

THE CINCINNATI ETHIC

Values that shaped 70 years of success.



CINCINNATI
FINANCIAL CORPORATION

2019 Annual Report on Form 10-K

ETHIC

The Cincinnati Ethic – our values

The Cincinnati Insurance Companies and our affiliates are dedicated to our local independent agent customers. Our mission is to find the best ways to support their high level of effectiveness in bringing quality insurance products and services to the families and businesses in their communities. For 70 years, our organization has nurtured cultural values that ensure success in this endeavor. Even as our processes and tools evolve with the times, this set of foundational ideals shape our efforts. Read our 2020 Annual Letter from the Chairman and Chief Executive Officer for details on how the Cincinnati Ethic continues to inspire us to be Everything Insurance Should Be®.

Cincinnati Financial Corporation stands among the 25 largest property casualty insurers in the nation, based on net written premiums. A select group of independent agencies actively markets our business, home and auto insurance in 45 states. Within this select group, 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.

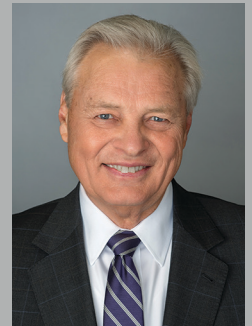
Three competitive advantages distinguish your company, positioning us to build shareholder value and long-term success:

1. Commitment to our network of professional independent insurance agencies and to their continued success
2. Operating structure that supports local decision making, showcasing the strength of our field claims service, field underwriting and field support services
3. Financial strength to fulfill our promises and be a consistent market for our agents' business, supporting stability and confidence

Learn more about where we are today and where we are headed by reviewing our publications on cinfm.com/investors.

A Tribute to Kenneth W. Stecher Cincinnati Financial Chairman 2011-2020

Chairman Ken Stecher is retiring from the board in May. While Ken has served at the helm of Cincinnati Financial's board for nearly a decade, his service to our organization began more than 50 years ago.



In 1967, Ken joined the company's life insurance subsidiary and was quickly recognized for his strong work ethic and commitment to high standards. He acquired a deep knowledge of both life and property casualty insurance accounting, and as a result, advanced to senior vice president, secretary of the corporation and director of all insurance subsidiaries. In 2001, he became our third chief financial officer. Ken's unique background, ability to motivate and long-term perspective made him the ideal person to lead the company through the country's 2008 financial crisis.

During his tenure as president and chief executive officer, he focused on building a robust and easy-to-use IT infrastructure to benefit the independent insurance agents we serve. He also helped shape discussions around new guidelines for our investment strategy, creating a more stable risk profile and improving the balance of risk and reward.

We thank Ken for his many years of leadership and friendship to Cincinnati Financial.

**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, 2019.

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 000-04604

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:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$2.00 par	CINF	Nasdaq Global Select Market

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

None

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

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

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

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

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

(Do not check if a smaller reporting company)

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

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

The aggregate market value of voting stock held by nonaffiliates of the Registrant based on the closing price of \$103.67 per share as reported on Nasdaq Global Select Market on June 30, 2019, was \$15,792,340,443.

As of February 18, 2020, there were 162,686,260 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 2, 2020, are incorporated by reference into Part III of this Form 10-K.

2019 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 45 states. Our headquarters is in Fairfield, Ohio. At year-end 2019, we employed 5,148 associates, including 3,330 headquarters associates who provide support to 1,818 field associates.

Cincinnati Financial Corporation owns 100% of four subsidiaries: The Cincinnati Insurance Company, Cincinnati Global Underwriting Ltd.SM (Cincinnati Global), 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% 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 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.

Cincinnati Global owns 100% of Cincinnati Global Underwriting Agency Ltd.SM, a London-based, global specialty underwriter for Lloyd's Syndicate 318, and Cincinnati Global Dedicated No. 2 Ltd.SM, a Lloyd's corporate member and vehicle through which capital is provided by Cincinnati Financial Corporation and third-party names at Lloyd's.

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, cinfin.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. 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, 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 for insurance company regulation in the United States of America. 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 nearly 70 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 2019, a select group of independent agencies in 45 states actively marketed our property casualty insurance within their communities. Standard market commercial lines and excess and surplus lines policies were marketed in 41 of those states. Personal lines policies were marketed in 42 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.
- Investment gains and losses – Occur from appreciation or depreciation of invested assets over time. Gains or losses are generally recognized from changes in market values of equity securities without a sale or 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% of overall U.S. property casualty insurance premiums and approximately 80% 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 Cincinnati Re 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 choosing an independent insurance agent and 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 2020. 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 Cincinnati Life 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 insurance business.

The table below includes data about property casualty agency relationships that market our standard market insurance products. It does not include Lloyd's brokers or coverholders that source business for Cincinnati Global.

Agency Data	Years ended December 31,	
	2019	2018
Property casualty agency relationships, January 1	1,757	1,702
New appointments that market all or most of The Cincinnati Insurance Companies' products	117	98
New appointments that market only personal lines insurance products for Cincinnati Insurance	70	69
Changes due to consolidation and other	(148)	(112)
Property casualty agency relationships, December 31	<u>1,796</u>	<u>1,757</u>
Property casualty reporting locations	2,458	2,344
New relationship appointments	112	111
Active states	45	42

The annual total of agency new appointments may be partially offset by other changes in agency structures, such as consolidation through mergers or acquisitions. 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 active states. The difference between new appointments in total and the number of new relationships represents 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.

On average, we have a 7.7% share of the standard lines property casualty insurance purchased through our reporting agency locations, according to 2018 data from agency surveys. Our share is 13.8% in reporting agency locations that have represented us for more than 10 years; 6.6% in agencies that have represented us for six to 10 years; 2.0% in agencies that have represented us for two to five years; and 0.7% in agencies that have represented us for one year or less.

Our largest single agency relationship accounted for approximately 1.3% of our total property casualty earned premiums in 2019. No aggregate locations under a single ownership structure accounted for more than 4% of our earned premiums in 2019.

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 specific parameters and tolerances.

- Our \$11.698 billion fixed-maturity portfolio is diversified and exceeds total insurance reserves. The portfolio had an average rating of A2/A, and its fair value exceeded total insurance reserve liabilities by approximately 30% at December 31, 2019. No corporate bond exposure accounted for more than 0.7% of our fixed-maturity portfolio, and no municipal exposure accounted for more than 0.2%.
- The strength of our fixed-maturity portfolio provides an opportunity to invest for potential capital appreciation by purchasing equity securities. Our \$7.752 billion equity portfolio minimizes concentrations in single stocks or industries. At December 31, 2019, no single security accounted for more than 5.6% of our portfolio of publicly traded common stocks, and no single sector accounted for more than 24%.

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, 2019, we held \$3.418 billion of our cash and invested assets at the parent-company level, of which \$3.068 billion, or 89.8%, was invested in common stocks, and \$197 million, or 5.8%, was cash and cash equivalents.

We minimize reliance on debt as a source of capital, with a debt-to-total-capital ratio of 7.7% at year-end 2019. Long-term debt at year-end 2019 totaled \$788 million, matching year-end 2018, and our short-term debt was \$39 million, up from \$32 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 2019 and 2018, 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 2019 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 0.8-to-1 at year-end 2019, based on industry data reported through the first nine months of 2019.
- We ended 2019 with a 6.6% ratio of life statutory adjusted risk-based surplus to liabilities, a key measure of life insurance company capital strength. 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,	
		2019	2018
Standard market property casualty insurance subsidiary			
Statutory capital and surplus		\$ 5,620	\$ 4,919
Risk-based capital		5,654	4,952
Authorized control level risk-based capital		823	723
Risk-based capital to authorized control level risk-based capital ratio		6.9	6.8
Written premium to surplus ratio		1.0	1.0
Excess and surplus lines insurance subsidiary			
Statutory capital and surplus		\$ 526	\$ 479
Risk-based capital		526	479
Authorized control level risk-based capital		54	41
Risk-based capital to authorized control level risk-based capital ratio		9.8	11.8
Written premium to surplus ratio		0.6	0.5
Life insurance subsidiary			
Statutory capital and surplus		\$ 204	\$ 191
Risk-based capital		239	223
Authorized control level risk-based capital		53	51
Total liabilities excluding separate account business		3,643	3,538
Risk-based capital to authorized control level risk-based capital ratio		4.5	4.4
Life statutory risk-based adjusted surplus to liabilities ratio		6.6	6.4

On a statutory consolidated property casualty insurance basis, the ratio of investments in common stock, at fair value, to statutory capital and surplus was 78.7% at year-end 2019 compared with 70.9% at year-end 2018.

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 24, 2020, 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			Outlook
			Rating Tier			Rating Tier			Rating Tier	
A.M. Best Company <i>ambest.com</i>	A+	Superior	2 of 16	A+	Superior	2 of 16	A+	Superior	2 of 16	Stable
Fitch Ratings <i>fitchratings.com</i>	A+	Strong	5 of 21	A+	Strong	5 of 21	-	-	-	Stable
Moody's Investors Service <i>moodys.com</i>	A1	Good	5 of 21	-	-	-	-	-	-	Positive
S&P Global Ratings <i>spratings.com</i>	A+	Strong	5 of 21	A+	Strong	5 of 21	-	-	-	Stable

On January 30, 2020, 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 the same date, A.M. Best upgraded the financial strength rating of The Cincinnati Life Insurance Company, changing the outlook to stable. On November 8, 2019, Fitch affirmed the ratings that it had assigned to us in August 2009, continuing its stable outlook. On September 9, 2019, S&P affirmed the ratings that it had assigned to us in June 2015, continuing its stable outlook. On December 21, 2018, Moody's affirmed the ratings that it had assigned to us in September 2008, changing its outlook to positive.

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, 1,200 reporting agency locations wrote 54.8% of our 2019 consolidated property casualty earned premium volume compared with 1,181 locations and 58.4% in 2018. We continue efforts to geographically diversify our property casualty risks.

Our 10 largest states based on property casualty premium volume, excluding Cincinnati Re and Cincinnati Global, are shown in the table below.

(Dollars in millions)

	Earned premiums	% of total earned	Agency locations	Average premium per location
Year ended December 31, 2019				
Ohio	\$ 806	15.1%	250	\$ 3.2
Illinois	295	5.5	153	1.9
Georgia	291	5.5	107	2.7
North Carolina	274	5.1	110	2.5
Indiana	264	4.9	118	2.2
Pennsylvania	263	4.9	142	1.9
Michigan	210	3.9	135	1.6
Tennessee	189	3.5	62	3.0
Virginia	177	3.3	71	2.5
Alabama	166	3.1	52	3.2

Field Focus Emphasizing Service

We rely on our force of 1,818 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, commercial lines key accounts, personal lines, excess and surplus lines, machinery and equipment, management liability and surety, 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.

Technology enhances our service to agencies, allowing them to more easily access our systems and process business transactions. Policyholders can conveniently access pertinent policy information online, helping to reduce costs for agencies and the company. Technology also helps our associates collaborate and process business efficiently, providing more time for personal service to agencies and their clients.

We also provide 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 homes so additional damage is minimized.

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 994 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 deliver. We also help our agencies provide prompt service to policyholders by providing them authority to immediately pay, up to \$2,500, most first-party claims covered by our standard market policies. Agencies also have the option of submitting those claims to our Express Claims Center where professional headquarters associates will provide immediate customer service, processing the claims promptly and efficiently. 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 our experienced field claims associates 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 associates 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 and begin providing service to 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 products 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% 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 2019, 2018 and 2017:

(Dollars in millions)	2019	2018	2017	Percent of total 2019
Segment:				
Commercial lines insurance	\$ 3,410	\$ 3,245	\$ 3,202	58.4%
Personal lines insurance	1,435	1,378	1,294	24.6
Excess and surplus lines insurance	303	249	219	5.2
Life insurance	318	298	278	5.5
Other	368	158	125	6.3
Total	<u>\$ 5,834</u>	<u>\$ 5,328</u>	<u>\$ 5,118</u>	<u>100.0%</u>
Business line:				
Commercial lines insurance:				
Commercial casualty	\$ 1,131	\$ 1,080	\$ 1,082	19.4%
Commercial property	985	932	919	16.9
Commercial auto	735	682	651	12.6
Workers' compensation	294	311	326	5.0
Other commercial	265	240	224	4.5
Total commercial lines insurance	<u>3,410</u>	<u>3,245</u>	<u>3,202</u>	<u>58.4</u>
Personal lines insurance:				
Personal auto	620	622	603	10.6
Homeowner	631	588	542	10.8
Other personal	184	168	149	3.2
Total personal lines insurance	<u>1,435</u>	<u>1,378</u>	<u>1,294</u>	<u>24.6</u>
Excess and surplus lines insurance	303	249	219	5.2
Life insurance:				
Term life insurance	196	181	167	3.4
Universal life insurance	37	44	41	0.6
Other life insurance and annuity products	85	73	70	1.5
Subtotal	<u>318</u>	<u>298</u>	<u>278</u>	<u>5.5</u>
Other	368	158	125	6.3
Total	<u>\$ 5,834</u>	<u>\$ 5,328</u>	<u>\$ 5,118</u>	<u>100.0%</u>

We discuss our insurance segments 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 2020, including improving underwriting and rate adequacy for our commercial auto and homeowner 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 on 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 2020, we are planning approximately 125 appointments of independent agencies that offer most or all of our property casualty insurance products. We generally earn a 10% 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 2020, we are targeting the appointment of approximately 35 agencies that market only personal lines insurance products for us, primarily ones with a high net worth focus. In 2019, we appointed 70 new agencies that meet that criteria. As we continue to expand availability of our Executive Capstone™ suite of insurance products and services, we intend to appoint additional agencies as we work to become the carrier of choice for this portion of our agencies' accounts.

We also work to grow our market share within our 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 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 approximately two-thirds of such agencies based on 2018 premiums.

During 2020, we will continue to produce premiums through the disciplined expansion of Cincinnati Re, assuming 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.

We also expect that Cincinnati Global will produce profitable premium growth over time. We believe it should provide opportunities to support business produced by our independent agencies in new geographies and lines of business. In early 2020, our CSU Producer Resources subsidiary was approved as a coverholder by Lloyd's of London. Over time that will allow it to expand its current excess and surplus lines activities by bringing business to various Lloyd's syndicates and execute delegated insurance activities such as underwriting or binding coverage.

To help guide our strategic efforts, we have placed an emphasis on innovation to accelerate improvement and to also favorably position us for the future. We find innovative ideas in many places, including: internally through management and other associates, with our traditional business partners and in the start-up business community. These efforts are primarily focused on operational improvements, customer engagement and improving pricing and risk selection.

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 2019, the commercial lines insurance segment contributed net earned premiums of \$3.319 billion, representing 41.9% of consolidated total revenues. This segment reported profit before income taxes of \$241 million. Commercial lines net earned premiums rose 3% in 2019 and 2% in 2018.

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 180 bank or savings and loan financial institutions, with none 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.
 - 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 or 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 85% offer some or all of our standard market commercial insurance products.

In 2019, our 10 highest volume commercial lines states generated 58.4% of our earned premiums compared with 58.7% in 2018 as we continued efforts to geographically diversify our property casualty risks. Earned premiums in the 10 highest volume states increased 2% in 2019, compared with 5% in the remaining states. The aggregate number of reporting agency locations in our 10 highest volume states decreased to 1,138 in 2019 from 1,142 in 2018.

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, 2019					
Ohio	\$ 481	14.5%	241	\$	2.0
Pennsylvania	214	6.5	130		1.6
Illinois	208	6.3	143		1.5
Indiana	181	5.5	118		1.5
North Carolina	181	5.4	106		1.7
Georgia	153	4.6	95		1.6
Virginia	138	4.2	66		2.1
Michigan	135	4.1	126		1.1
Tennessee	135	4.1	62		2.2
Missouri	106	3.2	51		2.1

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 associates 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% of our commercial in-force policies have annual premiums of \$10,000 or less, accounting in total for approximately 20% of our 2019 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 one-quarter of our 2019 commercial lines premium volume. Our average commercial lines policy size is approximately \$11,000 in annual premiums.

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 the 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% of 2019 commercial premiums were subject to annual rating or were written on a one-year policy term. That 75% 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 2019, we estimated that 38% of our general liability premiums, and 36% 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 \$1.404 billion to 2019 consolidated total revenues, or 17.7% of the total, and reported profit before income taxes of \$8 million. Personal lines net earned premiums rose 5% in 2019 and 8% in 2018.

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 2019, for example, 83.0% 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 2019, we marketed personal lines insurance products through 1,779, or approximately 72%, of our 2,458 agency reporting locations. The 1,779 personal lines agency locations were in 42 of the 45 states in which we offered property casualty insurance. Those agencies produced approximately 1.0 million personal lines policies in force for us, representing approximately 390,000 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. At year-end 2019, our appointed agencies produced for us approximately \$410 million in 2019 net written premiums from policyholders with insured home values of \$1 million or more, up 32% from 2018. We estimate those policyholders represent approximately 12% of our total personal lines policyholders.

In 2020, we plan to expand our excess and surplus lines business into personal lines by offering an excess and surplus lines homeowner policy in California through our wholly owned insurance broker, CSU Producer Resources Inc. We see this expansion as a natural evolution of our agency-focused strategy, as some agents need a solution to serve clients who have attractive high net worth personal lines accounts that are not eligible for admitted insurance market coverage.

In 2019, our 10 highest volume personal lines states generated 66.7% of our earned premiums compared with 70.1% in 2018. Earned premiums in the five highest volume states increased 1% in 2019 while increasing 9% 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 increased to 933 in 2019 from 879 in 2018.

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, 2019					
Ohio	\$ 303	21.6%	224	\$	1.4
Georgia	120	8.6	90		1.3
North Carolina	79	5.7	89		0.9
Alabama	68	4.9	48		1.4
Indiana	68	4.8	87		0.8
Michigan	67	4.8	97		0.7
Illinois	66	4.7	103		0.6
New York	61	4.3	90		0.7
Kentucky	54	3.9	47		1.1
Minnesota	48	3.4	58		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 2019, we had 23 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 \$278 million to 2019 consolidated total revenues, or 3.5% of the total, and reported profit before income taxes of \$53 million. Excess and surplus lines net earned premium increased 19% in 2019 and 12% in 2018.

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 \$7,000 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 90% of our 2019 earned premiums for the excess and surplus lines insurance segment provided commercial casualty coverages and about 10% 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 2019, we marketed excess and surplus lines insurance products in each of the 41 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 2019, our 10 highest volume excess and surplus lines states generated 56.8% of our earned premiums, compared with 57.6% in 2018.

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, 2019		
Ohio	\$ 22	8.1%
Illinois	22	7.8
Texas	19	7.0
Georgia	18	6.5
Indiana	15	5.3
North Carolina	14	5.0
Pennsylvania	14	4.9
Alabama	12	4.3
Florida	11	4.0
Minnesota	11	3.9

Agencies representing The Cincinnati Insurance Companies produce approximately \$4 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% of policies within 24 hours of a request to bind a policy.

Life Insurance Segment

The life insurance segment contributed \$270 million of net earned premiums, representing 3.4% of 2019 consolidated total revenues, and reported a profit before income taxes of \$1 million. Life insurance net earned premiums grew 8% in 2019 and 8% in 2018.

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 approximately 98% 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 using 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 loans 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 and whole life 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:

- 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

Cincinnati Life is licensed in 49 states and the District of Columbia. At year-end 2019, approximately 80% of our 1,796 property casualty agency relationships offered Cincinnati Life products to their clients. We also develop life business from approximately 482 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, coordinated with our life field marketing representatives, 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 develop and offer 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+ (Superior); Fitch, A+ (Strong); and S&P, A+ (Strong). Our life insurance company has chosen not to establish a Moody's rating.

In 2019, 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
Year ended December 31, 2019		
Ohio	\$ 55	16.7%
Pennsylvania	23	7.0
Illinois	20	6.0
Indiana	20	5.9
Georgia	17	5.2

Investments Segment

Revenues of the investments segment are primarily from net investment income and from net 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 \$19.450 billion and \$16.609 billion at year-end 2019 and 2018, respectively, as shown in the table below. The overall portfolio increased, reflecting an unrealized gain position and fair value increase. The fair value increased primarily due to equity markets that rose during 2019. The unrealized gain position in our fixed-maturity investments increased in 2019, due to a decrease in interest rates and a narrowing of corporate credit spreads.

	At December 31, 2019				At December 31, 2018			
	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	\$ 7,250	49.4%	\$ 7,617	39.1%	\$ 6,920	49.4%	\$ 6,926	41.7%
Tax-exempt fixed maturities	3,858	26.3	4,081	21.0	3,723	26.6	3,763	22.6
Common equity securities	3,371	22.9	7,518	38.7	3,195	22.8	5,742	34.6
Nonredeemable preferred equity securities	210	1.4	234	1.2	173	1.2	178	1.1
Total	\$ 14,689	100.0%	\$ 19,450	100.0%	\$ 14,011	100.0%	\$ 16,609	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 2019, the combined effect of purchases and a net increase in unrealized gains offset sales and calls of fixed-maturity securities in our portfolio. During 2018, a net decrease in unrealized gains, in addition to sales and calls, offset purchases.
- Equity investments – Includes common and nonredeemable preferred stocks. During 2019, the combined effect of purchases and a net increase in fair value offset sales of equity securities in our portfolio. During 2018, a net decrease in fair value and sales offset purchases.

In addition to securities held in our investment portfolio, other invested assets included \$164 million held on deposit at Lloyd's, \$71 million of private equity investments, \$32 million of life policy loans and \$29 million of real estate through direct property ownership and development projects in the United States at year-end 2019.

Our investment portfolio is further described below. Additional information about the composition or valuation of investments is included in Item 8, Note 2, Investments, and Note 3, Fair Value Measurements, of the Consolidated Financial Statements. A detailed listing of our portfolio is updated on our website, cinfin.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, 2019, our investment-grade and noninvestment-grade fixed-maturity securities represented 85.2% and 2.4% of the portfolio, respectively. The remaining 12.4% represented fixed-maturity securities that were not rated by Moody's or S&P. Our nonrated securities include smaller municipal issues and private placement corporate securities. Many of these, although not rated by Moody's or S&P, are rated by the Securities' Valuation Office of the National Association of Insurance Commissioners (NAIC). 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,	
	2019	2018
Weighted average yield-to-amortized cost	4.10 %	4.20 %
Weighted average maturity	7.7 yrs	7.6 yrs
Effective duration	4.8 yrs	5.2 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,	
	2019	2018
Investment-grade corporate	\$ 6,137	\$ 5,464
States, municipalities and political subdivisions	647	541
Commercial mortgage-backed	301	288
Noninvestment-grade corporate	264	246
Government-sponsored enterprises	136	310
United States government	104	67
Foreign government	28	10
Total	\$ 7,617	\$ 6,926

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% of the taxable fixed-maturity portfolio at year-end 2019. Investment-grade corporate bonds had an average rating of Baa2 by Moody's or BBB by S&P at year-end 2019. Our taxable fixed-maturity portfolio included \$301 million of commercial mortgage-backed securities with an average rating of Aa1/AA at year-end 2019.

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 44.6% for the financial sector, higher than the 28.4% weighting for the financial sectors of the Bank of America Merrill Lynch U.S. Corporate Index. Relative to the Barclay's Aggregate 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, 2019, we had \$4.081 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 approximately 1,600 municipal bond issuers. No single municipal issuer accounted for more than 0.6% of the tax-exempt fixed-maturity portfolio at year-end 2019.

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.

For federal income tax purposes, taxes on gains from appreciated investments generally are not due until securities are sold. We believe that the appreciated value of equity securities, compared with the cost of securities that is generally used as a tax basis, is a useful measure to help evaluate how fair value can change over time. On this basis, the net unrealized investment gains at year-end 2019 consisted of a net gain position in our equity portfolio of \$4.171 billion. Events or factors such as economic growth or recession can affect the fair value of our equity securities.

At year-end 2019, Apple Inc. (Nasdaq:AAPL) was our largest single common stock investment, comprising 5.5% of our publicly traded common stock portfolio and 2.1% of the entire investment portfolio. The parent company held 40.8% 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, 2019		At December 31, 2018	
	Cincinnati Financial	S&P 500 Industry Weightings	Cincinnati Financial	S&P 500 Industry Weightings
Information technology	23.7%	23.2%	20.9%	20.1%
Financial	15.7	13.0	15.6	13.3
Industrials	12.6	9.1	12.5	9.2
Healthcare	12.4	14.2	14.9	15.6
Consumer discretionary	9.7	9.7	10.5	10.0
Energy	6.3	4.3	6.7	5.3
Consumer staples	6.2	7.2	5.6	7.4
Materials	5.0	2.7	4.9	2.7
Telecomm services	3.4	10.4	3.5	10.1
Utilities	2.5	3.3	2.7	3.3
Real estate	2.5	2.9	2.2	3.0
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. During 2019, we purchased \$40 million of nonredeemable preferred stocks and none in this portfolio were converted to common stock. During 2018, we purchased \$1 million of nonredeemable preferred stocks and converted \$3 million to common stock.

Other

What we report as Other includes the noninvestment operations of the parent company and its noninsurer subsidiary CFC Investment Company. At year-end 2019, this subsidiary had \$77 million in receivables related to its commercial leasing and financing services, compared with \$71 million in receivables at year-end 2018.

We also report as Other the results of Cincinnati Re, which 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 \$228 million in 2019, compared with \$158 million in 2018. Approximately 32% of 2019 net written premiums was for property exposures that include risk of loss from natural catastrophes and approximately 52% was for casualty exposures from various liability risks. The remainder of approximately 16% was a combination of what we consider to be more specialized coverages that include, but are not limited to, transactional liability and credit risk transfer related to residential mortgages.

Also reported as Other are the results of Cincinnati Global, our London-based global specialty underwriter for Lloyd's Syndicate 318, which we acquired on February 28, 2019. We expect it to contribute to future earnings and book value growth as we believe it should provide opportunities to support business produced by our independent agencies in new geographies and lines of business.

Net written premiums for Cincinnati Global totaled \$140 million since its acquisition in 2019. Most of the premiums were for U.S. and international property exposures that include risk of loss from natural catastrophes, including approximately 63% classified as direct and facultative and 31% as binder, where binding authority has been granted to various coverholders, mostly in the U.S., that we believe have the ability to successfully underwrite and manage risks. The remainder of approximately 6% was for aviation risks, mostly smaller airlines and some general aviation business. In 2020, expansion of Cincinnati Global is expected to include a modest amount of premiums for two additional classes of business, trade credit and terrorism.

When we disclose probable maximum loss (PML) estimates on a gross basis, we also typically disclose amounts on a basis that is net of income taxes and applicable reinsurance ceded, including any retrocessions for reinsurance assumed. Based on treaties in effect at January 1, 2020, Cincinnati Re increased other property casualty catastrophe probable maximum loss estimates disclosed in Item 7, Liquidity and Capital Resources, 2020 Reinsurance Ceded Programs, by the following amounts that are net of the benefit of estimated reinstatement premiums: \$111 million for a once-in-a-100-year event and \$74 million for a once-in-a-250-year event. Those amounts represent a marginal basis, reflecting differences between the Cincinnati Re reinsurance portfolio and property casualty insurance written on a direct basis by The Cincinnati Insurance Companies. Ignoring diversification effects provided by those two components, on a standalone basis, probable maximum loss estimates for Cincinnati Re include the following amounts: \$157 million for a once-in-a-100-year event and \$183 million for a once-in-a-250-year event. Each of those effects represent a single hurricane event and are net of income taxes, based on probable maximum loss estimates from the Applied Insurance Research Touchstone[®] version 6.0 catastrophe model.

For Cincinnati Global, including applicable reinsurance ceded in effect at January 1, 2020, on a standalone basis and including the effects of estimated reinstatement premiums, probable maximum loss estimates for Cincinnati Global include the following amounts: \$54 million for a once-in-a-100-year event and \$87 million for a once-in-a-250-year event. Each of those effects represent a single hurricane event and are net of income taxes, based on probable maximum loss estimates from the Applied Insurance Research Touchstone[®] version 6.0 catastrophe model.

Regulation

The business of insurance in the United States (U.S.) is primarily regulated by state law. All of our U.S. insurance company subsidiaries are domiciled in the state of Ohio except The Cincinnati Specialty Underwriters Insurance Company, which is domiciled in the state of Delaware. Each domestic 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 lead standard market property casualty company subsidiary and its surplus lines insurance subsidiary. These regulations require that we annually furnish financial and other information about the governance and 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 domestic 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 domestic insurance subsidiary can pay without prior regulatory approval is the greater of 10% of statutory capital and surplus or 100% of statutory net income for the prior calendar year.

The domestic 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 2019 in Item 8, Note 9 of the Consolidated Financial Statements.

- **Insurance Operations** – All of our domestic 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 domestic 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 in the U.S. 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, domestic 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.
- 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 (NRRRA), 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.

We operate in limited foreign jurisdictions. Our foreign insurance subsidiary Cincinnati Global Underwriting Ltd., based in the United Kingdom (U.K.), holds a group of companies led by our managing agency, Cincinnati Global Underwriting Agency Ltd. (CGUAL), of Lloyd's Syndicate 318, which is regulated by The Prudential Regulation Authority (PRA) and The Financial Conduct Authority (FCA). The PRA's primary objective with respect to insurers is to promote the safety and soundness of insurers for the protection of policyholders, while the FCA has three operational objectives: (i) to secure an appropriate degree of protection for consumers; (ii) to protect and enhance the integrity of the U.K. financial system; and (iii) to promote effective competition in the interests of consumers in the financial services markets. The PRA/FCA's Senior Managers and Certification Regime provides regulatory frameworks for standards of fitness and propriety, conduct and accountability for individuals in positions of responsibility at insurers.

CGUAL is also regulated by the PRA and FCA, which have delegated certain additional regulatory responsibilities to the Council of Lloyd's. By virtue of Lloyd's international licenses, we can write business in various countries throughout the world. In each such country, we are subject to the laws and insurance regulations of that jurisdiction.

Our operations in the U.K. are further subject to regulation by the European Union (EU). Generally, EU requirements are adopted by the EU and then implemented by enabling legislation in the member countries. Significant areas of oversight and influence from the EU include capital, solvency and risk management requirements (Solvency II), competition law and antitrust regulation, intermediary and distribution regulation, gender discrimination and data protection and privacy (General Data Protection Regulation). The applicability of EU regulation to our U.K. business is likely to change in ways yet to be determined as a result of the U.K.'s exit from the EU.

Enterprise Risk Management

We manage enterprise risk through formal risk management programs overseen by 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.

We understand that a cybersecurity incident is just one example of an event that could affect our future performance. We work to keep our systems and data secure while continuing to increase our understanding of cybersecurity risk through risk management efforts and testing by third-party experts of our cybersecurity program structure and capabilities. Those efforts include blocking attempted cyber intrusions, frequent vulnerability assessments and maintaining procedures to ensure timely notification of critical cybersecurity incidents and related disclosure controls. Cybersecurity matters are an important part of reporting to our executive management team, risk committee and the board of directors. Effects of cyberattacks can be significant, including additional costs for remediation, litigation and reputational damage. During 2019, we experienced no cybersecurity incidents having a material effect on our operations or financial performance.

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. Our 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, actual results differing from our assumptions, judgments or estimates 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, results of operations or cash flows. 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 consolidated financial condition, results of operations or cash flows.

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, Cincinnati Re reinsures policies written by other insurance companies. This business 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. Innovation, new or changing technologies and/or buying trends or consumer preferences could reduce or eliminate the need or demand for products we sell.

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 epidemic 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.

