

Thriving in a Dynamic Market

ANNUAL REPORT 2021

FINANCIAL HIGHLIGHTS

YEARS ENDED DECEMBER 31 (\$ in millions, except per share amounts)

	2020	2021
Revenues	\$4,825	\$5,228
Net Income	\$359	\$419
Operating Income After Income Taxes ¹	\$355	\$318
Total Assets	\$13,444	\$14,254
Shareholders' Equity	\$3,202	\$3,145

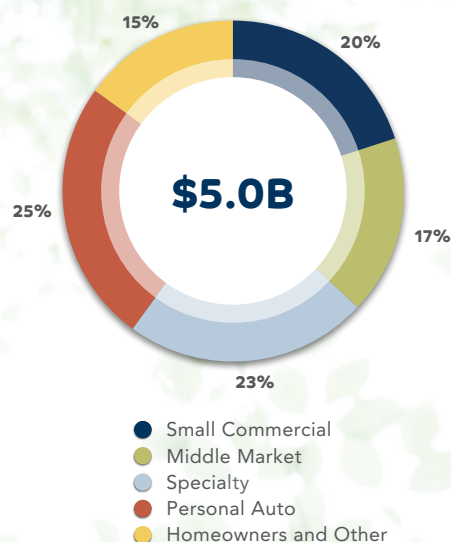
PER SHARE DATA

Net Income Per Diluted Share	\$9.42	\$11.49
Operating Income Per Diluted Share ¹	\$9.32	\$8.73
Book Value Per Share	\$87.96	\$88.59

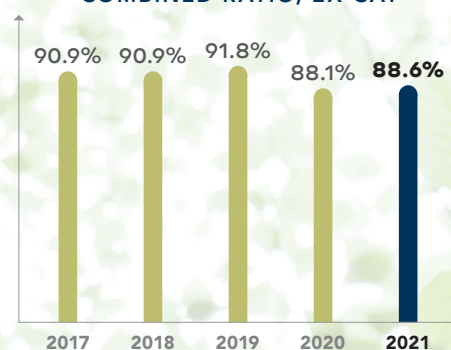
¹ Operating income after income taxes and operating income after income taxes per diluted share are non-GAAP measures. Operating income before income taxes is the total operating income of each of the three business segments (Commercial Lines; Personal Lines; and Other) before income taxes. The definitions and reconciliations of operating income and operating income per diluted share, to the most directly comparable GAAP measures, income from continuing operations and income from continuing operations per diluted share, respectively, can be found in the endnotes. Please reference the endnotes for the definitions and reconciliations of other non-GAAP measures used throughout this report.

INSURANCE PRODUCT MIX

2021 Net Premiums Written



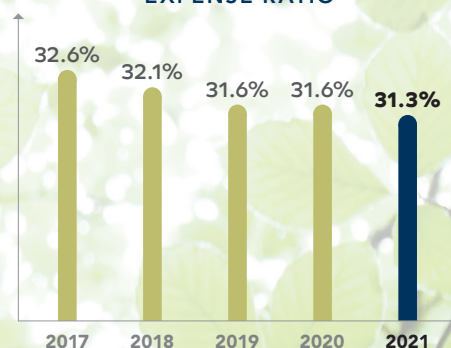
COMBINED RATIO, EX-CAT²



TOTAL COMBINED RATIO

97.3% 96.1% 95.6% 94.4% **97.0%**

EXPENSE RATIO³



To Our Shareholders,

Our employees and our company rose to the occasion during 2021, demonstrating tremendous resilience, executing our strategy in a rapidly changing world, and enhancing our competitive position. Through the collective effort of our talented and committed team, we delivered an exceptional financial performance and positioned our company to continue to provide value for our shareholders and our other stakeholders.

2021 was marked by significant challenge, as the COVID-19 pandemic brought more hardship and loss, changing weather patterns spun off powerful storms across the U.S. with increasing frequency and severity, inflation rose faster than it had in nearly 40 years, and market conditions proved to be more dynamic than ever.

In the face of adversity, we maintained our focus, adapted to evolving industry trends and delivered on our promises to those who depend on us. With much of our team working in remote environments, we came together virtually to provide our agents and customers the high-quality insurance solutions they expect and deserve, to deliver solid returns for our shareholders, and to help make a lasting and positive difference in our local communities and our broader world.

We succeeded in 2021, capitalizing on the opportunities that arose—*Thriving in a Dynamic Environment*—and positioning our company for a bright future.

Strengthening Our Financial Foundation

Our outstanding financial performance in the year is a reflection of our proven strategy, the strength and commitment of our team, and our disciplined approach to underwriting, and financial and exposure management.

Despite significant weather-related losses, we delivered operating income of \$318 million, or \$8.73 per dilutive share, and an operating return on equity⁴ of 11.2%. We generated an 88.6% combined ratio, excluding catastrophes, and a record \$5 billion in net premiums written, with growth of 8.6% on the year.

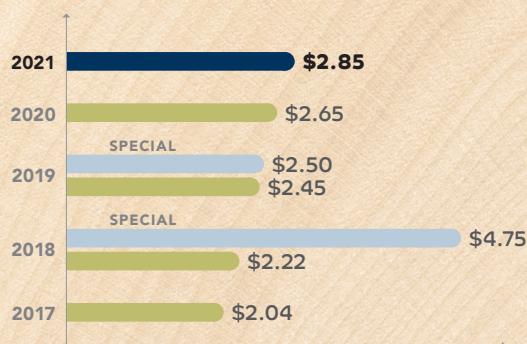


JOHN C. ROCHE
President and Chief Executive Officer

In addition, we implemented rate increases across our major lines of business, increased net investment income by 17.2%, improved our book value, reduced our expense ratio and effectively managed our capital, returning \$265 million through dividends and share repurchases.

Each of our key business segments exceeded our original growth expectations during the year while building out their capabilities and investing for the future. With a rock-solid financial foundation in place and our company better positioned than ever, we are confident we can continue to deliver strong, sustainable, profitable growth going forward.

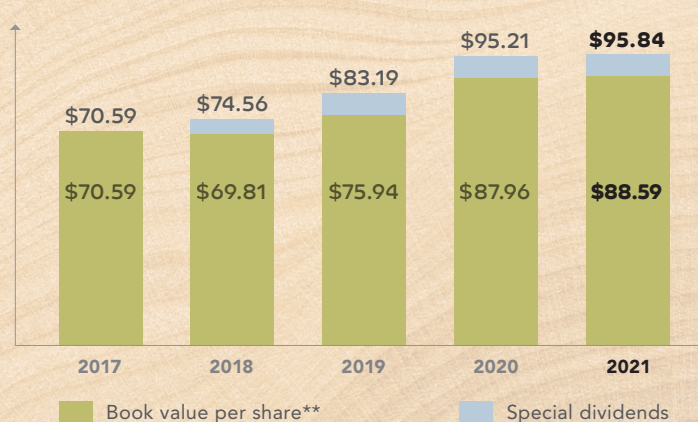
DIVIDENDS DECLARED PER COMMON SHARE*



* For more information, please see the section "Dividends" in Part II – Item 5 of the company's Annual Report Form 10-K for the year ended December 31, 2021.

BOOK VALUE PER SHARE

As Reported, and Adjusted for Special Dividends⁵



** Reported book value per share in 2018 includes the impact of the \$4.75 per share special dividend declared on December 30, 2018, and paid out of the company's equity, resulting in a lower book value per share than the adjusted measure. Reported book value per share in 2019 through 2021 includes the impact of the \$4.75 special dividend per share declared on December 30, 2018, and the \$2.50 special dividend per share declared on December 30, 2019, and paid out of the company's equity, resulting in a lower book value per share than the adjusted measure.

Advancing Our Distinctive Strategy

Over the past 170 years, we have made good on our promises to our many stakeholders. Today, we are intently focused on driving our company to the next level and achieving our goal to be the premier property and casualty franchise in the independent agency channel—a company that delivers meaningful value for our agent partners, customers, shareholders, employees and communities.

As we pursue our vision to be the premier carrier in our space, we lean on our unique business strategy. This strategy revolves around our specialized products and capabilities, distinctive agency relationships and customer-centric focus.

We continued to refine our approach to the market during 2021, making adjustments in light of prevailing and emerging trends, as well as the changing needs and expectations of our agents and customers.

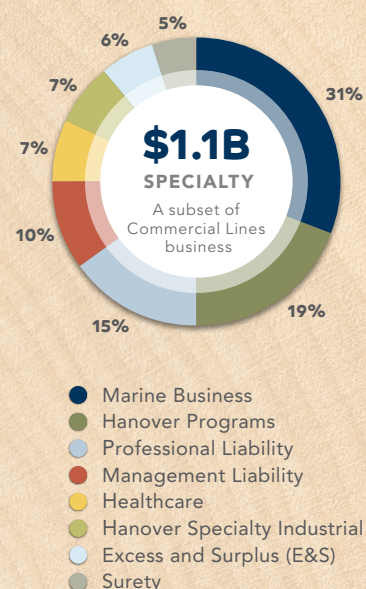
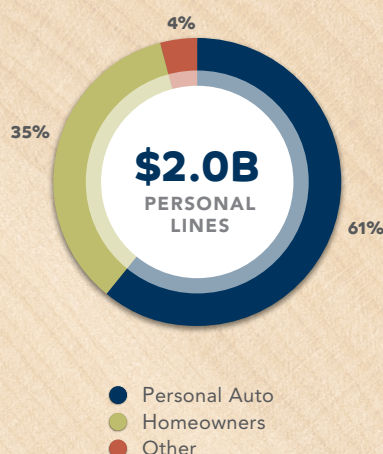
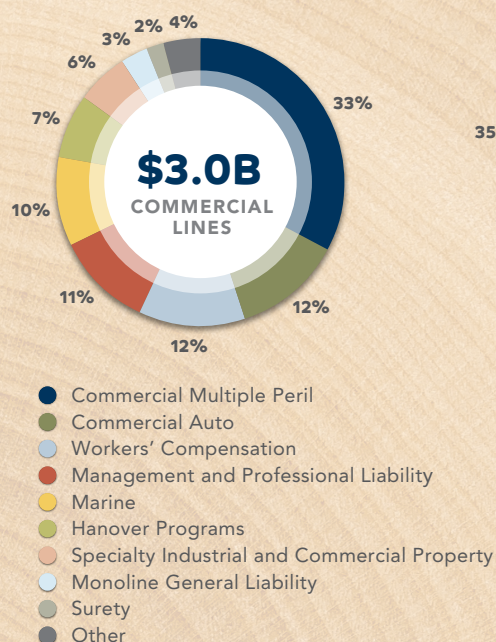
During the year, we executed our strategy, making enhancements in each of these areas. We continued

to expand our product capabilities, helping our agent partners meet more of their customers' needs, especially as they sought to build their businesses in specific industry sectors and specialty lines.

We expanded our distribution channel of 2,100 of the best agents in our business as well. We selectively added agents in new or underrepresented markets, and we deepened our penetration with existing agent partners, as evidenced by the continued increase in the number of agents who write more than \$5 million in premiums and more than two lines of business with us.

In addition, we placed a greater emphasis on serving our end customers, focusing on those with specialized needs, those with more to insure, and those who appreciate the advice and counsel agents offer. We served our customers in a broader way than many of our competitors, taking into account all of their property and casualty insurance needs, bundling coverages to provide more complete, holistic insurance solutions.

BUSINESS MIX — 2021 NET PREMIUMS WRITTEN



With the benefit of our compelling strategy and special, collaborative and increasingly agile culture, we are positioned to successfully navigate the most challenging of market conditions.

Turning Market Challenges into Opportunities

2021 served as a reminder that the property and casualty marketplace is a dynamic and complex one. Challenging weather trends, shifting loss patterns and profit pools, distribution consolidation, inflationary pressure, and continually evolving customer preferences and expectations presented significant challenges for all property and casualty insurers, and opportunities for the best of us.

At The Hanover, we have long recognized the constant challenge change represents, and we have built our company to anticipate change and to adapt quickly and effectively, meeting challenges head-on—capitalizing on the opportunities they inevitably present.

Our organizational agility served us well in 2021, as we effectively navigated changes in auto loss frequency and inflationary trends in our property lines, due largely to labor shortages and supply chain disruptions.

We also successfully managed the challenges presented by natural catastrophes during the year, with the frequency and severity of storms well over historical trends, and the industry's insured losses from these catastrophes expected to top \$100 billion for the third time in five years. Elevated weather-related catastrophe losses for us and the industry brought the issue of changing weather patterns into even greater focus.

In the face of evolving weather-related risks, the insurance industry plays a more important role than ever in helping society manage the impact of severe weather, and in helping individuals, families and businesses recover from storm-related losses. Our company and our industry are committed to make a difference in this regard, focusing on two critical imperatives.

First, we are determined to manage weather-related risks responsibly, ensuring our own respective sustainability and financial viability.

At The Hanover, our ability to effectively withstand our share of these losses is due in large part to our efforts over the past 10-plus years to monitor and address the impact of severe weather, leveraging data and analytics, through selective exposure management actions, and with pricing and reinsurance strategies.

Second, individual companies and the industry as a whole must continue to serve as advocates for a more sustainable and resilient environment.

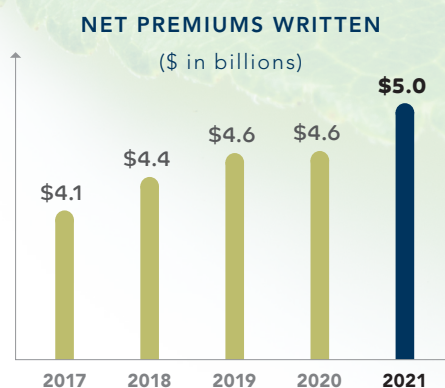
With this in mind, our company is an active participant in various industry groups, including the American Property Casualty Insurance Association and the Insurance Institute for Business and Home Safety. In fact, as a member of the IBHS, we recently expanded our commitment by becoming a signatory of the Insurers' Principles for Climate Change Adaptation, which focuses on improving the resilience of homes, businesses and communities. We also work closely with policymakers and regulators, including legislators and the National Association of Insurance Commissioners. Through our involvement in and collaboration with these organizations, our company is helping to protect our natural environment and resources, while advocating for sustainable building codes and resilient communities. These efforts are leading to environmental protections, a better understanding of weather-related risks by geography, and stronger and more weather-resistant residential and commercial structures.

Challenges abound in our business. While some react with trepidation, we respond with confidence and agility, anticipating and reacting, leveraging our skills and

experience to create opportunities for our agents, our customers and our company.

Driving Sustainable, Profitable Growth in Our Business

Consistent with our strategy and our proven agent value proposition, we continued to focus on serving the needs of our agents and customers during 2021, adding product and service capabilities while driving broad-based, sustainable, profitable growth across our company.



We made important progress in our core commercial lines business, focusing on small and mid-sized accounts. In small commercial, we gained significant momentum with the launch of TAP Sales, our new, best-in-class agent quote-and-issue platform, making it easier and more efficient for our agents to do business with us, leveraging our agency analytics capabilities, market-leading service center, and full suite of digital self-service tools.

In middle market, we maintained our focus on specialized industry segments, a key area of concentration for our agents. We continued to grow our most profitable segments, including technology, human services and financial institutions, taking a measured approach in more challenging segments. We also capitalized on the strength of our localized field structure—creating a competitive advantage in sourcing new business—as well as our leading claims and risk management capabilities.



At the same time, we continued to invest in our specialty businesses, refining our broad product offering, focusing on the lower end of the risk and account-size spectrum, leveraging our highly regarded service center, and enhancing what has become a critical growth lever for us. In recent years, we have developed a robust, diversified and profitable specialty segment that represents a distinct competitive advantage, with eight dedicated businesses and 18 distinct product areas. This business increased net premiums written by 11% during 2021. Over the next five years, we expect it to generate an approximately 10% compound annual growth rate. Given the importance of this business to our overall strategy, as well as its relatively large size, we will start reporting it as a separate segment beginning in the first quarter of 2022.

In our personal lines business, we maintained our focus on the total account, bundling home, auto, umbrella and complementary coverages for individuals and families with higher-value homes and broader insurance protection needs. We continued to increase sales of our Hanover Platinum and Hanover Prestige offerings, and have positioned our company as a total account market leader. We now write more total account business than the vast majority of our competitors.

During 2021, our personal lines business delivered strong top-line growth, increasing net premiums written by 8%, while introducing new coverages and more fully leveraging our intuitive quote-and-issue platform, which again, enables our partner agents to serve their customers faster and more efficiently. Today, account business represents 87% of our personal lines book and has a retention rate of 87%.

Enhancing Efficiency and the Customer Experience

As we have expanded our product and service capabilities over the past decade, we also have invested in innovation, operational efficiency and modernization across our value chain, improving the agent and customer experience.

During 2021, we continued to advance this mission, enhancing our agent quoting and policy administration capabilities, agency and customer portals, technology-enabled underwriting tools, agent and customer self-service capabilities, safety-focused telematics programs and more.

Similarly, we focused a great deal of energy and resources to deliver value through a transformed claims model. Our claims organization today features a broad and sophisticated set of capabilities that consistently delivers high marks for service from our agents and customers, and a competitive loss adjustment ratio.

Determined to take our claims capabilities from good to great, we continued to make significant investments in 2021, to reinvent our operations through the use of data, analytics, artificial intelligence and technology, providing better insight into our claims and business operations in ways that improve the customer experience and our results. In addition, we made investments in claims, digital, virtual and self-service capabilities that respond to evolving customer expectations, integrate artificial intelligence and automation to drive new operational efficiency, and apply analytics and intelligent tools to deliver better, more consistent outcomes.

Leveraging Our Unique Culture

Among the most important investments we have made are those that enable us to retain and attract outstanding

talent, and to build a culture based on trust and respect. We recognize our team is our single greatest asset and are committed to being an employer of choice—a company where experienced professionals want to build rewarding careers and truly make a difference. Over the past year, our company has been recognized by Forbes as one of America's Best Midsize Employers; by Newsweek as one of America's Most Responsible Companies; by the Human Rights Campaign as a Best Place to Work for LGBTQ Equality; and by JUST Capital as one of the top 200 of America's Most JUST Companies, placing us in the top quartile of public companies.

We are determined to build on our reputation as a leading employer and an active and responsible corporate citizen—fully committed to our core values of collaboration, accountability, respect and empowerment, as well as to our goal to ensure inclusion, diversity and equity (IDE) across the organization.

During 2021, for instance, we established IDE goals for members of our leadership team, implemented a pilot mentorship program to support members of underrepresented populations, took steps to diversify prospective employee pools for senior leadership positions, and expanded our charitable giving to provide support for disadvantaged populations.

We also invested in the ongoing development of several employee-led business resource groups that support employees from underrepresented populations, and their allies. A copy of our 2021 IDE Report is available at [Hanover.com](https://hanover.com).

With the adverse impact of climate change increasingly apparent, greater need in our local communities, and an increased focus on governance and transparency, we created an ESG Council during 2021. This group will

oversee our efforts to be an admired corporate citizen, a responsible steward of our environment, and an organization characterized by integrity and fairness. Our commitment to openness in our ESG policies and programs is illustrated in our Global Reporting Initiative-referenced content index, which is also on our website.

During 2021, we maintained our commitment to be an environmentally sensitive organization. Leveraging new technologies, we updated mechanical systems and lighting in our owned facilities, resulting in more efficient operations, reducing energy consumption and improving our employee and guest experiences. In recognition of our work to make our owned facilities healthier and safer, we earned the WELL Health-Safety Rating from the International WELL Building Institute.





In addition, we doubled down on our commitment to help build strong, vibrant communities, enabling and supporting employee volunteerism while making charitable contributions that responded to a wide range of needs.

Once again, our employees and our company came together in our annual employee giving campaign—benefiting hundreds of local, nonprofit organizations and countless individuals and families across the country, contributing approximately \$1.5 million through the United Way. We also made numerous contributions through our charitable foundation, providing support for public education, after-school and summer programs, shelters and food pantries, family health and safety, and disaster relief through the American Red Cross.

Moving Forward with Confidence

As we look ahead, we fully expect the world we insure will continue to be shaped by rapid change, as well as climate and economic issues, leading to greater agent and customer needs and expectations.

We will continue to embrace change, confident we have the agility, financial strength, strategic vision, business

model, discipline and conviction needed to compete effectively and emerge a winner.

In the face of significant industry disruption over the past several years, we have delivered superior returns on equity and shareholder returns. At the same time, we've made strategic, operational and financial enhancements that position our company to anticipate, adapt, and respond to changing market conditions and to continue to deliver strong returns going forward.

As we look out to the next five years, we have similarly high aspirations, and stated goals of above-average growth in net premiums written, earnings per share growth of 12% to 13%, and ultimately achieving an operating return on equity of approximately 14%.

With a proven track record and a committed team, we are prepared to continue to convert challenges into opportunities—*Thriving in a Dynamic Environment*—building an even stronger brand for our company and delivering value for our shareholders and all our stakeholders.

I have every confidence the success we have achieved to this point is not simply the culmination of our efforts, but a reflection of our potential and a foreshadowing of what lies ahead.

Sincerely,

JOHN C. ROCHE

President and Chief Executive Officer

The Partner Group

JOHN C. ROCHE

President and Chief Executive Officer

JEFFREY M. FARBER

Executive Vice President,
Chief Financial Officer

DENNIS F. KERRIGAN

Executive Vice President,
General Counsel

RICHARD W. LAVEY

Executive Vice President,
President, Hanover Agency Markets

WILLARD T. LEE

Executive Vice President,
Chief Information and Innovation Officer

DENISE M. LOWSLEY

Executive Vice President,
Chief Human Resources Officer

BRYAN J. SALVATORE

Executive Vice President,
President, Specialty

MARK J. WELZENBACH

Executive Vice President,
Chief Claims Officer

Board of Directors

(A) AUDIT COMMITTEE | (C) COMPENSATION AND HUMAN CAPITAL COMMITTEE | (N) NOMINATING AND CORPORATE GOVERNANCE COMMITTEE

CYNTHIA L. EGAN (C)

Chair of the Board,
The Hanover Insurance Group, Inc.
Retired President,
Retirement Plan Services,
T. Rowe Price Group

KEVIN J. BRADICICH (N)

Senior Partner Emeritus,
McKinsey & Company

THEODORE H. BUNTING, JR. (A)

Retired Group President,
Entergy Corporation

JANE D. CARLIN (A)*

Retired Managing Director and
Global Head of Operational
Risk Management,
Morgan Stanley Group Inc.

J. PAUL CONDRIN III (C)

Retired Executive Vice President and
President, Commercial Insurance,
Liberty Mutual Insurance

DANIEL T. HENRY (C)**

Retired Chief Financial Officer,
American Express Company

MARTIN P. HUGHES (A)

Chair of the Board of Directors,
HUB International Limited

WENDELL J. KNOX (C)*

Retired President and
Chief Executive Officer,
Abt Associates Inc.

KATHLEEN S. LANE (N)

Retired Executive Vice President and
Chief Information Officer,
The TJX Companies, Inc.

JOSEPH R. RAMRATH (N)*

Senior Managing Director,
Colchester Partners LLC

JOHN C. ROCHE

President and Chief Executive Officer,
The Hanover Insurance Group, Inc.

HARRIETT 'TEE' TAGGART (A)

Retired Partner, Senior Vice President,
Wellington Management LLC

* Committee Chair

** Mr. Henry has notified the Board of his intention to resign from the Board, effective following the company's 2022 Annual Meeting of Shareholders on May 10, 2022

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, 2021

OR

☐ **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: 1-13754

THE HANOVER INSURANCE GROUP, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

04-3263626
(I.R.S. Employer
Identification No.)

440 Lincoln Street, Worcester, Massachusetts 01653

(Address of principal executive offices) (Zip Code)

(508) 855-1000

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$.01 par value	THG	New York Stock Exchange
7 5/8% Senior Debentures due 2025	THG	New York Stock Exchange

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 of Regulation S-T during the preceding 12 months. Yes ☒ No ☐

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

Based on the closing sales price of June 30, 2021, the aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant was \$4,815,576,869.

The number of shares outstanding of the registrant's common stock, \$0.01 par value, was 35,477,124 shares as of February 22, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of The Hanover Insurance Group, Inc.'s Proxy Statement to be filed pursuant to Regulation 14A relating to the 2022 Annual Meeting of Shareholders to be held May 10, 2022 are incorporated by reference in Part III.

THE HANOVER INSURANCE GROUP, INC.
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2021
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PART I

ITEM 1 — BUSINESS

ORGANIZATION

The Hanover Insurance Group, Inc. (“THG”) is a holding company organized as a Delaware corporation in 1995. We trace our roots to as early as 1852, when the Hanover Fire Insurance Company was founded. Our primary business operations are property and casualty insurance products and services. We market our products and services through independent agents and brokers in the United States (“U.S.”). Our consolidated financial statements include the accounts of THG; The Hanover Insurance Company (“Hanover Insurance”) and Citizens Insurance Company of America (“Citizens”), which are our principal property and casualty subsidiaries; and other insurance and non-insurance subsidiaries. Our results of operations also include the results of our discontinued operations, consisting primarily of our former accident and health and life insurance businesses.

INFORMATION ABOUT OPERATING SEGMENTS

We conduct our business operations through three operating segments. These segments are Commercial Lines, Personal Lines and Other. We report interest expense related to our corporate debt separately from the earnings of our operating segments.

Information with respect to each of our segments is included in “Results of Operations - Segments” in Management’s Discussion and Analysis of Financial Condition and Results of Operations (“Management’s Discussion and Analysis”) and in Note 12 – “Segment Information” in the Notes to Consolidated Financial Statements.

The following is a discussion of our operating segments.

GENERAL

In our Commercial Lines and Personal Lines segments, we underwrite commercial and personal property and casualty insurance through Hanover Insurance, Citizens and other THG subsidiaries, and distribute them through select independent agents and brokers throughout the United States. Included in our Other segment are Opus Investment Management, Inc. (“Opus”), a wholly owned subsidiary of THG, which provides investment management services to our insurance and non-insurance companies, as well as to unaffiliated institutions, pension funds and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to former life insurance employees and agents; and a run-off voluntary property and casualty pools business.

Our business strategy focuses on providing our agents and customers with competitive insurance products delivered with clear and consistent underwriting and pricing expectations, while prudently growing and diversifying our product and geographical business mix. We conduct our business with an emphasis on disciplined underwriting, pricing, quality claim handling and customer service. In 2021, we wrote approximately \$5.0 billion in net premiums. Agency relationships and active agency management are core to our strategy while we continue to strengthen our position as one of the top property and casualty insurers focused on the independent agency channel in the United States.

RISKS

The industry’s and our profitability are significantly affected by numerous factors, including price; competition; volatile and unpredictable developments, such as weather conditions, catastrophes and other disasters; legal and regulatory developments affecting pricing, underwriting, policy coverage and other aspects of doing business, as well as insurer and insureds’ liability; extra-contractual liability; increased attorney involvement in claims matters; size of jury awards; civil unrest; acts of terrorism; fluctuations in interest rates and the value of investments; and other general economic conditions and trends, such as inflationary pressure or unemployment, that may affect the adequacy of reserves or the demand for insurance products. Our investment portfolio and its future returns are impacted by the capital markets and current economic conditions, which affect our liquidity, realized losses and impairments, credit default levels, our ability to hold such investments until recovery and other factors. Additionally, the economic conditions in geographic locations where we conduct business, especially those locations where our business is concentrated, affect the growth and profitability of our business. The regulatory environments in those locations, including any pricing, underwriting or product controls, shared market mechanisms or mandatory pooling arrangements, and other conditions, such as our agency relationships, affect the growth and profitability of our business. Our loss and loss adjustment expense (“LAE”) reserves are based on estimates, principally involving case assessments and actuarial projections, at a given time, of what we expect the ultimate settlement and administration of claims will cost based on facts and circumstances then known, predictions of future events, estimates of future trends in claims frequency and severity and judicial theories of liability, costs of repairs and replacement, legislative activity and other factors. We regularly reassess our estimate of loss reserves and LAE, both for current and past years, and resulting changes have and will affect our reported profitability and financial position.

The global pandemic (“Pandemic”) has significantly impacted the U.S. and global financial markets and economies since March 2020. Circumstances relating to the Pandemic are unprecedented in scope and impact, continue to evolve, are complex and uncertain, and are outside our control. Our investment portfolio was affected by the deterioration in investment markets during March 2020, as well as the volatility in the subsequent months. In addition, we experienced both favorable and adverse effects from the Pandemic on our underwriting results and operations, as well as our financial condition, during the period from March 2020 through December 2021.

Several uncertainties persist related to the Pandemic, including, among others, return to workplace initiatives, virus variants, vaccination rates, driving patterns, court caseloads and backlogs, and inflationary pressures, including as a result of supply chain dynamics. We continue to believe that the Pandemic's impacts on our near-term results should be manageable. The severity, duration and long-term impacts of the Pandemic may, however, affect the property and casualty insurance industry, our business, and our financial results over the intermediate and long-term.

Reference is also made to "Risk Factors" in Part I – Item 1A.

LINES OF BUSINESS

Commercial Lines

Our Commercial Lines segment generated \$3.1 billion, or 60.0%, of consolidated operating revenues and \$3.0 billion, or 59.8%, of net premiums written, for the year ended December 31, 2021.

The following table provides net premiums written by line of business for our Commercial Lines segment.

YEAR ENDED DECEMBER 31, 2021	Net Premiums Written	% of Total
<i>(in millions, except ratios)</i>		
Commercial multiple peril	\$ 978.6	32.8%
Workers' compensation	354.7	11.9
Commercial automobile	349.0	11.7
Other commercial lines:		
Management and professional liability	318.3	10.7
Marine	308.5	10.3
Hanover Programs	205.5	6.9
Specialty industrial and commercial property	170.6	5.7
Monoline general liability	100.6	3.4
Surety	59.1	2.0
Other	138.8	4.6
Total	\$ 2,983.7	100.0%

Our Commercial Lines product suite provides agents and customers with products designed for small, middle and specialized markets.

Commercial Lines coverages include:

Commercial multiple peril coverage insures businesses against third-party general liability from accidents occurring on their premises or arising out of their operations, such as injuries sustained from products sold. It also insures business property for damage, such as that caused by fire, wind, hail, water damage (which may include flood), theft and vandalism.

Workers' compensation coverage insures employers against employee medical and indemnity claims resulting from injuries related to work. Workers' compensation policies are often written in conjunction with other commercial policies.

Commercial automobile coverage insures businesses against losses incurred from personal bodily injury, bodily injury to third parties, property damage to an insured's vehicle and property damage to other vehicles and property. Commercial automobile policies are often written in conjunction with other commercial policies.

Other commercial lines is comprised of:

- *management and professional liability* coverage is primarily composed of professional, management, and medical liability, which provides protection for directors, officers and other employees of companies that may be sued in connection with their performance, and errors and omissions protection to companies and individuals against negligence or bad faith, as well as protection for employment practices liability;
- *marine* coverage includes inland and ocean marine and insures businesses against physical losses to property, such as contractor's equipment, builders' risk and goods in transit, and also covers jewelers block, fine art and other valuables;
- *Hanover Programs* (formerly referred to as "AIX") provide coverage to markets where there are specialty coverage or risk management needs related to groups of similar businesses, including commercial multiple peril, commercial automobile, general liability, workers' compensation, and other commercial coverages;
- *specialty industrial and commercial property* provides insurance to small and medium-sized chemical, paint, solvent and other manufacturing and distribution companies, and fire and allied lines coverages;

- *monoline general liability* coverage includes bodily injury, property damage and personal injury arising from products sold, or accidents occurring on premises, or from operations;
- *surety* provides businesses with contract surety coverage in the event of claims for non-performance or non-payment, and commercial surety coverage related to fiduciary or regulatory obligations; and
- *other commercial lines* coverages include umbrella, and fidelity and crime.

Our strategy in Commercial Lines focuses on building deep relationships with independent agents through differentiated product offerings, industry segmentation, and franchise value through selective distribution. We continue to make enhancements to our products and technology platforms that are intended to drive more total account placements in our small commercial and middle market business, and to enhance underwriting margins in our specialty businesses. This aligns with our focus of delivering the capabilities that we believe will help expand the depth and breadth of our partnerships with a limited number of agents.

Our small commercial, middle market, and specialty businesses each constitute approximately one-third of our total Commercial Lines business. Small commercial offerings, which generally include annual premiums of \$50,000 or less, deliver value through product expertise, local presence and ease of doing business. Middle market accounts, with annual premiums generally in the range of \$50,000 to \$250,000, require greater underwriting and claim expertise, as well as a focus on industry segments. Small and middle market accounts, which together are referred to as our “Core Commercial Lines” business, comprise approximately \$1.9 billion of the Commercial Lines segment net premiums written. Our specialty lines of business include management and professional liability, marine, Hanover Programs, specialty industrial and commercial property, monoline general liability and surety.

In our small commercial and middle market businesses, we offer coverages and capabilities in several key industries, including technology, schools and human services organizations, such as non-profit youth and community service organizations. We also provide further specialization in our core middle market commercial products, including real estate, hospitality, manufacturing, contractors and wholesale distributors.

Part of our strategy is to expand our specialty lines offerings to provide our agents and policyholders with a broader product portfolio to address their needs and to increase our market share of our partner agents’ total business. We have, over time, acquired various specialized businesses aimed at further diversifying and growing our specialty lines. We used these acquisitions as platforms to expand our product offerings and grow within our existing agency and broker distribution network.

We believe our small commercial capabilities, distinctiveness in the middle market, and continued development of our specialty business offerings provide us with a diversified portfolio of products and enable us to deliver significant value to our agents and policyholders. We believe these efforts will enable us to continue to improve the overall mix of our business and ultimately our underwriting profitability.

Personal Lines

Our Personal Lines segment generated \$2.0 billion, or 39.7%, of consolidated operating revenues and \$2.0 billion, or 40.2%, of net premiums written, for the year ended December 31, 2021.

The following table provides net premiums written by line of business for our Personal Lines segment.

YEAR ENDED DECEMBER 31, 2021 (in millions, except ratios)	Net Premiums Written	% of Total
Personal automobile	\$ 1,230.4	61.2%
Homeowners	704.1	35.0
Other	75.2	3.8
Total	<u>\$ 2,009.7</u>	<u>100.0%</u>

Personal Lines coverages include:

Personal automobile coverage insures individuals against losses incurred from personal bodily injury, bodily injury to third parties, property damage to an insured’s vehicle and property damage to other vehicles and other property.

Homeowners coverage insures individuals for losses to their residences and personal property, such as those caused by fire, wind, hail, water damage (excluding flood), theft and vandalism, and against third-party liability claims.

