmental claims. Our exposure to such claims is limited; we believe a weighted average of both methods produces a sufficient level of reserves.

Gross Property Casualty Loss and Loss Expense Payments

While we believe that historical performance of property casualty and life loss payment patterns is a reasonable source for projecting future claim payments, there is inherent uncertainty in this estimate of contractual obligations. We believe that we could meet our obligations under a significant and unexpected change in the timing of these payments because of the liquidity of our invested assets, strong financial position and access to lines of credit.

Our estimates of gross property casualty loss and loss expense payments do not include reinsurance receivables or ceded losses. As discussed in 2017 Reinsurance Ceded Programs, we purchase reinsurance to mitigate our property casualty risk exposure. Ceded property casualty reinsurance unpaid receivables of \$298 million at year-end 2016 are an offset to our gross property casualty loss and loss expense obligations. Our reinsurance program mitigates the liquidity risk of a single large loss or an unexpected rise in claim severity or frequency due to a catastrophic event. Reinsurance does not relieve us of our obligation to pay covered claims. The financial strength of our reinsurers is important because our ability to recover losses under our reinsurance agreements depends on the financial viability of the reinsurers.

We direct our associates and agencies to settle claims and pay losses as quickly as is practical, and we made \$2.503 billion of net claim payments during 2016. At year-end 2016, total net property casualty reserves of \$4.738 billion reflected \$2.331 billion in unpaid amounts on reported claims (case reserves), \$1.011 billion in loss expense reserves and \$1.396 billion in estimates of claims that were incurred but had not yet been reported (IBNR). The specific amounts and timing of obligations related to case reserves and associated loss expenses are not set contractually. The amounts and timing of obligations for IBNR claims and related loss expenses are unknown. We discuss our methods of establishing loss and loss expense reserves and our belief that reserves are adequate in Critical Accounting Estimates, Property Casualty Insurance Loss and Loss Expense Reserves.

The historical pattern of using premium receipts for the payment of loss and loss expenses has enabled us to extend slightly the maturities of our investment portfolio beyond the estimated settlement date of the loss reserves. The effective duration of our consolidated property casualty fixed-maturity portfolio was 5.0 years at year-end 2016. By contrast, the duration of our loss and loss expense reserves was approximately 4.1 years. We believe this difference in duration does not affect our ability to meet current obligations because cash flow from operations is sufficient to meet these obligations. In addition, investment holdings could be sold, if necessary, to meet higher than anticipated loss and loss expenses.

Range of Reasonable Reserves

The company established a reasonably likely range for net loss and loss expense reserves of \$4.449 billion to \$4.894 billion at year-end 2016, with the company carrying net reserves of \$4.738 billion. The likely range was \$4.125 billion to \$4.507 billion at year-end 2015, with the company carrying net reserves of \$4.379 billion. Our loss and loss expense reserves are not discounted for the time-value of money, but we have reduced the reserves by an estimate of the amount of salvage and subrogation payments we expect to recover.

The low point of each year's range corresponds to approximately one standard error below each year's mean reserve estimate, while the high point corresponds to approximately one standard error above each year's mean reserve estimate. We discussed management's reasons for basing reasonably likely reserve ranges on standard errors in Critical Accounting Estimates, Reserve Estimate Variability.

The ranges reflect our assessment of the most likely unpaid loss and loss expenses at year-end 2016 and 2015. However, actual unpaid loss and loss expenses could nonetheless fall outside of the indicated ranges.

Management's best estimate of total loss and loss expense reserves as of year-end 2016 and 2015 was consistent with the corresponding actuarial best estimate.

Development of Reserves for Loss and Loss Expenses

We reconcile the beginning and ending balances of our reserves for loss and loss expenses at December 31, 2016, 2015 and 2014, in Item 8, Note 4 of the Consolidated Financial Statements. The reconciliation of our year-end 2015 reserve balance to net incurred losses one year later recognized \$168 million of favorable reserve development.

The table below shows the development of estimated reserves for loss and loss expenses for the past 10 years.

- Section A shows our total property casualty loss and loss expense reserves recorded at the balance sheet date for each of the indicated calendar years on a gross and net basis. Those reserves represent the estimated amount of unpaid loss and loss expenses for claims arising in the indicated calendar year and all prior accident years at the balance sheet date, including losses that were incurred but not yet reported to the company.
- Section B shows the cumulative net amount paid with respect to the previously recorded reserve as of the end of each succeeding year. For example, as of December 31, 2016, we paid \$2.556 billion of loss and loss expenses in calendar years 2007 through 2016 for losses that occurred in accident years 2006 and prior. An estimated \$341 million of losses remained unpaid as of year-end 2016 (net re-estimated reserves of \$2.897 billion from Section C less cumulative net paid loss and loss expenses of \$2.556 billion).
- Section C shows the re-estimated amount of the previously reported reserves based on experience as of the end of each succeeding year. The estimate is increased or decreased as we learn more about the development of the related claims.
- Section D, cumulative net reserve development, represents the aggregate change in the estimates for all years subsequent to the year the reserves were initially established. For example, reserves established at December 31, 2006, had developed favorably by \$459 million over 10 years, net of reinsurance, which was reflected in income over the 10 years. The table shows favorable reserve development as a negative number. Favorable reserve development on prior accident years, which represents a negative expense, is favorable to income. The "One year later" line in the table shows the effects on income before income taxes in 2016, 2015 and 2014 of changes in estimates of the reserves for loss and loss expenses for all accident years. The effect was favorable to pretax income for those three years by \$168 million, \$184 million, and \$98 million, respectively.

In evaluating the development of our estimated reserves for loss and loss expenses for the past 10 years, note that each amount includes the effects of all changes in amounts for prior periods. For example, payments or reserve adjustments related to losses settled in 2016 but incurred in 2010 are included in the cumulative deficiency or redundancy amount for 2010 and each subsequent year. In addition, this table presents calendar year data, not accident or policy year development data, which readers may be more accustomed to analyzing. Conditions and trends that affected development of reserves in the past may not necessarily occur in the future. Accordingly, it may not be appropriate to extrapolate future reserve development based on this data.

Differences between the property casualty reserves reported in the accompanying consolidated balance sheets (prepared in accordance with GAAP) and those same reserves reported in the annual statements (filed with state insurance departments in accordance with statutory accounting practices – SAP), relate principally to the reporting of reinsurance recoverables, which are recognized as receivables for GAAP and as an offset to reserves for SAP.

Development of Estimated Reserves for Property and Casualty Loss and Loss Expenses

(Dollar in millions)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
A. Originally reported reserves for unpaid loss and loss expenses:											
Gross of reinsurance	\$ 3,860	\$ 3,925	\$ 4,040	\$ 4,096	\$ 4,137	\$ 4,280	\$ 4,169	\$ 4,241	\$ 4,438	\$ 4,660	\$ 5,035
Reinsurance recoverable	504	528	542	435	326	375	356	299	282	281	298
Net of reinsurance	<u>\$ 3,356</u>	<u>\$ 3,397</u>	<u>\$ 3,498</u>	<u>\$ 3,661</u>	<u>\$ 3,811</u>	<u>\$ 3,905</u>	<u>\$ 3,813</u>	<u>\$ 3,942</u>	<u>\$ 4,156</u>	<u>\$ 4,379</u>	<u>\$ 4,737</u>
B. Cumulative net paid as of:											
One year later	\$ 1,006	\$ 979	\$ 994	\$ 926	\$ 1,035	\$ 1,106	\$ 1,127	\$ 1,201	\$ 1,197	\$ 1,243	
Two years later	1,547	1,523	1,529	1,511	1,663	1,717	1,822	1,872	1,911		
Three years later	1,896	1,857	1,912	1,921	2,052	2,170	2,250	2,329			
Four years later	2,096	2,102	2,174	2,188	2,330	2,434	2,531				
Five years later	2,247	2,264	2,343	2,359	2,490	2,600					
Six years later	2,360	2,371	2,455	2,461	2,596						
Seven years later	2,437	2,443	2,523	2,541							
Eight years later	2,484	2,491	2,580								
Nine years later	2,522	2,537									
Ten years later	2,556										
C. Net reserves re-estimated as of:											
One year later	\$ 3,112	\$ 3,074	\$ 3,310	\$ 3,357	\$ 3,526	\$ 3,509	\$ 3,666	\$ 3,844	\$ 3,972	\$ 4,211	
Two years later	2,893	3,042	3,197	3,251	3,283	3,464	3,624	3,720	3,896		
Three years later	2,898	3,005	3,124	3,076	3,279	3,437	3,540	3,684			
Four years later	2,907	2,957	3,043	3,121	3,270	3,402	3,532				
Five years later	2,900	2,925	3,073	3,115	3,239	3,398					
Six years later	2,890	2,949	3,069	3,078	3,240						
Seven years later	2,918	2,955	3,043	3,079							
Eight years later	2,918	2,928	3,045								
Nine years later	2,897	2,935									
Ten years later	2,897										
D. Cumulative net redundancy as of:											
One year later	\$ (244)	\$ (323)	\$ (188)	\$ (304)	\$ (285)	\$ (396)	\$ (147)	\$ (98)	\$ (184)	\$ (168)	
Two years later	(463)	(355)	(301)	(410)	(528)	(441)	(189)	(222)	(260)		
Three years later	(458)	(392)	(374)	(585)	(532)	(468)	(273)	(258)			
Four years later	(449)	(440)	(455)	(540)	(541)	(503)	(281)				
Five years later	(456)	(472)	(425)	(546)	(572)	(507)					
Six years later	(466)	(448)	(429)	(583)	(571)						
Seven years later	(438)	(442)	(455)	(582)							
Eight years later	(438)	(469)	(453)								
Nine years later	(459)	(462)									
Ten years later	(459)										
Net reserves re-estimated—latest	\$ 2,897	\$ 2,935	\$ 3,045	\$ 3,079	\$ 3,240	\$ 3,398	\$ 3,532	\$ 3,684	\$ 3,896	\$ 4,211	
Re-estimated recoverable—latest	509	496	532	435	360	417	366	300	268	283	
Gross liability re-estimated—latest	<u>\$ 3,406</u>	<u>\$ 3,431</u>	<u>\$ 3,577</u>	<u>\$ 3,514</u>	<u>\$ 3,600</u>	<u>\$ 3,815</u>	<u>\$ 3,898</u>	<u>\$ 3,984</u>	<u>\$ 4,164</u>	<u>\$ 4,494</u>	
Cumulative gross redundancy	<u>\$ (454)</u>	<u>\$ (494)</u>	<u>\$ (463)</u>	<u>\$ (582)</u>	<u>\$ (537)</u>	<u>\$ (465)</u>	<u>\$ (271)</u>	<u>\$ (257)</u>	<u>\$ (274)</u>	<u>\$ (166)</u>	

Property Casualty Insurance Development of Estimated Reserves by Accident Year

The following table shows net reserve changes at year-end 2016, 2015 and 2014 by property casualty segment and accident year:

(Dollars in millions)	Commercial lines	Personal lines	E&S lines	Cincinnati Re	Totals
As of December 31, 2016					
2015 accident year	\$ (64)	\$ (12)	\$ (15)	\$ (1)	\$ (92)
2014 accident year	(41)	7	(7)	—	(41)
2013 accident year	(21)	2	(9)	—	(28)
2012 accident year	(2)	(1)	(2)	—	(5)
2011 accident year	(4)	1	(1)	—	(4)
2010 accident year	(2)	1	—	—	(1)
2009 and prior accident years	5	(2)	—	—	3
(Favorable)/unfavorable	<u>\$ (129)</u>	<u>\$ (4)</u>	<u>\$ (34)</u>	<u>\$ (1)</u>	<u>\$ (168)</u>
As of December 31, 2015					
2014 accident year	\$ (27)	\$ (20)	\$ (14)	\$ —	\$ (61)
2013 accident year	(41)	11	(10)	—	(40)
2012 accident year	(42)	4	(10)	—	(48)
2011 accident year	(7)	4	(2)	—	(5)
2010 accident year	3	3	1	—	7
2009 accident year	(11)	1	—	—	(10)
2008 and prior accident years	(29)	2	—	—	(27)
(Favorable)/unfavorable	<u>\$ (154)</u>	<u>\$ 5</u>	<u>\$ (35)</u>	<u>\$ —</u>	<u>\$ (184)</u>
As of December 31, 2014					
2013 accident year	\$ (33)	\$ (15)	\$ (10)	\$ —	\$ (58)
2012 accident year	(7)	—	(8)	—	(15)
2011 accident year	(9)	(1)	(6)	—	(16)
2010 accident year	—	2	(5)	—	(3)
2009 accident year	(3)	—	—	—	(3)
2008 accident year	(9)	—	—	—	(9)
2007 and prior accident years	4	2	—	—	6
(Favorable)/unfavorable	<u>\$ (57)</u>	<u>\$ (12)</u>	<u>\$ (29)</u>	<u>\$ —</u>	<u>\$ (98)</u>

Overall favorable development for consolidated property casualty reserves of \$168 million in 2016 illustrated the potential for revisions inherent in estimating reserves, especially for long-tail lines such as commercial casualty and workers' compensation. As noted in Critical Accounting Estimates, Key Assumptions Loss Reserving, our models predict that actual loss and loss expense emergence will differ from projections, and we do not attempt to monitor or identify such normal variations. The table in Property Casualty Loss and Loss Expense Obligations and Reserves shows reserves by segment and lines of business and the components of gross reserves among case, IBNR and loss expense reserves.

Favorable reserve development of \$69 million for our workers' compensation line accounted for approximately 53 percent of our commercial lines insurance segment net total in 2016, while favorable reserve development of \$20 million for our commercial casualty line of business accounted for approximately 16 percent. Our commercial auto line of business experienced \$31 million of unfavorable reserve development on prior accident years recorded during 2016, and that 2016 measure for our personal auto line of business was also unfavorable at \$18 million. Drivers of significant reserve development typically reflect loss emergence on known claims that was more favorable or less favorable than previously anticipated for various lines of business and are discussed below.

- Commercial casualty – During 2016, we experienced favorable development on prior accident years in total for this line of business. However, results varied between component coverages and by accident year within coverage. For example, our commercial multi-peril liability coverage within commercial casualty experienced favorable results for some prior accident years and adverse development on other accident years to end the calendar year flat on all prior years combined. Commercial umbrella coverage developed adversely for accident year 2007, but developed favorably for all prior years combined.
- Workers' compensation – We continue to see favorable reserve development, for all prior accident years in aggregate. During 2016, the trend for estimated payments to be made in future calendar years was stable compared to 2015. However, we continue to monitor this line closely, as a sudden increase in trend for future payments has a highly leveraged effect.
- Commercial auto – Loss emergence continued to develop unfavorably during calendar year 2016. This line of business has been troublesome for the industry as a whole in recent years. As part of the U.S. economic recession of a few years ago, slowing business activity influenced our estimates of reserves for ultimate losses and loss expenses during that period. As the economy slowly recovered, we believe we have been slow to recognize some of the higher loss cost effects in current accident year reserve estimates for at least part of that period. As claims that occurred during that period have become more mature, paid and reported loss cost trends resulted in us increasing our estimated ultimate losses. Initiatives to improve profitability of our commercial auto line of business are discussed in Commercial Lines Insurance Results.
- Personal auto – Loss emergence continued to develop unfavorably during calendar year 2016. This line of business is subject to many of the same cost pressures related to the economic slowdown as commercial auto. Initiatives to improve profitability of our personal auto line of business are discussed in Personal Lines Insurance Results.

In consideration of the data's credibility, we analyze commercial and personal umbrella liability reserves together and then allocate the derived total reserve estimate to the commercial and personal coverages. Consequently, all of the umbrella factors that contributed to commercial lines reserve development also contributed to personal lines reserve development through the other personal line, of which personal umbrella coverages are a part.

For the excess and surplus lines insurance segment, the table showing reserves by segment and lines of business in Property Casualty Loss and Loss Expense Obligations and Reserves, shows the components of gross reserves among case, IBNR and loss expense reserves. Total gross reserves were up \$14 million from year-end 2015 primarily due to the increase in premiums and exposures for this segment, as we discussed in Excess and Surplus Lines Insurance Results. Favorable development during 2016 of \$34 million for excess and surplus lines insurance segment reserves, shown in the table above, illustrates the potential for revisions inherent in estimating reserves.

Life Insurance Policyholder Obligations and Reserves

Gross Life Insurance Policyholder Obligations

Our estimates of life, annuity and disability policyholder obligations reflect future estimated cash payments to be made to policyholders for future policy benefits, policyholders' account balances and separate account liabilities. These estimates include death and disability income claims, policy surrenders, policy maturities, annuity payments, minimum guarantees on separate account products, commissions and premium taxes offset by expected future deposits and premiums on in-force contracts.

Our estimates of gross life, annuity and disability obligations do not reflect net recoveries from reinsurance agreements. Ceded life reinsurance receivables were \$241 million at year-end 2016. As discussed in 2017 Reinsurance Programs, we purchase reinsurance to mitigate our life insurance risk exposure. At year-end 2016, ceded death benefits represented approximately 40.5 percent of our total gross policy face amounts in force.

These estimated cash outflows are undiscounted with respect to interest. As a result, the sum of the cash outflows for all years of \$5.442 billion (total of life insurance obligations) exceeds the liabilities recorded in life policy and investment contract reserves and separate accounts for future policy benefits and claims of \$3.411 billion (total of life insurance policy reserves and separate account policy reserves). Separate account policy reserves make up all but \$10 million of separate accounts liabilities.

We have made significant assumptions to determine the estimated undiscounted cash flows of these policies and contracts that include mortality, morbidity, timing of claims, future lapse rates and interest crediting rates. Due to the significance of the assumptions used, the amounts presented could materially differ from actual results.

Life Insurance Reserves

Gross life policy reserves were \$2.671 billion at year-end 2016, compared with \$2.583 billion at year-end 2015. The increase was primarily due to reserves for traditional life insurance contracts. We establish reserves for traditional life insurance policies based on expected expenses, mortality, morbidity, withdrawal rates and investment yields, including a provision for uncertainty. Once these assumptions are established, they generally are maintained throughout the lives of the contracts. We use both our own experience and industry experience adjusted for historical trends in arriving at our assumptions for expected mortality, morbidity and withdrawal rates. We use our own experience and historical trends for setting our assumptions for expected expenses. We base our assumptions for expected investment income on our own experience adjusted for current economic conditions.

We establish reserves for our universal life, deferred annuity and investment contracts equal to the cumulative account balances, which include premium deposits plus credited interest less charges and withdrawals. Some of our universal life insurance policies contain no-lapse guarantee provisions. For these policies, we establish a reserve in addition to the account balance based on expected no-lapse guarantee benefits and expected policy assessments.

We regularly review our life insurance business to ensure that any deferred acquisition cost associated with the business is recoverable and that our actuarial liabilities (life insurance segment reserves) make sufficient provision for future benefits and related expenses.

2017 Reinsurance Ceded Programs

A single large loss or an unexpected rise in claims severity or frequency due to a catastrophic event is a risk to the company's liquidity and financial strength. In an effort to control such losses, we avoid marketing property casualty insurance in specific geographic areas and monitor our exposure in certain coastal regions. An example of this is the reduction in recent years of our homeowner policies in the southeastern U.S. coastal region. Loss exposures in that area had been identified as a major contributor to our catastrophe probable maximum loss estimates shown in the table below. Those estimates were subsequently reduced, in large part due to less exposure from southeastern U.S. homeowner policies. We also continually review aggregate exposures to huge disasters and purchase reinsurance protection to cover these exposures. For business other than Cincinnati Re, we use the Risk Management Solutions (RMS) and Applied Insurance Research (AIR) models to evaluate exposures to a once-in-a-100-year and a once-in-a-250-year event to help determine appropriate reinsurance coverage programs. In conjunction with these activities, we also continue to evaluate information provided by our reinsurance broker. Examples include deterministic modeling of probable maximum loss contribution from growth in new geographic territories.

To help determine appropriate reinsurance coverage for hurricane, earthquake and tornado/hail exposures, for business other than Cincinnati Re we use the RMS and AIR models to estimate the probable maximum loss from a single event or multiple events occurring in a one-year period. The models are proprietary in nature, and the vendors that provide them periodically update the models, sometimes resulting in significant changes to their estimate of probable maximum loss. As of the end of 2016, both models indicated that a hurricane event represents our largest amount of exposure to losses. The table below summarizes estimated probabilities and the corresponding probable maximum loss from a single hurricane event occurring in a one-year period, and indicates the effect of such losses on consolidated shareholders' equity at December 31, 2016. Net losses are net of reinsurance and income taxes, and assume our 2017 reinsurance programs apply.

(Dollars in millions)	RMS Model			AIR Model		
	Gross losses	Net losses	Percent of total equity	Gross losses	Net losses	Percent of total equity
Probability at December 31, 2016						
2.0% (1 in 50 year event)	\$ 313	\$ 72	1.0%	\$ 316	\$ 72	1.0%
1.0% (1 in 100 year event)	499	78	1.1	454	76	1.1
0.4% (1 in 250 year event)	843	233	3.3	709	136	1.9
0.2% (1 in 500 year event)	1,178	449	6.4	909	257	3.6

The modeled losses according to RMS in the table are based on its RiskLink version 16.0 catastrophe model and use a long-term storm catalog methodology. The modeled losses according to AIR in the table are based on its AIR Touchstone version 4.0 catastrophe model and use a long-term methodology. The AIR storm catalog includes decades of documented weather events used in simulations for probable maximum loss projections.

Reinsurance mitigates the risk of highly uncertain exposures and limits the maximum net loss that can arise from large risks or risks concentrated in areas of exposure. Management's decisions about the appropriate structure of reinsurance protection and level of risk retention are affected by various factors, including changes in our underwriting practices, capacity to retain risks and reinsurance market conditions.

Reinsurance does not relieve us of our obligation to pay covered claims. The financial strength of our reinsurers is important because our ability to recover for losses covered under any reinsurance agreement depends on the financial viability of the reinsurer.

Currently participating on our standard market property and casualty per-risk and per-occurrence reinsurance ceded programs are Hannover Reinsurance Company, Munich Reinsurance America, Partner Reinsurance Company of the U.S. and Swiss Reinsurance America Corporation, all of which had A.M. Best insurer financial strength ratings of A (Excellent) or better as of December 31, 2016. Our property catastrophe program is subscribed through a broker by reinsurers from the United States, Bermuda, London and the European markets. The largest participant in our property catastrophe program, representing approximately 48 percent of total participation, is the Lloyds of London placement that features numerous syndicates, with Amlin Underwriting Limited and the Catlin Syndicate taking the largest participations. Other primary participants in our property catastrophe program include Liberty Syndicate, R.J. Kiln & Company Limited, and Fidelis.

The following table shows our five largest property casualty reinsurance receivable amounts by reinsurer at the end of 2016 and at the end of 2015. USAIG is a joint underwriting association of individual insurance companies that collectively functions as a worldwide aviation insurance market. We terminated our participation in the association after policy year 2002. Third Point Reinsurance is one of several reinsurers that Cincinnati Re transacts business with to cede part of its risk to unaffiliated reinsurance companies through retrocessions. The A.M. Best insurer financial strength ratings as of the end of the two most recent years are also shown for each of those reinsurers that are rated by Best.

(Dollars in millions)	2016		2015	
	Total receivable	A.M. Best Rating	Total receivable	A.M. Best Rating
USAIG	\$ 97	NA	\$ 98	NA
Third Point Reinsurance	48	A-	31	A-
Swiss Reinsurance America Corporation	46	A+	53	A+
Michigan Catastrophic Claims Association	38	NA	39	NA
General Reinsurance Corporation	36	A++	31	A++

Primary components of the 2017 property and casualty reinsurance program are summarized below. The premium estimates below occurred near the beginning of each respective year, when direct written premiums that were subject to applicable reinsurance treaties were also estimated.

- Property per risk treaty – The primary purpose of the property treaty is to provide capacity up to \$25 million, adequate for the majority of the risks we write. It also includes protection for extra-contractual liability coverage losses. We retain the first \$10 million of each loss. Losses between \$10 million and \$25 million are reinsured at 100 percent. The 2017 ceded premium estimate was \$18 million, essentially unchanged from the 2016 estimate.
- Property excess treaty – For 2017, we again purchased a property reinsurance treaty that provide an additional \$25 million in protection for property losses. This treaty, along with the property per risk treaty, provides a total of \$50 million of protection. The 2017 ceded premium estimate was approximately \$6 million, essentially unchanged from the 2016 estimate.
- Casualty per occurrence treaty – The casualty treaty provides capacity up to \$25 million. Similar to the property treaty, it provides sufficient capacity to cover the vast majority of casualty accounts we insure and also includes protection for extra-contractual liability coverage losses. We retain the first \$10 million of each loss. Losses between \$10 million and \$25 million are reinsured at 100 percent. The 2017 ceded premium estimate was \$12 million, essentially unchanged from the 2016 estimate.
- Casualty excess treaty – We purchase a casualty reinsurance treaty that provides an additional \$45 million in protection for certain casualty losses. This treaty, along with the casualty per occurrence treaty, provides a total of \$70 million of protection for workers' compensation, extra-contractual liability coverage and clash coverage losses, which would apply when a single occurrence involves multiple policyholders of The Cincinnati Insurance Companies or multiple coverages for one insured. The 2017 ceded premium estimate was approximately \$3 million, essentially unchanged from the 2016 estimate.
- Property catastrophe treaty – To protect against catastrophic events such as wind and hail, hurricanes or earthquakes, we purchased property catastrophe reinsurance with a limit up to \$600 million. Losses from the same occurrence can now be aggregated into one limit over a 120-hour period and applied to the treaty towards recovery. The treaty contains one reinstatement provision. The 2017 ceded premium estimate was \$39 million, compared with a \$41 million estimate for 2016. We retain the first \$100 million of any loss, and a share of losses up to \$600 million, as indicated below:
 - 5.0 percent of losses between \$100 million and \$200 million
 - 5.0 percent of losses between \$200 million and \$300 million
 - 5.0 percent of losses between \$300 million and \$400 million
 - 5.0 percent of losses between \$400 million and \$600 million

- Beginning in 2013 we added an alternative reinsurance structure to protect against certain catastrophic events, and a similar structure is in place for 2017 through 2019. For certain exposures in the United States, we arranged for the purchase of collateralized reinsurance funded through the issuance of collateralized risk-linked securities, known as catastrophe bonds. The catastrophe bond arrangements generally provide reinsurance coverage for specific types of losses in specific geographic locations. They are generally designed to supplement coverage provided under the property catastrophe treaty. Effective January 2017, we have a catastrophe bond arrangement providing up to \$200 million in earthquake reinsurance protection or \$80 million in severe convective storm coverage or various combinations of those coverages. It expires in January 2019. The earthquake coverage is countrywide, excluding California, and the severe convective storm coverage territory is also countrywide, excluding Florida. The storm coverage provides loss recovery when storm losses for all events in aggregate exceed \$190 million, after an \$8 million deductible per event.