According to these models, probable maximum loss estimates from a single hurricane event that combine the effects of property casualty insurance written on a direct basis by The Cincinnati Insurance Companies, the Cincinnati Re reinsurance portfolio and risks insured by Cincinnati Global include the following amounts, net of amounts recoverable through reinsurance ceded and also income taxes, and including the effects of estimated reinstatement premiums: \$300 million for a once-in-a-100-year event and \$429 million for a once-in-a-250-year event. Please see Item 7, Liquidity and Capital Resources, 2020 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, California, the Northwest and Southwest.
- 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 Cincinnati Re and Cincinnati Global 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 coverage for 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 Chicago, Dallas, New York, 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 45 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, particularly if the epidemic were to affect a broad range of the population beyond just the very young or the very old, or affects the overall economy. 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 45 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 continues to expand its Cincinnati Re reinsurance assumed operations and has staffed it with seasoned underwriting and analytical talent who 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 January 1, 2020, the largest loss exposure to us for Cincinnati Re is from natural catastrophe events. That exposure includes probable maximum loss estimates, on a marginal basis, of the following amounts: \$111 million for a once-in-a-100-year event and \$74 million for a once-in-a-250-year event. Those effects represent a single hurricane event and include the effects of income taxes, applicable reinsurance ceded and estimated reinstatement premiums. The marginal basis reflects diversification effects of the Cincinnati Re reinsurance portfolio and property casualty insurance written on a direct basis by The Cincinnati Insurance Companies. 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.

We are also expanding Cincinnati Global, our global specialty underwriter with premiums primarily for U.S. and international property exposures, given its seasoned underwriting talent. At January 1, 2020, the largest loss exposure to us for Cincinnati Global is from natural catastrophe events. That exposure includes probable maximum loss estimates of the following amounts: \$54 million for a once-in-a-100-year event and \$87 million for a once-in-a-250-year event. Those effects are on a standalone basis and represent a single hurricane event and include the effects of income taxes, applicable reinsurance ceded and estimated reinstatement premiums. If there is a high frequency of large property catastrophe or terrorism events, or a single extreme event, during the coverage period of its policies, 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, terrorist attack, or epidemic event 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 60.1% of the fair value of our investment portfolio at the end of 2019, 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 2019, common stock holdings made up 38.7% 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, results of operations and cash flows 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., Bermudian, 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 Cincinnati Re. 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 as social inflation. 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, Cincinnati Re reserves are subject to uncertainty because a reinsurer relies on the original underwriting decisions and claims reserving practices of 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.

The anticipated benefits may not be realized for our acquisition of Cincinnati Global.

Cincinnati Global, our London-based global specialty underwriter for Lloyd's Syndicate 318, was acquired on February 28, 2019. We can provide no assurance that the anticipated benefits of the transaction will be fully realized in the time frame anticipated or at all, or that the costs or difficulties related to the integration of its operations will not be greater than expected. The success of the transaction will depend, in part, on our ability to realize the anticipated business opportunities and growth prospects from acquiring Cincinnati Global. We may never realize these business opportunities and growth prospects, and our management might have its attention diverted while trying to integrate operations.

Cincinnati Global's international operations subjects us to additional regulation and could expose us to additional investment, political and economic risks.

We have international operations that could expose us to a number of additional risks. These risks include restrictions such as price controls, capital controls, currency exchange limits, ownership limits and other restrictive or anti-competitive governmental actions or requirements, which could have an adverse effect on our business and reputation. Our business activities outside the United States, including the United Kingdom (UK), could also be subject to political and economic risks, including foreign currency and credit risk. Additionally, Cincinnati Global's operations will expand the products offered by us.

Additionally, business activities outside the United States will subject us to additional domestic and foreign laws and regulations, including the Foreign Corrupt Practices Act, the UK Bribery Act and similar laws in other countries that prohibit the making of improper payments to foreign officials. In addition, insurers in the UK (including managing agents and members of Lloyd's of London) are subject to Solvency II and the UK regulatory regime, which itself includes rules promulgated by Lloyd's. Although we have policies and controls in place that are designed to ensure compliance with these laws and regulatory requirements, if those controls are ineffective and an employee or intermediary fails to comply with applicable laws and regulations, we could suffer civil and criminal penalties and our business and reputation could be adversely affected. Some countries have laws and regulations that lack clarity and, even with local expertise and effective controls, it can be difficult to determine the exact requirements of, and potential liability under, the local laws. Failure to comply with local laws in a particular market may result in substantial liability and could have a significant and negative effect not only on our business in that market but also on our reputation generally.

Business activities at Cincinnati Global are subject to Lloyd's approval of a business plan each year. There is risk that plans will not be approved or will be limited. As a Lloyd's managing agent and syndicate, Cincinnati Global is exposed to various risks and uncertainties associated, including its obligation to maintain funds at Lloyd's to support its underwriting activities and periodic assessment of its capital, governance and other aspects of its business.

Developments relating to the United Kingdom's leaving the European Union could adversely affect Cincinnati Global's operations.

The terms of the UK's withdrawal from the European Union (Brexit) and the relationship between the UK and the European Union going forward can affect economic conditions, including the terms of trade between them. The ultimate impact of Brexit is uncertain and will depend on any agreements that the UK makes to retain access to European Union markets. Brexit could also lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which European Union laws to replace or replicate. These or other adverse consequences from Brexit could adversely affect the operations and business opportunities of Cincinnati Global.

With a view to mitigating the potential effects of Brexit on business underwritten through Lloyd's, it has set up an insurance company subsidiary in Belgium, with the intention of underwriting European Economic Area insurance business via that subsidiary. It is uncertain how effective Lloyd's proposed Brexit contingency plan will be.

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

Please see Item 7, Liquidity and Capital Resources, 2020 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 65% 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, financial position or cash flows.

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 our ability 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 criminal and state-sponsored cybercrime and cyber threats. 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 lead insurance subsidiary are restricted by the insurance laws of Ohio, its domiciliary state. These laws establish minimum solvency and liquidity thresholds and limits. In 2020, the maximum dividend that may be paid without prior regulatory approval is limited to the greater of 10% of statutory capital and surplus or 100% 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 subsidiaries, 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 102 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 \$132 million at December 31, 2019, and is classified as land, building and equipment, net, for company use. John J. & Thomas R. Schiff & Co. Inc., a related party, occupies 8,034 square feet (less than 1%). This property is used for the operations described 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 \$5 million at December 31, 2019, and is classified as investment property in Other Invested Assets, net. At December 31, 2019, unaffiliated tenants occupied 86%, Cincinnati Financial affiliates occupy 14%.

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 \$8 million at December 31, 2019, and is classified as land, building and equipment, net, for company use.

We lease office space located in London, United Kingdom, for our Cincinnati Global operations. We also lease office space throughout the United States to support our insurance operations.

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

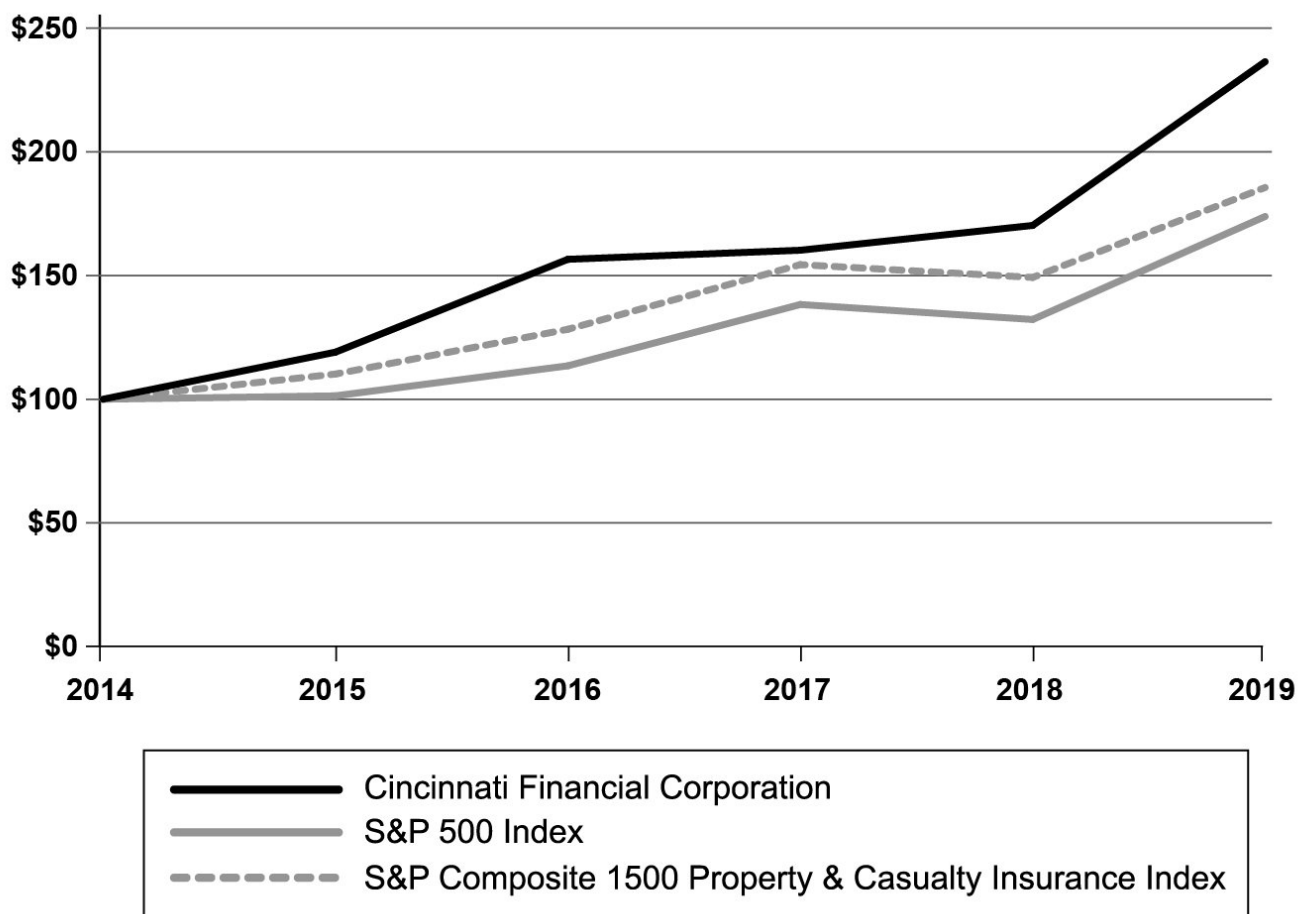
Cincinnati Financial Corporation had approximately 166,000 shareholders of record as of December 31, 2019. While approximately 13,000 shareholders are registered, the majority of shareholders are beneficial owners whose shares are held in "street name" by brokers and institutional accounts. We believe many of our independent agent representatives and most of the 5,148 associates of our subsidiaries own the company's common stock. Our common shares are traded under the symbol CINF on Nasdaq.

Cumulative Total Return

As depicted in the graph below, the five-year total return on a \$100 investment made December 31, 2014, assuming the reinvestment of all dividends, was 136.4% for Cincinnati Financial Corporation's common stock compared with 85.6% for the S&P Composite 1500 Property & Casualty Insurance Index and 73.9% for the S&P 500 Index.

The following graph depicts \$100 invested on December 31, 2014, 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



The S&P 500 Index includes a representative sample of 500 leading companies in a cross section of industries of the U.S. economy. At year-end 2019, the S&P Composite 1500 Property & Casualty Insurance Index included 26 companies.

Issuances and Purchases of Equity Securities

The following summarizes securities authorized for issuance under our equity compensation plans as of December 31, 2019:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights at December 31, 2019	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, 2019
	(a)	(b)	(c)
Equity compensation plans approved by security holders	3,437,413	\$ 63.99	8,225,276
Equity compensation plans not approved by security holders	—	—	—
Total	3,437,413	\$ 63.99	8,225,276

The number of securities remaining available for future issuance includes: 7,233,810 shares available for issuance under the Cincinnati Financial Corporation 2016 Stock Compensation Plan (the 2016 Plan), 706,568 shares available for issuance under the Cincinnati Financial Corporation 2012 Stock Compensation Plan (the 2012 Plan), and 284,898 shares available for issuance of share grants under the Director's Stock Plan of 2018. 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.

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 subsidiaries can pay to the parent company are discussed in Item 8, Note 9 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
October 1-31, 2019	553,535	\$ 111.94	553,535	14,876,785
November 1-30, 2019	—	—	—	14,876,785
December 1-31, 2019	—	—	—	14,876,785
Totals	553,535	111.94	553,535	

We did not sell any of our shares that were not registered under the Securities Act during 2019. 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. On January 26, 2018, an additional 15 million shares were authorized, which expanded our current repurchase program. We have 14,876,785 shares available for purchase under our programs at December 31, 2019.

ITEM 6. Selected Financial Data

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

	Years ended December 31,				
	2019	2018	2017	2016	2015
Consolidated Income Statement Data					
Earned premiums	\$ 5,604	\$ 5,170	\$ 4,954	\$ 4,710	\$ 4,480
Investment income, net of expenses	646	619	609	595	572
Investment gains and losses, net *	1,650	(402)	148	124	70
Total revenues	7,924	5,407	5,732	5,449	5,142
Net income	1,997	287	1,045	591	634
Net income per common share:					
Basic	\$ 12.24	\$ 1.76	\$ 6.36	\$ 3.59	\$ 3.87
Diluted	12.10	1.75	6.29	3.55	3.83
Cash dividends per common share:					
Ordinary declared	2.24	2.12	2.00	1.92	1.84
Ordinary paid	2.21	2.09	1.98	1.90	1.82
Special declared and paid	—	—	0.50	—	0.46
Diluted weighted average shares	165.1	164.5	166.0	166.5	165.6
Consolidated Balance Sheet Data					
Total investments	\$ 19,746	\$ 16,732	\$ 17,051	\$ 15,500	\$ 14,423
Net unrealized investment portfolio gains	4,761	2,598	3,540	2,625	2,094
Deferred policy acquisition costs	774	738	670	637	616
Total assets	25,408	21,935	21,843	20,386	18,888
Gross loss and loss expense reserves	6,147	5,707	5,273	5,085	4,718
Life policy and investment contract reserves	2,835	2,779	2,729	2,671	2,583
Long-term debt	788	788	787	787	786
Shareholders' equity	9,864	7,833	8,243	7,060	6,427
Book value per share	60.55	48.10	50.29	42.95	39.20
Shares outstanding	162,918	162,843	163,899	164,387	163,944
Value creation ratio	30.5%	(0.1)%	22.9%	14.5%	3.4%
Consolidated Property Casualty Operations Data					
Earned premiums	\$ 5,334	\$ 4,920	\$ 4,722	\$ 4,482	\$ 4,271
Unearned premiums	2,787	2,515	2,403	2,306	2,200
Gross loss and loss expense reserves	6,088	5,646	5,219	5,035	4,660
Investment income, net of expenses	419	401	392	384	368
Loss and loss expense ratio	62.8%	65.5 %	66.4%	63.8%	60.2%
Underwriting expense ratio	31.0	30.9	31.1	31.0	30.9
Combined ratio	93.8%	96.4 %	97.5%	94.8%	91.1%

* 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 changes in fair values of equity securities and changes in embedded derivatives without actual realization of those gains and losses. We discuss investment gains and losses 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, a leading insurance industry statistical, analytical and financial strength rating organization. Information from A.M. Best is presented on a statutory accounting basis for insurance company regulation in the United States of America. 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 2019, 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 45 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, 2019	30.5%	17.8%	14.2%
As of December 31, 2018	(0.1)	12.4	10.7
As of December 31, 2017	22.9	13.6	13.9

We are targeting an annual value creation ratio averaging 10% to 13% over the next five-year period. At 30.5% for 2019, we significantly exceeded the high end of that range, and exceeded the high end of it for the three-year and five-year periods that ended in December 2019.

The table below shows the primary components of our value creation ratio on a percentage 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,			2019-2018	2018-2017
	2019	2018	2017	Pt. Change	Pt. Change
Value creation ratio major components:					
Net income before investment gains	8.9%	7.4 %	13.5%	1.5	(6.1)
Change in fixed-maturity securities, realized and unrealized gains	5.5	(3.2)	1.1	8.7	(4.3)
Change in equity securities, investment gains	16.6	(3.8)	8.6	20.4	(12.4)
Other	(0.5)	(0.5)	(0.3)	0.0	(0.2)
Value creation ratio	<u>30.5%</u>	<u>(0.1)%</u>	<u>22.9%</u>	<u>30.6</u>	<u>(23.0)</u>

The 2019 value creation ratio improved by 30.6 percentage points, compared with 2018, primarily due to a higher valuation for our investment portfolio, as shown in the table above. The decrease in 2018, compared with 2017, was primarily due to a lower valuation for our investment portfolio. Operating results in 2019 contributed to VCR more than in 2018, despite a 0.7% contribution from certain non-recurring items in the 2018 ratio, including the impact of various tax accounting method changes. VCR in 2017 included a 7.0% contribution from a tax benefit due to net deferred income tax liability revaluation related to U.S. tax reform.

We believe our value creation ratio is a useful measure. The table below shows calculations for VCR.

(Dollars are per share)	Years ended December 31,		
	2019	2018	2017
Value creation ratio:			
End of period book value*	\$ 60.55	\$ 48.10	\$ 50.29
Less beginning of period book value	48.10	50.29	42.95
Change in book value	12.45	(2.19)	7.34
Dividend declared to shareholders	2.24	2.12	2.50
Total value creation	<u>\$ 14.69</u>	<u>\$ (0.07)</u>	<u>\$ 9.84</u>
Value creation ratio from change in book value**	25.9%	(4.3)%	17.1%
Value creation ratio from dividends declared to shareholders***	4.6	4.2	5.8
Value creation ratio	<u>30.5%</u>	<u>(0.1)%</u>	<u>22.9%</u>

* Book value per share is calculated by dividing end of period total shareholders' equity by end of period shares outstanding

** 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 5.9% over the five-year period 2015 through 2019, exceeding the 4.3% estimated growth rate for the property casualty insurance industry, with 2019 representing industry data reported through the first nine months of 2019. 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% to 100%. Our GAAP combined ratio averaged 94.7% over the five-year period 2015 through 2019, slightly 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 94.3% over the five-year period 2015 through 2019, compared with an estimated 100.1% for the property casualty industry, with 2019 representing industry data reported through the first nine months of 2019. 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 S&P 500 Index.
 - Investment income growth, on a pretax basis, had a compound annual growth rate of 3.3% over the five-year period 2015 through 2019.
 - Over the five years ended December 31, 2019, our equity portfolio compound annual total return was 12.0% compared with a compound annual total return of 11.7% for the Index. Our equity portfolio favors larger-capitalization, high-quality, dividend growing stocks with a slight value orientation. For the year 2019, our equity portfolio total return was 31.9%, compared with 31.5% for the Index.

The board of directors is committed to rewarding shareholders directly through cash dividends and share repurchase authorizations. Through 2019, the company has increased the annual cash dividend rate for 59 consecutive years, a record we believe is matched by only seven other publicly traded U.S. companies. In addition to regular dividends, strong capital and excellent company performance has provided opportunities to further reward shareholders, including a special dividend paid in December 2017. The board regularly evaluates relevant factors in dividend-related decisions, and the 2019 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

(Dollars in millions, except share data)	At December 31, 2019	At December 31, 2018
Total investments	\$ 19,746	\$ 16,732
Total assets	25,408	21,935
Short-term debt	39	32
Long-term debt	788	788
Shareholders' equity	9,864	7,833
Book value per share	60.55	48.10
Debt-to-total-capital ratio	7.7%	9.5%

Total investments increased by 18% during 2019 on a fair value basis, with an increase in our securities portfolio valuation that added to a 6% increase in its cost basis. Entering 2020, 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 16%. Shareholders' equity increased by 26% and book value per share also increased by 26%, for reasons discussed in the preceding Executive Summary.

The amount of our debt obligations increased by \$7 million in 2019, compared with 2018. Our 7.7% ratio of debt to total capital (debt plus shareholders' equity) at year-end 2019 decreased by 1.8 percentage points compared with the prior-year ratio.

Income Statement and Per Share Data

(In millions, except per share data)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 5,604	\$ 5,170	\$ 4,954	8	4
Investment income, net of expenses (pretax)	646	619	609	4	2
Investment gains and losses, net (pretax)	1,650	(402)	148	nm	nm
Total revenues	7,924	5,407	5,732	47	(6)
Net income	1,997	287	1,045	596	(73)
Comprehensive income	2,423	24	1,648	nm	(99)
Net income per share - diluted	12.10	1.75	6.29	591	(72)
Cash dividends declared per share	2.24	2.12	2.50	6	(15)
Diluted weighted average shares outstanding	165.1	164.5	166.0	0	(1)

Net income rose \$1.710 billion or 596% in 2019, compared with 2018, including a \$1.621 billion increase for 2019 net investment gains after taxes. The improved 2019 net income also included an increase in property casualty underwriting income of \$122 million after taxes, as discussed below, and a \$21 million increase in investment income after taxes. Our investment operation's performance is discussed further in Investments Results. Net income in 2018 included a \$56 million benefit from certain other non-recurring items, primarily the impact of various tax accounting method changes as disclosed in Item 8, Note 11 of the Consolidated Financial Statements.

Net income in 2018 decreased \$758 million, compared with 2017, largely due to a \$495 million benefit in 2017 from net deferred income tax liability revaluation due to U.S. tax reform and a \$413 million decrease for 2018 in net investment gains after taxes.

As discussed in Investments Results, we reported a net investment gain in 2019, primarily due to a \$1.626 billion net favorable change in fair value for equity securities still held. In 2018, we reported a net investment loss, primarily due to unfavorable changes in fair values of equity securities even though we continued to hold the securities. For 2017 we reported investment gains, largely due to investment sales that were discretionary in timing and amount.

Contribution from Insurance Operations

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Consolidated property casualty data:					
Net written premiums	\$ 5,516	\$ 5,030	\$ 4,840	10	4
Earned premiums	5,334	4,920	4,722	8	4
Underwriting profit	341	186	128	83	45
				Pt. Change	Pt. Change
GAAP combined ratio	93.8%	96.4%	97.5%	(2.6)	(1.1)
Statutory combined ratio	93.4	96.0	97.2	(2.6)	(1.2)
Written premium to statutory surplus	1.0	1.0	1.0	0.0	0.0

Property casualty net written premiums grew 10% and earned premiums grew 8% in 2019, reflecting average renewal price increases, a higher level of insured exposures and premium growth initiatives. The 2019 growth rate for net written premiums exceeded 2018 by 6 percentage points, with Cincinnati Global representing 3 points of the increase. Trends and related factors are discussed in Commercial Lines, Personal Lines and Excess and Surplus Lines Insurance Results, respectively.

We completed our transaction to acquire Cincinnati Global, a London-based global specialty underwriter for Lloyd's Syndicate 318, on February 28, 2019. We expect the transaction to contribute to future earnings and book value growth as we believe it should provide opportunities to support business produced by our independent agencies in new geographies and lines of business. Following the UK's withdrawal from the European Union (Brexit), we expect Cincinnati Global to continue its presence in London. Regardless of the outcome of Brexit, Cincinnati Global is working to advance its business and to attract talent to benefit its expansion. Our costs related to Brexit were immaterial in 2019.

Our property casualty insurance operations generated underwriting profits for each of the three years ending in 2019. The \$155 million improvement in 2019, compared with 2018, included a \$25 million decrease in losses from natural catastrophe events and \$69 million more benefit from net favorable reserve development on prior accident years before catastrophe losses. The \$58 million increase in 2018, compared with 2017, included a \$7 million increase in losses from natural catastrophe events and \$59 million more benefit from net favorable reserve development on prior accident years before catastrophe losses.

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% represents an underwriting profit. Initiatives to improve our combined ratio are discussed in Item 1, Our Business and Our Strategy, Strategic Initiatives. In 2019, 2018 and 2017, 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 profit of \$1 million in 2019 and \$8 million in 2018. 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, 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 and Cincinnati Global. 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 \$6.088 billion at year-end 2019 compared with \$5.646 billion at year-end 2018.

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 known 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. Upper-level headquarters claims managers also review case reserves of \$175,000 or more.

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 resulting in losses incurred related to premiums written on a direct basis by The Cincinnati Insurance Companies, we calculate IBNR 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 IBNR reserves. Our claims department management coordinates the assessment of these events and prepares the related IBNR 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, related to premiums written on a direct basis by The Cincinnati Insurance Companies, we generally use the catastrophe definition provided by Property Claims Service (PCS), a division of Insurance Services Office. PCS defines a catastrophe as an event that causes U.S., Puerto Rico and U.S. Virgin Islands damage of \$25 million or more in insured property losses and affects a significant number of policyholders and insureds.

- For events designated as natural catastrophes resulting in losses for Cincinnati Re and Cincinnati Global, we begin with a review of in-force policies, treaties and related limits likely to be affected by each event. For both Cincinnati Re and Cincinnati Global, use of information from third-party catastrophe models, industry estimates, and our own proprietary adjustments are utilized for the estimate of ultimate losses for each catastrophe event. Incurred losses from catastrophe events for both Cincinnati Re and Cincinnati Global can be designated catastrophes by PCS, or deemed as a catastrophe by the international insurance industry or, for Cincinnati Re, as reported by ceding companies. IBNR reserves are calculated as the difference between the estimate of the ultimate loss and loss expenses and the sum of total loss and loss expense payments and total case reserves.
- 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 Loss and Loss Expense 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.
- For all other claims and events, including reinsurance assumed or ceded, 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. Reserve amounts for those other claims and events are significant, and represent the majority of amounts shown as IBNR reserves and loss expense reserves in the table included in Liquidity and Capital Resources, Property Casualty Loss and Loss Expense Obligations and Reserves. 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, commercial casualty and certain other liability lines, 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 expected 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
- company and industry premium
- company in-force policy count

These trends and measures also support the estimation of expected 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. 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 expected loss ratios and expected 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 21% 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.

(Dollars in millions)	Net loss and loss expense range of reserves				
	Carried reserves	Low point	High point	Standard error	Net income effect
At December 31, 2019					
Total	\$ 5,746	\$ 5,418	\$ 5,862	\$ 222	\$ 175
Commercial casualty	\$ 2,209	\$ 1,959	\$ 2,377	\$ 209	\$ 165
Commercial property	312	279	326	24	19
Commercial auto	704	668	736	34	27
Workers' compensation	949	813	999	93	73
Personal auto	324	303	336	16	13
Homeowners	185	175	195	10	8

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 and morbidity. We use our own experience and historical trends for setting our assumptions for expected withdrawal rates and expenses. We base our assumptions for expected investment income on our own experience adjusted for current and future expected 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 investment portfolio is our largest asset. We monitor the fixed-maturity portfolio and all other assets for signs of other-than-temporary or permanent impairment. We monitor 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; 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 \$9 million in 2019, \$5 million in 2018 and \$9 million in 2017. OTTI losses represent noncash charges to income and are reported as investment losses.

Our internal investment portfolio managers monitor their assigned portfolios. If a fixed-maturity security is valued below 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 fixed-maturity securities valued below 100% of amortized cost are reported to the asset impairment committee for evaluation. 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.

Fixed-maturity 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 fixed-maturity securities fair valued in a continuous loss position at year-end 2019 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 with fair values 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.

Fixed-maturity securities considered to have a temporary decline would be expected to recover their 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 fixed-maturity 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

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 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

Substantially all of the \$19.450 billion of securities in our investment portfolio at year-end 2019, 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.

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 a level consistent with the way we acquire, service and manage insurance policies and measure profitability. Deferred acquisition costs track with the change in premiums.

For life insurance policies, acquisition costs are amortized into income in proportion to premium revenue, benefit base or in accordance with the recognition of gross profit from the contract, 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. In addition, Other includes the financial results of our reinsurance assumed operations, known as Cincinnati ReSM, and our London-based global specialty underwriter Cincinnati Global Underwriting Ltd.SM, known as Cincinnati Global.

We measure profit or loss for our commercial lines, personal lines, 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, or contract holders' benefits incurred, 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, Cincinnati Re and Cincinnati Global. For analysis of our consolidated property casualty insurance results, it is important to include the 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 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 2019, 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 2019 underwriting profit of \$341 million was \$155 million more than in 2018, including a \$25 million favorable effect from a lower amount of natural catastrophe losses, mostly caused by severe weather. Prior accident year loss experience before catastrophes during 2019 was more favorable than in 2018, and represented \$69 million of the 2019 underwriting profit increase. Improved profitability also included other factors, such as higher pricing, and our ongoing initiatives to improve pricing precision and loss experience related to claims and loss control practices. Underwriting profit trends are discussed further below.

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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 5,334	\$ 4,920	\$ 4,722	8	4
Fee revenues	11	11	11	0	0
Total revenues	5,345	4,931	4,733	8	4
Loss and loss expenses from:					
Current accident year before catastrophe losses	3,249	3,026	2,889	7	5
Current accident year catastrophe losses	351	364	368	(4)	(1)
Prior accident years before catastrophe losses	(219)	(150)	(91)	(46)	(65)
Prior accident years catastrophe losses	(29)	(17)	(28)	(71)	39
Loss and loss expenses	3,352	3,223	3,138	4	3
Underwriting expenses	1,652	1,522	1,467	9	4
Underwriting profit	\$ 341	\$ 186	\$ 128	83	45
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year before catastrophe losses	60.9%	61.5%	61.1%	(0.6)	0.4
Current accident year catastrophe losses	6.6	7.4	7.8	(0.8)	(0.4)
Prior accident years before catastrophe losses	(4.1)	(3.1)	(1.9)	(1.0)	(1.2)
Prior accident years catastrophe losses	(0.6)	(0.3)	(0.6)	(0.3)	0.3
Loss and loss expenses	62.8	65.5	66.4	(2.7)	(0.9)
Underwriting expenses	31.0	30.9	31.1	0.1	(0.2)
Combined ratio	93.8%	96.4%	97.5%	(2.6)	(1.1)
Combined ratio:	93.8%	96.4%	97.5%	(2.6)	(1.1)
Contribution from catastrophe losses and prior years reserve development	1.9	4.0	5.3	(2.1)	(1.3)
Combined ratio before catastrophe losses and prior years reserve development	91.9%	92.4%	92.2%	(0.5)	0.2

Performance highlights for consolidated property casualty operations include:

- Premiums – Agency renewal written premiums rose \$161 million in 2019 and continued to contribute to 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 \$126 million in 2019, compared with 2018. Agents appointed during 2019 or 2018 produced a 2019 increase in standard lines new business of \$46 million. Growth initiatives also favorably affect growth in subsequent years, particularly as newer agency relationships mature over time.

Expansion of Cincinnati Re produced \$228 million of 2019 net written premiums and contributed \$70 million of the growth in other written premiums, compared with 2018. 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 2019, earned premiums for Cincinnati Re totaled \$184 million.

Cincinnati Global also contributed to the increase in other written premiums, following its acquisition on February 28, 2019. Net written premiums were \$140 million since the acquisition, while earned premiums were \$149 million.

Other written premiums also include premiums ceded to reinsurers as part of our ceded reinsurance program. An increase in ceded premiums, other than Cincinnati Re and Cincinnati Global premiums, reduced net written premium growth by \$12 million more in 2019, compared with 2018.

The table below analyzes premium revenue components and trends.

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Agency renewal written premiums	\$ 4,519	\$ 4,358	\$ 4,198	4	4
Agency new business written premiums	778	652	626	19	4
Other written premiums	219	20	16	nm	25
Net written premiums	5,516	5,030	4,840	10	4
Unearned premium change	(182)	(110)	(118)	(65)	7
Earned premiums	\$ 5,334	\$ 4,920	\$ 4,722	8	4

- Combined ratio – The 2019 combined ratio improved by 2.6 percentage points compared with 2018, including a 1.1 percentage-point decrease in the ratio for natural catastrophe losses. The 2019 ratio for current accident year losses and loss expenses before catastrophes improved by 0.6 percentage points, reflecting a decrease in commercial lines large losses for new losses above \$1 million described below, and what we believe are improvements to some of our loss experience due to recent-year initiatives to improve pricing precision and claims and loss control practices. The remainder of the 2019 combined ratio decrease included 1.0 percentage points more 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 93.4% in 2019 compared with 96.0% in 2018 and 97.2% in 2017. The estimated statutory combined ratio for the property casualty industry, with the industry's ratio excluding its mortgage and financial guaranty lines of business and based on industry data reported through the first nine months of 2019, was 98.0% in 2019, 99.3% in 2018 and 104.0% in 2017. The contribution of catastrophe losses to our statutory combined ratio was 6.0 percentage points in 2019, 7.1 percentage points in 2018 and 7.2 percentage points in 2017, compared with industry estimates of 4.4, 5.9 and 9.7 percentage points, respectively, with 2019 representing industry data reported through the first nine months of 2019. 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 6.8 percentage points at December 31, 2019. Our five-year average was 6.4 percentage points.