Other personal lines are comprised of personal umbrella, inland marine (jewelry, art, etc.), fire, personal watercraft, personal cyber and other miscellaneous coverages.

Our strategy in Personal Lines is to provide account-oriented business (i.e., writing both an insured’s automobile and homeowners insurance, along with other Personal Lines coverages when applicable) through select independent agents, with a focus on increasing geographic diversification. The market for our Personal Lines business is very competitive, with continued pressure on independent agents from direct insurance writers, as well as from the increased usage of real time comparative rating tools and increasingly

sophisticated rating and pricing tools. We maintain a focus on working with high quality, value-added agents that stress the importance of consultative selling and account rounding (the conversion of single policy customers to accounts with multiple policies and/or additional coverages, to address customers' broader objectives). We are focused on making business investments that are intended to help us maintain profitability, build a distinctive position in the market, deliver value to agents and customers, and provide us with profitable growth opportunities. We continue to refine our products and to work closely with these high potential agents to increase the percentage of business they place with us and to ensure that it is consistent with our preferred mix of business. Additionally, we remain focused on further diversifying our geographic mix beyond our largest historical core states of Michigan and Massachusetts. We expect these efforts to decrease our risk concentrations and our dependency on these states, as well as to contribute to improved profitability over time.

Other

The Other segment includes Opus, which provides investment advisory services to affiliates and also manages approximately \$3.0 billion of assets for unaffiliated institutions, such as insurance companies, retirement plans and foundations, including \$1.0 billion of funds we continued to manage during a transition period that ended on December 31, 2021, on behalf of China Reinsurance (Group) Corporation ("China Re") for our former Chaucer segment. The Other segment also includes earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to former life insurance employees and agents; and our run-off voluntary property and casualty pools business.

MARKETING AND DISTRIBUTION

We serve a variety of standard, specialty and targeted industry markets. Consistent with our objective to diversify our underwriting risks on a geographic and line of business basis, we currently have a split of approximately 40% Personal Lines, 37% Core Commercial Lines, and 23% specialty lines. Commercial Lines, including our small, middle market, and specialty businesses, and Personal Lines segments distribute our products primarily through a network of independent agents.

Commercial and Personal Lines

Our Commercial and Personal Lines independent agency distribution and field structure are designed to maintain a strong focus on local markets and the flexibility to respond to specific market conditions. During 2021, we wrote 20.7% of our Commercial and Personal Lines business in Michigan and 9.2% in Massachusetts. Our field management structure is a key factor in the establishment and maintenance of productive, long-term relationships with well-established independent agencies. We maintain 35 local offices across 24 states. The majority of processing support for these locations is provided from Worcester, Massachusetts; Howell, Michigan; Salem, Virginia; and Windsor, Connecticut.

Independent agents account for substantially all of the sales of our Commercial and Personal Lines property and casualty products. Agencies are appointed based on profitability, track record, financial stability, growth potential, professionalism and business strategy. Once appointed, we monitor their performance and, subject to legal and regulatory requirements, may take actions as necessary to change these business relationships, such as discontinuing the authority of the agent to underwrite certain products, or revising commissions or bonus opportunities. We compensate agents primarily through base commissions and bonus plans that are tied to an agency's written premium, growth and profitability.

Our Hanover Programs business and some specialty business is also distributed through managing general agents or wholesale distributors who have expertise in the industries served or products offered.

We are licensed to sell property and casualty insurance in all fifty states in the U.S., as well as in the District of Columbia ("D.C."). Throughout the U.S., we actively market Commercial Lines policies in 41 states and D.C., and Personal Lines policies in 20 states.

The following table provides our top Commercial and Personal Lines geographical markets based on total net premiums written in each state in 2021.

YEAR ENDED DECEMBER 31, 2021	Commercial Lines		Personal Lines		Total Commercial and Personal Lines	
	Net Premiums Written	% of Total	Net Premiums Written	% of Total	Net Premiums Written	% of Total
<i>(in millions, except ratios)</i>						
Michigan	\$ 151.0	5.1%	\$ 883.9	44.0%	\$ 1,034.9	20.7%
Massachusetts	206.6	6.9	252.3	12.6	458.9	9.2
New York	237.0	7.9	116.7	5.8	353.7	7.1
California	347.6	11.6	—	—	347.6	7.0
Illinois	141.1	4.7	109.9	5.5	251.0	5.0
Texas	246.4	8.3	—	—	246.4	4.9
New Jersey	150.3	5.0	74.9	3.7	225.2	4.5
Connecticut	63.7	2.1	119.9	6.0	183.6	3.7
Georgia	98.8	3.3	59.6	3.0	158.4	3.2
Virginia	95.0	3.2	36.2	1.8	131.2	2.6
Maine	71.0	2.4	53.4	2.7	124.4	2.5
Wisconsin	57.3	1.9	47.2	2.3	104.5	2.1
Pennsylvania	72.5	2.4	31.8	1.6	104.3	2.1
Indiana	62.4	2.1	29.9	1.5	92.3	1.8
Minnesota	91.0	3.1	—	—	91.0	1.8
Tennessee	50.8	1.7	40.1	2.0	90.9	1.8
North Carolina	82.5	2.8	0.5	—	83.0	1.7
New Hampshire	45.8	1.5	35.4	1.8	81.2	1.6
Florida	79.8	2.7	—	—	79.8	1.6
Other	633.1	21.3	118.0	5.7	751.1	15.1
Total	\$ 2,983.7	100.0%	\$ 2,009.7	100.0%	\$ 4,993.4	100.0%

We manage our Commercial Lines portfolio, which includes our core and specialty businesses, with a focus on growth from the most profitable industry segments within our underwriting expertise. Our core business is generally comprised of several complementary commercial lines of business, consisting of small and middle market accounts, which include targeted industry segments. Additionally, we have multiple specialty lines of business. The Commercial Lines segment seeks to maintain strong agency relationships as an approach to secure and retain our agents' best business. We monitor the quality of business written through ongoing quality reviews, accountability for which is shared at the local, regional and corporate levels.

We manage Personal Lines business with a focus on acquiring and retaining preferred accounts. Currently, approximately 87% of our policies in force are account business. Approximately 57% of our Personal Lines net premium written is generated in the combined states of Michigan and Massachusetts. In Michigan, based upon direct premiums written for 2021, we underwrite approximately 7% of the state's total market.

Approximately 66% of our Michigan Personal Lines net premium written is in the personal automobile line and 31% is in the homeowners line. Michigan business represents approximately 47% of our total personal automobile net premiums written and approximately 39% of our total homeowners net premiums written. In Michigan, we are a principal market for many of our appointed agencies, with approximately \$2.2 million of total direct premiums written, per agency, in 2021.

In addition, in 2019, Michigan enacted major reforms of its system governing personal and commercial automobile insurance, especially related to automobile Personal Injury Protection ("PIP") coverage. We believe that we are effectively executing the transition to the reformed system and expect to navigate this market successfully. As of December 31, 2021, the net impact of these reforms was not significant to our total net premiums written and underwriting profit. For the full year 2021, net premiums written that were attributable to PIP coverage in Michigan were \$146.8 million, or 2.9% of our total company full year 2021 net premiums written, while Michigan personal automobile net premiums written represented 11.6% of our total company full year 2021 net premiums written. For more information, please refer to "Risk Factors" in Part I – Item 1A.

Approximately 66% of our Massachusetts Personal Lines net premium written is in the personal automobile line and 31% is in the homeowners line. Massachusetts business represents approximately 14% of our total personal automobile net premiums written and approximately 11% of our total homeowners net premiums written.

We sponsor local and national agent advisory councils to gain the benefit of our agents' insight and enhance our relationships. These councils and our other strong agency relationships provide market and operational feedback, input on the development of products and services, guidance on marketing efforts, and support for our strategies, and assist us in enhancing our local market presence.

Other

With respect to our Other segment business, we market our third-party investment advisory services directly through Opus.

PRICING AND COMPETITION

The property and casualty insurance industry is a very competitive market. In the Commercial and Personal Lines segments, we market and distribute through independent agents and brokers, and compete for business on the basis of product, price, agency and customer service, local relationships, ratings and effective claims handling, among other things. Our competitors include national, international, regional and local companies that sell insurance through various distribution channels, including independent agencies, captive agency forces, brokers and direct to consumers through the internet or otherwise. They also include mutual insurance companies, reciprocals and exchanges. We believe that our emphasis on maintaining strong agency relationships and a local presence in our markets, coupled with investments in products, operating efficiency, technology and effective claims handling, enable us to differentiate ourselves and compete more effectively. Our broad product offerings in Commercial Lines and total account strategy in Personal Lines are instrumental to our ability to capitalize on these relationships and improve profitability.

We seek to achieve targeted combined ratios in each of our product lines. Targets vary by product and geography and change with market conditions. The targeted combined ratios reflect competitive market conditions, investment yield expectations, our loss payout patterns and target returns on equity. This approach is intended to enable us to achieve measured growth and consistent profitability.

For all major product lines in the Commercial and Personal Lines segments, we employ pricing teams that produce exposure and experience-based rating models to support underwriting and pricing decisions. In addition, we seek to utilize our understanding of local markets to achieve superior underwriting results. We rely on market information provided by our local agents and on the knowledge of staff in the local branch offices. Since we maintain a strong local presence in many regions and a significant market share in a number of states, we can better apply our knowledge and experience in making underwriting and rate setting decisions. Also, we seek to gather objective and verifiable information at a policy level during the underwriting process, including prior loss experience, past driving records and, where permitted, credit histories.

CLAIMS MANAGEMENT

Claims management includes the receipt of initial loss notifications, generation of appropriate responses to claim reports, loss appraisals, identification and handling of coverage issues, determination of whether further investigation is required, retention of legal representation, where appropriate, establishment of case reserves, approval of loss payments, and notification to reinsurers. Part of our strategy focuses on efficient, timely and fair claim settlements to meet customer service expectations and maintain valuable independent agent relationships. Additionally, effective claims management is important to our business since claim payments and related loss adjustment expenses are our largest expenditures.

We utilize experienced claims adjusters, appraisers, medical specialists, managers and attorneys to manage our claims. Our property and casualty operations have both virtual and field claims adjusters located throughout the states and regions in which we do business. Claims staff members frequently work closely with the independent agents who bound the policies under which coverage is claimed. Claims adjusting staff are supported by general adjusters for large property and large casualty losses, by automobile and heavy equipment damage appraisers for automobile material damage losses, and by medical specialists whose principal concentration is on workers' compensation and automobile injury cases. Additionally, the claims staff are supported by staff attorneys who specialize in litigation defense and claim settlements. We have a catastrophe response team to assist policyholders impacted by severe weather events. This team mobilizes quickly to impacted regions, often in advance for a large tracked storm, to support our local claims adjusters and facilitate a timely response to resulting claims. We also maintain a special unit that investigates suspected insurance fraud and abuse. We utilize claims processing technology, such as customer self-service applications and photo analytics technology, that enables most of the smaller and more routine Personal Lines claims to be processed at centralized locations.

CATASTROPHES

We are subject to claims arising out of catastrophes, which historically have had a significant impact on our results of operations and financial condition. Coverage for such events is a core part of our business, and we expect to experience catastrophe losses in the future, which could have a material adverse impact on our financial results. Catastrophes can be caused by various events, including, among others, hurricanes, tornadoes and other windstorms, earthquakes, hail, severe winter weather, fire, explosions, riots, and terrorism. The incidence and severity of catastrophes are volatile and difficult to predict.

We endeavor to manage our catastrophe risks through underwriting procedures, including the use of deductibles and specific restrictions for flood and earthquake coverage, subject to regulatory restrictions and competitive pressures, and through geographic exposure management and reinsurance. Our catastrophe reinsurance program is structured to protect us on a per-occurrence and aggregate excess basis. We monitor geographic location and coverage concentrations with a view toward managing corporate exposure to catastrophic events. Although catastrophes can cause losses in a variety of property and casualty lines, commercial multiple peril and homeowners property coverages have, in the past, generated the majority of catastrophe-related claims.

Reinsurance Program Overview

We maintain ceded reinsurance programs designed to protect against large or unusual loss and LAE activity. We utilize a variety of proportional and non-proportional reinsurance agreements, which are intended to control our individual policy and aggregate exposure to large property and casualty losses, stabilize earnings and protect capital resources. These programs include facultative reinsurance (to limit exposure on a specified policy); specific excess and proportional treaty reinsurance (to limit exposure on individual policies or risks within specified classes of business); and catastrophe excess of loss reinsurance (to limit exposure to any one event that might impact more than one individual policy). Our proportional reinsurance consists of quota share reinsurance agreements and our non-proportional reinsurance includes excess of loss and stop loss reinsurance agreements.

Catastrophe reinsurance protects us, as the ceding insurer, from significant losses arising from a single event including, among others, hurricanes, tornadoes and other windstorms, earthquakes, hail, severe winter weather, fire, explosions, riots, flood and terrorism. We determine the appropriate amount of reinsurance based on our evaluation of the risks insured, exposure analyses prepared by advisors, our risk appetite and market conditions, including the availability and pricing of reinsurance. Although we believe our catastrophe reinsurance program, including our retention and co-participation amounts for 2022, is appropriate given our surplus level and the current reinsurance pricing environment, there can be no assurance that our reinsurance program will provide coverage levels that will prove adequate should we experience losses from one significant or several large catastrophes during 2022. Additionally, as a result of the current economic environment, as well as losses incurred by reinsurers in the past several years, the availability and pricing of appropriate reinsurance programs may be adversely affected in future renewal periods. We may not be able to pass these costs on to policyholders, or there may be a delay in passing these costs to policyholders, in the form of higher premiums or assessments.

We cede to reinsurers a portion of our risk based upon insurance policies subject to such reinsurance. Reinsurance contracts do not relieve us from our obligations to policyholders. Failure of reinsurers to honor their obligations could result in losses to us. We believe that the terms of our reinsurance contracts are consistent with industry practice in that they contain standard terms with respect to lines of business covered, limit and retention, arbitration and occurrence. Subsequent to the emergence of COVID-19 in March 2020, some of our reinsurance contract renewals contain varying forms of pandemic and other exclusions, which we believe are consistent with current reinsurance contract exclusions in the market generally. We believe our reinsurers are financially sound, based upon our ongoing review of the financial strength ratings assigned to them by rating agencies, their reputations in the reinsurance marketplace, our collections history, information and advice from third parties, and the analysis and guidance of our reinsurance advisors.

Reference is made to Note 13 — “Reinsurance” in the Notes to Consolidated Financial Statements. Reference is also made to “Involuntary Residual Markets” below.

Our 2022 reinsurance program for our Commercial Lines and Personal Lines segments is substantially consistent with our 2021 program design. The following discussion summarizes both our 2021 and 2022 reinsurance programs for our Commercial Lines and Personal Lines segments (excluding coverage available under the U.S. federal terrorism program which is described below under “Terrorism”), but does not purport to be a complete description of the program or the various restrictions or limitations which may apply:

- Our Commercial Lines and Personal Lines segments are primarily protected by a property catastrophe occurrence program, a property per risk excess of loss treaty, as well as a casualty excess of loss treaty, with retentions of \$200 million, \$3 million, and \$2 million, respectively.
- The property catastrophe occurrence program provides coverage, on an occurrence basis, up to \$1.1 billion countrywide, less a \$200 million retention, with no co-participation, for all defined perils. For occurrences from \$1.1 billion to \$1.3 billion, we have coverage for 66% of losses. Additionally, there is a program feature which provides coverage in excess of \$250 million in aggregate catastrophe losses. This feature provides \$75 million of coverage, subject to 23% co-participation, that may respond either to an event that exceeds \$1.1 billion or to events in excess of \$250 million in aggregate catastrophe losses. The catastrophe losses subject to the aggregate feature are subject to a \$5 million deductible per event and have a per occurrence limit of \$200 million.
- The property per risk excess of loss treaty provides coverage, on a per risk basis, up to \$100 million, less a \$3 million retention, with a co-participation for the second half of 2021 and the first half of 2022 of 42.5% for reinsurance placed in the \$3 million to \$5 million layer, 5% for \$5 million in excess of the \$5 million layer, and no co-participation for reinsurance placed in excess of the \$10 million to \$100 million layer. There is a \$4.2 million annual aggregate deductible for the \$10 million excess of \$10 million layer. Accordingly, we retain \$4.2 million of loss in excess of the \$10 million attachment point before we can make a reinsurance recovery from the \$10 million excess of \$10 million layer.
- In 2021, the casualty excess of loss treaty provides coverage, on a per occurrence basis for each loss, up to \$75 million less a \$2 million retention, with co-participation of 6.5% in the \$2 million to \$5 million layer, 15% for \$5 million in excess of the \$5 million layer and no co-participation for reinsurance placed in excess of the \$10 million to \$75 million layer.

- For 2021 and 2022, Commercial Lines segments are further protected by excess of loss treaty agreements for specific lines of business. For example, the surety and fidelity bond excess of loss treaty provides coverage, on a per principal basis, up to \$40 million, less a \$7.5 million retention, with no co-participation.
- In addition to certain layers of coverage from our Commercial and Personal Lines segment reinsurance program as described above, Hanover Programs also includes surplus share, quota share, excess of loss, stop loss, facultative and other forms of reinsurance that cover the writings from Hanover specialty and proprietary programs. There are a variety of different programs, and the reinsurance structure is generally customized to fit the exposure profile for each program.

Our intention is to renew the surety and fidelity bond treaty, the property per risk excess of loss treaty and the property catastrophe treaty in July 2022 with the same or similar terms and conditions, but there can be no assurance that we will be able to maintain our current levels of reinsurance, pricing and terms and conditions. Our 2022 casualty excess of loss treaty is effective January 1, 2022.

During 2021, we entered into an agreement to transfer our Excess and Casualty Reinsurance Association (“ECRA”) pool participations to a third-party reinsurer. This transfer was executed through a 100% reinsurance arrangement for our ECRA claim liability participations, which were written during the period 1950 to 1982. In 1982, the pool was dissolved and since that time, the business has been in run-off. This transaction had no significant impact on our 2021 results of operations.

Terrorism

As a result of the continuing threat of terrorist attacks, the insurance industry maintains a high level of focus with respect to the potential for losses caused by terrorist acts. Insured losses may encompass people, property and business operations covered under workers’ compensation, commercial multiple peril and other Commercial Lines policies, as well as Personal Lines policies. In certain cases, such as workers’ compensation, we are not able to exclude coverage for these losses, either because of regulatory requirements or competitive pressures. Losses caused by terrorist acts are not excluded from homeowners or personal automobile policies. We continually evaluate the potential effect of these low frequency, but potentially high severity events in our overall pricing and underwriting plans, especially for policies written in major metropolitan areas.

Although certain terrorism-related risks embedded in our Commercial and Personal Lines are covered under the existing Catastrophe, Property per Risk and Casualty Excess of Loss corporate reinsurance treaties (see “Reinsurance – Reinsurance Program Overview” above for additional information), private sector catastrophe reinsurance is limited or unavailable for losses attributed to acts of terrorism, particularly those involving nuclear, biological, chemical and/or radiological events. As a result, the industry’s primary reinsurance protection against large-scale terrorist attacks in the U.S. is provided through a federal program that provides compensation for insured losses resulting from acts of terrorism.

The Terrorism Risk Insurance Act of 2002 first established the Terrorism Risk Insurance Program (the “Program”). Coverage under the Program applies to workers’ compensation, commercial multiple peril and certain other Commercial Lines policies for direct written policies. The Program will expire in December 2027. All commercial property and casualty insurers are required to participate in the Program. Under the Program, a participating issuer, in exchange for making terrorism insurance available, may be entitled to be reimbursed by the Federal government for a portion of its aggregate losses. The Program does not cover losses in surety, Personal Lines or certain other lines of business.

As required by the Program, we offer policyholders in specific lines of commercial insurance the option to elect terrorism coverage. In order for a loss event to be reinsured under the Program, the loss event must meet aggregate industry loss minimums and must be the result of an act of terrorism as certified by the Secretary of the Treasury in consultation with the Secretary of Homeland Security and the U.S. Attorney General. Losses from events which do not qualify or are not so certified will not receive the benefit of the Program. Such losses may be deemed covered losses under the insured’s policy whether or not terrorism coverage was purchased. Further, under the Terrorism Risk Insurance Program Reauthorization Act of 2019, our share of U.S. domestic losses in 2021 from such events, if deemed certified terrorist events, would have been limited to 20% of losses in excess of an approximate \$471 million deductible, which represented 18.2% of year-end 2020 statutory policyholder surplus of our insurers, and, under the 2021 re-authorization, is estimated to be \$500.8 million in 2022, representing 18.4% of 2021 year-end statutory policyholder surplus, up to a combined annual aggregate limit for the federal government and all insurers of \$100 billion.

Given the unpredictability of terrorism losses, future losses from acts of terrorism could be material to our operating results, financial position, and/or liquidity. We attempt to manage our exposures on an individual line of business basis and in the aggregate by one-half square mile grids in major metropolitan areas.

Reinsurance Recoverables

When we experience loss events that are subject to a reinsurance contract, reinsurance recoverables are recorded. The amount of the recorded reinsurance recoverable depends on the estimated size of the individual loss or the aggregate amount of all losses in a particular line, book of business or an aggregate amount associated with a particular accident year. The valuation of losses recoverable depends on whether the underlying loss is a reported loss, or an incurred but not reported loss. For reported losses, we value reinsurance recoverables at the time the underlying loss is recognized, in accordance with contract terms. For incurred but not reported

losses, we estimate the amount of reinsurance recoverable based on the terms of the reinsurance contracts and historical reinsurance recovery information and apply that information to the gross loss reserve estimates. The most significant assumption we use is the average size of the individual losses that will exceed our reinsurance retentions for those claims that have occurred but have not yet been reported to us. The reinsurance recoverable is based on what we believe are reasonable estimates and is disclosed separately on the financial statements. However, the ultimate amount of the reinsurance recoverable is not known until all losses are settled.

Other than our investment portfolio, the single largest asset class is our reinsurance recoverables, which consist of our estimate of amounts recoverable from reinsurers with respect to losses incurred to date (including losses incurred but not reported) and unearned premiums, net of amounts estimated to be uncollectible. These estimates are expected to be revised at each reporting period and such revisions, which could be material, affect our results of operations and financial position. Reinsurance recoverables include amounts due from state mandatory reinsurance or other involuntary risk sharing mechanisms, and private reinsurers to whom we have voluntarily ceded business.

We are subject to concentration of risk with respect to reinsurance ceded to various mandatory residual markets, facilities and pooling mechanisms. As a condition to conduct business in various states, we are required to participate in residual market mechanisms, facilities and pooling arrangements which usually are designed to provide insurance coverages to individuals or other entities that are otherwise unable to purchase such coverage voluntarily or at rates deemed reasonable. These market mechanisms, facilities and pooling arrangements comprise \$911.8 million of our total reinsurance recoverables on paid and unpaid losses and unearned premiums at December 31, 2021, \$901.8 million of which is attributable to the Michigan Catastrophic Claims Association (“MCCA”).

The MCCA is a mandatory reinsurance association that reinsures claims that arise under Michigan’s unlimited personal injury protection coverage, which, as of July 2, 2020, is one of the available coverage options under Michigan’s no-fault automobile insurance statute. The MCCA reinsures all such claims in excess of a statutorily established company retention, currently \$600,000. Funding for the MCCA comes from assessments against automobile insurers based upon their share of insured automobiles in the state for which the policyholders have elected unlimited PIP benefits. Insurers are allowed to pass along this cost to Michigan automobile policyholders. This recoverable accounted for 57% and 61% of our total personal automobile gross reserves at December 31, 2021 and 2020, respectively. Because the MCCA is supported by assessments permitted by statute, and there have been no significant uncollectible balances from MCCA identified during the three years ending December 31, 2021, we believe that we have no significant exposure to uncollectible reinsurance balances from this entity. As discussed under “Risk Factors” in Part I – Item 1A, in June 2019, Michigan enacted major reforms to its prior system governing personal and commercial automobile insurance. These changes, among other things, eliminated the requirement to purchase unlimited personal injury protection and allowed consumers to purchase a choice of coverage options. In addition, the reform legislation set forth cost savings measures for personal injury protection claims, including MCCA-reinsured claims, that took effect in July 2021. Our current estimate of MCCA reinsurance receivables has been reduced for these potential future claim cost savings. This estimate is subject to change and will be revised further as the actual impacts of these cost saving measures emerge in the future.

On November 3, 2021, the MCCA Board voted unanimously to return approximately \$3.0 billion of its estimated surplus to policyholders through its member insurance companies. The action occurred because the association’s surplus was deemed to have increased beyond a level necessary to cover its expected losses and expenses. Because policyholders are the ultimate payers of the MCCA premium, this return of MCCA surplus will be passed through to policyholders. The refund is expected to be paid to the Company during March 2022 and will be refunded to the policyholders shortly thereafter. The refund was treated as a refund of premium transaction in the Company’s financial statements, reducing both direct written premium and ceded written premium. There is no effect on net written premium or net earned premium. The total amount of the refund to the Company is expected to be \$183.2 million, comprising of \$179.1 million for personal automobile and \$4.1 million for commercial automobile policyholders.

In addition to the reinsurance ceded to various residual market mechanisms, facilities and pooling arrangements, we have \$995.5 million of reinsurance assets due from traditional reinsurers as of December 31, 2021. These amounts are due principally from highly-rated reinsurers, defined as rated A- or higher by A.M. Best or other equivalent rating agency. In certain instances, for example in our Hanover Programs business, we also require, from the reinsurer, a deposit of assets in trust, letters of credit or other acceptable collateral in order to support balances due from reinsurers that provide reinsurance only on a collateralized basis.

The following table displays balances recoverable from our ten largest reinsurance groups at December 31, 2021, along with the A.M. Best rating for each group's ultimate parent or lead rating unit, if an A.M. Best rating is available. Reinsurance recoverables are comprised of paid losses recoverable, outstanding losses recoverable, incurred but not reported losses recoverable, and ceded unearned premium.

REINSURERS	A.M. Best Rating	Reinsurance Recoverable
<i>(in millions)</i>		
HDI Group (Hannover Ruckversicherungs AG)	A	\$ 153.3
Lloyd's Syndicates	A	122.6
Allegheny Corporation (Transatlantic Reinsurance Co.)	A+	91.1
Swiss Re Ltd.	A+	81.1
Toa Reinsurance Company Ltd.	A	73.1
Munich Reinsurance Companies	A+	63.1
Axis Capital Holding Ltd.	A	33.8
Exor N.V (Partner Reinsurance Company of the U.S)	A+	33.0
Berkshire Hathaway Inc. (General Reinsurance Corp)	A++	29.6
Markel Corporation	A	22.2
Subtotal		702.9
All other reinsurers		292.6
Residual markets, facilities, and pooling arrangements		911.8
Total		\$ 1,907.3

Reinsurance recoverable balances in the table above are shown before consideration of balances owed to reinsurers and any potential rights of offset, including collateral held by us, and are net of an allowance for uncollectible recoverables. Reinsurance treaties are generally purchased on an annual basis. Treaties typically contain provisions that allow us to demand that a reinsurer post letters of credit or assets as security if a reinsurer is an unauthorized reinsurer under applicable regulations or if its rating falls below a predetermined contractual level. In regards to reinsurance recoverables due from Lloyd's Syndicates, as part of the Lloyd's "chain of security" afforded to all of its policyholders, recourse is available to the Lloyd's Central Fund in the event of the failure of an individual syndicate and its capital providers.

Although reinsurance makes the reinsurer liable to us to the extent the risk is transferred or ceded to the reinsurer, ceded reinsurance arrangements do not eliminate our obligation to pay claims to our policyholders. Accordingly, we bear credit risk with respect to our reinsurers. Specifically, our reinsurers may not pay claims made by us on a timely basis, or they may not pay some or all of these claims. In addition, from time to time insurers and reinsurers may disagree on the scope of the reinsurance or on the underlying insured risks. Any of these events would increase our costs and could have a material adverse effect on our business.

We have established a reserve for uncollectible reinsurance of \$8.9 million as of December 31, 2021, or 0.5% of the total reinsurance recoverable balance, which was determined by considering reinsurer specific default risk on paid and unpaid recoverables as indicated by their financial strength ratings, any ongoing solvency issues, any current risk of dispute on paid recoverables, and our past collection experience. There have been no significant balances determined to be uncollectible and thus no significant charges recorded during 2021 for uncollectible reinsurance recoverables.

Our exposure to credit risk from any one reinsurer is managed through diversification by reinsuring with a number of different reinsurers, principally in the United States and European reinsurance markets. When reinsurance for our Commercial and Personal Lines segments is placed, our standards of acceptability generally require that a reinsurer must have a minimum policyholder surplus of \$500 million, a rating from A.M. Best and/or S&P of "A" or better, or an equivalent financial strength if not rated. In addition, for lower rated or non-rated reinsurers, we customize collateral and restrict participation to effectively manage counterparty risk, with review and approval required by the counterparty credit committee.

REGULATION

Our insurance subsidiaries are subject to extensive regulation in the states in which they transact business and are supervised by the individual state insurance departments. Numerous aspects of our business are subject to regulation, including premium rates, mandatory covered risks, limitations on the ability to cancel, non-renew, reject business or limit writings in certain geographic areas, prohibited exclusions, licensing and appointment or termination of agents, restrictions on the size of risks that may be insured under a single policy, reserves and provisions for unearned premiums, losses and other obligations, deposits of securities for the benefit of policyholders, investments and capital, policy forms and coverages, advertising, claims handling, and other conduct, including restrictions on the use of credit information and other factors in underwriting, as well as other underwriting and claims practices. These restrictions limit the ability of insurers to underwrite or price policies on the basis of available third-party information (such as "social media") and "big data." Insurers are also subject to state laws and regulations governing the protection of their data systems

and the use and protection of personal information collected in the ordinary course of operations. States also regulate various aspects of the contractual relationships between insurers and independent agents.

Such laws, rules and regulations are usually overseen and enforced by the various state insurance departments, as well as through private rights of action and by state attorneys general. Such regulations or enforcement actions are often responsive to current consumer and political sensitivities, such as automobile and homeowners insurance rates and coverage forms, or which may arise after a major event. Such rules and regulations may result in rate suppression, limit our ability to manage our exposure to unprofitable or volatile risks, require expenditures to facilitate compliance, or lead to fines, premium refunds or other adverse consequences. The federal government also may regulate aspects of our businesses, such as the use of insurance (credit) scores or other information in underwriting and the protection of confidential information.

In addition, as a condition to writing business in certain states, insurers are required to participate in various pools or risk sharing mechanisms or to accept certain classes of risk, regardless of whether such risks meet their underwriting requirements for voluntary business. Some states also limit or impose restrictions on the ability of an insurer to withdraw from certain classes of business. For example, Massachusetts, New York and California each impose material restrictions on a company's ability to materially reduce its exposures or to withdraw from certain lines of business in their respective states. The state insurance departments can impose significant charges on an insurer in connection with a market withdrawal or refuse to approve withdrawal plans on the grounds that they could lead to market disruption. Laws and regulations that limit cancellation and non-renewal of policies or that subject withdrawal plans to prior approval requirements may significantly restrict our ability to exit unprofitable markets. Such actions and related regulatory restrictions may limit our ability to reduce our potential exposure to hurricane and other catastrophe-related losses.

The insurance laws of many states subject property and casualty insurers doing business in those states to statutory property and casualty guaranty fund assessments. The purpose of a guaranty fund is to protect policyholders by requiring that solvent property and casualty insurers pay the insurance claims of insolvent insurers. These guaranty associations generally pay these claims by assessing solvent insurers proportionately based on each insurer's share of voluntary premiums written in the state. While most guaranty associations provide for recovery of assessments through subsequent rate increases, surcharges or premium tax credits, there is no assurance that insurers will ultimately recover these assessments, which could be material, particularly following a large catastrophe or in markets which become disrupted.

We are subject to periodic financial and market conduct examinations conducted by state insurance departments. We are also required to file annual and other reports with state insurance departments relating to the financial condition of our insurance subsidiaries and other matters. The National Association of Insurance Commissioners ("NAIC") and the Federal Insurance Office are each actively engaged in reviewing and considering proposed insurer risk-based capital standards, risk analysis, solvency assessments and other regulatory initiatives.

Other aspects of our business are subject to regulation as well. For example, Opus is subject to state and federal securities law, including regulation by the Securities and Exchange Commission ("SEC"), pertaining to the marketing and provision of institutional investment management services.

INVOLUNTARY RESIDUAL MARKETS

As noted above, as a condition of our license to write business in various states, we are required to participate in mandatory property and casualty residual market mechanisms which provide insurance coverages where such coverage may not otherwise be available or at rates deemed reasonable. Such mechanisms provide coverage primarily for personal and commercial property, personal and commercial automobile, and workers' compensation, and include assigned risk plans, reinsurance facilities and involuntary pools, joint underwriting associations, fair access to insurance requirements ("FAIR") plans and commercial automobile insurance plans.

For example, since most states compel the purchase of a minimal level of automobile liability insurance, states have developed shared market mechanisms to provide the required coverages and in many cases, optional coverages, to those drivers who, because of their driving records or other factors, cannot find insurers who will insure them voluntarily. Also, FAIR plans and other similar property insurance shared market mechanisms increase the availability of property insurance in circumstances where homeowners are unable to obtain insurance at rates deemed reasonable, such as in coastal areas or in areas subject to other hazards. Licensed insurers writing business in such states are often required to pay assessments to cover reserve deficiencies generated by such plans.

With respect to FAIR plans and other similar property insurance shared market mechanisms that have significant exposures, it is difficult to accurately estimate our potential financial exposure for future events. Assessments following a large coastal event, particularly one affecting Massachusetts, Texas, North Carolina or New York, or a large wildfire event affecting California, could be material to our results of operations. Our participation in such shared markets or pooling mechanisms is generally proportional to our direct writings for the type of coverage written by the specific pooling mechanism in the applicable state or other jurisdiction. For example, we are subject to mandatory participation in the Michigan Assigned Claims ("MAC") facility. MAC is an assigned claim plan covering people injured in uninsured motor vehicle accidents. Our participation in the MAC facility is based on our share of personal and commercial automobile direct written premium in the state and resulted in underwriting losses of \$16.6 million in 2021. As a result of the aforementioned Michigan automobile reform that was effective July 2021, there is increased uncertainty regarding

its impact on our future MAC facility loss costs. There were no other mandatory residual market mechanisms that were significant to our 2021 results of operations.