After reinsurance, and before any applicable benefit from our catastrophe bond, our maximum exposure to a catastrophic event that causes \$600 million in covered losses in 2017 would be \$125 million, matching our retention for 2016. The largest catastrophe loss event in our history occurred during 2011 from a May 20-27 storm system that included a tornado in Joplin, Missouri, and also significant losses from hail in the Dayton, Ohio, area. Our losses from that storm were estimated at December 31, 2016, to be \$223 million before reinsurance.

Individual risks with insured values in excess of \$50 million, as identified in the policy, are handled through a different reinsurance mechanism. We typically reinsure property coverage for individual risks with insured values between \$50 million and \$85 million under an automatic facultative agreement. For risks with property values exceeding \$85 million, we negotiate the purchase of facultative coverage on an individual certificate basis. For casualty coverage on individual risks with limits exceeding \$25 million, facultative reinsurance coverage is placed on an individual certificate basis. For risks with casualty limits that are between \$25 million and \$27 million, we sometimes forego facultative reinsurance and retain an additional \$2 million of loss exposure.

Terrorism coverage at various levels has been secured in most of our reinsurance agreements. The broadest coverage for this peril is found in the property and casualty working treaties, the property per risk treaty and the casualty per occurrence treaty, which provide coverage for commercial and personal risks. Our property catastrophe treaty provides terrorism coverage for personal risks, and coverage for commercial risks with total insured values of \$15 million or less. For insured values between \$15 million and \$50 million, there also may be coverage in the property working treaty.

A form of reinsurance is also provided through The Terrorism Risk Insurance Act of 2002 (TRIA). TRIA was originally signed into law on November 26, 2002, and extended on several occasions, including the most recent extension on January 12, 2015. TRIA provides a temporary federal backstop for losses related to the writing of the terrorism peril in property casualty insurance policies. Under regulations promulgated under this statute, insurers are required to offer terrorism coverage for certain lines of property casualty insurance, including property, commercial multi-peril, fire, ocean marine, inland marine, liability, aircraft and workers' compensation. In the event of a terrorism event defined by TRIA, the federal government would reimburse terrorism claim payments subject to the insurer's deductible. The deductible is calculated as a percentage of subject written premiums for the preceding calendar year. Our deductible in 2016 was \$514 million (20 percent of 2015 subject premiums), and we estimate it is \$529 million (20 percent of 2016 subject premiums) for 2017.

Reinsurance protection for the company's surety business is covered under separate treaties with many of the same reinsurers that write the property casualty working treaties.

The Cincinnati Specialty Underwriters Insurance Company has separate property and casualty reinsurance treaties for 2017 through its parent, The Cincinnati Insurance Company. Primary components of the treaties include:

- Property per risk treaty – The property treaty provides limits up to \$5 million, which is adequate capacity for the risk profile we insure. It also includes protection for extra-contractual liability coverage losses. Cincinnati Specialty Underwriters retains the first \$500,000 of any policy loss. Losses between \$500,000 and \$5 million are reinsured at 100 percent by The Cincinnati Insurance Company.
- Casualty treaties – The casualty treaty is written on an excess of loss basis and provide limits up to \$6 million, which is adequate capacity for the risk profile we insure. A second treaty layer of \$5 million excess of \$6 million is written to provide coverage for extra contractual obligations or clash exposures. The maximum retention for any one casualty loss is \$1 million by Cincinnati Specialty Underwriters. Losses between \$1 million and \$6 million are reinsured at 100 percent by The Cincinnati Insurance Company.

- Basket retention – Cincinnati Specialty Underwriters has purchased this coverage to limit our retention to \$1 million in the event that the same occurrence results in both a property and a casualty loss.
- Property catastrophe treaty – As a subsidiary of The Cincinnati Insurance Company, Cincinnati Specialty Underwriters is a named insured under our corporate property catastrophe treaty, and for our collateralized reinsurance funded through the issuance of catastrophe bonds. All terms and conditions of this reinsurance coverage apply to policies underwritten by Cincinnati Specialty Underwriters.

For property risks with limits exceeding \$5 million or casualty risks with limits exceeding \$6 million, underwriters place facultative reinsurance coverage on an individual certificate basis.

Cincinnati Life, our life insurance subsidiary, purchases reinsurance under separate treaties with many of the same reinsurers that write the property casualty working treaties. Our corporate retention is \$1 million on a single life. For most of our core term life insurance line of business, we retain no more than a \$500,000 exposure on a single policy, ceding the balance using excess over retention mortality coverage, and retaining the policy reserve. Because of the conservative nature of statutory reserving principles, retaining the policy reserve unduly depresses our statutory earnings and requires a large commitment of our capital. Effective November 1, 2015, we increased our retention to \$1 million for issue ages up to 61 years on new term life insurance sales. For issue ages 61 years or older, our retention remains \$500,000. For term life insurance business written prior to 2005, we retain 10 percent to 25 percent of each term policy, not to exceed \$500,000, ceding the balance of mortality risk and policy reserve.

We also have catastrophe reinsurance coverage on our life insurance operations that reimburses us for covered net losses in excess of \$9.5 million. Our recovery is capped at \$75 million for losses involving our associates.

The following table shows our five largest life reinsurance receivable amounts by reinsurer at year-end 2016 and 2015. The A.M. Best insurer financial strength ratings are also shown.

(Dollars in millions)	2016		2015	
	Total receivable	A.M. Best Rating	Total receivable	A.M. Best Rating
Name of reinsurer				
Swiss Re Life & Health America, Inc.	\$ 84	A+	\$ 89	A+
Lincoln National Life Insurance Company	40	A+	42	A+
General Re Life Corporation	33	A++	32	A++
Security Life of Denver Insurance Company	30	A	30	A
Pacific Life Insurance Company	15	A+	15	A+

Safe Harbor Statement

This is our “Safe Harbor” statement under the Private Securities Litigation Reform Act of 1995. Our business is subject to certain risks and uncertainties that may cause actual results to differ materially from those suggested by the forward-looking statements in this report. Some of those risks and uncertainties are discussed in Item 1A, Risk Factors.

Factors that could cause or contribute to such differences include, but are not limited to:

- Unusually high levels of catastrophe losses due to risk concentrations, changes in weather patterns, environmental events, terrorism incidents or other causes
- Increased frequency and/or severity of claims or development of claims that are unforeseen at the time of policy issuance
- Inadequate estimates, assumptions or reliance on third-party data used for critical accounting estimates
- Declines in overall stock market values negatively affecting the company's equity portfolio and book value
- Domestic and global events resulting in capital market or credit market uncertainty, followed by prolonged periods of economic instability or recession, that lead to:
 - Significant or prolonged decline in the fair value of a particular security or group of securities and impairment of the asset(s)
 - Significant decline in investment income due to reduced or eliminated dividend payouts from a particular security or group of securities
 - Significant rise in losses from surety and director and officer policies written for financial institutions or other insured entities
- Prolonged low interest rate environment or other factors that limit the company's ability to generate growth in investment income or interest rate fluctuations that result in declining values of fixed-maturity investments, including declines in accounts in which we hold bank-owned life insurance contract assets
- Recession or other economic conditions resulting in lower demand for insurance products or increased payment delinquencies
- Difficulties with technology or data security breaches, including cyberattacks, that could negatively affect our ability to conduct business and our relationships with agents, policyholders and others
- Disruption of the insurance market caused by technology innovations such as driverless cars that could decrease consumer demand for insurance products
- Delays, inadequate data developed internally or from third parties, or performance inadequacies from ongoing development and implementation of underwriting and pricing methods, including telematics and other usage-based insurance methods, or technology projects and enhancements expected to increase our pricing accuracy, underwriting profit and competitiveness
- Increased competition that could result in a significant reduction in the company's premium volume
- Changing consumer insurance-buying habits and consolidation of independent insurance agencies that could alter our competitive advantages
- Inability to obtain adequate ceded reinsurance on acceptable terms, amount of reinsurance coverage purchased, financial strength of reinsurers and the potential for nonpayment or delay in payment by reinsurers
- Inability to defer policy acquisition costs for any business segment if pricing and loss trends would lead management to conclude that segment could not achieve sustainable profitability
- Inability of our subsidiaries to pay dividends consistent with current or past levels
- Events or conditions that could weaken or harm the company's relationships with its independent agencies and hamper opportunities to add new agencies, resulting in limitations on the company's opportunities for growth, such as:
 - Downgrades of the company's financial strength ratings
 - Concerns that doing business with the company is too difficult
 - Perceptions that the company's level of service, particularly claims service, is no longer a distinguishing characteristic in the marketplace
 - Inability or unwillingness to nimbly develop and introduce coverage product updates and innovations that our competitors offer and consumers expect to find in the marketplace
- Actions of insurance departments, state attorneys general or other regulatory agencies, including a change to a federal system of regulation from a state-based system, that:
 - Impose new obligations on us that increase our expenses or change the assumptions underlying our critical accounting estimates
 - Place the insurance industry under greater regulatory scrutiny or result in new statutes, rules and regulations
 - Restrict our ability to exit or reduce writings of unprofitable coverages or lines of business

- Add assessments for guaranty funds, other insurance-related assessments or mandatory reinsurance arrangements; or that impair our ability to recover such assessments through future surcharges or other rate changes
- Increase our provision for federal income taxes due to changes in tax law
- Increase our other expenses
- Limit our ability to set fair, adequate and reasonable rates
- Place us at a disadvantage in the marketplace
- Restrict our ability to execute our business model, including the way we compensate agents
- Adverse outcomes from litigation or administrative proceedings
- Events or actions, including unauthorized intentional circumvention of controls, that reduce the company's future ability to maintain effective internal control over financial reporting under the Sarbanes-Oxley Act of 2002
- Unforeseen departure of certain executive officers or other key employees due to retirement, health or other causes that could interrupt progress toward important strategic goals or diminish the effectiveness of certain longstanding relationships with insurance agents and others
- Events, such as an epidemic, natural catastrophe or terrorism, that could hamper our ability to assemble our workforce at our headquarters location

Further, the company's insurance businesses are subject to the effects of changing social, global, economic and regulatory environments. Public and regulatory initiatives have included efforts to adversely influence and restrict premium rates, restrict the ability to cancel policies, impose underwriting standards and expand overall regulation. The company also is subject to public and regulatory initiatives that can affect the market value for its common stock, such as measures affecting corporate financial reporting and governance. The ultimate changes and eventual effects, if any, of these initiatives are uncertain.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

Introduction

Market risk is the potential for a decrease in securities value resulting from broad yet uncontrollable forces such as inflation, economic growth, interest rates, world political conditions or other widespread unpredictable events. It is comprised of many individual risks that, when combined, create a macroeconomic impact. The company accepts and manages risks in its investment portfolio as part of the means of achieving portfolio objectives. Some of the risks are:

- Political – the potential for a decrease in value due to the real or perceived impact of governmental policies or conditions
- Regulatory – the potential for a decrease in value due to the impact of legislative proposals or changes in laws or regulations
- Economic – the potential for a decrease in value due to changes in general economic factors (recession, inflation, deflation, etc.)
- Revaluation – the potential for a decrease in value due to a change in relative value (change in market multiple) of the market brought on by general economic factors
- Interest-rate – the potential for a decrease in value of a security or portfolio due to its sensitivity to changes (increases or decreases) in the general level of interest rates

Company-specific risk is the potential for a particular issuer to experience a decline in value due to the impact of sector or market risk on the holding or because of issues specific to the firm:

- Fraud – the potential for a negative impact on an issuer's performance due to actual or alleged illegal or improper activity of individuals it employs
- Credit – the potential for deterioration in an issuer's financial profile due to specific company issues, problems it faces in the course of its operations or industry-related issues
- Default – the possibility that an issuer will not make a required payment (interest payment or return of principal) on its debt. Generally this occurs after its financial profile has deteriorated (credit risk) and it no longer has the means to make its payments

The investment committee of the board of directors monitors the investment risk management process primarily through its executive oversight of our investment activities. We take an active approach to managing market and other investment risks, including the accountabilities and controls over these activities. Actively managing these market risks is integral to our operations and could require us to change the character of future investments purchased or sold or require us to shift the existing asset portfolios to manage exposure to market risk within acceptable ranges.

Sector risk is the potential for a negative impact on a particular industry due to its sensitivity to factors that make up market risk. Market risk affects general supply or demand factors for an industry and affects companies within that industry to varying degrees.

Risks associated with the asset classes described in Item 1, Our Segments, Investments Segment, can be summarized as follows (H – high, A – average, L – low):

	Taxable fixed maturities	Tax-exempt fixed maturities	Common equities	Nonredeemable preferred equities
Political	A	H	A	A
Regulatory	A	A	A	A
Economic	A	A	H	A
Revaluation	A	A	H	A
Interest rate	H	H	A	H
Fraud	A	L	A	A
Credit	A	L	A	A
Default	A	L	A	A

Our investment portfolio had no European sovereign debt holdings but did include a relatively small amount of other European-based securities. The December 31, 2016, fair value total of \$314 million consisted of fixed-maturity securities. The table below summarizes amounts of our European exposure for those securities by country.

(Dollars in millions)	Financial		Nonfinancial		Total	
	Amortized cost	Fair value	Amortized cost	Fair value	Amortized cost	Fair value
Great Britain	\$ 27	\$ 29	\$ 49	\$ 52	\$ 76	\$ 81
Netherlands	30	31	38	39	68	70
Germany	10	10	33	32	43	42
Belgium	—	—	27	30	27	30
Switzerland	13	13	7	7	20	20
Sweden	15	15	5	5	20	20
Spain	5	5	11	12	16	17
Ireland	—	—	12	13	12	13
Luxembourg	—	—	10	11	10	11
Italy	—	—	5	5	5	5
Denmark	—	—	5	5	5	5
Total	\$ 100	\$ 103	\$ 202	\$ 211	\$ 302	\$ 314

Fixed-Maturity Securities Investments

For investment-grade corporate bonds, the inverse relationship between interest rates and bond prices leads to falling bond values during periods of increasing interest rates. We address this risk by attempting to construct a generally laddered maturity schedule that allows us to reinvest cash flows at prevailing rates. Although the potential for a worsening financial condition, and ultimately default, does exist with investment-grade corporate bonds, we address this risk by performing credit analysis and monitoring as well as maintaining a diverse portfolio of holdings.

The primary risk related to high-yield corporate bonds is credit risk. A weak financial profile can lead to rating downgrades from the credit rating agencies, which can put further downward pressure on bond prices. Interest rate risk, while significant, is less of a factor with high-yield corporate bonds, as valuation is related more directly to underlying operating performance than to general interest rates. This puts more emphasis on the financial results achieved by the issuer rather than on general economic trends or statistics within the marketplace. We address this concern by analyzing issuer- and industry-specific financial results and by closely monitoring holdings within this asset class.

The primary risks related to tax-exempt bonds are interest rate risk and political risk associated with the specific economic environment within the political boundaries of the issuing municipal entity. We address these concerns by focusing on municipalities' general-obligation debt and on essential-service bonds. Essential-service bonds derive a revenue stream from municipal services that are vital to the people living in the area (water service, sewer service, etc.). Another risk related to tax-exempt bonds is regulatory risk or the potential for legislative changes that would negate the benefit of owning tax-exempt bonds. We monitor regulatory activity for situations that may negatively affect current holdings and our ongoing strategy for investing in these securities.

The final, less significant risk is our exposure to credit risk for a portion of the tax-exempt portfolio that has support from corporate entities. Examples are bonds insured by corporate bond insurers or bonds with interest payments made by a corporate entity through a municipal conduit or authority. Our decisions regarding these investments primarily consider the underlying municipal situation. The existence of third-party insurance is intended to reduce risk in the event of default. In circumstances in which the municipality is unable to meet its obligations, risk would be increased if the insuring entity were experiencing financial duress. Because of our diverse exposure and selection of higher-rated entities with strong financial profiles, we do not believe this is a material concern as we discuss in Item 1, Our Segments, Investments Segment.

Interest Rate Sensitivity Analysis

Because of our strong shareholders' equity, long-term investment horizon and ability to hold most fixed-maturity investments to maturity, we believe the company is well positioned if interest rates were to rise. A higher rate environment would provide the opportunity to invest cash flow in higher-yielding securities, while reducing the likelihood of untimely redemptions of currently callable securities. While higher interest rates would be expected to increase the number of fixed-maturity holdings fair valued below 100 percent of amortized cost, we believe lower fixed-maturity security values due solely to interest rate changes would not signal a decline in credit quality.

Our dynamic financial planning model uses analytical tools to assess market risks. As part of this model, the effective duration of the fixed-maturity portfolio is continually monitored by our investment department to evaluate the theoretical impact of interest rate movements.

The table below summarizes the effect of hypothetical changes in interest rates on fair value of our fixed-maturity portfolio.

(Dollars in millions)	Effect from interest rate change in basis points					
	-200	-100	—	100	200	
At December 31, 2016	\$ 11,131	\$ 10,603	\$ 10,085	\$ 9,577	\$ 9,094	
At December 31, 2015	\$ 10,585	\$ 10,112	\$ 9,650	\$ 9,189	\$ 8,748	

The effective duration of the fixed-maturity portfolio was 5.0 years at year-end 2016, compared with 4.7 years at year-end 2015. A 100-basis-point movement in interest rates would result in an approximately 5.1 percent change in the fair value of the fixed-maturity portfolio. Generally speaking, the higher a bond is rated, the more directly correlated movements in its fair value are to changes in the general level of interest rates, exclusive of call features. The fair values of average- to lower-rated corporate bonds are additionally influenced by the expansion or contraction of credit spreads.

In the dynamic financial planning model, the selected interest rate change of 100 to 200 basis points represents our views of a shift in rates that is quite possible over a one-year period. The rates modeled should not be considered a prediction of future events as interest rates may be much more volatile in the future. The analysis is not intended to provide a precise forecast of the effect of changes in rates on our results or financial condition, nor does it take into account any actions that we might take to reduce exposure to such risks.

Equity Securities Investments

Our equity portfolio is subject to a variety of risk factors encompassed under the umbrella of market risk. General economic swings influence the performance of the underlying industries and companies within those industries. Industry- and company-specific risks also have the potential to substantially affect the value of our portfolio. Our investment guidelines help address these risks by diversifying the portfolio and establishing parameters to help manage exposures.

The table below summarizes the effect of hypothetical changes in market prices on fair value of our equity portfolio.

(Dollars in millions)	Effect from market price change in percent							
	-30%	-20%	-10%	—	10%	20%	30%	
At December 31, 2016	\$ 3,734	\$ 4,267	\$ 4,801	\$ 5,334	\$ 5,867	\$ 6,401	\$ 6,934	
At December 31, 2015	\$ 3,294	\$ 3,765	\$ 4,235	\$ 4,706	\$ 5,177	\$ 5,647	\$ 6,118	

Our equity holdings represented \$5.334 billion in fair value and accounted for approximately 89 percent of the net unrealized gains and losses of the entire portfolio at year-end 2016. No holding had a fair value greater than 3.8 percent of our \$5.123 billion publicly traded common stock portfolio. We had 28 holdings among eight different sectors each with a fair value greater than \$100 million. See Item 1, Our Segments, Investments Segment and Item 8, Note 2 of the Consolidated Financial Statements, for additional details on our holdings.

The primary risks related to preferred stocks are similar to those related to investment grade corporate bonds. Rising interest rates adversely affect market values due to the normal inverse relationship between interest rates

and bond prices. Credit risk exists due to the subordinate position of preferred stocks in the capital structure. We minimize this risk by primarily purchasing investment-grade preferred stocks of issuers with a strong history of paying a common stock dividend.

Application of Asset Impairment Policy

As discussed in Item 7, Critical Accounting Estimates, Asset Impairment, our fixed-maturity and equity investment portfolios are evaluated differently for other-than-temporary impairments. The company's asset impairment committee monitors a number of significant factors for indications of investments fair valued below the carrying amount may not be recoverable. The application of our impairment policy resulted in OTTI charges that reduced our income before income taxes by \$2 million in 2016, \$52 million in 2015 and \$24 million in 2014. Impairments are discussed in Item 7, Investments Results.

We expect the number of securities fair valued below 100 percent of cost or amortized cost to fluctuate as interest rates rise or fall and credit spreads expand or contract due to prevailing economic conditions. Further, cost or amortized cost for some securities have been revised due to impairment charges recognized in prior periods. At year-end 2016, 784 of the 3,315 securities we owned were fair valued below 100 percent of cost or amortized cost compared with 414 of the 3,163 securities we owned at year-end 2015 and 223 of the 3,015 securities we owned at year-end 2014.

The 784 holdings fair valued below cost or amortized cost at year-end 2016 represented 14.7 percent of the investment portfolio and \$82 million in unrealized losses.

- 757 of these holdings were fair valued between 90 percent and 100 percent of cost or amortized cost. The value of these securities fluctuates primarily because of changes in interest rates. The fair value of these 757 securities was \$2.205 billion at year-end 2016, and they accounted for \$72 million in unrealized losses.
- 27 of these holdings were fair valued between 70 percent and 90 percent of cost or amortized cost. The fair value of these holdings was \$65 million, and they accounted for \$10 million in unrealized losses.
- No securities had a fair value below 70 percent of cost or amortized cost.

The following table summarizes the length of time securities in the investment portfolio have been in a continuous unrealized loss position.

(Dollars in millions)	Less than 12 months		12 months or more		Total	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
At December 31, 2016						
Fixed maturity securities:						
Corporate	\$ 733	\$ 15	\$ 189	\$ 11	\$ 922	\$ 26
States, municipalities and political subdivisions	989	42	—	—	989	42
Government-sponsored enterprises	89	2	2	—	91	2
Commercial mortgage-backed	155	3	—	—	155	3
United States government	6	—	—	—	6	—
Subtotal	1,972	62	191	11	2,163	73
Equity securities:						
Common equities	103	9	—	—	103	9
Nonredeemable preferred equities	4	—	—	—	4	—
Subtotal	107	9	—	—	107	9
Total	\$ 2,079	\$ 71	\$ 191	\$ 11	\$ 2,270	\$ 82
At December 31, 2015						
Fixed maturity securities:						
Corporate	\$ 1,099	\$ 63	\$ 133	\$ 33	\$ 1,232	\$ 96
States, municipalities and political subdivisions	47	1	22	—	69	1
Commercial mortgage-backed	103	2	2	—	105	2
Government-sponsored enterprises	100	2	127	4	227	6
Subtotal	1,349	68	284	37	1,633	105
Equity securities:						
Common equities	270	51	—	—	270	51
Nonredeemable preferred equities	35	—	—	—	35	—
Subtotal	305	51	—	—	305	51
Total	\$ 1,654	\$ 119	\$ 284	\$ 37	\$ 1,938	\$ 156

The following table summarizes our investment portfolio, classifying securities based on fair values relative to cost or amortized cost:

(Dollars in millions)

	Number of issues	Cost or amortized cost	Fair value	Gross unrealized gain (loss)	Gross investment income
At December 31, 2016					
Taxable fixed maturities:					
Fair valued below 70% of amortized cost	—	\$ —	\$ —	\$ —	\$ —
Fair valued at 70% to less than 100% of amortized cost	304	1,279	1,245	(34)	40
Fair valued at 100% and above of amortized cost	1,175	5,102	5,385	283	260
Investment income on securities sold in current year	—	—	—	—	27
Total	1,479	6,381	6,630	249	327

Tax-exempt fixed maturities:					
Fair valued below 70% of amortized cost	—	—	—	—	—
Fair valued at 70% to less than 100% of amortized cost	476	957	918	(39)	20
Fair valued at 100% and above of amortized cost	1,261	2,461	2,537	76	86
Investment income on securities sold in current year	—	—	—	—	7
Total	1,737	3,418	3,455	37	113

Common equities:					
Fair valued below 70% of cost	—	—	—	—	—
Fair valued at 70% to less than 100% of cost	3	112	103	(9)	2
Fair valued at 100% and above of cost	64	2,700	5,020	2,320	143
Investment income on securities sold in current year	—	—	—	—	3
Total	67	2,812	5,123	2,311	148

Nonredeemable preferred equities:					
Fair valued below 70% of cost	—	—	—	—	—
Fair valued at 70% to less than 100% of cost	1	4	4	—	—
Fair valued at 100% and above of cost	31	179	207	28	12
Investment income on securities sold in current year	—	—	—	—	1
Total	32	183	211	28	13

Portfolio summary:					
Fair valued below 70% of cost or amortized cost	—	—	—	—	—
Fair valued at 70% to less than 100% of cost or amortized cost	784	2,352	2,270	(82)	62
Fair valued at 100% and above of cost or amortized cost	2,531	10,442	13,149	2,707	501
Investment income on securities sold in current year	—	—	—	—	38
Total	3,315	\$ 12,794	\$ 15,419	\$ 2,625	\$ 601

At December 31, 2015					
Portfolio summary:					
Fair valued below 70% of cost or amortized cost	9	\$ 76	\$ 47	\$ (29)	\$ 4
Fair valued at 70% to less than 100% of cost or amortized cost	405	2,018	1,891	(127)	66
Fair valued at 100% and above of cost or amortized cost	2,749	10,168	12,418	2,250	478
Investment income on securities sold in current year	—	—	—	—	30
Total	3,163	\$ 12,262	\$ 14,356	\$ 2,094	\$ 578

ITEM 8. Financial Statements and Supplementary Data

Responsibility for Financial Statements

We have prepared the consolidated financial statements of Cincinnati Financial Corporation and our subsidiaries for the year ended December 31, 2016, in accordance with accounting principles generally accepted in the United States of America (GAAP).