For our property catastrophe occurrence and aggregate excess of loss treaty that we renewed for a period of one year effective July 1, 2019, there is a total limit of \$50 million for all coverages combined. The combined coverage noted below applies to business written on a direct basis and by Cincinnati Re. Cincinnati Global catastrophe losses are not applicable to the treaty. Key coverages are summarized below.

- Combined – Aggregate net recovery up to \$50 million after retaining the first \$125 million of each loss
- Cincinnati Re-only – Aggregate net recovery up to \$8 million after retaining the first \$45 million in aggregate
- Direct business-only in certain Western states – Aggregate net recovery up to \$31 million for:
 - Earthquake: After retaining the first \$20 million of each loss
 - Brushfire or wildfire: After retaining the first \$40 million of each loss

There was no recovery from reinsurers for losses during 2019 pertaining to the treaty effective July 1, 2019. For the treaty effective in July 2018, the aggregate recovery from reinsurers totaled \$14 million for incurred losses in 2019, after considering all applicable deductibles, due to adverse reserve development in our personal lines insurance segment from a California wildfire event that occurred during 2018, exhausting the \$50 million aggregate limit. During 2018, the aggregate recovery from reinsurers providing coverage totaled \$36 million, which was applied to two California wildfire events, including \$21 million for Cincinnati Re.

The following table shows catastrophe losses incurred for the past two 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	Other	Total
2019							
Jan. 29 - Feb. 1	Flood, ice, snow, wind	Midwest, Northeast	\$ 9	\$ 10	\$ —	\$ —	\$ 19
Feb. 23-26	Flood, freezing, hail, ice, snow, wind	Midwest, Northeast, South	10	9	—	—	19
Mar. 12-17	Flood, hail, ice, snow, wind	Midwest, Northeast, West, South	4	4	—	4	12
May 16-17	Flood, hail, wind	Midwest	8	5	—	—	13
May 26 - 28	Flood, hail, wind	Midwest, Northeast, West, South	71	29	—	—	100
Aug. 4-5	Flood, hail, wind	Midwest	4	8	—	—	12
Aug. 10-11	Flood, hail, wind	West	22	1	—	—	23
Aug. 28 - Sep. 6	Flood, hail, wind	South, International (Dorian)	3	1	—	11	15
Oct. 7-20	Typhoon	International (Hagibis)	—	—	—	12	12
Oct. 20-21	Flood, hail, wind	Midwest, South	4	23	—	—	27
All other 2019 catastrophes			41	47	1	10	99
Development on 2018 and prior catastrophes			(25)	2	—	(6)	(29)
Calendar year incurred total			<u>\$ 151</u>	<u>\$ 139</u>	<u>\$ 1</u>	<u>\$ 31</u>	<u>\$ 322</u>
2018							
Jan. 8-10	Flood, Wind	West	\$ —	\$ 10	\$ —	\$ —	\$ 10
Mar. 1-3	Freezing, Ice, Snow, Wind	Northeast, South	5	5	—	—	10
Mar. 18-21	Flood, Hail, Wind	South	19	7	1	—	27
Apr. 13-17	Flood, Hail, Wind	Midwest, Northeast, South	20	7	—	—	27
Jul. 19-22	Flood, Hail, Wind	Midwest, South	9	8	—	—	17
Aug. 27 - Sep. 7	Flood, Wind	International (Jebi)	—	—	—	15	15
Sep. 13-19	Flood, Hail, Wind	South	72	8	—	1	81
Oct. 10-12	Flood, Hail, Wind	South	30	18	—	15	63
Nov. 8-21	Wildfire	West	—	10	—	—	10
Nov. 29 - Dec. 2	Flood, Hail, Wind	Midwest, South, West	5	5	—	—	10
All other 2018 catastrophes			48	43	1	2	94
Development on 2017 and prior catastrophes			(21)	4	—	—	(17)
Calendar year incurred total			<u>\$ 187</u>	<u>\$ 125</u>	<u>\$ 2</u>	<u>\$ 33</u>	<u>\$ 347</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, 2019, were \$92 million higher than at year-end 2018, including \$131 million for incurred but not reported (IBNR) reserves. The \$92 million reserve increase raised year-end 2018 net loss and loss expense reserves by 2%.

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 68.9% accident year 2018 loss and loss expense ratio reported as of December 31, 2018, developed favorably by 1.8 percentage points to 67.1% due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2019. Accident years 2018 and 2017 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:	2019	2018	2017	2019	2018	2017
as of December 31, 2019	\$ 3,600	\$ 3,301	\$ 3,135	67.5%	67.1%	66.4%
as of December 31, 2018		3,390	3,194		68.9	67.6
as of December 31, 2017			3,257			68.9

Catastrophe loss trends, discussed above, accounted for some of the movement in the current accident year loss and loss expense ratio for 2019, compared with 2018. Catastrophe losses added 6.6 percentage points in 2019, 7.4 points in 2018 and 7.8 points in 2017 to the respective consolidated property casualty current accident year loss and loss expense ratios in the table above.

The 60.9% ratio for current accident year loss and loss expenses before catastrophe losses for 2019 decreased 0.6 percentage points compared with the 61.5% accident year 2018 ratio measured as of December 31, 2018. Contributors to the decrease included a 0.2 percentage-point reduction in the ratio for 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 2019, and was primarily due to less-than-anticipated loss emergence on known claims. We recognized \$248 million of favorable development in 2019, compared with \$167 million in 2018 and \$119 million in 2017. Of the \$81 million increase in 2019, compared with 2018, \$50 million was attributable to our commercial casualty and workers' compensation lines of business. Approximately 83% of our net favorable reserve development on prior accident years recognized during 2019 occurred in our commercial casualty, commercial property, workers' compensation and personal auto lines of business. In 2018, our commercial casualty, commercial property and workers' compensation lines of business were responsible for approximately 91% 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 2017 was primarily from our commercial property and workers' compensation lines of business. Development by accident year is further discussed in Liquidity and Capital Resources, 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ 27	\$ 43	\$ 45	(37)	(4)
Current accident year losses \$1,000,000-\$5,000,000	243	218	212	11	3
Large loss prior accident year reserve development	50	69	51	(28)	35
Total large losses incurred	320	330	308	(3)	7
Losses incurred but not reported	50	110	54	(55)	104
Other losses excluding catastrophe losses	2,118	1,886	1,903	12	(1)
Catastrophe losses	309	334	327	(7)	2
Total losses incurred	\$ 2,797	\$ 2,660	\$ 2,592	5	3
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.5%	0.9%	1.0%	(0.4)	(0.1)
Current accident year losses \$1,000,000-\$5,000,000	4.6	4.4	4.5	0.2	(0.1)
Large loss prior accident year reserve development	0.9	1.4	1.0	(0.5)	0.4
Total large loss ratio	6.0	6.7	6.5	(0.7)	0.2
Losses incurred but not reported	0.9	2.2	1.1	(1.3)	1.1
Other losses excluding catastrophe losses	39.7	38.4	40.3	1.3	(1.9)
Catastrophe losses	5.8	6.8	7.0	(1.0)	(0.2)
Total loss ratio	52.4%	54.1%	54.9%	(1.7)	(0.8)

In 2019, total large losses incurred decreased by \$10 million, or 3%, net of reinsurance, primarily due to a decrease for our commercial lines insurance segment. The corresponding ratio decreased 0.7 percentage points. The large loss data included in the table above does not include Cincinnati Re and Cincinnati Global. 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Commission expenses	\$ 989	\$ 911	\$ 866	9	5
Other underwriting expenses	651	599	587	9	2
Policyholder dividends	12	12	14	0	(14)
Total underwriting expenses	<u>\$ 1,652</u>	<u>\$ 1,522</u>	<u>\$ 1,467</u>	<u>9</u>	<u>4</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Commission expenses	18.6%	18.5%	18.3%	0.1	0.2
Other underwriting expenses	12.2	12.1	12.5	0.1	(0.4)
Policyholder dividends	0.2	0.3	0.3	(0.1)	0.0
Total underwriting expense ratio	<u>31.0%</u>	<u>30.9%</u>	<u>31.1%</u>	<u>0.1</u>	<u>(0.2)</u>

Consolidated property casualty commission expenses rose \$78 million, or 9%, in 2019, with profit-sharing commissions for agencies increasing by \$12 million. The 2019 ratio of commission expenses as a percent of earned premiums increased by 0.1 percentage points, compared with 2018. The 2019 ratio for other underwriting expenses also increased by 0.1 percentage points, as earned premiums rose at a slightly slower pace than other underwriting expenses. During 2019, we continued to carefully manage expenses while also making strategic investments that include enhancement of underwriting expertise.

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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 3,319	\$ 3,218	\$ 3,165	3	2
Fee revenues	5	5	5	0	0
Total revenues	3,324	3,223	3,170	3	2
Loss and loss expenses from:					
Current accident year before catastrophe losses	2,046	1,998	1,933	2	3
Current accident year catastrophe losses	176	208	182	(15)	14
Prior accident years before catastrophe losses	(167)	(136)	(50)	(23)	(172)
Prior accident years catastrophe losses	(25)	(21)	(23)	(19)	9
Loss and loss expenses	2,030	2,049	2,042	(1)	0
Underwriting expenses	1,053	1,023	1,009	3	1
Underwriting profit	\$ 241	\$ 151	\$ 119	60	27
Ratios as a percent of earned premiums:					
				Pt. Change	Pt. Change
Current accident year before catastrophe losses	61.7%	62.1%	61.1%	(0.4)	1.0
Current accident year catastrophe losses	5.3	6.5	5.7	(1.2)	0.8
Prior accident years before catastrophe losses	(5.0)	(4.2)	(1.6)	(0.8)	(2.6)
Prior accident years catastrophe losses	(0.8)	(0.7)	(0.7)	(0.1)	0.0
Loss and loss expenses	61.2	63.7	64.5	(2.5)	(0.8)
Underwriting expenses	31.7	31.7	31.9	0.0	(0.2)
Combined ratio	92.9%	95.4%	96.4%	(2.5)	(1.0)
Combined ratio:	92.9%	95.4%	96.4%	(2.5)	(1.0)
Contribution from catastrophe losses and prior years reserve development	(0.5)	1.6	3.4	(2.1)	(1.8)
Combined ratio before catastrophe losses and prior years reserve development	93.4%	93.8%	93.0%	(0.4)	0.8

Performance highlights for the commercial lines insurance segment include:

- Premiums – Earned premiums and net written premiums rose in 2019, including a \$73 million increase in renewal written premiums that continued to include higher average pricing. New business written premiums in 2019 increased \$93 million, or 22%, compared with 2018. Approximately one-third of the increase was from agencies appointed since the beginning of 2018.
- Combined ratio – The 2019 combined ratio improved by 2.5 percentage points compared with 2018, including a 1.3 percentage-point decrease in the ratio component for natural catastrophe losses. Development on prior accident years' loss and loss expense reserves before catastrophes during 2019 was 0.8 percentage points more favorable than in 2018.

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 2017, we observed paid losses or re-estimates of case reserves emerging at levels higher than expected for commercial casualty. Considering that new data at December 31, 2017, we estimated commercial casualty IBNR reserves for accident year 2017 at levels more likely to be adequate. During 2019 and 2018, commercial casualty reserve development on prior accident years was favorable, as discussed below. In 2018, our estimate for commercial casualty IBNR reserves for accident year 2018 contributed an increase of 0.5 percentage points to the 2018 commercial lines segment ratio for current accident year losses and loss expenses before catastrophes, compared with its contribution to accident year 2017 as of December 31, 2017. Our commercial casualty 2019 total loss and loss expense ratio was 2.3 percentage points better than in 2018.

Commercial auto, representing 21% of 2019 earned premiums for our commercial lines insurance segment, was the only major line of business in that segment with a 2019 total loss and loss expense ratio significantly higher than we desired, although it was 7.9 percentage points better than in 2018. During 2019, our commercial auto policies experienced average renewal price percentage increases estimated in the high-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 associates. Field marketing representatives meet with local agencies to assess each risk, determine limits of insurance and establish appropriate terms and conditions. They underwrite new business, with collaboration and expertise from headquarters associates as needed, while field loss control, machinery and equipment and claims representatives 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 92.3% in 2019, compared with 95.1% in 2018 and 96.2% in 2017. The contribution of catastrophe losses to our commercial lines statutory combined ratio was 4.5 percentage points in 2019, 5.8 percentage points in 2018 and 5.0 percentage points in 2017.

Commercial Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Agency renewal written premiums	\$ 2,998	\$ 2,925	\$ 2,880	2	2
Agency new business written premiums	510	417	397	22	5
Other written premiums	(98)	(97)	(75)	(1)	(29)
Net written premiums	3,410	3,245	3,202	5	1
Unearned premium change	(91)	(27)	(37)	(237)	27
Earned premiums	\$ 3,319	\$ 3,218	\$ 3,165	3	2

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 2% increase in 2019 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 2019, our standard commercial lines policies averaged an estimated pricing change at a percentage in the low-single-digit range, slightly higher than in 2018. 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 2019, we estimate that the average price increase was near the low end of the mid-single-digit range. During 2019, 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.

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 are part of net written premiums and earned premiums. The contribution to our commercial lines earned premiums was \$65 million, \$70 million and \$69 million in 2019, 2018 and 2017, respectively.

In 2019, our commercial lines new business premiums written by our agencies increased \$93 million, or 22%, compared with 2018. New business premium volume in recent years has been significantly influenced by new agency appointments. Agencies appointed since the beginning of 2018 produced commercial lines new business written premiums of \$45 million, in aggregate, during 2019, up \$33 million from what they produced during 2018. All other agencies contributed the remaining \$465 million, up \$60 million from the \$405 million they produced in 2018.

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 lower our net written premiums. An increase in ceded premiums reduced net written premium growth by \$5 million more in 2019, compared with 2018.

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. 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 68.6% accident year 2018 loss and loss expense ratio reported as of December 31, 2018, developed favorably by 2.1 percentage points to 66.5% due to claims settling for less than previously estimated, or due to updates to reserve estimates for unpaid claims, as of December 31, 2019. Accident years 2018 and 2017 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:	2019	2018	2017	2019	2018	2017
as of December 31, 2019	\$ 2,222	\$ 2,139	\$ 1,998	67.0%	66.5%	63.1%
as of December 31, 2018		2,206	2,047		68.6	64.6
as of December 31, 2017			2,115			66.8

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain some of the movement in the current accident year loss and loss expense ratio for accident year 2019, compared with 2018. Catastrophe losses added 5.3 percentage points in 2019, 6.5 points in 2018 and 5.7 points in 2017 to the respective commercial lines current accident year loss and loss expense ratios in the table above.

The 61.7% ratio for current accident year loss and loss expenses before catastrophe losses for 2019 decreased 0.4 percentage points compared with the 62.1% accident year 2018 ratio measured as of December 31, 2018. Contributors to the decrease included less large losses incurred, described below, and the corresponding ratios for new losses above \$1 million, with a 0.4 percentage-point decrease to the 2019 ratio. Other contributions included favorable effects from various 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 \$192 million in 2019 continued to net to a favorable amount and provided a larger benefit than the \$157 million recognized in 2018. The \$35 million net increase in 2019 included \$31 million from our commercial casualty line of business. Most of our commercial lines net favorable reserve development on prior accident years recognized during 2019 occurred in our commercial casualty and workers' compensation lines of business. Favorable development recognized during 2018 was mostly from our commercial casualty, commercial property and workers' compensation lines of business. Favorable development recognized during 2017 was mostly from our commercial property and workers' compensation lines 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ 27	\$ 37	\$ 39	(27)	(5)
Current accident year losses \$1,000,000-\$5,000,000	185	182	166	2	10
Large loss prior accident year reserve development	49	65	47	(25)	38
Total large losses incurred	261	284	252	(8)	13
Losses incurred but not reported	26	64	61	(59)	5
Other losses excluding catastrophe losses	1,222	1,122	1,184	9	(5)
Catastrophe losses	142	180	150	(21)	20
Total losses incurred	<u>\$ 1,651</u>	<u>\$ 1,650</u>	<u>\$ 1,647</u>	<u>0</u>	<u>0</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.8%	1.2%	1.2%	(0.4)	0.0
Current accident year losses \$1,000,000-\$5,000,000	5.6	5.6	5.3	0.0	0.3
Large loss prior accident year reserve development	1.5	2.0	1.5	(0.5)	0.5
Total large loss ratio	7.9	8.8	8.0	(0.9)	0.8
Losses incurred but not reported	0.8	2.0	1.9	(1.2)	0.1
Other losses excluding catastrophe losses	36.7	34.9	37.4	1.8	(2.5)
Catastrophe losses	4.3	5.6	4.7	(1.3)	0.9
Total loss ratio	<u>49.7%</u>	<u>51.3%</u>	<u>52.0%</u>	<u>(1.6)</u>	<u>(0.7)</u>

In 2019, total large losses incurred decreased by \$23 million, or 8%, net of reinsurance. The corresponding ratio decreased 0.9 percentage points. The 2019 decreases on both a dollar and ratio basis were largely due to lower amounts for our commercial casualty line of business. In 2018, total large losses incurred and the corresponding ratio were higher than in 2017, largely due to higher amounts 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Commission expenses	\$ 614	\$ 592	\$ 577	4	3
Other underwriting expenses	427	419	418	2	0
Policyholder dividends	12	12	14	0	(14)
Total underwriting expenses	<u>\$ 1,053</u>	<u>\$ 1,023</u>	<u>\$ 1,009</u>	<u>3</u>	<u>1</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Commission expenses	18.5%	18.4%	18.2%	0.1	0.2
Other underwriting expenses	12.9	12.9	13.3	0.0	(0.4)
Policyholder dividends	0.3	0.4	0.4	(0.1)	0.0
Total underwriting expense ratio	<u>31.7%</u>	<u>31.7%</u>	<u>31.9%</u>	<u>0.0</u>	<u>(0.2)</u>

Commercial lines commission expenses as a percent of earned premiums increased in 2019, compared with 2018, reflecting an increase in the ratio for profit-sharing commissions for agencies. The ratio for 2018 increased compared with 2017, reflecting an increase in the ratio for agency commissions other than profit-sharing. In 2019, other underwriting expenses as a percent of earned premiums matched 2018. In 2018, the ratio decreased, compared with 2017, as earned premiums rose at a faster pace than other underwriting expenses.

Commercial Lines Insurance Outlook

Renewal and new business pricing for commercial risks continues to experience significant competitive pressure, reinforcing the need for enhanced pricing analytics and careful risk selection. Commentary regarding the commercial lines market within the property casualty insurance industry indicates commercial lines pricing in 2020 may be generally higher than in 2019. 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 are building commercial lines to an even larger percentage of our agencies total portfolio, whether it's through enhanced expertise or flexibility in processes and service. Our goal is to be the first and last solution when our agencies are considering business placement.

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 discipline 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 the 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 2020, and that recent-year premium growth initiatives will continue to grow commercial lines premiums at a healthy pace.

Personal Lines Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 1,404	\$ 1,336	\$ 1,241	5	8
Fee revenues	4	5	5	(20)	0
Total revenues	1,408	1,341	1,246	5	8
Loss and loss expenses from:					
Current accident year before catastrophe losses	875	838	793	4	6
Current accident year catastrophe losses	137	121	139	13	(13)
Prior accident years before catastrophe losses	(29)	9	(10)	nm	nm
Prior accident years catastrophe losses	2	4	(4)	(50)	nm
Loss and loss expenses	985	972	918	1	6
Underwriting expenses	415	389	360	7	8
Underwriting profit (loss)	\$ 8	\$ (20)	\$ (32)	nm	38
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year before catastrophe losses	62.4%	62.8%	64.0%	(0.4)	(1.2)
Current accident year catastrophe losses	9.7	9.1	11.2	0.6	(2.1)
Prior accident years before catastrophe losses	(2.1)	0.6	(0.9)	(2.7)	1.5
Prior accident years catastrophe losses	0.2	0.3	(0.3)	(0.1)	0.6
Loss and loss expenses	70.2	72.8	74.0	(2.6)	(1.2)
Underwriting expenses	29.6	29.1	29.0	0.5	0.1
Combined ratio	99.8%	101.9%	103.0%	(2.1)	(1.1)
Combined ratio:	99.8%	101.9%	103.0%	(2.1)	(1.1)
Contribution from catastrophe losses and prior years reserve development	7.8	10.0	10.0	(2.2)	0.0
Combined ratio before catastrophe losses and prior years reserve development	92.0%	91.9%	93.0%	0.1	(1.1)

Performance highlights for the personal lines insurance segment include:

- Premiums – Earned premiums and net written premiums continued to grow in 2019, driven by increases in renewal written premiums that reflected higher average pricing. Renewal written premiums rose \$71 million, or 6%, in 2019, compared with 2018. Net written premiums from high net worth policies totaled approximately \$408 million in 2019, compared with \$309 million in 2018.
- Combined ratio – The 2019 combined ratio improved 2.1 percentage points, compared with 2018, despite a 0.5 percentage-point increase in the ratio for 2019 natural catastrophe losses. Development on prior accident years' loss and loss expense reserves before catastrophes during 2019 was 2.7 percentage points more favorable than in 2018.

Our homeowner line of business, representing 43% of 2019 earned premiums for our personal lines insurance segment, was the only major line of business in that segment with a 2019 total loss and loss expense ratio significantly higher than we desired. During 2019, our homeowner policies experienced estimated premium rate increases averaging in the mid-single-digit percentage range, higher in that range than they experienced in 2018. We believe the rate increases and other actions to improve pricing precision and reduce loss costs will improve future profitability, similar to the recent-year improvement experienced in our personal auto line of business.

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 enhanced our property inspection processes to verify condition and insurance to value. 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 99.3% in 2019, compared with 101.2% in 2018 and 102.4% in 2017. The contribution of catastrophe losses to our personal lines statutory combined ratio was 9.9 percentage points in 2019, 9.4 percentage points in 2018 and 10.9 percentage points in 2017.

Personal Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Agency renewal written premiums	\$ 1,312	\$ 1,241	\$ 1,156	6	7
Agency new business written premiums	158	165	161	(4)	2
Other written premiums	(35)	(28)	(23)	(25)	(22)
Net written premiums	1,435	1,378	1,294	4	6
Unearned premium change	(31)	(42)	(53)	26	21
Earned premiums	\$ 1,404	\$ 1,336	\$ 1,241	5	8

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 1% in 2019, while premiums for the remaining states, including our newer areas of operation, increased 9% in aggregate.

The 6% increase in agency renewal written premiums in 2019 reflected various rate changes. We estimate that premium rates for our personal auto line of business increased at average percentages in the high-single-digit range during 2019, with some individual policies experiencing lower or higher rate changes based on enhanced pricing precision enabled by predictive models that consider characteristics of specific risks. For our homeowner line of business, we estimate that rate increases during 2019 averaged in the mid-single-digit range, higher than in 2018. 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 helped determine appropriate premium rates.

Personal lines new business written premiums decreased by \$7 million, or 4%, during 2019, compared with 2018. The decrease reflected underwriting and pricing discipline, particularly in select states. 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.

Other written premiums primarily consist of premiums that are ceded to reinsurers and lower our net written premiums. An increase in ceded premiums reduced net written premium growth by \$6 million more in 2019, compared with 2018.

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. 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 71.9% accident year 2018 loss and loss expense ratio reported as of December 31, 2018, developed favorably by 0.8 percentage points to 71.1% due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2019. Accident year 2017 for the personal lines insurance segment developed unfavorably during 2018 and then developed favorably during 2019, 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:	2019	2018	2017	2019	2018	2017
as of December 31, 2019	\$ 1,012	\$ 950	\$ 937	72.1%	71.1%	75.5%
as of December 31, 2018		959	943		71.9	76.0
as of December 31, 2017			932			75.2

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain much of the movement in the current accident year loss and loss expense ratio for accident year 2019, compared with accident year 2018. Catastrophe losses added 9.7 percentage points in 2019, 9.1 points in 2018 and 11.2 points in 2017 to the respective personal lines current accident year loss and loss expense ratios in the table above. Personal lines catastrophe losses for 2019 resulted in a ratio lower than our 10.9% 10-year annual average for personal lines that included 22.8% for 2011. Personal lines catastrophe losses are inherently volatile, as discussed above and in Consolidated Property Casualty Insurance Results.

The 62.4% ratio for current accident year loss and loss expenses before catastrophe losses for 2019 improved 0.4 percentage points compared with the 62.8% accident year 2018 ratio measured as of December 31, 2018. The improvement was partially offset by a 0.8 percentage-point increase in the ratio for current accident year losses of \$1 million or more per claim, shown in the table below, primarily due to higher amounts of large losses for our homeowner line of business. Other contributions included favorable effects from various initiatives, such as those to improve pricing precision and loss experience related to claims and loss control practices.

Personal lines loss and loss expense reserve development on prior accident years recognized in 2019 was favorable by \$27 million, in aggregate, compared with \$13 million of unfavorable reserve development in 2018. The 2019 net favorable reserve development included \$26 million for our personal auto line of business, primarily for accident year 2018. In 2018, our homeowner line of business prior accident year net reserve development was unfavorable by \$24 million and was partially offset by favorable reserve development for personal auto. 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ —	\$ 6	\$ 6	(100)	0
Current accident year losses \$1,000,000-\$5,000,000	51	32	43	59	(26)
Large loss prior accident year reserve development	(1)	4	3	nm	33
Total large losses incurred	50	42	52	19	(19)
Losses incurred but not reported	17	38	(9)	(55)	nm
Other losses excluding catastrophe losses	662	650	629	2	3
Catastrophe losses	135	122	132	11	(8)
Total losses incurred	<u>\$ 864</u>	<u>\$ 852</u>	<u>\$ 804</u>	<u>1</u>	<u>6</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year losses greater than \$5,000,000	0.0%	0.4%	0.5%	(0.4)	(0.1)
Current accident year losses \$1,000,000-\$5,000,000	3.6	2.4	3.4	1.2	(1.0)
Large loss prior accident year reserve development	(0.1)	0.4	0.3	(0.5)	0.1
Total large loss ratio	3.5	3.2	4.2	0.3	(1.0)
Losses incurred but not reported	1.2	2.8	(0.7)	(1.6)	3.5
Other losses excluding catastrophe losses	47.2	48.7	50.7	(1.5)	(2.0)
Catastrophe losses	9.6	9.1	10.6	0.5	(1.5)
Total loss ratio	<u>61.5%</u>	<u>63.8%</u>	<u>64.8%</u>	<u>(2.3)</u>	<u>(1.0)</u>

In 2019, personal lines total large losses incurred increased by \$8 million, or 19%, net of reinsurance. The ratio for 2019 large losses as a percent of earned premiums increased 0.3 percentage points. The 2019 increases on both a dollar and ratio basis were primarily due to higher amounts for our homeowner line of business. In 2018, total large losses decreased, compared with 2017, largely due to lower amounts for 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Commission expenses	\$ 259	\$ 243	\$ 223	7	9
Other underwriting expenses	156	146	137	7	7
Total underwriting expenses	<u>\$ 415</u>	<u>\$ 389</u>	<u>\$ 360</u>	<u>7</u>	<u>8</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Commission expenses	18.5%	18.2%	18.0%	0.3	0.2
Other underwriting expenses	11.1	10.9	11.0	0.2	(0.1)
Total underwriting expense ratio	<u>29.6%</u>	<u>29.1%</u>	<u>29.0%</u>	<u>0.5</u>	<u>0.1</u>

Personal lines commission expense as a percent of earned premiums increased in 2019, compared with 2018, largely due to an increase in the ratio for profit-sharing commissions for agencies. The ratio for 2018 increased compared with 2017. In 2019, other underwriting expenses as a percent of earned premiums increased, compared with 2018, as strategic investments that include enhancement of underwriting expertise offset the favorable effects of higher earned premiums and ongoing expense management efforts. Other underwriting expenses as a percent of earned premiums in 2018 decreased slightly compared with 2017.

Personal Lines Insurance Outlook

A.M. Best indicates 2019 personal lines direct written premiums for the U.S. property casualty industry grew slightly less than 4%, based on industry data reported through the first nine months of 2019. Growth for our personal lines insurance segment direct written premiums in 2019 exceeded the industry by nearly one percentage point, and we believe it will likely be higher than industry projections for 2020. Drivers of our growth include rate increases, new state entry, 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 Personal Lines Insurance Results and also in Item 1, Our Business and Our Strategy, Strategic Initiatives and Our Segments, Personal Lines Insurance Segment.

Excess and Surplus Lines Insurance Results

Overview – Three-Year Highlights

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 278	\$ 234	\$ 209	19	12
Fee revenues	2	1	1	100	0
Total revenues	280	235	210	19	12
Loss and loss expenses from:					
Current accident year before catastrophe losses	152	126	113	21	12
Current accident year catastrophe losses	1	2	2	(50)	0
Prior accident years before catastrophe losses	(11)	(24)	(29)	54	17
Prior accident years catastrophe losses	—	—	—	0	0
Loss and loss expenses	142	104	86	37	21
Underwriting expenses	85	68	63	25	8
Underwriting profit	\$ 53	\$ 63	\$ 61	(16)	3
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Current accident year before catastrophe losses	54.6%	53.9%	54.0%	0.7	(0.1)
Current accident year catastrophe losses	0.4	1.1	1.1	(0.7)	0.0
Prior accident years before catastrophe losses	(4.1)	(10.6)	(13.6)	6.5	3.0
Prior accident years catastrophe losses	0.2	0.0	(0.1)	0.2	0.1
Loss and loss expenses	51.1	44.4	41.4	6.7	3.0
Underwriting expenses	30.4	29.1	29.7	1.3	(0.6)
Combined ratio	81.5%	73.5%	71.1%	8.0	2.4
Combined ratio:	81.5%	73.5%	71.1%	8.0	2.4
Contribution from catastrophe losses and prior years reserve development	(3.5)	(9.5)	(12.6)	6.0	3.1
Combined ratio before catastrophe losses and prior years reserve development	85.0%	83.0%	83.7%	2.0	(0.7)

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 2019, including an increase in new business written premiums and higher renewal written premiums that included average renewal estimated price increases in the low-single-digit range. New business written premiums grew 57% in 2019, reflecting opportunities to write larger policies and our additional marketing efforts.
- Combined ratio – The combined ratio rose 8.0 percentage points in 2019, primarily due to less favorable reserve development on prior accident years.

Excess and Surplus Lines Insurance Premiums

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Agency renewal written premiums	\$ 209	\$ 192	\$ 162	9	19
Agency new business written premiums	110	70	68	57	3
Other written premiums	(16)	(13)	(11)	(23)	(18)
Net written premiums	303	249	219	22	14
Unearned premium change	(25)	(15)	(10)	(67)	(50)
Earned premiums	\$ 278	\$ 234	\$ 209	19	12

The \$17 million increase in 2019 renewal premiums reflected the opportunity to renew many policies for the first time as well as higher renewal pricing. Average renewal estimated price increases were in the low-single-digit range during 2019. 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 rose \$40 million, primarily due to more opportunities in the marketplace to write policies with annual premiums of \$10,000 or more, plus higher premium rates and our additional marketing efforts. Other written premiums in 2019 reduced net written premium growth by \$3 million more than in 2018. Other written premiums are primarily premiums that are ceded to reinsurers and 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% of our 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 55.0% accident year 2018 loss and loss expense ratio reported as of December 31, 2018, developed favorably by 2.6 percentage points to 52.4% due to claims settling for less than previously estimated, or due to updated reserve estimates for unpaid claims, as of December 31, 2019. Accident years 2018 and 2017 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:	2019	2018	2017	2019	2018	2017
as of December 31, 2019	\$ 153	\$ 122	\$ 106	55.0%	52.4%	51.0%
as of December 31, 2018		128	107		55.0	51.3
as of December 31, 2017			115			55.1

Catastrophe losses, as discussed in Consolidated Property Casualty Insurance Results, explain some of the movement among components of the current accident year loss and loss expense ratio for accident year 2019, compared with 2018. Catastrophe losses added 0.4 percentage points in 2019, 1.1 percentage points in 2018 and 1.1 percentage points in 2017 to the respective excess and surplus lines current accident year loss and loss expense ratios in the table above.