RESERVE FOR UNPAID LOSSES AND LOSS ADJUSTMENT EXPENSES

Reference is made to “Results of Operations – Segments – Reserve for Losses and Loss Adjustment Expenses” of Management’s Discussion and Analysis for discussion of prior year development. Additionally, information regarding loss and LAE reserve development appears in Note 14 – “Liabilities for Outstanding Claims, Losses and Loss Adjustment Expenses” in the Notes to Consolidated Financial Statements.

The following table reconciles reserves determined in accordance with accounting practices prescribed or permitted by insurance statutory authorities (“Statutory”) to reserves determined in accordance with generally accepted accounting principles (“GAAP”). The primary difference between the Statutory reserves and our GAAP reserves is the requirement, on a GAAP basis, to present reinsurance recoverables as an asset, whereas Statutory guidance provides that reserves are reflected net of the corresponding reinsurance recoverables. We do not use discounting techniques in establishing GAAP reserves for property and casualty losses and LAE, nor have we participated in any loss portfolio transfers or other similar transactions.

DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Statutory reserve for losses and LAE	\$ 4,862.3	\$ 4,490.4	\$ 4,184.2
GAAP adjustments:			
Reinsurance recoverables on unpaid losses of our insurance subsidiaries	1,693.8	1,641.6	1,574.8
Statutory reserves for discontinued accident and health business	(117.9)	(116.2)	(113.2)
Other	9.4	8.2	8.6
GAAP reserve for losses and LAE	<u>\$ 6,447.6</u>	<u>\$ 6,024.0</u>	<u>\$ 5,654.4</u>

Reserves for discontinued accident and health business of our insurance subsidiaries are included in liabilities of discontinued operations for GAAP and loss and loss adjustment expenses for Statutory reporting.

DISCONTINUED OPERATIONS

Discontinued operations primarily include our former accident and health and life insurance businesses and our former Chaucer operations.

The discontinued accident and health business includes interests in 22 accident and health reinsurance pools and arrangements that we retained subsequent to the sale of First Allmerica Financial Life Insurance Company (“FAFLIC”) in 2009. We ceased writing new premiums in this business in 1999, subject to certain contractual obligations. The reinsurance pool business consists primarily of long-term care, the medical and disability portions of workers’ compensation risks, assumed personal accident, individual medical, long-term disability, and special risk business. This business also includes residual health insurance policies. Total reserves for the assumed accident and health business were \$118.8 million at December 31, 2021. The long-term care pool accounted for approximately 74% of these reserves as of December 31, 2021. Reserves for the long-term care pool, individual medical, and residual health insurance policies are discounted. Reserves for all other assumed accident and health business are undiscounted. Assets and liabilities related to the discontinued accident and health business are reflected as assets and liabilities of discontinued life businesses.

Loss estimates associated with substantially all of the discontinued accident and health business are provided by managers of each pool. We adopt reserve estimates for this business that consider this information, expected returns on assets assigned to this business and other facts. We update these reserves as new information becomes available and further events occur that may affect the ultimate resolution of unsettled claims. Based on information provided to us by the pool managers, we believe the reserves recorded related to this business are adequate. However, since reserve and claim cost estimates related to the discontinued accident and health business are dependent on several assumptions, including, but not limited to, morbidity, lapses, future premium rates, future health care costs, persistency of medical care inflation and investment performance, and these assumptions can be impacted by technical developments and advancements in the medical field, medical and long-term care inflation and other factors, there can be no assurance that the reserves established for this business will prove sufficient. Revisions to these reserves could have a material adverse effect on our results of operations for a particular quarterly or annual period or on our financial position. See also “Risk Factors” in Part I – Item 1A.

Our long-term care pool accounts for the majority of our remaining reinsurance pool business. The potential risk and exposure of our long-term care pool is based upon expected estimated claims and payment patterns, using assumptions for, among other things, morbidity, lapses, future premium rates, and the interest rate used for discounting the future projected cash flows, as well as regulatory developments affecting the ceding insurers. The long-term exposure of this pool depends upon how our actual experience compares with these future cash flow projection assumptions.

Our former life insurance and Chaucer businesses, which are both also included in discontinued operations, include activities that were not significant to our 2021 results, although we retain indemnification obligations with respect to these businesses.

INVESTMENT PORTFOLIO

Our wholly owned subsidiary, Opus, is responsible for managing our investment portfolio. Opus directly manages our fixed maturity and equity security portfolios, which together with cash, constitute approximately 91% of our total holdings. Opus is also responsible for the selection and monitoring of external asset managers for our commercial mortgage loan participations, limited partnership investments and leveraged loan holdings. We select and monitor external managers based on investment approach, track record of risk-adjusted returns and corporate governance.

Our investment strategy seeks to balance the goals of liquidity, capital preservation, net investment income stability and total return. The asset allocation process takes into consideration the profile and expected payout pattern of our liabilities, the level of capital required to support growth across lines of business and the risk profiles of a wide range of asset classes.

The majority of our assets are invested in investment grade fixed income securities across various sectors including U.S. government, municipal, corporate, residential and commercial mortgage-backed securities and asset-backed securities. Our holdings are diversified within and across major investment and industry sectors to mitigate credit and interest rate risk. We monitor the credit quality of our investments and our exposure to individual markets, borrowers, industries, sectors and, in the case of commercial mortgage-backed securities and commercial mortgage loan participations, property types and geographic locations. We include Environmental, Social and Governance (“ESG”) issues in our fundamental investment research process, because these important factors can influence the sustainability of an investment, and its risk and return profile.

Investments held by our regulated insurance subsidiaries are subject to state insurance statutes governing permitted investments. Investment considerations include asset/liability profile, including duration, convexity and other characteristics within specified risk tolerances. Our fixed maturity portfolio duration is approximately 4.9 years. We seek to maintain sufficient liquidity to support the cash flow requirements associated with our insurance and corporate liabilities by laddering the maturities within the portfolio, closely monitoring fixed maturity duration, and holding high-quality liquid public securities.

Reference is made to “Investments” in Management’s Discussion and Analysis.

RATING AGENCIES

Insurance companies are rated by rating agencies to provide both industry participants and insurance consumers information on specific insurance companies. Higher ratings generally indicate the rating agencies’ opinion regarding financial stability and a stronger ability to pay claims.

We believe that strong ratings are important factors in marketing our products to our agents and customers, since rating information is broadly disseminated and generally used throughout the industry. Insurance company financial strength ratings are assigned to an insurer based upon factors deemed by the rating agencies to be relevant to policyholders and are not directed toward protection of investors. Such ratings are neither a rating of securities nor a recommendation to buy, hold or sell any security. Customers typically focus on claims-paying ratings, while creditors focus on debt ratings. Investors consider both rating types when evaluating a company’s overall financial strength.

EMPLOYEES AND HUMAN CAPITAL RESOURCES

As of December 31, 2021, we had approximately 4,400 employees, all of whom are located in the United States. We believe our relations with employees are positive, as evidenced by employee feedback received through employee surveys and other formal and informal channels.

In order to successfully operate our business, we rely on our corporate culture and on attracting, developing and retaining qualified employees to differentiate our company and deliver on our commitments to our independent agents, customers, investors and other stakeholders. The following is a description of the material human capital measures and objectives that management focuses on in managing the business with the oversight and support of our Board of Directors.

Inclusion & Diversity

We strive to foster an environment of inclusion and diversity (“I&D”) that welcomes the unique perspectives, experiences and insights of individuals from all backgrounds and walks of life, because we believe that this will lead to greater engagement of our employees in pursuit of our business objectives. Our goal is to continue to develop an inclusive and diverse workforce that fosters innovation, respect and collaboration.

Management has focused on I&D within our workforce by developing a multi-year educational program around inclusion that is designed to impact each of our employees, and by diversifying our sourcing practices to develop, advance and retain a diverse employee population. Additionally, we are investing in internal business resource groups to support our company’s cultural values, drive our business initiatives forward, meet the needs of both internal and external stakeholders, and foster our commitment to build an inclusive and diverse work environment. Management’s continued objectives in I&D include reinforcing inclusive behaviors at all levels of our organization, evaluating and mitigating bias in the talent lifecycle in an effort to recruit, hire, develop, and retain women,

people of color, and other underrepresented groups, and continuing to focus on our internal business resource groups to promote belonging and the importance of allyship.

Accountability for I&D has been established by incorporating Board oversight of I&D, as part of our larger corporate culture, into the charter of the Compensation and Human Capital Committee of the Board of Directors (“CHCC”) and by including support of and progress on I&D initiatives as part of the incentive compensation evaluation process for our CEO and entire executive leadership team.

Engagement and Alignment with Company Culture

We believe that an employee workforce that is engaged and aligned with our core cultural values of collaboration, accountability, respect and empowerment (our CARE values) is fundamental to delivering on our business commitments. Management focuses on maintaining an engaged workforce by providing transparent communications and soliciting employee feedback informally and through focus groups and employee surveys, including a comprehensive survey of our entire workforce conducted in 2021 by an independent third-party firm. To foster accountability, every employee, regardless of role, receives a formal evaluation and performance discussion annually, and the evaluation process is aligned to our CARE values and expected leadership behaviors. In addition, we expect that performance connections take place between manager and employee on an ongoing basis to discuss goals, overall performance, development opportunities, and demonstration of leadership and corporate values.

Development and Succession Planning

We recognize the importance of employee development for our team members throughout their careers as an important driver of workforce engagement, retention, and succession planning. Management focuses on providing learning and development through multiple modalities, including utilizing a robust online learning management platform that accommodates various schedules and diverse learning styles, engaging in experiential learning through stretch assignments and special projects, using virtual and classroom workshops, providing reimbursement for tuition and education-related fees (including professional and industry designations), and through the course of our goal-setting and performance evaluation process.

We are committed to identifying and investing in the development of our future leaders and accomplish this through formal talent review and succession planning processes that are aligned to standard leadership capabilities and our critical roles. Our development focus may include 360 feedback assessments, formal leadership development programs, executive coaching and experiential development opportunities for many employees.

Incentivized Workforce

The emphasis on our overall performance is intended to align the employee’s financial interests with the interests of shareholders. Our compensation philosophy is based on a merit system where employees are paid for their performance and recognized for their talents and contributions. We are committed to fair and equitable total compensation that includes base pay and short- and long-term incentives that are competitive with others in our industry, while also ensuring internal equity across our organization. We offer a 401(k) plan with a company matching contribution, flexible paid time off policies, an employee stock purchase program, retirement planning services, and health and wellness benefits described below, among other benefits. Most employees receive short-term incentive compensation based on annual goals with the funding and metrics approved by the CHCC. Additionally, our senior leaders receive long-term incentive compensation in the form of equity awards.

Employee Health and Wellness

Our benefits packages are designed to maintain the physical, financial, mental and social well-being of our employees, their families and dependents. We offer medical plan selections and other health and wellness offerings, including among others dental, vision and hearing health options, life and disability insurance, an employee assistance program, paid parental leave and family and medical leave, flexible work schedules and remote work arrangements, health advocacy services, adoption assistance benefit, and child care and elder care support.

During the Pandemic, we have implemented enhanced safety protocols and procedures for employees working on-site, and enhanced and modified our benefits programs and human resources policies to address illness and absences from work related to the Pandemic, including additional paid time off to facilitate vaccinations. We also implemented measures intended to address operational efficiencies related to remote work such as investing in our technology infrastructure, business continuity, and employee engagement and retention needs.

EXECUTIVE OFFICERS OF THE REGISTRANT

Reference is made to “Directors, Executive Officers and Corporate Governance” in Part III - Item 10.

AVAILABLE INFORMATION

We file our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, our definitive proxy statement on Schedule 14A, and other required information with the SEC. Shareholders may obtain reports, proxy and information statements, and other information with respect to our filings, at the SEC's website, <https://www.sec.gov>.

Our website address is <https://www.hanover.com>. We make available, free of charge, on or through our website, our annual report 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 Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our Code of Conduct is also available, free of charge, on our website. Additionally, our Corporate Governance Guidelines and the charters of our Audit Committee, Compensation and Human Capital Committee, Committee of Independent Directors, and Nominating and Corporate Governance Committee, are available on our website. All documents are also available in print to any shareholder who requests them. Unless specifically incorporated by reference, information on our website is not part of this Annual Report on Form 10-K.

ITEM 1A—RISK FACTORS

RISK FACTORS AND FORWARD-LOOKING STATEMENTS

The following important factors, among others, in some cases have affected, and in the future could affect, our actual results and could cause our actual results to differ materially from historical results and from those expressed in any forward-looking statements made from time to time by us on the basis of our then-current expectations. The words “believes”, “anticipates”, “expects”, “projections”, “outlook”, “should”, “could”, “plan”, “guidance”, “likely”, “on track to”, “targeted” and similar expressions are intended to identify forward-looking statements. Our businesses are in rapidly changing and competitive markets and involve a high degree of risk and unpredictability. Forward-looking projections are subject to these risks and unpredictability.

Risks Related to Underwriting, Risk Aggregation and Risk Management

Our results may fluctuate as a result of cyclical or non-cyclical changes in the property and casualty insurance industry.

The property and casualty insurance industry historically has been subject to significant fluctuations and uncertainties. Our profitability is materially affected by the following items:

- increases in costs, particularly increases occurring after the time our insurance products are priced, including construction, automobile repair, and medical and rehabilitation costs. This includes inflation, rises in the cost of products due to disruptions in supply chains, tariffs or other factors and “cost shifting” from health insurers to casualty and liability insurers (whether as a result of injured parties without health insurance, coverage changes in health policies to make such coverage secondary to casualty policies, state or federal healthcare legislation, lower reimbursement rates by health insurers or government-sponsored insurance, or legislation and/or litigation related to the Medicare Secondary Payer Act, which may impose reporting, additional costs, and other requirements with respect to medical and related claims paid for Medicare eligible individuals). As it relates to construction, there are often temporary increases in the cost of building supplies and construction labor after a significant event (for example, so called “demand surge” that causes the cost of labor, construction materials and other items to increase in a geographic area affected by a catastrophe). In addition, we are limited in our ability to negotiate and manage reimbursable expenses incurred by our policyholders;
- competitive and regulatory pressures, which affect the prices of our products and the nature of the risks covered;
- volatile and unpredictable developments, including severe weather, catastrophes, wildfires, infrastructure failure, civil unrest, pandemics and terrorist actions;
- legal, regulatory and socio-economic developments, such as new theories of insured and insurer liability and related claims and extra-contractual awards such as punitive damages, financed litigation, where a third party unrelated to a lawsuit provides capital to a plaintiff in return for a portion of any financial recovery from the lawsuit, and “social inflation” or other increases in the costs of litigation, size of jury awards or changes in applicable laws and regulations (such as changes in the thresholds affecting “no fault” liability or when non-economic damages are recoverable for bodily injury claims or coverage requirements) that impact our claim payouts;
- fluctuations in interest rates, as a result of a change in monetary policy or otherwise, inflationary pressures, default rates, commodity prices, and other factors that affect net income, including with respect to investment returns and operating results for certain of our lines of business; and
- other general economic conditions and trends that may affect the adequacy of reserves.

The demand for property and casualty insurance can also vary significantly based on general economic conditions (either nationally or regionally), rising as the overall level of economic activity increases and falling as such activity decreases. Loss patterns also tend to vary inversely with local economic conditions, increasing during difficult or unstable economic times and moderating during

economic upswings or periods of stability. The current Pandemic has introduced additional complexity to loss patterns. The fluctuations in demand and competition could produce unpredictable underwriting results.

Due to geographical concentration in our business, changes in economic, regulatory and other conditions in the regions where we operate could have a significant negative impact on our business as a whole. Geographic concentrations also expose us to losses that are potentially disproportionate to our market share in the event of natural or other catastrophes.

We generate a significant portion of our net premiums written and earnings in Michigan, Massachusetts and other states in the Northeast. In addition, a significant amount of Commercial Lines' net written premium is generated in California. For the year ended December 31, 2021, approximately 20.7% and 9.2% of our net premiums written in our business were generated in the states of Michigan and Massachusetts, respectively, and 11.6% of our Commercial Lines' net premiums written was generated in California. Many states in which we do business impose significant rate control and residual market charges and restrict an insurer's ability to exit such markets (for example, the Insurance Commissioner in California has taken steps to limit non-renewal of property policies in geographic areas prone to wildfires). The revenues and profitability of our insurance subsidiaries are subject to prevailing economic, regulatory, demographic and other conditions, including adverse weather. Because of our geographic concentration in certain regions, our business, as a whole, could be significantly affected by changes in the economic, regulatory and other conditions in such areas.

Further, certain new catastrophe models assume an increase in frequency and severity of certain weather or other events, such as fires, flooding from heavy precipitation and hurricanes, as a result of changing weather patterns and global climate change, or otherwise. Financial strength rating agencies emphasize capital and reinsurance adequacy for insurers with geographic concentrations of risk that may be subject to disproportionate risk of loss. These factors also may result in insurers seeking to diversify their geographic exposure, which could result in increased regulatory restrictions in those markets where insurers seek to exit or reduce coverage, as well as an increase in competitive pressures in less weather-exposed markets.

Our profitability may be adversely affected if our pricing models differ materially from actual results.

The profitability of our business depends on the extent to which our actual claims experience is consistent with the assumptions we use in pricing our policies. We price our business in a manner that is intended to be consistent, over time, with actual results and return objectives. Our estimates and models, and/or the assumptions behind them, may differ materially from actual results.

If we fail to appropriately price the risks we insure, fail to change or are slow to change our pricing model to appropriately reflect our current experience, or if our claims experience is more frequent or severe than our underlying risk assumptions, our profit margins will be negatively affected. If we underestimate the frequency and/or severity of extreme adverse events, our financial condition may be adversely affected. If we overestimate the risks we are exposed to, we may overprice our products, and new business growth and retention of our existing business may be adversely affected.

Our business is dependent on our ability to manage risk, and the failure of the risk mitigation strategies we utilize could have a material adverse effect on our financial condition or results of operations.

Our business performance is highly dependent on our ability to manage operational risks arising from numerous day-to-day business activities, including insurance underwriting, claims processing, servicing, investment, financial and tax reporting, compliance with regulatory requirements and other activities. We utilize numerous strategies to mitigate our insurance risk exposure, including: underwriting; setting exposure limits, deductibles and exclusions to mitigate policy risk; updating and reviewing the terms and conditions of our policies; managing risk aggregation by product line, geography, industry type, credit exposure and other bases; and ceding insurance risk. We seek to monitor and control our exposure to risks arising out of these activities through an enterprise-wide risk management framework. However, there are inherent limitations in each of these tactics, and no assurance can be given that these processes and procedures will effectively control all known risks or effectively identify unforeseen risks or that an event or series of events will not result in loss levels in excess of our probable maximum loss models, which could have a material adverse effect on our financial condition or results of operations. It is also possible that losses could manifest themselves in ways that we do not anticipate and that our risk mitigation strategies are not designed to address. Such a manifestation of losses could have a material adverse effect on our financial condition or results of operations. These risks may be heightened during times of challenging macroeconomic conditions.

Risks Related to Reserves and Claims

Actual losses from claims against our insurance subsidiaries may exceed their reserves for claims.

We maintain reserves to cover the estimated ultimate liability for losses and loss adjustment expenses with respect to reported and unreported claims incurred as of the end of each accounting period. Reserves do not represent an exact calculation of liability. Rather, reserves represent estimates, involving actuarial projections and judgments at a given time, of what we expect the ultimate settlement and administration of incurred claims will cost based on facts and circumstances then known, predictions of future events, estimates of future trends in claims frequency and severity and judicial theories of liability, costs of repair and replacement, legislative activity and myriad other factors.

The inherent uncertainties of estimating reserves are greater for certain types of insurance lines, particularly liability lines. These include automobile bodily injury liability, automobile personal injury protection, general liability, and workers' compensation, where a longer period of time may elapse before a definitive determination of ultimate liability may be made, (sometimes referred to as "long-tail" business), environmental liability, where the technological, judicial and political climates involving these types of claims are continuously evolving, and casualty coverages such as professional liability. The emergence of the Pandemic in 2020 resulted in an increased level of uncertainty for many lines of business, particularly our long-tailed lines. There is also greater uncertainty in establishing reserves with respect to new business, particularly new business that is generated with respect to newer product lines, such as our cyber-risk lines and specialty general liability product, by newly appointed agents, or in new geographies where we have less experience in conducting business. In these cases, there is less historical experience or knowledge and less data that the actuaries can rely on. A combination of business that is both new to us and has longer development periods, provides even greater uncertainty in estimating insurance reserves.

In several specialty lines, we are modestly increasing, and expect to continue to increase, our exposure to longer-tailed liability lines. In addition, we have experienced extensions of the "tails" in certain lines of business as the full value of claims are presented later than had been our historical experience. The broad impact of the Pandemic on the claims environment may extend these "tails" even further. For example, there may be delays in both medical treatments and submission of medical expenses and deferment of elective medical procedures, or worsening of insureds' health status, which could increase our ultimate loss costs. Also, presumptive orders by state authorities have potentially increased workers' compensation exposures beyond contractual obligations. Additionally, shifts in claim settlement patterns due to delayed court proceedings and other issues, could contribute to the extension of "tails," increased loss costs and greater uncertainty in reserve estimates.

Estimating reserves is further complicated by unexpected claims or unintended coverages that emerge due to changing conditions. These emerging issues may increase the size or number of claims beyond our underwriting intent and may not become apparent for many years after a policy is issued, such as was the case for the industry with respect to environmental, asbestos, and certain product liability claims. Similar concerns have emerged with what has been called "silent" cyber, or claims arising for cyber losses under traditional policies where such coverage is not contemplated. These losses are reflected as prior year reserve development. Although we undertake underwriting actions that are designed to limit losses once emerging issues are identified, we remain subject to losses on policies issued during those years preceding the underwriting actions.

Additionally, the introduction of new Commercial Lines products and the development of new niche and specialty lines present new risks. Certain specialty products, such as the human services program, non-profit directors and officers liability and employment practices liability policies, lawyers and other professional liability policies, healthcare lines and directors and officers coverage may also require a longer period of time (the so-called "tail") to determine the ultimate liability associated with the claims and may produce more volatility in our results and less certainty in our accident year reserves. Some lines of business, such as surety, are less susceptible to establishing reserves based on actuarial or historical experience, and losses may be episodic, depending on economic and other factors. Changes in laws, such as so-called "reviver" statutes that retrospectively change the statutes of limitations for certain claims, such as sexual molestation claims, add further uncertainty to the adequacy of prior estimates.

Underwriting results and operating income could be adversely affected by further changes in our net loss and LAE estimates related to significant events or emerging risks, such as risks related to attacks on or breaches of cloud-based data information storage or computer network systems ("cyber-risks"), privacy regulations or disruptions caused by major power grid failures or widespread electrical and electronic equipment failure due to aging infrastructure, natural factors like hurricanes, earthquakes, wildfires, solar flares and pandemic or societal factors like terrorism and civil unrest.

Estimating losses following any major catastrophe, or with respect to emerging claims, is an inherently uncertain process. Factors that add to the complexity of estimating losses from these events include legal and regulatory uncertainty, the complexity of factors contributing to the losses, delays in claim reporting, and with respect to areas with significant property damage, the impact of "demand surge" and a slower pace of recovery resulting from the extent of damage sustained in the affected areas due, in part, to the availability and cost of resources to effect repairs. Emerging claims issues may involve complex coverage, liability and other costs that could significantly affect LAE. As a result, there can be no assurance that our ultimate costs associated with these events will not be substantially different from current estimates (for example, actual losses arising from an event could have varied widely depending on the interpretation of various policy provisions). Investors should consider the risks and uncertainties in our business that may affect net loss and LAE reserve estimates and future performance, including the difficulties in arriving at such estimates.

Anticipated losses associated with business interruption exposure, the impact of wind versus water as the cause of loss, disputes over the extent of damage caused by hailstorms (particularly with respect to roof damage claims), supplemental payments on previously closed claims caused by the development of latent damages or new theories of liability and inflationary pressures leading to claims cost escalation could also have a negative impact on future loss reserve development. Many states permit insureds to simply sign-over their claims to contractors or others (so-called "assignment of benefits"), which frequently generate higher claim demands. Other states permit filing suits without prior discussions, which has a similar effect and also increases loss adjustment costs.

Because of the inherent uncertainties involved in setting reserves and establishing current and prior-year “loss picks,” including those related to catastrophes, we cannot provide assurance that the existing reserves or future reserves established by our insurance subsidiaries will prove adequate in light of subsequent events. Our results of operations and financial condition have in the past been, and in the future could be, materially affected by adverse loss development for events that we insured in prior periods.

Risks Related to Weather Events, Catastrophes and Climate Change

Limitations on the ability to predict the potential impact of weather events and catastrophes may impact our future profits and cash flows.

Our business is subject to claims arising out of catastrophes that may have a significant impact on our results of operations and financial condition. We have experienced, and in the future will experience catastrophe losses, which could have a material adverse impact on our business. Catastrophes can be caused by various events, including hurricanes, floods, earthquakes, tornadoes, wind, hail, fires, drought, severe winter weather, volcanic eruptions, tropical storms, tsunamis, sabotage, civil unrest, terrorist actions, explosions, nuclear accidents, solar flares, and power outages, which could be exacerbated by infrastructure failure. The frequency and severity of catastrophes are inherently unpredictable.

The extent of gross losses from a catastrophe is a function of the total amount of insured exposure in the area affected by the event and the severity of the event. The extent of net losses depends on the applicability, amount and collectability of reinsurance.

Additionally, the severity of certain catastrophes could be so significant that it restricts the ability of certain locations to recover their economic viability in the near term. Repeated catastrophes, or the threat of catastrophes, could undermine the long-term economic viability of certain locations like coastal or wildfire-exposed communities, which could have a significant negative impact on our business.

Although catastrophes can cause losses in a variety of property and casualty lines, homeowners and commercial multiple peril property insurance have, in the past, generated the vast majority of our catastrophe-related claims. Our catastrophe losses have historically been principally weather-related, particularly from hurricanes and hail damage, as well as snow and ice damage from winter storms.

Although the insurance industry and rating agencies have developed various models intended to help estimate potential insured losses under thousands of scenarios, there is no reliable way of predicting the probability of such events or the magnitude of such losses before a specific event occurs. We utilize various models and other techniques in an attempt to measure and manage potential catastrophe losses within various income and capital risk appetites. However, such models and techniques have many limitations, and changes in climate conditions may also cause our historical underlying modeling data to not adequately reflect the current frequency and severity of weather-related events in the future, limiting our ability to effectively evaluate and manage risks of catastrophes and severe weather events. In addition, due to historical concentrations of business, regulatory restrictions and other factors, our ability to manage such concentrations is limited, particularly in the Northeast, and in the state of Michigan.

We purchase catastrophe reinsurance as protection against catastrophe losses. Reinsurance is subject to the adequacy and counterparty reinsurance risks described below. Should we experience losses from one significant or several large catastrophes, there can be no assurance that our reinsurance program will provide adequate coverage levels.

Climate change may adversely impact our results of operations and/or our financial position.

Global climate change from rising planet temperatures over the last several decades has been linked to a number of factors that contribute to the increased unpredictability, frequency, duration and severity of weather events, including: changing weather patterns, a rise in ocean temperatures, and sea level rise. Further increases or persistence in these conditions would lead to higher overall losses, which we may not be able to recoup, particularly in a highly regulated and competitive environment, and higher reinsurance costs. Certain catastrophe models assume an increase in frequency and severity of certain weather or other events, which could result in a disproportionate impact on insurers with certain geographic concentrations of risk. This would also likely increase the risks of writing property insurance in coastal areas or areas susceptible to wildfires or flooding, particularly in jurisdictions that restrict pricing and underwriting flexibility. The threat of rising seas or other catastrophe losses as a result of global climate change may also cause property values in coastal or such other communities to decrease, reducing the total amount of insurance coverage that is required.

In addition, global climate change and global climate change transitions could lead to new or enhanced regulation, which may be difficult or costly to comply with, or impact assets that we invest in, which may result in realized and unrealized losses in future periods that could have a material adverse impact on our results of operations and/or financial position. It is not possible to foresee the impacts of potential future climate regulation, or which, if any, assets, industries or markets may be materially and adversely affected by global climate change and global climate change transitions, nor is it possible to foresee the magnitude of such effects.

Risks Related to Reinsurance

We cannot guarantee the adequacy of or ability to maintain our current level of reinsurance coverage.

Like insurance companies, reinsurance companies can also be adversely impacted by catastrophes. In setting our retention levels and coverage limits, we consider our level of statutory surplus and exposures, as well as the current reinsurance pricing environment, but there can be no assurance that we adequately set these levels or limits or that we will be able to maintain our current or desired levels of reinsurance coverage. In particular, and as discussed under “Reinsurance Program Overview” in Information About Operating Segments - Reinsurance, not all of our 2022 reinsurance programs for the Commercial and Personal Lines are fully placed. Reinsurance is a significant factor in our overall cost of providing primary insurance. However, unlike primary insurers, reinsurers are not subject to rate or other restrictions requiring them to continue availability of reinsurance or limiting cost increases or mandating coverage forms. An individual insurer’s reinsurance expense is correlated to the level of losses experienced by its reinsurers. Future catastrophic events and other changes in the reinsurance marketplace, including as a result of investment losses or disruptions due to challenges in the financial markets that have occurred or could occur in the future, may adversely affect our ability to obtain such coverages, as well as adversely affect the cost of obtaining that coverage.

Additionally, the availability, scope of coverage, cost, and creditworthiness of reinsurance could continue to be adversely affected by new catastrophes, terrorist attacks, cyber-risks, and the perceived risks associated with future terrorist activities, global conflicts, including the threat of nuclear conflict, and the changing legal and regulatory environment (including changes that could create new insured risks). Federal reinsurance for terrorism risks coverage offered by insurers is available under the federal terrorism risk insurance program, but it only applies to certified events of terrorism (as defined in the legislation) and contains certain caps and deductibles. Although the federal terrorism risk insurance program coverage is in effect through December 31, 2027, if this program is modified unfavorably by the government in the future, then private reinsurance for events of terrorism may not be available to us or available at reasonable or acceptable rates.

Although we monitor their financial soundness, we cannot be sure that our reinsurers will pay in a timely fashion, if at all.

We purchase reinsurance by transferring (known as ceding) part of the risk that we have assumed to reinsurance companies in exchange for part of the premium we receive in connection with the risk. As of December 31, 2021, our reinsurance receivable (including from the MCCA) amounted to approximately \$1.9 billion. Although reinsurance makes the reinsurer liable to us to the extent the risk is transferred or ceded to the reinsurer, it does not relieve us (the reinsured) of our liability to our policyholders. Accordingly, we bear counterparty risk with respect to our reinsurers, including risks resulting from over-concentration of exposures within the industry. Although we monitor our reinsurers and their financial condition, we cannot be sure that they will pay the reinsurance recoverables owed to us currently or in the future or that they will pay such recoverables on a timely basis. The contractual obligations under reinsurance agreements are typically with individual subsidiaries of the reinsurance group and are not typically guaranteed by other group members. In certain circumstances, with “unauthorized” reinsurers or those with lower financial strength ratings, we may require collateral equal to 100% of estimated reinsurance recoverables. The collateral can serve to mitigate credit risk. In the event of losses, we may look to “draw down” on this collateral to satisfy reinsurance recoveries due to us, but if the collateral held is insufficient to meet those recoveries, we will be exposed to losses.

Risks Related to Regulation, Mandatory Market Mechanisms and Mandatory Assessments

Our businesses are heavily regulated, and changes in regulation may reduce our profitability.

Our insurance businesses are subject to supervision and regulation by the state insurance authority in each state where we transact business. This system of supervision and regulation relates to numerous aspects of an insurance company’s business and financial condition, including limitations on the authorization of lines of business, underwriting limitations, the ability to utilize credit-based insurance scores, gender, geographic location, information publicly available (such as on social media), education, occupation, income or other factors in underwriting, the ability to terminate agents, supervisory and liability responsibilities for agents, the setting of premium rates, the requirement to write certain classes of business that we might otherwise avoid or charge different premium rates, restrictions on the ability to withdraw from certain lines of business or terminate policies or classes of policyholders, the establishment of standards of solvency, the licensing of insurers and agents, compensation of and contractual arrangements with independent agents, concentration of investments, levels of reserves, the payment of dividends, transactions with affiliates, changes of control, protection of private information of our agents, policyholders, claimants and others (which may include highly sensitive financial or medical information or other private information such as social security numbers, driving records or driver’s license numbers) and the approval of policy forms. From time to time, various states and Congress have proposed to prohibit or otherwise restrict the use of credit-based insurance scores in underwriting or rating our Personal Lines business. The elimination of the use of credit-based insurance scores could cause significant disruption to our business and our confidence in our pricing and underwriting. Most insurance regulations are designed to protect the interests of policyholders rather than stockholders and other investors.

Legislative and regulatory restrictions are constantly evolving and are subject to then-current political pressures. For example, following major events, states have considered, and in some cases adopted, proposals such as homeowners’ “Bill of Rights,” restrictions on storm deductibles, additional mandatory claim handling guidelines and mandatory coverages. More recently, the California Insurance Commissioner restricted the ability of carriers to non-renew certain coverages in wildfire disaster areas, and the New York Department of Financial Services and regulatory agencies in other states have enacted comprehensive cybersecurity regulations and required insurers to take steps related to global climate change.

Also, the federal Medicare, Medicaid and State Children's Health Insurance Program Extension Act mandates reporting and other requirements applicable to property and casualty insurance companies that make payments to or on behalf of claimants who are eligible for Medicare benefits. These requirements have made bodily injury claim resolutions more difficult, particularly for complex matters or for injuries requiring treatment over an extended period, and they impose significant penalties for non-compliance and reporting errors. These requirements also have increased the circumstances under which the federal government may seek to recover from insurers amounts paid to claimants in circumstances where the government had previously paid benefits.

State regulatory oversight and various proposals at the federal level, through the Federal Insurance Office or other agencies, may, in the future, adversely affect our ability to sustain adequate returns in certain lines of business or in some cases, operate lines profitably. In recent years, the state insurance regulatory framework has come under increased federal scrutiny, and certain state legislatures have considered or enacted laws that alter and, in many cases, increase state authority to regulate insurance companies and insurance holding company systems.

Our business could be negatively impacted by adverse state and federal legislation or regulation, or judicial developments, including those resulting in: decreases in rates, including for example, recent regulatory or bureau actions to mandate reduced premiums for workers' compensation insurance; limitations on premium levels; coverage and benefit mandates; limitations on the ability to manage care and utilization or other claim costs; requirements to write certain classes of business or in certain geographies; restrictions on underwriting, methods of compensating independent producers, or our ability to cancel or renew certain business (which negatively affects our ability to reduce concentrations of property risks); higher liability exposures for our insureds; increased assessments or higher premium or other taxes; and enhanced ability to pierce "no fault" thresholds, recover non-economic damages (such as "pain and suffering"), or pierce policy limits.