We are responsible for the integrity and objectivity of these financial statements. The amounts, presented on an accrual basis, reflect our best estimates and judgment. These statements are consistent in all material aspects with other financial information in the Annual Report on Form 10-K. Our accounting system and related internal controls are designed to assure that our books and records accurately reflect the company's transactions in accordance with established policies and procedures as implemented by qualified personnel.

Our board of directors has established an audit committee of independent outside directors. We believe these directors are free from any relationships that could interfere with their independent judgment as audit committee members.

The audit committee meets periodically with management, our independent registered public accounting firm and our internal auditors to discuss how each is handling its respective responsibilities. The audit committee reports its findings to the board of directors. The audit committee recommends to the board the annual appointment of the independent registered public accounting firm. The audit committee reviews with this firm the scope of the audit assignment and the adequacy of internal controls and procedures.

Deloitte & Touche LLP, our independent registered public accounting firm, audited the consolidated financial statements of Cincinnati Financial Corporation and subsidiaries for the year ended December 31, 2016. Deloitte & Touche LLP met with our audit committee to discuss the results of its examination. They have the opportunity to discuss the adequacy of internal controls and the quality of financial reporting without management present.

Management's Annual Report on Internal Control Over Financial Reporting

The management of Cincinnati Financial Corporation and its subsidiaries is responsible for establishing and maintaining adequate internal controls, designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America (GAAP). The company's internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP and that receipts and expenditures of the company are being made only in accordance with authorizations of management and the directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

All internal control systems, no matter how well designed, have inherent limitations, including the possibility of human error and the circumvention of overriding controls. Accordingly, even effective internal control can provide only reasonable assurance with respect to financial statement preparation and presentation. Further, because of changes in conditions, the effectiveness of internal control may vary over time.

The company's management assessed the effectiveness of the company's internal control over financial reporting as of December 31, 2016, as required by Section 404 of the Sarbanes Oxley Act of 2002. Management's assessment was based on the criteria established in the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and was designed to provide reasonable assurance that the company maintained effective internal control over financial reporting as of December 31, 2016. The assessment led management to conclude that, as of December 31, 2016, the company's internal control over financial reporting was effective based on those criteria.

The company's independent registered public accounting firm has issued an audit report on our internal control over financial reporting as of December 31, 2016.

/s/ Steven J. Johnston
Steven J. Johnston, FCAS, MAAA, CFA, CERA
President and Chief Executive Officer

/s/ Michael J. Sewell
Michael J. Sewell, CPA
Chief Financial Officer, Senior Vice President and Treasurer
(Principal Accounting Officer)

February 24, 2017

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Cincinnati Financial Corporation
Fairfield, Ohio

We have audited the accompanying consolidated balance sheets of Cincinnati Financial Corporation and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. Our audits also included the financial statement schedules listed in the Index at Item 15(c). We also have audited the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for these financial statements and financial statement schedules, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on these financial statements and financial statement schedules and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Cincinnati Financial Corporation and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedules, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/S/ Deloitte & Touche LLP
Cincinnati, Ohio
February 24, 2017

Cincinnati Financial Corporation and Subsidiaries

Consolidated Balance Sheets

(Dollars in millions except per share data)

	December 31, 2016	December 31, 2015
Assets		
Investments		
Fixed maturities, at fair value (amortized cost: 2016—\$9,799; 2015—\$9,324)	\$ 10,085	\$ 9,650
Equity securities, at fair value (cost: 2016—\$2,995; 2015—\$2,938)	5,334	4,706
Other invested assets	81	67
Total investments	15,500	14,423
Cash and cash equivalents	777	544
Investment income receivable	134	129
Finance receivable	51	62
Premiums receivable	1,533	1,431
Reinsurance recoverable	545	542
Prepaid reinsurance premiums	62	54
Deferred policy acquisition costs	637	616
Land, building and equipment, net, for company use (accumulated depreciation: 2016—\$237; 2015—\$459)	183	185
Other assets	198	154
Separate accounts	766	748
Total assets	\$ 20,386	\$ 18,888
Liabilities		
Insurance reserves		
Loss and loss expense reserves	\$ 5,085	\$ 4,718
Life policy and investment contract reserves	2,671	2,583
Unearned premiums	2,307	2,201
Other liabilities	786	717
Deferred income tax	865	638
Note payable	20	35
Long-term debt and capital lease obligations	826	821
Separate accounts	766	748
Total liabilities	13,326	12,461
Commitments and contingent liabilities (Note 16)	—	—
Shareholders' Equity		
Common stock, par value—\$2 per share; (authorized: 2016 and 2015—500 million shares; issued: 2016 and 2015—198.3 million shares)	397	397
Paid-in capital	1,252	1,232
Retained earnings	5,037	4,762
Accumulated other comprehensive income	1,693	1,344
Treasury stock at cost (2016—33.9 million shares and 2015—34.4 million shares)	(1,319)	(1,308)
Total shareholders' equity	7,060	6,427
Total liabilities and shareholders' equity	\$ 20,386	\$ 18,888

Accompanying Notes are an integral part of these Consolidated Financial Statements.

Cincinnati Financial Corporation and Subsidiaries

Consolidated Statements of Income

(Dollars in millions except per share data)

	Years ended December 31,		
	2016	2015	2014
Revenues			
Earned premiums	\$ 4,710	\$ 4,480	\$ 4,243
Investment income, net of expenses	595	572	549
Realized investment gains, net	124	70	133
Fee revenues	15	13	12
Other revenues	5	7	8
Total revenues	5,449	5,142	4,945
Benefits and Expenses			
Insurance losses and contract holders' benefits	3,107	2,808	2,856
Underwriting, acquisition and insurance expenses	1,465	1,387	1,301
Interest expense	53	53	53
Other operating expenses	12	13	14
Total benefits and expenses	4,637	4,261	4,224
Income Before Income Taxes	812	881	721
Provision for Income Taxes			
Current	183	231	159
Deferred	38	16	37
Total provision for income taxes	221	247	196
Net Income	\$ 591	\$ 634	\$ 525
Per Common Share			
Net income—basic	\$ 3.59	\$ 3.87	\$ 3.21
Net income—diluted	3.55	3.83	3.18

Accompanying Notes are an integral part of these Consolidated Financial Statements.

Cincinnati Financial Corporation and Subsidiaries

Consolidated Statements of Comprehensive Income

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Net Income	\$ 591	\$ 634	\$ 525
Other Comprehensive Income			
Change in unrealized gains and losses on investments, net of tax of \$186, \$(220) and \$134, respectively	345	(405)	250
Amortization of pension actuarial gains and losses and prior service cost, net of tax of \$6, \$(2) and \$(6), respectively	10	(4)	(12)
Change in life deferred acquisition costs, life policy reserves and other, net of tax of \$(4), \$4 and \$2, respectively	(6)	9	2
Other comprehensive income (loss)	349	(400)	240
Comprehensive Income	\$ 940	\$ 234	\$ 765

Accompanying Notes are an integral part of these Consolidated Financial Statements.

Cincinnati Financial Corporation and Subsidiaries

Consolidated Statements of Shareholders' Equity

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Common Stock			
Beginning of year	\$ 397	\$ 397	\$ 397
Share-based awards	—	—	—
End of year	397	397	397
Paid-In Capital			
Beginning of year	1,232	1,214	1,191
Share-based awards	(8)	(7)	—
Share-based compensation	23	20	19
Other	5	5	4
End of year	1,252	1,232	1,214
Retained Earnings			
Beginning of year	4,762	4,505	4,268
Net income	591	634	525
Dividends declared	(316)	(377)	(288)
End of year	5,037	4,762	4,505
Accumulated Other Comprehensive Income			
Beginning of year	1,344	1,744	1,504
Other comprehensive income (loss)	349	(400)	240
End of year	1,693	1,344	1,744
Treasury Stock			
Beginning of year	(1,308)	(1,287)	(1,290)
Share-based awards	36	41	37
Shares acquired - share repurchase authorization	(39)	(53)	(21)
Shares acquired - share-based compensation plans	(13)	(16)	(19)
Other	5	7	6
End of year	(1,319)	(1,308)	(1,287)
Total Shareholders' Equity	\$ 7,060	\$ 6,427	\$ 6,573

(in millions)

Common Stock - Shares Outstanding			
Beginning of year	163.9	163.7	163.1
Share-based awards	1.0	1.3	1.3
Shares acquired - share repurchase authorization	(0.5)	(1.0)	(0.5)
Shares acquired - share-based compensation plans	(0.2)	(0.3)	(0.4)
Other	0.2	0.2	0.2
End of year	164.4	163.9	163.7

Accompanying Notes are an integral part of these Consolidated Financial Statements.

Cincinnati Financial Corporation and Subsidiaries

Consolidated Statements of Cash Flows

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Cash Flows From Operating Activities			
Net income	\$ 591	\$ 634	\$ 525
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	48	52	51
Realized investment gains, net	(124)	(70)	(133)
Share-based compensation	23	20	19
Interest credited to contract holders'	48	44	47
Deferred income tax expense	38	16	37
Changes in:			
Investment income receivable	(5)	(6)	(2)
Premiums and reinsurance receivable	(113)	(48)	(60)
Deferred policy acquisition costs	(26)	(18)	(20)
Other assets	34	(39)	19
Loss and loss expense reserves	367	233	174
Life policy reserves	102	101	119
Unearned premiums	106	119	106
Other liabilities	49	44	(11)
Current income tax receivable/payable	(35)	(18)	2
Net cash provided by operating activities	1,103	1,064	873
Cash Flows From Investing Activities			
Sale of fixed maturities	15	43	26
Call or maturity of fixed maturities	1,511	1,199	1,019
Sale of equity securities	465	342	335
Purchase of fixed maturities	(1,994)	(1,722)	(1,312)
Purchase of equity securities	(439)	(493)	(392)
Investment in finance receivables	(17)	(14)	(18)
Collection of finance receivables	30	30	31
Investment in buildings and equipment, net	(13)	(10)	(9)
Change in other invested assets, net	(14)	1	9
Net cash used in investing activities	(456)	(624)	(311)
Cash Flows From Financing Activities			
Payment of cash dividends to shareholders	(306)	(366)	(278)
Shares acquired - share repurchase authorization	(39)	(53)	(21)
Payments of note payable	(15)	(14)	(55)
Proceeds from stock options exercised	21	24	22
Contract holders' funds deposited	95	83	86
Contract holders' funds withdrawn	(155)	(148)	(143)
Excess tax benefits on share-based compensation	5	4	2
Other	(20)	(17)	(17)
Net cash used in financing activities	(414)	(487)	(404)
Net change in cash and cash equivalents	233	(47)	158
Cash and cash equivalents at beginning of year	544	591	433
Cash and cash equivalents at end of year	\$ 777	\$ 544	\$ 591
Supplemental Disclosures of Cash Flow Information			
Interest paid	\$ 52	\$ 52	\$ 53
Income taxes paid	213	245	154
Noncash Activities			
Conversion of securities	\$ 4	\$ 3	\$ 7
Equipment acquired under capital lease obligations	20	20	12
Cashless exercise of stock options	13	16	19
Other assets and other liabilities	53	27	—

Accompanying Notes are an integral part of these Consolidated Financial Statements.

Notes to Consolidated Financial Statements

NOTE 1 – Summary of Significant Accounting Policies

Nature of Operations

Cincinnati Financial Corporation (CFC) operates through our insurance group and two complementary subsidiary companies.

The Cincinnati Insurance Company leads our insurance group that also includes two subsidiaries: The Cincinnati Casualty Company and The Cincinnati Indemnity Company. This group markets a broad range of standard market commercial and personal policies. The group focuses on delivery of quality customer service to our select group of 1,614 independent insurance agencies with 2,090 reporting locations across 41 states. In 2015, The Cincinnati Insurance Company began our reinsurance assumed operations, Cincinnati Re. Other subsidiaries of The Cincinnati Insurance Company include The Cincinnati Life Insurance Company, which markets life and disability income insurance and fixed annuities, and The Cincinnati Specialty Underwriters Insurance Company, which offers excess and surplus lines property casualty insurance products.

The two CFC complementary subsidiaries are CSU Producer Resources Inc., which provides insurance brokerage services to our independent agencies so their clients can access our excess and surplus lines insurance products, and CFC Investment Company, which offers commercial leasing and financing services to our agents, their clients and other customers.

Basis of Presentation

Our consolidated financial statements include the accounts of the parent and its wholly owned subsidiaries and are presented in conformity with accounting principles generally accepted in the United States of America (GAAP). All intercompany balances and transactions have been eliminated in consolidation.

The preparation of the consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect amounts reported in the consolidated financial statements and accompanying notes. Our actual results could differ from those estimates.

Investments

Our portfolio investments are primarily in publicly traded fixed-maturity, equity and short-term investments. Fixed-maturity investments (taxable bonds, tax-exempt bonds, redeemable preferred equities and commercial mortgage-backed securities) and equity investments (common and nonredeemable preferred equities) are classified as available for sale and recorded at fair value in the consolidated financial statements. The number of fixed-maturity securities with fair value below 100 percent of amortized cost can be expected to fluctuate as interest rates rise or fall. Because of our strong capital and long-term investment horizon, our general intent is to hold fixed-maturity investments until maturity, regardless of short-term fluctuations in fair values.

Impairment charges for fixed maturities are recorded for other-than-temporary declines in value if fair value is below amortized cost and, in the asset impairment committee's judgment, the fair value is not expected to be recouped within a designated recovery period. Our invested asset impairment policy also states that fixed maturities below their amortized cost that the company (1) intends to sell or (2) more likely than not will be required to sell before recovery of their amortized cost basis are deemed to be other-than-temporarily impaired (OTTI). The amortized cost of any such securities is reduced to fair value as the new cost basis, and a realized loss is recorded in the period in which it is recognized. When these two criteria are not met, and the company believes that full collection of interest and/or principal is not likely, we determine the net present value of future cash flows by using the effective interest rate implicit in the security at the date of acquisition as the discount rate and compare that amount with the amortized cost and fair value of the security. The difference between the net present value of the expected future cash flows and amortized cost of the security is considered a credit loss and recognized as a realized loss in the period in which it occurred. The difference between the fair value and the net present value of the cash flows of the security, the noncredit loss, is recognized in other comprehensive income as an unrealized loss. We had no fixed-maturity securities with a noncredit loss for the years ended 2016 and 2015.

When determining OTTI charges for our equity portfolio, our invested asset impairment policy considers qualitative and quantitative factors, including facts and circumstances specific to individual securities; asset classes; the

financial condition of the issuer; changes in dividend payment; the length of time fair value had been less than cost; the severity of the decline in fair value below cost; the volatility of the security; and our ability and intent to hold each position until its forecasted recovery.

We include the noncredit portion of fixed-maturity OTTI charges and all other unrealized gains and losses on investments, net of taxes, in shareholders' equity as accumulated other comprehensive income (AOCI). Realized gains and losses on investments are recognized in net income based on the trade date accounting method.

Included within our other invested assets are \$31 million of life policy loans, \$23 million of private equity investments and \$27 million of real estate through direct property ownership and development projects in the United States for the year ended 2016. Life policy loans are carried at the receivable value. The private equity investments provide their financial statements to us and generally report investments on their balance sheets at fair value. We use the equity method of accounting for private equity investments.

Investment income consists mainly of interest and dividends. We record interest on an accrual basis and record dividends at the ex-dividend date. We amortize premiums and discounts on fixed-maturity securities using the effective interest method over the expected life of the security.

Fair Value Disclosures

Fair value is defined as the exit price or the amount that would be (1) received to sell an asset or (2) paid to transfer a liability in an orderly transaction between marketplace participants at the measurement date. When determining an exit price, we rely upon observable market data whenever possible. We primarily base fair value for investments in equity and fixed-maturity securities (including redeemable preferred stock and assets held in separate accounts) on quoted market prices or on prices from the company's nationally recognized pricing vendor, an outside resource that supplies global securities pricing, dividend, corporate action and descriptive information to support fund pricing, securities operations, research and portfolio management. The company obtains and reviews the pricing service's valuation methodologies and related inputs and validates these prices by replicating a sample across each asset class using a discounted cash flow model. When a price is not available from these sources, as in the case of securities that are not publicly traded, we determine the fair value using various inputs including quotes from independent brokers. The fair value of investments not priced by the company's nationally recognized pricing vendor is less than 1 percent of the fair value of our total investment portfolio.

For the purpose of ASC 825 disclosure, we estimate the fair value of our long-term senior notes on market pricing of similar debt instruments that are actively trading. We estimate the fair value of our note payable on the year-end outstanding balance because it is short term and tied to a variable interest rate. We estimate the fair value of liabilities for investment contracts and annuities using discounted cash flow calculations across a wide range of economic interest rate scenarios with a provision for our nonperformance risk. We estimate the fair value for policyholder loans on insurance contracts using a discounted cash flow model. Determination of fair value for structured settlements assumes the discount rates used to calculate the present value of expected payments are the risk-free spot rates plus an A3 rated bond spread for financial issuers at December 31, 2016, to account for nonperformance risk. See Note 3, Fair Value Measurements, for further details.

Cash and Cash Equivalents

Cash and cash equivalents are highly liquid instruments that include liquid debt instruments with original maturities of less than three months. These are carried at cost, which approximates fair value.

Property Casualty Insurance

The consolidated property casualty companies actively write property casualty insurance through independent agencies in 41 states. Our 10 largest states generated 61 percent and 62 percent of total earned premiums in 2016 and 2015, respectively. Ohio, our largest state, accounted for 17 percent of total earned premiums in 2016 and 2015. Illinois, Indiana, Georgia, North Carolina, Pennsylvania and Michigan each accounted for between 5 percent and 7 percent of total earned premiums in 2016. Our largest single agency relationship accounted for less than 1 percent of our total property casualty earned premiums in 2016. No aggregate agency relationship locations under a single ownership structure accounted for more than 4 percent of our total property casualty earned premiums in 2016. We record revenues for installment charges as fee revenues in the consolidated statements of income.

Property casualty written premiums are deferred and recorded as earned premiums on a pro rata basis over the terms of the policies. We record as unearned premiums the portion of written premiums that applies to unexpired policy terms. Expenses associated with successfully acquiring insurance policies – commissions, premium taxes and underwriting costs – are deferred and amortized over the terms of the policies. We assess recoverability of deferred acquisition costs at a level consistent with the way we acquire, service and manage insurance policies and measure profitability. We analyze our acquisition cost assumptions to reflect actual experience, and we evaluate potential premium deficiencies.

Certain property casualty policies are not entered into policy underwriting systems as of the effective date of coverage. An estimate is recorded for these unprocessed written premiums. A large majority of the estimate is unearned and has no material impact on earned premiums.

Premiums receivable are reviewed for impairment on a quarterly basis. We maintain an allowance for uncollectible premiums.

We establish reserves to cover the expected cost of claims, losses and expenses related to investigating, processing and resolving claims. Although the appropriate amount of reserves is inherently uncertain, we base our decisions on past experience and current facts. Reserves are based on claims reported prior to the end of the year and estimates of unreported claims. We regularly review and update reserves using the most current information available. Any resulting adjustments are reflected in current calendar year insurance losses and policyholder benefits. We estimate that we may recover some of our costs through salvage and subrogation.

Policyholder Dividends

Certain workers' compensation policies include the possibility of a policyholder earning a return of a portion of premium in the form of a policyholder dividend. The dividend generally is calculated by determining the profitability of a policy year along with the associated premium. We reserve for all probable future policyholder dividend payments. We record policyholder dividends as other underwriting expenses.

Life Insurance

We offer several types of life insurance and disability income insurance, and we account for each according to the duration of the contract. Short-duration life and health contracts are written to cover claims that arise during a short, fixed term of coverage. We generally have the right to change the amount of premium charged or cancel the coverage at the end of each contract term. We record premiums for short-duration life and health contracts similarly to property casualty contracts.

Long-duration contracts are written to provide coverage for an extended period of time. Traditional long-duration contracts require policyholders to pay scheduled gross premiums, generally not less frequently than annually, over the term of the coverage. Premiums for these contracts, such as whole life insurance and disability income insurance, are recognized as revenue when due. Some traditional long-duration contracts, such as ten-pay whole life insurance, have premium payment periods shorter than the period over which coverage is provided. For these contracts, the excess of premium over the amount required to pay expenses and benefits is recognized over the term of the coverage rather than over the premium payment period.

We establish a liability for traditional long-duration contracts as we receive premiums. The amount of this liability is the present value of future expenses and benefits less the present value of future net premiums. Net premium is the portion of gross premium required to provide for all expenses and benefits. We estimate future expenses and benefits and net premium using assumptions for expected expenses, mortality, morbidity, withdrawal rates and investment income. We include a provision for deviation, meaning we allow for some uncertainty in making our assumptions. We establish our assumptions when the contract is issued, and we generally maintain those assumptions for the life of the contract. We use both our own experience and industry experience, adjusted for historical trends, in arriving at our assumptions for expected mortality, morbidity and withdrawal rates. We use our own experience and historical trends for setting our assumption for expected expenses. We base our assumption for expected investment income on our own experience, adjusted for current economic conditions.

We capitalize acquisition costs for traditional long-duration contracts. We charge these capitalized costs associated with successfully acquiring traditional long-duration contract insurance policies over the premium-paying period of the policies. We use the same assumptions used in establishing the liability for the contract. We update our

acquisition cost assumptions periodically to reflect actual experience, and we evaluate our deferred acquisition costs for recoverability.

Universal life contracts are long-duration contracts for which contractual provisions are not fixed, unlike whole life insurance. Universal life contracts allow policyholders to vary the amount of premium, within limits, without our consent. However, we may vary the mortality, expense charges and the interest crediting rate, within limits, used to accumulate policy values. We do not record universal life premiums as revenue. Instead we recognize as revenue the mortality charges, administration charges and surrender charges when received. Some of our universal life contracts assess administration charges in the early years of the contract that are compensation for services we will provide in the later years of the contract. These administration charges are deferred and are recognized over the period when we provide those future services. We maintain a policy reserve liability equal to the policyholder account value. There is no provision for adverse deviation. Some of our universal life policies contain no-lapse guarantee provisions. For these policies, we establish a reserve in addition to the account balance, based on expected no-lapse guarantee benefits and expected policy assessments.

We capitalize acquisition costs associated with successfully acquiring universal life long-duration contracts. We charge these capitalized costs to expenses over the term of coverage of the contract in accordance with the recognition of gross profit from the contract. When we charge deferred policy acquisition costs to expenses, we use assumptions based on our best estimates of long-term experience. We review and modify these assumptions on a regular basis.

Separate Accounts

We have issued universal life contracts with guaranteed minimum returns, referred to as bank-owned life insurance contracts (BOLIs). A BOLI is designed so the bank is the policy owner and the policy beneficiary. We legally segregate and record as separate accounts the assets and liabilities for some of our BOLIs, based on the specific contract provisions. We guarantee minimum investment returns, account values and death benefits for our separate account BOLIs. Our other BOLIs are general account products.

We carry the assets of separate account BOLIs at fair value. The liabilities on separate account BOLIs primarily are the contract holders' claims to the related assets and are carried at an amount equal to the contract holders' account value. At December 31, 2016, the current fair value of the BOLI invested assets and cash exceeded the current fair value of the contract holders' account value by approximately \$16 million. If the BOLI projected fair value were to fall below the value we guaranteed, a liability would be established with a corresponding charge to the company's earnings.

Generally, investment income and realized investment gains and losses of the separate accounts accrue directly to the contract holder, and we do not include them in the consolidated statements of income. Revenues and expenses related to separate accounts consist of contractual fees and mortality, surrender and expense risk charges. Also, each separate account BOLI includes a negotiated capital gain and loss sharing arrangement between the company and the bank. A percentage of each separate account's realized capital gain and loss representing contract fees and assessments accrues to us and is transferred from the separate account to our general account and is recognized as revenue or expense. We record as revenues separate account investment management fees in fee revenues of the consolidated statements of income.

Reinsurance

During 2015, The Cincinnati Insurance Company expanded in the area of reinsurance assumed. Approximately half of the business written includes treaties that provide coverage for property catastrophe events on a worldwide basis. Treaties are written on a pro rata and excess of loss basis. Premiums are primarily earned on a pro rata basis over the coverage period of the treaty. We also assume risk with limited exposure as a reinsurer for other insurance companies, reinsurers and involuntary state pools.

We reduce risk and uncertainty by buying property casualty reinsurance and retrocessional reinsurance as well as life reinsurance. Reinsurance and retrocessional reinsurance contracts do not relieve us from our obligation to policyholders, but rather help protect our financial strength to perform that duty. All of these ceded reinsurance contracts transfer the economic risk of loss.