The 54.6% ratio for current accident year loss and loss expenses before catastrophe losses for 2019 increased by 0.7 percentage points compared with the 53.9% accident year 2018 ratio measured as of December 31, 2018. The increase was driven by a 0.7 percentage-point increase in the ratio for current accident year losses of \$1 million or more per claim, shown in the table below.

Excess and surplus lines reserve development on prior accident years continued to net to a favorable amount in 2019 as \$11 million was recognized, compared with \$24 million in 2018. Approximately three-fourths of the 2019 favorable development was for accident years 2018, 2017 or 2016, 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, using Item 8, Note 4 of the Consolidated Financial Statements. For example, for accident years 2013, 2012 and 2011, in aggregate, after subtracting cumulative paid amounts from incurred amounts at December 31, 2013, reserves for estimated unpaid losses, plus the portion of loss expenses known as ALAE, equaled \$129 million. For those same accident years, at December 31, 2019, the reserve estimate for the remaining unpaid amount equaled \$8 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Current accident year losses greater than \$5,000,000	\$ —	\$ —	\$ —	nm	nm
Current accident year losses \$1,000,000-\$5,000,000	7	4	3	75	33
Large loss prior accident year reserve development	2	—	1	nm	nm
Total large losses incurred	9	4	4	125	0
Losses incurred but not reported	7	8	2	(13)	300
Other losses excluding catastrophe losses	76	50	44	52	14
Catastrophe losses	2	2	2	0	0
Total losses incurred	\$ 94	\$ 64	\$ 52	47	23
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	2.5	1.8	1.5	0.7	0.3
Large loss prior accident year reserve development	0.6	(0.1)	0.4	0.7	(0.5)
Total large loss ratio	3.1	1.7	1.9	1.4	(0.2)
Losses incurred but not reported	2.4	3.6	0.8	(1.2)	2.8
Other losses excluding catastrophe losses	27.7	21.1	21.6	6.6	(0.5)
Catastrophe losses	0.5	1.0	0.8	(0.5)	0.2
Total loss ratio	33.7%	27.4%	25.1%	6.3	2.3

In 2019, total large losses incurred of \$9 million, net of reinsurance, more than doubled the amount in 2018. The ratio for 2019 large losses as a percent of earned premiums increased by 1.4 percentage points. That ratio for 2018 decreased by 0.2 points, compared with 2017. 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Commission expenses	\$ 53	\$ 45	\$ 41	18	10
Other underwriting expenses	32	23	22	39	5
Total underwriting expenses	<u>\$ 85</u>	<u>\$ 68</u>	<u>\$ 63</u>	<u>25</u>	<u>8</u>
Ratios as a percent of earned premiums:				Pt. Change	Pt. Change
Commission expenses	18.9%	19.3%	19.2%	(0.4)	0.1
Other underwriting expenses	11.5	9.8	10.5	1.7	(0.7)
Total underwriting expenses ratio	<u>30.4%</u>	<u>29.1%</u>	<u>29.7%</u>	<u>1.3</u>	<u>(0.6)</u>

Excess and surplus lines commission expense as a percent of earned premiums for 2019 decreased compared with 2018, largely due to a decrease in the ratio for profit-sharing commissions for agencies. The ratio for other underwriting expenses increased in 2019, primarily due to higher internal expense allocations that offset higher earned premiums and ongoing expense management efforts. In 2018, the ratio decreased, reflecting higher earned premiums and ongoing expense management efforts.

Excess and Surplus Lines Outlook

The excess and surplus lines market is expected to see the magnitude of rate increases rise slightly for risks that are casualty-driven. For property risks involving catastrophe exposures, premium rates in the foreseeable future are expected to be firm. New business opportunities, including those on larger accounts, are expected to increase as standard market insurance companies continue to re-underwrite business they previously took from the excess and surplus lines market and as larger excess and surplus lines companies re-underwrite their business with an emphasis on underwriting profitability. Firming is expected to continue for specific classes of business where loss costs are exceeding rates, such as habitational for property and general liability coverages, liquor liability for general liability coverages and hired and non-owned for general 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,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Earned premiums	\$ 270	\$ 250	\$ 232	8	8
Fee revenues	4	4	5	0	(20)
Total revenues	274	254	237	8	7
Contract holders' benefits incurred	286	267	252	7	6
Investment interest credited to contract holders	(99)	(96)	(93)	(3)	(3)
Underwriting expenses incurred	86	75	79	15	(5)
Total benefits and expenses	273	246	238	11	3
Life insurance segment profit (loss)	\$ 1	\$ 8	\$ (1)	(88)	nm

Performance highlights for the life insurance segment include:

- Revenues – Earned premiums rose 8% for the year 2019, as shown in the table below that includes details by major line of business. Our largest life insurance product line, term life insurance, rose 8%. Net in-force policy face amounts rose 6% to \$69.984 billion at year-end 2019 from \$66.142 billion at year-end 2018 and \$61.177 billion at year-end 2017.
- 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 2019, following profit of \$8 million in 2018 and a loss of \$1 million in 2017. It has averaged an annual profit of \$1 million over the past five years.

Earned premiums rose \$20 million in 2019, primarily due to growth in our term life insurance business, as shown in the table below. Growth in 2018 was also primarily due to term life insurance.

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Term life insurance	\$ 186	\$ 172	\$ 158	8	9
Universal life insurance	39	37	38	5	(3)
Other life insurance and annuity products	45	41	36	10	14
Net earned premiums	\$ 270	\$ 250	\$ 232	8	8

We market term, whole and universal life products and fixed annuities. In addition, we offer term and whole life 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. Our product development efforts emphasize death benefit protection and guarantees. Distribution expansion within our property casualty insurance agencies remains a high priority. Our 35 life field marketing representatives work in partnership with our 144 property casualty field marketing representatives. Approximately 55% 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 76.9% of 2019 total benefits and expenses compared with 78.1% in 2018 and 76.1% in 2017. Total contract holders' benefits increased as net death claims were higher in 2019, compared with 2018. Net death claims increased in 2019 and were above our mortality projections while remaining within our range of pricing expectations.
- Underwriting expenses incurred, net of deferred acquisition costs, accounted for 23.1% of 2019 total benefits and expenses compared with 21.9% in 2018 and 23.9% in 2017. Expenses in 2019 increased 15%, compared with 8% growth in earned premiums. Expenses in 2018 decreased 5%, compared with 8% growth in earned premiums. In 2019, unlocking of interest rate and other actuarial assumptions decreased the amount of expenses deferred to future periods, increasing underwriting expenses. In 2018, unlocking of interest rate and other actuarial assumptions increased the amount of expenses deferred to future periods, decreasing underwriting expenses.

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.

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 investment gains or losses from life insurance-related invested assets, our life insurance subsidiary reported net income of \$39 million in 2019, compared with net income of \$48 million in 2018 and \$155 million in 2017. Net income in 2017 included a nonrecurring item, a \$111 million benefit from net deferred income tax liability revaluation due to U.S. tax reform. The life insurance subsidiary portfolio had after-tax net investment losses of \$4 million in 2019 and \$4 million in 2018 and an after-tax net investment gain of \$4 million in 2017. 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 maintain a positive outlook on the life insurance market. The opportunities to cross-serve our property casualty agencies continue to expand in parallel with that segment's impressive growth. Our model, which emphasizes personal service and relationships, is becoming more and more valued as so many of our competitors shift their attention to distribution models that cut the agent out of the transaction.

Our innovation efforts and teamwork across departments continue to uncover new ways for us to increase sales by presenting our agents with unique opportunities to provide financial protection products to their best customers. We are also using innovation teams to help improve our worksite capabilities as we continue to see excellent growth in the voluntary benefit space.

The persistently low interest rate environment presents a challenge to all life companies. We are better positioned than most due to our focus on term insurance, a line that is not as sensitive to interest rates.

Regulatory action on best interest standards and genetic testing information could lead to a need to increase rates to cover additional expenses and potential anti-selection. We are keeping an eye on these and other matters but remain confident that the state-based regulatory system is preferable to federal oversight.

Principle-based reserves had a positive impact on our statutory operating results, and we expect this to continue into 2020 and beyond. Such results will allow us more options with respect to capital management.

Investments Results

Overview – Three-Year Highlights

Investments Results

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Total investment income, net of expenses	\$ 646	\$ 619	\$ 609	4	2
Investment interest credited to contract holders'	(99)	(96)	(93)	(3)	(3)
Investment gains and losses, net	1,650	(402)	148	nm	nm
Investments profit, pretax	\$ 2,197	\$ 121	\$ 664	nm	(82)

The investments segment contributes investment income and investments gains and losses to results of operations. Investment income is generally our primary source of pretax and after-tax profits.

- Investment income – Pretax investment income grew \$27 million, or 4%, in 2019, primarily due to an increase from dividends. Dividend income reflected rising dividend rates and net purchases of equity securities from available funds. Interest income increased by \$1 million in 2019, compared with 2018, as net purchases of fixed-maturity securities offset the continuing effects on bond yields of the low interest rate environment. Pretax investment income rose 2% in 2018, primarily due to an increase in dividend 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.
- Investment gains and losses – We reported an investment gain in 2019, primarily due to favorable changes in fair values of equity securities even though we continue to hold the securities or as otherwise required by GAAP. For 2018, we reported an investment loss, primarily due to unfavorable changes in fair values of equity securities we continued to hold. For 2017, we reported an investment gain largely due to investment sales that were discretionary in timing and amount. Those gains were reduced by other-than-temporary impairment (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 that are not included in net income, in addition to net investment income and 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 total investment gains and losses 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 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% 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 net gains from investment portfolio securities sales or called bonds, with the net result reduced by 50% 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 16.6% in 2019 was significantly more than in 2018. The 2019 contribution from the investment income component was enhanced by the net favorable effect of the investment gains and losses components. Comparing contributions for 2019 with 2018, investment income rose \$27 million, investment gains increased by \$2.052 billion and the invested assets net change in unrealized gains and losses increased by \$883 million. The base component of the return calculation, annual average invested assets, was down 1% in 2019. For 2018 compared with 2017, total investment return decreased by 11.2 percentage points, reflecting net unfavorable effect of the investment gains and losses. The base component of the return calculation, annual average invested assets, increased 9% in 2018.

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Invested assets beginning balance:					
Fixed maturities	\$ 10,689	\$10,699	\$ 10,085	0	6
Equity securities	5,920	6,249	5,334	(5)	17
Other invested assets	123	103	81	19	27
Invested assets beginning balance	<u>16,732</u>	<u>17,051</u>	<u>15,500</u>	(2)	10
Average acquisitions (dispositions), net	343	215	341	60	(37)
Annual average invested assets	<u>\$ 17,075</u>	<u>\$17,266</u>	<u>\$ 15,841</u>	(1)	9
Total investment return:					
Investment income, net of expenses	\$ 646	\$ 619	\$ 609	4	2
Investment gains and losses, net	1,650	(402)	148	nm	nm
Total invested assets change in unrealized gains and losses	544	(339)	913	nm	nm
Total	<u>\$ 2,840</u>	<u>\$ (122)</u>	<u>\$ 1,670</u>	nm	nm
Total return on invested assets, pretax	16.6%	(0.7)%	10.5%		

Investment Income

The primary drivers of investment income are highlighted below, followed by investments results additional details.

- Interest income of \$446 million in 2019 increased by \$1 million, compared with 2018. The average fixed-maturity pretax yield declined by approximately 15 basis points but was offset by a larger average fixed-maturity portfolio that rose 4% on an amortized cost basis. Interest income in 2018 matched 2017 when that yield declined by approximately 17 basis points while the portfolio rose 4% on an amortized cost basis.
- Dividend income rose \$20 million, or 11%, in 2019, after rising 6% in 2018. Increases in dividend payment rates for most of the holdings in our common stock portfolio during both 2019 and 2018 drove the increases in dividend income. An increase in funds invested in that portfolio during both 2019 and 2018 also favorably affected dividend income.

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Investment income:					
Interest	\$ 446	\$ 445	\$ 445	0	0
Dividends	201	181	170	11	6
Other	12	5	4	140	25
Less investment expenses	13	12	10	8	20
Investment income, pretax	646	619	609	4	2
Less income taxes	101	95	142	6	(33)
Total investment income, after-tax	\$ 545	\$ 524	\$ 467	4	12
Investment returns:					
Average invested assets plus cash and cash equivalents	\$18,697	\$17,397	\$16,657		
Average yield pretax	3.46%	3.56%	3.66%		
Average yield after-tax	2.91	3.01	2.80		
Effective tax rate	15.6	15.4	23.4		
Fixed-maturity returns:					
Average amortized cost	\$10,876	\$10,479	\$10,057		
Average yield pretax	4.10%	4.25%	4.42%		
Average yield after-tax	3.42	3.55	3.24		
Effective tax rate	16.6	16.4	26.7		

In 2019, 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, 2019	% Yield	Principal redemptions
Fixed-maturity yield profile:		
Expected to mature during 2020	4.28%	\$ 419
Expected to mature during 2021	4.28	949
Expected to mature during 2022	4.15	929
Average yield and total expected redemptions from 2020 through 2022	4.23	<u>\$ 2,297</u>

The average pretax yield of 4.14% for fixed-maturity securities acquired during 2019, shown in the table below, was higher than the 4.10% average yield-to-amortized cost of the fixed-maturity securities portfolio at the end of 2019.

	Years ended December 31,	
	2019	2018
Average pretax yield-to-amortized cost on new fixed-maturities:		
Acquired taxable fixed-maturities	4.31%	4.48%
Acquired tax-exempt fixed-maturities	3.31	3.69
Average total fixed-maturities acquired	4.14	4.38

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.

Total Investment Gains and Losses

Investment gains and losses are recognized on the sales of investments, for certain changes in fair values of securities even though we continue to hold the securities or as otherwise required by GAAP. New accounting requirements adopted in 2018 resulted in reporting, through net income, the change in fair value for equity securities still held, as disclosed in Note 1, Summary of Significant Accounting Policies. Total investment gains and losses included \$1.626 billion of gains in 2019, from the recognition of fair value changes of equity securities still held that prior to 2018 would have been reported in other comprehensive income instead of net income. Change in unrealized gains or losses for fixed-maturity securities are included as a component of other comprehensive income (OCI). Accounting requirements for OTTI charges for the fixed-maturity portfolio are disclosed in Item 8, Note 1, Summary of Significant Accounting Policies. The factors we consider when evaluating impairments are also discussed in Critical Accounting Estimates, Asset Impairment.

The timing of 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.

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 total investment gains in 2019 were largely due to favorable changes in fair values of equity securities even though we continue to hold the securities. In 2018, total investment losses reflected unfavorable changes in fair values of fixed-maturity and equity securities we continued to hold, and total gains in 2017 were largely due to rising fair values or sales of equity holdings. Additional information about investment gains or losses is included in Item 8, Note 2 of the Consolidated Financial Statements.

The table below summarizes total investment gains and losses, before taxes.

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Investment gains and losses			
Equity securities:			
Investment gains and losses on securities sold, net	\$ 26	\$ 9	\$ —
Unrealized gains and losses on securities still held, net	1,626	(404)	—
Gross realized gains	—	—	195
Gross realized losses	—	—	(72)
Other-than-temporary impairments	—	—	(3)
Subtotal	1,652	(395)	120
Fixed maturities:			
Gross realized gains	13	12	25
Gross realized losses	(3)	(2)	—
Other-than-temporary impairments	(9)	(5)	(6)
Subtotal	\$ 1	\$ 5	\$ 19
Other	(3)	(12)	9
Total investment gains and losses reported in net income	1,650	(402)	148
Change in unrealized investment gains and losses			
Fixed maturities	544	(339)	99
Equity securities	—	—	816
Total unrealized investment gains and losses reported in OCI	544	(339)	915
Total	\$ 2,194	\$ (741)	\$ 1,063

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,		
	2019	2018	2017
Taxable fixed maturities:			
Impairment amount	\$ 9	\$ 5	\$ 6
New amortized cost	\$ 20	\$ 8	\$ —
Percent to total amortized cost owned	—%	—%	—%
Number of securities other-than-temporarily impaired	3	1	1
Percent to number of securities owned	—%	—%	—%
Common equities:			
Impairment amount	\$ —	\$ —	\$ 3
New cost	\$ —	\$ —	\$ 19
Percent to total cost owned	—%	—%	1%
Number of securities other-than-temporarily impaired	—	—	5
Percent to number of securities owned	—%	—%	7%
Totals:			
Impairment amount	\$ 9	\$ 5	\$ 9
New cost or amortized cost	\$ 20	\$ 8	\$ 19
Percent to total cost or amortized cost owned	—%	—%	—%
Number of securities other-than-temporarily impaired	3	1	6
Percent to number of securities owned	—%	—%	—%

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

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Fixed maturities:			
Energy	\$ 6	\$ 5	\$ —
Banks	—	—	6
Real estate	3	—	—
Total fixed maturities	9	5	6
Common equities:			
Energy	—	—	3
Total common equities	—	—	3
Total	\$ 9	\$ 5	\$ 9

Investments Outlook

In a reversal of the prior year, bond prices rallied in 2019 as treasury yields contracted and corporate credit spreads narrowed considerably. While redemptions of higher coupon bonds purchased during and shortly after the financial crisis have slowed, the decline in available new money rates will provide a challenge to grow interest income.

We continue to focus on portfolio strategies to balance near-term income generation and long-term book value growth. In 2020, 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 an interruption of the long and slow economic expansion we have experienced could pressure securities prices and could potentially 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 2019 for our Other operations increased, compared with 2018, primarily due to earned premiums of Cincinnati Re and Cincinnati Global. 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 2019, primarily due to losses and loss expenses and underwriting expenses from Cincinnati Re and Cincinnati Global.

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. Net results for the combination of Cincinnati Re and Cincinnati Global were an underwriting profit of approximately \$39 million in 2019, following underwriting losses for Cincinnati Re of approximately \$8 million in 2018 and \$20 million in 2017, reflecting significant amounts of natural catastrophe losses.

(Dollars in millions)	Years ended December 31,			2019-2018	2018-2017
	2019	2018	2017	Change %	Change %
Interest and fees on loans and leases	\$ 5	\$ 4	\$ 4	25	0
Earned premiums	333	132	107	152	23
Other revenues	4	1	1	300	0
Total revenues	<u>342</u>	<u>137</u>	<u>112</u>	150	22
Interest expense	53	53	53	0	0
Loss and loss expenses	195	98	92	99	7
Underwriting expenses	99	42	35	136	20
Operating expenses	23	16	13	44	23
Total expenses	<u>370</u>	<u>209</u>	<u>193</u>	77	8
Other loss	<u>\$ (28)</u>	<u>\$ (72)</u>	<u>\$ (81)</u>	61	11

Taxes

We had a \$475 million income tax expense in 2019 compared with a \$36 million income tax benefit in 2018 and \$315 million of income tax benefit in 2017. Our corporate effective tax rate for 2019 was 19.2% compared with negative 14.3% in 2018 and negative 43.2% in 2017.

The change in our effective tax rate between periods were due to changes in our net investment gains and losses, changes in our underwriting income as well as changes in investment income. As a result of adoption of ASU 2016-01, effective January 1, 2018, the change in our 2018 effective tax rate was impacted due to large net unrealized losses included in 2018 income versus only net realized gains included in income for the prior-year periods. In addition, our change in the 2018 effective tax rate included a reduction by 19.9% as a result of Internal Revenue Service (IRS) approved changes to our tax accounting methods, primarily related to the valuation of our tax basis unpaid losses. The change in our 2017 effective tax rate is largely driven by the significant non-recurring income tax benefit recorded as a result of the enactment of the Tax Cuts and Jobs Act (Tax Act) on December 22, 2017. The effective tax rate for that year was reduced as a result of the revaluation of our net deferred tax liability to account for the decrease in the federal tax rate from 35% to 21%.

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, Fixed-Maturity Security Investments, for further discussion on municipal bond purchases in our fixed-maturity investment portfolio. For tax years 2017 and earlier, for our property casualty insurance subsidiaries, approximately 85% of interest from tax-advantaged fixed-maturity investments and approximately 60% of dividends from qualified equities were 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 exempted 70% 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.

The Tax Act, which took effect on January 1, 2018, lowered the U.S. corporate income tax rate from a top marginal rate of 35% to a flat rate of 21% and changed the amount of dividends received deduction and proration. For tax years after 2017, for our property casualty insurance subsidiaries, approximately 75% of interest from tax-advantaged, fixed-maturity investments and approximately 40% of dividends from qualified equities are exempt from federal tax after applying proration. For our noninsurance companies, the dividend received deduction exempts 50% of dividends from qualified equities.

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 lead 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, 2019, the parent company had \$3.315 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 lead 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,		
	2019	2018	2017
Sources of liquidity:			
Insurance subsidiary dividends received	\$ 625	\$ 500	\$ 465
Investment income received	75	65	62
Proceeds from stock options exercised	11	9	13
Uses of liquidity:			
Shareholders' dividend payments	\$ 355	\$ 336	\$ 400
Share repurchases	67	125	92
Debt interest payments	52	52	52
Pension contribution	—	15	12

Dividends received from the lead subsidiary in 2019 were \$125 million more than in 2018, supported by strong property casualty insurance net cash flow from operating activities. We expect 2020 parent company sources of cash flow to be similar to 2019. Use of liquidity for share repurchases are discretionary depending on cash availability and capital management decisions. The majority of expenditures for the parent company have been consistent during the last three years, and we expect future expenditures to remain stable.

Insurance Subsidiary Liquidity

The parent company's lead 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, 2019, 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,		
	2019	2018	2017
Premiums collected	\$ 5,495	\$ 5,028	\$ 4,846
Loss and loss expenses paid	(3,260)	(2,847)	(2,843)
Commissions and other underwriting expenses paid	(1,639)	(1,549)	(1,471)
Cash flow from underwriting	596	632	532
Investment income received	451	428	411
Cash flow from operations	\$ 1,047	\$ 1,060	\$ 943

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 2020, fair value of \$3.761 billion, or 32.1%, of our fixed-maturity portfolio is scheduled to mature. At December 31, 2019, we had \$7.518 billion of common stock securities, with \$3.068 billion, or 40.8%, held by the parent company.

Financial resources of the parent company also could be made available to our insurance subsidiaries, if circumstances required it. 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, 2019, 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 four independent rating agencies. None of the rating agencies made changes to our debt ratings in 2019. On January 30, 2020, A.M. Best upgraded our debt rating from a- to a. At February 24, 2020, our debt ratings from the other rating agencies were: A- from Fitch, A3 from Moody's and BBB+ from S&P.

Note Payable

At December 31, 2019, we had a \$300 million line of credit with commercial banks, with \$39 million borrowed. The amount borrowed was \$32 million at December 31, 2018, and during 2019 we borrowed a net \$7 million as part of routine cash management. That unsecured revolving line of credit has an accordion feature giving us the option to double the \$300 million amount, under the same terms and conditions. Terms and conditions of the agreement include a debt-to-total capital maximum of 35% and the agreement has no net worth covenant. It was due to expire on February 4, 2024, with the option of two one-year extensions. On December 6, 2019, we exercised our option to extend the term of the line of credit one year to February 4, 2025.

At year-end 2019, we were in 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 agreement contains successor LIBOR rate language, which will require an amendment to reflect the new replacement rate. We could be impacted to the extent the replacement rate differs materially from the LIBOR rate.

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, 2019, we had total capital of \$10.691 billion. Shareholders' equity was \$9.864 billion, an increase of \$2.031 billion, or 26%, from the prior year. Our total debt was \$827 million, up \$7 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. At year-end 2019, the ratio was 7.7%, compared with 9.5% at year-end 2018.

At times we enter into letter of credit agreements to support our Cincinnati Re and Cincinnati Global operations. We have an unsecured letter of credit agreement to provide a portion of the capital needed to support Cincinnati Global's obligations at Lloyd's. The amount of this unsecured letter of credit agreement was \$131 million with no amounts drawn at December 31, 2019.

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 69% of net income as dividends. Through 2019, the board had increased our cash dividend for 59 consecutive years. The board's decision in January 2020 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 has been to hold capital adequate to support future growth of our insurance operations and repurchase shares at management's discretion. Repurchases are intended to 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. The amount of future repurchases may be more, or less, than the past, depending on circumstances and discretion exercised by management. 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, 2019, we estimated our future contractual obligations as follows:

(Dollars in millions)	Year	Years	Years	There-	Total
Payment due by period	2020	2021-2022	2023-2024	after	
Gross property casualty loss and loss expense payments	\$ 2,144	\$ 2,172	\$ 826	\$ 946	\$ 6,088
Gross life policyholder obligations	78	108	129	5,111	5,426
Interest on long-term debt	52	104	104	319	579
Long-term debt	—	—	—	793	793
Short-term debt	39	—	—	—	39
Profit-sharing commissions	152	—	—	—	152
Finance lease obligations	14	18	9	1	42
Operating lease obligations	5	4	3	3	15
Other liabilities	128	18	7	8	161
Total	\$ 2,612	\$ 2,424	\$ 1,078	\$ 7,181	\$ 13,295

Other Commitments

At December 31, 2019, 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.
- Other invested assets – We expect to fund approximately \$108 million for our private equity and real estate investments over the next several years.
- Funds at Lloyd's – From time to time, we may be required to meet certain cash funding requirements on behalf of Cincinnati Global. During 2019, the parent company deposited \$67 million with Lloyd's to meet these funding requirements.

Liquidity and Capital Resources Outlook

At December 31, 2019, we had \$767 million in cash and cash equivalents. During 2020, our lead insurance subsidiary may pay \$562 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 and cash equivalents provide 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% to 100%. Our GAAP combined ratio averaged 94.7% over the five-year period 2015 through 2019, 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 2020 Reinsurance Ceded Programs. We also monitor the financial condition of our reinsurers because their insolvency could jeopardize a portion of our \$610 million reinsurance recoverable asset at December 31, 2019. 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.

LIBOR Discontinuation

We are currently in the process of identifying our population of contracts that contain a LIBOR reference to determine our exposure. Our identification to date is primarily related to our line of credit, an unsecured letter of credit agreement to provide a portion of the capital needed to support obligations at Lloyd's, investments in floating rate securities and late fee provisions. We will continue to work with counterparties to assess alternative rates for each contract identified.

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 \$6.088 billion is lower than loss and loss expense reserves of \$6.147 billion reported on our balance sheet at December 31, 2019. The \$59 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 and for other parts of our property casualty insurance operations, the following table details gross reserves among case, IBNR and loss expense reserves, net of salvage and subrogation. The \$442 million increase in total gross reserves was primarily due to a \$240 million increase in case loss reserves and a \$155 million increase in IBNR loss reserves. Cincinnati Global, acquired during 2019, represented \$228 million of the increase in total gross reserves at year-end 2019, while our commercial property line of business increased by \$81 million, our excess and surplus lines business increased by \$53 million, and Cincinnati Re increased by \$50 million.

Property Casualty Gross Loss and Loss Expense Reserves

(Dollars in millions)

	Loss reserves		Loss	Total gross	Percent of
	Case	IBNR	expense	reserves	total
	reserves	reserves	reserves		
At December 31, 2019					
Commercial lines insurance:					
Commercial casualty	\$ 937	\$ 680	\$ 622	\$ 2,239	36.8%
Commercial property	339	20	64	423	7.0
Commercial auto	409	157	143	709	11.6
Workers' compensation	404	516	93	1,013	16.6
Other commercial	108	7	70	185	3.0
Subtotal	<u>2,197</u>	<u>1,380</u>	<u>992</u>	<u>4,569</u>	<u>75.0</u>
Personal lines insurance:					
Personal auto	233	46	78	357	5.9
Homeowner	134	32	41	207	3.4
Other personal	49	69	5	123	2.0
Subtotal	<u>416</u>	<u>147</u>	<u>124</u>	<u>687</u>	<u>11.3</u>
Excess and surplus lines	149	102	100	351	5.8
Cincinnati Re	47	204	2	253	4.2
Cincinnati Global	155	71	2	228	3.7
Total	<u>\$ 2,964</u>	<u>\$ 1,904</u>	<u>\$ 1,220</u>	<u>\$ 6,088</u>	<u>100.0%</u>
At December 31, 2018					
Commercial lines insurance:					
Commercial casualty	\$ 981	\$ 647	\$ 604	\$ 2,232	39.5 %
Commercial property	270	12	60	342	6.1
Commercial auto	402	152	141	695	12.3
Workers' compensation	384	542	92	1,018	18.0
Other commercial	99	7	73	179	3.2
Subtotal	<u>2,136</u>	<u>1,360</u>	<u>970</u>	<u>4,466</u>	<u>79.1</u>
Personal lines insurance:					
Personal auto	240	50	72	362	6.3
Homeowner	152	9	40	201	3.6
Other personal	46	65	5	116	2.1
Subtotal	<u>438</u>	<u>124</u>	<u>117</u>	<u>679</u>	<u>12.0</u>
Excess and surplus lines	118	96	84	298	5.3
Cincinnati Re	32	169	2	203	3.6
Total	<u>\$ 2,724</u>	<u>\$ 1,749</u>	<u>\$ 1,173</u>	<u>\$ 5,646</u>	<u>100.0 %</u>

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 \$43 million of reserves for mold claims at year-end 2019, compared with \$89 million and \$44 million, respectively, for such claims at year-end 2018. The asbestos and environmental claims amounts for each respective year constituted 1.5% and 1.6% 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, 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 2019, 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 2020 Reinsurance Ceded Programs, we purchase reinsurance to mitigate our property casualty risk exposure. Ceded property casualty reinsurance unpaid receivables of \$342 million at year-end 2019 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 \$3.260 billion of net claim payments during 2019. At year-end 2019, total net property casualty reserves of \$5.746 billion reflected \$2.712 billion in unpaid amounts on reported claims (case reserves), \$1.207 billion in loss expense reserves and \$1.827 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 4.8 years at year-end 2019. By contrast, the duration of our loss and loss expense reserves was approximately 3.5 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 \$5.418 billion to \$5.862 billion at year-end 2019, with the company carrying net reserves of \$5.746 billion. The likely range was \$5.037 billion to \$5.481 billion at year-end 2018, with the company carrying net reserves of \$5.408 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 2019 and 2018. 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 2019 and 2018 was consistent with the corresponding actuarial best estimate.

Property Casualty Insurance Development of Estimated Reserves by Accident Year

The following table shows net reserve changes at year-end 2019, 2018 and 2017 by property casualty segment and accident year:

(Dollars in millions)	Commercial lines	Personal lines	E&S lines	Other	Totals
As of December 31, 2019					
2018 accident year	\$ (67)	\$ (10)	\$ (6)	\$ (7)	\$ (90)
2017 accident year	(48)	(6)	(1)	(6)	(61)
2016 accident year	(4)	(5)	(1)	(5)	(15)
2015 accident year	(27)	(1)	(1)	—	(29)
2014 accident year	(16)	(3)	(1)	—	(20)
2013 accident year	(16)	(2)	(1)	—	(19)
2012 and prior accident years	(14)	—	—	—	(14)
(Favorable)/unfavorable	<u>\$ (192)</u>	<u>\$ (27)</u>	<u>\$ (11)</u>	<u>\$ (18)</u>	<u>\$ (248)</u>
As of December 31, 2018					
2017 accident year	\$ (68)	\$ 11	\$ (8)	\$ 3	\$ (62)
2016 accident year	(34)	2	(3)	(2)	(37)
2015 accident year	(31)	3	(7)	—	(35)
2014 accident year	(3)	(1)	(5)	—	(9)
2013 accident year	(9)	—	—	—	(9)
2012 accident year	(10)	(1)	(1)	—	(12)
2011 and prior accident years	(2)	(1)	—	—	(3)
(Favorable)/unfavorable	<u>\$ (157)</u>	<u>\$ 13</u>	<u>\$ (24)</u>	<u>\$ 1</u>	<u>\$ (167)</u>
As of December 31, 2017					
2016 accident year	\$ (35)	\$ (8)	\$ (5)	\$ (3)	\$ (51)
2015 accident year	(4)	2	(8)	—	(10)
2014 accident year	(10)	(2)	(11)	—	(23)
2013 accident year	(12)	(5)	(4)	—	(21)
2012 accident year	11	1	(1)	—	11
2011 accident year	(20)	—	—	—	(20)
2010 and prior accident years	(3)	(2)	—	—	(5)
(Favorable)/unfavorable	<u>\$ (73)</u>	<u>\$ (14)</u>	<u>\$ (29)</u>	<u>\$ (3)</u>	<u>\$ (119)</u>

Overall favorable development for consolidated property casualty reserves of \$248 million in 2019 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 was \$78 million for our commercial casualty line of business and \$77 million for our workers' compensation line of business, together accounting for approximately 63% of the overall total. 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 2019 and 2018, we experienced favorable development on prior accident years after seeing adverse development in 2017 for this line of business. We continue to watch this line so we can detect unfavorable trends should they reoccur.