These regulations serve to protect customers and other third parties and are heavily influenced by the then-current political environment. If we are found to have violated an applicable regulation, administrative or judicial proceedings may be initiated against us that could result in censures, fines, civil penalties (including punitive damages), the issuance of cease-and-desist orders, premium refunds or the reopening of closed claim files, among other consequences. These actions could have a material adverse effect on our financial position and results of operations.

In addition, we are reliant upon independent agents and brokers to market our products. Changes in regulations related to insurance agents and brokers that materially impact the profitability of the agent and broker business or that restrict the ability of agents and brokers to market and sell insurance products would have a material adverse effect on our business.

Further, as we continue to expand our business into new regions, either organically or through acquisition, we become subject to the regulations and different regulatory bodies governing such business in those locales.

From time to time, we are also involved in investigations and proceedings by federal, state, and other governmental and self-regulatory agencies. We cannot provide assurance that these investigations, proceedings and inquiries will not result in actions that would adversely affect our results of operations or financial condition.

We are subject to uncertainties related to Michigan PIP Reform.

Starting in 1973, the state of Michigan required all personal and commercial automobile policies issued in the state to include no-fault personal injury protection ("PIP") coverage without a cap on maximum benefits allowed (i.e., "unlimited PIP benefits"). Insurers were required to retain a portion of the risk and the MCCA, a legislatively-created reinsurance mechanism, reinsures the portion of the risk in excess of the insurer's mandated retention. The mandatory retention amount increases biennially at a statutory mandated rate and is currently \$600,000. Premiums on Michigan automobile policies include a charge for both the insurer's retained amount and a separately identified pass-through charge determined by the MCCA.

In response to concerns about the overall cost and affordability of automobile insurance in Michigan, the state enacted legislation in June 2019 that significantly changed no-fault and PIP systems. The new legislation, effective July 2, 2020, eliminated the requirement that all insureds purchase unlimited PIP coverage and substituted instead tiered limits, ranging from zero (for those with certain health benefits meeting specified criteria) to unlimited benefits. In contrast, the minimum amounts of bodily injury coverage drivers are required to purchase increased, and we anticipate an increase in tort liability and related litigation from these changes. The legislation includes underwriting and other restrictions and mandates, in addition to subjecting rates, forms and rules to prior approval from the Michigan Department of Insurance and Financial Services ("Michigan Insurance Department") before implementation.

The legislation also imposes various cost controls, including medical fee schedules based on a multiple of Medicare reimbursement rates, and mandated PIP premium rate reductions with an eight-year premium rate freeze for the PIP component of automobile policies. The Michigan Insurance Department is also preparing regulations to establish utilization controls. The rate freeze was effective contemporaneously with the adoption of the legislation and the mandatory rate reduction was effective July 2, 2020, and the expense and utilization controls went into effect on July 1, 2021.

In response to the future savings expected to be garnered from the expense and utilization controls, the MCCA reassessed its outstanding liabilities and estimated that the deficit reported in more recent years had been "erased" (notwithstanding a persistent

reported annual deficit, the MCCA's annual operations have always been cash flow positive). Our current estimate of MCCA receivables has been reduced for these potential future claim cost savings. As of December 31, 2021, our estimated reinsurance recoverable from the MCCA was \$901.8 million. This estimate is subject to change and will be revised further as the actual impacts of these cost saving measures emerge in the future.

Many medical and other providers who receive reimbursement under the PIP system strenuously objected to the fee schedules, cost controls and utilization restrictions imposed by the new legislation. Since the reform legislation was adopted, we have experienced an increase in litigation from medical and other providers demanding higher reimbursements under the current system. On October 3, 2019, litigation captioned *Andary et. al. v. USAA Casualty Insurance Company and Citizens Insurance Company of America* (a subsidiary of THG), Circuit Court for the County of Ingham, Michigan Case 19-738-CZ, was filed. The plaintiffs seek a declaratory judgment that the fee schedules, attendant care reimbursement limits, cost controls and utilization provisions of the new legislation violate multiple provisions of the Michigan state constitution. We intend to vigorously contest plaintiffs' claims.

For the year ending December 31, 2021, Michigan personal automobile insurance represented approximately 47% of our total personal automobile net premiums written. PIP net written premium (which does not include the MCCA pass-through assessment) represents approximately 25% of those Michigan personal automobile premiums. It is not clear at this time whether projected savings from the various cost control measures, assuming they remain in effect, will be commensurate with the required PIP reductions and rate controls. Accordingly, there is increased uncertainty attributable to these changes regarding the future performance of our Michigan personal automobile lines.

We may incur financial losses resulting from our participation in shared market mechanisms, mandatory reinsurance programs and mandatory and voluntary pooling arrangements.

In most of the jurisdictions that we operate in, our insurance subsidiaries are required to participate in mandatory property and casualty shared market mechanisms, government-sponsored reinsurance programs or pooling arrangements. These arrangements are designed to provide various insurance coverages to individuals or other entities that are otherwise unable to purchase such coverage or to support the costs of uninsured motorist claims in a particular state or region. We cannot predict whether our participation in these shared market mechanisms or pooling arrangements will provide underwriting profits or losses to us. For the year ended December 31, 2021, we experienced an underwriting loss of \$15.1 million from participation in these mechanisms and pooling arrangements, compared to \$10.5 million and \$14.1 million in 2020 and 2019, respectively. We may face similar or more significant earnings fluctuations in the future.

Additionally, increases in the number of participants or insureds in state-sponsored reinsurance pools, FAIR plans or other residual market mechanisms, particularly in the states of Massachusetts, Texas, California, New York, or North Carolina, combined with regulatory restrictions on the ability to adequately price, underwrite, or non-renew business, as well as new legislation, or changes in existing case law, could expose us to significant risks of increased assessments from these residual market mechanisms. There could also be a significant adverse impact as a result of losses incurred in those states due to hurricane or other high loss exposures, as well as the declining number of carriers providing coverage in those regions. We are unable to predict the likelihood or impact of such potential assessments or other actions.

We also have credit risk associated with certain mandatory reinsurance programs, such as the MCCA. See "We are subject to uncertainties related to Michigan PIP Reform," above for more information on the MCCA.

In addition, we may be adversely affected by liabilities resulting from our previous participation in certain voluntary property and casualty assumed reinsurance pools. We have terminated our participation in virtually all property and casualty voluntary pools, but we remain subject to claims related to the periods when we participated. The property and casualty industry's assumed reinsurance businesses have suffered substantial losses during the past several years, particularly related to environmental and asbestos exposure for property and casualty coverages, in some cases resulting from incidents alleged to have occurred decades ago. Due to the inherent volatility in these businesses, possible issues related to the enforceability of reinsurance treaties in the industry and the continuing history of increased losses, we cannot provide assurance that our current reserves are adequate or that we will not incur losses in the future. Our operating results and financial position may be adversely affected by liabilities resulting from any such claims in excess of our loss estimates. As of December 31, 2021, our gross reserves totaled \$38.2 million for these legacy voluntary property and casualty assumed reinsurance pools, with the largest being the Excess Casualty Reinsurance Association ("ECRA") pool. During 2021, we entered into a reinsurance agreement whereby we agreed to cede 100% of the ECRA business, which represents 89% of our gross reserves for these legacy pools, to a third-party reinsurer.

We are subject to mandatory assessments by state guaranty funds; an increase in these assessments could adversely affect our results of operations and financial condition.

All fifty U.S. states and the District of Columbia have insurance guaranty fund laws requiring property and casualty insurance companies doing business within the state to participate in guaranty associations. These associations are organized to pay contractual obligations under insurance policies issued by impaired or insolvent insurance companies. The associations levy assessments, up to prescribed limits, on all member insurers in a particular state based on the proportionate share of the premiums written by member

insurers in the lines of business that the impaired or insolvent insurer is engaged in. Although mandatory assessments by state guaranty funds that are used to cover losses to policyholders of insolvent or rehabilitated companies can be substantially recovered over time through policyholder surcharges or a reduction in future premium taxes in many states (provided the collecting insurer continues to write business in such state), there can be no assurance that all funds will be recoupable in the future. During 2021, we had a total assessment of \$2.0 million levied against us, with refunds of \$0.2 million received in 2021 for a total net assessment of \$1.8 million. As of December 31, 2021, we had \$0.9 million of reserves related to guaranty fund assessments. In the future, these assessments may increase above levels experienced in prior years. Future increases in these assessments depend upon the rate of insolvencies of insurance companies.

We are subject to litigation risks, including risks relating to the application and interpretation of contracts, and adverse outcomes in litigation and legal proceedings could adversely affect our results of operations and financial condition.

We are subject to litigation risks, including risks relating to the application and interpretation of insurance and reinsurance contracts and our handling of claim matters (which can lead to bad faith and other forms of extra-contractual liability), and are routinely involved in litigation that challenges specific terms and language incorporated into property and casualty contracts, such as claims reimbursements, covered perils and exclusion clauses, among others, or the interpretation or administration of such contracts, including with respect to Pandemic-related litigation. We are also involved in legal actions that do not arise in the ordinary course of business, some of which assert claims for substantial amounts. Adverse outcomes could materially affect our results of operations and financial condition.

Risks Related to Our Agency Distribution and Growth Strategies

Our profitability could be adversely affected by our relationships with our agencies.

Substantially all of our products are distributed through independent agents and brokers who have the principal relationships with policyholders. Agents and brokers generally own the “renewal rights,” and thus our business model is dependent on our relationships with, and the success of, the agents and brokers with whom we do business.

We periodically review the agencies, including managing general agencies, with whom we do business to identify those that do not meet our profitability standards or are not aligned with our business objectives. Following these periodic reviews, we may restrict such agencies’ access to certain types of policies or terminate our relationship with them, subject to applicable contractual and regulatory requirements that limit our ability to terminate agents or require us to renew policies. Even through the utilization of these measures, we may not achieve the desired results.

Because we rely on independent agents as our sales channel, any deterioration in the relationships with our independent agents or failure to provide competitive compensation to our independent agents could lead agents to place more premium with other carriers and less premium with us. In addition, we could be adversely affected if the agencies with whom we do business, including managing general agencies, exceed the authority that we have given them, fail to transfer collected premium to us or breach the obligations that they owe to us. Although we routinely monitor our agency relationships, such actions could expose us to liability.

Also, if agency consolidation continues at its current pace or increases in the future and more agencies are consolidated into larger agencies or managing general agencies, our sales channel could be materially affected in a number of ways, including loss of market access or market share in certain geographic areas if an acquirer is not one of our appointed agencies, loss of agency talent as the people most knowledgeable about our products and with whom we have developed strong working relationships exit the business following a disposition of an agency, increases in our commission costs as larger agencies acquire more negotiating leverage over their fees, and interference with the core agency business of selling insurance due to integration or distraction. Any such disruption that materially affects our sales channel could have a negative impact on our results of operations and financial condition.

As the speed of digitization accelerates, we are subject to risks associated with both our agents’ and our ability to keep pace. In an increasingly digital world, agents who cannot provide a digital or technology-driven experience risk losing customers who demand such an experience, and such customers may choose to utilize more technology-driven agents or abandon the independent agency channel altogether. Additionally, if we are not able to keep pace with competitors’ digital offerings, we may not be able to meet the demand from our agents or their customers, which could lead to a loss of customers, agents or both.

We may not be able to grow as quickly or as profitably as we intend, which is important to our current strategy.

Over the past several years, we have made, and our current plans are to continue to make, significant investments in our Commercial and Personal Lines of business, in order to, among other things, strengthen our product offerings and service capabilities, expand into new geographic areas, improve technology and our operating models, build expertise in our personnel, and expand our distribution capabilities, with the ultimate goal of achieving significant, sustained growth. The ability to achieve significant profitable premium growth in order to earn adequate returns on such investments and expenses, and to grow further without proportionate increases in expenses, is an important part of our current strategy. There can be no assurance that we will be successful at profitably growing our business, or that we will not alter our current strategy due to changes in our markets or an inability to successfully maintain acceptable

margins on new or existing business or for other reasons, including general economic conditions because of the Pandemic or otherwise, in which case premiums written and earned, operating income and net book value could be adversely affected.

We may be affected by disruptions caused by the introduction of new products, related technology changes, and new operating models in Commercial Lines, Personal Lines and specialty businesses and future acquisitions, and expansion into new geographic areas.

There are increased underwriting risks associated with premium growth and the introduction of new products or programs in our Commercial Lines, Personal Lines and specialty businesses. Additionally, there are increased underwriting risks associated with the appointment of new agencies and managing general agencies and with the expansion into new geographical areas.

The introduction of new Commercial Lines products and the development of new niche and specialty lines presents new risks. Certain new specialty products may present longer “tail” risks and increased volatility in profitability. Our expansion into western states, including California, presents additional underwriting risks since the regulatory, geographic, natural risk, legal environment, demographic, business, economic and other characteristics of these states present different challenges from those in the states where we historically have conducted business. In addition, our agency relationships in these new geographies are not as developed.

Our Personal Lines production and earnings may be unfavorably affected by the continued introduction of new products, expanded risk appetites and our focus on account business (i.e., policyholders who have both automobile and homeowner insurance with us) that we believe, despite pricing discounts, will ultimately be more profitable business. We may also experience adverse selection, which occurs when insureds purchase our products because of underpricing, operational difficulties or implementation impediments with independent agents or the inability to grow new markets after the introduction of new products or the appointment of new agents.

As we enter new states or regions or grow our business, there can be no assurance that we will not experience higher loss trends than anticipated.

Risks Related to Technology, Data Security and Privacy

We may experience difficulties with technology, implementing new technologies, data security and/or outsourcing relationships, which could have a negative impact on our ability to conduct our business.

We use computer systems to store, retrieve, evaluate and utilize customer and company data and information. Our computer, information technology and telecommunications systems, in turn, interface with and rely upon third-party systems, including cloud-based data storage. Our business is highly dependent on our ability and the ability of certain third parties, to access these systems to perform necessary business functions, including, without limitation, providing insurance quotes, processing premium payments, making changes to existing policies, filing and paying claims, providing customer support and managing investment portfolios. Systems attacks, failures or outages could compromise our ability to perform these functions in a timely manner, which could harm our ability to conduct business and hurt our relationships with our business partners and customers. In the event of a disaster such as a natural catastrophe, epidemic or pandemic, an industrial accident, a blackout, a computer virus, a cyber security attack or intrusion, a terrorist attack or war, or interference from solar flares, our systems or the external systems that we rely on may be inaccessible to our employees, customers or business partners for an extended period of time. Even if our employees are able to report to work, they may be unable to perform their duties for an extended period of time if our data or the systems that we rely on are disabled or destroyed or if our disaster recovery plans are inadequate or suffer from unforeseen consequences. These same risks are ones that our critical third-party vendors may face, and if those vendors are adversely impacted, then our operations could be harmed. This could result in a materially adverse effect on our business results and liquidity.

We increasingly rely on technological and data-driven solutions to operate our business. If we are slow to adapt to, roll out or implement new technologies, particularly those systems, platforms and applications that leverage data and analytics capabilities, it could materially affect our ability to meet the expectations of our customers or compete with more technologically adept competitors, particularly those with greater resources to devote to new technologies or technological enhancements.

In addition, we may increase our reliance upon third-party vendors to provide or support technology, data storage and business process functions in the future. If we do not effectively develop, implement and monitor our outsourcing and third-party risk management strategies, third-party providers do not perform as anticipated, or we or they experience technological or other problems with a migration or in operations, we may not realize productivity improvements or cost efficiencies and may experience operational difficulties, liabilities for breaches of confidential information, increased costs and a loss of business. Our outsourcing of certain technology, data storage and business process functions to third parties may expose us to enhanced risk related to data security, which could result in monetary and reputational damages. In addition, our ability to receive services from third-party providers outside of the United States might be impacted by global differences in social and cultural expectations, political instability, or substantially different, conflicting or onerous regulatory requirements or policies, which could impact our operational effectiveness. As a result, our ability to conduct our business might be adversely affected.

Data security incidents, including, but not limited to, those resulting from a malicious cyber security attack on us or our business partners and service providers, or intrusions into our systems or data sources could disrupt or otherwise negatively impact our business.

Our systems and the systems that we rely on, like others in the financial services industry, are vulnerable to cyber security risks, and we are subject to disruption and other adverse effects caused by such activities. Large corporations such as ours are subject to daily attacks on their systems and other vulnerabilities to data security incidents. These attacks and incidents have included, or may in the future include: unauthorized access, viruses, malware or other malicious code, ransomware, deceptive social engineering campaigns (also known as “phishing” or “spoofing”), loss or theft of assets, employee errors or malfeasance, third-party errors or malfeasance, as well as system failures and other security events. Threat actors who design and commit such attacks may have various goals, from seeking confidential information or the misdirection of payments, to holding systems for ransom, or causing operational disruption. The effects of these activities could result in material disruptions to our operations, financial loss or material damage to our reputation. Like other companies, we have from time to time experienced, and are likely to continue to experience, security events and data intrusion, and while none of these events to date have had a material adverse effect on our business, no assurances can be made that such attacks or security events will not have a material adverse effect on our business in the future. As the breadth, frequency, and complexity of cyber security attacks and other data security events become more prevalent and the methods used to perpetrate them evolve, we may be required to devote additional personnel, or financial or systems resources, to protect our Company and invest in additional resources to support our data security program. From time to time we have had to, and in the future we may need to, increase or expend resources to investigate or remediate vulnerabilities as a result of data security incidents. Such resources are costly in time and expense, and detract from resources spent on or are otherwise devoted to our core operations. In addition, depending on the nature of an incident, we may not be able to detect an incident readily, assess its severity or impact, or appropriately respond in a timely manner, which could increase our risk and exposures.

The third parties with whom we work are also subject to these same risks, and we are vulnerable if a cyber security attack or other data security incident impacts a third-party vendor or service provider. Such an event could threaten to disrupt our business if the third party’s operations are compromised, or provide attackers an opportunity to exploit that compromise to pivot and attack our systems through the technical and operational relationships that we have with our trusted business partners. While we implement measures to protect against such events (e.g., utilizing secure transmission capabilities with third-party vendors and others with whom we do business when possible), including a formal review and assessment of our third-party providers’ cybersecurity controls, as appropriate, and modifications to our business processes to manage these risks, we cannot assure that our efforts will always be successful.

Any failure to protect the confidentiality of customer information could adversely affect our reputation or expose us to fines, penalties or litigation, which could have a material adverse effect on our business, financial condition and results of operations.

We are required to safeguard the confidential personal information of our customers and applicants. We are subject to an increasing number of federal, state, local and international laws and regulations regarding privacy and data security, as well as contractual commitments. These laws and regulations are rapidly evolving, complex, vary significantly from jurisdiction to jurisdiction, and sometimes conflict. In the absence of updated, uniform federal privacy legislation, there is a growing trend in the states in which we operate, to adopt comprehensive privacy legislation that provides consumers with various privacy rights and imposes significant compliance burdens on covered companies. Failure to comply with data security or privacy laws or regulations could subject us to regulatory enforcement actions and fines, penalties, litigation, private rights of action or public statements against us by consumer advocacy groups or others if confidential customer information is misappropriated from our computer systems, those of our vendors or others with whom we do business, or otherwise. Despite the security measures that may be in place, any such systems may be vulnerable to the types of attacks and security incidents described above. Any well-publicized compromise of security could deter people from entering into transactions that involve transmitting confidential information, impart reputational or other harm, and/or have a material adverse effect on our business. Additionally, privacy legislation may make our business partners more reluctant to share information with us that is useful in conducting our business.

Risks Related to Competition and Competitors in the Property and Casualty Insurance Market

Intense competition could negatively affect our ability to maintain or increase our profitability, particularly in light of the various competitive, financial, strategic, technological, structural, informational and resource advantages that our competitors have.

We compete, and will continue to compete, with a large number of companies, including international, national and regional insurers, specialty insurance companies, underwriting agencies and financial services institutions. We also compete with mutual insurance companies, reciprocal and exchange companies that may not have shareholders and may have different profitability targets than publicly or privately owned companies. In recent years, there has been substantial consolidation and convergence among companies in the financial services industry, resulting in increased competition from large, well-capitalized financial services firms. Many of our competitors have greater financial, technical, technological, and operating resources than we do, greater access to data analytics or “big data,” and may be able to offer a wider range of, or more sophisticated, commercial and personal line products. Some of our competitors also have different marketing, advertising and sales strategies than we do and market and sell their products to consumers

directly. In addition, competition in the U.S. property and casualty insurance market has intensified over the past several years. This competition has had, and may continue to have, an adverse impact on our revenues and profitability.

The industry and we are challenged by changing practices caused by the Internet, application-based programs relying on algorithms and computer modeling to underwrite policies and administer claims, and the increased usage of real time comparative rating tools and claims management processes, which have led to greater competition in the insurance business in general, particularly on the basis of price and pressure to reduce coverages to compete on price and to respond to customer requests as quickly as possible.

We also face heightened competition resulting from the entry of new competitors and the introduction of new products by new and existing competitors. Recent entries into the property and casualty marketplace by large technology companies, retail companies, so-called “Insurtech” companies and other non-traditional insurance providers, who aim to leverage their information about technology and direct access to customers, without the burden of legacy systems, access and ability to manipulate “big data,” artificial intelligence, speed in responding to customer requests or other developing opportunities, may increase competition. Increased competition could make it difficult for us to obtain new or retain existing customers. It could also result in increasing our service, administrative, policy acquisition or general expenses as we seek to distinguish our products and services from those of our competitors. In addition, our administrative, technology and management information systems’ expenditures could increase substantially as we try to maintain or improve our competitive position or keep up with evolving technology in order to deliver the same or similar customer or agency experience as those offered by our competitors.

We compete for business not just on the basis of price, but also on the basis of product coverages, reputation, financial strength, quality of service (including claims adjustment service), experience and breadth of product offering. We cannot provide assurance that we will be able to maintain a competitive position in the markets where we operate, or that we will be able to expand our operations into new markets.

Risks Related to Financial Strength and Debt Ratings

We are rated by several rating agencies, and downgrades to our ratings could adversely affect our operations.

Our ratings are important in establishing our competitive position and marketing the products of our insurance companies to our agents and customers. Rating information is broadly disseminated and generally used throughout the industry. Many policyholders, particularly larger commercial customers, will not purchase, and many agents will not distribute, products of insurers that do not meet certain financial strength ratings.

Our insurance company subsidiaries are rated by A.M. Best, Moody’s, and Standard & Poor’s. These ratings reflect the rating agency’s opinion of our insurance subsidiaries’ financial strength, operating performance, position in the marketplace, risk management, and ability to meet their obligations to policyholders. These ratings are not evaluations directed to investors, and are not recommendations to buy, sell or hold our securities. Our ratings are subject to periodic review by the rating agencies, and we cannot guarantee the continued retention or improvement of our current ratings. This is particularly true given that rating agencies may change their criteria or increase capital requirements for various rating levels.

A downgrade in one or more of our or any of our subsidiaries’ claims-paying ratings could negatively impact our business and competitive position, particularly in lines where customers require us to maintain minimum ratings. Additionally, a downgrade in one or more of our debt ratings could adversely impact our ability to access the capital markets and other sources of funds, increase the cost of current credit facilities, and/or adversely affect pricing of new debt that we may seek in the capital markets in the future. Our ability to raise capital in the equity markets could also be adversely affected.

Negative changes in our level of statutory surplus could adversely affect our ratings and profitability.

The capacity for an insurance company’s growth in premiums is in part a function of its statutory surplus. Maintaining appropriate levels of statutory surplus, as measured by state insurance regulators, is considered important by state insurance regulatory authorities and by rating agencies. As our business grows, or due to other factors, regulators may require that additional capital be retained or contributed to increase the level of statutory surplus. Failure to maintain certain levels of statutory surplus could result in increased regulatory scrutiny, action by state regulatory authorities or a downgrade by private rating agencies. Surplus in our insurance company subsidiaries is affected by, among other things, results of operations and investment gains, losses, impairments, and dividends from each of those companies to its parent company. A number of these factors affecting our level of statutory surplus are, in turn, influenced by factors that are out of our control, including the frequency and severity of catastrophes, changes in policyholder behavior, changes in rating agency models and economic factors, such as changes in equity markets, credit markets or interest rates.

The NAIC uses a system for assessing the adequacy of statutory capital for property and casualty insurers. The system, known as risk-based capital, is in addition to the states’ fixed dollar minimum capital and other requirements. The system is based on risk-based formulas that apply prescribed factors to the various risk elements in an insurer’s business and investments to report a minimum capital requirement proportional to the amount of risk assumed by the insurer. Any failure to maintain appropriate levels of statutory surplus would have an adverse impact on our ability to maintain or grow our business.

Risks Related to Discontinued Operations

We could be subject to additional losses related to the sales of our discontinued FAFLIC and variable life insurance and annuity businesses and our former Chaucer business.

On January 2, 2009, we sold our remaining life insurance subsidiary, FAFLIC, to Commonwealth Annuity and Life Insurance Company (“Commonwealth Annuity”). Coincident with the sale transaction, Hanover Insurance and FAFLIC entered into a reinsurance contract whereby Hanover Insurance assumed FAFLIC’s discontinued accident and health insurance business. We previously owned Commonwealth Annuity, but sold it in 2005 in conjunction with our disposal of our variable life insurance and annuity business. In connection with these transactions, we have agreed to indemnify Commonwealth Annuity for certain contingent liabilities, including litigation and other regulatory matters.

On December 28, 2018, we sold the majority of our Chaucer business (specifically our U.K.-based Lloyd’s entities) to China Re, with the rest of the Chaucer sale completed in April 2019. In connection with these transactions, we made certain representations and warranties and agreed to indemnify China Re for certain pre-sale contingent liabilities, including tax and litigation matters.

We cannot provide assurance as to what the costs of any indemnifications will be when they ultimately settle.

We may incur financial losses related to our discontinued assumed accident and health reinsurance pools and arrangements.

We previously participated, through FAFLIC, in approximately 40 assumed accident and health reinsurance pools and arrangements. The business was retained in the sale of FAFLIC and assumed by Hanover Insurance through a reinsurance agreement. In 1999, prior to the sale of FAFLIC to Commonwealth Annuity, FAFLIC had ceased writing new premiums in this business, subject to certain contractual obligations. We are currently monitoring and managing the run-off of our related participation in the 22 pools with remaining liabilities. See “Item 1 – Business – Discontinued Operations,” for information on the processes and risks associated with reserves established for these businesses.

Our long-term care pool accounts for the majority of our remaining accident and health reinsurance pool business. The potential risk and exposure of our long-term care pool is based upon expected estimated claims and payment patterns, using assumptions for, among other things, morbidity, lapses, future premium rates, the impact of policy inflation protection riders, and the interest rate used for discounting the future projected cash flows. The long-term exposure of this pool depends upon how our actual experience compares with these future cash flow projection assumptions. If any of our assumptions prove to be inaccurate, our reserves may be inadequate, which may have a material adverse effect on our results of operations.

Based on the information provided by the pool managers, we believe that the recorded reserves related to this business are appropriate. However, due to the inherent volatility in this business and the reporting lag of losses that tend to develop over time and which ultimately affect excess covers, as well as uncertainty surrounding both future claim expenses and with future premium rate levels for certain of these businesses, there can be no assurance that current reserves are adequate or that we will not have additional losses in the future.

Risks Related to Investments, Capital Markets and Economic Conditions

Other market fluctuations and general economic, market and political conditions may also negatively affect our business, profitability, investment portfolio, and the market value of our common stock.

It is difficult to predict the impact of a challenging economic environment on our business. In Commercial Lines, a difficult economy in the past has resulted in reductions in demand for insurance products and services since there are more companies ceasing to do business and there are fewer business start-ups, particularly as businesses are affected by a decline in overall consumer and business spending. Additionally, claims frequency could increase as policyholders submit and pursue claims more aggressively than in the past, fraud incidences may increase, or we may experience higher incidents of abandoned properties or poorer maintenance, which may also result in more claims activity. We have experienced higher workers’ compensation claims as injured employees take longer to return to work, increased surety losses as construction companies experience financial pressures and higher retroactive premium returns as audit results reflect lower payrolls. Our business could also be affected by an ensuing consolidation of independent insurance agencies. Our ability to increase pricing has been impacted as agents and policyholders have been more price sensitive, customers shop for policies more frequently or aggressively, utilize comparative rating models or, in Personal Lines in particular, turn to direct sales channels rather than independent agents. We have experienced decreased new business premium levels, retention and renewal rates, and renewal premiums. Specifically, in Personal Lines, policyholders may reduce coverages or change deductibles to reduce premiums, experience declining home values, or be subject to increased foreclosures, and policyholders may retain older or less expensive automobiles and purchase or insure fewer ancillary items such as boats, trailers and motor homes for which we provide coverages. Additionally, if as a result of a difficult economic environment, drivers continue to eliminate automobile insurance coverage or to reduce their bodily injury limit, we may be exposed to more uninsured and underinsured motorist coverage losses. Conversely, favorable economic conditions may also impact our business and results of operations.

At December 31, 2021, we held approximately \$9.4 billion of investment assets in categories such as fixed maturities, equity securities, other investments, and cash and short-term investments. Our investments are primarily concentrated in the domestic market. Our investment returns, and thus our profitability, statutory surplus and shareholders' equity, may be adversely affected from time to time by conditions affecting our specific investments and, more generally, by bond, stock, real estate and other market fluctuations and general economic, market and political conditions, including the impact of the Pandemic, changing government policies, including monetary policies, and geopolitical risks (which may include the impact of terrorism in various parts of the world or pandemic events). These broader market conditions are out of our control. Our ability to make a profit on insurance products depends in significant part on the returns on investments supporting our obligations under these products, and the value of specific investments may fluctuate substantially depending on the foregoing conditions. We may use a variety of strategies to hedge our exposure to interest and currency rates and other market risks. However, hedging strategies are not always available and carry certain credit risks, and our hedging could be ineffective. Moreover, increased government regulation of certain derivative transactions used to hedge certain market risks has served to prevent (or otherwise substantially increase the cost associated with) hedging such risks.

Additionally, the aggregate performance of our investment portfolio depends, to a significant extent, on the ability of our investment managers to select and manage appropriate investments. As a result, we are also exposed to operational and compliance risks, which may include, but are not limited to, a failure to follow our investment guidelines, technological and staffing deficiencies and inadequate disaster recovery plans. The failure of these investment managers to perform their services in a manner consistent with our expectations and investment objectives could adversely affect our ability to conduct our business.

Debt securities comprise a material portion of our investment portfolio. Although we have an investment strategy that provides for asset diversification, the concentration of our investment portfolio in any one type of investment, industry or geography could have a disproportionately adverse effect on our investment portfolio. The issuers of debt securities, as well as borrowers under the loans we make, customers, trading counterparties, counterparties under swaps and other derivative contracts, banks which have commitments under our various borrowing arrangements, and reinsurers, may be affected by declining market conditions or credit weaknesses. These parties may default on their obligations to us due to lack of liquidity, downturns in the economy or real estate values, operational failure, bankruptcy or other reasons. Future increases in interest rates could result in increased defaults as borrowers are unable to pay the additional borrowing costs on variable rate securities or obtain refinancing. We cannot provide assurance that impairment charges will not be necessary in the future. In addition, evaluation of available-for-sale securities for credit-related impairment losses includes inherent uncertainty and subjective determinations. We cannot be certain that such impairments are adequate as of any stated date. Our ability to fulfill our debt and other obligations could be adversely affected by the default of third parties on their obligations owed to us.

Deterioration in the global financial markets may adversely affect our investment portfolio and have a related impact on our other comprehensive income, shareholders' equity and overall investment performance. Recent economic activity has slowed, although growth continues at a moderate rate, and monetary policies in developed economies currently remain accommodative. However, the effects of geo-political developments and conditions in global financial markets could change rapidly in ways that we cannot anticipate, resulting in additional realized and unrealized losses.

Market conditions also affect the value of assets under our employee pension plans, including our Cash Balance Plan. The expense or benefit related to our employee pension plans results from several factors, including, but not limited to, changes in the market value of plan assets, interest rates, regulatory requirements or judicial interpretation of benefits. At December 31, 2021, our plan assets included approximately 90% of fixed maturities and 10% of equity securities and other assets. Additionally, our qualified plan assets exceeded liabilities by \$19.4 million at December 31, 2021. Declines in the market value of plan assets and lower interest rates from levels at December 31, 2021, among other factors, could impact our funding estimates and negatively affect our results of operations. Deterioration in market conditions, including as a result of the Pandemic, and differences between our assumptions and actual occurrences, and behaviors, could result in a need to fund more into the qualified plan to maintain an appropriate funding level.

Additional uncertainties, which could affect our business prospects and investments include the current U.S. political environment, which is characterized by potentially sharp policy differences that may affect all aspects of the economy.

We may experience unrealized losses on our investments, especially during a period of heightened volatility, or if assumptions related to our investment valuations are changed, which could have a material adverse effect on our results of operations or financial condition.

Our investment portfolio and shareholders' equity can be, and in the past have been, significantly impacted by changes in the market values of our securities. U.S. and global financial markets and economies remain uncertain, particularly in light of the Pandemic and inflationary pressures. Market uncertainty could result in unrealized and realized losses in future periods, and adversely affect the liquidity of our investments, which could have a material adverse impact on our results of operations and our financial position. Information with respect to interest rate sensitivity is included in "Quantitative and Qualitative Disclosures" in Management's Discussion and Analysis. Valuation of financial instruments (i.e., Level 1, 2, or 3) include methodologies, estimates, assumptions and judgments that are inherently subjective and open to different interpretations and could result in changes to investment valuations or the ability to receive such valuations on sale. During periods of market disruption, it may be difficult to value certain of our securities

if trading becomes less frequent and/or market data becomes less observable. In addition, in times of financial market disruption, certain asset classes that were in active markets with significant observable data may become illiquid. In those cases, the valuation process includes inputs that are less observable and require more subjectivity and judgment by management. Changes in these subjective methodologies, estimates, assumptions and judgments used to value our investments could also materially affect the valuation of certain investments.