Premiums that we cede are deferred and recorded as earned premiums on a pro rata basis over the terms of the contracts. We estimate loss amounts recoverable from our reinsurers based on the reinsurance policy terms.

Historically, our claims with reinsurers have been paid. We establish an insignificant allowance for uncollectible reinsurance.

Income Taxes

We calculate deferred income tax liabilities and assets using tax rates in effect when temporary differences in the consolidated financial statement income and taxable income are expected to reverse. We recognize deferred income taxes for numerous temporary differences between our taxable income and consolidated financial statement income and other changes in shareholders' equity. Such temporary differences relate primarily to unrealized gains and losses on investments and differences in the recognition of deferred acquisition costs, unearned premium and insurance reserves. We charge deferred income taxes associated with balances that impact other comprehensive income, such as unrealized appreciation and depreciation of investments (except the amounts related to the effect of income tax rate changes), to shareholders' equity in AOCI. We charge deferred taxes associated with other differences to income.

See Note 11, Income Taxes, for further detail on our uncertain tax positions. Although no Internal Revenue Service (IRS) penalties currently are accrued, if incurred, they would be recognized as a component of income tax expense.

Earnings per Share

Net income per common share is based on the weighted average number of common shares outstanding during each of the respective years. We calculate net income per common share (diluted) assuming the exercise or conversion of share-based awards using the treasury stock method.

Land, Building and Equipment

We record land at cost, and record building and equipment at cost less accumulated depreciation. Equipment held under capital leases also is classified as property and equipment with the related lease obligations recorded as liabilities. We capitalize and amortize costs for internally developed computer software during the application development stage. These costs generally consist of external consulting, internal payroll and payroll-related costs. Our depreciation is based on estimated useful lives (ranging from three years to 39.5 years) using straight-line and accelerated methods. Depreciation expense was \$30 million for 2016, \$36 million for 2015 and \$37 million for 2014. We review our accumulated depreciation for our building, equipment and software assets and write off fully depreciated assets for obsolesce and nonuse. We monitor land, building and equipment and software assets for potential impairments. Potential impairments may include a significant decrease in the fair values of the assets, considerable cost overruns on projects, a change in legal factors or business climate or other factors that indicate that the carrying amount may not be recoverable or useful. There were no recorded land, building and equipment impairments for 2016, 2015 or 2014.

Finance Receivables

Our leasing subsidiary provides auto and equipment direct financing (leases and loans) to commercial and individual clients. We generally transfer ownership of the property to the client as the terms of the leases expire. Our lease contracts contain bargain purchase options. We account for these leases and loans as direct financing-type leases. We capitalize and amortize lease or loan origination costs over the life of the financing, using the effective interest method. These costs may include, but are not limited to finder fees, broker fees, filing fees and the cost of credit reports. We record income as other revenues over the financing term using the effective interest method in the consolidated statements of income. Finance receivables are reviewed for impairment and are insignificant to our consolidated financial position, results of operations and cash flows.

Employee Benefit Pension Plan

We sponsor a defined benefit pension plan that was modified during 2008. We closed entry into the pension plan, and only participants 40 years of age or older could elect to remain in the plan. Our pension expense is based on certain actuarial assumptions and also is composed of several components that are determined using the projected unit credit actuarial cost method. Refer to Note 13, Employee Retirement Benefits, for more information about our defined benefit pension plan.

Share-Based Compensation

We grant qualified and nonqualified share-based compensation under authorized plans. The stock options generally vest on a graded scale over three years following the date of grant and are exercisable over 10-year periods.

We grant service-based restricted stock units that cliff vest three years after the date of grant as well as service-based restricted stock units that vest ratably over the three-year vesting term. We also grant performance-based restricted stock units that vest if certain market conditions are attained. In 2016, the CFC compensation committee approved share-based awards including incentive stock options, nonqualified stock options, service-based restricted and performance-based restricted stock units. See Note 17, Share-Based Associate Compensation Plans, for further details.

Subsequent Events

There were no subsequent events requiring adjustment to the consolidated financial statements or disclosure.

Adopted Accounting Updates

ASU 2014-12, Compensation-Stock Compensation: Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period

In June 2014, the FASB issued ASU 2014-12, *Compensation-Stock Compensation: Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period*. ASU 2014-12 requires that performance targets that affect vesting and that could be achieved after the requisite service period be treated as performance conditions. The effective date of ASU 2014-12 was for interim and annual reporting periods beginning after December 15, 2015. The company adopted this ASU and it did not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2015-02, Consolidation (Topic 810) - Amendments to the Consolidation Analysis

In February 2015, the FASB issued ASU 2015-02, *Consolidation (Topic 810) - Amendments to the Consolidation Analysis*. ASU 2015-02 makes amendments to the current consolidation guidance, focusing mainly on the investment management industry; however, entities across all industries may be impacted. The effective date of ASU 2015-02 was for interim and annual reporting periods beginning after December 15, 2015. The company adopted this ASU and it did not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2015-09, Financial Services-Insurance: Disclosures about Short-Duration Contracts

In May 2015, the FASB issued ASU 2015-09, *Financial Services-Insurance: Disclosures About Short-Duration Contracts*. ASU 2015-09 requires entities to provide additional disclosures about the liability for loss and loss expense reserves to increase the transparency of significant estimates. ASU 2015-09 also requires entities to disclose information about significant changes in methodologies and assumptions used to calculate the liability for loss and loss expense reserves, including reasons for the change and the effects on the financial statements. ASU 2015-09 also requires entities to disclose a rollforward of the liability of loss and loss expense reserves for annual and interim reporting periods. The effective date of ASU 2015-09 is for annual reporting periods beginning after December 15, 2015, and interim reporting periods beginning after December 15, 2016. The Company adopted this ASU as of December 31, 2016. The ASU did not have a material impact on our company's financial position, cash flows or results of operations, but the ASU required additional disclosures in Note 4, Property Casualty Loss and Loss Expenses, to these consolidated financial statements and will require additional disclosure to our interim reporting periods in 2017.

Pending Accounting Updates

ASU 2014-09 Revenue from Contracts with Customers

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*. ASU 2014-09 requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services. Insurance contracts do not fall within the scope of this ASU. The effective date of ASU 2014-09 is for annual reporting periods beginning after December 15, 2017. The ASU has not yet been adopted and will not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2016-01, Financial Instruments - Overall (Subtopic 825-10) - Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10) - Recognition and Measurement of Financial Assets and Financial Liabilities*. ASU 2016-01 revises the accounting related to the

classification and measurement of investments in equity securities and the presentation of certain fair value changes for financial liabilities measured at fair value. The effective date of ASU 2016-01 is for interim and annual reporting periods beginning after December 15, 2017. The ASU has not yet been adopted. Management is currently evaluating the impact on our company's consolidated financial position, cash flows and results of operations.

ASU 2016-02, Leases (Topic 842)

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The main provision of ASU 2016-02 requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. The effective date of ASU 2016-02 is for interim and annual reporting periods beginning after December 15, 2018. The ASU has not yet been adopted. Management is currently evaluating the impact on our company's consolidated financial position, cash flows and results of operations.

ASU 2016-07, Investments - Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting

In March 2016, the FASB issued ASU 2016-07, *Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting*. ASU 2016-07 eliminates the requirement to retroactively adjust an investment, results of operations, and retained earnings once an investment qualifies for use of the equity method. It requires the equity method investor to add the cost of acquiring the additional interest in the investee to the current basis of the investor's previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting without retroactive adjustment. The effective date of ASU 2016-07 is for interim and annual reporting periods beginning after December 15, 2016. The ASU has not yet been adopted; however, it will not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting

In March 2016, the FASB issued ASU 2016-09, *Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. ASU 2016-09 simplifies and improves several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The effective date of ASU 2016-09 is for interim and annual reporting periods beginning after December 15, 2016. The ASU has not yet been adopted; however, it will not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 amends previous guidance on the impairment of financial instruments by adding an impairment model that allows an entity to recognize expected credit losses as an allowance rather than impairing as they are incurred. The new guidance is intended to reduce complexity of credit impairment models and result in a more timely recognition of expected credit losses. The effective date of ASU 2016-13 is for interim and annual reporting periods beginning after December 15, 2019. The ASU has not yet been adopted. Management is currently evaluating the impact on our company's consolidated financial position, cash flows and results of operations.

ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. ASU 2016-15 addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. The effective date of ASU 2016-15 is for interim and annual reporting periods beginning after December 15, 2017. The ASU has not yet been adopted; however, it is not expected to have a material impact on our company's consolidated financial position, cash flows or results of operations.

NOTE 2 – Investments

The following table provides cost or amortized cost, gross unrealized gains, gross unrealized losses and fair value for our fixed-maturity and equity securities:

(Dollars in millions)				
	Cost or amortized cost	Gross unrealized		Fair value
		gains	losses	
At December 31, 2016				
Fixed-maturity securities:				
Corporate	\$ 5,555	\$ 252	\$ 26	\$ 5,781
States, municipalities and political subdivisions	3,770	100	42	3,828
Commercial mortgage-backed	282	7	2	287
Government-sponsored enterprises	167	—	3	164
Foreign government	10	—	—	10
United States government	10	—	—	10
Convertibles and bonds with warrants attached	5	—	—	5
Subtotal	9,799	359	73	10,085
Equity securities:				
Common equities	2,812	2,320	9	5,123
Nonredeemable preferred equities	183	28	—	211
Subtotal	2,995	2,348	9	5,334
Total	\$ 12,794	\$ 2,707	\$ 82	\$ 15,419
At December 31, 2015				
Fixed-maturity securities:				
Corporate	\$ 5,294	\$ 255	\$ 96	\$ 5,453
States, municipalities and political subdivisions	3,440	172	1	3,611
Commercial mortgage-backed	287	4	2	289
Government-sponsored enterprises	284	—	6	278
Foreign government	10	—	—	10
Convertibles and bonds with warrants attached	5	—	—	5
United States government	4	—	—	4
Subtotal	9,324	431	105	9,650
Equity securities:				
Common equities	2,749	1,787	51	4,485
Nonredeemable preferred equities	189	32	—	221
Subtotal	2,938	1,819	51	4,706
Total	\$ 12,262	\$ 2,250	\$ 156	\$ 14,356

The net unrealized investment gains in our fixed-maturity portfolio at December 31, 2016, are primarily the result of the continued low interest rate environment that increased the fair value of our fixed-maturity portfolio. Our commercial mortgage-backed securities had an average rating of Aa1/AA at December 31, 2016 and 2015. The seven largest net unrealized investment gains in our common stock portfolio are from JP Morgan Chase & Co. (NYSE:JPM), Exxon Mobil Corporation (NYSE:XOM), Honeywell International Incorporated (NYSE:HON), BlackRock Inc. (NYSE:BLK), Microsoft Corporation (Nasdaq:MSFT), Johnson and Johnson (NYSE:JNJ), and The Procter & Gamble Company (NYSE:PG), which had a combined gross unrealized gain of \$698 million. At December 31, 2016, JP Morgan Chase & Co. was our largest single equity holding with a fair value of 3.8 percent of our publicly traded common equities portfolio and 1.3 percent of the total investment portfolio.

The table below provides fair values and unrealized losses by investment category and by the duration of the securities' continuous unrealized loss positions:

(Dollars in millions)	Less than 12 months		12 months or more		Total	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
At December 31, 2016						
Fixed-maturity securities:						
Corporate	\$ 733	\$ 15	\$ 189	\$ 11	\$ 922	\$ 26
States, municipalities and political subdivisions	989	42	—	—	989	42
Commercial mortgage-backed	89	2	2	—	91	2
Government-sponsored enterprises	155	3	—	—	155	3
United States government	6	—	—	—	6	—
Subtotal	1,972	62	191	11	2,163	73
Equity securities:						
Common equities	103	9	—	—	103	9
Nonredeemable preferred equities	4	—	—	—	4	—
Subtotal	107	9	—	—	107	9
Total	\$ 2,079	\$ 71	\$ 191	\$ 11	\$ 2,270	\$ 82
At December 31, 2015						
Fixed-maturity securities:						
Corporate	\$ 1,099	\$ 63	\$ 133	\$ 33	\$ 1,232	\$ 96
States, municipalities and political subdivisions	47	1	22	—	69	1
Commercial mortgage-backed	103	2	2	—	105	2
Government-sponsored enterprises	100	2	127	4	227	6
Subtotal	1,349	68	284	37	1,633	105
Equity securities:						
Common equities	270	51	—	—	270	51
Nonredeemable preferred equities	35	—	—	—	35	—
Subtotal	305	51	—	—	305	51
Total	\$ 1,654	\$ 119	\$ 284	\$ 37	\$ 1,938	\$ 156

Contractual maturity dates for fixed-maturity investments were:

(Dollars in millions)			
At December 31, 2016	Amortized cost	Fair value	% of fair value
Maturity dates:			
Due in one year or less	\$ 462	\$ 469	4.6%
Due after one year through five years	2,974	3,135	31.1
Due after five years through ten years	3,850	3,941	39.1
Due after ten years	2,513	2,540	25.2
Total	\$ 9,799	\$ 10,085	100.0%

Actual maturities may differ from contractual maturities when there is a right to call or prepay obligations with or without call or prepayment penalties.

At December 31, 2016, fixed-maturity investments with amortized cost of \$70 million and fair value of \$72 million were on deposit with various states in compliance with regulatory requirements. At December 31, 2015, fixed-maturity investments with amortized cost of \$74 million and fair value of \$77 million were on deposit with various states in compliance with regulatory requirements.

The following table provides investment income, realized investment gains and losses, and the change in unrealized investment gains and losses:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Investment income:			
Interest	\$ 440	\$ 428	\$ 417
Dividends	161	150	138
Other	3	3	2
Total	604	581	557
Less investment expenses	9	9	8
Total	\$ 595	\$ 572	\$ 549
Realized investment gains and losses:			
Fixed maturities:			
Gross realized gains	\$ 26	\$ 18	\$ 21
Gross realized losses	(1)	—	(3)
Other-than-temporary impairments	(2)	(18)	(15)
Equity securities:			
Gross realized gains	152	129	136
Gross realized losses	(53)	(26)	—
Other-than-temporary impairments	—	(34)	(9)
Other	2	1	3
Total	\$ 124	\$ 70	\$ 133
Change in unrealized investment gains and losses:			
Fixed maturities	\$ (40)	\$ (263)	\$ 106
Equity securities	571	(362)	278
Less deferred income taxes	186	(220)	134
Total	\$ 345	\$ (405)	\$ 250

For the years ended December 31, 2016, 2015 and 2014, there were no credit losses on fixed-maturity securities for which a portion of OTTI has been recognized in other comprehensive income.

During 2016, we other-than-temporarily impaired four securities. At December 31, 2016, 32 fixed-maturity investments with a total unrealized loss of \$11 million had been in an unrealized loss position for 12 months or more. Of that total, no fixed-maturity investments had fair values below 70 percent of amortized cost. There were no equity security investments in an unrealized loss position for 12 months or more as of December 31, 2016.

During 2015, we other-than-temporarily impaired 20 securities. At December 31, 2015, 69 fixed-maturity investments with a total unrealized loss of \$37 million had been in an unrealized loss position for 12 months or more. Of that total, five fixed-maturity investments had fair values below 70 percent of amortized cost. There were no equity security investments in an unrealized loss position for 12 months or more as of December 31, 2015.

During 2014, we other-than-temporarily impaired six securities. At December 31, 2014, 144 fixed-maturity investments with a total unrealized loss of \$10 million had been in an unrealized loss position for 12 months or more. Of that total, no fixed-maturity investments had fair values below 70 percent of amortized cost. There were three equity security investments in an unrealized loss position for 12 months or more with a total unrealized loss of \$1 million as of December 31, 2014. Of that total, no equity security investments had fair values below 70 percent of cost.

NOTE 3 – Fair Value Measurements

Fair Value Hierarchy

The fair value hierarchy gives the highest priority to quoted prices with readily available independent data in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable market inputs (Level 3). When various inputs for measurement fall within different levels of the fair value hierarchy, the lowest observable input that has a significant impact on fair value measurement is used. Our valuation techniques have not changed from those used at December 31, 2015, and ultimately management determines fair value. Financial instruments reported at fair value in our consolidated financial statements are categorized based upon the following characteristics or inputs to the valuation techniques:

- Level 1 – Financial assets and liabilities for which inputs are observable and are obtained from reliable quoted prices for identical assets or liabilities in active markets. This is the most reliable fair value measurement and includes, for example, active exchange-traded equity securities.
- Level 2 – Financial assets and liabilities for which values are based on quoted prices in markets that are not active or for which values are based on similar assets and liabilities that are actively traded. This also includes pricing models for which the inputs are corroborated by market data.

The technique used for the Level 2 fixed-maturity securities and taxable fixed maturities in separate accounts is the application of market based modeling. The inputs used for all classes of fixed-maturity securities listed in the table below include relevant market information by asset class, trade activity of like securities, marketplace quotes, benchmark yields, spreads off benchmark yields, interest rates, U.S. Treasury or swap curves, yield to maturity and economic events. Specific to commercial mortgage-backed securities, key inputs also include prepayment and default projections based on past performance of the underlying collateral and current market data. All of the Level 2 fixed-maturity securities are priced by a nationally recognized pricing vendor.

The Level 2 nonredeemable preferred equities technique used is the application of market based modeling. The inputs used, similar to those used by the pricing vendor for our fixed-maturity securities, include relevant market information, trade activity of like securities, yield to maturity, corporate action notices and economic events. All of the Level 2 nonredeemable preferred equities are priced by a nationally recognized pricing vendor.

- Level 3 – Financial assets and liabilities for which values are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. Level 3 inputs include the following:
 - Quotes from brokers or other external sources that are not considered binding;
 - Quotes from brokers or other external sources where it cannot be determined that market participants would in fact transact for the asset or liability at the quoted price; or
 - Quotes from brokers or other external sources where the inputs are not deemed observable.

The following tables illustrate the fair value hierarchy for those assets measured at fair value on a recurring basis at December 31, 2016 and 2015. We do not have any liabilities carried at fair value. There were no transfers between Level 1 and Level 2.

(Dollars in millions)						
	Quoted prices in active markets for identical assets (Level 1)		Significant other observable inputs (Level 2)		Significant unobservable inputs (Level 3)	Total
At December 31, 2016						
Fixed maturities, available for sale:						
Corporate	\$	—	\$	5,703	\$ 78	\$ 5,781
States, municipalities and political subdivisions		—		3,828	—	3,828
Commercial mortgage-backed		—		287	—	287
Government-sponsored enterprises		—		164	—	164
Foreign government		—		10	—	10
United States government		10		—	—	10
Convertibles and bonds with warrants attached		—		5	—	5
Subtotal		10		9,997	78	10,085
Common equities, available for sale		5,123		—	—	5,123
Nonredeemable preferred equities, available for sale		—		211	—	211
Separate accounts taxable fixed maturities		—		750	—	750
Top Hat savings plan mutual funds and common equity (included in Other assets)		24		—	—	24
Total	\$	5,157	\$	10,958	\$ 78	\$ 16,193
At December 31, 2015						
Fixed maturities, available for sale:						
Corporate	\$	—	\$	5,402	\$ 51	\$ 5,453
States, municipalities and political subdivisions		—		3,611	—	3,611
Commercial mortgage-backed		—		289	—	289
Government-sponsored enterprises		—		278	—	278
Foreign government		—		10	—	10
Convertibles and bonds with warrants attached		—		5	—	5
United States government		4		—	—	4
Subtotal		4		9,595	51	9,650
Common equities, available for sale		4,485		—	—	4,485
Nonredeemable preferred equities, available for sale		—		218	3	221
Separate accounts taxable fixed maturities		—		736	1	737
Top Hat savings plan mutual funds and common equity (included in Other assets)		21		—	—	21
Total	\$	4,510	\$	10,549	\$ 55	\$ 15,114

Each financial instrument that was deemed to have significant unobservable inputs when determining valuation is identified in the following tables by security type with a summary of changes in fair value for the years ended December 31, 2016 and 2015. Total Level 3 assets continue to be less than 1 percent of financial assets measured at fair value in the consolidated balance sheets. Assets presented in the table below were valued based primarily on broker/dealer quotes for which there is a lack of transparency as to inputs used to develop the valuations. Transfers into Level 3 included situations where a fair value quote was not provided by the company's nationally recognized pricing vendor and as a result the price was stale or had been replaced with a broker quote where the inputs had not been corroborated to be market observable resulting in the security being classified as Level 3. Transfers out of Level 3 included situations where a broker quote was used in the prior period and a fair value quote

became available from the company's pricing vendor in the current period. The quantitative detail of these unobservable inputs is neither provided nor reasonably available to us.

The following table provides the change in Level 3 assets during 2016 and 2015:

(Dollars in millions)	Asset fair value measurements using significant unobservable input			
	Corporate fixed maturities	Taxable fixed maturities-separate accounts	Nonredeemable preferred equities	Total
Beginning balance, January 1, 2016	\$ 51	\$ 1	\$ 3	\$ 55
Total gains or losses (realized/unrealized):				
Included in net income	—	—	—	—
Included in other comprehensive income	—	—	(1)	(1)
Purchases	57	—	—	57
Sales	(1)	—	(2)	(3)
Transfers into Level 3	13	—	—	13
Transfers out of Level 3	(42)	(1)	—	(43)
Ending balance, December 31, 2016	<u>\$ 78</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 78</u>
Beginning balance, January 1, 2015	\$ 18	\$ —	\$ 2	\$ 20
Total gains or losses (realized/unrealized):				
Included in net income	—	—	—	—
Included in other comprehensive income	—	—	1	1
Purchases	36	1	—	37
Sales	—	—	—	—
Transfers into Level 3	—	—	—	—
Transfers out of Level 3	(3)	—	—	(3)
Ending balance, December 31, 2015	<u>\$ 51</u>	<u>\$ 1</u>	<u>\$ 3</u>	<u>\$ 55</u>

With the exception of the above table, additional disclosures for the Level 3 category are not material.

Fair Value Disclosure for Assets and Liabilities Not Carried at Fair Value

The disclosures below are presented to provide information about the effects of current market conditions on financial instruments that are not reported at fair value in our consolidated financial statements.

The following table shows fair values of our note payable and long-term debt:

(Dollars in millions)	Quoted prices in active markets for identical assets (Level 1)		Significant other observable inputs (Level 2)		Significant unobservable inputs (Level 3)		Total
At December 31, 2016							
Note payable	\$	—	\$	20	\$	—	\$ 20
6.900% senior debentures, due 2028		—		33		—	33
6.920% senior debentures, due 2028		—		488		—	488
6.125% senior notes, due 2034		—		435		—	435
Total	\$	—	\$	976	\$	—	\$ 976
At December 31, 2015							
Note payable	\$	—	\$	35	\$	—	\$ 35
6.900% senior debentures, due 2028		—		31		—	31
6.920% senior debentures, due 2028		—		480		—	480
6.125% senior notes, due 2034		—		425		—	425
Total	\$	—	\$	971	\$	—	\$ 971

Fair value of the note payable was determined based upon the outstanding balance at December 31, 2016 and 2015, because it is short term and tied to a variable interest rate. Fair value of the long-term debt was determined under the fair value measurements and disclosure accounting rules based on market pricing of similar debt instruments that are actively trading. We determine fair value for our debt the same way that we value corporate fixed maturities in our investment portfolio. Fair value can vary with macroeconomic conditions. Regardless of the fluctuations in fair value, the outstanding principal amount of our long-term debt is \$793 million at both December 31, 2016 and 2015. None of the long-term debt is encumbered by rating triggers. The note payable and long-term debt were classified as Level 2 as an active market does not exist, but fair value is determined based on observable inputs.

The following table shows the fair value of our life policy loans, included in other invested assets:

(Dollars in millions)						
	Quoted prices in active markets for identical assets (Level 1)		Significant other observable inputs (Level 2)		Significant unobservable inputs (Level 3)	Total
At December 31, 2016						
Life policy loans	\$	—	\$	—	\$ 40	\$ 40
At December 31, 2015						
Life policy loans	\$	—	\$	—	\$ 40	\$ 40

Outstanding principal and interest for these life policy loans totaled \$31 million at December 31, 2016 and 2015. To determine the fair value, we make the following significant assumptions: (1) the discount rates used to calculate the present value of expected payments are the risk-free spot rates, as nonperformance risk is minimal; and (2) the loan repayment rate by which policyholders pay off their loan balances is in line with past experience.

The following table shows fair value of our deferred annuities and structured settlements included in life policy and investment contract reserves:

(Dollars in millions)				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
At December 31, 2016				
Deferred annuities	\$ —	\$ —	\$ 839	\$ 839
Structured settlements	—	206	—	206
Total	\$ —	\$ 206	\$ 839	\$ 1,045
At December 31, 2015				
Deferred annuities	\$ —	\$ —	\$ 886	\$ 886
Structured settlements	—	208	—	208
Total	\$ —	\$ 208	\$ 886	\$ 1,094

Recorded reserves for the deferred annuities were \$861 million and \$860 million at December 31, 2016 and 2015, respectively. Recorded reserves for the structured settlements were \$170 million and \$174 million at December 31, 2016 and 2015, respectively.

Fair values for deferred annuities were calculated based upon internally developed models because active markets and observable inputs do not exist. To determine the fair value, we made the following significant assumptions: (1) the discount rates used to calculate the present value of expected payments are the risk-free spot rates plus an A3 rated bond spread for financial issuers at December 31, 2016 and 2015, to account for nonperformance risk; (2) the rate of interest credited to policyholders is the portfolio net earned interest rate less a spread for expenses and profit; and (3) additional lapses occur when the credited interest rate is exceeded by an assumed competitor credited rate, which is a function of the risk-free rate of the economic scenario being modeled.