- Workers' compensation – We continue to see favorable reserve development, for all prior accident years in aggregate. During 2019 and 2018, the trend for estimated payments to be made in future calendar years was stable compared to 2017. 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 parts of 2019. This line of business has been troublesome for the industry 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 were 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.

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 \$53 million from year-end 2018 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 2019 of \$11 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. Further, these estimates are based on mortality, morbidity and lapse assumptions reflective of our recent experience and expectations of future payment obligations.

Our estimates of gross life, annuity and disability obligations do not reflect net recoveries from reinsurance agreements. Ceded life reinsurance receivables were \$231 million at year-end 2019. As discussed in 2020 Reinsurance Programs, we purchase reinsurance to mitigate our life insurance risk exposure. At year-end 2019, ceded death benefits represented approximately 35.3% 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 \$5.426 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 \$3.704 billion (total of life insurance policy reserves and separate account policy reserves). A significant portion of the difference can be attributed to the time value of money and changes in mortality, morbidity and lapse assumptions between the date the liabilities were originally established and the current date.

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 \$2.835 billion at year-end 2019, compared with \$2.779 billion at year-end 2018. 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 and morbidity. We use our own experience and historical trends for setting our assumptions for expected withdrawal rates and expenses. We base our assumptions for expected investment income on our own experience adjusted for current and future expected 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.

2020 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 limit 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 and Cincinnati Global, 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 and Cincinnati Global 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 2019, 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, for business other than Cincinnati Re and Cincinnati Global, and indicates the effect of such losses on consolidated shareholders' equity at December 31, 2019. Net losses are net of reinsurance, estimated reinstatement premiums and income taxes, assuming a 21% federal tax rate, and assume our 2020 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, 2019						
2.0% (1 in 50 year event)	\$ 363	\$ 125	1.3%	\$ 397	\$ 127	1.3%
1.0% (1 in 100 year event)	580	140	1.4	570	139	1.4
0.4% (1 in 250 year event)	973	355	3.6	883	270	2.7
0.2% (1 in 500 year event)	1,353	652	6.6	1,201	525	5.3

The modeled losses according to RMS in the table are based on its RiskLink version 18.1 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 6.0 catastrophe model and use a long-term methodology. The AIR and RMS storm catalogs include 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.

For 2020, the primary participants on our standard market property and casualty per-risk and per-occurrence reinsurance ceded programs include 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, 2019. 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 44% of total participation, is the Lloyd's of London placement that features numerous syndicates, with AXA XL and Liberty taking the largest participations. Other primary participants in our property catastrophe program include Mapfre, Axis and Fidelis.

The following table shows our five largest property casualty reinsurance receivable amounts by reinsurer at year-end 2019 and 2018. Michigan Catastrophic Claims Association is a mandatory nonprofit association which runs a reinsurance program funded by an annual premium assessment per vehicle. This assessment covers Michigan's automobile no-fault policies which provide unlimited lifetime coverage for medical expenses resulting from auto accidents. 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.

Name of reinsurer	2019		2018	
	Total receivable	A.M. Best Rating	Total receivable	A.M. Best Rating
Munich Reinsurance America	\$ 61	A+	\$ 27	A+
Swiss Reinsurance America Corporation	51	A+	42	A+
Michigan Catastrophic Claims Association	43	NA	44	NA
Hannover Re	35	A+	11	A+
General Reinsurance Corporation	29	A++	31	A++

Primary components of the 2020 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 \$50 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 \$50 million are reinsured at 100%. The 2020 ceded premium estimate was \$31 million, compared with \$28 million for the 2019 estimate.
- Property excess treaty – We purchased a property reinsurance treaty that provides an additional \$50 million in protection for property losses. This treaty, along with the property per risk treaty, provides a total of \$100 million of protection. The 2020 ceded premium estimate was approximately \$3 million, compared with \$2 million for the 2019 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%. The 2020 ceded premium estimate was \$12 million, essentially unchanged from the 2019 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 2020 ceded premium estimate was approximately \$3 million, essentially unchanged from the 2019 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 \$800 million. Losses from the same occurrence can be aggregated into one limit over a 120-hour period and applied to the treaty towards recovery. The treaty contains one reinstatement provision. The coverage layer between \$600 million and \$800 million is a new feature in 2020 and includes coverage for Cincinnati Global, while the other layers exclude it. A portion of the layer provides an additional \$60 million of earthquake-only coverage but does not include coverage for Cincinnati Global. The 2020 ceded premium estimate was \$44 million, compared with \$43 million for the 2019 estimate with its limit of \$600 million. We retain the first \$100 million of any loss, and a share of losses up to \$800 million. The percentage share we retain for each layer of coverage is indicated below:
 - 21.0% of losses between \$100 million and \$200 million
 - 5.0% of losses between \$200 million and \$300 million
 - 5.0% of losses between \$300 million and \$400 million
 - 5.0% of losses between \$400 million and \$600 million
 - 54.0% of losses between \$600 million and \$800 million
- Effective July 1, 2019, we renewed our property catastrophe occurrence and aggregate excess of loss treaty for a period of one year. The treaty has a total limit of \$50 million for all coverages combined, with various combinations of occurrences for coverage up to the \$50 million aggregate limit. The combined coverage noted below applies to business written on a direct basis and by Cincinnati Re. Cincinnati Global catastrophe losses are not applicable to the treaty. Ceded premiums for the one-year renewal period of coverage from this treaty are estimated to be approximately \$9 million. Key coverages are summarized below.
 - Combined – Aggregate net recovery up to \$50 million after retaining the first \$125 million of each loss
 - Cincinnati Re-only – Aggregate net recovery up to \$8 million after retaining the first \$45 million in aggregate
 - Direct business-only in certain Western states – Aggregate net recovery up to \$31 million for:
 - Earthquake: After retaining the first \$20 million of each loss
 - Brushfire or wildfire: After retaining the first \$40 million of each loss
- Our alternative reinsurance structure to protect against certain catastrophic events expired at the end of 2019 and was not renewed. That arrangement was collateralized reinsurance funded through the issuance of collateralized risk-linked securities, known as catastrophe bonds with Skyline Re Ltd.

After reinsurance, our maximum exposure to a catastrophic event that causes \$800 million in covered losses in 2020 would be \$249 million, compared with our retention of \$125 million for 2019 for a \$600 million event. 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 that also included significant losses from hail in the Dayton, Ohio, area. Our losses from that storm were estimated to be \$226 million before reinsurance, based on updated estimates as of December 31, 2017.

Individual risks with insured values in excess of \$100 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 \$100 million and \$225 million under an automatic facultative agreement. For risks with property values exceeding \$225 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 \$100 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 December 20, 2019. 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 2019 was \$551 million (20% of 2018 subject premiums), and we estimate it is \$580 million (20% of 2019 subject premiums) for 2020.

Reinsurance protection for the company's surety business is covered under a separate treaty 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 2020 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 \$1 million of any policy loss. Losses between \$1 million and \$5 million are reinsured at 100% 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 \$2 million by Cincinnati Specialty Underwriters. Losses between \$2 million and \$6 million are reinsured at 100% by The Cincinnati Insurance Company.
- Basket retention – Cincinnati Specialty Underwriters has purchased this coverage to limit our retention to \$2 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. 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% to 25% 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 \$12.5 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 2019 and 2018. The A.M. Best insurer financial strength ratings are also shown.

Name of reinsurer	2019		2018	
	Total receivable	A.M. Best Rating	Total receivable	A.M. Best Rating
Swiss Re Life & Health America, Inc.	\$ 77	A+	\$ 83	A+
General Re Life Corporation	41	A++	38	A++
Lincoln National Life Insurance Company	36	A+	37	A+
Security Life of Denver Insurance Company	24	A	27	A
Employers Reassurance Corporation	14	B+	13	B+

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
- 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
- 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
- Our inability to integrate Cincinnati Global and its subsidiaries into our on-going operations, or disruptions to our on-going operations due to such integration
- 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; disrupt our relationships with agents, policyholders and others; cause reputational damage, mitigation expenses and data loss and expose us to liability under federal and state laws
- 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

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% 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, 2019	\$ 12,850	\$ 12,263	\$ 11,698	\$ 11,117	\$ 10,529
At December 31, 2018	\$ 11,793	\$ 11,245	\$ 10,689	\$ 10,121	\$ 9,576

The effective duration of the fixed-maturity portfolio was 4.8 years at year-end 2019, down from 5.2 years at year-end 2018. A 100-basis-point movement in interest rates would result in an approximately 4.9% 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, 2019	\$ 5,426	\$ 6,202	\$ 6,977	\$ 7,752	\$ 8,527	\$ 9,302	\$ 10,078
At December 31, 2018	\$ 4,144	\$ 4,736	\$ 5,328	\$ 5,920	\$ 6,512	\$ 7,104	\$ 7,696

Our equity holdings represented \$7.752 billion in fair value and accounted for approximately 88% of the net unrealized gains and losses of the entire portfolio at year-end 2019. No holding had a fair value greater than 5.6% of our \$7.518 billion publicly traded common stock portfolio. We had 40 holdings among 10 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 investment portfolio is evaluated for other-than-temporary impairments. The company's asset impairment committee monitors a number of significant factors for indications of investments with a fair value below the carrying amount that may not be recoverable. The application of our impairment policy resulted in OTTI charges that reduced our income before income taxes by \$9 million in 2019, \$5 million in 2018 and \$9 million in 2017. Impairments are discussed in Item 7, Investments Results.

We expect the number of fixed-maturity securities with a fair value below 100% of 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 2019, 157 of the 3,911 fixed-maturity securities we owned had a fair value below 100% of cost or amortized cost compared with 1,262 of the 3,606 fixed-maturity and equity securities we owned at year-end 2018 and 440 of the 3,598 fixed-maturity and equity securities we owned at year-end 2017.

The 157 holdings fair valued below cost or amortized cost at year-end 2019 represented 4.5% of our fixed-maturity portfolio and \$7 million in unrealized losses.

- The 157 holdings were fair valued between 90% and 100% of cost or amortized cost. The value of these securities fluctuates primarily because of changes in interest rates. The fair value of these 157 securities was \$523 million at year-end 2019, and they accounted for \$7 million in unrealized losses.
- No fixed-maturity securities had a fair value below 90% 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, 2019						
Fixed maturity securities:						
Corporate	\$ 199	\$ 2	\$ 118	\$ 3	\$ 317	\$ 5
States, municipalities and political subdivisions	98	1	10	—	108	1
Commercial mortgage-backed	6	—	—	—	6	—
Government-sponsored enterprises	26	1	51	—	77	1
United States government	—	—	4	—	4	—
Foreign government	11	—	—	—	11	—
Total	<u>\$ 340</u>	<u>\$ 4</u>	<u>\$ 183</u>	<u>\$ 3</u>	<u>\$ 523</u>	<u>\$ 7</u>
At December 31, 2018						
Fixed maturity securities:						
Corporate	\$ 2,082	\$ 51	\$ 501	\$ 36	\$ 2,583	\$ 87
States, municipalities and political subdivisions	823	18	340	13	1,163	31
Commercial mortgage-backed	77	—	64	2	141	2
Government-sponsored enterprises	49	1	211	6	260	7
United States government	—	—	33	1	33	1
Total	<u>3,031</u>	<u>70</u>	<u>1,149</u>	<u>58</u>	<u>4,180</u>	<u>128</u>

The following table summarizes and classifies securities based on fair values relative to amortized cost:

(Dollars in millions)	Number of issues	Amortized cost	Fair value	Gross unrealized gain (loss)	Gross investment income
At December 31, 2019					
Taxable fixed maturities:					
Fair valued below 70% of amortized cost	—	\$ —	\$ —	\$ —	\$ —
Fair valued at 70% to less than 100% of amortized cost	144	516	509	(7)	12
Fair valued at 100% and above of amortized cost	1,641	6,734	7,108	374	282
Investment income on securities sold in current year	—	—	—	—	30
Total	1,785	7,250	7,617	367	324
Tax-exempt fixed maturities:					
Fair valued below 70% of amortized cost	—	—	—	—	—
Fair valued at 70% to less than 100% of amortized cost	13	14	14	—	—
Fair valued at 100% and above of amortized cost	2,113	3,844	4,067	223	119
Investment income on securities sold in current year	—	—	—	—	3
Total	2,126	3,858	4,081	223	122
Fixed-maturities summary:					
Fair valued below 70% of amortized cost	—	—	—	—	—
Fair valued at 70% to less than 100% of amortized cost	157	530	523	(7)	12
Fair valued at 100% and above of amortized cost	3,754	10,578	11,175	597	401
Investment income on securities sold in current year	—	—	—	—	33
Total	3,911	\$ 11,108	\$ 11,698	\$ 590	\$ 446
At December 31, 2018					
Fixed-maturities summary:					
Fair valued below 70% of amortized cost	—	\$ —	\$ —	\$ —	\$ —
Fair valued at 70% to less than 100% of amortized cost	1,262	4,308	4,180	(128)	147
Fair valued at 100% and above of amortized cost	2,344	6,335	6,509	174	269
Investment income on securities sold in current year	—	—	—	—	28
Total	3,606	\$ 10,643	\$ 10,689	\$ 46	\$ 444

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, 2019, 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, 2019. 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, 2019, 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, 2019. The assessment led management to conclude that, as of December 31, 2019, the company's internal control over financial reporting was effective based on those criteria.

In accordance with guidance issued by the Securities and Exchange Commission, the company may exclude acquisitions from management's assessment of the effectiveness of internal control over financial reporting for the first year in which the acquisition occurred. The company's management has excluded the assessment of internal controls of MSP Underwriting Limited, rebranded as Cincinnati Global Underwriting Ltd., which was acquired on February 28, 2019, and further discussed in Note 20, Acquisition in the Notes to the Consolidated Financial Statements. At December 31, 2019, Cincinnati Global Underwriting Ltd. accounted for approximately 2% of both consolidated assets and consolidated revenue.

The company's independent registered public accounting firm has issued an audit report on our internal control over financial reporting as of December 31, 2019.

/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 25, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Cincinnati Financial Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Cincinnati Financial Corporation and subsidiaries (the "Company") as of December 31, 2019 and 2018, 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, 2019, and the related notes and the schedules listed in the Index at Item 15(c) (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

As described in Management's Annual Report on Internal Control over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Cincinnati Global Underwriting Ltd., which was acquired on February 28, 2019, and whose financial statements constitute approximately 2% of both total assets and total revenue of the consolidated financial statement amounts as of and for the year ended December 31, 2019. Accordingly, our audit did not include the internal control over financial reporting at Cincinnati Global Underwriting, Ltd.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, effective January 1, 2018, the Company adopted Accounting Standards Update No. 2016-01, *Financial Instruments - Overall (Subtopic 825-10) - Recognition and Measurement of Financial Assets and Liabilities*, using the modified retrospective approach.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Property and Casualty Insurance Loss and Loss Expense Reserves - Refer to Note 4 to the financial statements.

Critical Audit Matter Description

The Company's property and casualty insurance loss and loss expense reserves for long-tailed lines of business, such as workers' compensation, commercial casualty and certain other liability lines (referred to as "loss and loss expense reserves"), are determined by the Company using actuarial methods, models, assumptions, and judgment to estimate the reserves required to pay for and settle all outstanding insured claims, including incurred but not reported (IBNR) claims, as of the financial statement date. The actuarial estimate of loss and loss expense reserves is subject to review and adjustment by Company management.

Loss and loss expenses are inherently uncertain as to timing and amount and the recorded loss and loss expense reserves may vary materially from the actual ultimate cost of claims. Given the subjectivity in estimating ultimate loss and loss expenses, due to uncertainties concerning the future emergence of loss and loss expenses, inflation trends, and the judicial environment, among other factors, auditing loss and loss expense reserves involved an especially high degree of auditor judgment, including the need to involve our actuarial specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to loss and loss expense reserves included the following, among others:

- We tested the effectiveness of controls related to loss and loss expense reserves, including those over the review of methods, models, assumptions and judgments used, and management's review of the estimate.
- We tested the underlying data that served as the basis for the actuarial analysis, including historical claims data, to test the reasonableness of key inputs to the actuarial estimate.
- With the assistance of our actuarial specialists, we used the Company's claims data and other inputs, to develop a range of independent estimates for the loss and loss expense reserves. We used these independent estimates to assess the reasonableness of the Company's reserves by comparing our estimates to the Company's recorded loss and loss expense reserves.
- We compared the Company's prior year estimates of expected incurred losses to actual experience during the current year to identify potential bias in the determination of loss and loss expense reserves.

/S/ DELOITTE & TOUCHE LLP

Cincinnati, Ohio

February 25, 2020

We have served as the Company's auditor since 1980.

Cincinnati Financial Corporation and Subsidiaries Consolidated Balance Sheets

(Dollars in millions, except per share data)	December 31, 2019	December 31, 2018
Assets		
Investments		
Fixed maturities, at fair value (amortized cost: 2019—\$11,108; 2018—\$10,643)	\$ 11,698	\$ 10,689
Equity securities, at fair value (cost: 2019—\$3,581; 2018—\$3,368)	7,752	5,920
Other invested assets	296	123
Total investments	<u>19,746</u>	<u>16,732</u>
Cash and cash equivalents	767	784
Investment income receivable	133	132
Finance receivable	77	71
Premiums receivable	1,777	1,644
Reinsurance recoverable	610	484
Prepaid reinsurance premiums	54	44
Deferred policy acquisition costs	774	738
Land, building and equipment, net, for company use (accumulated depreciation: 2019—\$276; 2018—\$265)	207	195
Other assets	381	308
Separate accounts	882	803
Total assets	<u>\$ 25,408</u>	<u>\$ 21,935</u>
Liabilities		
Insurance reserves		
Loss and loss expense reserves	\$ 6,147	\$ 5,707
Life policy and investment contract reserves	2,835	2,779
Unearned premiums	2,788	2,516
Other liabilities	928	804
Deferred income tax	1,079	627
Note payable	39	32
Long-term debt and lease obligations	846	834
Separate accounts	882	803
Total liabilities	<u>15,544</u>	<u>14,102</u>
Commitments and contingent liabilities (Note 16)	—	—
Shareholders' Equity		
Common stock, par value—\$2 per share; (authorized: 2019 and 2018—500 million shares; issued: 2019 and 2018—198.3 million shares)	397	397
Paid-in capital	1,306	1,281
Retained earnings	9,257	7,625
Accumulated other comprehensive income	448	22
Treasury stock at cost (2019—35.4 million shares and 2018—35.5 million shares)	(1,544)	(1,492)
Total shareholders' equity	<u>9,864</u>	<u>7,833</u>
Total liabilities and shareholders' equity	<u>\$ 25,408</u>	<u>\$ 21,935</u>

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,		
	2019	2018	2017
Revenues			
Earned premiums	\$ 5,604	\$ 5,170	\$ 4,954
Investment income, net of expenses	646	619	609
Investment gains and losses, net	1,650	(402)	148
Fee revenues	15	15	16
Other revenues	9	5	5
Total revenues	7,924	5,407	5,732
Benefits and Expenses			
Insurance losses and contract holders' benefits	3,638	3,490	3,390
Underwriting, acquisition and insurance expenses	1,738	1,597	1,546
Interest expense	53	53	53
Other operating expenses	23	16	13
Total benefits and expenses	5,452	5,156	5,002
Income Before Income Taxes	2,472	251	730
Provision (Benefit) for Income Taxes			
Current	132	11	129
Deferred	343	(47)	(444)
Total provision (benefit) for income taxes	475	(36)	(315)
Net Income	\$ 1,997	\$ 287	\$ 1,045
Per Common Share			
Net income—basic	\$ 12.24	\$ 1.76	\$ 6.36
Net income—diluted	12.10	1.75	6.29

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,		
	2019	2018	2017
Net Income	\$ 1,997	\$ 287	\$ 1,045
Other Comprehensive Income (Loss)			
Change in unrealized gains and losses on investments, net of tax (benefit) of \$114, \$(72) and \$317, respectively	430	(267)	598
Amortization of pension actuarial gains and losses and prior service cost, net of tax (benefit) of \$2, \$(1) and \$7, respectively	5	(3)	7
Change in life deferred acquisition costs, life policy reserves and other, net of tax (benefit) of \$(3), \$2 and \$1, respectively	(9)	7	(2)
Other comprehensive income (loss)	426	(263)	603
Comprehensive Income	\$ 2,423	\$ 24	\$ 1,648

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,		
	2019	2018	2017
Common Stock			
Beginning of year	\$ 397	\$ 397	\$ 397
Share-based awards	—	—	—
End of year	<u>397</u>	<u>397</u>	<u>397</u>
Paid-In Capital			
Beginning of year	1,281	1,265	1,252
Share-based awards	(12)	(17)	(18)
Share-based compensation	30	28	26
Other	7	5	5
End of year	<u>1,306</u>	<u>1,281</u>	<u>1,265</u>
Retained Earnings			
Beginning of year	7,625	5,180	5,037
Cumulative effect of change in accounting for equity securities as of January 1, 2018	—	2,503	—
Adjusted beginning of year	<u>7,625</u>	<u>7,683</u>	<u>5,037</u>
Net income	1,997	287	1,045
Dividends declared	(365)	(345)	(410)
Reclassification of certain tax effects from accumulated other comprehensive income	—	—	(492)
End of year	<u>9,257</u>	<u>7,625</u>	<u>5,180</u>
Accumulated Other Comprehensive Income			
Beginning of year	22	2,788	1,693
Cumulative effect of change in accounting for equity securities as of January 1, 2018	—	(2,503)	—
Adjusted beginning of year	<u>22</u>	<u>285</u>	<u>1,693</u>
Other comprehensive income (loss)	426	(263)	603
Reclassification of certain tax effects to retained earnings	—	—	492
End of year	<u>448</u>	<u>22</u>	<u>2,788</u>
Treasury Stock			
Beginning of year	(1,492)	(1,387)	(1,319)
Share-based awards	21	21	26
Shares acquired - share repurchase authorization	(67)	(125)	(92)
Shares acquired - share-based compensation plans	(9)	(5)	(7)
Other	3	4	5
End of year	<u>(1,544)</u>	<u>(1,492)</u>	<u>(1,387)</u>
Total Shareholders' Equity	\$ 9,864	\$ 7,833	\$ 8,243

(In millions)

Common Stock - Shares Outstanding			
Beginning of year	162.8	163.9	164.4
Share-based awards	0.7	0.7	0.8
Shares acquired - share repurchase authorization	(0.6)	(1.8)	(1.3)
Shares acquired - share-based compensation plans	(0.1)	—	(0.1)
Other	0.1	—	0.1
End of year	<u>162.9</u>	<u>162.8</u>	<u>163.9</u>

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,		
	2019	2018	2017
Cash Flows From Operating Activities			
Net income	\$ 1,997	\$ 287	\$ 1,045
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	72	63	55
Investment gains and losses, net	(1,640)	408	(148)
Share-based compensation	30	28	26
Interest credited to contract holders'	44	47	48
Deferred income tax expense	343	(47)	(444)
Changes in:			
Investment income receivable	(1)	2	—
Premiums and reinsurance receivable	(174)	(109)	77
Deferred policy acquisition costs	(61)	(48)	(36)
Other assets	(22)	(1)	(43)
Loss and loss expense reserves	163	434	188
Life policy and investment contract reserves	107	96	96
Unearned premiums	184	112	97
Other liabilities	74	—	24
Current income tax receivable/payable	92	(91)	67
Net cash provided by operating activities	<u>1,208</u>	<u>1,181</u>	<u>1,052</u>
Cash Flows From Investing Activities			
Sale of fixed maturities	102	36	23
Call or maturity of fixed maturities	1,241	1,127	1,172
Sale of equity securities	203	403	523
Purchase of fixed maturities	(1,742)	(1,510)	(1,723)
Purchase of equity securities	(382)	(441)	(513)
Investment in finance receivables	(34)	(33)	(32)
Collection of finance receivables	29	25	23
Investment in buildings and equipment	(24)	(20)	(16)
Change in other invested assets, net	(72)	(38)	(15)
Net cash used in investing activities	<u>(679)</u>	<u>(451)</u>	<u>(558)</u>
Cash Flows From Financing Activities			
Payment of cash dividends to shareholders	(355)	(336)	(400)
Shares acquired - share repurchase authorization	(67)	(125)	(92)
Changes in note payable	7	8	4
Proceeds from stock options exercised	11	9	13
Contract holders' funds deposited	86	84	79
Contract holders' funds withdrawn	(174)	(183)	(164)
Other	(54)	(60)	(54)
Net cash used in financing activities	<u>(546)</u>	<u>(603)</u>	<u>(614)</u>
Net change in cash and cash equivalents	(17)	127	(120)
Cash and cash equivalents at beginning of year	784	657	777
Cash and cash equivalents at end of year	<u>\$ 767</u>	<u>\$ 784</u>	<u>\$ 657</u>
Supplemental Disclosures of Cash Flow Information			
Interest paid	\$ 53	\$ 53	\$ 52
Income taxes paid	34	98	60
Noncash Activities			
Conversion of securities	\$ —	\$ —	\$ 5
Equipment acquired under finance lease obligations	14	21	14
Cashless exercise of stock options	9	5	7
Other assets and other liabilities	29	48	75

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 The Cincinnati Insurance Company and Cincinnati Global Underwriting Ltd.SM (Cincinnati Global) insurance subsidiaries and two complementary subsidiary companies. Cincinnati Global was acquired effective February 28, 2019. Refer to Note 20, Acquisition, for additional information.

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 1,796 independent insurance agencies with 2,458 reporting locations across 45 states. Other subsidiaries of The Cincinnati Insurance Company include: The Cincinnati Life Insurance Company, which markets life insurance and fixed annuities; and The Cincinnati Specialty Underwriters Insurance Company, which offers excess and surplus lines property casualty insurance products. The Cincinnati Insurance Company also conducts the business of our reinsurance assumed operations, Cincinnati ReSM.

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). The consolidated financial statements include Cincinnati Global's results for the period from February 28, 2019, through December 31, 2019. Foreign exchange rates related to Cincinnati Global's operations did not have a material impact to our consolidated financial statements. 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 and equity security investments. Fixed-maturity investments (taxable bonds, tax-exempt bonds, redeemable preferred equities and commercial mortgage-backed securities) classified as available for sale and equity investments (common and nonredeemable preferred equities) are recorded at fair value in the consolidated financial statements. Beginning January 1, 2018, changes in fair value of equity securities are now reported in net income instead of other comprehensive income as stated below under 'Adopted Accounting Updates'. The number of fixed-maturity securities with fair value below 100% 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 with fair value 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 2019, 2018 and 2017.

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

Included within our other invested assets were \$71 million and \$60 million of private equity investments, \$32 million and \$33 million of life policy loans and \$29 million and \$30 million of real estate through direct property ownership and development projects in the United States at December 31, 2019 and 2018, respectively. Other invested assets also included \$164 million held on deposit at Lloyd's at December 31, 2019. 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 and real estate development investments. Lloyd's deposits are held as cash and cash equivalents.

Investment income, net of expenses, 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 immaterial.

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, 2019, 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 45 states. Our 10 largest states generated 54.8% and 58.4% of total earned premiums in 2019 and 2018, respectively. Ohio, our largest state, accounted for 15.1% and 15.9% of total earned premiums in 2019 and 2018, respectively. Illinois, Georgia, North Carolina, Indiana and Pennsylvania each accounted for between 4% and 6% of total earned premiums in 2019. Our largest single agency relationship accounted for approximately 1.3% of our total property casualty earned premiums in 2019. No aggregate agency relationship locations under a single ownership structure accounted for more than 4% of our total property casualty earned premiums in 2019. 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 primarily 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 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 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 and future 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 in proportion to premium revenue recognized. 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 or notional benefit base. 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, 2019, the current fair value of the BOLI invested assets and cash exceeded the current fair value of the contract holders' account value by approximately \$52 million. At December 31, 2018, the current fair value of the contract holders' account value exceeded the current fair value of the BOLI invested assets and cash by approximately \$3 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 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 investment 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

The Cincinnati Insurance Company offers reinsurance assumed for casualty (predominantly domestic exposure), specialty and property (worldwide exposure). Treaties are written on a pro rata and excess of loss basis. We also continue to assume risk with limited exposure as a reinsurer for involuntary state pools.

Written premium is recorded, net of contract specific retrocessions, on an ultimate estimate basis and primarily earned on a pro rata basis over the coverage period of the treaty. Expenses are recorded as per contract terms and deferred over the earning period of the premium.

We establish known loss reserves when reported. We establish reserves for losses in excess of reported activity in the form of IBNR. Reserves are established using actuarial analysis, which includes models and methods traditionally used for the types of exposures written. We establish reserves for event specific occurrences using modeling data and company specific data when available.

We enter into other reinsurance transactions to 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 premiums, insurance reserves and basis differences in the carrying value of investments held. We charge deferred income taxes associated with balances that impact other comprehensive income, such as unrealized appreciation and depreciation of fixed-maturity investments, to shareholders' equity in accumulated other comprehensive income (AOCI). We charge deferred taxes associated with other differences to income.

See Note 11, Income Taxes, for further detail on our uncertain tax positions and other income tax items. 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 finance 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 to 39.5 years) using straight-line and accelerated methods. Depreciation expense was \$25 million for 2019, \$31 million for 2018 and \$28 million for 2017. We review our accumulated depreciation for our building, equipment and software assets and write off fully depreciated assets for obsolescence 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 2019, 2018 or 2017.

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 sales-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 2019, 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.

Goodwill and Intangible Assets

We recognize goodwill and intangible assets generated through acquisitions within other assets in the consolidated balance sheets. Goodwill arises when the fair value of consideration transferred exceeds the fair value of the net identifiable assets acquired at the acquisition date. Goodwill and intangible assets with an indefinite life are not amortized. Intangible assets with a definite life are amortized on a straight-line basis over the estimated useful lives as follows: broker relationships, 15 years; internally developed technology, five years; value of business acquired, over the remaining coverage period of the underlying insurance contracts. We test for impairments on an annual basis or more frequently if events or circumstances indicate that the asset might be impaired. The company performed its annual impairment test on goodwill and intangibles on September 30, which did not result in the recognition of an impairment loss.

Subsequent Events

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

Adopted Accounting Updates

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

In January 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-01, *Financial Instruments - Overall (Subtopic 825-10) - Recognition and Measurement of Financial Assets and Financial Liabilities*. ASU 2016-01 revised 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 company adopted this ASU on January 1, 2018, and applied it on a modified retrospective basis without prior period amounts restated. As a result of the adoption, \$2.503 billion of after-tax unrealized gains on equity securities was reclassified on January 1, 2018, from accumulated other comprehensive income to retained earnings. Results of operations were impacted as changes in fair value of equity securities are now reported in net income instead of reported in other comprehensive income. As a result of the adoption of this ASU, for the year ended December 31, 2018, the net investment loss of \$402 million in the consolidated statements of income included a decrease of \$404 million from the fair value change of equity securities.

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. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842* and ASU 2018-11, *Targeted Improvements to Topic 842*. ASU 2018-10 makes narrow-scope amendments to certain aspects of the new leasing standard while ASU 2018-11 provides relief from costs of implementing certain aspects of the new leasing standard.