If, following such declines, we are unable to hold our investment assets until they recover in value, or if such asset value never recovers, we would incur impairment losses that would be recognized as realized losses in our results of operations, reduce net income and earnings per share and adversely affect our liquidity and capital position. Impairment determinations, like valuations, are also subjective, and changes to the methodologies, estimates, assumptions and judgments used to determine impairments may affect the timing and amount of impairment losses recognized in our results of operations. Temporary declines in the market value of fixed maturities are recorded as unrealized losses, which do not affect net income and earnings per share, but reduce other comprehensive income, which is reflected on our Consolidated Balance Sheets. We cannot provide assurance that we will not have additional impairment losses and/or unrealized or realized investment losses in the future.

We invest a portion of our portfolio in common stocks, preferred stocks, and limited partnerships. The value of these assets fluctuates with the equity markets. Particularly in times of economic weakness, the market value and liquidity of these assets may decline, and may impact net income, capital and cash flows.

We are exposed to significant capital market risks related to changes in interest rates, credit spreads, and equity prices, which may adversely affect our results of operations, financial position or cash flows.

We are exposed to significant capital market risks related to changes in interest rates, credit spreads, and equity prices. Significant declines in equity prices, changes in interest rates, and changes in credit spreads each could have a material adverse effect on our results, financial position or cash flows. Our exposure to interest rate risk relates primarily to the market price and cash flow variability associated with changes in interest rates. Our investment portfolio contains interest rate sensitive instruments, such as fixed income securities, which may be adversely affected by changes in interest rates from governmental monetary policies, domestic and international economic and political conditions and other factors beyond our control. A rise in market yields would reduce the fair value of our investment portfolio, but it provides the opportunity to earn higher rates of return on funds reinvested. A further decline in interest rates, on the other hand, would increase the fair value of our investment portfolio, but we would earn lower rates of return on reinvested assets. We may be forced to liquidate investments prior to maturity at a loss in order to cover liabilities, and such liquidation could be accelerated in the event of significant loss events, such as catastrophes. Although we take measures to manage the economic risks of investing in a changing interest rate environment, we may not be able to mitigate the interest rate risk of our assets relative to our liabilities.

Our investment portfolio is invested primarily in high quality, investment-grade fixed income securities. However, we also invest in non-investment-grade high yield fixed income securities and limited partnerships. These securities, which pay a higher rate of interest, also have a higher degree of credit or default risk. These securities may also be less liquid in times of economic weakness or market disruptions. Additionally, reported values of our investments do not necessarily reflect the lowest current market price for the asset, and if we require significant amounts of cash on short notice, we may have difficulty selling our investments in a timely manner, be forced to sell them for less than we otherwise would have been able to realize, or both. While we have procedures to monitor the credit risk and liquidity of our invested assets, we expect from time to time, and particularly in periods of economic weakness, to experience default losses in our portfolio. This would result in a corresponding reduction of net income, capital and cash flows.

Inflationary pressures may negatively impact expenses, reserves and the value of investments.

Inflationary pressures in the U.S., as a result of the Pandemic, or otherwise, with respect to medical and health care, automobile repair and construction costs, as well as social inflation of litigation costs, jury awards and settlement expectations, all of which are significant components of our indemnity liabilities under policies we issue to our customers, and which could also impact the adequacy of reserves we have set aside for prior accident years, may have a negative effect on our results of operations. Inflationary pressures also cause or contribute to, or are the result of, increases in interest rates, which would reduce the fair value of our investment portfolio.

Risks Related to Capital, Liquidity and Cash Flow

We are a holding company and rely on our insurance company subsidiaries for cash flow; we may not be able to receive dividends from our subsidiaries in needed amounts and may be required to provide capital to support their operations.

We are a holding company for a group of insurance companies, and our principal assets are the shares of capital stock of these subsidiaries. Our ability to make required interest payments on our debt, as well as our ability to pay operating expenses and pay dividends to shareholders, depends upon the receipt of sufficient funds from our subsidiaries. The payment of dividends by our insurance company subsidiaries is subject to regulatory restrictions and will depend on the surplus and future earnings of these subsidiaries, as well as these regulatory restrictions. We are required to notify insurance regulators prior to paying any dividends from our insurance subsidiaries, and pre-approval is required with respect to “extraordinary dividends.”

Because of the regulatory limitations on the payment of dividends from our insurance company subsidiaries, we may not always be able to receive dividends from these subsidiaries at times and in amounts necessary to meet our debt and other obligations, or to pay dividends to our shareholders. The inability of our subsidiaries to pay dividends to us in an amount sufficient to meet our debt interest and funding obligations would have a material adverse effect on us. These regulatory dividend restrictions also impede our ability to transfer cash and other capital resources among our subsidiaries. Similarly, our insurance subsidiaries may require capital from the holding company to support their operations.

Our dependence on our insurance subsidiaries for cash flow, and their potential need for capital support, exposes us to the risk of changes in their ability to generate sufficient cash inflows from new or existing customers, from inadequate investment returns, or from increased cash outflows. Cash outflows may result from claims activity and expense payments. Because of the nature of our business, claims activity can arise suddenly and in amounts which could outstrip our capital or liquidity resources (particularly in the event of a large catastrophe loss). Reductions in cash flow or capital demands from our subsidiaries could have a material adverse effect on our business and results of operations.

We may require additional capital or credit in the future, which may not be available or only available on unfavorable terms.

We monitor our capital adequacy on a regular basis. Our future capital and liquidity requirements depend on many factors, including premiums written, loss reserves and claim payments, investment portfolio composition and risk exposures, the availability of letters and lines of credit, and maturing outstanding debt, as well as regulatory and rating agency capital requirements. In addition, our capital strength can affect our ratings.

To the extent that our existing capital is insufficient or unavailable to fund our future operating requirements and/or cover claim losses, we may need to raise additional funds through financings or limit our growth. Any equity or debt financing, if available, may be on terms that are unfavorable to us. In the case of equity financings, dilution to our shareholders could result and, in any case, such securities may have rights, preferences, and privileges that are senior to our common stock. If we are not able to obtain additional capital as necessary, our business, results of operations and financial condition could be adversely affected.

Risks Related to the Pandemic

The impact of the COVID-19 Pandemic and related general economic conditions could have a material adverse effect on our results of operations, financial condition or cash flows.

Circumstances relating to the Pandemic are unprecedented in scope and impact, continue to evolve, and are complex and uncertain. We are still monitoring and assessing the continued impacts of the Pandemic and its future impact on our business, financial condition and results of operations. Prolonged disruptions related to the Pandemic may affect our insureds ability to pay premiums or result in customers reducing or eliminating coverages. In addition, supply chain disruptions, inflation or other difficulties caused by the Pandemic could lead to more costly or lengthy claims resolutions. Significant agent disruption could affect our agent partners and their ability to operate their businesses and place business with us or lead consumers to choose our competitors that offer direct-to-consumer or other solutions. These changes may materially and adversely affect our ability to profitably grow our business or maintain our current premium levels, particularly if these conditions exist for a significant amount of time. Also, it may be more difficult or costly to obtain reinsurance for certain types of coverages or at retention levels appropriate for our business mix.

As a result of the Pandemic and related economic conditions, our investment portfolio has become volatile and yields on our fixed income investments have declined. The severity and length of the Pandemic may continue to have a negative impact on our investment portfolio, investment income, liquidity and capital position, of which the impact could be material.

If the threat of the Pandemic continues, a significant percentage of our workforce may be unable to work, whether because of illness, quarantine, limitations on travel or other government restrictions in connection with the Pandemic, or other disruptions, the quality or timeliness of our services and operations may be negatively impacted. Also, with a large percentage of our workforce working remotely, we are highly reliant on the effective functioning of our business continuity plans and technology, and we are subject to threats and vulnerabilities. We also outsource a variety of functions to third parties, including certain of our administrative operations. As a result, we rely upon the successful ongoing execution of the business continuity plans of such entities in the current environment. While we closely monitor the business continuity activities of these third parties, successful ongoing execution of their business continuity strategies are largely outside our control. If one or more of the third parties to whom we outsource certain critical business activities experience operational impacts, some of which could be significant, from the spread of COVID-19 and governmental reactions thereto or claims that they cannot perform due to a force majeure, it could adversely impact our business, results of operations and/or financial condition.

While we believe that our in-force Commercial Lines policies in large part do not cover business interruption losses related to the Pandemic, legislation has been discussed and introduced in various states and in the U.S. Congress to retroactively amend insurance contracts to provide business interruption coverage, to impose presumptions on insurance policy interpretation, and/or limit policy exclusions for losses allegedly related to the Pandemic. While we believe that many of those proposals, including retroactive legislation changing the terms of an insurance contract, would be unconstitutional and otherwise violative of well-established law, if such changes were to be enacted and upheld, we would be exposed to a significant unfunded liability. On the Federal level, there is

also uncertainty around legislation to address insurance coverages for pandemics prospectively. State regulators may also continue to impose premium refund orders similar to those issued to date that call for premium refunds or credits across multiple lines of business, including both our Commercial and Personal Lines, mandate rate reductions for lines such as personal automobile and commercial automobile coverages due to a decrease in claims frequency as a result of less driving during the Pandemic, and/or mandate additional presumptions of compensability in workers' compensation coverages. The uncertainties related to these various legislative and regulatory matters, and the potential that other such uncertainties will arise in reaction to the Pandemic, could adversely impact our ability to sustain adequate returns in certain lines of business or in some cases operate lines profitably.

General Risk Factors

If we are unable to attract, develop and retain qualified personnel, or if we experience the loss or retirement of key executives or other key employees, particularly those experienced in the property and casualty industry, we may not be able to compete effectively, and our operations could be impacted significantly.

Errors or omissions, misconduct or fraud in connection with the administration of any of our insurance or investment management operations may cause our business and profitability to be negatively impacted.

Changes in current accounting practices and future pronouncements may require us to incur considerable additional compliance expenses, to retroactively apply new requirements, or to make financial restatements.

Failure to design, implement or maintain effective internal control over financial reporting could have a material adverse effect on financial statements, financial reporting, investor confidence, our business and stock price.

Our stock price is influenced by our financial performance, industry trends and sentiment and other larger macro-economic factors described above in risk factors related to investments, capital markets and economic conditions that are out of our control. These factors could cause the market price of our common stock to fluctuate, become volatile, and there is no guarantee that it will remain at or exceed current or historical levels.

ITEM 1B—UNRESOLVED STAFF COMMENTS

None.

ITEM 2—PROPERTIES

We conduct our business operations primarily in our company-owned facilities in Worcester, Massachusetts and Howell, Michigan. We also lease offices throughout the United States for branch sales, underwriting and claims processing functions, and the operations of acquired subsidiaries.

We believe our facilities are adequate for our present needs in all material respects.

ITEM 3—LEGAL PROCEEDINGS

The Company has been named a defendant in various legal proceedings arising in the normal course of business. In addition, the Company is involved, from time to time, in examinations, investigations and proceedings by governmental and self-regulatory agencies. The potential outcome of any such action or regulatory proceedings in which the Company has been named a defendant or the subject of an inquiry, examination or investigation, and its ultimate liability, if any, from such action or regulatory proceedings, is difficult to predict at this time. The ultimate resolutions of such proceedings are not expected to have a material effect on the Company's financial position, although they could have a material effect on the results of operations for a particular quarterly or annual period.

ITEM 4—MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5—MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

COMMON STOCK AND STOCKHOLDER OWNERSHIP

Our common stock is traded on the New York Stock Exchange under the symbol “THG”. On February 22, 2022, we had approximately 14,775 shareholders of record and 35,477,124 shares of common stock outstanding. On the same date, the trading price of our common stock was \$139.53 per share.

DIVIDENDS

We currently expect that quarterly cash dividends, comparable to the \$0.75 per share dividend we paid in the fourth quarter of 2021, will continue to be paid in the future; however, the payment of future quarterly or special dividends on our common stock will be determined by the Board of Directors from time to time based upon cash available at our holding company, our results of operations and financial condition and such other factors as the Board of Directors considers relevant.

Dividends to shareholders may be funded from dividends paid to us from our subsidiaries. Dividends from insurance subsidiaries are subject to restrictions imposed by state insurance laws and regulations. See “Liquidity and Capital Resources” in Management’s Discussion and Analysis and Note 11 – “Dividend Restrictions” in the Notes to Consolidated Financial Statements.

ISSUER PURCHASES OF EQUITY SECURITIES

The Board of Directors has authorized a stock repurchase program which provides for aggregate repurchases of our common stock of up to \$1.3 billion. Under the repurchase authorization, we may repurchase, from time to time, common stock in amounts, at prices and at such times as we deem appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs or other transactions. We are not required to purchase any specific number of shares or to make purchases by any certain date under this program. On October 29, 2020, pursuant to the terms of an accelerated share repurchase (“ASR”) agreement, we paid \$100.0 million in exchange for shares of our common stock. We received an initial share delivery, of approximately 0.8 million shares of common stock, which was approximately 80% of the total number of shares expected to be repurchased. On January 29, 2021, we received approximately 45,000 shares of our common stock as final settlement of shares repurchased under this ASR agreement. In addition to the shares received under the ASR agreement, during 2021, we repurchased approximately 1.2 million shares, at an aggregate cost of \$162.6 million. As of December 31, 2021, we had repurchased 7.7 million shares under this \$1.3 billion program and had approximately \$361 million available for additional repurchases.

Shares purchased in the fourth quarter of 2021 were as follows:

PERIOD	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet be Purchased Under the Plans or Programs (in millions)
October 1 - 31, 2021 ⁽¹⁾	75,524	\$ 133.28	75,022	\$ 371
November 1 - 30, 2021 ⁽¹⁾	78,772	127.31	78,536	361
December 1 - 31, 2021 ⁽¹⁾	274	127.28	—	361
Total	<u>154,570</u>	<u>\$ 130.23</u>	<u>153,558</u>	<u>\$ 361</u>

- (1) Includes 502, 236 and 274 shares withheld to satisfy tax withholding amounts due from employees related to the receipt of stock which resulted from the exercise or vesting of equity awards for the months ended October 31, November 30 and December 31, 2021, respectively.

ITEM 6—RESERVED

ITEM 7—MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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INTRODUCTION

The following Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to assist readers in understanding the consolidated results of operations and financial condition of The Hanover Insurance Group, Inc. and its subsidiaries ("THG"). Consolidated results of operations and financial condition are prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP"). This discussion should be read in conjunction with the Consolidated Financial Statements and related footnotes included elsewhere herein.

Results of operations include the accounts of The Hanover Insurance Company ("Hanover Insurance") and Citizens Insurance Company of America ("Citizens"), our principal property and casualty companies, and certain other insurance and non-insurance subsidiaries. Our results of operations also include the results of our discontinued operations, consisting primarily of our former accident and health and life insurance businesses.

EXECUTIVE OVERVIEW

Business operations consist of three operating segments: Commercial Lines, Personal Lines and Other.

Our strategy, which focuses on the independent agency distribution channel, supports THG's commitment to our select independent agents. It is designed to generate profitable growth by leveraging the strengths of our distribution approach, including expansion of our agency footprint in underpenetrated geographies, as warranted. As part of that strategy, we have increased our capabilities in specialty markets and made investments designed to develop growth solutions for our agency distribution channel and meet the needs of our customers. Our goal is to grow responsibly in all of our businesses, while managing volatility.

The global pandemic ("Pandemic") has significantly impacted the U.S. and global financial markets and economies since March 2020. Circumstances relating to the Pandemic are unprecedented in scope and impact, continue to evolve, are complex and uncertain, and are outside our control. Our investment portfolio was affected by the deterioration in investment markets during March 2020, as well as volatility in the subsequent months. In addition, we experienced both favorable and adverse effects from the Pandemic on our underwriting results and operations, as well as our financial condition, during the period from March 2020 through December 2021. Several uncertainties persist related to the Pandemic, including, among others, return to work initiatives, virus variants, vaccination rates, driving patterns, court caseloads and backlogs, and inflationary pressures. We continue to believe that the Pandemic's impacts on our near-term results should be manageable. However, the severity, duration and long-term impacts of the Pandemic may affect the property and casualty insurance industry, our business, and our financial results over the intermediate and long-term. (See "Contingencies and Regulatory Matters" and "Item 1A – Risk Factors" for further discussion).

Net income was \$418.7 million in 2021, compared to \$358.7 million in 2020, an increase of \$60.0 million, primarily due to changes in the fair value of equity securities and, to a lesser extent, \$26.3 million of impairments on fixed income securities in the prior year that did not recur in 2021, partially offset by lower operating income.

Operating income before interest expense and income taxes (a non-GAAP financial measure; see also "Results of Operations – Consolidated – Non-GAAP Financial Measures") was \$432.3 million in 2021 compared to \$484.7 million in 2020, a decrease of \$52.4 million. This decrease was primarily due to higher catastrophe losses and higher Personal Lines non-catastrophe losses, partially offset by higher net investment income, earned premium growth, and net favorable development on prior years' loss and loss adjustment expense ("LAE") reserves ("prior years' loss reserves"). The higher Personal Lines non-catastrophe losses were primarily due to higher personal automobile losses, attributable to higher loss severity and frequency, though 2021 loss frequency remains below pre-Pandemic levels.

Pre-tax catastrophe losses were \$402.6 million in 2021, compared to \$286.7 million in 2020. The increase of \$115.9 million was primarily due to hurricane Ida and several wind events and hailstorms in the Midwest during the third quarter of 2021 and the freeze events in Texas and surrounding states during the first quarter of 2021. Net favorable development on prior years' loss reserves was \$56.1 million in 2021, compared to \$15.5 million in 2020, an increase of \$40.6 million.

Commercial Lines

Our account-focused approach to the small commercial market, distinctiveness in the middle market, and continued development of specialty lines provides us with a diversified portfolio of products and delivers significant value to agents and policyholders. We continue to pursue our core strategy of developing strong relationships with agents, enhanced franchise value through selective distribution, distinctive products and coverages, and through continued investment in industry specialization. Net premiums written increased 9.2% in 2021 compared to 2020, primarily due to increased exposures and rate increases, following the reduction in insured business activity in 2020 as a result of the Pandemic.

Underwriting results declined in 2021, primarily due to higher catastrophe losses, partially offset by earned premium growth, favorable development of prior years' loss reserves, and lower expenses. The competitive nature of the Commercial Lines market requires us to be highly disciplined in our underwriting process to ensure that we write business at acceptable margins, and we continue to seek rate increases across many lines of business.

Personal Lines

Personal Lines focuses on working with high quality, value-oriented agencies that deliver consultative selling to customers and stress the importance of account rounding (the conversion of single policy customers to accounts with multiple policies and/or additional coverages, to address customers' broader objectives). Approximately 87% of our policies in force have been issued to customers with multiple policies and/or coverages with us. We are focused on seeking profitable growth opportunities, building a distinctive position in the market in order to meet our customers' needs and diversifying geographically. We continue to seek appropriate rate increases that meet or exceed underlying loss cost trends, subject to regulatory and competitive considerations.

Net premiums written increased 7.7% in 2021, compared to the same period in 2020, which includes a return of approximately \$30 million of premiums in 2020 to our eligible personal automobile customers in all our markets, providing financial relief during the Pandemic. Excluding the impact of the premium refund, net premiums written grew by 6.0%, primarily due to increased new business, retention and, to a lesser extent, renewal rate increases. Underwriting results declined in 2021, primarily due to higher non-catastrophe losses, catastrophe losses, and expenses, partially offset by favorable development of prior years' loss reserves and earned premium growth. The higher expenses were primarily due to the absence in 2021 of a non-recurring premium tax benefit of \$13.8 million from a Michigan refund related to tax years 2014 through 2016 that was received in 2020.

DESCRIPTION OF OPERATING SEGMENTS

Primary business operations include insurance products and services currently provided through three operating segments: Commercial Lines, Personal Lines and Other. Commercial Lines includes commercial multiple peril, commercial automobile, workers' compensation, and other commercial coverages, such as management and professional liability, marine, Hanover Programs, specialty industrial and commercial property, monoline general liability and surety. Personal Lines includes personal automobile, homeowners, and other personal coverages, such as umbrella. Included in the "Other" segment are Opus Investment Management, Inc., which markets investment management services to institutions, pension funds, and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to our former life insurance employees and agents; and a run-off voluntary property and casualty pools business. We present the separate financial information of each segment consistent with the manner in which our chief operating decision maker evaluates results in deciding how to allocate resources and in assessing performance.

We report interest expense on debt separately from the earnings of our operating segments. This consists of interest on our senior and subordinated debentures.

RESULTS OF OPERATIONS – CONSOLIDATED

2021 Compared to 2020

Consolidated net income was \$418.7 million in 2021, compared to \$358.7 million in 2020, an increase of \$60.0 million. The year over year comparison of consolidated net income reflects an increase in after-tax net realized and unrealized investment gains of \$88.5 million, principally related to changes in the fair value of equity securities. This was partially offset by a decrease in operating income before interest expense and income taxes of \$52.4 million. The decrease in operating income before interest expense and income taxes was primarily due to higher catastrophe losses and increased Personal Lines non-catastrophe current accident year losses, partially offset by higher net investment income, earned premium growth, and net favorable development on prior years' loss reserves.

2020 Compared to 2019

Consolidated net income was \$358.7 million in 2020, compared to \$425.1 million in 2019, a decrease of \$66.4 million. The year over year comparison of consolidated net income reflects a decrease in after-tax net realized and unrealized investment gains of \$82.5 million, principally related to changes in the fair value of equity securities. This was partially offset by an increase in operating income before interest expense and income taxes of \$31.1 million, primarily due to lower non-catastrophe current accident year losses, primarily in our personal and commercial automobile lines, and favorable development on prior years' loss reserves, partially offset by higher catastrophe losses and, to a lesser extent, lower net investment income.

The following table reflects operating income (loss) before interest expense and income taxes for each operating segment and a reconciliation to consolidated net income from operating income before interest expense and income taxes (a non-GAAP measure).

YEARS ENDED DECEMBER 31	2021	2020	2019
(in millions)			
Operating income (loss) before interest expense and income taxes:			
Commercial Lines	\$ 269.9	\$ 275.4	\$ 300.1
Personal Lines	158.5	212.5	144.9
Other	3.9	(3.2)	8.6
Operating income before interest expense and income taxes	432.3	484.7	453.6
Interest expense on debt	(34.0)	(37.1)	(37.5)
Operating income before income taxes	398.3	447.6	416.1
Income tax expense on operating income	(80.0)	(92.6)	(84.5)
Operating income	318.3	355.0	331.6
Non-operating items:			
Net realized and unrealized investment gains	123.0	5.0	109.4
Net loss from repayment of debt	—	(6.2)	—
Other	—	(1.6)	(3.4)
Income tax benefit (expense) on non-operating items	(21.3)	9.8	(8.6)
Income from continuing operations, net of taxes	420.0	362.0	429.0
Discontinued operations (net of taxes):			
Income from Chaucer business	1.2	0.4	0.4
Loss from discontinued life businesses	(2.5)	(3.7)	(4.3)
Net income	\$ 418.7	\$ 358.7	\$ 425.1

Non-GAAP Financial Measures

In addition to consolidated net income, discussed above, we assess our financial performance based upon pre-tax “operating income,” and we assess the operating performance of each of our three operating segments based upon the pre-tax operating income (loss) generated by each segment. As reflected in the table above, operating income before interest expense and income taxes excludes interest expense on debt and certain other items, which we believe are not indicative of our core operations, such as net realized and unrealized investment gains and losses. Such gains and losses are excluded since they are determined by interest rates, financial markets and the timing of sales. Also, operating income before interest expense and income taxes excludes net gains and losses on disposals of businesses, gains and losses related to the repayment of debt, discontinued operations, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Although the items excluded from operating income before interest expense and income taxes are important components in understanding and assessing our overall financial performance, we believe a discussion of operating income before interest expense and income taxes enhances an investor’s understanding of our results of operations by highlighting net income attributable to the core operations of the business. However, operating income before interest expense and income taxes, which is a non-GAAP measure, should not be construed as a substitute for income before income taxes or income from continuing operations, and operating income should not be construed as a substitute for net income.

Catastrophe losses and prior years’ reserve development are significant components in understanding and assessing the financial performance of our business. Management reviews and evaluates catastrophes and prior years’ reserve development separately from the other components of earnings. References to “current accident year underwriting results” exclude prior accident year reserve development, and may also be presented, “excluding catastrophes.” Prior years’ reserve development and catastrophes are not predictable as to timing or the amount that will affect the results of our operations and have an effect on each year’s operating and net income. Management believes that providing certain financial metrics and trends excluding the effects of catastrophes and prior years’ reserve development helps investors to understand the variability in periodic earnings and to evaluate the underlying performance of our operations. Discussion of catastrophe losses in this Management’s Discussion and Analysis includes development on prior years’ catastrophe reserves and, unless otherwise indicated, such development is excluded from discussions of prior year loss and LAE reserve development.

RESULTS OF OPERATIONS - SEGMENTS

The following is our discussion and analysis of the results of operations by business segment. The operating results are presented before interest expense, income taxes and other items which management believes are not indicative of our core operations, including realized gains and losses, as well as unrealized gains and losses on equity securities, and the results of discontinued operations.

The following table summarizes the results of operations for the periods indicated:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Operating revenues			
Net premiums written	\$ 4,993.4	\$ 4,598.5	\$ 4,581.7
Net premiums earned	\$ 4,770.2	\$ 4,527.4	\$ 4,474.5
Net investment income	310.7	265.1	281.3
Other income	23.9	27.3	25.5
Total operating revenues	5,104.8	4,819.8	4,781.3
Losses and operating expenses			
Losses and LAE	3,134.2	2,844.5	2,864.6
Amortization of deferred acquisition costs	982.7	951.0	926.7
Other operating expenses	555.6	539.6	536.4
Total losses and operating expenses	4,672.5	4,335.1	4,327.7
Operating income before interest expense and income taxes	\$ 432.3	\$ 484.7	\$ 453.6

2021 Compared to 2020

Operating income before interest expense and income taxes was \$432.3 million for the year ended December 31, 2021, compared to \$484.7 million for the year ended December 31, 2020, a decrease of \$52.4 million. This decrease was primarily due to higher catastrophe losses and increased Personal Lines non-catastrophe current accident year losses, partially offset by higher net investment income, earned premium growth, and net favorable development on prior years' loss reserves. The higher Personal Lines non-catastrophe current accident year losses were primarily due to higher personal automobile losses, attributable to higher loss severity and frequency, though 2021 loss frequency remains below pre-Pandemic levels.

Net premiums written increased by \$394.9 million for the year ended December 31, 2021, compared to the year ended December 31, 2020, primarily due to pricing increases, a reduction in insured business activity in 2020, and the aforementioned 2020 premium refund.

2020 Compared to 2019

Operating income before interest expense and income taxes was \$484.7 million for the year ended December 31, 2020, compared to \$453.6 million for the year ended December 31, 2019, an increase of \$31.1 million. This increase was primarily due to lower non-catastrophe current accident year losses primarily in our personal and commercial automobile lines, and favorable development on prior years' loss reserves, partially offset by higher catastrophe losses and lower net investment income. The lower non-catastrophe current accident year losses reflect a reduced level of economic activity as a result of the Pandemic. The increase in catastrophe losses was primarily due to higher property damages related to riots and civil unrest in several major cities across the country, hurricane Isaias, wildfires on the West Coast, and wind and hailstorms in the Midwest and Southeast.

Net premiums written increased by \$16.8 million for the year ended December 31, 2020, compared to the year ended December 31, 2019. Premiums grew during 2020 in both our Commercial and Personal Lines segments, partially offset by the personal automobile premium refund of approximately \$30 million in the second quarter of 2020.

PRODUCTION AND UNDERWRITING RESULTS

The following table summarizes premiums written on a gross and net basis, net premiums earned and loss (including catastrophe losses), LAE, expense and combined ratios for the Commercial Lines and Personal Lines segments. Loss, LAE, catastrophe loss and combined ratios shown below include prior year reserve development. These items were not meaningful for our Other segment.

<i>(dollars in millions)</i>	YEAR ENDED DECEMBER 31, 2021						
	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Commercial Lines	\$ 3,448.9	\$ 2,983.7	\$ 2,840.8	8.0	63.8	33.8	97.6
Personal Lines	1,895.4	2,009.7	1,929.4	9.1	68.5	27.7	96.2
Total	<u>\$ 5,344.3</u>	<u>\$ 4,993.4</u>	<u>\$ 4,770.2</u>	8.4	65.7	31.3	97.0

<i>(dollars in millions)</i>	YEAR ENDED DECEMBER 31, 2020						
	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Commercial Lines	\$ 3,201.0	\$ 2,733.1	\$ 2,683.3	4.9	61.4	34.4	95.8
Personal Lines	1,953.5	1,865.4	1,844.1	8.4	64.7	27.7	92.4
Total	<u>\$ 5,154.5</u>	<u>\$ 4,598.5</u>	<u>\$ 4,527.4</u>	6.3	62.8	31.6	94.4

<i>(dollars in millions)</i>	YEAR ENDED DECEMBER 31, 2019						
	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Commercial Lines	\$ 3,127.3	\$ 2,707.2	\$ 2,654.2	3.1	60.6	34.6	95.2
Personal Lines	1,991.2	1,874.5	1,820.3	4.7	68.9	27.4	96.3
Total	<u>\$ 5,118.5</u>	<u>\$ 4,581.7</u>	<u>\$ 4,474.5</u>	3.8	64.0	31.6	95.6

The following tables summarize net premiums written, and loss and LAE and catastrophe loss ratios by line of business for the Commercial Lines and Personal Lines segments. Loss and LAE and catastrophe loss ratios include prior year reserve development.

<i>(dollars in millions)</i>	YEAR ENDED DECEMBER 31, 2021		
	Net Premiums Written	Loss & LAE Ratios	Catastrophe Loss Ratios
Commercial Lines:			
Commercial multiple peril	\$ 978.6	76.2	17.5
Commercial automobile	349.0	64.4	0.4
Workers' compensation	354.7	52.9	—
Other commercial	1,301.4	56.8	5.0
Total Commercial Lines	<u>2,983.7</u>	63.8	8.0
Personal Lines:			
Personal automobile	1,230.4	66.0	1.6
Homeowners	704.1	75.5	23.1
Other personal	75.2	43.9	2.7
Total Personal Lines	<u>2,009.7</u>	68.5	9.1
Total	<u>\$ 4,993.4</u>	65.7	8.4

	YEAR ENDED DECEMBER 31, 2020		
	Net Premiums Written	Loss & LAE Ratios	Catastrophe Loss Ratios
<i>(dollars in millions)</i>			
Commercial Lines:			
Commercial multiple peril	\$ 921.7	68.6	9.3
Commercial automobile	336.0	69.0	0.6
Workers' compensation	320.3	49.5	—
Other commercial	1,155.1	56.6	4.1
Total Commercial Lines	2,733.1	61.4	4.9
Personal Lines:			
Personal automobile	1,151.5	62.7	1.0
Homeowners	653.4	71.1	22.1
Other personal	60.5	31.6	2.5
Total Personal Lines	1,865.4	64.7	8.4
Total	\$ 4,598.5	62.8	6.3

	YEAR ENDED DECEMBER 31, 2019		
	Net Premiums Written	Loss & LAE Ratios	Catastrophe Loss Ratios
<i>(dollars in millions)</i>			
Commercial Lines:			
Commercial multiple peril	\$ 909.4	63.0	7.5
Commercial automobile	336.1	71.9	0.4
Workers' compensation	334.6	50.7	—
Other commercial	1,127.1	58.3	1.4
Total Commercial Lines	2,707.2	60.6	3.1
Personal Lines:			
Personal automobile	1,186.1	74.0	0.5
Homeowners	636.9	61.5	12.8
Other personal	51.5	41.5	2.8
Total Personal Lines	1,874.5	68.9	4.7
Total	\$ 4,581.7	64.0	3.8

The following tables summarize GAAP underwriting results for the Commercial Lines, Personal Lines and Other segments and reconciles them to operating income (loss) before interest expense and income taxes.

	YEAR ENDED DECEMBER 31, 2021			
	Commercial Lines	Personal Lines	Other	Total
<i>(in millions)</i>				
Underwriting profit, excluding prior year reserve development and catastrophes	\$ 255.2	\$ 217.3	\$ —	\$ 472.5
Prior year favorable (unfavorable) loss and LAE reserve development on non-catastrophe losses	34.0	23.1	(1.0)	56.1
Prior year favorable catastrophe development	12.0	3.0	—	15.0
Current year catastrophe losses	(239.3)	(178.3)	—	(417.6)
Underwriting profit (loss)	61.9	65.1	(1.0)	126.0
Net investment income	209.4	89.4	11.9	310.7
Fees and other income	9.7	9.7	4.5	23.9
Other operating expenses	(11.1)	(5.7)	(11.5)	(28.3)
Operating income before interest expense and income taxes	\$ 269.9	\$ 158.5	\$ 3.9	\$ 432.3

<i>(in millions)</i>	YEAR ENDED DECEMBER 31, 2020			
	Commercial Lines	Personal Lines	Other	Total
Underwriting profit (loss), excluding prior year reserve development and catastrophes	\$ 219.5	\$ 286.7	\$ (0.1)	\$ 506.1
Prior year favorable (unfavorable) loss and LAE reserve development on non-catastrophe losses	19.0	0.7	(4.2)	15.5
Prior year favorable (unfavorable) catastrophe development	18.8	(1.7)	—	17.1
Current year catastrophe losses	(151.0)	(152.8)	—	(303.8)
Underwriting profit (loss)	106.3	132.9	(4.3)	234.9
Net investment income	175.3	76.7	13.1	265.1
Fees and other income	9.7	10.6	7.0	27.3
Other operating expenses	(15.9)	(7.7)	(19.0)	(42.6)
Operating income (loss) before interest expense and income taxes	<u>\$ 275.4</u>	<u>\$ 212.5</u>	<u>\$ (3.2)</u>	<u>\$ 484.7</u>

<i>(in millions)</i>	YEAR ENDED DECEMBER 31, 2019			
	Commercial Lines	Personal Lines	Other	Total
Underwriting profit (loss), excluding prior year reserve development and catastrophes	\$ 176.0	\$ 171.8	\$ (0.1)	\$ 347.7
Prior year favorable (unfavorable) loss and LAE reserve development on non-catastrophe losses	28.7	(26.6)	(1.2)	0.9
Prior year favorable catastrophe development	24.6	2.9	—	27.5
Current year catastrophe losses	(107.8)	(89.0)	—	(196.8)
Underwriting profit (loss)	121.5	59.1	(1.3)	179.3
Net investment income	180.1	80.1	21.1	281.3
Fees and other income	9.2	11.4	4.9	25.5
Other operating expenses	(10.7)	(5.7)	(16.1)	(32.5)
Operating income before interest expense and income taxes	<u>\$ 300.1</u>	<u>\$ 144.9</u>	<u>\$ 8.6</u>	<u>\$ 453.6</u>

2021 Compared to 2020

Commercial Lines

Commercial Lines net premiums written were \$2,983.7 million for the year ended December 31, 2021, compared to \$2,733.1 million for the year ended December 31, 2020. This \$250.6 million increase was primarily driven by increased exposures and rate increases following the reduction in insured business activity in 2020, as a result of the Pandemic.