Fair values for structured settlements were calculated based on internally developed models which assume the discount rates used to calculate the present value of expected payments are the risk-free spot rates plus an A3 rated bond spread for financial issuers at December 31, 2016 and 2015, to account for nonperformance risk. The structured settlements were classified as Level 2 as an active market does not exist, but fair value is based on observable inputs.

NOTE 4 – Property Casualty Loss and Loss Expenses

We use actuarial methods, models and judgment to estimate, as of a financial statement date, the property casualty loss and loss expense reserves required to pay for and settle all outstanding insured claims, including incurred but not reported (IBNR) claims, as of that date. The actuarial estimate is subject to review and adjustment by an inter-departmental committee that includes actuarial, claims, underwriting, loss prevention and accounting management. This committee is familiar with relevant company and industry business, claims and underwriting trends, as well as general economic and legal trends that could affect future loss and loss expense payments. The amount we will actually have to pay for claims can be highly uncertain. This uncertainty, together with the size of our reserves, makes the loss and loss expense reserves our most significant estimate.

Our reserving process takes into account known facts and interpretations of circumstances and factors including the type of claim, policy provisions pertaining to each claim, potential subrogation or salvage recoverable, large loss activity and trends, new business activity, judicial decisions, economic conditions, changes in law and regulation and product and underwriting changes. There have been no significant changes in methodologies and assumptions used in calculating loss and loss expense reserves for all years presented. There were no material additional premiums or return premiums accrued for as a result of prior-year effects.

Our field claims representatives establish case reserves when claims are reported to provide for our unpaid loss and loss expense obligation associated with individual claims.

For events designated as natural catastrophes, we calculate IBNR reserves directly as a result of estimated claim counts and estimated average dollar amount per claim for each event. Once individual case reserves are established for a catastrophe event, we reduce the IBNR reserves.

Our actuarial staff uses generally accepted actuarial methods and models to derive ultimate loss and IBNR reserve estimates. The time interval between a claims occurrence and its settlement is one of the crucial attributes when estimating ultimate losses and IBNR reserves.

Due to the uncertainties inherent with loss reserves, our ultimate loss experience could prove better or worse than what our carried reserves reflect. To the extent that reserves are inadequate and are required to be increased, the amount of the increase is a charge in that period, raising our loss and loss expense ratio and reducing earnings. To the extent that reserves are redundant and are required to be released, the amount of the release is a credit in that period, reducing our loss and loss expense ratio and increasing earnings.

This table summarizes activity for our consolidated property casualty loss and loss expense reserves:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Gross loss and loss expense reserves, January 1	\$ 4,660	\$ 4,438	\$ 4,241
Less reinsurance recoverable	281	282	299
Net loss and loss expense reserves, January 1	4,379	4,156	3,942
Net incurred loss and loss expenses related to:			
Current accident year	3,029	2,756	2,725
Prior accident years	(168)	(184)	(98)
Total incurred	2,861	2,572	2,627
Net paid loss and loss expenses related to:			
Current accident year	1,260	1,152	1,212
Prior accident years	1,243	1,197	1,201
Total paid	2,503	2,349	2,413
Net loss and loss expense reserves, December 31	4,737	4,379	4,156
Plus reinsurance recoverable	298	281	282
Gross loss and loss expense reserves, December 31	\$ 5,035	\$ 4,660	\$ 4,438

The reserve for loss and loss expense in the consolidated balance sheets also included \$50 million, \$58 million and \$47 million, respectively, for certain life and health loss and loss expense reserves. Additional disclosures for reserves related to these health claims are not material.

During 2016, we experienced \$168 million of favorable development on prior accident years including \$129 million of favorable development in commercial lines, \$4 million of favorable development in personal lines, \$34 million of favorable development in excess and surplus lines and \$1 million of favorable development in our reinsurance assumed operations. We recognized favorable development of \$69 million for the workers' compensation line, \$29 million for the commercial property line, \$20 million for the commercial casualty line and \$42 million for the other commercial lines due to reduced uncertainty of prior accident year loss and loss expense for these lines. This illustrates the potential for revisions inherent in estimating reserves, especially for long-tail lines such as workers' compensation. We recognized unfavorable reserve development of \$31 million for the commercial auto line and \$18 million for the personal auto line. Both lines developed unfavorable due to higher loss cost effects in recent accident years, resulting in an increase of our reserve estimate for claims that have not yet been settled.

During 2015, we experienced \$184 million of favorable development on prior accident years including \$154 million of favorable development in commercial lines, \$5 million of adverse development in personal lines and \$35 million of favorable development in excess and surplus lines. Favorable development in 2015 was \$86 million more than in 2014, due primarily to reduced uncertainty of prior accident year loss and loss expense. This illustrates the potential for revisions inherent in estimating reserves, especially for long-tail lines such as commercial casualty and workers' compensation. We recognized favorable development of \$93 million for the workers' compensation line, largely due to more favorable 2015 workers' compensation trends for estimated payments to be made in future calendar years that were down slightly from 2014. We recognized favorable development of \$63 million for the commercial casualty line. Development for products liability was favorable for most prior accident years and development of prior years

for commercial umbrella coverage improved slightly better than expected. Therefore, estimated ultimate losses were lowered. Our commercial auto line experienced \$31 million of adverse development due to higher loss cost effects in recent accident years, resulting in an increase of our reserve estimate for claims that have not yet been settled. We believe we were slow to recognize some of the higher loss cost effects.

During 2014, we experienced \$98 million of favorable development on prior accident years including \$57 million of favorable development in commercial lines, \$12 million of favorable development in personal lines and \$29 million of favorable development in excess and surplus lines. Favorable development in 2014 was \$49 million less than in 2013, largely due to the change in prior accident years before catastrophes. We recognized favorable reserve development of \$51 million for the workers' compensation line, \$34 million for the commercial property line and \$14 million for the homeowner line, due to reduced uncertainty of prior accident year loss and loss expense for these lines. Our commercial casualty line experienced \$5 million of adverse development due to an increase in its paid loss and loss expenses for cumulative accident years three or more years old, resulting in an increase recognized in estimates for IBNR losses and loss expenses for all prior accident years in total compared to 2013 and 2012. Our commercial auto line developed unfavorably by \$39 million during 2014 due to higher loss cost effects in recent accident years, resulting in an increase of our reserve estimate for claims that have not yet been settled.

Included in our lines of business are asbestos and environmental claims. We carried \$85 million of net loss and loss expense reserves for asbestos and environmental claims and \$45 million of reserves for mold claims at December 31, 2016, compared with \$84 million and \$45 million, respectively, at December 31, 2015. The asbestos and environmental claims amounts for each respective year constituted 1.8 percent and 1.9 percent of total net loss and loss expense reserves at these year-end dates.

We believe our exposure to asbestos and environmental claims is limited, largely because our reinsurance retention was \$500,000 or below prior to 1987. We also were predominantly a personal lines company in the 1960s and 1970s. During the 1980s and early 1990s, commercial lines grew as a percentage of our overall business and our exposure to asbestos and environmental claims grew accordingly. Over that period, we included an asbestos and environmental exclusion in almost all policies or endorsed the exclusion to the policies. We have not engaged in any mergers or acquisitions through which such a liability could have been assumed. We continue to monitor our claims for evidence of material exposure to other mass tort classes such as silicosis, but we have found no such credible evidence to date.

The following table provides a reconciliation of the property casualty incurred losses and allocated loss adjustment expenses (ALAE) development and paid losses and ALAE development information at December 31, 2016.

(Dollars in millions)							
	Cumulative incurred losses and ALAE as reported within the triangles, net of reinsurance	Cumulative paid losses and ALAE as reported within the triangles, net of reinsurance	Liabilities for loss and ALAE for accident years not presented in the triangles, net of reinsurance	Total liabilities for loss and ALAE, net of reinsurance	Reinsurance recoverable on unpaid losses	Total liabilities for gross loss and loss expense reserves	
Commercial casualty	\$ 4,160	\$ 2,421	\$ 81	\$ 1,820	\$ 137	\$ 1,957	
Workers' compensation	2,370	1,686	242	926	75	1,001	
Commercial auto	1,768	1,264	12	516	5	521	
Commercial property	2,187	1,910	11	288	18	306	
Personal auto	1,633	1,388	4	249	31	280	
Homeowner	1,452	1,322	2	132	2	134	
Excess and surplus	366	144	1	223	6	229	
Other short-duration insurance lines						342	
Total liabilities for loss and ALAE reserves						4,770	
Unallocated loss adjustment expense reserves						265	
Gross loss and loss expense reserves						\$ 5,035	

For all lines of business, the claim counts reported are primarily measured by insurance coverages that are triggered when a loss occurs and a reserve is established. For this purpose, coverages are defined as unique

combinations of certain attributes such as line of business and cause of loss. Claims that are opened and closed without payment are included in the reported claim counts. Claim counts are presented on a direct basis only and do not reflect any assumed or ceded reinsurance.

In the following tables, commercial casualty and workers' compensation each disclose 10 accident years of loss and ALAE reserves and eight accident years of the cumulative number of reported claims. In 2009, we refined our claim count logic such that the definition of an open claim, a closed claim and a claim that closes without payment was uniform amongst all of our systems, including legacy systems. Therefore, consistent definitions are only available for accident year 2009 and forward. We will increase the commercial casualty and workers' compensation cumulative number of reported claims by one year in future periods, not to exceed 10 years. Commercial auto, commercial property, personal auto and homeowner each disclose five accident years of loss and ALAE reserves and cumulative number of reported claims as each of these lines have five year cumulative average annual percentage payouts in excess of 95 percent. The excess and surplus lines began operations in 2008 with earned premiums and loss and ALAE reserves being immaterial prior to 2011. Accordingly, we initially disclose six accident years of loss and ALAE reserves and cumulative number of reported claims for the excess and surplus lines, and will disclose additional accident years, not to exceed 10 years.

Commercial Casualty

The following table shows the commercial casualty incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)											As of December 31, 2016		
Incurred losses and ALAE, net of reinsurance											Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Years ended December 31,												
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
2007	\$ 509	\$ 447	\$ 412	\$ 379	\$ 352	\$ 334	\$ 328	\$ 338	\$ 333	\$ 341	\$ 5	—	
2008		516	458	409	387	362	359	357	357	355	10	—	
2009			484	409	412	360	370	365	357	357	21	20	
2010				495	394	378	349	347	348	349	31	20	
2011					466	404	377	377	375	380	37	19	
2012						466	414	417	394	394	48	18	
2013							448	443	431	416	96	19	
2014								503	496	479	128	20	
2015									533	526	225	19	
2016										563	337	15	
Total										\$ 4,160			
Cumulative paid losses and ALAE, net of reinsurance													
2007	\$ 29	\$ 92	\$ 145	\$ 200	\$ 248	\$ 275	\$ 290	309	\$ 314	\$ 324			
2008		31	93	158	212	262	293	315	325	331			
2009			27	75	151	213	267	295	310	322			
2010				33	92	159	203	256	285	300			
2011					27	93	149	227	266	298			
2012						27	88	170	232	288			
2013							35	90	159	232			
2014								34	97	172			
2015									38	108			
2016										46			
Total										2,421			
All outstanding liabilities before 2007, net of reinsurance											81		
Liabilities for loss and ALAE, net of reinsurance											\$ 1,820		

The following table shows the average annual percentage payout of incurred losses for the commercial casualty line of business:

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)											
Years	1	2	3	4	5	6	7	8	9	10	
Average annual percentage payout	8.0%	15.4%	17.7%	16.5%	13.8%	8.3%	4.7%	4.0%	1.5%	2.9%	

Workers' Compensation

The following table shows the workers' compensation incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)											As of December 31, 2016		
Incurred losses and ALAE, net of reinsurance											Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Years ended December 31,												
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Unaudited												
2007	\$ 286	\$ 281	\$ 287	\$ 286	\$ 277	\$ 279	\$ 280	\$ 277	277	\$ 275	\$ 28	—	
2008		298	305	310	302	299	299	297	296	296	31	—	
2009			307	278	263	238	238	235	234	234	22	27	
2010				283	274	248	242	240	239	240	26	26	
2011					284	251	246	242	239	236	26	24	
2012						265	245	234	220	213	29	21	
2013							264	246	221	212	34	20	
2014								261	233	214	48	19	
2015									246	220	83	17	
2016										230	106	14	
Total										\$ 2,370			
Cumulative paid losses and ALAE, net of reinsurance													
2007	\$ 67	\$ 145	\$ 185	\$ 206	\$ 219	\$ 226	\$ 230	\$ 233	\$ 237	\$ 238			
2008		72	155	195	217	233	242	247	251	254			
2009			65	132	163	179	188	193	198	201			
2010				67	134	164	181	192	198	202			
2011					65	131	161	177	186	190			
2012						62	121	147	162	171			
2013							61	119	144	157			
2014								56	110	134			
2015									47	93			
2016										46			
Total										1,686			
All outstanding liabilities before 2007, net of reinsurance											242		
Liabilities for loss and ALAE, net of reinsurance											\$ 926		

The following table shows the average annual percentage payout of incurred losses for the workers' compensation line of business:

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)										
Years	1	2	3	4	5	6	7	8	9	10
Average annual percentage payout	25.7%	26.9%	12.7%	7.1%	4.4%	2.4%	1.6%	1.4%	1.2%	0.5%

Commercial Auto

The following table shows the commercial auto incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)								As of December 31, 2016		
Incurred losses and ALAE, net of reinsurance								Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Years ended December 31,					2016				
	2012	2013	2014	2015						
	Unaudited									
2012	\$ 275	\$ 273	\$ 285	\$ 288	\$ 294	\$ 2	43			
2013		292	305	315	322	9	46			
2014			333	346	351	14	51			
2015				374	384	38	51			
2016					417	81	49			
Total					\$ 1,768					
Cumulative paid losses and ALAE, net of reinsurance										
2012	\$ 129	\$ 184	\$ 222	\$ 258	\$ 278					
2013		141	199	246	285					
2014			159	223	273					
2015				173	244					
2016					184					
Total					1,264					
All outstanding liabilities before 2012, net of reinsurance					12					
Liabilities for loss and ALAE, net of reinsurance					\$ 516					

The following table shows the average annual percentage payout of incurred losses for the commercial auto line of business. Commercial auto includes both physical damage and liability losses. A majority of the incurred losses paid after year 2 are the result of liability losses.

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)					
Years	1	2	3	4	5
Average annual percentage payout	44.4%	18.4%	13.9%	12.2%	6.9%

Commercial Property

The following table shows the commercial property incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)										As of December 31, 2016			
Incurred losses and ALAE, net of reinsurance										Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims		
Accident Year	Years ended December 31,												
	2012	2013	2014	2015									
	Unaudited				2016								
2012	\$	403	\$	389	\$	388	\$	383	\$	386	\$	—	16
2013				389		359		352		356		2	14
2014						452		444		441		—	17
2015								454		414		5	16
2016										590		38	16
Total									\$	2,187			
Cumulative paid losses and ALAE, net of reinsurance													
2012	\$	255	\$	356	\$	376	\$	380	\$	383			
2013				227		330		344		349			
2014						297		412		432			
2015								279		388			
2016										358			
Total										1,910			
All outstanding liabilities before 2012, net of reinsurance										11			
Liabilities for loss and ALAE, net of reinsurance										\$	288		

The following table shows the average annual percentage payout of incurred losses for the commercial property line of business:

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)					
Years	1	2	3	4	5
Average annual percentage payout	65.0%	26.8%	4.6%	1.2%	0.9%

Personal Auto

The following table shows the personal auto incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)								As of December 31, 2016		
Incurred losses and ALAE, net of reinsurance								Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Years ended December 31,					2016				
	2012	2013	2014	2015	Unaudited					
2012	\$ 260	\$ 265	\$ 269	\$ 270	\$ 271	\$ —	89			
2013		280	280	293	298	—	96			
2014			317	317	325	—	104			
2015				343	356	12	108			
2016					383	38	104			
Total					\$ 1,633					
Cumulative paid losses and ALAE, net of reinsurance										
2012	\$ 174	\$ 223	\$ 250	\$ 262	\$ 268					
2013		190	245	272	287					
2014			210	267	298					
2015				229	292					
2016					243					
Total					1,388					
All outstanding liabilities before 2012, net of reinsurance					4					
Liabilities for loss and ALAE, net of reinsurance					\$ 249					

The following table shows the average annual percentage payout of incurred losses for the personal auto line of business. Personal auto includes both physical damage and liability losses. A majority of the incurred losses paid after year 2 are the result of liability losses.

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)					
Years	1	2	3	4	5
Average annual percentage payout	64.0%	17.9%	9.6%	4.8%	2.0%

Homeowner

The following table shows the homeowner incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)										As of December 31, 2016			
Incurred losses and ALAE, net of reinsurance										Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims		
Accident Year	Years ended December 31,					2016							
	2012	2013	2014	2015	Unaudited								
2012	\$	344	\$	330	\$	328	\$	330	\$	329	\$	—	33
2013				252		246		247		247		—	25
2014						297		283		286		—	26
2015								284		275		3	23
2016										315		29	21
Total									\$	1,452			
Cumulative paid losses and ALAE, net of reinsurance													
2012	\$	256	\$	317	\$	324	\$	328	\$	329			
2013				180		236		242		244			
2014						224		273		281			
2015								203		260			
2016										208			
Total										1,322			
All outstanding liabilities before 2012, net of reinsurance										2			
Liabilities for loss and ALAE, net of reinsurance										\$	132		

The following table shows the average annual percentage payout of incurred losses for the homeowner line of business:

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)					
Years	1	2	3	4	5
Average annual percentage payout	73.8%	19.7%	2.6%	1.0%	0.3%

Excess and Surplus Lines

The following table shows the excess and surplus incurred and paid losses and ALAE development by accident year. The table also shows the IBNR reserves plus expected development on reported losses and claim frequency:

(Dollars in millions, reported claims in thousands)										As of December 31, 2016				
Incurred losses and ALAE, net of reinsurance										Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims			
Accident Year	Years ended December 31,					2016								
	2011	2012	2013	2014	2015									
	Unaudited													
2011	\$	48	\$	47	\$	44	\$	38	\$	35	\$	—	1	
2012				67		56		49		40		37	2	1
2013						74		64		54		45	9	2
2014								95		82		75	26	2
2015										96		81	40	2
2016												93	54	2
Total										\$		366		
Cumulative paid losses and ALAE, net of reinsurance														
2011	\$	8	\$	14	\$	23	\$	27	\$	30	\$	32		
2012				9		15		19		25		29		
2013						7		12		20		27		
2014								9		17		27		
2015										8		19		
2016												10		
Total												144		
All outstanding liabilities before 2011, net of reinsurance											1			
Liabilities for loss and ALAE, net of reinsurance											\$	223		

The following table shows the average annual percentage payout of incurred losses for the excess and surplus lines insurance segment. Excess and surplus lines consist mostly of commercial casualty and commercial property coverages. A majority of the incurred losses paid after year 2 are the result of commercial casualty losses.

Average annual percentage payout of incurred losses by age, net of reinsurance (unaudited)						
Years	1	2	3	4	5	6
Average annual percentage payout	15.9%	13.5%	17.4%	13.5%	9.9%	7.4%

NOTE 5 – Life Policy and Investment Contract Reserves

We establish the reserves for traditional life insurance policies based on expected expenses, mortality, morbidity, withdrawal rates, timing of claim presentation and investment yields, including a provision for uncertainty. Once these assumptions are established, they generally are maintained throughout the lives of the contracts. We use both our own experience and industry experience, adjusted for historical trends, in arriving at our assumptions for expected mortality, morbidity and withdrawal rates as well as for expected expenses. We base our assumptions for expected investment income on our own experience adjusted for current economic conditions.

We establish reserves for the company's universal life, deferred annuity and structured settlement policies equal to the cumulative account balances, which include premium deposits plus credited interest less charges and withdrawals. Some of our universal life policies contain no-lapse guarantee provisions. For these policies, we establish a reserve in addition to the account balance, based on expected no-lapse guarantee benefits and expected policy assessments.

This table summarizes our life policy and investment contract reserves:

(Dollars in millions)	At December 31,	
	2016	2015
Life policy reserves:		
Ordinary/traditional life	\$ 1,011	\$ 943
Other	45	44
Subtotal	1,056	987
Investment contract reserves:		
Deferred annuities	861	860
Universal life	578	558
Structured settlements	170	174
Other	6	4
Subtotal	1,615	1,596
Total life policy and investment contract reserves	\$ 2,671	\$ 2,583

NOTE 6 – Deferred Policy Acquisition Costs

Expenses directly related to successfully acquired insurance policies – primarily commissions, premium taxes and underwriting costs – are deferred and amortized over the terms of the policies. We update our acquisition cost assumptions periodically to reflect actual experience, and we evaluate the costs for recoverability. The table below shows the deferred policy acquisition costs and asset reconciliation:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Property casualty:			
Deferred policy acquisition costs asset, January 1	\$ 388	\$ 379	\$ 366
Capitalized deferred policy acquisition costs	840	801	783
Amortized deferred policy acquisition costs	(820)	(792)	(770)
Deferred policy acquisition costs asset, December 31	<u>\$ 408</u>	<u>\$ 388</u>	<u>\$ 379</u>
Life:			
Deferred policy acquisition costs asset, January 1	\$ 228	\$ 199	\$ 199
Capitalized deferred policy acquisition costs	49	45	44
Amortized deferred policy acquisition costs	(43)	(37)	(37)
Amortized shadow deferred policy acquisition costs	(5)	21	(7)
Deferred policy acquisition costs asset, December 31	<u>\$ 229</u>	<u>\$ 228</u>	<u>\$ 199</u>
Consolidated:			
Deferred policy acquisition costs asset, January 1	\$ 616	\$ 578	\$ 565
Capitalized deferred policy acquisition costs	889	846	827
Amortized deferred policy acquisition costs	(863)	(829)	(807)
Amortized shadow deferred policy acquisition costs	(5)	21	(7)
Deferred policy acquisition costs asset, December 31	<u>\$ 637</u>	<u>\$ 616</u>	<u>\$ 578</u>

No premium deficiencies were recorded in the consolidated statements of income in 2016, 2015 and 2014, as the sum of the anticipated loss and loss expenses, policyholder dividends and unamortized deferred acquisition expenses did not exceed the related unearned premiums and anticipated investment income.

NOTE 7 – Note Payable

We have one line of credit in 2016 and 2015 through multiple commercial banks with a borrowing capacity of \$225 million and an additional \$50 million accordion feature. Our unsecured revolving credit facility has a term of five years that expires May 13, 2019. We had no compensating balance requirements on short-term debt for either 2016 or 2015. At December 31, 2016, \$20 million was drawn on the line of credit. At December 31, 2015, \$35 million was drawn on the line of credit. The interest rate charged on our borrowings on this credit agreement ranged from 1.31 percent to 1.49 percent during 2016 and ranged from 1.07 percent to 1.19 percent during 2015.

NOTE 8 – Long-Term Debt and Capital Lease Obligations

This table summarizes the principal amounts of our long-term debt excluding unamortized discounts, none of which are encumbered by rating triggers:

(Dollars in millions)			Book value		Principal amount	
Interest rate	Year of issue		At December 31,		At December 31,	
			2016	2015	2016	2015
6.900%	1998	Senior debentures, due 2028	\$ 26	\$ 26	\$ 28	\$ 28
6.920%	2005	Senior debentures, due 2028	391	391	391	391
6.125%	2004	Senior notes, due 2034	370	369	374	374
Total			<u>\$ 787</u>	<u>\$ 786</u>	<u>\$ 793</u>	<u>\$ 793</u>

Capital lease obligations, excluding an insignificant amount of interest, totaled \$39 million and \$35 million in 2016 and 2015, respectively. Below are the expected capital lease obligations that we expect to pay over the next six years:

(Dollars in millions)		Years ended December 31,					
		2017	2018	2019	2020	2021	2022
Capital lease obligations		\$ 12	\$ 10	\$ 7	\$ 5	\$ 3	\$ 2

NOTE 9 – Shareholders’ Equity and Dividend Restrictions

Declared cash dividends per share were \$1.92, \$2.30 and \$1.76 for the years ended December 31, 2016, 2015 and 2014, respectively.

Our insurance subsidiary declared dividends to the parent company of \$475 million in 2016, \$447 million in 2015 and \$400 million in 2014. State regulatory requirements restrict the dividends insurance subsidiaries can pay. Dividends must be paid within 30 days of declaration. Generally, the most our insurance subsidiary can pay without prior regulatory approval is the greater of 10 percent of statutory capital and surplus or 100 percent of statutory net income for the prior calendar year. Dividends exceeding these limitations may be paid only with approval of the insurance department of the domiciliary state. During 2017, the total that our insurance subsidiary, which is the parent of all other insurance subsidiaries, may declare in dividends is approximately \$469 million.

Accumulated Other Comprehensive Income

The table below shows beginning and end of year accumulated other comprehensive income (AOCI) for investments, pension obligations, life deferred acquisition costs, life policy reserves and other. The changes from the beginning of year to the end of year are the result of changes to other comprehensive income or loss (OCI).