The company adopted this ASU effective January 1, 2019, and it did not have a material impact on our company's consolidated financial position, cash flows or results of operations. The company has elected the practical expedient package for carrying forward historical lease classifications, not re-evaluating for embedded leases and not reassessing initial direct costs. The company also elected additional practical expedients to not recognize short-term leases on the balance sheet and to only combine lease and nonlease components for certain asset classes. We also elected not to restate prior periods. In support of our insurance operations, the company leases real estate properties which qualify as operating leases and also leases equipment and autos which qualify as finance leases.

ASU 2017-08, Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities

In March 2017, the FASB issued ASU 2017-08, *Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities*. ASU 2017-08 amends guidance on the amortization period of premiums on certain purchased callable debt securities. The amendments shorten the amortization period of premiums on certain purchased callable debt securities to the earliest call date. The amendments should be applied on a modified retrospective basis through a cumulative-effect adjustment to beginning retained earnings. The company adopted this ASU effective January 1, 2019, and it did not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2018-07, Compensation - Stock Compensation (Topic 718) - Improvements to Nonemployee Share-Based Payment Accounting

In June 2018, the FASB issued ASU 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*. ASU 2018-07 expands the scope of *Topic 718, Compensation - Stock Compensation*, which currently only includes share-based payments issued to employees, to include share-based payments issued to nonemployees for the acquisition of goods and services. The company adopted this ASU effective January 1, 2019, and it did not have a material impact on our company's consolidated financial position, cash flows or results of operations.

Pending Accounting Updates

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*. In addition, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326*, ASU 2019-04, *Codification Improvements to Topic 326*, ASU 2019-05, *Targeted Transition Relief* and ASU 2019-11, *Codification Improvements to Topic 326*. These ASU's amend 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 guidance is effective for reporting periods beginning after December 15, 2019, and for most affected instruments must be adopted using a modified retrospective approach, with a cumulative effect adjustment recorded to beginning retained earnings. These ASU's have not yet been adopted; however, they will not have a material impact on our company's consolidated financial position, cash flows or results of operations.

ASU 2018-12, Financial Services - Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts

In August 2018, the FASB issued ASU 2018-12, *Financial Services - Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts*. ASU 2018-12 is intended to improve the timeliness of recognizing changes in the liability for future policy benefits and modify the rate used to discount future cash flows. The ASU will simplify and improve the accounting for certain market-based options or guarantees associated with deposit or account balance contracts, simplify amortization of deferred acquisition costs while improving and expanding required disclosures. In November 2019, the FASB issued ASU 2019-09, *Financial Services - Insurance (Topic 944): Effective Date*. ASU 2019-09 delays the effective date of ASU 2018-12 by one year to interim and annual reporting periods beginning after December 15, 2021. These ASU's have not yet been adopted. Management is currently evaluating the impact on our company's consolidated financial position, cash flows and results of operations.

NOTE 2 – Investments

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

(Dollars in millions)				
	Amortized cost	Gross unrealized		Fair value
		gains	losses	
At December 31, 2019				
Fixed-maturity securities:				
Corporate	\$ 6,074	\$ 332	\$ 5	\$ 6,401
States, municipalities and political subdivisions	4,477	252	1	4,728
Commercial mortgage-backed	290	11	—	301
Government-sponsored enterprises	137	—	1	136
United States government	102	2	—	104
Foreign government	28	—	—	28
Total	<u>\$ 11,108</u>	<u>\$ 597</u>	<u>\$ 7</u>	<u>\$ 11,698</u>
At December 31, 2018				
Fixed-maturity securities:				
Corporate	\$ 5,712	\$ 85	\$ 87	\$ 5,710
States, municipalities and political subdivisions	4,251	84	31	4,304
Commercial mortgage-backed	287	3	2	288
Government-sponsored enterprises	316	1	7	310
United States government	67	1	1	67
Foreign government	10	—	—	10
Total	<u>\$ 10,643</u>	<u>\$ 174</u>	<u>\$ 128</u>	<u>\$ 10,689</u>

The net unrealized investment gains in our fixed-maturity portfolio at December 31, 2019, 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, 2019 and 2018.

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, 2019						
Fixed-maturity securities:						
Corporate	\$ 199	\$ 2	\$ 118	\$ 3	\$ 317	\$ 5
States, municipalities and political subdivisions	98	1	10	—	108	1
Commercial mortgage-backed	6	—	—	—	6	—
Government-sponsored enterprises	26	1	51	—	77	1
United States government	—	—	4	—	4	—
Foreign government	11	—	—	—	11	—
Total	<u>\$ 340</u>	<u>\$ 4</u>	<u>\$ 183</u>	<u>\$ 3</u>	<u>\$ 523</u>	<u>\$ 7</u>
At December 31, 2018						
Fixed-maturity securities:						
Corporate	\$ 2,082	\$ 51	\$ 501	\$ 36	\$ 2,583	\$ 87
States, municipalities and political subdivisions	823	18	340	13	1,163	31
Commercial mortgage-backed	77	—	64	2	141	2
Government-sponsored enterprises	49	1	211	6	260	7
United States government	—	—	33	1	33	1
Total	<u>\$ 3,031</u>	<u>\$ 70</u>	<u>\$ 1,149</u>	<u>\$ 58</u>	<u>\$ 4,180</u>	<u>\$ 128</u>

Contractual maturity dates for fixed-maturity investments were:

(Dollars in millions)	Amortized cost	Fair value	% of fair value
At December 31, 2019			
Maturity dates:			
Due in one year or less	\$ 455	\$ 459	3.9%
Due after one year through five years	3,180	3,302	28.2
Due after five years through ten years	3,792	4,011	34.3
Due after ten years	3,681	3,926	33.6
Total	<u>\$ 11,108</u>	<u>\$ 11,698</u>	<u>100.0%</u>

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, 2019 and 2018, the company had fixed-maturity investments with a fair value of \$117 million and \$112 million, respectively, on deposit with various states in compliance with regulatory requirements. In addition, cash and fixed-maturity investments deposited with third parties used as collateral to secure liabilities on behalf of insureds, cedants and other creditors had a fair value of \$95 million and \$75 million at December 31, 2019 and 2018, respectively.

At December 31, 2019, Apple, Inc. (Nasdaq:AAPL), an equity holding, was our largest single investment holding with a fair value of \$414 million, which was 5.5% of our publicly traded common equities portfolio and 2.1% of the total investment portfolio.

In the normal course of investing activities, the company enters into investments in limited partnerships, including private equity, real estate investments and asset-backed securities issued by third-parties. The company's maximum exposure to loss with respect to these investments is limited to the investment carrying values included in the company's consolidated balance sheets and any unfunded commitments.

The following table provides investment income and investment gains and losses:

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Investment income:			
Interest	\$ 446	\$ 445	\$ 445
Dividends	201	181	170
Other	12	5	4
Total	<u>659</u>	<u>631</u>	<u>619</u>
Less investment expenses	13	12	10
Total	<u>\$ 646</u>	<u>\$ 619</u>	<u>\$ 609</u>
Investment gains and losses, net:			
Equity securities:			
Investment gains and losses on securities sold, net	\$ 26	\$ 9	\$ —
Unrealized gains and losses on securities still held, net	1,626	(404)	—
Gross realized gains	—	—	195
Gross realized losses	—	—	(72)
Other-than-temporary impairments	—	—	(3)
Subtotal	<u>1,652</u>	<u>(395)</u>	<u>120</u>
Fixed maturities:			
Gross realized gains	13	12	25
Gross realized losses	(3)	(2)	—
Other-than-temporary impairments	(9)	(5)	(6)
Subtotal	<u>1</u>	<u>5</u>	<u>19</u>
Other	(3)	(12)	9
Total	<u>\$ 1,650</u>	<u>\$ (402)</u>	<u>\$ 148</u>

For the years ended December 31, 2019, 2018 and 2017, there were no credit losses on fixed-maturity securities for which a portion of OTTI has been recognized in other comprehensive income.

During 2019, we other-than-temporarily impaired three securities. At December 31, 2019, 38 fixed-maturity investments with a total unrealized loss of \$3 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% of amortized cost.

During 2018, we other-than-temporarily impaired one security. At December 31, 2018, 400 fixed-maturity investments with a total unrealized loss of \$58 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% of amortized cost.

During 2017, we other-than-temporarily impaired six securities. At December 31, 2017, 249 fixed-maturity investments with a total unrealized loss of \$18 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% of amortized cost. There were no equity security investments in an unrealized loss position for 12 months or more as of December 31, 2017.

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, 2018, 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, 2019 and 2018. We do not have any liabilities carried at fair value. There were no transfers between Level 1 and Level 2.

(Dollars in millions)

At December 31, 2019	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Fixed maturities, available for sale:				
Corporate	\$ —	\$ 6,401	\$ —	\$ 6,401
States, municipalities and political subdivisions	—	4,728	—	4,728
Commercial mortgage-backed	—	301	—	301
Government-sponsored enterprises	—	136	—	136
United States Government	104	—	—	104
Foreign government	—	28	—	28
Subtotal	<u>104</u>	<u>11,594</u>	<u>—</u>	<u>11,698</u>
Common equities	7,518	—	—	7,518
Nonredeemable preferred equities	—	234	—	234
Separate accounts taxable fixed maturities	—	855	—	855
Top Hat savings plan mutual funds and common equity (included in Other assets)	45	—	—	45
Total	<u>\$ 7,667</u>	<u>\$ 12,683</u>	<u>\$ —</u>	<u>\$ 20,350</u>
At December 31, 2018				
Fixed maturities, available for sale:				
Corporate	\$ —	\$ 5,709	\$ 1	\$ 5,710
States, municipalities and political subdivisions	—	4,300	4	4,304
Commercial mortgage-backed	—	288	—	288
Government-sponsored enterprises	—	310	—	310
United States Government	67	—	—	67
Foreign government	—	10	—	10
Subtotal	<u>67</u>	<u>10,617</u>	<u>5</u>	<u>10,689</u>
Common equities	5,742	—	—	5,742
Nonredeemable preferred equities	—	178	—	178
Separate accounts taxable fixed maturities	—	791	—	791
Top Hat savings plan mutual funds and common equity (included in Other assets)	34	—	—	34
Total	<u>\$ 5,843</u>	<u>\$ 11,586</u>	<u>\$ 5</u>	<u>\$ 17,434</u>

We also held Level 1 cash and cash equivalents of \$767 million and \$784 million at December 31, 2019 and 2018, respectively. Level 3 assets reported at fair value in our consolidated financial statements are not material, and therefore no further disclosures are provided.

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, 2019					
Note payable	\$ —	\$ 39	\$ —	\$ 39	
6.900% senior debentures, due 2028	—	34	—	34	
6.920% senior debentures, due 2028	—	506	—	506	
6.125% senior notes, due 2034	—	512	—	512	
Total	\$ —	\$ 1,091	\$ —	\$ 1,091	
At December 31, 2018					
Note payable	\$ —	\$ 32	\$ —	\$ 32	
6.900% senior debentures, due 2028	—	32	—	32	
6.920% senior debentures, due 2028	—	471	—	471	
6.125% senior notes, due 2034	—	440	—	440	
Total	\$ —	\$ 975	\$ —	\$ 975	

Fair value of the note payable was determined based upon the outstanding balance at December 31, 2019 and 2018, 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, 2019 and 2018. 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, 2019					
Life policy loans	\$ —	\$ —	\$ 44	\$ 44	
At December 31, 2018					
Life policy loans	\$ —	\$ —	\$ 40	\$ 40	

Outstanding principal and interest for these life policy loans totaled \$32 million and \$33 million at December 31, 2019 and 2018, respectively. 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, 2019				
Deferred annuities	\$ —	\$ —	\$ 770	\$ 770
Structured settlements	—	212	—	212
Total	\$ —	\$ 212	\$ 770	\$ 982
At December 31, 2018				
Deferred annuities	\$ —	\$ —	\$ 742	\$ 742
Structured settlements	—	185	—	185
Total	\$ —	\$ 185	\$ 742	\$ 927

Recorded reserves for the deferred annuities were \$760 million and \$787 million at December 31, 2019 and 2018, respectively. Recorded reserves for the structured settlements were \$151 million and \$156 million at December 31, 2019 and 2018, 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, 2019 and 2018, 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, 2019 and 2018, 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, assumptions 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 finance 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 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 resulting in losses incurred related to direct premiums, we calculate IBNR reserves directly as a result of an 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,		
	2019	2018	2017
Gross loss and loss expense reserves, January 1	\$ 5,646	\$ 5,219	\$ 5,035
Less reinsurance recoverable	238	187	298
Net loss and loss expense reserves, January 1	5,408	5,032	4,737
Net loss and loss expense reserves related to acquisition of Cincinnati Global at February 28, 2019	246	—	—
Net incurred loss and loss expenses related to:			
Current accident year	3,600	3,390	3,257
Prior accident years	(248)	(167)	(119)
Total incurred	3,352	3,223	3,138
Net paid loss and loss expenses related to:			
Current accident year	1,462	1,391	1,404
Prior accident years	1,798	1,456	1,439
Total paid	3,260	2,847	2,843
Net loss and loss expense reserves, December 31	5,746	5,408	5,032
Plus reinsurance recoverable	342	238	187
Gross loss and loss expense reserves, December 31	\$ 6,088	\$ 5,646	\$ 5,219

In 2019, 2018 and 2017, the reserve for loss and loss expense in the consolidated balance sheets also included \$59 million, \$61 million and \$54 million, respectively, for certain life and health loss and loss expense reserves. Additional disclosures for reserves related to these health claims are not material and therefore not provided.

During 2019, we experienced \$248 million of favorable development on prior accident years including \$192 million of favorable development in commercial lines, \$27 million of favorable development in personal lines and \$11 million of favorable development in excess and surplus lines. Within commercial lines, we recognized favorable development of \$78 million for the commercial casualty line, \$77 million for the workers' compensation line, \$25 million for the commercial property line and \$6 million for the commercial auto line due to reduced uncertainty of prior accident year loss and loss expense for these lines. Within personal lines, we recognized favorable reserve development of \$26 million in personal auto. We recognized unfavorable reserve development of \$11 million for the homeowner line of business due primarily to higher-than-anticipated loss development on known claims.

During 2018, we experienced \$167 million of favorable development on prior accident years including \$157 million of favorable development in commercial lines, \$13 million of adverse development in personal lines, \$24 million of favorable development in excess and surplus lines and \$1 million of adverse development in our reinsurance assumed operations. We recognized favorable development of \$58 million for the workers' compensation line and \$47 million for both the commercial property line and commercial casualty line due to reduced uncertainty of prior accident year loss and loss expense for these lines.

During 2017, we experienced \$119 million of favorable development on prior accident years including \$73 million of favorable development in commercial lines, \$14 million of favorable development in personal lines, \$29 million of favorable development in excess and surplus lines and \$3 million of favorable development in our reinsurance assumed operations. We recognized favorable development of \$54 million for the workers' compensation line, \$33 million for the commercial property line and \$30 million for the other commercial lines due to reduced uncertainty of prior accident year loss and loss expense for these lines. We recognized unfavorable reserve development of \$33 million for the commercial auto line 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. Commercial casualty developed unfavorably by \$11 million due to paid losses or re-estimates of case reserves at higher than expected levels.

Included in our lines of business are asbestos and environmental claims. We carried \$85 million and \$89 million of net loss and loss expense reserves for asbestos and environmental claims at December 31, 2019 and 2018, respectively. The asbestos and environmental claims amounts for each respective year constituted less than 2.0% 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 no exposure to asbestos and environmental claims with our recent acquisition of Cincinnati Global. We continue to monitor our claims for evidence of material exposure to other mass tort classes but 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, 2019.

(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	\$ 4,910	\$ 2,863	\$ 88	\$ 2,135	\$ 30	\$ 2,165	
Workers' compensation	2,061	1,433	295	923	64	987	
Commercial auto	2,200	1,566	15	649	5	654	
Commercial property	2,739	2,469	13	283	111	394	
Personal auto	1,933	1,659	6	280	33	313	
Homeowner	1,779	1,621	2	160	21	181	
Excess and surplus	658	333	1	326	8	334	
Other lines						771	
Total liabilities for loss and ALAE reserves						5,799	
Unallocated loss adjustment expense reserves						289	
Gross loss and loss expense reserves						\$ 6,088	

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 cumulative number of reported claims. 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 of approximately 95% or higher. The excess and surplus lines began operations in 2008 with earned premiums and loss and ALAE reserves being immaterial prior to 2011. Accordingly, we disclosed nine 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 in subsequent annual filings, 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, 2019		
Incurred losses and ALAE, net of reinsurance for the years ended December 31,											Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Unaudited												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
2010	\$ 495	\$ 394	\$ 378	\$ 349	\$ 347	\$ 348	\$ 349	\$ 343	\$ 341	\$ 336	\$	11	20
2011		466	404	377	377	375	380	366	365	368		11	19
2012			466	414	417	394	394	404	399	397		14	18
2013				448	443	431	416	413	407	391		31	20
2014					503	496	479	476	479	465		34	21
2015						533	526	529	516	508		78	21
2016							563	574	557	555		120	21
2017								610	597	577		160	20
2018									650	641		272	20
2019										672		440	15
Total										\$4,910			
Cumulative paid losses and ALAE, net of reinsurance													
2010	\$ 33	\$ 92	\$ 159	\$ 203	\$ 256	\$ 285	\$ 300	\$ 314	\$ 318	\$ 321			
2011		27	93	149	227	266	298	315	325	337			
2012			27	88	170	232	288	330	346	364			
2013				35	90	159	232	286	312	337			
2014					34	97	172	287	338	390			
2015						38	108	200	287	362			
2016							46	126	228	331			
2017								48	122	234			
2018									44	148			
2019										39			
Total										2,863			
All outstanding liabilities before 2010, net of reinsurance											88		
Liabilities for loss and ALAE, net of reinsurance											\$2,135		

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	7.8%	15.0%	18.2%	18.4%	13.3%	9.1%	4.8%	3.9%	2.2%	0.8%	

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, 2019	
Incurred losses and ALAE, net of reinsurance for the years ended December 31,											Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims
Accident Year	Unaudited											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
2010	\$ 283	\$ 274	\$ 248	\$ 242	\$ 240	\$ 239	\$ 240	\$ 237	\$ 236	\$ 237	\$ 19	26
2011		284	251	246	242	239	236	231	229	228	17	24
2012			265	245	234	220	213	211	209	208	21	21
2013				264	246	221	212	208	205	202	16	20
2014					261	233	214	203	201	198	18	19
2015						246	220	208	195	179	33	17
2016							230	218	206	188	31	16
2017								218	208	190	56	15
2018									222	207	65	15
2019										224	90	13
Total										<u>\$ 2,061</u>		
Cumulative paid losses and ALAE, net of reinsurance												
2010	\$ 67	\$ 134	\$ 164	\$ 181	\$ 192	\$ 198	\$ 202	\$ 204	\$ 207	\$ 209		
2011		65	131	161	177	186	190	192	195	197		
2012			62	121	147	162	171	175	178	180		
2013				61	119	144	157	164	168	170		
2014					56	110	134	148	157	162		
2015						47	93	115	129	134		
2016							46	97	119	131		
2017								45	88	106		
2018									48	95		
2019										49		
Total										<u>1,433</u>		
All outstanding liabilities before 2010, net of reinsurance											<u>295</u>	
Liabilities for loss and ALAE, net of reinsurance											<u>\$ 923</u>	

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	26.4%	26.7%	12.0%	7.0%	3.9%	2.2%	1.3%	1.0%	1.2%	0.8%	

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, 2019	
Incurred losses and ALAE, net of reinsurance for the years ended December 31,						Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims
Accident Year	Unaudited				2019		
	2015	2016	2017	2018			
2015	\$ 374	\$ 384	\$ 394	\$ 401	\$ 400	\$ 3	51
2016		417	430	450	463	7	53
2017			451	441	443	27	51
2018				453	442	72	49
2019					452	133	42
Total					\$ 2,200		
Cumulative paid losses and ALAE, net of reinsurance							
2015	\$ 173	\$ 244	\$ 303	\$ 349	\$ 375		
2016		184	273	350	408		
2017			187	266	334		
2018				184	266		
2019					183		
Total					1,566		
All outstanding liabilities before 2015, net of reinsurance						15	
Liabilities for loss and ALAE, net of reinsurance						\$ 649	

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	41.4%	18.4%	15.5%	12.1%	6.3%	

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, 2019		
Incurred losses and ALAE, net of reinsurance for the years ended December 31,						Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Unaudited				2019			
	2015	2016	2017	2018	2019			
2015	\$ 454	\$ 414	\$ 416	\$ 415	\$ 414	\$ 2	17	
2016		590	551	541	545	4	17	
2017			587	560	556	5	18	
2018				630	603	9	18	
2019					621	22	15	
Total					\$ 2,739			
Cumulative paid losses and ALAE, net of reinsurance								
2015	\$ 279	\$ 388	\$ 407	\$ 411	\$ 411			
2016		358	504	528	539			
2017			395	522	547			
2018				386	559			
2019					413			
Total					2,469			
All outstanding liabilities before 2015, net of reinsurance					13			
Liabilities for loss and ALAE, net of reinsurance					\$ 283			

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	66.9%	26.2%	4.5%	1.5%	0.1%

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, 2019		
Incurred losses and ALAE, net of reinsurance for the years ended December 31,							Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims	
Accident Year	Unaudited				2019				
	2015	2016	2017	2018					
2015	\$ 343	\$ 356	\$ 356	\$ 360	\$ 361	\$ —	108		
2016		383	384	386	384	—	110		
2017			412	394	391	—	109		
2018				424	398	18	111		
2019					399	54	96		
Total					\$ 1,933				
Cumulative paid losses and ALAE, net of reinsurance									
2015	\$ 229	\$ 292	\$ 325	\$ 346	\$ 354				
2016		243	316	351	370				
2017			256	324	358				
2018				262	327				
2019					250				
Total					1,659				
All outstanding liabilities before 2015 net of reinsurance					6				
Liabilities for loss and ALAE, net of reinsurance					\$ 280				

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	64.2%	17.4%	9.1%	5.4%	2.4%

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, 2019		
Accident Year	Unaudited				2019	Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims		
	2015	2016	2017	2018					
Incurred losses and ALAE, net of reinsurance for the years ended December 31,									
2015	\$ 284	\$ 275	\$ 275	\$ 274	\$ 274	\$ —	24		
2016		315	304	303	302	—	23		
2017			356	383	385	1	26		
2018				370	386	6	23		
2019					432	39	20		
Total					\$ 1,779				
Cumulative paid losses and ALAE, net of reinsurance									
2015	\$ 203	\$ 260	\$ 269	\$ 272	\$ 273				
2016		208	283	295	299				
2017			277	356	378				
2018				268	368				
2019					303				
Total					1,621				
All outstanding liabilities before 2015, net of reinsurance						2			
Liabilities for loss and ALAE, net of reinsurance					\$	160			

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	70.9%	23.0%	4.4%	1.2%	0.3%	

Excess and Surplus Lines

The following table shows the excess and surplus lines 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, 2019	
Incurred losses and ALAE, net of reinsurance for the years ended December 31,										Total of incurred but not reported liabilities plus expected development on reported losses	Cumulative number of reported claims
Accident Year	Unaudited										
	2011	2012	2013	2014	2015	2016	2017	2018	2019		
2011	\$ 48	\$ 47	\$ 44	\$ 38	\$ 36	\$ 35	\$ 35	\$ 34	\$ 34	\$ —	1
2012		67	56	49	40	37	36	35	36	1	1
2013			74	64	54	45	42	41	41	1	2
2014				95	82	75	64	60	59	6	2
2015					96	81	73	67	65	8	2
2016						93	87	84	82	14	3
2017							104	95	95	26	3
2018								116	109	44	3
2019									137	83	2
Total									\$ 658		
Cumulative paid losses and ALAE, net of reinsurance											
2011	\$ 8	\$ 14	\$ 23	\$ 27	\$ 30	\$ 32	\$ 34	\$ 33	\$ 33		
2012		9	15	19	25	29	31	32	33		
2013			7	12	20	27	32	34	37		
2014				9	17	27	37	43	48		
2015					8	19	29	41	51		
2016						10	21	39	51		
2017							11	23	41		
2018								11	26		
2019									13		
Total									333		
All outstanding liabilities before 2011, net of reinsurance										1	
Liabilities for loss and ALAE, net of reinsurance										\$ 326	

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	7	8	9	
Average annual percentage payout	15.3%	14.4%	19.1%	15.5%	11.6%	7.2%	3.3%	1.3%	0.8%	

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 and future 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,	
	2019	2018
Life policy reserves:		
Ordinary/traditional life	\$ 1,226	\$ 1,149
Other	50	48
Subtotal	<u>1,276</u>	<u>1,197</u>
Investment contract reserves:		
Deferred annuities	760	787
Universal life	640	632
Structured settlements	151	156
Other	8	7
Subtotal	<u>1,559</u>	<u>1,582</u>
Total life policy and investment contract reserves	<u>\$ 2,835</u>	<u>\$ 2,779</u>

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,		
	2019	2018	2017
Property casualty:			
Deferred policy acquisition costs asset, January 1	\$ 464	\$ 438	\$ 408
Capitalized deferred policy acquisition costs	1,034	933	897
Amortized deferred policy acquisition costs	(986)	(907)	(867)
Deferred policy acquisition costs asset, December 31	<u>\$ 512</u>	<u>\$ 464</u>	<u>\$ 438</u>
Life:			
Deferred policy acquisition costs asset, January 1	\$ 274	\$ 232	\$ 229
Capitalized deferred policy acquisition costs	61	60	51
Amortized deferred policy acquisition costs	(48)	(39)	(46)
Shadow deferred policy acquisition costs	(25)	21	(2)
Deferred policy acquisition costs asset, December 31	<u>\$ 262</u>	<u>\$ 274</u>	<u>\$ 232</u>
Consolidated:			
Deferred policy acquisition costs asset, January 1	\$ 738	\$ 670	\$ 637
Capitalized deferred policy acquisition costs	1,095	993	948
Amortized deferred policy acquisition costs	(1,034)	(946)	(913)
Shadow deferred policy acquisition costs	(25)	21	(2)
Deferred policy acquisition costs asset, December 31	<u>\$ 774</u>	<u>\$ 738</u>	<u>\$ 670</u>

No premium deficiencies were recorded in the consolidated statements of income in 2019, 2018 and 2017, 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 through multiple commercial banks that was due to expire May 13, 2019. Effective February 4, 2019, we extended our unsecured revolving credit facility for five years, amending the expiration to February 4, 2024, with the option of two one-year extensions. The borrowing capacity was increased to \$300 million from \$225 million with an additional \$300 million accordion feature. Terms and conditions are similar to the former agreement except the net worth covenant has been eliminated and the debt-to-total capital maximum shall not exceed 35%. On December 6, 2019, we exercised our option to extend the term of the line of credit one year to February 4, 2025. We had no compensating balance requirements on short-term debt for either 2019 or 2018. At December 31, 2019 and 2018, \$39 million and \$32 million was drawn on the line of credit, respectively. The interest rate charged on our borrowings on this credit agreement ranged from 2.59% to 3.41% during 2019 and ranged from 2.45% to 4.75% during 2018. In addition, we have letters of credit related to our Cincinnati Re and Cincinnati Global operations with no amounts drawn at December 31, 2019 and 2018.

NOTE 8 – Long-Term Debt and Lease Obligations

This table summarizes the principal amounts of our long-term debt excluding unamortized discounts, none of which are encumbered by rating triggres:

(Dollars in millions)			Book value		Principal amount	
Interest rate	Year of issue		At December 31,		At December 31,	
			2019	2018	2019	2018
6.900%	1998	Senior debentures, due 2028	\$ 27	\$ 27	\$ 28	\$ 28
6.920%	2005	Senior debentures, due 2028	391	391	391	391
6.125%	2004	Senior notes, due 2034	370	370	374	374
		Total	<u>\$ 788</u>	<u>\$ 788</u>	<u>\$ 793</u>	<u>\$ 793</u>

The finance lease term for equipment and autos is 3 to 6 years while the operating lease term for real estate properties is typically 5 years. Lease obligations totaled \$57 million and \$46 million in 2019 and 2018, respectively. Included in the consolidated balance sheet lease obligations is a net \$1 million for interest and remaining lease residual values for finance leases we expect to pay. Below are the expected lease obligations we expect to pay through years 2025 and thereafter:

(Dollars in millions)	Years ended December 31,					
	2020	2021	2022	2023	2024	2025 and thereafter
Finance lease obligations	\$ 14	\$ 10	\$ 8	\$ 6	\$ 3	\$ 1
Operating lease obligations	5	2	2	2	1	3
Total lease obligations	<u>\$ 19</u>	<u>\$ 12</u>	<u>\$ 10</u>	<u>\$ 8</u>	<u>\$ 4</u>	<u>\$ 4</u>

The following table provides lease cost and other information for the year ended December 31, 2019:

(Dollars in millions)	2019
Lease cost:	
Finance lease cost	\$ 9
Operating lease cost	4
Total lease cost	<u>\$ 13</u>
Other information finance leases:	
Finance cash outflows	\$ 15
Weighted average discount rate	2.96%
Weighted average remaining lease term in years	3.65
Other information operating leases:	
Operating cash outflows	\$ 8
Weighted average discount rate	3.69%
Weighted average remaining lease term in years	4.71

NOTE 9 – Shareholders’ Equity and Dividend Restrictions

Declared cash dividends per share were \$2.24, \$2.12 and \$2.50 for the years ended December 31, 2019, 2018 and 2017, respectively.

Our lead insurance subsidiary, The Cincinnati Insurance Company, paid dividends to the parent company of \$625 million in 2019, \$500 million in 2018 and \$465 million in 2017. State regulatory requirements restrict the dividends insurance subsidiaries can pay. Generally, the most our lead insurance subsidiary can pay without prior regulatory approval is the greater of 10% of statutory capital and surplus or 100% 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 2020, the total that our lead insurance subsidiary may pay in dividends is approximately \$562 million.

Dividend payments from Cincinnati Global to the parent company are subject to regulation by UK law. Cincinnati Global paid no dividends to the parent company in 2019.