Commercial Lines underwriting profit for the year ended December 31, 2021 was \$61.9 million, compared to \$106.3 million for the year ended December 31, 2020, a decrease of \$44.4 million. Catastrophe losses for the year ended December 31, 2021 were \$227.3 million, compared to \$132.2 million for the year ended December 31, 2020. The \$95.1 million increase was primarily due to freeze events in Texas and surrounding states associated with record low temperatures in the first quarter of 2021 and hurricane Ida and several wind and hailstorms in the Midwest in the third quarter of 2021. Favorable development on prior years' loss reserves, excluding catastrophes, for the year ended December 31, 2021 was \$34.0 million, compared to \$19.0 million for the year ended December 31, 2020, an increase of \$15.0 million.

Commercial Lines current accident year underwriting profit, excluding catastrophes, was \$255.2 million for the year ended December 31, 2021, compared to \$219.5 million for the year ended December 31, 2020, an increase of \$35.7 million, primarily due to earned premium growth and lower expenses. Within non-catastrophe current accident year losses, lower loss activity in our miscellaneous property, inland marine and surety lines was partially offset by higher loss activity in our commercial multiple peril and specialty industrial lines.

We continue to manage underwriting performance through increased rates, pricing segmentation, specific underwriting actions and targeted new business growth. Our ability to achieve overall rate increases is affected by many factors, including regulatory activity and the current competitive pricing environment, particularly within the workers' compensation line. Due to uncertainty caused by the Pandemic, there is a level of uncertainty in our ability to grow our business, and to maintain or improve our underwriting profitability in this environment. The extent and duration of the Pandemic's future disruption to our businesses are unknown and may result in continued moderation in claims volumes, due to periodic disruptions in business activity, and in corresponding premium levels.

Personal Lines

Personal Lines net premiums written were \$2,009.7 million for the year ended December 31, 2021, compared to \$1,865.4 million for the year ended December 31, 2020, an increase of \$144.3 million. During the second quarter of 2020, we returned approximately \$30 million of automobile premiums to our eligible Personal Lines customers in all our markets, providing financial relief during the Pandemic. In addition, net premiums written grew due to increased new business, retention and, to a lesser extent, renewal rate increases.

Net premiums written in the personal automobile line of business for the year ended December 31, 2021 were \$1,230.4 million, compared to \$1,151.5 million for the year ended December 31, 2020, an increase of \$78.9 million. Personal automobile policies in force increased by 6.1%. Net premiums written in the homeowners line of business for the year ended December 31, 2021 were \$704.1 million, compared to \$653.4 million for the year ended December 31, 2020, an increase of \$50.7 million. Homeowners policies in force increased by 6.0%.

Personal Lines underwriting profit for the year ended December 31, 2021 was \$65.1 million, compared to \$132.9 million for the year ended December 31, 2020, a decrease of \$67.8 million. Catastrophe losses for the year ended December 31, 2021 were \$175.3 million, compared to \$154.5 million for the year ended December 31, 2020. The increase of \$20.8 million was primarily due to several wind and hailstorms throughout the Midwest and hurricane Ida during the third quarter of 2021. Favorable development on prior years' loss reserves for the year ended December 31, 2021 was \$23.1 million, compared to \$0.7 million for the year ended December 31, 2020, an increase of \$22.4 million.

Personal Lines current accident year underwriting profit, excluding catastrophes, was \$217.3 million in the year ended December 31, 2021, compared to \$286.7 million for the year ended December 31, 2020. This \$69.4 million decrease was primarily due to higher current accident year losses and higher expenses, primarily due to a 2020 non-recurring premium tax benefit, partially offset by earned premium growth. The higher current accident year losses in 2021 were attributable to higher personal automobile loss severity and frequency, though 2021 loss frequency remains below pre-Pandemic levels. In addition, there were increased weather-related losses in the homeowners line in 2021.

We have been able to obtain rate increases in our Personal Lines markets and believe that our ability to obtain increases will continue over the longer term. Our ability to maintain Personal Lines net premiums written may be affected, however, by price competition, and regulatory and legal activity, economic conditions and other developments. See "Contingencies and Regulatory Matters." Additionally, these factors, along with weather-related loss volatility, may also affect our ability to maintain and improve underwriting results. We monitor these trends and consider them in our rate actions. Due to uncertainty caused by the Pandemic, there is a level of uncertainty in our ability to retain or grow our business, and to maintain or improve our underwriting profitability in this environment.

Other

Our Other segment had operating income of \$3.9 million for the year ended December 31, 2021, compared to an operating loss of \$3.2 million for the year ended December 31, 2020, a favorable change of \$7.1 million. This improvement was primarily due to lower charitable contributions in 2021, compared to the elevated level in 2020. In addition, prior year's results included a \$3.3 million reserve increase, based on the receipt of an updated third-party actuarial study for the legacy Excess and Casualty Reinsurance Association ("ECRA") pool.

2020 Compared to 2019

Commercial Lines

Commercial Lines net premiums written were \$2,733.1 million for the year ended December 31, 2020, compared to \$2,707.2 million for the year ended December 31, 2019, an increase of \$25.9 million. The modest premium growth during 2020 reflects a reduction of insured business activity as a result of the Pandemic.

Commercial Lines underwriting profit for the year ended December 31, 2020 was \$106.3 million, compared to \$121.5 million for the year ended December 31, 2019, a decrease of \$15.2 million. Catastrophe-related losses for the year ended December 31, 2020 were \$132.2 million, compared to \$83.2 million for the year ended December 31, 2019, an increase of \$49.0 million. Favorable development on prior years' loss reserves, excluding catastrophes, for the year ended December 31, 2020 was \$19.0 million, compared to \$28.7 million for the year ended December 31, 2019, a decrease of \$9.7 million.

Commercial Lines current accident year underwriting profit, excluding catastrophes, was \$219.5 million for the year ended December 31, 2020, compared to \$176.0 million for the year ended December 31, 2019. This \$43.5 million increase was primarily due to lower non-catastrophe current accident year losses. The lower current year non-catastrophe losses were primarily due to lower large loss activity in our specialty industrial property and marine lines, and lower losses in our commercial automobile line, partially offset by reserve provisions for exposures due to the Pandemic and to higher property losses in our commercial multiple peril line. The reserve provisions for exposures due to the Pandemic of approximately \$19 million were primarily reflected in our workers' compensation, healthcare, commercial multiple peril, management and professional liability, and surety lines. The lower non-catastrophe current accident year losses reflect a reduced level of economic activity as a result of the Pandemic.

Personal Lines

Personal Lines net premiums written were \$1,865.4 million for the year ended December 31, 2020, compared to \$1,874.5 million for the year ended December 31, 2019, a decrease of \$9.1 million. During the second quarter of 2020, we returned approximately \$30 million of premiums to our eligible Personal Lines automobile customers in all markets, providing financial relief during the Pandemic. Excluding the impact of the premium refund, net premiums written would have increased 1.1%.

Net premiums written in the personal automobile line of business for the year ended December 31, 2020 were \$1,151.5 million, compared to \$1,186.1 million for the year ended December 31, 2019, a decrease of \$34.6 million. This decrease was primarily due to the aforementioned premium refund of approximately \$30 million and a decrease in policies in force of 2.8%. Net premiums written in the homeowners line of business for the year ended December 31, 2020 were \$653.4 million, compared to \$636.9 million for the year ended December 31, 2019, an increase of \$16.5 million. This increase was primarily driven by pricing increases, partially offset by a 1.1% decrease in policies in force.

Personal Lines underwriting profit for the year ended December 31, 2020 was \$132.9 million, compared to \$59.1 million for the year ended December 31, 2019, an increase of \$73.8 million. Catastrophe losses for the year ended December 31, 2020 were \$154.5 million, compared to \$86.1 million for the year ended December 31, 2019, an increase of \$68.4 million. Favorable development on prior years' loss reserves for the year ended December 31, 2020 was \$0.7 million, compared to unfavorable development of \$26.6 million for the year ended December 31, 2019, a favorable change of \$27.3 million.

Personal Lines current accident year underwriting profit, excluding catastrophes, was \$286.7 million in the year ended December 31, 2020, compared to \$171.8 million for the year ended December 31, 2019. This \$114.9 million increase was primarily due to lower current accident year losses in our personal automobile line, and, to a lesser extent, a non-recurring premium tax benefit. Personal automobile losses were lower due to fewer accidents and decreased claim activity resulting from fewer miles driven as a result of the Pandemic.

Other

Other operating losses were \$3.2 million for the year ended December 31, 2020, compared to other operating income of \$8.6 million for the year ended December 31, 2019, a decrease of \$11.8 million. This was primarily due to lower net investment income as a result of the deployment of proceeds in 2019 from the sale of our former Chaucer business, as well as increased charitable contributions in 2020.

RESERVE FOR LOSSES AND LOSS ADJUSTMENT EXPENSES

Overview of Loss Reserve Estimation Process

We maintain reserves for our insurance products to provide for our ultimate liability for losses and loss adjustment expenses (our "loss reserves") with respect to reported and unreported claims incurred as of the end of each accounting period. These reserves are estimates, taking into account past loss experience, modified for current trends, as well as prevailing economic, legal and social conditions. Loss reserves represent our largest liability.

Management's process for establishing loss reserves is a comprehensive process that involves input from multiple functions throughout our organization, including actuarial, finance, claims, legal, underwriting, distribution, and business operations management. The process incorporates facts currently known, as well as the current, and in some cases, the anticipated, state of the law and coverage litigation. Based on information currently available, we believe that the aggregate loss reserves at December 31, 2021 were adequate to cover claims for losses that had occurred as of that date, including both those known to us and those yet to be reported. However, as described below, there are significant uncertainties inherent in the loss reserving process. Our estimate of the ultimate liability for losses that had occurred as of December 31, 2021 is expected to change in future periods as we obtain further information, and such changes could have a material effect on our results of operations and financial position.

Our loss reserves include case estimates for claims that have been reported and estimates for claims that have been incurred but not reported ("IBNR") at the balance sheet date. They also include estimates of the expenses associated with processing and settling all reported and unreported claims, less estimates of anticipated salvage and subrogation recoveries. Our loss reserves are not discounted to present value.

Case reserves are established by our claim personnel individually on a claim by claim basis and based on information specific to the occurrence and terms of the underlying policy. For some classes of business, average case reserves are used initially. Case reserves are periodically reviewed and modified based on new or additional information pertaining to the claim.

Our ultimate IBNR reserves are estimated by management and our reserving actuaries on an aggregate basis for each line of business or coverage for loss and loss expense liabilities not reflected within the case reserves. The sum of the case reserves and the IBNR reserves represents our estimate of total unpaid losses and loss adjustment expenses.

We regularly review our loss reserves using a variety of industry accepted analytical techniques. We update the loss reserves as historical loss experience develops, additional claims are reported and resolved, and new information becomes available. Net changes in loss reserves are reflected in operating results in the period in which the reserves are changed.

The IBNR reserve includes a provision for claims that have occurred but have not yet been reported to us, some of which may not yet be known to the insured, as well as a provision for future development on reported claims. IBNR represents a significant proportion of our total net loss reserves, particularly for long-tail liability classes. In fact, approximately 51% of our aggregate net loss reserves at December 31, 2021 were for IBNR losses and loss expenses.

Critical Judgments and Key Assumptions

We determine the amount of our net loss reserves (i.e., net of estimated reinsurance recoverables) based on an estimation process that is complex and considers information from both company specific and industry data, as well as general economic and other information. The estimation process utilizes a combination of objective and subjective information, the blending of which requires significant professional judgment. There are various assumptions required, including future trends in frequency and severity of claims, operational changes in claim handling and case reserving practices, and trends related to general economic and social conditions. Informed judgments as to our ultimate exposure to losses are an integral component of our loss reserve estimation process.

There is greater inherent uncertainty in estimating insurance reserves for certain types of property and casualty insurance lines, particularly liability lines, where a longer period of time may elapse before a definitive determination of ultimate liability and losses may be made (sometimes referred to as “long-tail” business). In addition, the technological, judicial, regulatory and political climates involving these types of claims are continuously evolving. The emergence of the Pandemic during 2020 resulted in an increased level of uncertainty for many lines of business, particularly for our long-tail lines. There is also greater uncertainty in establishing reserves with respect to business that is new to us, particularly new business which is generated with respect to newly introduced product lines, by newly appointed agents or in geographies in which we have less experience in conducting business. In both of these cases, there is less historical experience or knowledge, and less data upon which we can rely. A combination of business that is both new to us and has longer development periods provides even greater uncertainty in estimating insurance reserves. In our management and professional liability lines, we are modestly increasing, and expect to continue to increase, our exposure to longer-tailed liability lines, including directors and officers liability, errors and omissions liability, and product liability coverages. In addition, in recent periods, we have experienced extensions of the “tails” in certain lines of business as the full value of claims are presented later than had been our historical experience. The broad impact of the Pandemic on our claims environment may extend these “tails” even further. For example, there may be delays in both medical treatments and submission of medical expenses and deferment of elective medical procedures, which may have worsened insureds’ health status, which may increase our ultimate loss costs. Also, presumptive orders by relevant state authorities have potentially increased workers’ compensation exposures beyond contractual obligations.

We regularly update our reserve estimates as new information becomes available and additional events occur which may impact the resolution of unsettled claims. Reserve adjustments are reflected in the results of operations as adjustments to losses and LAE. Often, these adjustments are recognized in periods subsequent to the period in which the underlying policy was written and the loss event occurred. When these types of subsequent adjustments affect prior years, they are described separately as “prior year reserve development.” Such development can be either favorable or unfavorable to our financial results and may vary by line of business. As discussed below, estimated loss and LAE reserves for claims occurring in prior years, in the aggregate, developed favorably by \$56.1 million, \$15.5 million and \$0.9 million for the years ended December 31, 2021, 2020 and 2019, respectively, although there was some significant variance by line of business. Additionally, our estimated loss and LAE reserves for catastrophe claims occurring in prior years developed favorably by \$15.0 million, \$17.1 million and \$27.5 million for the years ended December 31, 2021, 2020 and 2019, respectively. There can be no assurance that current loss and LAE reserves will be sufficient.

We regularly review our reserving techniques, our overall reserving position and our reinsurance. Based on (i) our review of historical data, legislative enactments, judicial decisions, legal developments in impositions of damages and policy coverage, political attitudes and trends in general economic conditions, (ii) our review of per claim information, (iii) our historical loss experience and that of the industry, (iv) the nature of policies written by us, and (v) our internal estimates of required reserves, we believe that adequate provision has been made for loss reserves. Given the inherent complexity of our loss reserve estimation process and the potential variability of the assumptions used, the actual emergence of losses will vary, perhaps substantially, from the estimate of losses included in our financial statements, particularly in those instances where settlements or other claim resolutions do not occur until well into the future. Our net loss reserves at December 31, 2021 were \$4.8 billion. Therefore, a relatively small percentage change in the estimate of net loss reserves would have a material effect on our results of operations. Similarly, a one percentage point change in the aggregate loss and LAE ratio resulting from a change in reserve estimation is currently projected to have an approximate \$50 million impact on operating income, based on 2021 full year premiums written.

The major causes of material uncertainty relating to ultimate losses and LAE (“risk factors”) generally vary for each line of business, as well as for each separately analyzed component of the line of business. In some cases, such risk factors are explicit assumptions of the estimation method and in others, they are implicit. For example, a method may explicitly assume that a certain percentage of claims will close each year, but will implicitly assume that the legal interpretation of existing contract language will remain

substantially unchanged. Actual results will likely vary from expectations for each of these assumptions, resulting in an ultimate claim liability that is different from that being estimated currently.

Some risk factors affect multiple lines of business. Examples include changes in claim handling and claim reserving practices, changes in claim settlement patterns due to the Pandemic and other factors, regulatory and legislative actions, court actions, so-called “social inflation,” timeliness of claim reporting, state mix of claimants and degree of claimant fraud. The extent of the impact of a risk factor will also vary by components within a line of business. Individual risk factors are subject to interactions with other risk factors within line of business components. Thus, risk factors can have offsetting or compounding effects on required reserves.

Inflation generally increases the cost of losses covered by insurance contracts. The effect of inflation varies by product. Our insurance premiums are established before the amount of losses and LAE and the extent to which inflation may affect such expenses are known. Consequently, we attempt, in establishing rates and reserves, to anticipate the potential impact of inflation in the projection of ultimate costs. For example, we monitor, and continue to experience, increases in medical costs, wages and legal costs, which are key considerations in setting reserve assumptions for workers’ compensation, bodily injury and other liability lines. We are also monitoring the continued advancements in technology and design found in automobiles and homes, and the increased claims settlement costs that result from labor shortages, and repairs or replacement of such equipment impacted by supply chain disruptions, which could lead to material shortages and elevated prices of building materials. Estimated increases are reflected in our current reserve estimates, but continued increases are expected to contribute to increased losses and LAE in the future.

We are also defendants in various litigation matters, including putative class actions, which may seek punitive damages, bad faith or extra-contractual damages, legal fees and interest, or claim a broader scope of policy coverage or settlement and payment obligations than our interpretation. Resolution of these cases is often highly unpredictable and could involve material unanticipated damage awards. We have experienced, and others in the industry have reported, increased attorney involvement in claims including COVID-19-related matters, delayed submissions of medical and other expense claims, court closures resulting in delayed claim settlements, and a trend toward higher valued settlements and litigation, all of which contribute to uncertainty regarding reserve estimates.

Loss and LAE Reserves by Line of Business

Reserving Process Overview

Our loss reserves include amounts related to short-tail and long-tail classes of business. “Tail” refers to the time period between the occurrence of a loss and the final settlement of the claim. The longer the time span between the incidence of a loss and the settlement of the claim (i.e., a longer tail), the more the ultimate settlement amount may likely vary from our original estimate.

Short-tail classes consist principally of automobile physical and property damage, commercial property, homeowners property and marine business. For these property coverages, claims are generally reported and settled shortly after the loss occurs because the claims relate to tangible property and are more likely to be discovered shortly after the loss occurs. Consequently, the estimation of loss reserves for these classes is generally less complex.

While we estimate that approximately half of our written premium is in, what we would characterize as, shorter-tail classes of business, most of our loss reserves relate to longer-tail liability classes of business. Long-tailed classes include automobile liability, commercial liability, third-party coverage and workers’ compensation. For many liability claims, significant periods of time, ranging up to several years or more, may elapse between the occurrence of the loss, the discovery and reporting of the loss to us and the settlement of the claim. As a result, loss experience in the more recent accident years for long-tailed liability coverage has limited statistical credibility because a relatively small proportion of losses in these accident years (the calendar years in which losses are incurred) are reported claims and an even smaller proportion are paid losses. Liability claims are also more susceptible to litigation and can be significantly affected by changing contract interpretations, the legal, political and social environment, the risk and expense of protracted litigation, and inflation. Consequently, the estimation of loss reserves for these coverages is more complex and typically subject to a higher degree of variability and uncertainty compared to short-tailed coverages.

Most of our indirect business from our run-off voluntary and ongoing involuntary pools is assumed long-tailed casualty reinsurance. Reserve estimates for this business are therefore subject to the variability caused by extended loss emergence periods. The estimation of loss reserves for this business is further complicated by delays between the time the claim is reported to the ceding insurer and when it is reported by the ceding insurer to the pool manager and then to us, and by our dependence on the quality and consistency of the loss reporting by the ceding company and actuarial estimates by the pool manager. These reserving factors also apply to our discontinued assumed accident and health reinsurance pools and arrangements that are included in our liabilities of discontinued life businesses (See “Risk Factors” in Part I – Item 1A for further discussion).

A review of loss reserves for each of the classes of business in which we write is conducted regularly, generally quarterly. This review process takes into consideration a variety of trends that impact the ultimate settlement of claims. Where appropriate, the review includes a review of overall payment patterns and the emergence of paid and reported losses relative to expectations.

The loss reserve estimation process relies on the basic assumption that past experience, adjusted for the effects of current developments and likely trends, is an appropriate basis for predicting future outcomes. As part of this process, we use a variety of analytical methods that consider experience, trends and other relevant factors. IBNR reserves are generally calculated by first projecting the ultimate cost of all claims that have been reported or expected to be reported in the future and then subtracting reported losses and loss expenses. Reported losses include cumulative paid losses and loss expenses plus case reserves. Within the loss reserving process, standard actuarial methods which include: (1) loss development factor methods; (2) expected loss methods (Bornheutter-Ferguson); and (3) adjusted loss methods (Berquist-Sherman), are given due consideration. These methods are described below:

- Loss development factor methods generally assume that the losses yet to emerge for an accident year are proportional to the paid or reported loss amount observed to date. Historical patterns of the development of paid and reported losses by accident year can be predictive of the expected future patterns that are applied to current paid and reported losses to generate estimated ultimate losses by accident year.
- Bornheutter-Ferguson methods utilize the product of the expected ultimate losses times the proportion of ultimate losses estimated to be unreported or unpaid to calculate IBNR. The expected ultimate losses are based upon current estimates of ultimate losses from prior accident years, adjusted to reflect expected earned premium, current rating, claims cost levels and changes in business mix. The expected losses, and corresponding loss ratios, are a critical component of Bornheutter-Ferguson methodologies and provide a general reasonability guide.
- Berquist-Sherman methods are used for estimating reserves in business lines where historical development patterns may be deemed less reliable for more recent accident years' ultimate losses. Under these methods, patterns of historical paid or reported losses are first adjusted to reflect current payment settlement patterns and case reserve adequacy and then evaluated in the same manner as the loss development factor methods described above. When the adequacy of case reserves change, the Berquist-Sherman incurred method may be deemed more reliable than the reported loss development factor method. Likewise, when the settlement patterns change, the Berquist-Sherman paid method may be deemed more reliable than the paid loss development factor method.

In addition to the methods described above, various tailored reserving methodologies are used for certain businesses. For example, for some low volume and high volatility classes of business, special reserving techniques are utilized that estimate IBNR by selecting the loss ratio that balances actual reported losses to expected reported losses as defined by the estimated underlying reporting pattern. Also, for some classes with long exposure periods (e.g., construction defect, engineering and surety), earnings patterns plus an estimated reporting lag applied to the Bornheutter-Ferguson initial expected loss ratio are used to estimate IBNR. This is done in order to reflect the changing average exposure periods by policy year (and consequently accident year).

In completing the loss reserve analysis, a variety of assumptions must be made for each line of business, coverage and accident year. Each estimation method has its own pattern, parameter and/or judgmental dependencies, with no estimation method being better than the others in all situations. The relative strengths and weaknesses of the various estimation methods, when applied to a particular class of business, can also change over time, depending on the underlying circumstances. In many cases, multiple estimation methods will be valid for the particular facts and circumstances of the relevant class of business. The manner of application and the degree of reliance on a given method will vary by line of business and coverage, and by accident year based on an evaluation of the above dependencies and the potential volatility of the loss frequency and severity patterns. The estimation methods selected or given weight at a particular valuation date are those that are believed to produce the most reliable indication for the loss reserves being evaluated. Selections incorporate input from claims personnel, pricing actuaries, and underwriting management on loss cost trends and other factors that could affect ultimate losses.

For most classes of shorter-tailed business in our Commercial and Personal Lines segments, the emergence of paid and incurred losses generally exhibits a relatively stable pattern of loss development from one accident year to the next. Thus, for these classes, the loss development factor method is generally appropriate. For some of the classes of shorter-tailed business, the emergence of paid and incurred losses may exhibit a relatively volatile pattern of loss development from one accident year to the next. In these cases where there is a relatively low level of reliability placed on the available paid and incurred loss data, expected loss methods or adjusted loss methods are considered appropriate for the most recent accident year.

For longer-tailed lines of business, applying the loss development factor method often requires even more judgment in selecting development factors, as well as more significant extrapolation. For those long-tailed lines of business with high frequency and relatively low per-loss severity (e.g., personal automobile liability), volatility will often be sufficiently modest for the loss development factor method to be given significant weight, even in the most recent accident years, but expected loss methods and adjusted loss methods are always considered and frequently utilized in the selection process. For those long-tailed lines of business with low frequency and high loss potential (e.g., commercial general liability), anticipated loss experience is less predictable because of the small number of claims and erratic claim severity patterns. In these situations, the loss development factor methods may not produce a reliable estimate of ultimate losses in the most recent accident years since many claims either have not yet been reported or are only in the early stages of the settlement process. Therefore, the loss reserve estimates for these accident years may be based on

methods less reliant on extrapolation, such as Bornheutter-Ferguson. Over time, as a greater number of claims are reported and the statistical credibility of loss experience increases, loss development factor methods or adjusted loss methods are given increasing weight.

Management endeavors to apply as much available data as practicable to estimate the loss reserve amount for each line of business, coverage and accident year, utilizing varying assumptions, projections and methods. The ultimate outcome is expected to fall within a range of potential outcomes around this loss reserve estimated amount.

Our carried reserves for each line of business and coverage are determined based on our quarterly loss reserving process. In making the determination, we consider numerous quantitative and qualitative factors. Quantitative factors include changes in reserve estimates in the period, the maturity of the accident year, trends observed over the recent past, the level of volatility within a particular class of business, the estimated effects of reinsurance, including reinstatement premiums, general economic trends, and other factors. Qualitative factors may include legal and regulatory developments, changes in claim handling and case reserving practices, recent entry into new markets or products, changes in underwriting practices or business mix, concerns that we do not have sufficient or quality historical reported and paid loss and LAE information with respect to a particular line or segment of our business, effects of the economy and political outlook, perceived anomalies in the historical results, evolving trends or other factors, such as the impact of the Pandemic. In doing so, we must evaluate whether a change in the data represents credible actionable information or an anomaly. Such an assessment requires considerable judgment. Even if a change is determined to be apparent, it is not always possible to determine the extent of the change. As a result, there can be a time lag between the emergence of a change and a determination that the change should be partially or fully reflected in the carried loss reserves. In general, changes are made more quickly to reserves for more mature accident years and less volatile classes of business.

Reserving Process Uncertainties

As stated above, numerous factors (both internal and external) contribute to the inherent uncertainty in the process of establishing loss reserves, including changes in the rate of inflation for goods and services related to insured damages (e.g., medical care, home and automobile repairs, etc.), changes in the judicial interpretation of policy provisions and settlement obligations, changes in the general attitude of juries in determining damage awards, legislative actions, such as expanding liability, coverage mandates or expanding or suspending statutes of limitations which otherwise limit the times within which claims can be made, changes in the extent of insured injuries, changes in the trend of expected frequency and/or severity of claims, changes in our book of business (e.g., change in mix due to new or modified product offerings, new or rapidly expanding geographic areas, etc.), changes in our underwriting practices, and changes in claim handling procedures and/or systems. Regarding our indirect business from voluntary and involuntary pools, we are periodically provided loss estimates by managers of each pool. We adopt reserve estimates for the pools that consider this information and other facts.

In addition, we must consider the uncertain effects of emerging or potential claims and coverage issues that arise as legal, judicial and social conditions, political risks, and economic conditions change. For example, claims which we consider closed may be re-opened as additional damages surface or new liability or damage theories are presented. Also, historically, we have observed more frequent and higher severity in workers' compensation, bodily injury and other liability claims and more credit related losses (for example, in our surety business) during periods of economic uncertainty or high unemployment. Economic and labor force dynamics have resulted in many experienced workers retiring from their positions, who have been replaced with newly skilled workers, which could result in more workplace accidents. These, and other issues, could have a negative effect on our loss reserves by either extending coverage beyond the original underwriting intent or by increasing the number or size of claims.

As part of our loss reserving analysis, we consider the various factors that contribute to the uncertainty in the loss reserving process. Those factors that could materially affect our loss reserve estimates include loss development patterns and loss cost trends, reporting lags, rate and exposure level changes, the effects of changes in coverage and policy limits, business mix shifts, the effects of regulatory and legislative developments, economic circumstances, the effects of changes in judicial interpretations, the effects of emerging claims and coverage issues, and the effects of changes in claim handling and claim reserving practices. In making estimates of reserves, however, we do not necessarily make an explicit assumption for each of these factors. Moreover, all estimation methods do not utilize the same assumptions and typically no single method is determinative in the reserve analysis for a line of business and coverage. Consequently, changes in our loss reserve estimates generally are not the result of changes in any one assumption. Instead, the variability will be affected by the interplay of changes in numerous assumptions, many of which are implicit to the approaches used.

For each line of business and coverage, we regularly adjust the assumptions and methods used in the estimation of loss reserves in response to our actual loss experience, as well as our judgments regarding changes in trends and/or emerging patterns. In those instances where we primarily utilize analyses of historical patterns of the development of paid and reported losses, this may be reflected, for example, in the selection of revised loss development factors. In longer-tailed classes of business and for which loss experience is less predictable due to potential changes in judicial interpretations, potential legislative actions, the cost of litigation or determining liability and the ultimate loss, inflation, potential claims, shifting claim settlement patterns due to delayed court proceedings, and other issues, this may be reflected in a judgmental change in our estimate of ultimate losses for particular accident

years. Most of the insurance policies we have written over many years are written on an “occurrence” basis, which means we insure specified acts or events which occurred during the covered period, even if claims first arise from such events many years later. For example, the industry incurred significant losses as a result of claims arising from asbestos and environmental damage which occurred decades ago and was not known at such time, and in many cases policy limits were available for each year during which such occurrence policies were in place.

The impact of the Pandemic could have a material adverse effect on our carried loss reserves. While we believe that our in-force Commercial Lines policies in large part do not cover business interruption losses related to the Pandemic, legislation has been discussed and introduced to retroactively amend insurance contracts to provide business interruption coverage, to impose presumptions on insurance policy interpretation, and/or limit policy exclusions for losses allegedly related to the Pandemic. If these changes were to be enacted and upheld, we would be exposed to a significant unfunded liability.

The future impact of the various factors that contribute to the uncertainty in the loss reserving process is impossible to predict. There is potential for significant variation in the development of loss reserves, particularly for long-tailed classes of business and classes of business that are more vulnerable to economic or political risks.

Reserving Process for Catastrophe Events

The estimation of claims and claims expense reserves for catastrophes is also comprised of estimates of losses from reported claims and IBNR, primarily for damage to property. In general, our estimates for catastrophe reserves are determined on an event basis by considering various sources of available information, including specific loss estimates reported to us based on claim adjuster inspections, overall industry loss estimates, our internal data regarding exposures related to the geographical location of the event and estimates of potential subrogation recoveries. However, depending on the nature of the catastrophe, the estimation process can be further complicated by other impediments. For example, for hurricanes and other severe wind storms and wildfires, complications often include the inability of insureds to promptly report losses, delays in the ability of claims adjusting staff to inspect losses, difficulties in determining whether wind storm losses are covered by our homeowners policy (generally for damage caused by wind or wind driven rain) or are specifically excluded from coverage caused by flood, challenges in estimating additional living expenses, assessing the impact of demand surge, exposure to mold or smoke damage, and the effects of numerous other considerations. Another example is the complication of estimating the cost of business interruption coverage on Commercial Lines policies. Estimates for catastrophes which occur at or near the end of a financial reporting period may be even less reliable since we will have less claims data available and little time to complete our estimation process. In such situations, we may adapt our practices to accommodate the circumstances.

For events designated as catastrophes, we generally calculate IBNR reserves directly as a result of an estimated IBNR claim count and an estimated average claim amount for each event. 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, aerial photographs of the affected area, feedback from a catastrophe claims team sent into the area, as well as data on claims reported as of the financial statement date. In addition, loss emergence from similar historical events is compared to the estimated IBNR for our current catastrophe events to help assess the reasonableness of our estimates. However, in some cases, it may be difficult to estimate certain catastrophe losses which are unique and do not have instances of historical precedence, such as the property damage arising from the 2020 riots and civil unrest.

Reserving Sensitivity Analysis

The following discussion presents disclosure related to possible variation in net reserve estimates (i.e., net of estimated reinsurance recoverables) due to changes in key assumptions. This information is provided for illustrative purposes only. Many other assumptions may also lead to material reserve adjustments. If any such variations do occur, then they would likely occur over a period of several years and therefore their impact on our results of operations would be recognized during the same periods. It is important to note, however, that there is the potential for future variations greater than the amounts described below and for any such variations to be recognized in a single quarterly or annual period. No consideration has been given to potential correlation or lack of correlation among key assumptions or among lines of business and coverage as described below. As a result, and because there are so many other factors which affect our net reserve estimate, it would be inappropriate to take the amounts described below and simply add them together in an attempt to estimate volatility in total. While we believe these are reasonably possible scenarios, the reader should not consider the following sensitivity analysis as illustrative of a net reserve range.

- Personal and Commercial Automobile Bodily Injury – loss reserves recorded for bodily injury on voluntary business were \$826.7 million as of December 31, 2021. A key assumption for bodily injury is the inflation rate underlying the estimated reserve. A five point change (e.g., 4% changed to 9% or -1%) in the embedded inflation rate would have changed total reserves by approximately \$70 million, either positive or negative, respectively, at December 31, 2021.

- Personal Automobile Personal Injury Protection Medical Payment – loss reserves recorded for personal injury protection medical payment on voluntary business were \$139.6 million as of December 31, 2021, of which approximately 97% relates to Michigan policies. A key assumption for this coverage is the inflation rate underlying the estimated reserve. Given the long reporting pattern for this line of business, an additional key assumption is the amount of additional development required to reach full maturity, thereby reflecting ultimate costs, as represented by the tail factor. A five point change in the embedded inflation rate and a one point change to the tail factor assumption (e.g., 2% changed to 1% or 3%) would have changed total reserves by approximately \$47 million, either positive or negative, at December 31, 2021.
- Workers' Compensation – loss reserves recorded for workers' compensation on voluntary business were \$464.3 million as of December 31, 2021. A key assumption for workers' compensation is the inflation rate underlying the estimated reserve. Given the long reporting pattern for this line of business, an additional key assumption is the amount of additional development required to reach full maturity, thereby reflecting ultimate costs, as represented by the tail factor. A five point change in the embedded inflation rate and a one point change to the tail factor assumption would have changed total reserves by approximately \$150 million, either positive or negative, at December 31, 2021.
- Monoline and Multiple Peril General Liability – loss reserves recorded for monoline and multiple peril general liability on voluntary business were approximately \$1.0 billion as of December 31, 2021. A key assumption for monoline and multiple peril general liability is the implied adequacy of the underlying case reserves. A ten point change in case adequacy (e.g., 10% deficiency changed to 0% or 20% deficiency) would have changed total reserves by approximately \$113 million, either positive or negative, at December 31, 2021.
- Specialty Programs - loss reserves recorded for Hanover Programs were \$376.5 million as of December 31, 2021. Two key assumptions underlying the actuarial reserve analysis for specialty programs are the inflation rate underlying the estimated reserve for our commercial automobile liability, general liability and workers' compensation coverages, as well as the tail factor selection for workers' compensation. A five point change to the embedded inflation rate for the aforementioned coverages, and a one point change in the workers' compensation tail factor on Hanover Programs would have changed total reserves by approximately \$53 million at December 31, 2021.