(Dollars in millions)									
	2016			2015			2014		
	Before tax	Income tax	Net	Before tax	Income tax	Net	Before tax	Income tax	Net
Investments:									
AOCI, January 1	\$ 2,094	\$ 722	\$ 1,372	\$ 2,719	\$ 942	\$ 1,777	\$ 2,335	\$ 808	\$ 1,527
OCI before realized gains recognized in net income	653	229	424	(556)	(196)	(360)	514	181	333
Realized gains recognized in net income	(122)	(43)	(79)	(69)	(24)	(45)	(130)	(47)	(83)
OCI	531	186	345	(625)	(220)	(405)	384	134	250
AOCI, December 31	\$ 2,625	\$ 908	\$ 1,717	\$ 2,094	\$ 722	\$ 1,372	\$ 2,719	\$ 942	\$ 1,777
Pension obligations:									
AOCI, January 1	\$ (42)	\$ (14)	\$ (28)	\$ (36)	\$ (12)	\$ (24)	\$ (18)	\$ (6)	\$ (12)
OCI excluding amortization recognized in net income	13	5	8	(12)	(5)	(7)	(21)	(7)	(14)
Amortization recognized in net income	3	1	2	6	3	3	3	1	2
OCI	16	6	10	(6)	(2)	(4)	(18)	(6)	(12)
AOCI, December 31	\$ (26)	\$ (8)	\$ (18)	\$ (42)	\$ (14)	\$ (28)	\$ (36)	\$ (12)	\$ (24)
Life deferred acquisition costs, life policy reserves and other:									
AOCI, January 1	\$ 1	\$ 1	\$ —	\$ (12)	\$ (3)	\$ (9)	\$ (16)	\$ (5)	\$ (11)
OCI before realized gains recognized in net income	(8)	(3)	(5)	14	5	9	7	3	4
Realized gains recognized in net income	(2)	(1)	(1)	(1)	(1)	—	(3)	(1)	(2)
OCI	(10)	(4)	(6)	13	4	9	4	2	2
AOCI, December 31	\$ (9)	\$ (3)	\$ (6)	\$ 1	\$ 1	\$ —	\$ (12)	\$ (3)	\$ (9)
Summary of AOCI:									
AOCI, January 1	\$ 2,053	\$ 709	\$ 1,344	\$ 2,671	\$ 927	\$ 1,744	\$ 2,301	\$ 797	\$ 1,504
Investments OCI	531	186	345	(625)	(220)	(405)	384	134	250
Pension obligations OCI	16	6	10	(6)	(2)	(4)	(18)	(6)	(12)
Life deferred acquisition costs, life policy reserves and other OCI	(10)	(4)	(6)	13	4	9	4	2	2
Total OCI	537	188	349	(618)	(218)	(400)	370	130	240
AOCI, December 31	\$ 2,590	\$ 897	\$ 1,693	\$ 2,053	\$ 709	\$ 1,344	\$ 2,671	\$ 927	\$ 1,744

Investments realized gains and life deferred acquisition costs, life policy reserves and other realized gains are recorded in the realized investment gains, net, line item in the consolidated statements of income. Amortization on pension obligations is recorded in the insurance losses and contract holders' benefits and underwriting, acquisition and insurance expenses in the consolidated statements of income.

NOTE 10 – Reinsurance

Primary components of our property casualty reinsurance assumed operations include involuntary and voluntary assumed as well as contracts from our reinsurance assumed operations, known as Cincinnati Re. Primary components of our ceded reinsurance include a property per risk treaty, property excess treaty, casualty per occurrence treaty, casualty excess treaty, property catastrophe treaty and catastrophe bonds and retrocessions on our reinsurance assumed operations. Management's decisions about the appropriate level of risk retention are affected by various factors, including changes in our underwriting practices, capacity to retain risks and reinsurance market conditions.

The table below includes our net written consolidated property casualty insurance premiums on assumed and ceded business:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Direct written premiums	\$ 4,646	\$ 4,461	\$ 4,309
Assumed written premiums	103	77	11
Ceded written premiums	(169)	(177)	(177)
Net written premiums	<u>\$ 4,580</u>	<u>\$ 4,361</u>	<u>\$ 4,143</u>

Our consolidated statements of income include earned consolidated property casualty insurance premiums on assumed and ceded business:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Direct earned premiums	\$ 4,567	\$ 4,396	\$ 4,209
Assumed earned premiums	77	29	12
Ceded earned premiums	(162)	(154)	(176)
Earned premiums	<u>\$ 4,482</u>	<u>\$ 4,271</u>	<u>\$ 4,045</u>

Our consolidated statements of income include incurred consolidated property casualty insurance loss and loss expenses on assumed and ceded business:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Direct incurred loss and loss expenses	\$ 2,874	\$ 2,596	\$ 2,661
Assumed incurred loss and loss expenses	43	12	6
Ceded incurred loss and loss expenses	(56)	(36)	(40)
Incurred loss and loss expenses	<u>\$ 2,861</u>	<u>\$ 2,572</u>	<u>\$ 2,627</u>

Our change in ceded incurred compared to prior years resulted primarily from increased retrocessions of Cincinnati Re.

Our life insurance company purchases reinsurance for protection of a portion of risks that are written. Primary components of our life reinsurance program include individual mortality coverage, aggregate catastrophe and accidental death coverage in excess of certain deductibles.

Our consolidated statements of income include earned life insurance premiums on ceded business:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Direct earned premiums	\$ 290	\$ 271	\$ 259
Ceded earned premiums	(62)	(62)	(61)
Earned premiums	<u>\$ 228</u>	<u>\$ 209</u>	<u>\$ 198</u>

Our consolidated statements of income include life insurance contract holders' benefits incurred on ceded business:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Direct contract holders' benefits incurred	\$ 303	\$ 292	\$ 299
Ceded contract holders' benefits incurred	(57)	(56)	(70)
Contract holders' benefits incurred	<u>\$ 246</u>	<u>\$ 236</u>	<u>\$ 229</u>

The ceded benefits incurred can vary depending on the type of life insurance policy held and the year the policy was issued.

NOTE 11 – Income Taxes

The significant components of deferred tax assets and liabilities included in the consolidated balance sheets at December 31 were as follows:

(Dollars in millions)	At December 31,	
	2016	2015
Deferred tax assets:		
Loss and loss expense reserves	\$ 199	\$ 191
Unearned premiums	158	151
Investments	5	25
Other	52	42
Total gross deferred tax assets	<u>414</u>	<u>409</u>
Deferred tax liabilities:		
Unrealized investment gains, net	907	719
Deferred acquisition costs	195	187
Life policy reserves	162	137
Other	15	4
Total gross deferred tax liabilities	<u>1,279</u>	<u>1,047</u>
Net deferred income tax liability	<u>\$ 865</u>	<u>\$ 638</u>

Deferred tax assets and liabilities reflect temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amount recognized for tax purposes.

Deferred tax assets are reduced by a valuation allowance when management believes it is more likely than not that some, or all, of the deferred tax assets will not be realized. After considering all positive and negative evidence of taxable income in the carryback and carryforward periods as permitted by law, we believe it is more likely than not that all of the deferred tax asset will be realized. As a result, we have no valuation allowance as of December 31, 2016 and 2015.

The differences between the 35 percent statutory federal income tax rate and our effective income tax rate were as follows:

(Dollars in millions)	Years ended December 31,					
	2016		2015		2014	
Tax at statutory rate:	\$ 284	35.0 %	\$ 308	35.0 %	\$ 252	35.0 %
Increase (decrease) resulting from:						
Tax-exempt income from municipal bonds	(34)	(4.2)	(33)	(3.7)	(33)	(4.6)
Dividend received exclusion	(33)	(4.1)	(32)	(3.6)	(29)	(4.0)
Other	4	0.5	4	0.3	6	0.8
Provision for income taxes	<u>\$ 221</u>	<u>27.2 %</u>	<u>\$ 247</u>	<u>28.0 %</u>	<u>\$ 196</u>	<u>27.2 %</u>

The provision for federal income taxes is based upon filing a consolidated income tax return for the company and its subsidiaries. As of December 31, 2016, 2015 and 2014, we had no operating or capital loss carryforwards.

Unrecognized Tax Benefits

As a result of positions either taken in our 2013 through 2015 federal tax returns filed with the IRS or expected to be taken in the 2016 filing, we believe it is more likely than not that our tax liability will be sustained upon examination by the IRS. We therefore carry no amount for unrecognized tax benefits for the years ended 2013 through 2016.

The statute of limitations for federal tax purposes has closed for tax years 2012 and earlier. There are no federal returns under examination and we have not been notified of any upcoming IRS examinations.

Income taxes paid in our consolidated statements of cash flows are shown net of refunds received of \$2 million in 2016 and an immaterial amount in 2015 and 2014.

In addition to our IRS filings, we file income tax returns with immaterial amounts in various state jurisdictions. The statute of limitations for state income tax purposes has closed for tax years 2012 and earlier. There are no state income returns under examination and we have not been notified of any upcoming state examinations.

NOTE 12 – Net Income Per Common Share

Basic earnings per share are computed based on the weighted average number of common shares outstanding. Diluted earnings per share are computed based on the weighted average number of common and dilutive potential common shares outstanding using the treasury stock method. The table shows calculations for basic and diluted earnings per share:

(In millions except per share data)	Years ended December 31,		
	2016	2015	2014
Numerator:			
Net income—basic and diluted	<u>\$ 591</u>	<u>\$ 634</u>	<u>\$ 525</u>
Denominator:			
Basic weighted-average common shares outstanding	164.5	164.0	163.5
Effect of share-based awards:			
Stock options	1.1	1.0	1.0
Nonvested shares	0.9	0.6	0.6
Diluted weighted-average shares	<u>166.5</u>	<u>165.6</u>	<u>165.1</u>
Earnings per share:			
Basic	\$ 3.59	\$ 3.87	\$ 3.21
Diluted	3.55	3.83	3.18
Number of anti-dilutive share-based awards	0.3	0.4	0.7

The current sources of dilution of our common shares are certain equity-based awards as discussed in Note 17, Share-Based Associate Compensation Plans. The above table includes the number of anti-dilutive share-based awards at year-end 2016, 2015 and 2014. We did not include these share-based awards in the computation of net income per common share (diluted) because their exercise would have anti-dilutive effects.

NOTE 13 – Employee Retirement Benefits

We sponsor a qualified defined benefit pension plan that we closed entry into for new associates as of June 30, 2008, and only participants 40 years of age or older as of August 31, 2008, could elect to continue to participate. During 2008, we changed the form of retirement benefit we offer some associates to a company match on contributions to a 401(k) plan as further explained below. For participants remaining in the pension plan, we continue to fund future benefit obligations. Benefits for the defined benefit pension plan are based on years of credited service and compensation level. Contributions are based on the prescribed method defined in the Pension Protection Act. Our net periodic benefit cost is based on certain actuarial assumptions and also is composed of several components that are determined using the projected unit credit actuarial cost method. The qualified plan has been amended to allow for distribution of vested balances to terminated participants.

We sponsor a defined contribution plan (401(k) plan) with matching company contributions totaling \$14 million, \$12 million and \$11 million during the years 2016, 2015 and 2014, respectively. Associates who are not accruing benefits under the pension plan are eligible to receive the company match of up to 6 percent of cash compensation. We also pay operating expenses for the 401(k) plan. Participants vest in the company match for the 401(k) plan after three years of eligible service.

We maintain a supplemental executive retirement plan (SERP) with a benefit obligation of \$15 million at year-end 2016 and \$14 million at year-end 2015, which is included in the projected benefit obligation. The company also makes available to a select group of associates the CFC Top Hat Savings Plan, a nonqualified deferred compensation plan, which had a fair value of \$24 million and \$21 million at December 31, 2016 and 2015, respectively.

Defined Benefit Pension Plan Assumptions

We evaluate our pension plan assumptions annually and update them as necessary. This is a summary of the weighted-average assumptions used to determine our benefit obligations at December 31 for the plans:

	Qualified Pension Plan		SERP	
	2016	2015	2016	2015
Discount rate	4.30%	4.55%	4.10%	4.30%
Rate of compensation increase	2.75-3.25	2.75-3.25	2.75-3.25	2.75-3.25

To determine the discount rate for each plan, a theoretical settlement portfolio of high-quality rated corporate bonds was chosen to provide payments approximately matching the plan's projected benefit payments. A single interest rate for each plan was determined resulting in a discounted value of the plan's benefit payments that equates to the market value of the selected bonds. The discount rate is reflective of current market interest rate conditions and our plan's liability characteristics. Based on this analysis, we decreased the rate from the prior year by 0.25 percentage points for the qualified pension plan and by 0.20 percentage points for the SERP. Compensation increase assumptions reflect anticipated rates of inflation, real return on wage growth and merit and promotional increases. The mortality assumption was updated in 2014 to the RP-2014 Employee Mortality Tables and RP-2014 Annuitant Mortality Tables for males and females projected generationally with Scale MP-2014. During 2016 and 2015, the 2014 mortality assumption was updated to include the generational projection using Scale MP-2016 and Scale MP-2015, respectively. The updated mortality table did not have a significant impact on our consolidated financial statements as our qualified plan assumes the majority of benefits will be paid in the form of lump sums.

This is a summary of the weighted-average assumptions used to determine our net periodic benefit cost for the plans:

	Qualified Pension Plan			SERP		
	2016	2015	2014	2016	2015	2014
Discount rate	4.55%	4.25%	5.15%	4.30%	4.05%	4.80%
Expected return on plan assets	7.25	7.25	7.25	n/a	n/a	n/a
Rate of compensation increase	2.75-3.25	2.75-3.25	2.75-3.25	2.75-3.25	2.75-3.25	2.75-3.25

The discount rate was increased by 0.30 percentage points for the qualified pension plan and 0.25 percentage points for the SERP due to market interest rate conditions at the beginning of 2016. The discount rate assumptions for our benefit obligation generally track with high-quality rated corporate bond yields chosen in our theoretical settlement portfolio, and yearly adjustments reflect any changes to those bond yields. We believe the expected return on plan assets is representative of the expected long-term rate of return on these assets, which is consistent with 2016 expectations of interest rates and based partially on the fact that the plan's common stock holdings pay dividends. We believe this rate is representative of the expected long-term rate of return on these plan assets. We review historical actual return on plan assets when determining our expected long-term rate of return. Total portfolio return for 2016 was 16.6 percent and for 2015 was 0.6 percent. Our compensation increase assumptions in 2016 reflect anticipated rates of inflation, real return on wage growth and merit and promotional increases.

Benefit obligation activity using an actuarial measurement date for our qualified pension plan and SERP at December 31 follows:

(Dollars in millions)	At December 31,	
	2016	2015
Change in projected benefit obligation:		
Benefit obligation, January 1	\$ 323	\$ 319
Service cost	11	12
Interest cost	14	14
Actuarial loss (gain)	13	(3)
Benefits paid	(21)	(19)
Projected benefit obligation, December 31	<u>\$ 340</u>	<u>\$ 323</u>
Change in plan assets:		
Fair value of plan assets, January 1	\$ 278	\$ 288
Actual return on plan assets	45	3
Employer contribution	13	6
Benefits paid	(21)	(19)
Fair value of plan assets, December 31	<u>\$ 315</u>	<u>\$ 278</u>
Funded status, December 31	<u>\$ (25)</u>	<u>\$ (45)</u>
Accumulated benefit obligation	<u>\$ 309</u>	<u>\$ 293</u>

Our unfunded status improved for 2016 primarily due to better-than-expected return on plan assets offset by an increase in actuarial losses resulting largely from decreases in discount rate and lump sum rates.

A reconciliation follows of the funded status for our qualified plan and SERP at the end of the measurement period to the amounts recognized in the consolidated balance sheets at December 31:

(Dollars in millions)	At December 31,	
	2016	2015
Pension amounts recognized in the consolidated balance sheets:		
Other liabilities	\$ (25)	\$ (45)
Total	<u>\$ (25)</u>	<u>\$ (45)</u>
Pension amounts recognized in accumulated other comprehensive income:		
Net actuarial loss	\$ 26	\$ 41
Prior service cost	—	1
Total	<u>\$ 26</u>	<u>\$ 42</u>

Below are the components of our net periodic benefit cost, as well as other changes in plan assets and benefit obligations recognized in other comprehensive income for our qualified plan and SERP at December 31:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Net periodic benefit cost:			
Service cost	\$ 11	\$ 12	\$ 10
Interest cost	14	14	15
Expected return on plan assets	(19)	(18)	(17)
Amortization of actuarial loss and prior service cost	3	6	2
Other	—	1	3
Net periodic benefit cost	<u>\$ 9</u>	<u>\$ 15</u>	<u>\$ 13</u>

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Other changes in plan assets and benefit obligations recognized in other comprehensive income:			
Current year actuarial (gain) loss	\$ (13)	\$ 13	\$ 21
Amortization of actuarial loss	(2)	(6)	(5)
Current year prior service cost	—	—	2
Amortization of prior service cost	(1)	(1)	—
Total recognized in other comprehensive (income) loss	<u>\$ (16)</u>	<u>\$ 6</u>	<u>\$ 18</u>

The total recognized in net periodic benefit cost and other comprehensive income (loss) was a net gain of \$7 million, net cost of \$21 million, and a net cost of \$31 million for the years ended December 31, 2016, 2015 and 2014, respectively. The 2016 change in the amount recognized in other comprehensive income from 2015 is largely due to better-than-expected investment return partially offset with decreases in discount and lump sum rates. The estimated costs to be amortized from AOCI into net periodic benefit cost over the next year for our plans are \$2 million in actuarial loss and less than \$1 million in prior service cost.

Defined Benefit Pension Plan Assets

The pension plan assets are managed to maximize total return over the long term while providing sufficient liquidity and current return to satisfy the cash flow requirements of the plan. The plan's day-to-day investment decisions are managed by our internal investment department; however, overall investment strategies are discussed with our employee benefits committee. Our investment strategy, currently driven by the low interest rate environment, is to weight our portfolio towards large-cap, high-quality, dividend-growing equities that we have historically favored. As our plan matures and interest rates normalize, we expect a greater allocation to fixed-income securities to better align asset and liability market risks. Our fixed-maturity bond portfolio is investment grade. The plan does not engage in derivative transactions.

Excluding cash, during 2016 we held approximately 83 percent of our pension portfolio in domestic common equity investments. The remainder of the portfolio consisted of 10 percent in states, municipalities and taxable political subdivisions fixed-maturity investments and 7 percent in domestic corporate fixed-maturity investments. Our common equity portfolio consisted of 22 percent in the information technology sector, 20 percent in the financial sector, 14 percent in the healthcare sector, 10 percent in the consumer staples sector, 10 percent in the consumer discretionary sector and 10 percent in the industrial sector at year-end 2016. No additional sectors accounted for 10 percent or more of our common equity portfolio balance at year-end 2016.

Investments in securities are valued based on the fair value hierarchy outlined in Note 3, Fair Value Measurements. The pension plan did not have any liabilities carried at fair value during the years ended December 31, 2016 and 2015. There have been no transfers between Level 1 and Level 2 for the years ended December 31, 2016 and 2015. The following table shows the fair value hierarchy for those assets measured at fair value on a recurring basis at December 31, 2016 and 2015. Excluded from the table below is cash on hand of \$11 million and \$21 million at December 31, 2016 and 2015, respectively.

(Dollars in millions)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
At December 31, 2016				
Fixed maturities, available for sale:				
States, municipalities and political subdivisions	\$ —	\$ 31	\$ —	\$ 31
Corporate securities	—	20	—	20
Total fixed maturities, available for sale	—	51	—	51
Common equities, available for sale	253	—	—	253
Total	\$ 253	\$ 51	\$ —	\$ 304

At December 31, 2015					
Fixed maturities, available for sale:					
States, municipalities and political subdivisions	\$ —	\$ 32	\$ —	\$ 32	
Corporate securities	—	13	—	13	
Total fixed maturities, available for sale	—	45	—	45	
Common equities, available for sale	212	—	—	212	
Total	\$ 212	\$ 45	\$ —	\$ 257	

Our pension plan assets included 232,113 and 267,113 shares of the company's common stock at December 31, 2016 and 2015, which had a fair value of \$18 million and \$16 million at December 31, 2016 and 2015, respectively. The defined benefit pension plan did not purchase any shares of our common stock during 2016 and 2015. During 2016 and 2015, the pension plan sold 35,000 shares and 200,000 shares of the company's common stock, respectively. The company paid less than \$1 million in 2016 and \$1 million in 2015 in cash dividends on our common stock to the pension plan.

We contributed \$5 million to our qualified plan during the first quarter of 2017 and estimate \$12 million of benefit payments from the SERP during 2017. We expect to make the following benefit payments for our qualified plan and SERP, reflecting expected future service:

(Dollars in millions)								
	Years ended December 31,							
	2017	2018	2019	2020	2021	2022 - 2026		
Expected future benefit payments	\$ 34	\$ 23	\$ 24	\$ 26	\$ 28	\$ 148		

NOTE 14 – Statutory Accounting Information

Insurance companies' statutory financial statements are presented on the basis of accounting practices prescribed or permitted by applicable state insurance departments of domicile. Insurance companies use statutory accounting practices (SAP) as recognized by various states. We have adopted the National Association of Insurance Commissioners' (NAIC) *Accounting Practices and Procedures* manual, version effective January 1, 2001, and updates through the current year as a component of prescribed or permitted practices by laws of the state of domicile. The primary differences between SAP and GAAP include the valuation of unrealized investment gains and losses, expensing of policy acquisition costs, actuarial assumptions for life insurance reserves and deferred income taxes based on differences in statutory and taxable income.

Statutory net income (loss) and capital and surplus are determined in accordance with SAP prescribed or permitted by insurance regulatory authorities for five legal entities, our insurance subsidiary and its four insurance subsidiaries. Statutory capital and surplus for our insurance subsidiary, The Cincinnati Insurance Company, includes capital and surplus of its four insurance subsidiaries. All capital and surplus amounts exceed statutory risk-based capital requirements. The statutory net income (loss) and statutory capital and surplus are presented below:

(Dollars in millions)	Net income (loss)			Capital and surplus	
	Years ended December 31,			At December 31,	
	2016	2015	2014	2016	2015
The Cincinnati Insurance Company	\$ 434	\$ 534	\$ 436	\$ 4,686	\$ 4,412
The Cincinnati Casualty Company	11	12	12	360	337
The Cincinnati Indemnity Company	4	3	3	93	88
The Cincinnati Specialty Underwriters Insurance Company	57	49	32	372	306
The Cincinnati Life Insurance Company	2	(11)	(19)	200	208

NOTE 15 – Transactions With Affiliated Parties

We paid certain officers and directors, or insurance agencies of which they are shareholders, commissions of \$7 million in 2016, 2015 and 2014, on premium volume of \$44 million, \$42 million and \$41 million for 2016, 2015 and 2014, respectively.

NOTE 16 – Commitments and Contingent Liabilities

In the ordinary course of conducting business, the company and its subsidiaries are named as defendants in various legal proceedings. Most of these proceedings are claims litigation involving the company's insurance subsidiaries in which the company is either defending or providing indemnity for third-party claims brought against insureds or litigating first-party coverage claims. The company accounts for such activity through the establishment of unpaid loss and loss expense reserves. We believe that the ultimate liability, if any, with respect to such ordinary-course claims litigation, after consideration of provisions made for potential losses and costs of defense, is immaterial to our consolidated financial condition, results of operations and cash flows.

The company and its subsidiaries also are occasionally involved in other legal and regulatory proceedings, some of which assert claims for substantial amounts. These actions include, among others, putative class actions seeking certification of a state or national class. Such proceedings have alleged, for example, breach of an alleged duty to search national databases to ascertain unreported deaths of insureds under life insurance policies. The company's insurance subsidiaries also are occasionally parties to individual actions in which extra-contractual damages, punitive damages or penalties are sought, such as claims alleging bad faith handling of insurance claims or writing unauthorized coverage or claims alleging discrimination by former or current associates.

On a quarterly basis, we review these outstanding matters. Under current accounting guidance, we establish accruals when it is probable that a loss has been incurred and we can reasonably estimate its potential exposure. The company accounts for such probable and estimable losses, if any, through the establishment of legal expense reserves. Based on our quarterly review, we believe that our accruals for probable and estimable losses are reasonable and that the amounts accrued do not have a material effect on our consolidated financial condition or results of operations. However, if any one or more of these matters results in a judgment against us or settlement for an amount that is significantly greater than the amount accrued, the resulting liability could have a material effect

on the company's consolidated results of operations or cash flows. Based on our most recent review, our estimate for any other matters for which the risk of loss is not probable, but more than remote, is immaterial.

NOTE 17 – Share-Based Associate Compensation Plans

Four equity compensation plans currently permit us to grant various types of equity awards. We currently grant incentive stock options, nonqualified stock options, service-based restricted stock units and performance-based restricted stock units to associates, including some with market-based performance objectives under our shareholder-approved plans. We also have a Holiday Stock Plan that permits annual awards of one share of common stock to each full-time associate for each full calendar year of service up to a maximum of 10 shares. One of our equity compensation plans permits us to grant stock to our outside directors as a component of their annual compensation. We used treasury shares for share-based compensation award issues or exercises during 2016 and 2015.

Share-based compensation cost after tax was \$15 million, \$14 million and \$13 million for the years ended December 31, 2016, 2015 and 2014, respectively. The related income tax benefit recognized was \$8 million for the year ended December 31, 2016 and \$6 million for both the years ended December 31, 2015 and 2014, respectively. Options exercised during the years ended December 31, 2016, 2015 and 2014, had intrinsic value of \$25 million, \$15 million and \$13 million, respectively. Intrinsic value is the market price less the exercise price. Options vested during the years ended December 31, 2016, 2015 and 2014, had total intrinsic value of \$11 million, \$7 million and \$9 million, respectively.

As of December 31, 2016, we had \$26 million of unrecognized total compensation cost related to nonvested stock options and restricted stock unit awards. That cost will be recognized over a weighted-average period of 1.8 years.