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)	2019			2018			2017		
	Before tax	Income tax	Net	Before tax	Income tax	Net	Before tax	Income tax	Net
Investments:									
AOCI, January 1	\$ 46	\$ 9	\$ 37	\$3,540	\$ 733	\$ 2,807	\$2,625	\$ 908	\$ 1,717
Cumulative effect of change in accounting for equity securities as of January 1, 2018	—	—	—	(3,155)	(652)	(2,503)	—	—	—
Adjusted AOCI, beginning of period	46	9	37	385	81	304	2,625	908	1,717
OCI before investment gains and losses, net, recognized in net income	545	115	430	(334)	(71)	(263)	1,054	366	688
Investment gains and losses, net, recognized in net income	(1)	(1)	—	(5)	(1)	(4)	(139)	(49)	(90)
OCI	544	114	430	(339)	(72)	(267)	915	317	598
Adjustment to reclassify certain tax effects from AOCI	—	—	—	—	—	—	—	(492)	492
AOCI, December 31	\$ 590	\$ 123	\$ 467	\$ 46	\$ 9	\$ 37	\$3,540	\$ 733	\$ 2,807
Pension obligations:									
AOCI, January 1	\$ (16)	\$ (2)	\$ (14)	\$ (12)	\$ (1)	\$ (11)	\$ (26)	\$ (8)	\$ (18)
OCI excluding amortization recognized in net income	6	2	4	(5)	(1)	(4)	12	6	6
Amortization recognized in net income	1	—	1	1	—	1	2	1	1
OCI	7	2	5	(4)	(1)	(3)	14	7	7
AOCI, December 31	\$ (9)	\$ —	\$ (9)	\$ (16)	\$ (2)	\$ (14)	\$ (12)	\$ (1)	\$ (11)
Life deferred acquisition costs, life policy reserves and other:									
AOCI, January 1	\$ (1)	\$ —	\$ (1)	\$ (10)	\$ (2)	\$ (8)	\$ (9)	\$ (3)	\$ (6)
OCI before investment gains and losses, net, recognized in net income	(15)	(3)	(12)	(3)	(1)	(2)	8	5	3
Investment gains and losses, net, recognized in net income	3	—	3	12	3	9	(9)	(4)	(5)
OCI	(12)	(3)	(9)	9	2	7	(1)	1	(2)
AOCI, December 31	\$ (13)	\$ (3)	\$ (10)	\$ (1)	\$ —	\$ (1)	\$ (10)	\$ (2)	\$ (8)
Summary of AOCI:									
AOCI, January 1	\$ 29	\$ 7	\$ 22	\$3,518	\$ 730	\$ 2,788	\$2,590	\$ 897	\$ 1,693
Cumulative effect of change in accounting for equity securities as of January 1, 2018	—	—	—	(3,155)	(652)	(2,503)	—	—	—
Adjusted AOCI, beginning of period	29	7	22	363	78	285	2,590	897	1,693
Investments OCI	544	114	430	(339)	(72)	(267)	915	317	598
Pension obligations OCI	7	2	5	(4)	(1)	(3)	14	7	7
Life deferred acquisition costs, life policy reserves and other OCI	(12)	(3)	(9)	9	2	7	(1)	1	(2)
Total OCI	539	113	426	(334)	(71)	(263)	928	325	603
Adjustment to reclassify certain tax effects from AOCI	—	—	—	—	—	—	—	(492)	492
AOCI, December 31	\$ 568	\$ 120	\$ 448	\$ 29	\$ 7	\$ 22	\$3,518	\$ 730	\$ 2,788

Investments gains and losses, net, and life deferred acquisition costs, life policy reserves and other investment gains and losses, net, are recorded in the investment gains and losses, 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 line items 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 summarizes our consolidated property casualty insurance net written premiums, earned premiums and incurred loss and loss expenses:

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Direct written premiums	\$ 5,477	\$ 5,018	\$ 4,854
Assumed written premiums	244	173	125
Ceded written premiums	(205)	(161)	(139)
Net written premiums	<u>\$ 5,516</u>	<u>\$ 5,030</u>	<u>\$ 4,840</u>
Direct earned premiums	\$ 5,340	\$ 4,931	\$ 4,752
Assumed earned premiums	199	149	132
Ceded earned premiums	(205)	(160)	(162)
Earned premiums	<u>\$ 5,334</u>	<u>\$ 4,920</u>	<u>\$ 4,722</u>
Direct incurred loss and loss expenses	\$ 3,402	\$ 3,188	\$ 2,961
Assumed incurred loss and loss expenses	117	125	113
Ceded incurred loss and loss expenses	(167)	(90)	64
Incurred loss and loss expenses	<u>\$ 3,352</u>	<u>\$ 3,223</u>	<u>\$ 3,138</u>

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.

The table below summarizes our consolidated life insurance earned premiums and contract holders' benefits incurred:

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Direct earned premiums	\$ 341	\$ 320	\$ 300
Ceded earned premiums	(71)	(70)	(68)
Earned premiums	<u>\$ 270</u>	<u>\$ 250</u>	<u>\$ 232</u>
Direct contract holders' benefits incurred	\$ 359	\$ 328	\$ 319
Ceded contract holders' benefits incurred	(73)	(61)	(67)
Contract holders' benefits incurred	<u>\$ 286</u>	<u>\$ 267</u>	<u>\$ 252</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,	
	2019	2018
Deferred tax assets:		
Loss and loss expense reserves	\$ 66	\$ 60
Unearned premiums	113	105
Deferred international earnings	51	—
Other	39	33
Deferred tax assets before valuation allowance	269	198
Valuation allowance for international operations	41	—
Deferred tax assets net of valuation allowance	228	198
Deferred tax liabilities:		
Investment gains and other, net	995	542
Deferred acquisition costs	139	131
Life policy reserves	120	117
Investments	23	18
Other	30	17
Total gross deferred tax liabilities	1,307	825
Net deferred income tax liability	\$ 1,079	\$ 627

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 on our U.S. domestic operations will be realized. As a result, we have no valuation allowance as of December 31, 2019 and 2018 for our U.S. domestic operations. As more fully discussed below, we do carry a valuation allowance on the deferred tax assets related to Cincinnati Global, which we acquired in 2019.

For financial reporting purposes, income before income taxes includes the following components:

(Dollars in millions)	For the years ended December 31,		
	2019	2018	2017
United States	\$ 2,440	\$ 251	\$ 730
International	32	—	—
Total income before income taxes	\$ 2,472	\$ 251	\$ 730

The provision (benefit) for income taxes consists of:

(Dollars in millions)	For the years ended December 31,		
	2019	2018	2017
Provision (benefit) for income taxes:			
Current – United States federal	\$ 137	\$ 11	\$ 129
International	(5)	—	—
Total current	132	11	129
Deferred – United States federal	338	(47)	(444)
International	5	—	—
Total deferred	343	(47)	(444)
Total provision (benefit) for income taxes	\$ 475	\$ (36)	\$ (315)

The differences between the 21% and 35% statutory federal income tax rate and our effective income tax rate were as follows:

(Dollars in millions)	Years ended December 31,					
	2019		2018		2017	
Tax at statutory rate:	\$ 519	21.0%	\$ 53	21.0%	\$ 256	35.0%
Increase (decrease) resulting from:						
Tax-exempt income from municipal bonds	(19)	(0.8)	(20)	(8.0)	(36)	(4.9)
Dividend received exclusion	(16)	(0.6)	(15)	(6.0)	(34)	(4.7)
Tax accounting method changes	—	—	(50)	(19.9)	—	—
Deferred tax benefit due to tax rate change	—	—	—	—	(495)	(67.8)
Other	(9)	(0.4)	(4)	(1.4)	(6)	(0.8)
Provision (benefit) for income taxes	\$ 475	19.2%	\$ (36)	(14.3)%	\$ (315)	(43.2)%

In 2018, we received approval from the IRS to change our method of tax accounting for certain items applicable for the 2017 tax year and tax return, primarily related to the valuation of our tax basis unpaid losses. Accounting guidance does not allow recognition of the impact of certain tax accounting method changes until approved by the IRS. As a result, we recognized a \$50 million income tax benefit in 2018 for the difference between the current 21% tax rate and the 2017 tax rate of 35% for the related items. This reduced our effective tax rate by 19.9% for the year ended December 31, 2018.

On December 22, 2017, the Tax Cuts and Jobs Act (Tax Act) was enacted and represented one of the most comprehensive changes in U.S. corporate income taxation since 1986. The Tax Act revised the U.S. corporate income tax by lowering the corporate income tax rate from a top marginal rate of 35% to a flat rate of 21%. In addition to lowering tax rates, changes were made to the amount of the dividends received deduction and the required proration addback for qualified dividend income and tax exempt municipal interest. The Tax Act was effective January 1, 2018. The reduction in corporate income tax rate decreased our net deferred tax liability as of December 22, 2017, by \$495 million. The effect of the rate change was recorded as a one-time noncash benefit to income tax expense in our consolidated statements of income for the year ended December 31, 2017. This benefit results from re-measuring our net deferred tax liability at the newly enacted corporate income tax rate of 21% (the rate at which the deferred items are expected to be reversed) versus the 35% rate at which the net deferred tax benefits were previously carried. Of this \$495 million benefit, \$492 million relates to net unrealized gains on investments and other AOCI amounts. The remainder relates to differences in the recognition of deferred acquisition costs, unearned premiums, insurance reserves and basis differences in the carrying value of investments held.

The provision for federal income taxes is based upon the filing of a consolidated income tax return for the company and its domestic subsidiaries within the United States. As of December 31, 2019, 2018 and 2017, we have no operating loss carryforwards in the United States. The life group operating loss carryforward from our 2017 tax year was fully utilized in our 2018 tax year resulting in a tax benefit of less than one million. For the years ended December 31, 2019, 2018 and 2017, we have no capital loss carryforwards in the United States. As more fully discussed below, Cincinnati Global which we acquired in 2019, has operating loss carryforwards in the United Kingdom.

Unrecognized Tax Benefits

As of December 31, 2019 and 2018, we had a gross unrecognized tax benefit of \$34 million. We carried no amounts for unrecognized tax benefits for the year ended December 31, 2017. The following is a tabular reconciliation of the total amounts of unrecognized tax benefits.

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Gross unrecognized tax benefits at January 1	\$ 34	\$ —	\$ —
Gross increase in prior year positions	—	—	—
Gross decrease in prior year positions	—	—	—
Gross increase in current year positions	—	34	—
Settlements with tax authorities	—	—	—
Lapse of statute of limitations	—	—	—
Gross unrecognized tax benefits at December 31	<u>\$ 34</u>	<u>\$ 34</u>	<u>\$ —</u>

The unrecognized tax benefit liability is carried in other liabilities in the consolidated balance sheets. Included in the unrecognized tax benefit liability as of December 31, 2019 is \$34 million, if recognized, would affect the effective tax rate. Although no interest and penalties currently are accrued, if incurred, they would be recognized as a component of income tax expense. We do not expect any changes to our unrecognized tax benefit liability in the next twelve months.

The statute of limitations for federal tax purposes has closed for tax years ended December 31, 2015 and earlier. In 2019, the IRS began its examination of the tax year ended December 31, 2017. At this time, no adjustments have been proposed. 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 ended December 31, 2015 and earlier.

Cincinnati Global operates in the United Kingdom and as such, is subject to tax in that jurisdiction. The statute of limitation for tax return review by Her Majesty's Revenue and Customs (HMRC) has closed for tax years ended December 31, 2017 and earlier. There are currently no tax returns under review by HMRC.

Income taxes paid in our consolidated statements of cash flows are shown net of refunds received. We received refunds of \$94 million in 2019, none in 2018 and \$18 million in 2017.

Acquisition of Cincinnati Global

As more fully discussed in Note 1, Accounting Policies and Note 20, Acquisition, we closed on the acquisition of Cincinnati Global during the first quarter of 2019. As a result of this acquisition, \$59 million of net deferred tax assets were acquired or established at the acquisition date with an offsetting valuation allowance of \$55 million.

As of December 31, 2019, Cincinnati Global had \$41 million of net deferred tax assets with an offsetting valuation allowance of \$41 million.

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 related to the Cincinnati Global operations, we believe it was appropriate to set up a valuation allowance for purposes of our opening Cincinnati Global balance sheet and is appropriate to carry a valuation allowance as of December 31, 2019.

The following is a tabular reconciliation of the total amounts of our Cincinnati Global valuation allowance.

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Valuation allowance at January 1	\$ —	\$ —	\$ —
Acquisition accounting amount	55	—	—
Current year operations	(14)	—	—
Valuation allowance at December 31	<u>\$ 41</u>	<u>\$ —</u>	<u>\$ —</u>

As of December 31, 2019, Cincinnati Global had operating loss carryforwards of \$147 million in the United Kingdom. These Cincinnati Global losses can only be utilized within the Cincinnati Global group in the United Kingdom and cannot offset the income of our CFC group domestic operations in the United States.

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,		
	2019	2018	2017
Numerator:			
Net income—basic and diluted	\$ 1,997	\$ 287	\$ 1,045
Denominator:			
Basic weighted-average common shares outstanding	163.2	163.2	164.2
Effect of share-based awards:			
Stock options	1.2	0.8	1.1
Nonvested shares	0.7	0.5	0.7
Diluted weighted-average shares	165.1	164.5	166.0
Earnings per share:			
Basic	\$ 12.24	\$ 1.76	\$ 6.36
Diluted	12.10	1.75	6.29
Number of anti-dilutive share-based awards	—	1.3	0.7

The 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 2019, 2018 and 2017. 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) for eligible associates with matching company contributions totaling \$19 million, \$18 million and \$16 million during the years 2019, 2018 and 2017, respectively. Associates who are not accruing benefits under the pension plan are eligible to receive the company match of up to 6% of cash compensation. 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 \$11 million at year-end 2019 and \$10 million at year-end 2018, 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 \$45 million and \$34 million at December 31, 2019 and 2018, respectively. Company matching contributions to the CFC Top Hat Savings Plan totaled approximately \$1 million for the years 2019, 2018 and 2017, 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	
	2019	2018	2019	2018
Discount rate	3.40%	4.34%	3.33%	4.25%
Rate of compensation increase	2.25-3.25	2.25-3.25	2.25-3.25	2.25-3.25

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 0.94 percentage points for the qualified pension plan and by 0.92 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 is updated annually to reflect the updated scale, but at year-end 2019 the base table was also changed to reflect the Pri-2012 tables released in 2019. The RP-2014 table projected generationally with Scale MP-2018 and Scale MP-2017 were used for the years 2018 and 2017, 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		
	2019	2018	2017	2019	2018	2017
Discount rate	4.34%	3.73%	4.30%	4.25%	3.61%	4.10%
Expected return on plan assets	7.00	7.25	7.25	n/a	n/a	n/a
Rate of compensation increase	2.25-3.25	2.75-3.25	2.75-3.25	2.25-3.25	2.75-3.25	2.75-3.25

The discount rate was increased by 0.61 percentage points for the qualified pension plan and 0.64 percentage points for the SERP due to market interest rate conditions at the beginning of 2019. 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 2019 expectations of interest rates and based partially on the fact that the plan's common stock holdings pay dividends. We review historical actual return on plan assets when determining our expected long-term rate of return. Total portfolio return for 2019 was 24.5% and for 2018 was negative 1.7%. Our compensation increase assumptions in 2019 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,	
	2019	2018
Change in projected benefit obligation:		
Benefit obligation, January 1	\$ 318	\$ 351
Service cost	8	11
Interest cost	13	13
Actuarial loss (gain)	45	(19)
Benefits paid	(34)	(38)
Projected benefit obligation, December 31	<u>\$ 350</u>	<u>\$ 318</u>
Change in plan assets:		
Fair value of plan assets, January 1	\$ 318	\$ 345
Actual return on plan assets	70	(4)
Employer contribution	—	15
Benefits paid	(34)	(38)
Fair value of plan assets, December 31	<u>\$ 354</u>	<u>\$ 318</u>
Funded status, December 31	<u>\$ 4</u>	<u>\$ —</u>
Accumulated benefit obligation	<u>\$ 327</u>	<u>\$ 297</u>

Our funded status improved for 2019 primarily due to higher returns on plan assets partially offset by actuarial losses from decreases in discount rates and assumed 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,	
	2019	2018
Pension amounts recognized in the consolidated balance sheets:		
Other assets	\$ 4	\$ —
Total	\$ 4	\$ —
Pension amounts recognized in accumulated other comprehensive income:		
Net actuarial loss	\$ 9	\$ 16
Total	\$ 9	\$ 16

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,		
	2019	2018	2017
Net periodic benefit cost:			
Service cost	\$ 8	\$ 11	\$ 11
Non-service costs (benefit):			
Interest cost	13	13	14
Expected return on plan assets	(20)	(22)	(21)
Amortization of actuarial loss and prior service cost	1	1	2
Other	1	2	1
Net periodic benefit cost	\$ 3	\$ 5	\$ 7
Other changes in plan assets and benefit obligations recognized in other comprehensive income:			
Current year actuarial (gain) loss	\$ (5)	\$ 7	\$ (11)
Amortization of actuarial loss	(2)	(3)	(3)
Total recognized in other comprehensive (income) loss	\$ (7)	\$ 4	\$ (14)
Total recognized in net periodic benefit cost and other comprehensive (income) loss	\$ (4)	\$ 9	\$ (7)

The 2019 amount recognized in net periodic benefit cost and other comprehensive income improved from 2018 largely due to changes in the actuarial gain resulting from increases in discount and assumed lump sum rates. The estimated costs to be amortized from AOCI into net periodic benefit cost over the next year for our plans are \$3 million in actuarial loss and less than \$1 million in prior service cost.

Service costs and non-service costs (benefit) are allocated in the same proportion primarily to underwriting, acquisition and insurance expenses line item with the remainder allocated to the insurance losses and contract holders' benefits line item on the consolidated statements of income for 2019, 2018 and 2017.

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 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 2019 we held approximately 77% of our pension portfolio in domestic common equity investments. The remainder of the portfolio consisted of 8% in states, municipalities and taxable political subdivisions fixed-maturity investments, 8% in domestic corporate fixed-maturity investments and 7% in United States government fixed maturity investments. Our common equity portfolio consisted of 23% in the financial sector, 21% in the information technology sector, 13% in the healthcare sector, 13% in the industrial sector, and 11% in the consumer discretionary industrial sector at year-end 2019. No additional sectors accounted for 10% or more of our common equity portfolio balance at year-end 2019.

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, 2019 and 2018. There have been no transfers between Level 1 and Level 2 for the years ended December 31, 2019 and 2018. The following table shows the fair value hierarchy for those assets measured at fair value on a recurring basis at December 31, 2019 and 2018. Excluded from the table below is cash on hand of \$17 million and \$32 million at December 31, 2019 and 2018, 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, 2019				
Fixed maturities, available for sale:				
States, municipalities and political subdivisions	\$ —	\$ 25	\$ —	\$ 25
Corporate	—	27	—	27
United States Government	25	—	—	25
Total fixed maturities, available for sale	25	52	—	77
Common equities	260	—	—	260
Total	\$ 285	\$ 52	\$ —	\$ 337
At December 31, 2018				
Fixed maturities, available for sale:				
States, municipalities and political subdivisions	\$ —	\$ 29	\$ —	\$ 29
Corporate	—	37	—	37
United States Government	5	—	—	5
Total fixed maturities, available for sale	5	66	—	71
Common equities	215	—	—	215
Total	\$ 220	\$ 66	\$ —	\$ 286

Our pension plan assets included 232,113 shares of the company's common stock at both December 31, 2019 and 2018, which had a fair value of \$24 million and \$18 million at December 31, 2019 and 2018, respectively. The defined benefit pension plan did not purchase or sell any shares of our common stock during 2019 and 2018. The company paid less than \$1 million in 2019 and 2018 in cash dividends on our common stock to the pension plan.

We estimate \$9 million of benefit payments from the SERP during 2020. 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,					
	2020	2021	2022	2023	2024	2025 - 2029
Expected future benefit payments	\$ 31	\$ 26	\$ 25	\$ 26	\$ 28	\$ 147

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 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 and capital and surplus are determined in accordance with SAP prescribed or permitted by insurance regulatory authorities for five legal entities, our lead 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 and statutory capital and surplus are presented below:

(Dollars in millions)	Net income			Capital and surplus	
	Years ended December 31,			At December 31,	
	2019	2018	2017	2019	2018
The Cincinnati Insurance Company	\$ 558	\$ 626	\$ 401	\$ 5,620	\$ 4,919
The Cincinnati Casualty Company	13	16	21	437	398
The Cincinnati Indemnity Company	3	5	4	111	102
The Cincinnati Specialty Underwriters Insurance Company	62	69	58	526	479
The Cincinnati Life Insurance Company	19	—	12	204	191

NOTE 15 – Transactions With Affiliated Parties

We paid certain officers and directors, or insurance agencies of which they are shareholders, commissions of \$8 million in 2019, \$7 million in 2018 and \$7 million in 2017, on premium volume of \$48 million, \$45 million and \$45 million for 2019, 2018 and 2017, 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 2019 and 2018.

Share-based compensation cost after tax was \$24 million, \$23 million and \$17 million for the years ended December 31, 2019, 2018 and 2017, respectively. The related income tax benefit recognized was \$6 million, \$5 million, and \$9 million for the years ended December 31, 2019, 2018 and 2017, respectively. Options exercised during the years ended December 31, 2019, 2018 and 2017, had intrinsic value of \$26 million, \$15 million and \$19 million, respectively. Intrinsic value is the market price less the exercise price. Options vested during the years ended December 31, 2019, 2018 and 2017, had total intrinsic value of \$23 million, \$6 million and \$8 million, respectively.

As of December 31, 2019, we had \$34 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:

	2019	2018	2017
Weighted-average expected term	7-8 years	7-8 years	8 years
Expected volatility	14.49-15.39%	15.04-15.10%	16.95%
Dividend yield	2.61%	2.98%	2.83%
Risk-free rates	2.62-2.64%	2.77-2.83%	2.33%
Weighted-average fair value of options granted during the period	\$11.73	\$9.87	\$10.79

Below is a summary of option information for the year 2019:

(Dollars in millions, except exercise price. Shares in thousands)

	Shares	Weighted-average exercise price	Aggregate intrinsic value	Weighted-average remaining contractual life
Outstanding option shares at January 1, 2019	3,274	\$ 56.08		
Granted	704	85.67		
Exercised	(493)	42.57		
Forfeited or expired	(48)	63.46		
Outstanding option shares at December 31, 2019	<u>3,437</u>	63.99	\$ 141	6.13 years
Options exercisable at end of period	2,139	\$ 55.25	\$ 107	4.71 years

Cash received from the exercise of options was \$11 million, \$9 million and \$13 million for the years ended December 31, 2019, 2018 and 2017, respectively. We acquired 103,237, 69,649 and 96,030 shares totaling \$9 million, \$5 million and \$7 million, respectively, from associates in consideration for option exercises during 2019, 2018 and 2017. The weighted-average remaining contractual life for options expected to vest as of December 31, 2019, was 8.48 years.

Under all active shareholder approved plans, a total of 17.3 million shares were authorized to be granted. At December 31, 2019, 8.2 million shares remained available for future issuance under the plans. During 2019, we granted 15,102 shares of common stock to our directors for 2018 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. We also grant 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 \$25 million, \$24 million and \$23 million for the years ended December 31, 2019, 2018 and 2017, 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% for awards granted in 2019, 2018 and 2017. 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, 2019, our total shareholder return exceeded five of our nine peers. We expect payout of these shares at the target level to occur in March of 2020. During 2019, we issued 20,549 shares of performance-based restricted stock units at the threshold-level performance hurdle for the three-year performance period ended December 31, 2018, as our total shareholder return exceeded four of nine peers in our 2016 peer group. We issued 80,666 shares of performance-based restricted stock units during 2018 at the target-level performance hurdle for the three-year performance period ended December 31, 2017, as our total shareholder return exceeded five of nine peers in our 2015 peer group. Performance-based awards vested during the year had an intrinsic value of \$2 million, \$6 million and \$7 million for the years ended December 31, 2019, 2018 and 2017, 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 with the period commensurate with the performance measurement period.
- Dividend yield has been modeled assuming dividends are reinvested in additional shares of the issuing entity on the ex-dividend date 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:

	2019	2018	2017
Expected term	2.86 years	2.89 years	2.89 years
Expected volatility	15.10-25.00%	16.01-26.32%	15.75-28.35%
Dividend yield	2.61%	2.81%	2.83%
Risk-free rates	2.48%	2.22%	1.44%

Below is a summary of service-based and performance-based share information, assuming a target payout for performance-based shares, for the year 2019:

(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, 2019	813	\$ 62.31	182	\$ 59.83
Granted	288	79.57	52	87.97
Vested	(293)	57.40	(21)	70.68
Forfeited or canceled	(25)	69.43	(48)	70.68
Nonvested at December 31, 2019	<u>783</u>	<u>70.27</u>	<u>165</u>	<u>64.23</u>

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. We also report as Other the underwriting results of Cincinnati Re, our reinsurance assumed operation, and Cincinnati Global, our London-based global specialty underwriter, which was acquired on February 28, 2019.

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 investment gains and losses.
- Other revenues are primarily finance income and earned premiums of Cincinnati Re and Cincinnati Global.

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 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 premiums earned minus loss and loss expenses and underwriting expenses of Cincinnati Re and Cincinnati Global.

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,		
	2019	2018	2017
Revenues:			
Commercial lines insurance			
Commercial casualty	\$ 1,102	\$ 1,075	\$ 1,072
Commercial property	958	920	903
Commercial auto	707	664	634
Workers' compensation	300	324	335
Other commercial	252	235	221
Commercial lines insurance premiums	<u>3,319</u>	<u>3,218</u>	<u>3,165</u>
Fee revenues	<u>5</u>	<u>5</u>	<u>5</u>
Total commercial lines insurance	<u>3,324</u>	<u>3,223</u>	<u>3,170</u>
Personal lines insurance			
Personal auto	621	614	582
Homeowner	607	563	518
Other personal	176	159	141
Personal lines insurance premiums	<u>1,404</u>	<u>1,336</u>	<u>1,241</u>
Fee revenues	<u>4</u>	<u>5</u>	<u>5</u>
Total personal lines insurance	<u>1,408</u>	<u>1,341</u>	<u>1,246</u>
Excess and surplus lines insurance			
Excess and surplus lines insurance	278	234	209
Fee revenues	<u>2</u>	<u>1</u>	<u>1</u>
Total excess and surplus lines insurance	<u>280</u>	<u>235</u>	<u>210</u>
Life insurance premiums			
Life insurance premiums	270	250	232
Fee revenues	<u>4</u>	<u>4</u>	<u>5</u>
Total life insurance	<u>274</u>	<u>254</u>	<u>237</u>
Investments			
Investment income, net of expenses	646	619	609
Investment gains and losses, net	<u>1,650</u>	<u>(402)</u>	<u>148</u>
Total investment revenue	<u>2,296</u>	<u>217</u>	<u>757</u>
Other			
Premiums	333	132	107
Other	<u>9</u>	<u>5</u>	<u>5</u>
Total other revenue	<u>342</u>	<u>137</u>	<u>112</u>
Total revenues	<u>\$ 7,924</u>	<u>\$ 5,407</u>	<u>\$ 5,732</u>
Income (loss) before income taxes:			
Insurance underwriting results			
Commercial lines insurance	\$ 241	\$ 151	\$ 119
Personal lines insurance	8	(20)	(32)
Excess and surplus lines insurance	53	63	61
Life insurance	1	8	(1)
Investments	<u>2,197</u>	<u>121</u>	<u>664</u>
Other	<u>(28)</u>	<u>(72)</u>	<u>(81)</u>
Total income before income taxes	<u>\$ 2,472</u>	<u>\$ 251</u>	<u>\$ 730</u>
Identifiable assets:			
Property casualty insurance	\$ 3,437	\$ 3,285	
Life insurance	1,516	1,424	
Investments	19,583	16,741	
Other	872	485	
Total	<u>\$ 25,408</u>	<u>\$ 21,935</u>	

NOTE 19 – Quarterly Supplementary Data

This table includes unaudited quarterly financial information for the years ended December 31, 2019 and 2018:

	Quarter					
	1st	2nd	3rd	4th	Full year	
2019						
Revenues	\$ 2,159	\$ 1,913	\$ 1,700	\$ 2,152	\$ 7,924	
Income before income taxes	867	530	294	781	2,472	
Net income	695	428	248	626	1,997	
Net income per common share—basic	4.27	2.62	1.51	3.84	12.24	
Net income per common share—diluted	4.22	2.59	1.49	3.79	12.10	
2018						
Revenues	\$ 1,224	\$ 1,558	\$ 1,915	\$ 710	\$ 5,407	
(Loss) income before income taxes	(50)	264	618	(581)	251	
Net (loss) income	(31)	217	553	(452)	287	
Net (loss) income per common share—basic	(0.19)	1.33	3.40	(2.78)	1.76	
Net (loss) income per common share—diluted	(0.19)	1.32	3.38	(2.78)	1.75	

The sum of the quarterly reported per share amounts may not equal the full year as each is computed independently. Revenues including 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.

NOTE 20 – Acquisition

On February 28, 2019 (closing date or acquisition date), pursuant to the agreement (the SPA) for the sale and purchase of the entire issued share capital of MSP Underwriting Limited (MSP), dated October 11, 2018, by and between the company and Münchener Rückversicherungs Gesellschaft AG (Munich Re), the company acquired from Munich Re all of the issued and outstanding share capital of MSP and its subsidiaries, including the Lloyd's managing agent, Beaufort Underwriting Agency Limited for Syndicate 318 (the acquisition). MSP was rebranded as Cincinnati Global effective May 1, 2019, reflecting its new identity as a subsidiary of the company. The acquisition of Cincinnati Global reflects progress toward our long-term objective of diversifying revenue and profitability by expanding our operations geographically and by line of business.

As aggregate consideration for the purchase of the share capital of Cincinnati Global and its subsidiaries, the company paid £48 million, or \$64 million, in cash to Munich Re at the closing of the acquisition. The amount paid at closing was calculated as the difference between the target net asset value (NAV) set forth in the SPA and the estimated NAV of Cincinnati Global and its subsidiaries at the closing date. On August 1, 2019, the company and Munich Re agreed to an adjusted purchase price of £47 million, or \$63 million, reflecting a £1 million decrease in the NAV of Cincinnati Global. This agreement represented the final purchase price with no further adjustments to the assets acquired and liabilities assumed.

The fair value of the assets acquired, liabilities assumed and the allocation of the final purchase price on the acquisition date have been summarized in the following table:

(Dollars in millions)	
Assets	
Investments and other invested assets	\$ 198
Cash and cash equivalents	64
Premiums receivable	45
Reinsurance recoverable	42
Other assets	23
Total assets acquired	\$ 372
Liabilities	
Loss and loss expense reserves	\$ 277
Unearned premiums	88
Other liabilities	24
Total liabilities assumed	\$ 389
Fair value of identifiable intangible assets:	
Syndicate capacity - indefinite lived	\$ 31
Syndicate broker relationships - definite lived	12
Value of business acquired - definite lived	4
Internally developed technology - definite lived	3
Total fair value of identifiable intangible assets	\$ 50
Total purchase price paid	\$ 63
Total assets acquired (including fair value of identifiable intangible assets)	422
Total liabilities assumed	389
Fair value of net assets acquired prior to allocation of goodwill	33
Excess of purchase price paid over fair value of net assets acquired assigned to goodwill	\$ 30

In connection with the acquisition, the company incurred immaterial transaction related expenses.

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, 2019. 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, 2019, 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. In accordance with guidance issued by the Securities and Exchange Commission, the company may exclude acquisitions from management's assessment of the effectiveness of internal control over financial reporting for the first year in which the acquisition occurred. The company's management has excluded the assessment of internal controls of MSP Underwriting Limited, rebranded as Cincinnati Global Underwriting Ltd., which was acquired on February 28, 2019, and further discussed in Note 20, Acquisition in the Notes to the Consolidated Financial Statements. At December 31, 2019, Cincinnati Global Underwriting Ltd. accounted for approximately 2 percent of both consolidated assets and consolidated revenue.

ITEM 9B. Other Information

None

Part III

Our Proxy Statement will be filed with the SEC no later than April 29, 2020, in preparation for the 2020 Annual Meeting of Shareholders scheduled for May 2, 2020. 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 2020 Annual Meeting of Shareholders to be held May 2, 2020, are incorporated herein by reference: “Delinquent Section 16(a) Reports,” “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 cinfm.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 25, 2020.