Carried Reserves and Reserve Rollforward

The following table provides a reconciliation of the gross beginning and ending reserve for unpaid losses and loss adjustment expenses.

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Gross reserve for losses and LAE, beginning of year	\$ 6,024.0	\$ 5,654.4	\$ 5,304.1
Reinsurance recoverable on unpaid losses	1,641.6	1,574.8	1,472.6
Net reserve for losses and LAE, beginning of year	4,382.4	4,079.6	3,831.5
Net incurred losses and LAE in respect of losses occurring in:			
Current year	3,205.3	2,877.8	2,893.0
Prior year non-catastrophe development	(56.1)	(15.5)	(0.9)
Prior year catastrophe development	(15.0)	(17.1)	(27.5)
Total incurred losses and LAE	3,134.2	2,845.2	2,864.6
Net payments of losses and LAE in respect of losses occurring in:			
Current year	1,464.1	1,347.7	1,315.4
Prior years	1,298.7	1,194.7	1,301.1
Total payments	2,762.8	2,542.4	2,616.5
Net reserve for losses and LAE, end of year	4,753.8	4,382.4	4,079.6
Reinsurance recoverable on unpaid losses	1,693.8	1,641.6	1,574.8
Gross reserve for losses and LAE, end of year	\$ 6,447.6	\$ 6,024.0	\$ 5,654.4

The following table summarizes the gross reserve for losses and LAE by line of business.

DECEMBER 31 (in millions)	2021	2020	2019
Commercial multiple peril	\$ 1,365.6	\$ 1,211.0	\$ 1,122.0
Workers' compensation	721.6	699.4	698.2
Commercial automobile	484.9	454.8	427.0
Other commercial lines:			
Hanover Programs	613.0	565.3	512.9
Management and professional liability	407.9	340.8	281.5
Monoline general liability	308.2	280.3	265.5
Umbrella	279.1	230.2	197.9
Specialty industrial and commercial property	130.0	76.9	71.1
Surety	100.9	93.6	76.9
Marine	98.9	94.0	95.9
Other lines	29.2	29.5	28.4
Total other commercial lines	1,967.2	1,710.6	1,530.1
Total Commercial Lines	4,539.3	4,075.8	3,777.3
Personal automobile	1,590.7	1,670.3	1,645.1
Homeowners and other personal	277.7	237.5	194.3
Total Personal Lines	1,868.4	1,907.8	1,839.4
Total Other Segment	39.9	40.4	37.7
Total loss and LAE reserves	\$ 6,447.6	\$ 6,024.0	\$ 5,654.4

“Other commercial lines – Other lines” in the table above, is primarily comprised of our fidelity and crime line of business. Loss and LAE reserves in our “Total Other Segment” relate to our run-off voluntary assumed reinsurance pools business.

Prior Year Development

Conditions and trends that have affected reserve development in the past will not necessarily recur in the future. As discussed under “Reserving Process Overview” in the preceding section, our historical loss experience and loss development patterns are important factors in estimating loss reserves, however, they are not the only factors we evaluate to establish reserves. Therefore, a mechanical application of standard actuarial methodologies in projecting ultimate claims could result in materially different reserves to those held. Accordingly, it is not appropriate to extrapolate future favorable or unfavorable development based on amounts experienced in prior periods.

The following table summarizes prior year (favorable) unfavorable development by segment for the periods indicated:

	2021			2020			2019		
(in millions)	Loss & LAE	Catastrophe	Total	Loss & LAE	Catastrophe	Total	Loss & LAE	Catastrophe	Total
Commercial Lines	\$ (34.0)	(12.0)	\$ (46.0)	\$ (19.0)	(18.8)	\$ (37.8)	\$ (28.7)	(24.6)	\$ (53.3)
Personal Lines	(23.1)	(3.0)	(26.1)	(0.7)	1.7	1.0	26.6	(2.9)	23.7
Other Segment	1.0	—	1.0	4.2	—	4.2	1.2	—	1.2
Total prior year favorable development	\$ (56.1)	\$ (15.0)	\$ (71.1)	\$ (15.5)	\$ (17.1)	\$ (32.6)	\$ (0.9)	\$ (27.5)	\$ (28.4)

Catastrophe Loss Development

In 2021, favorable catastrophe development was \$15.0 million, primarily due to lower than expected losses related to certain 2018 through 2020 hurricanes, tornadoes, and other storms. In 2020, favorable catastrophe development was \$17.1 million, primarily due to lower than expected losses related to certain 2017, 2018, and 2019 wind storms, winter storms and hurricanes and the 2017 and 2018 California wildfires. In 2019, favorable catastrophe development was \$27.5 million, primarily due to lower than expected losses related to the 2017 and 2018 California wildfires, including the sale of subrogation rights on certain California wildfire losses, and the 2018 hurricane Florence.

Loss and LAE Development, excluding catastrophes

The following table provides a summary of (favorable) unfavorable loss and LAE reserve development, excluding catastrophes.

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Commercial multiple peril	\$ (4.7)	\$ 14.2	\$ (6.6)
Workers' compensation	(23.1)	(36.0)	(32.6)
Commercial automobile	3.4	15.5	6.4
Other commercial lines	(9.6)	(12.7)	4.1
Total Commercial Lines	(34.0)	(19.0)	(28.7)
Personal automobile	(23.5)	4.5	22.0
Homeowners and other personal lines	0.4	(5.2)	4.6
Total Personal Lines	(23.1)	(0.7)	26.6
Total Other Segment	1.0	4.2	1.2
Total loss and LAE reserve development, excluding catastrophes	<u>\$ (56.1)</u>	<u>\$ (15.5)</u>	<u>\$ (0.9)</u>

2021 Loss and LAE Development, excluding catastrophes

In 2021, net favorable loss and LAE development, excluding catastrophes, was \$56.1 million. Commercial Lines favorable development of \$34.0 million was primarily due to lower than expected losses of \$23.1 million within the workers' compensation line in accident years 2014 through 2020, and in our other commercial lines. Within other commercial lines, including Hanover Programs, lower than expected losses of \$19.3 million in our commercial miscellaneous property and specialty industrial property lines, primarily in accident years 2019 and 2020, and lower than expected losses in our surety line, primarily in accident years 2013 through 2016, 2018 and 2019, were partially offset by higher than expected losses of \$25.6 million within the general liability lines, primarily in accident years 2018 through 2020. Personal Lines favorable development of \$23.1 million was primarily due to lower than expected losses of \$23.5 million in the personal automobile line, driven by lower bodily injury and personal injury protection losses, primarily in accident year 2020. In addition, Other Segment unfavorable development of \$1.0 million was due to adverse loss trends in our run-off voluntary assumed property and casualty reinsurance pools business, which includes asbestos and environmental reserves.

2020 Loss and LAE Development, excluding catastrophes

In 2020, net favorable loss and LAE development, excluding catastrophes, was \$15.5 million. Commercial Lines favorable development of \$19.0 million was primarily due to lower than expected losses of \$36.0 million within the workers' compensation line in accident years 2016 through 2019. This was partially offset by higher than expected losses in our commercial automobile line driven by higher bodily injury and personal protection losses, primarily in accident years 2017 through 2019, and the commercial multiple peril line, primarily in accident years 2017 and 2019. Within other commercial lines, lower than expected losses in our marine line, in accident years 2017 through 2019 and specialty industrial property lines were partially offset by higher than expected losses in the general liability coverages within Hanover Programs. In addition, the adverse prior development in our Other Segment was due to our run-off voluntary assumed property and casualty reinsurance pools business primarily based on an updated third-party actuarial study received in the first quarter of 2020 for the legacy Excess and Casualty Reinsurance Association ("ECRA") pool that consists primarily of asbestos and environmental exposures.

2019 Loss and LAE Development, excluding catastrophes

In 2019, net favorable loss and LAE development, excluding catastrophes, was \$0.9 million. Commercial Lines favorable development of \$28.7 million was primarily due to lower than expected losses of \$32.6 million within the workers' compensation line in accident years 2015 through 2018, and lower than expected losses in our commercial multiple peril line, primarily in accident years 2015 through 2016, partially offset by higher than expected losses in our commercial automobile and other commercial lines. Higher than expected losses in the commercial automobile line was driven by higher bodily injury severity and personal injury protection in accident years 2016 through 2017. Within other commercial lines, higher than expected losses of \$24.6 million in Hanover Programs, primarily in accident years 2011, 2013, 2015, and 2017, was partially offset by lower than expected losses in our general liability, marine and surety lines. Personal Lines unfavorable development of \$26.6 million was primarily due to higher than expected losses of \$22.0 million in the personal automobile line, driven by bodily injury severity and personal injury protection in accident years 2016 through 2017. In addition, Other Segment unfavorable development of \$1.2 million was due to adverse loss trends in our run-off voluntary assumed property and casualty reinsurance pools business which includes asbestos and environmental reserves.

Asbestos and Environmental Reserves

As of December 31, 2021, we have \$11.7 million of net asbestos and environmental reserves, comprised of \$9.6 million of direct reserves and \$2.1 million of assumed reinsurance pool reserves. This compares to net reserves of \$39.8 million and \$37.9 million as of December 31, 2020 and 2019, respectively. Ending loss and LAE reserves for all direct business written by our insurance companies related to asbestos and environmental damage liability were \$9.6 million, \$8.3 million and \$8.4 million, net of reinsurance of \$16.7

million, \$17.9 million and \$17.6 million for the years ended December 31, 2021, 2020 and 2019, respectively. Activity for our direct asbestos and environmental reserves was not significant to our 2021, 2020 or 2019 financial results. As a result of our historical direct underwriting mix of Commercial Lines policies toward smaller and middle market risks, past asbestos and environmental damage liability loss experience has remained minimal in relation to our total loss and LAE incurred experience. Although we attempt to limit our exposures to asbestos and environmental damage liability through specific policy exclusions, we have been, and may continue to be, subject to claims related to these exposures.

In addition to reserves we carry to cover exposure in our direct business, we have established gross and net loss and LAE reserves for assumed reinsurance pool business with asbestos and environmental damage liability. As of December 31, 2021, we have \$31.0 million of gross reserves and \$2.1 million of net reserves for assumed reinsurance pool business. This compares to gross and net loss and LAE reserves of \$31.5 million and \$29.5 million at December 31, 2020 and 2019, respectively. These reserves relate to pools in which we have terminated our participation; however, we continue to be subject to claims related to years in which we were a participant. Results of operations from these pools are included in our Other segment. A significant part of our gross pool reserves relates to our participation in the ECRA voluntary pool. In 1982, the pool was dissolved and since that time, the business has been in run-off. During 2021, we entered into an agreement to transfer our ECRA pool participations to a third-party reinsurer. This transfer was executed through a 100% reinsurance arrangement for our ECRA claim liability participations written during the period 1950 to 1982. This transaction had no significant impact on our 2021 results of operations.

We estimate our ultimate liability for asbestos, environmental and toxic tort liability claims, whether resulting from direct business, assumed reinsurance or pool business, based upon currently known facts, reasonable assumptions where the facts are not known, current law, and methodologies currently available. Although these outstanding claims are not believed to be significant, their existence gives rise to uncertainty and are discussed because of the possibility that they may become significant. We believe that, notwithstanding the evolution of case law expanding liability in asbestos and environmental claims, recorded reserves related to these claims are adequate. Nevertheless, the asbestos, environmental and toxic tort liability reserves could be revised, and any such revisions could have a material adverse effect on our results of operations for a particular quarterly or annual period, or on our financial position.

Reinsurance Recoverables

Reinsurance recoverables were \$1,907.3 million and \$1,874.3 million at December 31, 2021 and December 31, 2020, respectively, of which \$100.4 million and \$88.4 million, respectively, represent billed recoverables. A reinsurance recoverable is billed after an eligible reinsured claim is paid by an insurer. Billed reinsurance recoverables related to the MCCA were \$49.8 million and \$35.5 million at December 31, 2021 and December 31, 2020, respectively, and billed non-MCCA reinsurance recoverables totaled \$50.6 million and \$52.9 million at December 31, 2021 and December 31, 2020, respectively. As of December 31, 2021 and 2020, there were no balances outstanding greater than 90 days.

INVESTMENTS

INVESTMENT RESULTS

Net investment income before income taxes was as follows:

DECEMBER 31	2021	2020	2019
<i>(dollars in millions)</i>			
Fixed maturities	\$ 216.9	\$ 222.5	\$ 232.4
Limited partnerships	68.2	16.7	19.7
Mortgage loans	18.0	17.5	16.3
Equity securities	15.6	14.8	16.3
Other investments	3.0	3.2	5.3
Investment expenses	(11.0)	(9.6)	(8.7)
Net investment income	\$ 310.7	\$ 265.1	\$ 281.3
Earned yield, fixed maturities	2.99%	3.33%	3.58%
Earned yield, total portfolio	3.70%	3.35%	3.65%

The increase in net investment income in 2021 was primarily due to higher limited partnership income and, to a lesser extent, the continued investment of operational cash flows, partially offset by the impact of lower new money yields. Higher income from our limited partnerships primarily reflects increased valuations resulting from positive performance of the funds' underlying equity holdings. Limited partnership results in 2020, particularly early in the year, were negatively impacted by Pandemic-related business and financial market disruptions. Income from partnerships can vary significantly from period to period and neither the elevated results during 2021, nor the weak results in 2020, reflect expected long-term returns for this asset class. The decrease in net investment income in 2020 was primarily due to the impact of lower new money yields, the deployment of cash during 2019 for accelerated share repurchases and special dividends, and lower limited partnership income. These decreases were partially offset by the continued

investment of operational cash flows. We expect average fixed income yields to continue to decline as new money rates remain lower than embedded book yields.

INVESTMENT PORTFOLIO

We held cash and investment assets diversified across several asset classes, as follows:

DECEMBER 31	2021		2020	
	Carrying Value	% of Total Carrying Value	Carrying Value	% of Total Carrying Value
<i>(dollars in millions)</i>				
Fixed maturities, at fair value	\$ 7,723.9	82.3%	\$ 7,454.4	83.2%
Equity securities, at fair value	661.3	7.0	598.5	6.7
Mortgage and other loans	434.0	4.6	467.6	5.2
Other investments	333.4	3.6	325.6	3.6
Cash and cash equivalents	230.9	2.5	120.6	1.3
Total cash and investments	<u>\$ 9,383.5</u>	<u>100.0%</u>	<u>\$ 8,966.7</u>	<u>100.0%</u>

CASH AND INVESTMENTS

Total cash and investments increased \$416.8 million, or 4.6%, for the year ended December 31, 2021, primarily due to the continued investment of operational cash flows, partially offset by the funding of financing activities, including our stock repurchases and dividend payments, and by net market value depreciation.

The following table provides information about the investment types of our fixed maturities portfolio:

DECEMBER 31	2021			
<i>(in millions)</i>				
Investment Type	Amortized Cost, net of Allowance for Credit Losses	Fair Value	Net Unrealized Gain (Loss)	Change in Net Unrealized for the Year
U.S. Treasury and government agencies	\$ 394.3	\$ 396.2	\$ 1.9	\$ (13.7)
Foreign government	2.2	2.6	0.4	(0.1)
Municipals:				
Taxable	1,149.2	1,173.0	23.8	(36.1)
Tax-exempt	27.0	27.8	0.8	(0.9)
Corporate	3,931.2	4,090.1	158.9	(182.5)
Asset-backed:				
Residential mortgage-backed	1,068.2	1,069.6	1.4	(31.1)
Commercial mortgage-backed	802.4	824.4	22.0	(32.6)
Asset-backed	140.3	140.2	(0.1)	(2.7)
Total fixed maturities	<u>\$ 7,514.8</u>	<u>\$ 7,723.9</u>	<u>\$ 209.1</u>	<u>\$ (299.7)</u>

The decrease in net unrealized gains on fixed maturities was primarily due to higher prevailing interest rates.

Amortized cost and fair value by rating category were as follows:

DECEMBER 31		2021			2020		
	Rating Agency Equivalent Designation	Amortized Cost, net of Allowance for Credit Losses	Fair Value	% of Total Fair Value	Amortized Cost, net of Allowance for Credit Losses	Fair Value	% of Total Fair Value
<i>(dollars in millions)</i>							
NAIC Designation							
1	Aaa/Aa/A	\$ 4,867.5	\$ 4,987.6	64.6%	\$ 4,590.6	\$ 4,894.2	65.7%
2	Baa	2,302.2	2,380.4	30.8	2,075.6	2,258.9	30.3
3	Ba	216.9	225.2	2.9	162.3	173.6	2.3
4	B	123.2	125.3	1.6	109.3	118.3	1.6
5	Caa and lower	5.0	5.4	0.1	7.3	7.7	0.1
6	In or near default	—	—	—	0.5	1.7	—
Total fixed maturities		\$ 7,514.8	\$ 7,723.9	100.0%	\$ 6,945.6	\$ 7,454.4	100.0%

Based on ratings by the National Association of Insurance Commissioners (“NAIC”), approximately 95% and 96% of our fixed maturity portfolio consisted of investment grade securities at December 31, 2021 and 2020, respectively. The quality of our fixed maturity portfolio remains strong based on ratings, capital structure position, support through guarantees, underlying security, issuer diversification and yield curve position.

Our investment portfolio primarily consists of fixed maturity securities whose fair value is susceptible to market risk, including interest rate changes. See also “Quantitative and Qualitative Disclosures about Market Risk.” Duration is a measurement used to quantify our inherent interest rate risk and analyze invested assets relative to our reserve liabilities.

The duration of our fixed maturity portfolio was as follows:

DECEMBER 31	2021			2020		
<i>(dollars in millions)</i>	Amortized Cost, net of Allowance for Credit Losses	Fair Value	% of Total Fair Value	Amortized Cost, net of Allowance for Credit Losses	Fair Value	% of Total Fair Value
Duration						
0-2 years	\$ 1,080.2	\$ 1,108.3	14.3%	\$ 1,460.6	\$ 1,510.5	20.3%
2-4 years	1,581.1	1,660.9	21.5	1,738.4	1,872.5	25.1
4-6 years	2,263.8	2,349.0	30.4	1,570.0	1,734.0	23.3
6-8 years	1,603.8	1,622.4	21.0	1,016.6	1,134.0	15.2
8-10 years	854.9	846.5	11.0	812.2	837.8	11.2
10+ years	131.0	136.8	1.8	347.8	365.6	4.9
Total fixed maturities	<u>\$ 7,514.8</u>	<u>\$ 7,723.9</u>	<u>100.0%</u>	<u>\$ 6,945.6</u>	<u>\$ 7,454.4</u>	<u>100.0%</u>
Weighted average duration		<u>4.9</u>			<u>4.8</u>	

Our fixed maturity and equity securities are carried at fair value. Financial instruments whose value was determined using significant management judgment or estimation constituted less than 1% of the total assets we measured at fair value. See also Note 4 - “Fair Value” in the Notes to Consolidated Financial Statements.

Equity securities primarily consist of U.S. income-oriented large capitalization common stocks and developed market equity index exchange-traded funds.

Mortgage and other loans consist primarily of commercial mortgage loan participations, which represent our interest in commercial mortgage loans originated by a third-party. We share, on a pro-rata basis, in all related cash flows of the underlying mortgage loans, which are primarily investment-grade quality and diversified by geographic area and property type.

Other investments consist primarily of our interest in corporate middle market and real estate limited partnerships. Corporate middle market limited partnerships may invest in senior or subordinated debt, preferred or common equity or a combination thereof, of privately-held middle market businesses. Real estate limited partnerships hold equity ownership positions in real properties and invest in debt secured by real properties. Our limited partnerships are generally accounted for under the equity method, or as a practical expedient using the fund’s net asset value, with financial information provided by the partnership on a two or three month lag.

Although we expect to invest new funds primarily in investment grade fixed maturities, we have invested, and expect to continue to invest, a portion of funds in limited partnerships, common equity securities, below investment grade fixed maturities and other investment assets.

We deposit funds with various state and governmental authorities. See Note 2 – “Investments” in the Notes to Consolidated Financial Statements for additional information.

IMPAIRMENTS

For the years ended December 31, 2021, 2020 and 2019, we recognized in earnings \$0.7 million, \$26.3 million and \$2.0 million, respectively, of impairments. In 2021, impairments primarily consisted of \$1.3 million on fixed maturities, partially offset by recoveries of credit losses on mortgage loans. In 2020, impairments primarily consisted of \$17.6 million on fixed maturities, primarily relating to intend-to-sell securities, and \$6.7 million of estimated credit losses on mortgage loans. In 2019, impairments consisted entirely of corporate fixed maturity securities.

At December 31, 2021 and 2020, the allowance for credit losses on mortgage loans was \$7.1 million and \$7.9 million, respectively. The allowance for credit losses on available-for-sale securities was \$0.3 million and \$0.1 million at December 31, 2021 and 2020, respectively.

There were no fixed maturity securities on non-accrual status at December 31, 2021. The carrying values of fixed maturity securities on non-accrual status at December 31, 2020 were not material. The effects of non-accruals compared with amounts that would have been recognized in accordance with the original terms of the fixed maturities for the years ended December 31, 2021, 2020 and 2019 were also not material. Any defaults in the fixed maturities portfolio in future periods may negatively affect investment income.

UNREALIZED LOSSES

Gross unrealized losses on fixed maturities at December 31, 2021 were \$48.0 million, an increase of \$44.7 million compared to December 31, 2020, primarily attributable to higher prevailing interest rates. At December 31, 2021, gross unrealized losses consisted primarily of \$15.6 million on corporate fixed maturities, \$11.0 million on residential mortgage-backed securities, \$8.0 on municipals and \$7.4 million on U.S. government securities. See also Note 2 – “Investments” in the Notes to Consolidated Financial Statements.

We view gross unrealized losses on fixed maturities as non-credit related since it is our assessment that these securities will recover, allowing us to realize their anticipated long-term economic value. Further, we do not intend to sell, nor is it more likely than not we will be required to sell, such debt securities before this expected recovery of amortized cost (see also “Liquidity and Capital Resources”). Inherent in our assessment are the risks that market factors may differ from our expectations; the global economic recovery following the Pandemic takes longer than current expectations; we may decide to subsequently sell a security for unforeseen business needs; or changes in the credit assessment from our original assessment may lead us to determine that a sale at the current value would maximize recovery on such investments. To the extent that there are such adverse changes, an impairment would be recognized as a realized loss. Although unrealized losses on fixed maturities are not reflected in the results of financial operations until they are realized, the fair value of the underlying investment, which does reflect the unrealized loss, is reflected in our Consolidated Balance Sheets.

The following table sets forth gross unrealized losses for fixed maturities by maturity period at December 31, 2021 and 2020. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations, with or without call or prepayment penalties, or we may have the right to put or sell the obligations back to the issuers.

DECEMBER 31 (in millions)	2021	2020
Due after one year through five years	\$ 0.7	\$ —
Due after five years through ten years	19.4	0.5
Due after ten years	10.9	2.0
	31.0	2.5
Mortgage-backed and asset-backed securities	17.0	0.8
Total fixed maturities	\$ 48.0	\$ 3.3

Our investment portfolio and shareholders’ equity can be significantly impacted by changes in market values of our securities. Market volatility could increase and defaults on fixed income securities could occur. As a result, we could incur additional realized and unrealized losses in future periods, which could have a material adverse impact on our results of operations and/or financial position.

Positive economic growth in the U.S. continues, driven by the strength of the labor market and consumer spending. Risks to the economic outlook remain, including new variants of COVID-19 and various supply chain and labor market imbalances. With progress on vaccinations and strong policy support, indicators of economic activity and employment have continued to strengthen. The sectors most adversely affected by the Pandemic have improved recently, but remain below pre-Pandemic levels of economic activity. Job gains have been solid in recent months and unemployment rates have declined substantially. Inflation has risen to the highest levels in many years, well beyond the Federal Reserve’s (the “Fed”) target of 2%. Overall financial conditions have been accommodative, in part reflecting policy measures to support the economy and the flow of credit to U.S. households and businesses. However, the path of the economy depends on the course of COVID-19. Progress on vaccinations and an easing of supply constraints are expected to support continued gains in economic activity and employment as well as a reduction in inflation. It is unclear how such actions and inflationary pressures will affect the continued economic recovery and our investment portfolio.

With inflation having exceeded their 2% target for some time, combined with improvement in the labor market, the Fed announced a reduction in its asset purchase program with its cessation expected in March 2022. The Fed’s asset purchase program represents a significant source of demand for certain sectors of the fixed income market and even a well-telegraphed, gradual winding down of the program may result in market disruption. In addition, the Fed’s most recent projections released in December signaled the greatest likelihood to begin raising interest rates would be in 2022, assuming forecasts for growth, unemployment and inflation are achieved.

Fundamental conditions in certain corporate sectors remain challenging, such as the lodging and hospitality sectors, which still face lower than pre-Pandemic levels of demand. We may experience defaults on fixed income securities, particularly with respect to non-investment grade debt securities. Although we perform rigorous credit analysis of our fixed income investments, it is difficult to foresee which issuers, industries or markets will be most affected. As a result, the value of our fixed maturity portfolio could change rapidly in ways we cannot currently anticipate, and we could incur additional realized and unrealized losses in future periods.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

INTEREST RATE SENSITIVITY

The valuation of the investment portfolio is subject to risk resulting from interest rate fluctuations, which may adversely impact the valuation of the investment portfolio. In a rising interest rate environment, the value of the fixed maturity sector, which comprises approximately 82% of our investment portfolio, may decline as a result of decreases in the fair value of the securities. Our intent is to hold securities to maturity and recover the decline in valuation as prices accrete to par. However, our intent may change prior to maturity due to changes in the financial markets, our analysis of an issuer's credit metrics and prospects, or as a result of changes in cash flow needs. Interest rate fluctuations may also reduce net investment income and, as a result, profitability. The portfolio may realize lower yields and therefore lower net investment income on securities because securities with prepayment and call features may prepay at a different rate than originally projected. Also, in an increasing rate environment, the duration of our fixed maturity portfolio could lengthen as issuers choose not to exercise their option to call or prepay their debt. For this and other reasons, funds may not be available to invest at higher interest rates.

In a declining interest rate environment, prepayments and calls may increase as issuers exercise their option to refinance at lower rates. The resulting funds would be reinvested at lower yields.

The following table illustrates the estimated impact on the fair value of our fixed maturity portfolio at December 31, 2021 and 2020 of hypothetical changes in prevailing interest rates, defined as changes in interest rates on U.S. Treasury debt. It does not reflect changes in credit spreads, liquidity spreads and other factors that also affect the value of securities. Since changes in prevailing interest rates are often accompanied by changes in these other factors, the reader should not assume that an actual change in interest rates would result in the values illustrated.

(dollars in millions)

INVESTMENT TYPE	+300bp	+200bp	+100bp	0	-100bp	-200bp	-300bp
Residential mortgage-backed securities	\$ 900	\$ 955	\$ 1,010	\$ 1,070	\$ 1,110	\$ 1,135	\$ 1,160
Municipal securities	1,005	1,065	1,130	1,201	1,275	1,350	1,430
All other fixed maturity securities	4,740	4,965	5,205	5,453	5,715	5,985	6,275
Total December 31, 2021	<u>\$ 6,645</u>	<u>\$ 6,985</u>	<u>\$ 7,345</u>	<u>\$ 7,724</u>	<u>\$ 8,100</u>	<u>\$ 8,470</u>	<u>\$ 8,865</u>
Total December 31, 2020	<u>\$ 6,395</u>	<u>\$ 6,735</u>	<u>\$ 7,090</u>	<u>\$ 7,454</u>	<u>\$ 7,805</u>	<u>\$ 8,165</u>	<u>\$ 8,570</u>

Our investment strategy seeks to balance the goals of liquidity, capital preservation, net investment income stability and total return. The allocation process takes into consideration the profile and expected payout pattern of our liabilities, the level of capital required to support growth across lines of business and the risk profiles of a wide range of asset classes.

The majority of our assets are invested in investment grade fixed income securities across various sectors including U.S. government, municipal, corporate, residential and commercial mortgage-backed securities and asset-backed securities. Our holdings are diversified within and across major investment and industry sectors to mitigate credit and interest rate risk. We monitor the credit quality of our investments and our exposure to individual markets, borrowers, industries, sectors and, in the case of commercial mortgage-backed securities and commercial mortgage loan participations, property types and geographic locations. In addition, we currently carry debt that is subject to interest rate risk, which was issued at fixed interest rates between 2.50% and 8.207%. Current market conditions, in light of our risk tolerance, restrict our ability to invest fixed income assets at similar rates of return; therefore, earnings on a similar level of assets are not sufficient to cover current debt interest costs.

EQUITY PRICE RISK

Our equity securities portfolio is exposed to equity price risk arising from potential volatility in equity market prices. Portfolio characteristics are analyzed regularly and price risk is actively managed through a variety of techniques. A hypothetical increase or decrease of 10% in the market price of our equity securities would have resulted in an increase or decrease in the fair value of the equity securities portfolio of approximately \$66 million at December 31, 2021 and \$60 million at December 31, 2020, which amounts, after taxes, would be reported in net income.

OTHER ITEMS

Net income also included the following items:

	YEARS ENDED DECEMBER 31				
<i>(in millions)</i>	Commercial Lines	Personal Lines	Other	Discontinued Operations	Total
2021					
Net realized and unrealized investment gains (losses)	\$ 89.4	\$ 37.8	\$ (4.2)	\$ —	\$ 123.0
Discontinued operations - Chaucer business, net of taxes	—	—	—	1.2	1.2
Discontinued life businesses, net of taxes	—	—	—	(2.5)	(2.5)
2020					
Net realized and unrealized investment gains (losses)	\$ 5.2	\$ 3.5	\$ (3.7)	\$ —	\$ 5.0
Loss from repayment of debt	—	—	(6.2)	—	(6.2)
Other non-operating items	(0.9)	(0.7)	—	—	(1.6)
Discontinued operations - Chaucer business, net of taxes	—	—	—	0.4	0.4
Discontinued life businesses, net of taxes	—	—	—	(3.7)	(3.7)
2019					
Net realized and unrealized investment gains	\$ 75.0	\$ 33.4	\$ 1.0	\$ —	\$ 109.4
Other non-operating items	(1.3)	(1.2)	(0.9)	—	(3.4)
Discontinued operations - Chaucer business, including loss on sale, net of taxes	—	—	—	0.4	0.4
Discontinued life businesses, net of taxes	—	—	—	(4.3)	(4.3)

We manage investment assets for our Commercial Lines, Personal Lines and Other segments based on the requirements of our combined property and casualty companies. We allocate the investment income, expenses and realized gains and losses to our Commercial Lines, Personal Lines and Other segments based on actuarial information related to the underlying businesses.

Net realized and unrealized investment gains were \$123.0 million, \$5.0 million and \$109.4 million in 2021, 2020 and 2019, respectively. Net realized and unrealized investment gains in 2021 were primarily due to \$119.1 million of appreciation in the fair value of our equity securities. Net realized and unrealized investment gains in 2020 were primarily due to net realized gains from sales and other of \$17.9 million and, to a lesser extent, appreciation in the fair value of our equity securities of \$13.4 million, partially offset by impairment losses on investments. Net realized and unrealized investment gains in 2019 were primarily due to \$106.5 million of appreciation in the fair value of our equity securities.

In 2020, we repurchased all of our outstanding 6.35% subordinated debentures due March 30, 2053 with a net carrying value of \$168.9 million, at a cost of \$175.0 million, resulting in a pre-tax loss of \$6.1 million. Additionally, in 2020 we repurchased a portion of our 7.625% senior debentures with a net carrying value of \$0.8 million.

In 2021, discontinued operations, in total, generated net losses of \$1.3 million, net of tax, consisting of \$2.5 million of losses related to our former accident and health business, partially offset by \$1.2 million of income from our former Chaucer business. Losses in our former accident and health business primarily related to the long-term care pool whereas income from our former Chaucer business resulted from the release of certain tax positions, due to the expiration of certain statutes of limitations. In 2020 and 2019, discontinued operations, in total, generated net losses of \$3.3 million and \$3.9 million, net of tax, respectively, primarily related to the long-term care pool in our former accident and health business.

INCOME TAXES

We file a consolidated U.S. federal income tax return that includes our holding company and its domestic subsidiaries (including non-insurance operations).

The provision for income taxes from continuing operations was an expense of \$101.3 million, \$82.8 million, and \$93.1 million in 2021, 2020 and 2019, respectively. These amounts resulted in consolidated effective tax rates of 19.4%, 18.6% and 17.8% on pre-tax income for 2021, 2020 and 2019, respectively. The provisions in 2021, 2020 and 2019 reflect benefits related to tax planning strategies implemented in prior years of \$4.6 million, \$9.2 million and \$14.8 million, respectively. The provisions in 2021, 2020 and 2019 also included excess tax benefits related to stock-based compensation of \$2.6 million, \$2.1 million and \$3.0 million, respectively. In addition, the provision for 2021 includes a net benefit related to prior years' federal research tax credits of \$1.7 million. Lastly, the provision for 2019 includes a charge of \$1.2 million, which relates to the 2017 changes in the tax law related to the 2018 sale of Chaucer. Absent these items, the provision for income taxes for 2021, 2020 and 2019 would have been expenses of \$110.2 million, \$94.1 million and \$109.7 million, respectively, or 21.1% for 2021, 21.2% for 2020 and 21.0% for 2019.

The income tax provision on operating income was an expense of \$80.0 million, \$92.6 million and \$84.5 million for 2021, 2020 and 2019, respectively. These provisions resulted in effective tax rates for operating income of 20.1%, 20.7% and 20.3% in 2021, 2020 and 2019, respectively. The provisions for 2021, 2020 and 2019 reflect the aforementioned excess tax benefits related to stock-based compensation. The provision for 2021 also reflects the aforementioned net benefit related to prior years' federal research tax credits. Absent these items, the provision for income taxes for 2021, 2020 and 2019 would have been expenses of \$84.3 million, \$94.7 million and \$87.5 million, or 21.2% for 2021 and 2020 and 21.0% for 2019.