Stock Options

Stock options are granted to associates at an exercise price equal to the fair value as determined by the average high and low sales price reported on the Nasdaq Global Select Market for the grant date and are exercisable over 10-year periods. The stock options generally vest ratably over a three-year period. In determining the share-based compensation amounts, we estimate the fair value of each option granted on the date of grant using a binomial option-pricing model. We make the following assumptions to develop the binomial option-pricing model as follows:

- Weighted-average expected term is based on historical experience of similar awards with consideration for current exercise trends.
- Expected volatility is based on our stock price over a historical period that approximates the expected term.
- Dividend yield is determined by dividing the annualized per share dividend by the stock price on the date of grant.
- Risk-free rates are the implied yield currently available on zero-coupon U.S. Treasury issues with a remaining term approximating the expected term.

The following weighted average assumptions were used in determining fair value for option grants issued:

	2016	2015	2014
Weighted-average expected term	8 years	8-9 years	8-9 years
Expected volatility	24.88-25.75%	25.04-26.15%	25.20-26.22%
Dividend yield	2.58-3.12%	3.52%	3.76%
Risk-free rates	1.44-1.60%	1.94-2.01%	2.42-2.62%
Weighted-average fair value of options granted during the period	\$13.21	\$11.15	\$10.16

Below is a summary of option information for the year 2016:

(Dollars in millions, shares in thousands)

	Shares	Weighted-average exercise price	Aggregate intrinsic value	Weighted-average remaining contractual life
Outstanding option shares at January 1, 2016	3,872	\$ 39.78		
Granted	359	61.47		
Exercised	(863)	38.64		
Forfeited or expired	(356)	44.66		
Outstanding option shares at December 31, 2016	<u>3,012</u>	42.12	\$ 101	5.05 years
Options exercisable at end of period	2,319	\$ 38.01	\$ 88	4.04 years

Cash received from the exercise of options was \$21 million, \$24 million and \$22 million for the years ended December 31, 2016, 2015 and 2014, respectively. We acquired 186,097, 292,414 and 378,276 shares totaling \$13 million, \$16 million and \$19 million, respectively, from associates in consideration for option exercises during 2016, 2015 and 2014. The weighted-average remaining contractual life for options expected to vest as of December 31, 2016, was 8.44 years.

Under all active shareholder approved plans, a total of 17.3 million shares were authorized to be granted. At December 31, 2016, 13.0 million shares remained available for future issuance under the plans. During 2016, we granted 18,769 shares of common stock to our directors for 2015 board service fees.

Restricted Stock Units

Service-based restricted stock units granted to associates are valued at fair value of the shares on the date of grant less the present value of the dividends that holders of restricted stock units do not receive on the shares underlying the restricted stock units during the vesting period. Service-based restricted stock units generally cliff vest three years after the date of grant. During 2016, we also granted restricted stock units which vest on a three year ratable vesting schedule. Service-based restricted stock units vested during the year had an intrinsic value of \$23 million, \$26 million and \$14 million for the years ended December 31, 2016, 2015 and 2014, respectively.

We have performance-based awards that vest on the first day of March after a three-calendar-year performance period. These awards vest according to the level of three-year total shareholder return achieved compared with a peer group over a three-year performance period with payouts ranging from 0 to 200 percent for awards granted in 2014, 2015 and 2016. Three-year total shareholder return is calculated by using annualized total return of a stock to an investor due to capital gain appreciation plus reinvestment of all dividends.

For the three-year performance period ended December 31, 2016, our total shareholder returned exceeded five of our nine peers. We expect payout of these shares at the target level to occur in March of 2017. During 2016, we issued 25,461 shares of performance-based restricted stock units at the threshold-level performance hurdle for the three-year performance period ended December 31, 2015, as our total shareholder return exceeded four of 10 peers in our 2013 peer group. We issued 103,586 shares of performance-based restricted stock units during 2015 at the target-level performance hurdle for the three-year performance period ended December 31, 2014, as we achieved a three-year total shareholder return that exceeded six of 10 peers in our 2012 peer group. Performance-based awards vested during the year had an intrinsic value of \$6 million, \$6 million and \$3 million for the years ended December 31, 2016, 2015 and 2014, respectively.

These performance-based awards are valued using a Monte-Carlo valuation on the date of grant, which uses a risk-neutral framework to model future stock price movements based upon the risk-free rate of return, the volatility of each peer and the pairwise correlations of each peer being modeled. Compensation cost is recognized regardless of whether the market-based performance objective has been satisfied. We make assumptions to develop the Monte-Carlo model as follows:

- Correlation coefficients are based upon the stock price data used to calculate the historical volatilities. The correlation coefficients are used to model the way the price of each entity's stock tends to move in relation to each other.
- Expected volatility is based on each company's historical volatility using daily stock price observations.
- Dividend yield has been modeled assuming dividends are reinvested in the issuing entity on a continuous basis and the holder of the award is not entitled to receive dividends paid during the performance period.
- Risk-free rates are equal to the yield, as of the measurement date, of the zero-coupon U.S. Treasury bill that is commensurate with the performance measurement period.

The following assumptions were used in determining fair value for performance-based grants issued:

	2016	2015	2014
Expected term	2.44-2.88 years	2.88 years	2.88 years
Expected volatility	15.42-33.64%	13.78-34.69%	18.69-41.21%
Dividend yield	2.58-3.12%	3.52%	3.74%
Risk-free rates	0.77-0.87%	0.99%	0.66%

Below is a summary of service-based and performance-based share information, assuming a target payout for performance-based shares, for the year 2016:

(Shares in thousands)					
	Service-based shares	Weighted- average grant date fair value	Performance-based shares	Weighted- average grant date fair value	
Nonvested at January 1, 2016	902	\$ 43.15	256	\$ 42.35	
Granted	323	56.39	68	70.68	
Vested	(313)	40.99	(25)	44.82	
Forfeited or canceled	(24)	48.31	(63)	44.82	
Nonvested at December 31, 2016	888	48.59	236	49.64	

NOTE 18 – Segment Information

We operate primarily in two industries, property casualty insurance and life insurance. Our chief operating decision maker regularly reviews our reporting segments to make decisions about allocating resources and assessing performance. Our reporting segments are:

- Commercial lines insurance
- Personal lines insurance
- Excess and surplus lines insurance
- Life insurance
- Investments

We report as Other the noninvestment operations of the parent company and its noninsurer subsidiary, CFC Investment Company and Cincinnati Re, our reinsurance assumed operations.

Revenues come primarily from unaffiliated customers:

- All four insurance segments record revenues from insurance premiums earned.
- Fee revenues for the commercial, personal and excess and surplus insurance segments primarily represent installment fees. Fee revenues for the life insurance segment represent separate account investment management fees.
- Our investments' revenues consist of pretax net investment income and realized investment gains and losses.
- Other revenues are primarily finance income and, beginning in 2015, earned premiums of Cincinnati Re.

Income or loss before income taxes for each segment is reported based on the nature of that business area's operations:

- Income before income taxes for the insurance segments is defined as underwriting profit or loss.
 - For commercial lines, personal lines and excess and surplus lines insurance segments, we calculate underwriting profit or loss as premiums earned and fee revenue minus loss and loss expenses and underwriting expenses incurred.
 - For the life insurance segment, we calculate underwriting profit or loss as premiums earned and fee revenue, minus contract holders' benefits and expenses incurred, plus investment interest credited to contract holders.
- Income before income taxes for the investments segment is net investment income plus realized investment gains and losses for investments of the entire company, minus investment interest credited to contract holders of the life insurance segment.
- Loss before income taxes for the Other category is primarily due to interest expense from debt of the parent company, operating expenses of our headquarters and, beginning in 2015, premiums earned minus loss and loss expenses and underwriting expenses of Cincinnati Re.

Identifiable assets are used by each segment in its operations. We do not separately report the identifiable assets for the commercial, personal or excess and surplus lines segments because we do not use that measure to analyze the segments. We include all investment assets, regardless of ownership, in the investments segment.

Segment information is summarized in the following table:

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Revenues:			
Commercial lines insurance			
Commercial casualty	\$ 1,050	\$ 1,010	\$ 938
Commercial property	867	815	728
Commercial auto	594	561	528
Workers' compensation	354	367	370
Other commercial	224	243	292
Commercial lines insurance premiums	3,089	2,996	2,856
Fee revenues	5	4	4
Total commercial lines insurance	3,094	3,000	2,860
Personal lines insurance			
Personal auto	543	506	476
Homeowner	486	463	443
Other personal	132	128	122
Personal lines insurance premiums	1,161	1,097	1,041
Fee revenues	4	3	2
Total personal lines insurance	1,165	1,100	1,043
Excess and surplus lines insurance			
Fee revenues	1	1	—
Total excess and surplus lines insurance	184	169	148
Life insurance premiums			
Fee revenues	5	5	6
Total life insurance	233	214	204
Investments			
Investment income, net of expenses	595	572	549
Realized investment gains, net	124	70	133
Total investment revenue	719	642	682
Other			
Cincinnati Re insurance premiums	49	10	—
Other	5	7	8
Total other revenue	54	17	8
Total revenues	\$ 5,449	\$ 5,142	\$ 4,945
Income (loss) before income taxes:			
Insurance underwriting results			
Commercial lines insurance	\$ 184	\$ 345	\$ 146
Personal lines insurance	(12)	(12)	10
Excess and surplus lines insurance	62	51	30
Life insurance	1	(2)	(5)
Investments	629	556	599
Other	(52)	(57)	(59)
Total income before income taxes	\$ 812	\$ 881	\$ 721
Identifiable assets:			
Property casualty insurance	\$ 2,967	\$ 2,717	
Life insurance	1,366	1,325	
Investments	15,569	14,485	
Other	484	361	
Total	\$ 20,386	\$ 18,888	

NOTE 19 – Quarterly Supplementary Data

This table includes unaudited quarterly financial information for the years ended December 31, 2016 and 2015:

(Dollars in millions except per share data)										
	Quarter									
	1st	2nd	3rd	4th	Full year					
2016										
Revenues	\$	1,364	\$	1,371	\$	1,402	\$	1,312	\$	5,449
Income before income taxes		265		166		253		128		812
Net income		188		123		180		100		591
Net income per common share—basic		1.14		0.75		1.09		0.61		3.59
Net income per common share—diluted		1.13		0.74		1.08		0.60		3.55
2015										
Revenues	\$	1,285	\$	1,316	\$	1,278	\$	1,263	\$	5,142
Income before income taxes		174		248		243		216		881
Net income		128		176		174		156		634
Net income per common share—basic		0.78		1.07		1.06		0.95		3.87
Net income per common share—diluted		0.77		1.06		1.05		0.94		3.83

Note: The sum of the quarterly reported per share amounts may not equal the full year as each is computed independently. Revenues including realized investment gains and losses, which are integral to our financial results over the long term, may cause this value to fluctuate substantially because we have substantial discretion in the timing of investment sales. Also, applicable accounting standards require us to recognize gains and losses from certain changes in fair values of securities and embedded derivatives without actual realization of those gains and losses.

ITEM 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

We had no disagreements with the independent registered public accounting firm on accounting and financial disclosure during the last two fiscal years.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures – The company maintains disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (Exchange Act)).

Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. The company's management, with the participation of the company's chief executive officer and chief financial officer, has evaluated the effectiveness of the design and operation of the company's disclosure controls and procedures as of December 31, 2016. Based upon that evaluation, the company's chief executive officer and chief financial officer concluded that the design and operation of the company's disclosure controls and procedures provided reasonable assurance that the disclosure controls and procedures are effective to ensure that:

- information required to be disclosed in the company's reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and
- such information is accumulated and communicated to the company's management, including its chief executive officer and chief financial officer, as appropriate, to allow for timely decisions regarding required disclosures.

Changes in Internal Control over Financial Reporting – During the three months ended December 31, 2016, there were no changes in our internal controls over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Management's Annual Report on Internal Control Over Financial Reporting and the Report of the Independent Registered Public Accounting Firm are set forth in Item 8.

ITEM 9B. Other Information

None

Part III

Our Proxy Statement will be filed with the SEC no later than April 30, 2017, in preparation for the 2017 Annual Meeting of Shareholders scheduled for May 6, 2017. As permitted in Paragraph G(3) of the General Instructions for Form 10-K, we are incorporating by reference to that statement portions of the information required by Part III as noted in Item 10 through Item 14 below.

ITEM 10. Directors, Executive Officers and Corporate Governance

a) The following sections of our Proxy Statement for our Annual Meeting of Shareholders to be held May 6, 2017, are incorporated herein by reference: "Section 16(a) Beneficial Ownership Reporting Compliance," "Information about the Board of Directors," and "Governance of Your Company."

b) Information about the "Code of Ethics for Senior Financial Officers" appeared in the 2004 Proxy Statement as an appendix and is available at cinfin.com/investors. Our Code of Ethics applies to those who are responsible for preparing and disclosing our financial information. This includes our chief executive officer, chief financial officer and others performing similar functions.

c) Set forth below is information concerning the company's executive officers who are not also directors of the company, as of February 24, 2017.

Name and Age as of February 24, 2017	Primary Title(s) and Business Responsibilities Since February 2012	Executive Officer Since
Roger A. Brown, FSA, MAAA, CLU (45)	Senior vice president and chief operating officer of The Cincinnati Life Insurance Company. Responsible for life insurance underwriting and operations.	2016
Teresa C. Cracas, Esq. (51)	Chief risk officer and senior vice president of The Cincinnati Insurance Company. Responsible for strategic planning and risk management, including oversight of modeling for financial analysis, property casualty reserving, pricing and insurance regulatory filings, as well as reinsurance assumed operations.	2011
Donald J. Doyle, Jr., CPCU, AIM (50)	Senior vice president of The Cincinnati Insurance Company. Responsible for excess and surplus lines underwriting and operations.	2008
Martin F. Hollenbeck, CFA, CPCU (57)	President and chief operating officer of CFC Investment Company, a commercial lease and finance subsidiary. Chief investment officer and senior vice president, assistant secretary and assistant treasurer of Cincinnati Financial Corporation. Chief investment officer and senior vice president of The Cincinnati Insurance Company. Responsible for all investment operations.	2008
John S. Kellington (55)	Chief information officer and senior vice president of The Cincinnati Insurance Company. Responsible for enterprise strategic technology and oversight of all technology activities.	2010
Lisa A. Love, Esq. (57)	Senior vice president, general counsel and corporate secretary of Cincinnati Financial Corporation and The Cincinnati Insurance Company. Responsible for corporate legal, governance and compliance activities, including oversight of regulatory and consumer relations, shareholder services and contract administration.	2011
Martin J. Mullen, CPCU (61)	Chief claims officer and senior vice president of The Cincinnati Insurance Company. Responsible for oversight of all headquarters and field claims operations, including special investigations and claims administration.	2008
Jacob F. Scherer, Jr. (64)	Chief insurance officer and executive vice president of The Cincinnati Insurance Company. Responsible for executive oversight of business and personal property casualty insurance sales, marketing, underwriting, related field services, relationships with independent agents and reinsurance programs. Executive vice president of business insurance until 2012.	1995

Name and Age as of February 24, 2017	Primary Title(s) and Business Responsibilities Since February 2012	Executive Officer Since
Michael J. Sewell, CPA (53)	Chief financial officer, principal accounting officer and senior vice president of Cincinnati Financial Corporation and The Cincinnati Insurance Company, and treasurer of Cincinnati Financial Corporation. Responsible for oversight of all accounting, finance, financial reporting, purchasing and investor relations.	2011
Stephen M. Spray (50)	Senior vice president of The Cincinnati Insurance Company. Responsible for commercial lines underwriting and operations, including oversight of target markets commercial products, management liability and surety insurance, machinery and equipment insurance, loss control and premium audit. Until 2016, responsible for sales and marketing, including management of field underwriters and independent agency relationships.	2012
Timothy L. Timmel, Esq. (68)	Senior vice president of The Cincinnati Insurance Company. Responsible for operations including oversight of administrative services, corporate communications, facilities maintenance and security, government relations, human resources, learning and development and legal litigation.	1997
William H. Van Den Heuvel (50)	Senior vice president of The Cincinnati Insurance Company. Responsible for personal lines underwriting and operations. Chief operating officer and executive vice president for U.S. and Canada personal lines insurance at AIG until 2014. Western Zone executive and senior vice president for AIG Private Client Group until 2012.	2014

ITEM 11. Executive Compensation

The "Compensation of Named Executive Officers and Directors," section of our Proxy Statement for our Annual Meeting of Shareholders to be held May 6, 2017, is incorporated herein by reference. It includes the "Report of the Compensation Committee," "Compensation Committee Interlocks and Insider Participation" and the "Compensation Discussion and Analysis."

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

a) The "Security Ownership of Principal Shareholders and Management" section of our Proxy Statement for our Annual Meeting of Shareholders to be held May 6, 2017, is incorporated herein by reference.

b) Information on securities authorized for issuance under equity compensation plans appears in Part II, Item 5, Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities. Additional information on share-based compensation under our equity compensation plans is available in Item 8, Note 17 of the Consolidated Financial Statements.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence

The following sections of our Proxy Statement for our Annual Meeting of Shareholders to be held May 6, 2017, are incorporated herein by reference: "Governance of Your Company – Director Independence" and "Governance of Your Company – Certain Relationships and Transactions."

ITEM 14. Principal Accounting Fees and Services

The "Audit-Related Matters," section of our Proxy Statement for our Annual Meeting of Shareholders to be held May 6, 2017, is incorporated herein by reference. It includes the "Proposal 2 – Ratification of Selection of Independent Registered Public Accounting Firm," "Report of the Audit Committee," "Fees Billed by the Independent Registered Public Accounting Firm" and "Services Provided by the Independent Registered Public Accounting Firm."

Part IV

ITEM 15. Exhibits, Financial Statement Schedules

- a) Financial Statements – information contained in Part II, Item 8, of this report, Page 113 to Page 165
- b) Exhibits – see Index of Exhibits, Page 184
- c) Financial Statement Schedules
 - Schedule I – Summary of Investments – Other Than Investments in Related Parties, Page 171
 - Schedule II – Condensed Financial Statements of Parent Company, Page 173
 - Schedule III – Supplementary Insurance Information, Page 177
 - Schedule IV – Reinsurance, Page 179
 - Schedule V – Valuation and Qualifying Accounts, Page 180
 - Schedule VI – Supplementary Information Concerning Property Casualty Insurance Operations, Page 181

Schedule I

Cincinnati Financial Corporation and Subsidiaries Summary of Investments - Other Than Investments in Related Parties

Type of investment	At December 31, 2016		
	Cost or amortized cost	Fair value	Balance sheet
Fixed maturities:			
States, municipalities and political subdivisions:			
The Cincinnati Insurance Company	\$ 2,900	\$ 2,934	\$ 2,934
The Cincinnati Casualty Company	149	150	150
The Cincinnati Indemnity Company	39	40	40
The Cincinnati Life Insurance Company	272	287	287
The Cincinnati Specialty Underwriters Insurance Company	409	416	416
CSU Producer Resources Inc.	1	1	1
Total	3,770	3,828	3,828
Convertibles and bonds with warrants attached:			
The Cincinnati Insurance Company	5	5	5
Total	5	5	5
United States government:			
The Cincinnati Insurance Company	7	7	7
The Cincinnati Casualty Company	2	2	2
The Cincinnati Indemnity Company	1	1	1
Total	10	10	10
Government-sponsored enterprises:			
The Cincinnati Life Insurance Company	167	164	164
Total	167	164	164
Foreign government:			
The Cincinnati Insurance Company	10	10	10
Total	10	10	10
All other corporate bonds:			
The Cincinnati Insurance Company	2,727	2,836	2,836
The Cincinnati Casualty Company	118	123	123
The Cincinnati Indemnity Company	30	31	31
The Cincinnati Specialty Underwriters Insurance Company	155	160	160
The Cincinnati Life Insurance Company	2,760	2,865	2,865
CSU Producer Resources Inc.	1	1	1
Cincinnati Financial Corporation	46	52	52
Total	5,837	6,068	6,068
Total fixed maturities	\$ 9,799	\$ 10,085	\$ 10,085

Schedule I (continued)

Cincinnati Financial Corporation and Subsidiaries Summary of Investments - Other Than Investments in Related Parties

Type of investment	At December 31, 2016		
	Cost or amortized cost	Fair value	Balance sheet
Equity securities:			
Common equities:			
The Cincinnati Insurance Company	\$ 1,600	\$ 3,053	\$ 3,053
The Cincinnati Casualty Company	50	105	105
The Cincinnati Indemnity Company	13	24	24
The Cincinnati Specialty Underwriters Insurance Company	51	91	91
CSU Producer Resources Inc.	15	18	18
Cincinnati Financial Corporation	1,083	1,832	1,832
Total	2,812	5,123	5,123
Nonredeemable preferred equities:			
The Cincinnati Insurance Company	177	201	201
The Cincinnati Life Insurance Company	5	9	9
Cincinnati Financial Corporation	1	1	1
Total	183	211	211
Total equity securities	\$ 2,995	\$ 5,334	\$ 5,334
Other invested assets:			
Policy loans:			
The Cincinnati Life Insurance Company	\$ 31	—	\$ 31
Private equity:			
Cincinnati Financial Corporation (1)	23	—	23
Real estate:			
The Cincinnati Life Insurance Company (1)	21		21
Cincinnati Financial Corporation (1)	6		6
Total other invested assets	\$ 81	—	\$ 81
Total investments	\$ 12,875	—	\$ 15,500

Notes to Schedule I:

(1) These other invested assets are accounted for under the equity method.

Schedule II

Cincinnati Financial Corporation (parent company only) Condensed Balance Sheets

(Dollars in millions)	At December 31,	
	2016	2015
Assets		
Investments		
Fixed maturities, at fair value	\$ 52	\$ 58
Equity securities, at fair value	1,833	1,583
Other invested assets	29	36
Total investments	1,914	1,677
Cash and cash equivalents	248	106
Equity in net assets of subsidiaries	5,790	5,482
Investment income receivable	8	6
Land, building and equipment, net, for company use (accumulated depreciation: 2016—\$111; 2015—\$118)	132	139
Income tax receivable	10	6
Other assets	35	21
Due from subsidiaries	106	107
Total assets	\$ 8,243	\$ 7,544
Liabilities		
Dividends declared but unpaid	\$ 79	\$ 75
Deferred federal income tax	252	173
Long-term debt	787	786
Other liabilities	65	83
Total liabilities	1,183	1,117
Shareholders' Equity		
Common stock	397	397
Paid-in capital	1,252	1,232
Retained earnings	5,037	4,762
Accumulated other comprehensive income	1,693	1,344
Treasury stock at cost	(1,319)	(1,308)
Total shareholders' equity	7,060	6,427
Total liabilities and shareholders' equity	\$ 8,243	\$ 7,544

This condensed financial information should be read in conjunction with the Consolidated Financial Statements and Notes included in Part II, Item 8.

Schedule II (continued)**Cincinnati Financial Corporation (parent company only)**
Condensed Statements of Income

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Revenues			
Investment income, net of expenses	\$ 56	\$ 53	\$ 46
Realized investment (losses) and gains, net	27	(19)	34
Other revenue	15	15	16
Total revenues	<u>98</u>	<u>49</u>	<u>96</u>
Expenses			
Interest expense	52	52	52
Other expenses	27	28	28
Total expenses	<u>79</u>	<u>80</u>	<u>80</u>
Income (Loss) Before Income Taxes and Earnings of Subsidiaries	<u>19</u>	<u>(31)</u>	<u>16</u>
Benefit for income taxes	(6)	(23)	(5)
Net Income (Loss) Before Earnings of Subsidiaries	<u>25</u>	<u>(8)</u>	<u>21</u>
Increase in equity of subsidiaries	566	642	504
Net Income	<u>\$ 591</u>	<u>\$ 634</u>	<u>\$ 525</u>

This condensed financial information should be read in conjunction with the Consolidated Financial Statements and Notes included in Part II, Item 8.

Schedule II (continued)

Cincinnati Financial Corporation (parent company only) Condensed Statements of Comprehensive Income

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Net Income	\$ 591	\$ 634	\$ 525
Other Comprehensive Income, Before Tax			
Unrealized gains and (losses) on investments available for sale	221	(111)	150
Unrealized gains and (losses) on investments held by subsidiaries	434	(444)	367
Reclassification adjustment for (losses) and gains included in net income	(27)	19	(34)
Reclassification adjustment for (gains) included in net income on subsidiaries	(97)	(89)	(99)
Unrealized (losses) and gains on other	(6)	—	7
Unrealized (losses) and gains on other subsidiaries	(4)	13	(3)
Unrealized gains and (losses) on investments available for sale, investments held by subsidiaries and other	521	(612)	388
Amortization of pension actuarial gains (losses) and prior service cost	16	(6)	(18)
Other comprehensive income (loss) before tax	537	(618)	370
Income taxes on above of other comprehensive income (loss)	188	(218)	130
Other comprehensive income (loss), net of tax	349	(400)	240
Comprehensive Income	\$ 940	\$ 234	\$ 765

This condensed financial information should be read in conjunction with the Consolidated Financial Statements and Notes included in Part II, Item 8.