Name and Age as of February 25, 2020	Primary Title(s) and Business Responsibilities Since February 2015	Executive Officer Since
Roger A. Brown, FSA, MAAA, CLU (48)	Senior vice president and chief operating officer of The Cincinnati Life Insurance Company. Responsible for life insurance underwriting and operations. Vice president of Cincinnati Life actuarial department until 2016.	2016
Teresa C. Cracas, Esq. (54)	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 and pricing, as well as reinsurance assumed operations and the activities of Cincinnati Global Underwriting Ltd., a London-based, global specialty underwriter for Lloyd's Syndicate 318.	2011
Donald J. Doyle, Jr., CPCU, AIM (53)	Senior vice president of The Cincinnati Insurance Company. Responsible for excess and surplus lines underwriting and operations.	2008
Sean M. Givler, CIC, CRM (44)	Senior vice president of The Cincinnati Insurance Company. Responsible for standard market commercial lines underwriting and operations, including management liability and surety insurance, machinery and equipment insurance, loss control and premium audit. Until 2019, responsible for sales and marketing, including management of field underwriters and independent agency relationships. Sales manager for Alabama, Montana, Pennsylvania, Tennessee and Texas from 2011 to 2016.	2017
Theresa A. Hoffer (58)	Senior vice president and treasurer of The Cincinnati Insurance Company since 2016. Responsible for corporate accounting and SEC reporting operations. Vice president and treasurer in corporate accounting until 2016.	2017
Martin F. Hollenbeck, CFA, CPCU (60)	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 (58)	Chief information officer and senior vice president of The Cincinnati Insurance Company. Responsible for enterprise strategic technology and oversight of all technology activities.	2010

Name and Age as of February 25, 2020	Primary Title(s) and Business Responsibilities Since February 2015	Executive Officer Since
Lisa A. Love, Esq. (60)	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 compliance, shareholder services, corporate communications, government relations, litigation and contract administration.	2011
Martin J. Mullen, CPCU (64)	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
Michael J. Sewell, CPA (56)	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, investor relations, administrative services and facilities maintenance and security.	2011
Stephen M. Spray (53)	Chief insurance officer and senior vice president of The Cincinnati Insurance Company. Responsible for executive oversight of commercial and personal standard market and excess and surplus lines property and casualty insurance sales, marketing, underwriting, related field services, relationships with independent agents and ceded reinsurance programs. Until 2019, responsible for commercial lines underwriting and operations. Responsible for sales and marketing, including management of field underwriters and independent agency relationships until 2016.	2012
William H. Van Den Heuvel (53)	Senior vice president of The Cincinnati Insurance Company. Responsible for all aspects of personal lines operations, including underwriting, insurance regulatory filings, product management and risk management.	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 2, 2020, 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 2, 2020, 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 2, 2020, 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 2, 2020, is incorporated herein by reference. It includes the “Proposal 3 – 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 123 to Page 182
- b) Exhibits – see Index of Exhibits, Page 200
- c) Financial Statement Schedules
 - Schedule I – Summary of Investments – Other Than Investments in Related Parties, Page 189
 - Schedule II – Condensed Financial Statements of Parent Company, Page 191
 - Schedule III – Supplementary Insurance Information, Page 194
 - Schedule IV – Reinsurance, Page 196
 - Schedule V – Valuation and Qualifying Accounts, Page 197
 - Schedule VI – Supplementary Information Concerning Property Casualty Insurance Operations, Page 198

Schedule I

Cincinnati Financial Corporation and Subsidiaries Summary of Investments - Other Than Investments in Related Parties

Type of investment	At December 31, 2019		
	Cost or amortized cost	Fair value	Balance sheet
Fixed maturities:			
States, municipalities and political subdivisions:			
The Cincinnati Insurance Company	\$ 3,320	\$ 3,515	\$ 3,515
The Cincinnati Casualty Company	199	210	210
The Cincinnati Indemnity Company	46	48	48
The Cincinnati Life Insurance Company	348	360	360
The Cincinnati Specialty Underwriters Insurance Company	525	556	556
CSU Producer Resources Inc.	1	1	1
Cincinnati Financial Corporation	38	38	38
Total	<u>4,477</u>	<u>4,728</u>	<u>4,728</u>
United States government:			
The Cincinnati Insurance Company	65	67	67
The Cincinnati Casualty Company	1	1	1
The Cincinnati Indemnity Company	1	1	1
Cincinnati Global Underwriting Ltd.	35	35	35
Total	<u>102</u>	<u>104</u>	<u>104</u>
Government-sponsored enterprises:			
The Cincinnati Life Insurance Company	122	121	121
Cincinnati Global Underwriting Ltd.	5	5	5
Cincinnati Financial Corporation	10	10	10
Total	<u>137</u>	<u>136</u>	<u>136</u>
Foreign government:			
The Cincinnati Insurance Company	10	10	10
Cincinnati Global Underwriting Ltd.	18	18	18
Total	<u>28</u>	<u>28</u>	<u>28</u>
All other corporate bonds:			
The Cincinnati Insurance Company	2,956	3,095	3,095
The Cincinnati Casualty Company	107	112	112
The Cincinnati Indemnity Company	33	34	34
The Cincinnati Specialty Underwriters Insurance Company	175	186	186
The Cincinnati Life Insurance Company	3,033	3,215	3,215
CSU Producer Resources Inc.	1	1	1
Cincinnati Global Underwriting Ltd.	58	58	58
Cincinnati Financial Corporation	1	1	1
Total	<u>6,364</u>	<u>6,702</u>	<u>6,702</u>
Total fixed maturities	<u>\$ 11,108</u>	<u>\$ 11,698</u>	<u>\$ 11,698</u>

Schedule I (continued)

Cincinnati Financial Corporation and Subsidiaries Summary of Investments - Other Than Investments in Related Parties

Type of investment	At December 31, 2019		
	Cost or amortized cost	Fair value	Balance sheet
(Dollars in millions)			
Equity securities:			
Common equities:			
The Cincinnati Insurance Company	\$ 1,763	\$ 4,063	\$ 4,063
The Cincinnati Casualty Company	58	141	141
The Cincinnati Indemnity Company	17	33	33
The Cincinnati Specialty Underwriters Insurance Company	90	184	184
CSU Producer Resources Inc.	17	29	29
Cincinnati Financial Corporation	1,426	3,068	3,068
Total	<u>3,371</u>	<u>7,518</u>	<u>7,518</u>
Nonredeemable preferred equities:			
The Cincinnati Insurance Company	197	218	218
The Cincinnati Life Insurance Company	12	15	15
Cincinnati Financial Corporation	1	1	1
Total	<u>210</u>	<u>234</u>	<u>234</u>
Total equity securities	<u>\$ 3,581</u>	<u>\$ 7,752</u>	<u>\$ 7,752</u>
Other invested assets:			
Policy loans:			
The Cincinnati Life Insurance Company	\$ 32	—	\$ 32
Deposits at Lloyd's:			
Cincinnati Global Underwriting Ltd.	97	—	97
Cincinnati Financial Corporation	67	—	67
Private equity:			
The Cincinnati Insurance Company (1)	37	—	37
The Cincinnati Life Insurance Company (1)	3	—	3
Cincinnati Financial Corporation (1)	31	—	31
Real estate:			
The Cincinnati Insurance Company (1)	8	—	8
The Cincinnati Life Insurance Company (1)	16	—	16
Cincinnati Financial Corporation (1)	5	—	5
Total other invested assets	<u>\$ 296</u>	<u>—</u>	<u>\$ 296</u>
Total investments	<u>\$ 14,985</u>	<u>—</u>	<u>\$ 19,746</u>

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,	
	2019	2018
Assets		
Investments		
Fixed maturities, at fair value (amortized cost: 2019—\$49; 2018—\$35)	\$ 49	\$ 35
Equity securities, at fair value (cost: 2019—\$1,427; 2018—\$1,282)	3,069	2,234
Other invested assets	103	36
Total investments	3,221	2,305
Cash and cash equivalents	197	209
Equity in net assets of subsidiaries	7,424	6,152
Investment income receivable	7	6
Land, building and equipment, net, for company use (accumulated depreciation: 2019—\$129; 2018—\$121)	141	137
Income tax receivable	2	1
Other assets	61	48
Due from subsidiaries	107	106
Total assets	\$ 11,160	\$ 8,964
Liabilities		
Dividends declared but unpaid	\$ 91	\$ 86
Deferred federal income tax	345	198
Long-term debt	788	788
Other liabilities	72	59
Total liabilities	1,296	1,131
Shareholders' Equity		
Common stock	397	397
Paid-in capital	1,306	1,281
Retained earnings	9,257	7,625
Accumulated other comprehensive income	448	22
Treasury stock at cost	(1,544)	(1,492)
Total shareholders' equity	9,864	7,833
Total liabilities and shareholders' equity	\$ 11,160	\$ 8,964

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 and Comprehensive Income

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Revenues			
Investment income, net of expenses	\$ 75	\$ 65	\$ 62
Investment gains and losses, net	728	(108)	28
Other revenue	15	15	15
Total revenues	818	(28)	105
Expenses			
Interest expense	52	52	52
Other expenses	37	31	28
Total expenses	89	83	80
Income (Loss) Before Income Taxes and Earnings of Subsidiaries	729	(111)	25
Provision (Benefit) for Income Taxes	146	(31)	(161)
Net Income (Loss) Before Earnings of Subsidiaries	583	(80)	186
Increase in equity of subsidiaries	1,414	367	859
Net Income	\$ 1,997	\$ 287	\$ 1,045
Other Comprehensive Income (Loss), Net of Taxes			
Change in unrealized gain (loss) on securities	—	(2)	235
Amortization of pension actuarial gains (losses) and prior service costs	5	(3)	7
Other Comprehensive Income (Loss), Net of Taxes Before Other Comprehensive Income of Subsidiaries	5	(5)	242
Other comprehensive income (loss) of subsidiaries	421	(258)	361
Other comprehensive income (loss)	426	(263)	603
Comprehensive Income	\$ 2,423	\$ 24	\$ 1,648

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,		
	2019	2018	2017
Cash Flows From Operating Activities			
Net income	\$ 1,997	\$ 287	\$ 1,045
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	10	7	7
Investment gains and losses, net	(720)	114	(28)
Dividends from subsidiaries	625	500	465
Changes in:			
Increase in equity of subsidiaries	(1,414)	(367)	(859)
Investment income receivable	(1)	2	—
Current federal income taxes	(1)	14	(5)
Deferred income tax	146	(35)	(150)
Other assets	4	(17)	(20)
Other liabilities	4	3	15
Intercompany receivable for operations	20	19	13
Net cash provided by operating activities	<u>670</u>	<u>527</u>	<u>483</u>
Cash Flows From Investing Activities			
Sale of fixed maturities	3	1	—
Call or maturity of fixed maturities	21	19	14
Sale of equity securities	122	131	230
Purchase of fixed maturities	(39)	(17)	(2)
Purchase of equity securities	(237)	(177)	(293)
Investment in buildings and equipment	(13)	(12)	(3)
Cash paid for acquisition	(63)	—	—
Change in other invested assets, net	(67)	(11)	—
Net cash used in investing activities	<u>(273)</u>	<u>(66)</u>	<u>(54)</u>
Cash Flows From Financing Activities			
Payment of cash dividends to shareholders	(355)	(336)	(400)
Shares acquired - share repurchase authorization	(67)	(125)	(92)
Proceeds from stock options exercised	11	9	13
Other	2	1	1
Net cash used in financing activities	<u>(409)</u>	<u>(451)</u>	<u>(478)</u>
Net change in cash and cash equivalents	<u>(12)</u>	<u>10</u>	<u>(49)</u>
Cash and cash equivalents at beginning of year	<u>209</u>	<u>199</u>	<u>248</u>
Cash and cash equivalents at end of year	<u>\$ 197</u>	<u>\$ 209</u>	<u>\$ 199</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,		
	2019	2018	2017
Deferred policy acquisition costs:			
Commercial lines insurance	\$ 311	\$ 291	\$ 284
Personal lines insurance	130	126	121
Excess and surplus lines insurance	25	21	17
Other	46	26	16
Total property casualty insurance	512	464	438
Life insurance	262	274	232
Total	\$ 774	\$ 738	\$ 670
Gross future policy benefits, losses, claims and expense losses:			
Commercial lines insurance	\$ 4,569	\$ 4,466	\$ 4,236
Personal lines insurance	687	679	587
Excess and surplus lines insurance	351	298	264
Other	481	203	132
Total property casualty insurance	6,088	5,646	5,219
Life insurance	2,859	2,802	2,753
Total (1)	\$ 8,947	\$ 8,448	\$ 7,972
Gross unearned premiums:			
Commercial lines insurance	\$ 1,665	\$ 1,576	\$ 1,548
Personal lines insurance	757	725	683
Excess and surplus lines insurance	152	123	105
Other	213	91	67
Total property casualty insurance	2,787	2,515	2,403
Life insurance	1	1	1
Total (1)	\$ 2,788	\$ 2,516	\$ 2,404
Other policy claims and benefits payable:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Other	—	—	—
Total property casualty insurance	—	—	—
Life insurance	35	38	30
Total (1)	\$ 35	\$ 38	\$ 30
Earned premiums:			
Commercial lines insurance	\$ 3,319	\$ 3,218	\$ 3,165
Personal lines insurance	1,404	1,336	1,241
Excess and surplus lines insurance	278	234	209
Other	333	132	107
Total property casualty insurance	5,334	4,920	4,722
Life insurance	270	250	232
Total	\$ 5,604	\$ 5,170	\$ 4,954

Schedule III (continued)

Cincinnati Financial Corporation and Subsidiaries Supplementary Insurance Information

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Investment income, net of expenses:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Other	—	—	—
Total property casualty insurance (2)	<u>419</u>	<u>401</u>	<u>392</u>
Life insurance	<u>152</u>	<u>153</u>	<u>155</u>
Total	<u>\$ 571</u>	<u>\$ 554</u>	<u>\$ 547</u>
Benefits, claims losses and settlement expenses:			
Commercial lines insurance	\$ 2,030	\$ 2,049	\$ 2,042
Personal lines insurance	985	972	918
Excess and surplus lines insurance	142	104	86
Other	195	98	92
Total property casualty insurance	<u>3,352</u>	<u>3,223</u>	<u>3,138</u>
Life insurance	<u>286</u>	<u>267</u>	<u>252</u>
Total	<u>\$ 3,638</u>	<u>\$ 3,490</u>	<u>\$ 3,390</u>
Amortization of deferred policy acquisition costs:			
Commercial lines insurance	\$ 631	\$ 608	\$ 590
Personal lines insurance	251	242	225
Excess and surplus lines insurance	47	39	35
Other	57	18	17
Total property casualty insurance	<u>986</u>	<u>907</u>	<u>867</u>
Life insurance	<u>48</u>	<u>39</u>	<u>46</u>
Total (3)	<u>\$ 1,034</u>	<u>\$ 946</u>	<u>\$ 913</u>
Underwriting, acquisition and insurance expenses:			
Commercial lines insurance	\$ 422	\$ 415	\$ 419
Personal lines insurance	164	147	135
Excess and surplus lines insurance	38	29	28
Other	42	24	18
Total property casualty insurance	<u>666</u>	<u>615</u>	<u>600</u>
Life insurance	<u>38</u>	<u>36</u>	<u>33</u>
Total (3)	<u>\$ 704</u>	<u>\$ 651</u>	<u>\$ 633</u>
Net written premiums:			
Commercial lines insurance	\$ 3,410	\$ 3,245	\$ 3,202
Personal lines insurance	1,435	1,378	1,294
Excess and surplus lines insurance	303	249	219
Other	368	158	125
Total property casualty insurance	<u>5,516</u>	<u>5,030</u>	<u>4,840</u>
Accident health insurance	<u>2</u>	<u>3</u>	<u>3</u>
Total	<u>\$ 5,518</u>	<u>\$ 5,033</u>	<u>\$ 4,843</u>

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,		
	2019	2018	2017
Gross amounts:			
Life insurance in force	\$ 108,130	\$ 104,726	\$ 99,888
Earned premiums			
Commercial lines insurance	\$ 3,421	\$ 3,314	\$ 3,258
Personal lines insurance	1,446	1,372	1,275
Excess and surplus lines insurance	292	245	219
Other	181	—	—
Total property casualty insurance	5,340	4,931	4,752
Life insurance	341	320	300
Total	\$ 5,681	\$ 5,251	\$ 5,052
Ceded amounts to other companies:			
Life insurance in force	\$ 38,146	\$ 38,584	\$ 38,711
Earned premiums			
Commercial lines insurance	\$ 109	\$ 104	\$ 99
Personal lines insurance	43	37	35
Excess and surplus lines insurance	14	11	10
Other	39	8	18
Total property casualty insurance	205	160	162
Life insurance	71	70	68
Total	\$ 276	\$ 230	\$ 230
Assumed amounts from other companies:			
Life insurance in force	\$ —	\$ —	\$ —
Earned premiums			
Commercial lines insurance	\$ 7	\$ 8	\$ 6
Personal lines insurance	1	1	1
Excess and surplus lines insurance	—	—	—
Other	191	140	125
Total property casualty insurance	199	149	132
Life insurance	—	—	—
Total	\$ 199	\$ 149	\$ 132
Net amounts:			
Life insurance in force	\$ 69,984	\$ 66,142	\$ 61,177
Earned premiums			
Commercial lines insurance	\$ 3,319	\$ 3,218	\$ 3,165
Personal lines insurance	1,404	1,336	1,241
Excess and surplus lines insurance	278	234	209
Other	333	132	107
Total property casualty insurance	5,334	4,920	4,722
Life insurance	270	250	232
Total	\$ 5,604	\$ 5,170	\$ 4,954
Percentage of amounts assumed to net:			
Life insurance in force	—%	—%	—%
Earned premiums			
Commercial lines insurance	0.2%	0.3%	0.2%
Personal lines insurance	0.1	0.1	0.1
Excess and surplus lines insurance	—	—	—
Other	57.4	106.1	116.1
Total property casualty insurance	3.7	3.0	2.8
Life insurance	—	—	—
Total	3.6	2.9	2.7

Schedule V

Cincinnati Financial Corporation and Subsidiaries Valuation and Qualifying Accounts

(Dollars in millions)	At December 31,		
	2019	2018	2017
Allowance for doubtful receivables:			
Beginning balance, January 1	\$ 6	\$ 6	\$ 5
Additions charged to costs and expenses	8	6	6
Deductions	(6)	(6)	(5)
Ending balance, December 31	<u>\$ 8</u>	<u>\$ 6</u>	<u>\$ 6</u>
Deferred tax valuation allowance:			
Beginning balance, January 1	\$ —	\$ —	\$ —
Additions charged to costs and expenses	55	—	—
Deductions	(14)	—	—
Ending balance, December 31	<u>41</u>	<u>—</u>	<u>—</u>
Total valuation and qualifying accounts	<u>\$ 49</u>	<u>\$ 6</u>	<u>\$ 6</u>

Schedule VI

Cincinnati Financial Corporation and Subsidiaries Supplementary Information Concerning Property Casualty Insurance Operations

(Dollars in millions)	Years ended December 31,		
	2019	2018	2017
Deferred policy acquisition costs:			
Commercial lines insurance	\$ 311	\$ 291	\$ 284
Personal lines insurance	130	126	121
Excess and surplus lines insurance	25	21	17
Other	46	26	16
Total	<u>\$ 512</u>	<u>\$ 464</u>	<u>\$ 438</u>
Reserves for unpaid claims and claim adjustment expenses:			
Commercial lines insurance	\$ 4,569	\$ 4,466	\$ 4,236
Personal lines insurance	687	679	587
Excess and surplus lines insurance	351	298	264
Other	481	203	132
Total	<u>\$ 6,088</u>	<u>\$ 5,646</u>	<u>\$ 5,219</u>
Reserve discount deducted	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Gross unearned premiums:			
Commercial lines insurance	\$ 1,665	\$ 1,576	\$ 1,548
Personal lines insurance	757	725	683
Excess and surplus lines insurance	152	123	105
Other	213	91	67
Total	<u>\$ 2,787</u>	<u>\$ 2,515</u>	<u>\$ 2,403</u>
Earned premiums:			
Commercial lines insurance	\$ 3,319	\$ 3,218	\$ 3,165
Personal lines insurance	1,404	1,336	1,241
Excess and surplus lines insurance	278	234	209
Other	333	132	107
Total	<u>\$ 5,334</u>	<u>\$ 4,920</u>	<u>\$ 4,722</u>
Investment income, net of expenses:			
Commercial lines insurance	\$ —	\$ —	\$ —
Personal lines insurance	—	—	—
Excess and surplus lines insurance	—	—	—
Other	—	—	—
Total (1)	<u>\$ 419</u>	<u>\$ 401</u>	<u>\$ 392</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,		
	2019	2018	2017
Loss and loss expenses incurred related to current accident year:			
Commercial lines insurance	\$ 2,222	\$ 2,206	\$ 2,115
Personal lines insurance	1,012	960	932
Excess and surplus lines insurance	153	128	115
Other	213	96	95
Total	<u>\$ 3,600</u>	<u>\$ 3,390</u>	<u>\$ 3,257</u>
Loss and loss expenses incurred related to prior accident years:			
Commercial lines insurance	\$ (192)	\$ (157)	\$ (73)
Personal lines insurance	(27)	13	(14)
Excess and surplus lines insurance	(11)	(24)	(29)
Other	(18)	1	(3)
Total	<u>\$ (248)</u>	<u>\$ (167)</u>	<u>\$ (119)</u>
Amortization of deferred policy acquisition costs:			
Commercial lines insurance	\$ 631	\$ 608	\$ 590
Personal lines insurance	251	242	225
Excess and surplus lines insurance	47	39	35
Other	57	18	17
Total	<u>\$ 986</u>	<u>\$ 907</u>	<u>\$ 867</u>
Paid loss and loss expenses:			
Commercial lines insurance	\$ 2,023	\$ 1,816	\$ 1,866
Personal lines insurance	966	913	898
Excess and surplus lines insurance	90	74	61
Other	181	44	18
Total	<u>\$ 3,260</u>	<u>\$ 2,847</u>	<u>\$ 2,843</u>
Net written premiums:			
Commercial lines insurance	\$ 3,410	\$ 3,245	\$ 3,202
Personal lines insurance	1,435	1,378	1,294
Excess and surplus lines insurance	303	249	219
Other	368	158	125
Total	<u>\$ 5,516</u>	<u>\$ 5,030</u>	<u>\$ 4,840</u>

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 Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, Exhibit 3.1)
3.2	Amended and Restated Code of Regulations of Cincinnati Financial Corporation, as of May 5, 2018 (incorporated by reference to the company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, Exhibit 3.2)
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 filed on May 20, 1998 (File No. 333-51677))
4.7	Form of 6.90% Debentures Due 2028 (included in Exhibit 4.6)
4.8	Description of Registered Securities
10.1	Cincinnati Financial Corporation Nonemployee Director Stock Plan of 2018 (incorporated by reference to the company's definitive Proxy Statement dated March 21, 2018)
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, 2006)
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)
10.13	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)

Exhibit No.	Exhibit Description
10.14	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)
10.15	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)
10.16	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)
10.17	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)
10.18	Form of Incentive Compensation Agreement for the Cincinnati Financial Corporation 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 January 30, 2017)
10.19	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)
10.20	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)
10.21	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)
10.22	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)
10.23	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)
10.24	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)
10.25	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)
10.26	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)
10.27	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)
10.28	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)
10.29	Amended and Restated Cincinnati Financial Corporation Top Hat Savings Plan dated January 1, 2018 (incorporated by reference to Exhibit 10.31 filed with the company's Form 10-K dated February 23, 2018)
10.30	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)
10.31	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)

Exhibit No.	Exhibit Description
10.32	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)
10.33	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)
10.34	Third 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 4, 2019 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 6, 2019)
10.35	Fourth 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 26, 2019 (incorporated by reference to Exhibit 10.6 filed with the company's Current Report on Form 8-K dated February 28, 2019)
10.36	Limited Consent to Credit Agreement, dated December 6, 2019, among Cincinnati Financial Corporation, CFC Investment Company, PNC Bank, N.A., Fifth Third Bank, N.A., The Huntington National Bank, U.S. Bank, N.A., and Branch Banking and Trust Company (incorporated by reference to Exhibit 10.6 filed with the company's Current Report on Form 8-K, dated December 6, 2019)
10.37	Reimbursement Agreement for Letters of Credit by and between Bank of Nova Scotia and The Cincinnati Insurance Company, dated October 15, 2018 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated October 17, 2018)
10.38	Letter of Credit Facility Agreement by and between Cincinnati Financial Corporation, as Borrower, and The Bank of Nova Scotia, as Bank, dated February 25, 2019 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K dated February 28, 2019)
10.39	Amendment Letter No. 1 to the Letter of Credit Facility Agreement, dated November 4, 2019 (incorporated by reference to Exhibit 10.1 filed with the company's Current Report on Form 8-K, dated November 5, 2019)
11	Statement re: Computation of per share earnings for the years ended December 31, 2019, 2018, and 2017, 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	The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL 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
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

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 25, 2020

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 25, 2020
Kenneth W. Stecher		
/S/ Steven J. Johnston	President, Chief Executive Officer and Director	February 25, 2020
Steven J. Johnston		
/S/ Michael J. Sewell	Chief Financial Officer, Senior Vice President and Treasurer	February 25, 2020
Michael J. Sewell		
/S/ Thomas J. Aaron	Director	February 25, 2020
Thomas J. Aaron		
/S/ William F. Bahl	Director	February 25, 2020
William F. Bahl		
/S/ Gregory T. Bier	Director	February 25, 2020
Gregory T. Bier		
/S/ Dirk J. Debbink	Director	February 25, 2020
Dirk J. Debbink		
/S/ Linda W. Clement-Holmes	Director	February 25, 2020
Linda W. Clement-Holmes		
/S/ Kenneth C. Lichtendahl	Director	February 25, 2020
Kenneth C. Lichtendahl		
/S/ W. Rodney McMullen	Director	February 25, 2020
W. Rodney McMullen		
/S/ David P. Osborn	Director	February 25, 2020
David P. Osborn		
/S/ Jill P. Meyer Pratt	Director	February 25, 2020
Jill P. Meyer Pratt		
/S/ Gretchen W. Price	Director	February 25, 2020
Gretchen W. Price		
/S/ Thomas R. Schiff	Director	February 25, 2020
Thomas R. Schiff		
/S/ Douglas S. Skidmore	Director	February 25, 2020
Douglas S. Skidmore		
/S/ John F. Steele, Jr.	Director	February 25, 2020
John F. Steele, Jr.		
/S/ Larry R. Webb	Director	February 25, 2020
Larry R. Webb		

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 25, 2020

/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 25, 2020

/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 25, 2020

/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)

Cincinnati Financial Corporation Directors and Officers

As of February 25, 2020



T.J. Aaron



W.F. Bahl



G.T. Bier



L.W. Clement-Holmes



D.J. Debbink



S.J. Johnston



K.C. Lichtendahl



W.R. McMullen



J.P. Meyer



D.P. Osborn



G.W. Price



T.R. Schiff



D.S. Skidmore



K.W. Stecher



J.F. Steele, Jr.



L.R. Webb

Directors

Thomas J. Aaron, CPA
Executive Vice President and Chief Financial Officer (Ret.)
Community Health Systems (Operator of general acute care hospitals)
Director since 2019 (A)

William F. Bahl, CFA, CIC
Chairman of the Board
Bahl & Gaynor Investment Counsel Inc.
(Independent registered investment adviser)
Director** since 1995 (A)(E)(I)(N*)

Gregory T. Bier, CPA (Ret.)
Managing Partner (Ret.)
Cincinnati Office
Deloitte LLP
(Independent registered public accounting firm)
Director since 2006 (A)(I)

Linda W. Clement-Holmes
Chief Information Officer (Ret.)
The Procter & Gamble Company
(Consumer products)
Director since 2010 (A)(C)(N)

Dirk J. Debbink
Chairman and Chief Executive Officer
MSI General Corporation
(Design/build construction firm)
Director since 2012 (A)(N)

Steven J. Johnston, FCAS, MAAA, CFA, CERA
President and Chief Executive Officer
Cincinnati Financial Corporation
Director since 2011 (E*)(I)

Kenneth C. Lichtendahl
Director of Development and Sales
Heliosphere Designs LLC
(Solar product marketing)
Director since 1988 (A)(C)

W. Rodney McMullen
Chairman and Chief Executive Officer
The Kroger Co.
(Retail grocery chain)
Director since 2001 (C*)(E)(I)

Jill P. Meyer, Esq.
President and Chief Executive Officer
Cincinnati USA Regional Chamber
(Metro business chamber)
Director since 2019 (A)

David P. Osborn, CFA
President
Osborn Williams & Donohoe LLC
(Independent registered investment adviser)
Director since 2013 (A)(C)(I)

Gretchen W. Price
Executive Vice President and Chief Financial and Administrative Officer (Ret.)
Arbonne International LLC
(Beauty and nutritional products)
Director since 2002 (A*)(C)(N)

Thomas R. Schiff
Chairman and Chief Executive Officer
John J. & Thomas R. Schiff & Co. Inc.
(Independent insurance agency)
Director since 1975 (I)

Douglas S. Skidmore
Chief Executive Officer
Skidmore Sales & Distributing Company Inc.
(Food ingredient distributor)
Director since 2004 (A)(N)

Kenneth W. Stecher
Chairman of the Board
Former President and Chief Executive Officer
Cincinnati Financial Corporation
Director since 2008 (E)(I*)

John F. Steele, Jr.
Chairman and Chief Executive Officer
Hilltop Basic Resources Inc.
(Supplier of aggregates and concrete)
Director since 2005 (A)(E)

Larry R. Webb, CPCU
President
Webb Insurance Agency Inc.
(Independent insurance agency)
Director since 1979 (E)(I)

Lisa A. Love, Esq.
Senior Vice President,
General Counsel and
Corporate Secretary

Directors Emeriti

James E. Benoski
Michael Brown
Jackson H. Randolph
John J. Schiff, Jr., CPCU
Frank J. Schultheis
David B. Sharrock
John M. Shepherd
Alan R. Weiler, CPCU
E. Anthony Woods
William H. Zimmer

Gregory T. Bier

W. Rodney McMullen

Two outstanding directors are leaving our board in May.

Greg Bier joined the board in 2006. With a deep knowledge of accounting and financial reporting, he served shareholders through his participation on the audit, compensation and investment committees.

Rodney McMullen joined the board in 2001. As chair of our compensation committee and a member of the executive and investment committees, he contributed his experience in leading a large public company.

Together, they helped guide management decisions in many facets of our operations. We thank them for their many years of service.

Shareholder Information

Annual Meeting

Shareholders are invited to attend the Annual Meeting of Shareholders of Cincinnati Financial Corporation at 9:30 a.m. ET, on Saturday, May 2, 2020, at the Cincinnati Art Museum, 953 Eden Park Drive, Cincinnati, Ohio. You may listen to an audio webcast of the event by visiting cinfin.com/investors.

Independent Registered Public Accounting Firm

Deloitte & Touche LLP
250 East Fifth St., Suite 1900
Cincinnati, Ohio 45202-5109

Common Stock Price and Dividend Data

Common shares are traded under the symbol CINF on the Nasdaq Global Select Stock Market.

(Source: Nasdaq Global Select Market)	2019	2018	2017	2016	2015
Year-end closing price	\$105.15	\$77.42	\$74.97	\$75.75	\$59.17
Ordinary cash dividends declared	2.24	2.12	2.00	1.92	1.84
Special cash dividends declared and paid	—	—	0.50	—	0.46

Shareholder Services

Equiniti Trust Company is the transfer agent and administrator for all registered shareholder accounts. Services available to registered shareholder accounts include dividend direct deposit, Shareholder Investment Plan (including dividend reinvestment), direct registration of shares and electronic delivery. Registered shareholders may also access your individual account at shareowneronline.com, where you can complete transactions online at any time, including changing your address, opting out of receiving paper statements, changing your current dividend reinvestment option and viewing recent transactions.

Contact Information

You may direct communications to Cincinnati Financial Corporation's Senior Vice President, General Counsel and Corporate Secretary Lisa A. Love, Esq. for sharing with the appropriate individual(s). Or, you may directly contact the following areas:

Investors: Investor Relations responds to investor inquiries about the company and its performance.

Dennis E. McDaniel, CPA, CMA, CFM, CPCU, IRC – Vice President, Investor Relations Officer
513-870-2768 or investor_inquiries@cinfin.com

Shareholders: Shareholder Services administers the company's stock compensation plans and fulfills requests for shareholder materials.

C. Brandon McIntosh, CEP, CPA – Assistant Secretary and Manager, Shareholder Services
513-870-2639 or shareholder_inquiries@cinfin.com

Equiniti Trust Company provides the company's stock transfer and recordkeeping services, including assisting registered shareholders with updating account information or enrolling in shareholder plans.

1110 Centre Pointe Curve, Suite 101, Mendota Heights, MN 55120
866-638-6443 or visit shareowneronline.com and select *Contact Us*

Media: Corporate Communications assists media representatives seeking information or comment from the company or its subsidiaries.

Betsy E. Ertel, CPCU, AIM, API – Vice President, Corporate Communications
513-603-5323 or media_inquiries@cinfin.com

Cincinnati Financial Corporation

The Cincinnati Insurance Company
The Cincinnati Casualty Company
The Cincinnati Indemnity Company
The Cincinnati Life Insurance Company

The Cincinnati Specialty Underwriters Insurance Company
CSU Producer Resources Inc.
CFC Investment Company
Cincinnati Global Underwriting Ltd.

Mailing Address

P.O. Box 145496
Cincinnati, Ohio 45250-5496

Street Address

6200 South Gilmore Road
Fairfield, Ohio 45014-5141

Phone: 888-242-8811 or 513-870-2000

Email: cfc_corporate@cinfin.com

Web: cinfin.com