Schedule II (continued)

Cincinnati Financial Corporation (parent company only) Condensed Statements of Cash Flows

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Cash Flows From Operating Activities			
Net income	\$ 591	\$ 634	\$ 525
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	6	7	7
Realized investment losses and (gains), net	(27)	19	(34)
Dividends from subsidiaries	475	447	400
Changes in:			
Increase in equity of subsidiaries	(566)	(642)	(504)
Investment income receivable	(2)	—	(1)
Current federal income taxes	(4)	(7)	3
Deferred income tax	8	(10)	(6)
Other assets	(4)	(3)	20
Other liabilities	(1)	13	(14)
Intercompany receivable for operations	20	16	22
Net cash provided by operating activities	<u>496</u>	<u>474</u>	<u>418</u>
Cash Flows From Investing Activities			
Call or maturity of fixed maturities	5	8	4
Sale of equity securities	135	54	112
Purchase of equity securities	(175)	(110)	(225)
Investment in buildings and equipment, net	(2)	—	(2)
Change in other invested assets, net	6	1	4
Net cash used by investing activities	<u>(31)</u>	<u>(47)</u>	<u>(107)</u>
Cash Flows From Financing Activities			
Payments on notes payable	—	—	(55)
Payment of cash dividends to shareholders	(306)	(366)	(278)
Shares acquired - share repurchase authorization	(39)	(53)	(21)
Proceeds from stock options exercised	21	24	22
Other	1	2	2
Net cash used in financing activities	<u>(323)</u>	<u>(393)</u>	<u>(330)</u>
Net change in cash and cash equivalents	142	34	(19)
Cash and cash equivalents at beginning of year	106	72	91
Cash and cash equivalents at end of year	<u>\$ 248</u>	<u>\$ 106</u>	<u>\$ 72</u>

This condensed financial information should be read in conjunction with the Consolidated Financial Statements and Notes included in Part II, Item 8.

Schedule III

Cincinnati Financial Corporation and Subsidiaries Supplementary Insurance Information

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Deferred policy acquisition costs:			
Commercial lines insurance	\$ 271	\$ 264	\$ 257
Personal lines insurance	110	103	108
Excess and surplus lines insurance	16	15	14
Cincinnati Re	11	6	—
Total property casualty insurance	408	388	379
Life insurance	229	228	199
Total	\$ 637	\$ 616	\$ 578
Gross future policy benefits, losses, claims and expense losses:			
Commercial lines insurance	\$ 4,179	\$ 3,925	\$ 3,797
Personal lines insurance	569	498	439
Excess and surplus lines insurance	241	227	202
Cincinnati Re	46	10	—
Total property casualty insurance	5,035	4,660	4,438
Life insurance	2,693	2,605	2,519
Total (1)	\$ 7,728	\$ 7,265	\$ 6,957
Gross unearned premiums:			
Commercial lines insurance	\$ 1,510	\$ 1,472	\$ 1,441
Personal lines insurance	629	593	562
Excess and surplus lines insurance	93	87	78
Cincinnati Re	74	48	—
Total property casualty insurance	2,306	2,200	2,081
Life insurance	1	1	1
Total (1)	\$ 2,307	\$ 2,201	\$ 2,082
Other policy claims and benefits payable:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Cincinnati Re	—	—	—
Total property casualty insurance	—	—	—
Life insurance	28	36	25
Total (1)	\$ 28	\$ 36	\$ 25
Earned premiums:			
Commercial lines insurance	\$ 3,089	\$ 2,996	\$ 2,856
Personal lines insurance	1,161	1,097	1,041
Excess and surplus lines insurance	183	168	148
Cincinnati Re	49	10	—
Total property casualty insurance	4,482	4,271	4,045
Life insurance	228	209	198
Total	\$ 4,710	\$ 4,480	\$ 4,243

Schedule III (continued)

Cincinnati Financial Corporation and Subsidiaries Supplementary Insurance Information

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Investment income, net of expenses:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Cincinnati Re	—	—	—
Total property casualty insurance (2)	384	368	358
Life insurance	155	150	144
Total	\$ 539	\$ 518	\$ 502
Benefits, claims losses and settlement expenses:			
Commercial lines insurance	\$ 1,928	\$ 1,708	\$ 1,812
Personal lines insurance	840	789	740
Excess and surplus lines insurance	68	70	75
Cincinnati Re	25	5	—
Total property casualty insurance	2,861	2,572	2,627
Life insurance	246	236	229
Total	\$ 3,107	\$ 2,808	\$ 2,856
Amortization of deferred policy acquisition costs:			
Commercial lines insurance	\$ 570	\$ 552	\$ 537
Personal lines insurance	209	210	209
Excess and surplus lines insurance	31	28	24
Cincinnati Re	10	2	—
Total property casualty insurance	820	792	770
Life insurance	43	37	37
Total (3)	\$ 863	\$ 829	\$ 807
Underwriting, acquisition and insurance expenses:			
Commercial lines insurance	\$ 412	\$ 395	\$ 365
Personal lines insurance	128	113	84
Excess and surplus lines insurance	23	20	19
Cincinnati Re	6	1	—
Total property casualty insurance	569	529	468
Life insurance	33	29	26
Total (3)	\$ 602	\$ 558	\$ 494
Net written premiums:			
Commercial lines insurance	\$ 3,122	\$ 3,025	\$ 2,922
Personal lines insurance	1,198	1,128	1,068
Excess and surplus lines insurance	189	175	153
Cincinnati Re	71	33	—
Total property casualty insurance	4,580	4,361	4,143
Accident health insurance	2	2	3
Total	\$ 4,582	\$ 4,363	\$ 4,146

Notes to Schedule III:

(1) The sum of gross future policy benefits, losses, claims and expense losses, gross unearned premium and other policy claims and benefits payable is equal to the sum of Loss and loss expense reserves, Life policy reserves and investment contract reserves and Unearned premiums reported in the company's consolidated balance sheets.

(2) This segment information is not regularly allocated to segments and reviewed by company management in making decisions about resources to be allocated to the segments or to assess their performance.

(3) The sum of amortization of deferred policy acquisition costs and other underwriting and insurance expenses is equal to Underwriting, acquisition and insurance expenses in the consolidated statements of income.

Schedule IV

Cincinnati Financial Corporation and Subsidiaries

Reinsurance

(Dollars in millions)

	Years ended December 31,		
	2016	2015	2014
Gross amounts:			
Life insurance in force	\$ 95,533	\$ 91,451	\$ 88,045
Earned premiums			
Commercial lines insurance	\$ 3,180	\$ 3,088	\$ 2,973
Personal lines insurance	1,195	1,131	1,080
Excess and surplus lines insurance	192	177	156
Cincinnati Re	—	—	—
Total property casualty insurance	4,567	4,396	4,209
Life insurance	290	271	259
Total	\$ 4,857	\$ 4,667	\$ 4,468
Ceded amounts to other companies:			
Life insurance in force	\$ 38,724	\$ 38,716	\$ 37,689
Earned premiums			
Commercial lines insurance	\$ 98	\$ 102	\$ 128
Personal lines insurance	35	35	40
Excess and surplus lines insurance	9	9	8
Cincinnati Re	20	8	—
Total property casualty insurance	162	154	176
Life insurance	62	62	61
Total	\$ 224	\$ 216	\$ 237
Assumed amounts from other companies:			
Life insurance in force	\$ —	\$ —	\$ —
Earned premiums			
Commercial lines insurance	\$ 7	\$ 10	\$ 11
Personal lines insurance	1	1	1
Excess and surplus lines insurance	—	—	—
Cincinnati Re	69	18	—
Total property casualty insurance	77	29	12
Life insurance	—	—	—
Total	\$ 77	\$ 29	\$ 12
Net amounts:			
Life insurance in force	\$ 56,808	\$ 52,735	\$ 50,356
Earned premiums			
Commercial lines insurance	\$ 3,089	\$ 2,996	\$ 2,856
Personal lines insurance	1,161	1,097	1,041
Excess and surplus lines insurance	183	168	148
Cincinnati Re	49	10	—
Total property casualty insurance	4,482	4,271	4,045
Life insurance	228	209	198
Total	\$ 4,710	\$ 4,480	\$ 4,243
Percentage of amounts assumed to net:			
Life insurance in force	—%	—%	—%
Earned premiums			
Commercial lines insurance	0.2%	0.3%	0.4%
Personal lines insurance	0.1	0.1	0.1
Excess and surplus lines insurance	—	—	—
Cincinnati Re	140.8	188.0	—
Total property casualty insurance	1.7	0.7	0.5
Life insurance	—	—	—

Total	1.6	0.7	0.5
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Schedule V

Cincinnati Financial Corporation and Subsidiaries Valuation and Qualifying Accounts

(Dollars in millions)	At December 31,		
	2016	2015	2014
Allowance for doubtful receivables:			
Beginning balance, January 1	\$ 4	\$ 3	\$ 2
Additions charged to costs and expenses	5	3	2
Deductions	(4)	(2)	(1)
Ending balance, December 31	<u>\$ 5</u>	<u>\$ 4</u>	<u>\$ 3</u>

Schedule VI

Cincinnati Financial Corporation and Subsidiaries Supplementary Information Concerning Property Casualty Insurance Operations

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Deferred policy acquisition costs:			
Commercial lines insurance	\$ 271	\$ 264	\$ 257
Personal lines insurance	110	103	108
Excess and surplus lines insurance	16	15	14
Cincinnati Re	11	6	—
Total	<u>\$ 408</u>	<u>\$ 388</u>	<u>\$ 379</u>
Reserves for unpaid claims and claim adjustment expenses:			
Commercial lines insurance	\$ 4,179	\$ 3,925	\$ 3,797
Personal lines insurance	569	498	439
Excess and surplus lines insurance	241	227	202
Cincinnati Re	46	10	—
Total	<u>\$ 5,035</u>	<u>\$ 4,660</u>	<u>\$ 4,438</u>
Reserve discount deducted	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Gross unearned premiums:			
Commercial lines insurance	\$ 1,510	\$ 1,472	\$ 1,441
Personal lines insurance	629	593	562
Excess and surplus lines insurance	93	87	78
Cincinnati Re	74	48	—
Total	<u>\$ 2,306</u>	<u>\$ 2,200</u>	<u>\$ 2,081</u>
Earned premiums:			
Commercial lines insurance	\$ 3,089	\$ 2,996	\$ 2,856
Personal lines insurance	1,161	1,097	1,041
Excess and surplus lines insurance	183	168	148
Cincinnati Re	49	10	—
Total	<u>\$ 4,482</u>	<u>\$ 4,271</u>	<u>\$ 4,045</u>
Investment income, net of expenses:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Cincinnati Re	—	—	—
Total (1)	<u>\$ 384</u>	<u>\$ 368</u>	<u>\$ 358</u>

Note to Schedule VI:

(1) This segment information is not regularly allocated to segments and not reviewed by company management in making decisions about resources to be allocated to the segments or to assess their performance.

Schedule VI (continued)

Cincinnati Financial Corporation and Subsidiaries Supplementary Information Concerning Property Casualty Insurance Operations

(Dollars in millions)	Years ended December 31,		
	2016	2015	2014
Loss and loss expenses incurred related to current accident year:			
Commercial lines insurance	\$ 2,057	\$ 1,862	\$ 1,869
Personal lines insurance	844	784	752
Excess and surplus lines insurance	102	105	104
Cincinnati Re	26	5	—
Total	<u>\$ 3,029</u>	<u>\$ 2,756</u>	<u>\$ 2,725</u>
Loss and loss expenses incurred related to prior accident years:			
Commercial lines insurance	\$ (129)	\$ (154)	\$ (57)
Personal lines insurance	(4)	5	(12)
Excess and surplus lines insurance	(34)	(35)	(29)
Cincinnati Re	(1)	—	—
Total	<u>\$ (168)</u>	<u>\$ (184)</u>	<u>\$ (98)</u>
Amortization of deferred policy acquisition costs:			
Commercial lines insurance	\$ 570	\$ 552	\$ 537
Personal lines insurance	209	210	209
Excess and surplus lines insurance	31	28	24
Cincinnati Re	10	2	—
Total	<u>\$ 820</u>	<u>\$ 792</u>	<u>\$ 770</u>
Paid loss and loss expenses:			
Commercial lines insurance	\$ 1,675	\$ 1,575	\$ 1,666
Personal lines insurance	771	731	717
Excess and surplus lines insurance	55	43	30
Cincinnati Re	2	—	—
Total	<u>\$ 2,503</u>	<u>\$ 2,349</u>	<u>\$ 2,413</u>
Net written premiums:			
Commercial lines insurance	\$ 3,122	\$ 3,025	\$ 2,922
Personal lines insurance	1,198	1,128	1,068
Excess and surplus lines insurance	189	175	153
Cincinnati Re	71	33	—
Total	<u>\$ 4,580</u>	<u>\$ 4,361</u>	<u>\$ 4,143</u>

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Cincinnati Financial Corporation

/S/ Michael J. Sewell

By: Michael J. Sewell, CPA
 Title: Chief Financial Officer, Senior Vice President and Treasurer
 (Principal Accounting Officer)
 Date: February 24, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been duly signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ Kenneth W. Stecher	Chairman of the Board	February 24, 2017
Kenneth W. Stecher		
/S/ Steven J. Johnston	President, Chief Executive Officer and Director	February 24, 2017
Steven J. Johnston		
/S/ Michael J. Sewell	Chief Financial Officer, Senior Vice President and Treasurer	February 24, 2017
Michael J. Sewell		
/S/ William F. Bahl	Director	February 24, 2017
William F. Bahl		
/S/ Gregory T. Bier	Director	February 24, 2017
Gregory T. Bier		
/S/ Dirk J. Debbink	Director	February 24, 2017
Dirk J. Debbink		
/S/ Linda W. Clement-Holmes	Director	February 24, 2017
Linda W. Clement-Holmes		
/S/ Kenneth C. Lichtendahl	Director	February 24, 2017
Kenneth C. Lichtendahl		
/S/ W. Rodney McMullen	Director	February 24, 2017
W. Rodney McMullen		
/S/ David P. Osborn	Director	February 24, 2017
David P. Osborn		
/S/ Gretchen W. Price	Director	February 24, 2017
Gretchen W. Price		
/S/ John J. Schiff, Jr.	Director	February 24, 2017
John J. Schiff, Jr.		
/S/ Thomas R. Schiff	Director	February 24, 2017
Thomas R. Schiff		
/S/ Douglas S. Skidmore	Director	February 24, 2017
Douglas S. Skidmore		
/S/ John F. Steele, Jr.	Director	February 24, 2017
John F. Steele, Jr.		
/S/ Larry R. Webb	Director	February 24, 2017
Larry R. Webb		

Index of Exhibits

Exhibit No.	Exhibit Description
3.1	Amended and Restated Articles of Incorporation of Cincinnati Financial Corporation (incorporated by reference to the company's 2010 Annual Report on Form 10-K dated February 25, 2011, Exhibit 3.1)
3.2	Amendment to Amended and Restated Articles of Incorporation of Cincinnati Financial Corporation (incorporated by reference to the company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, Exhibit 3.2) (File No. 000-04604)
3.3	Regulations of Cincinnati Financial Corporation, as amended through May 1, 2010 (incorporated by reference to the company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010, Exhibit 3.2) (File No. 000-04604)
4.1	Indenture with The Bank of New York Trust Company (incorporated by reference to the company's Current Report on Form 8-K dated November 2, 2004, filed with respect to the issuance of the company's 6.125% Senior Notes due November 1, 2034)
4.2	Supplemental Indenture with The Bank of New York Trust Company (incorporated by reference to the company's Current Report on Form 8-K dated November 2, 2004, filed with respect to the issuance of the company's 6.125% Senior Notes due November 1, 2034)
4.3	Second Supplemental Indenture with The Bank of New York Trust Company (incorporated by reference to the company's Current Report on Form 8-K dated May 9, 2005, filed with respect to the completion of the company's exchange offer and rescission offer for its 6.90% senior debentures due 2028)
4.4	Form of 6.125% Exchange Note Due 2034 (included in Exhibit 4.2)
4.5	Form of 6.92% Debentures Due 2028 (included in Exhibit 4.3)
4.6	Indenture with the First National Bank of Chicago (subsequently assigned to The Bank of New York Trust Company) (incorporated by reference to the company's registration statement on Form S-3 effective May 22, 1998 (File No. 333-51677))
4.7	Form of 6.90% Debentures Due 2028 (included in Exhibit 4.6)
10.1	Cincinnati Financial Corporation Directors' Stock Plan of 2009 (incorporated by reference to the company's definitive Proxy Statement dated March 20, 2009)
10.2	Cincinnati Financial Corporation Stock Option Plan No. VII (incorporated by reference to the company's definitive Proxy Statement dated March 8, 2002) (File No. 000-04604)
10.3	Cincinnati Financial Corporation Annual Incentive Compensation Plan of 2009, as amended January 31, 2014 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 3, 2014)
10.4	Cincinnati Financial Corporation 2006 Stock Compensation Plan (incorporated by reference to the company's definitive Proxy Statement dated March 30, 2007)
10.5	Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to the company's definitive Proxy Statement dated March 16, 2012)
10.6	Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to the company's Definitive Proxy Statement dated March 16, 2016, Appendix B)
10.7	First Amendment of Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 99.1 filed with the Company's current report on Form 8-K dated April 11, 2016)
10.8	Amended and Restated Cincinnati Financial Corporation Supplemental Retirement Plan dated January 1, 2009 (incorporated by reference to Exhibit 10.7 filed with the company's Annual Report on Form 10-K dated February 27, 2013)
10.9	Form of Incentive Stock Option Agreement for Stock Option Plan VII (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated October 20, 2006)
10.10	Form of Nonqualified Stock Option Agreement for Stock Option Plan VII (incorporated by reference to Exhibit 10.2 filed with the company's Current Report on Form 8-K dated October 20, 2006)
10.11	Form of Incentive Stock Option Agreement for the 2006 Stock Compensation Plan (incorporated by reference to Exhibit 10.3 filed with the company's Current Report on Form 8-K dated October 20, 2006)
10.12	Form of Nonqualified Stock Option Agreement for the 2006 Stock Compensation Plan (incorporated by reference to Exhibit 10.4 filed with the company's Current Report on Form 8-K dated October 20, 2006)

Exhibit No.	Exhibit Description
10.13	Form of Restricted Stock Unit Agreement (performance-based) for use under the Cincinnati Financial Corporation 2006 Stock Compensation Plan (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated November 18, 2008)
10.14	Form of Incentive Compensation Agreement for the Cincinnati Financial Corporation Incentive Compensation Plan of 2009 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated March 16, 2009)
10.15	Form of Incentive Stock Option Agreement for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 21, 2013)
10.16	Form of Nonqualified Stock Option Agreement for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.2 filed with the company's Current Report on Form 8-K dated February 21, 2013)
10.17	Form of Restricted Stock Unit Agreement (service based) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.3 filed with the company's Current Report on Form 8-K dated February 21, 2013)
10.18	Form of Restricted Stock Unit Agreement (service based/ratable) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 13, 2015)
10.19	Form of Restricted Stock Unit Agreement (performance based) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.4 filed with the company's Current Report on Form 8-K dated February 21, 2013)
10.20	Form of Incentive Compensation Agreement for the Cincinnati Financial Corporation Incentive Compensation Plan of 2009 (as amended January 1, 2014) (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.21	Form of Incentive Stock Option Agreement for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.2 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.22	Form of Nonqualified Stock Option Agreement for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.3 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.23	Form of Restricted Stock Unit Agreement (service based/cliff) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.4 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.24	Form of Restricted Stock Unit Agreement (service based/ratable) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.5 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.25	Form of Restricted Stock Unit Agreement (performance-based) for the Cincinnati Financial Corporation 2012 Stock Compensation Plan (incorporated by reference to Exhibit 10.6 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.26	Form of Incentive Stock Option Agreement for the Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 10.7 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.27	Form of Nonqualified Stock Option Agreement for the Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 10.8 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.28	Form of Restricted Stock Unit Agreement (service based/cliff) for the Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 10.9 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.29	Form of Restricted Stock Unit Agreement (service based/ratable) for the Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 10.10 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.30	Form of Restricted Stock Unit Agreement (performance based) for the Cincinnati Financial Corporation 2016 Stock Compensation Plan (incorporated by reference to Exhibit 10.11 filed with the company's Current Report on Form 8-K dated January 30, 2017)
10.31	Annual Incentive Compensation Award agreement granted to Steven J. Johnston on February 12, 2016 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 18, 2016)
10.32	Annual Incentive Compensation Award agreement granted to Jacob F. Scherer, Jr. on February 12, 2016 (incorporated by reference to Exhibit 10.2 filed with the company's Current Report on Form 8-K dated February 18, 2016)

Exhibit No.	Exhibit Description
10.33	Annual Incentive Compensation Award agreement granted to Michael J. Sewell on February 12, 2016 (incorporated by reference to Exhibit 10.3 filed with the company's Current Report on Form 8-K dated February 18, 2016)
10.34	Annual Incentive Compensation Award agreement granted to Martin F. Hollenbeck on February 12, 2016 (incorporated by reference to Exhibit 10.4 filed with the company's Current Report on Form 8-K dated February 18, 2016)
10.35	Annual Incentive Compensation Award agreement granted to Charles P. Stoneburner II on February 12, 2016 (incorporated by reference to Exhibit 10.5 filed with the company's Current Report on Form 8-K dated February 18, 2016)
10.36	Amended and Restated Cincinnati Financial Corporation Top Hat Savings Plan dated January 1, 2011 (incorporated by reference to Exhibit 10.14 filed with the company's Annual Report on Form 10-K dated February 27, 2013)
10.37	Cincinnati Financial Corporation Executive Deferred Compensation Agreement by and between the Cincinnati Financial Corporation and Michael J. Sewell, dated as of October 25, 2011 (incorporated by reference to Exhibit 10.2 filed with the company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011)
10.38	Amended and Restated Credit Agreement by and among Cincinnati Financial Corporation, CFC Investment Company, PNC Bank, N.A. as Administrative Agent, PNC Capital Markets LLC, as Sole Bookrunner and Joint Lead Arranger, Fifth Third Bank, N.A., as Joint Lead Arranger and Syndication Agent, The Huntington National Bank and U.S. Bank, N.A., as Documentation Agents, dated May 13, 2014 (incorporated by reference to the company's Current Report on Form 8-K dated May 13, 2014, Exhibit 10.1)
10.39	First Amendment of the Amended and Restated Credit Agreement by and among Cincinnati Financial Corporation, CFC Investment Company, PNC Bank, N.A. as Administrative Agent, PNC Capital Markets LLC, as Sole Bookrunner and Joint Lead Arranger, Fifth Third Bank, N.A., as Joint Lead Arranger and Syndication Agent, The Huntington National Bank and U.S. Bank, N.A., as Documentation Agents, dated February 8, 2016 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 8, 2016)
10.40	Second Amendment of the Amended and Restated Credit Agreement by and among Cincinnati Financial Corporation, CFC Investment Company, PNC Bank, N.A., as Administrative Agent, PNC Capital Markets, LLC, as Sole Bookrunner and Joint Lead Arranger, Fifth Third Bank, N.A. as Joint Lead Arranger and Syndication Agent, The Huntington National Bank and U.S. Bank, N.A. as Documentation Agents, dated March 31, 2016 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated April 4, 2016)
10.41	Agreement by and between The Cincinnati Insurance Company and its affiliated and subsidiary companies and Thomas A. Joseph dated October 19, 2012 (incorporated by reference Exhibit 10.1 filed with the company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2012)
10.42	Continuing Reimbursement Agreement for Letters of Credit by and between U.S. Bank and The Cincinnati Insurance Company, dated April 25, 2016 (incorporated by reference to Exhibit 10.8 filed with the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016.)
11	Statement re: Computation of per share earnings for the years ended December 31, 2016, 2015, and 2014, contained in Part II, Item 8, Note 12, to the Consolidated Financial Statements
14	Cincinnati Financial Corporation Code of Ethics for Senior Financial Officers (incorporated by reference to the company's definitive Proxy Statement dated March 18, 2004 (File No. 000-04604))
21	Cincinnati Financial Corporation subsidiaries contained in Part I, Item 1, of this report
23	Consent of Independent Registered Public Accounting Firm
31A	Certification pursuant to Section 302 of the Sarbanes Oxley Act of 2002 – Chief Executive Officer
31B	Certification pursuant to Section 302 of the Sarbanes Oxley Act of 2002 – Chief Financial Officer
32	Certification pursuant to Section 906 of the Sarbanes Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements of our reports dated February 24, 2017, relating to the consolidated financial statements and financial statement schedules of Cincinnati Financial Corporation and subsidiaries and the effectiveness of Cincinnati Financial Corporation's internal control over financial reporting, appearing in the Annual Report on Form 10-K of Cincinnati Financial Corporation for the year ended December 31, 2016.

No. 333-24817 (on Form S-8)

No. 333-49981 (on Form S-8)

No. 333-126714 (on Form S-8)

No. 333-178075 (on Form S-8)

No. 333-200437 (on Form S-3)

No. 333-186941 (on Form S-8)

No. 333-214701 (on Form S-8)

/S/ Deloitte & Touche LLP

Cincinnati, Ohio
February 24, 2017

EXHIBIT 31A

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002

I, Steven J. Johnston, certify that:

1. I have reviewed this Annual Report on Form 10-K of Cincinnati Financial Corporation;
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 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 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 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 controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2017

/S/ Steven J. Johnston
Steven J. Johnston, FCAS, MAAA, CFA, CERA
President and Chief Executive Officer

EXHIBIT 31B

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002

I, Michael J. Sewell, certify that:

1. I have reviewed this Annual Report on Form 10-K of Cincinnati Financial Corporation;
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 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 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 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 controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2017

/S/ Michael J. Sewell
Michael J. Sewell, CPA
Chief Financial Officer, Senior Vice President and Treasurer
(Principal Accounting Officer)

EXHIBIT 32

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with this report on Form 10-K for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Steven J. Johnston, the chief executive officer, and Michael J. Sewell, the chief financial officer, of Cincinnati Financial Corporation each certifies that, to the best of his knowledge:

1. the report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the report fairly presents, in all material respects, the financial condition and results of operations of Cincinnati Financial Corporation.

Date: February 24, 2017

/S/ Steven J. Johnston

Steven J. Johnston, FCAS, MAAA, CFA, CERA
President and Chief Executive Officer

/S/ Michael J. Sewell

Michael J. Sewell, CPA
Chief Financial Officer, Senior Vice President and Treasurer
(Principal Accounting Officer)