During 2021, we recorded increases in reserves related to uncertain tax positions of \$2.0 million as an expense in continuing operations. We also recorded decreases in reserves related to uncertain tax positions, due to the expirations of certain statutes of limitations during 2021, 2020 and 2019. The 2021 reserve release of \$1.1 million was recorded as a benefit to income from discontinued Chaucer business, net of taxes. The 2020 reserve release of \$0.5 million was recorded as a benefit to the income (loss) from discontinued life businesses, net of taxes. The 2019 reserve release of \$2.0 million was recorded as a benefit to income from our former Chaucer business, net of taxes. We are subject to U.S. federal and state examinations and foreign examinations for years after 2017. The audit of our Massachusetts corporate excise tax years 2017 and 2018 commenced in June 2021.

In prior years, we completed several transactions which resulted in the realization, for tax purposes only, of unrealized gains in our investment portfolio. As a result of these transactions, we were able to realize capital losses carried forward and release the valuation allowance recorded against the deferred tax asset related to those losses. The releases of valuation allowances were recorded as a benefit in accumulated other comprehensive income. Previously unrealized benefits of \$4.6 million, \$9.2 million and \$14.8 million, attributable to non-operating income, were recognized as part of our income from continuing operations during 2021, 2020 and 2019, respectively. The remaining amount of \$7.0 million in accumulated other comprehensive income will be released into income from continuing operations in future years, as the investment securities subject to these transactions are sold or mature.

CRITICAL ACCOUNTING ESTIMATES

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements. These statements have been prepared in accordance with U.S. GAAP, which requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates. The following critical accounting estimates are those which we believe affect the more significant judgments and estimates used in the preparation of our financial statements. Additional information about other significant accounting policies and estimates may be found in Note 1 – “Summary of Significant Accounting Policies” in the Notes to Consolidated Financial Statements.

RESERVE FOR LOSSES AND LOSS EXPENSES

See “Reserve for Losses and Loss Adjustment Expenses” within “Results of Operations – Segments” for a discussion of our critical accounting estimates for loss reserves.

REINSURANCE RECOVERABLE BALANCES

See “Reinsurance Recoverables” in Part I – Item 1 for information on our reinsurance recoverable balances.

PENSION BENEFIT OBLIGATIONS

We currently have a qualified defined benefit plan and several smaller non-qualified benefit plans. In order to measure the liabilities and expense associated with these plans, we must make various estimates and key assumptions, including discount rates used to value liabilities, assumed rates of return on plan assets, employee turnover rates and anticipated mortality rates. These estimates and assumptions are reviewed at least annually and are based on our historical experience, as well as current facts and circumstances. In addition, we use outside actuaries to assist in measuring the expenses and liabilities associated with our defined benefit pension plan.

Two significant assumptions used in the determination of benefit plan obligations and expenses that are dependent on market factors, which have been subject to a greater level of volatility in recent years, are the discount rate and the return on plan asset assumptions. The discount rate enables us to state expected future benefit payments as a present value on the measurement date. We also use this discount rate in the determination of our pre-tax pension expense or benefit. A higher discount rate decreases the present value of benefit obligations and decreases pension expense. We determined our discount rate for the qualified benefit plan utilizing independent yield curves which provide for a portfolio of high quality bonds that are expected to match the cash flows of our pension plans. Bond information used in the yield curve included only those rated Aa or better as of December 31, 2021 and 2020, respectively, and had been rated by at least two well-known rating agencies. The discount rates used to value liabilities in our qualified pension plan were 3.25% and 3.00% as of December 31, 2021 and 2020, respectively.

To determine the expected long-term return on plan assets, we generally consider historical mean returns by asset class for passive indexed strategies, as well as current and expected asset allocations, and adjust for certain factors that we believe will have an impact on future returns. Actual returns on plan assets in any given year seldom result in the achievement of the expected rate of return on assets. Actual returns on plan assets in excess of these expected returns will generally reduce our net actuarial losses (or increase actuarial gains) that are reflected in the accumulated other comprehensive income balance in shareholders' equity, whereas actual

returns on plan assets that are less than expected returns will generally increase our net actuarial losses (or decrease actuarial gains) that are reflected in accumulated other comprehensive income. These gains or losses are amortized into expense in future years. The qualified benefit plan held assets consisting of approximately 90% fixed maturities and 10% equity securities at December 31, 2021.

The expected return on asset assumption was 3.75% and 4.75% in 2021 and 2020, respectively. Asset returns are reflected net of administrative expenses.

Net actuarial losses related to the qualified benefit plan of \$12.5 million and net actuarial gains of \$7.2 million were reflected as changes to accumulated other comprehensive income in 2021 and 2020, respectively. Net actuarial losses in 2021 resulted from lower than expected investment returns during the year, partially offset by an increase in the discount rate. Net actuarial gains in 2020 resulted from net investment gains during the year, as well as favorable mortality experience, partially offset by a decrease in the discount rate. In 2021 and 2020, amortization of actuarial losses from prior years was \$2.1 million and \$5.4 million, respectively.

Expenses related to our qualified benefit plan are generally calculated based upon information available at the beginning of the plan year. Our pre-tax benefit related to our qualified benefit plan was \$2.3 million for 2021, compared to a pre-tax expense of \$0.3 million for 2020. As a result of lower than expected market returns in 2021, partially offset by an increase in the discount rate, our pension benefit related to our qualified benefit plan is expected to decrease from \$2.3 million in 2021 to an expense of \$1.5 million in 2022.

Holding all other assumptions constant, sensitivity to changes in our key assumptions related to our qualified benefit plan is as follows:

(in millions)

Discount Rate -

25 basis point increase	
Change in Benefit Obligation	\$ (9.0)
Change in 2022 Expense	(1.0)
25 basis point decrease	
Change in Benefit Obligation	9.4
Change in 2022 Expense	1.1

Expected Return on Plan Assets -

25 basis point increase	
Change in 2022 Expense	(1.2)
25 basis point decrease	
Change in 2022 Expense	1.2

INVESTMENT CREDIT LOSSES

We employ a systematic methodology to evaluate declines in fair values below amortized cost for all fixed maturity investments. The methodology utilizes a quantitative and qualitative process that seeks to ensure that available evidence concerning the declines in fair value below amortized cost is evaluated in a disciplined manner. In determining whether a decline in fair value below amortized cost should be recorded as an impairment, we evaluate several factors and circumstances, including the issuer's overall financial condition; the issuer's credit and financial strength ratings; the issuer's financial performance, including earnings trends, dividend payments and asset quality; any specific events which may influence the operations of the issuer; the general outlook for market conditions in the industry or geographic region in which the issuer operates; and the degree to which the fair value of an issuer's securities is below our cost. We consider factors that might raise doubt about the issuer's ability to make contractual payments as they become due and whether we expect to recover the entire amortized cost basis of the security.

We monitor corporate fixed maturity securities with unrealized losses on a quarterly basis and more frequently when necessary to identify potential credit deterioration, as evidenced by ratings downgrades, unexpected price variances, and/or company or industry specific concerns. We apply consistent standards of credit analysis which includes determining whether the issuer is current on its contractual payments, and we consider past events, current conditions and reasonable and supportable forecasts to evaluate whether we expect to recover the entire amortized cost basis of the security. We utilize valuation declines as a potential indicator of credit deterioration and apply additional levels of scrutiny in our analysis as the severity of the decline increases.

For our impairment review of asset-backed fixed maturity securities, we forecast our best estimate of the prospective future cash flows of the security to determine if we expect to recover the entire amortized cost basis of the security. Our analysis includes estimates of underlying collateral default rates based on historical and projected delinquency rates and estimates of the amount and timing of potential recovery. We consider available information relevant to the collectability of cash flows, including information about the payment terms of the security, prepayment speeds, the financial condition of the underlying borrowers, collateral trustee reports, credit ratings analysis and other market data when developing our estimate of the expected cash flows.

When an impairment of a fixed maturity security occurs, and we intend to sell or more likely than not will be required to sell the investment before recovery of its amortized cost basis, the amortized cost of the security is reduced to its fair value, with a

corresponding charge to earnings, which reduces net income and earnings per share. If we do not intend to sell the fixed maturity investment or more likely than not will not be required to sell it, we separate the impairment into the amount we estimate represents the credit loss and the amount related to all other factors. The amount of the estimated loss attributable to credit is recognized in earnings, which reduces net income and earnings per share.

We estimate the amount of the credit impairment by comparing the amortized cost of the fixed maturity security with the net present value of the fixed maturity security's projected future cash flows, discounted at the effective interest rate implicit in the investment prior to impairment.

Declines in market value which are not credit loss related are recorded as unrealized losses, which do not affect net income and earnings per share, but reduce accumulated other comprehensive income, which is reflected in our Consolidated Balance Sheets. We cannot provide assurance that the impairments will be adequate to cover future losses or that we will not have substantial additional impairments in the future. See Note 2 – "Investments" and Note 3 – "Investment Income and Gains and Losses" in the Notes to Consolidated Financial Statements for further discussion regarding securities in an unrealized loss position and impairments.

STATUTORY SURPLUS OF INSURANCE SUBSIDIARIES

The following table reflects statutory surplus for our insurance subsidiaries:

DECEMBER 31	2021	2020
<i>(in millions)</i>		
Total Statutory Capital and Surplus	\$ 2,720.0	\$ 2,588.5

The statutory capital and surplus for our insurance subsidiaries increased \$131.5 million during 2021, primarily due to underwriting profits and net realized and unrealized investment gains, primarily due to changes in the fair value of equity securities, partially offset by the payment of a \$255 million dividend.

The NAIC prescribes an annual calculation regarding risk based capital ("RBC"). RBC ratios for regulatory purposes, as described in the glossary, are expressed as a percentage of the capital required to be above the Authorized Control Level (the "Regulatory Scale"); however, in the insurance industry, RBC ratios are widely expressed as a percentage of the Company Action Level. The following table reflects the Company Action Level, the Authorized Control Level and RBC ratios for Hanover Insurance (which includes Citizens and other insurance subsidiaries), as of December 31, 2021 and 2020, expressed both on the Industry Scale (Total Adjusted Capital divided by the Company Action Level) and Regulatory Scale (Total Adjusted Capital divided by Authorized Control Level):

	<i>Company Action Level</i>	<i>Authorized Control Level</i>	<i>RBC Ratio Industry Scale</i>	<i>RBC Ratio Regulatory Scale</i>
DECEMBER 31, 2021				
The Hanover Insurance Company	\$ 1,187.7	\$ 593.9	228%	456%
DECEMBER 31, 2020				
The Hanover Insurance Company	\$ 1,105.2	\$ 552.6	233%	467%

LIQUIDITY AND CAPITAL RESOURCES

Liquidity is a measure of our ability to generate sufficient cash flows to meet the cash requirements of business operations. As a holding company, our primary ongoing source of cash is dividends from our insurance subsidiaries. However, dividend payments to us by our insurance subsidiaries are subject to limitations imposed by regulators, such as prior notice periods and the requirement that dividends in excess of a specified percentage of statutory surplus or prior year's statutory earnings receive prior approval (so called "extraordinary dividends"). Hanover Insurance paid \$255.0 million, \$245.0 million and \$140.0 million in dividends to the holding company in 2021, 2020 and 2019, respectively.

Sources of cash for our insurance subsidiaries primarily consist of premiums collected, investment income and maturing investments. Primary cash outflows are payments for losses and loss adjustment expenses, policy and contract acquisition expenses, other underwriting expenses and investment purchases. Cash outflows related to losses and loss adjustment expenses can be variable because of uncertainties surrounding settlement dates for liabilities for unpaid losses and because of the potential for large losses, either individually or in the aggregate. We periodically adjust our investment policy to respond to changes in short-term and long-term cash requirements.

Net cash provided by operating activities was \$823.7 million during 2021, as compared to \$707.6 million during 2020 and \$602.9 million in 2019. The \$116.1 million increase in cash provided in 2021 as compared to 2020 was primarily due to increased premiums and, to a lesser extent, a decrease in federal income tax payments, partially offset by higher loss and LAE payments. The \$104.7 million increase in cash provided in 2020 as compared to 2019 was primarily due to lower loss and LAE payments, a decrease in Federal income tax payments, and a slight increase in premium collections.

Net cash used in investing activities was \$460.2 million during 2021, as compared to \$608.8 million during 2020 and \$311.9 million in 2019. During 2021, 2020 and 2019, cash used in investing activities primarily related to net purchases of fixed maturities and, to a lesser extent, equity securities and other investments.

Net cash used in financing activities was \$253.2 million during 2021, as compared to \$193.9 million during 2020 and \$1,099.3 million in 2019. During 2021, cash used in financing activities primarily resulted from repurchases of common stock through the open market and the payment of quarterly dividends to shareholders. During 2020, cash used in financing activities primarily resulted from repurchases of common stock through both an accelerated share repurchase ("ASR") agreement and the open market, the repayment of subordinated debentures and the payment of quarterly dividends to shareholders, partially offset by cash received from the issuance of senior debentures. During 2019, cash used in financing activities primarily resulted from repurchases of common stock through three ASR agreements, the payments of two special dividends in addition to regular quarterly dividends to shareholders, and the repayment of the Federal Home Loan Bank ("FHLB") advances.

Dividends to common shareholders are subject to quarterly board approval and declaration. During 2021, we paid dividends that totaled \$102.2 million. This included three quarterly dividends of \$0.70 per share and one quarterly dividend of \$0.75 per share. We believe that our holding company assets are sufficient to provide for future shareholder dividends should the Board of Directors declare them.

At December 31, 2021, THG, as a holding company, held approximately \$378.1 million of fixed maturities and cash. We believe our holding company assets will be sufficient to meet our current year obligations, which we expect to consist primarily of quarterly dividends to our shareholders (as and to the extent declared), interest on our senior and subordinated debentures, certain costs associated with benefits due to our former life employees and agents and, to the extent required, payments related to indemnification of liabilities associated with the sale of various subsidiaries. As discussed below, we have, and opportunistically may continue to, repurchase our common stock and debt. We do not expect that it will be necessary to dividend additional funds from our insurance subsidiaries in order to fund 2022 holding company obligations; however, we may decide to do so.

We expect to continue to generate sufficient positive operating cash to meet all short-term and long-term cash requirements relating to current operations, including the funding of our qualified defined benefit pension plan. We believe that this plan is fully funded. The ultimate payment amounts for our benefit plan is based on several assumptions, including but not limited to, the rate of return on plan assets, the discount rate for benefit obligations, mortality experience, interest crediting rates, inflation and the ultimate valuation and determination of benefit obligations. Since differences between actual plan experience and our assumptions are almost certain, changes, both positive and negative, to our current funding status and ultimately our obligations in future periods are likely.

Our insurance subsidiaries maintain a high degree of liquidity within their respective investment portfolios in fixed maturity and short-term investments. We believe that the quality of the assets we hold will allow us to realize the long-term economic value of our portfolio, including securities that are currently in an unrealized loss position. We do not anticipate the need to sell these securities to meet our insurance subsidiaries' cash requirements since we expect our insurance subsidiaries to generate sufficient operating cash to meet all short-term and long-term cash requirements relating to current operations. However, there can be no assurance that unforeseen business needs or other items will not occur causing us to have to sell those securities in a loss position before their values fully recover, thereby causing us to recognize impairment charges in that time period.

The Board of Directors has authorized a stock repurchase program which provides for aggregate repurchases of our common stock of up to \$1.3 billion. Under the repurchase authorization, we may repurchase, from time to time, common stock in amounts, at prices and at such times as we deem appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs or other transactions. We are not required to purchase any specific number of shares or to make purchases by any certain date under this program. On October 29, 2020, pursuant to the terms of an accelerated share repurchase (“ASR”) agreement (the “October 2020 ASR”), we paid \$100.0 million in exchange for shares of our common stock. We received an initial share delivery, of approximately 0.8 million shares of common stock, which was approximately 80% of the total number of shares expected to be repurchased under the October 2020 ASR agreement. On January 29, 2021, we received approximately 45,000 shares of our common stock as final settlement of shares repurchased under the October 2020 ASR. In addition to the shares repurchased under the October 2020 ASR, during 2021 we repurchased approximately 1.2 million shares at an aggregate cost of \$162.6 million. As of December 31, 2021, we had repurchased 7.7 million shares under this \$1.3 billion program and had approximately \$361 million available for additional repurchases.

We maintain our membership in the FHLB to provide access to additional liquidity based on our holdings of FHLB stock and pledged collateral. At December 31, 2021, we had borrowing capacity of \$97.3 million. There were no borrowings outstanding under this short-term facility at December 31, 2021; however, we have borrowed and may continue to borrow, from time to time, through this facility to provide short-term liquidity.

On April 30, 2019, we entered into a credit agreement that provides for a five-year unsecured revolving credit facility not to exceed \$200.0 million at any one time outstanding, with the option to increase the facility up to \$300.0 million, (assuming no default and satisfaction of other specified conditions, including the receipt of additional lender commitments). The agreement also includes an uncommitted subfacility of \$50.0 million for standby letters of credit. Borrowings, if any, under this new agreement are unsecured and incur interest at a rate per annum equal to, at our election, either (i) the greater of, (a) the prime commercial lending rate of the administrative agent, (b) the NYFRB Rate plus half a percent, or (c) the one month Adjusted LIBOR plus one percent and a margin that ranges from 0.25% to 0.625% depending on our debt rating, or (ii) Adjusted LIBOR for the applicable interest period, plus a margin that ranges from 1.25% to 1.625% depending on our debt rating. The agreement also contains certain financial covenants such as maintenance of specified levels of consolidated equity and leverage ratios, and requires that certain of our subsidiaries maintain minimum RBC ratios. We currently have no borrowings under this agreement and had no borrowings during 2021. The LIBOR rate, upon which Adjusted LIBOR is based, is in the process of being discontinued. During 2021, certain key tenors of LIBOR were extended with a new cessation date of June 30, 2023. Our credit agreement permits us to agree with the Administrative Agent for the credit facility on a replacement to Adjusted LIBOR subject to the satisfaction of certain conditions.

At December 31, 2021, we were in compliance with the covenants of our debt and credit agreements.

FINANCING OBLIGATIONS AND OTHER ESTIMATED OPERATING PAYMENTS

Financing obligations generally include repayment of our senior debentures, subordinated debentures and lease payments. Annual payments are related to the contractual principal and interest payments of these financing obligations as of December 31, 2021, unless otherwise noted, and lease payments reflect expected cash payments based upon active lease terms. It is expected that in the normal course of business, leases that expire will generally be renewed or replaced by leases on similar property and equipment. In addition, as discussed below, we expect payments related to our loss and LAE obligations, payments in support of the obligations of our benefit plans and for commitments to purchase investment securities at a future date. Actual payments may differ from the contractual and/or estimated payments.

Our senior debenture obligations include senior debentures of \$61.8 million due in 2025, which pay an annual interest rate of 7.625%, senior debentures of \$375.0 million due in 2026, which pay annual interest at a rate of 4.50%, and our senior debentures of \$300.0 million due in 2030, which pay annual interest at a rate of 2.50%. Additionally, we carry subordinated debentures of \$50.1 million due in 2027, which pay interest at an annual rate of 8.207%. Interest associated with this debt includes \$33.2 million due in one year or less and \$151.7 million due after one year.

Our subsidiaries are lessees with a number of leases, consisting primarily of equipment, real estate and fleet vehicles. Our lease obligations include \$18.5 million due in one year or less and \$39.7 million due after one year.

We currently have obligations to pay benefits under our qualified and non-qualified defined benefit pension and post-retirement benefit plans. We do not expect to make any significant contributions to our qualified plan in order to meet our minimum funding requirements for the next several years; however, additional contributions may be required in the future based on the level of pension assets and liabilities in future periods. Estimated payments to be made for non-qualified pension, postretirement, and postemployment benefits totaled \$4.1 million due in one year or less and \$26.8 million due after one year. These estimated payments extend until 2031; however, it is likely that payments will be required beyond 2031. Estimates of these payments and the payment patterns are based upon historical experience. The ultimate payment amount for our pension and postretirement benefit plans is based on several assumptions, including, but not limited to, the rate of return on plan assets, the discount rate for benefit obligations, mortality experience, interest crediting rates and then ultimate valuation of benefit obligations. Differences between actual plan experience and our assumptions are likely and will likely result in changes to our funding obligations in future periods.

Our investment commitments relate primarily to limited partnerships and were \$82.0 million due in one year or less and \$122.4 due after one year.

Unlike many other forms of contractual obligations, loss and LAE reserves do not have definitive due dates and the ultimate payment dates are subject to a number of variables and uncertainties. The total loss and LAE reserve payments expected to be made in one year or less of \$2,185.0 million and after one year of \$4,262.6 million are estimates based principally on historical experience.

CONTINGENCIES AND REGULATORY MATTERS

REGULATORY AND INDUSTRY DEVELOPMENTS

In response to the Pandemic, regulators in many of the states in which we operate have issued orders or guidance pertaining to, among other things, (a) premium refunds, credits or reductions for personal automobile insurance premiums and premiums for other insurance lines that regulators have determined are disproportionately impacted by the Pandemic, including certain commercial lines, for the periods during which governmental restrictions were or remain in effect, with premium adjustments based on factors such as the ongoing frequency and severity of claims, inflation, repair costs and reinsurance pricing, among others; (b) premium payment grace periods, moratoriums on policy non-renewals and cancellations, and other measures that are similar to actions historically implemented in regions heavily impacted by catastrophes, which we anticipate to be manageable, depending on the duration of the regulatory orders and the degree to which policyholder payment patterns vary as a result; and (c) a reassessment of rates in light of current exposures, loss experience and economic conditions. Regulatory restrictions on rate increases, underwriting, policy terms, and the ability to non-renew business may, depending on their duration, limit THG's ability to manage our mix of business and any potential exposures that emerge in our lines of business in the near term.

Draft legislation has been proposed in several state legislatures and/or in the United States Congress that seeks to require insurers to retroactively pay unfunded Pandemic business interruption claims that insurance policies do not currently cover, to impose presumptions on insurance policy interpretation, and/or to mandate prospective pandemic coverage. The impact of such legislation, were it to be adopted, would, according to a statement of the NAIC on March 25, 2020, "create substantial solvency risks" for the property and casualty insurance sector, "significantly undermine the ability of insurers to pay other types of claims, and potentially exacerbate the negative financial and economic impacts the country is currently experiencing." Industry trade groups further assert that any such legislation would be violative of basic contract law and well-founded principles of constitutional law. Federal stimulus plans such as the CARES Act and the American Rescue Plan Act of 2021 providing financial support to individuals and businesses during the Pandemic may mitigate the political pressure to continue advancing such proposed legislation.

Proposals are also being considered at the federal level to establish government-funded pandemic insurance programs, possibly similar to the federal terrorism risk insurance program. Discussion on such competing proposals is ongoing and at a preliminary stage such that it is too early to estimate their potential impact, if any, on our business.

Information regarding litigation and legal contingencies appears in Note 15 – "Commitments and Contingencies" in the Notes to Consolidated Financial Statements. Information related to certain regulatory and industry developments are contained in "Regulation" in Part I – Item 1 and in "Risk Factors" in Part I – Item 1A.

RISKS AND FORWARD-LOOKING STATEMENTS

Management's Discussion and Analysis contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. For a discussion of indicators of forward-looking statements and specific important factors that could cause actual results to differ materially from those contained in forward-looking statements, see "Risk Factors" in Part I – Item 1A. This Management's Discussion and Analysis should be read and interpreted in light of such factors.

GLOSSARY OF SELECTED INSURANCE TERMS

Account business – Customers with multiple policies and/or coverages.

Account rounding – The conversion of single policy customers to accounts with multiple policies and/or additional coverages, to address customers' broader objectives.

Benefit payments – Payments made to an insured or their beneficiary in accordance with the terms of an insurance policy.

Big data – Large, diverse, complex sets of information that grow at ever-increasing rates and require special tools and methods to process. It encompasses the volume of information, the velocity, or speed at which it is created and collected, and the variety or scope of the data points being covered. Big data analytics refers to the use of predictive analytics, user behavior analytics, or certain other advanced data analytics methods that extract value from big data.

Casualty insurance – Insurance that is primarily concerned with the losses caused by injuries to third persons and their property (other than the policyholder) and the related legal liability of the insured for such losses.

Catastrophe – A severe loss, resulting from natural or manmade events, including, among others, hurricanes, tornadoes and other windstorms, earthquakes, hail, severe winter weather, fire, explosions, and terrorism.

Catastrophe loss – Loss and directly identified loss adjustment expenses from catastrophes, including development on prior years' catastrophe loss reserves. The Insurance Services Office ("ISO") Property Claim Services ("PCS") defines a catastrophe loss as an event that causes \$25 million or more in insured property losses from U.S. direct writers and affects a significant number of property and casualty policyholders and insurers. In limited instances where the impact of an event extends across multiple geographic areas or time periods, but is not within the specific parameters established by PCS, we may determine that certain losses are better included within the same catastrophe event. In addition to those catastrophe events declared by ISO, claims management also generally includes within the definition of a "catastrophe loss", a property loss event that causes approximately \$5 million or more in company insured losses and affects in excess of one hundred policyholders. For the international business in our Commercial Lines segment, management utilizes a "catastrophe loss" definition that is substantially consistent with the ISO definition framework.

Cede; cedent; ceding company – When a party reinsures its liability with another party, it "cedes" business and is referred to as the "cedent" or "ceding company".

Core Commercial Lines – Commercial property and casualty coverages provided to small and mid-sized business in the United States, generally with annual premiums, per policy, up to \$250,000, primarily through the commercial multiple peril, commercial automobile and workers' compensation lines of business.

Credit spread – The difference between the yield on the debt securities of a particular corporate debt issue and the yield of a similar maturity of U.S. Treasury debt securities.

Current accident year results – A non-GAAP measure of the estimated earnings impact of current premiums offset by estimated loss experience and expenses for the current accident year. This measure includes the estimated increase in revenue associated with higher prices (premiums), including those caused by price inflation and changes in exposure, partially offset by higher volume driven expenses and inflation of loss costs. Volume driven expenses include acquisition costs such as commissions paid to agents, which are typically based on a percentage of premium dollars.

Earned premium – The portion of a premium that is recognized as income, or earned, based on the expired portion of the policy period, that is, the period for which loss coverage has actually been provided. For example, after six months, \$50 of a \$100 annual premium is generally considered earned premium. The remaining \$50 of annual premium is unearned premium. Net earned premium is earned premium net of reinsurance.

Excess of loss reinsurance – Reinsurance that indemnifies the insured against all or a specific portion of losses under reinsured policies in excess of a specified dollar amount or "retention".

Exposure – As it relates to underwriting, a measure of the rating units or premium basis of a risk; for example, an exposure of a number of automobiles. As it relates to loss events, the maximum value of claims made on an insurer from an event or events that would result in the total exhaustion of the cover or indemnity offered by an insurance policy.

Exposure management actions – Actions that focus on improving underwriting profitability and/or lessening earnings volatility by reducing our exposures and property concentrations in certain geographies and lines that are believed to be more prone to catastrophe and non-catastrophe losses. These actions include, but are not limited to, non-renewal, rate increases, stricter underwriting standards and higher deductible utilization, agency management actions, and more selective portfolio management by modifying our business mix.

Frequency – The number of claims occurring during a given coverage period.

Loss adjustment expenses ("LAE") – Expenses incurred in the adjusting, recording, and settlement of claims. These expenses include both internal company expenses and outside services. Allocated LAE ("ALAE") refers to defense and cost containment expenses, including legal fees, court costs, and investigation fees. Unallocated LAE ("ULAE") refers to expenses that generally cannot be associated with a specific claim. ULAE includes internal costs such as salaries, fringe benefits and other overhead costs associated with the claim settlement process and external adjustment and appraisal fees.

Loss costs – An amount of money paid for an insurance claim.

Loss reserves – Liabilities established by insurers to reflect the estimated cost of claims payments and the related expenses that the insurer will ultimately be required to pay in respect of insurance it has written. Reserves are established for losses and for LAE.

Lower (higher) expenses – Represents the period over period comparison of expenses relative to growth in earned premium. Volume driven expenses typically fluctuate commensurate with changes in premium. Accordingly, as we grow premium, these expenses increase from an absolute dollar perspective, but tend to stay proportionate compared to premium. Fixed expenses can remain constant or increase or decrease irrespective of the growth or decline in premium. When describing expenses as being "lower" or "higher" we are generally referring to changes in fixed costs relative to premium (fixed cost leverage). These "lower" or "higher" expenses correspond to a lower or higher expense ratio.

Marine insurance – In Commercial Lines, this is a type of coverage developed for insuring businesses against physical losses to property such as contractor's equipment, builder's risk and goods in transit. It covers articles in transit by all forms of land and air

transportation as well as bridges, tunnels, ocean and other means of transportation and communication. In the context of Personal Lines, this term relates to floater policies that cover expensive personal items such as fine art and jewelry.

Morbidity – Morbidity relates to the occurrence of illness, disability or other physical or psychological impairment, whether temporary or permanent, for insured risks. Morbidity is a key assumption for long-term care insurance and other forms of individual and group health benefits.

Partner agents; partner agencies; partner independent agents; agency partners; business partners – Independent agents (agencies) are self-employed, commission-based businesses who generally represent, and sell insurance policies provided by several insurance companies. We have appointed and developed mutually beneficial relationships with a limited number of independent agents who are demonstrated experts in their field, growth-oriented and align with our strategy. Although we may refer to those agencies as “partner agents”, these are not legally binding “partnerships”, but rather an opportunity for both the agent (agencies) and THG to work together and achieve common goals.

Peril – A cause of loss.

Price(ing) increase or decrease (Commercial Lines) – Represents the average change in premium on renewed policies caused by the estimated net effect of base rate changes, discretionary pricing, inflation or changes in policy level exposure or insured risk.

Price(ing) increase or decrease (Personal Lines) – The estimated cumulative premium effect of approved rate actions applied to policies available for renewal, regardless of whether or not policies are actually renewed. Pricing changes do not represent actual increases or decreases realized by THG.

Property insurance – Insurance that provides coverage for tangible property in the event of loss, damage or loss of use.

Rate – The estimated pure pricing factor upon which the policyholder’s premium is based excluding changes in exposure or risk.

Ratios: ⁽¹⁾

Catastrophe loss ratio – The ratio of catastrophe losses incurred to premiums earned.

Combined ratio – This ratio is the GAAP equivalent of the statutory ratio that is widely used as a benchmark for determining an insurer’s underwriting performance. A ratio below 100% generally indicates profitable underwriting prior to the consideration of investment income (loss). A combined ratio over 100% generally indicates unprofitable underwriting prior to the consideration of investment income (loss). The combined ratio is the sum of the loss and loss adjustment expense ratio and the expense ratio.

Expense ratio – The ratio of underwriting expenses (including the amortization of deferred acquisition costs), less premium installment and other fee income and premium charge offs, to premiums earned for a given period.

Loss and loss adjustment expense (“LAE”) ratio – The ratio of loss and loss adjustment expenses to premiums earned for a given period. The LAE ratio includes catastrophe losses and prior year reserve development.

Loss ratio – The ratio of losses (including catastrophe losses) to premiums earned for a given period.

Reinstatement premium – A pro-rata reinsurance premium that may be charged to us by our reinsurers. A reinstatement premium may be contractually required to be charged for restoring an amount of reinsurance coverage reduced as the result of a reinsurance loss payment that depletes or exhausts a reinsurance treaty or treaty layer. Reinsurance reinstatement premiums accrued by us are accounted for as a reduction in net premiums earned rather than as an “expense”. For certain reinsurance treaties, a ceding commission adjustment is recorded commensurate with a reinstatement premium accrual. A ceding commission is a fee paid by a reinsurance company to a direct writer to cover the costs of issuing the policy and is recorded as a contra-expense.

Reinsurance – An arrangement in which an insurance company, or a reinsurance company, known as the reinsurer, agrees to indemnify another insurance or reinsurance company, known as the ceding company, against all or a portion of the insurance or reinsurance risks underwritten by the ceding company under one or more policies. Reinsurance can provide a ceding company with several benefits, including a reduction in net liability on risks and catastrophe protection from large or multiple losses. Reinsurance does not legally discharge the primary insurer from its liability with respect to its obligations to the insured.

Risk based capital (“RBC”) – A method of measuring the minimum amount of capital appropriate for an insurance company to support its overall business operations in consideration of its size and risk profile. The RBC ratio for regulatory purposes is calculated as total adjusted capital divided by required risk based capital. Total adjusted capital for property and casualty companies is capital and surplus, adjusted for the non-tabular reserve discount applicable to our assumed discontinued accident and health insurance business. The Company Action Level is the first level at which regulatory involvement is specified based upon the level of capital.

Regulators may take action for reasons other than triggering various RBC action levels. The various action levels are summarized as follows:

- The Company Action Level, which equals 200% of the Authorized Control Level, requires a company to prepare and submit a RBC plan to the commissioner of the state of domicile. A RBC plan proposes actions which a company may take

in order to bring statutory capital above the Company Action Level. After review, the commissioner will notify the company if the plan is satisfactory.

- The Regulatory Action Level, which equals 150% of the Authorized Control Level, requires the insurer to submit to the commissioner of the state of domicile a RBC plan, or if applicable, a revised RBC plan. After examination or analysis, the commissioner will issue an order specifying corrective actions to be taken.
- The Authorized Control Level authorizes the commissioner of the state of domicile to take whatever regulatory actions are considered necessary to protect the best interest of the policyholders and creditors of the insurer.
- The Mandatory Control Level, which equals 70% of the Authorized Control Level, authorizes the commissioner of the state of domicile to take actions necessary to place the company under regulatory control (i.e., rehabilitation or liquidation).

Securities lending – We have, from time to time, engaged our banking provider to lend securities from our investment portfolio to third parties. These lent securities are fully collateralized by cash. When securities are lent, we monitor the fair value of the securities on a daily basis to assure that the collateral is maintained at a level of at least 102% of the fair value of the loaned securities. We record securities lending collateral as a cash equivalent, with an offsetting liability in expenses and taxes payable.

Severity – A monetary increase in the loss costs associated with the same or similar type of event or coverage.

Social inflation – A term used to explain rising insurance claim payouts due to various factors associated with a more costly legal environment, such as increased litigation frequency, expanded theories of liability and higher jury awards. Higher than the expected litigation payouts to plaintiffs due to these and other factors, may then give rise to the initiation of additional lawsuits seeking similarly elevated awards and increasing settlement costs, which can compound the effect.

Specialty Lines – A major component of our Other commercial lines business. There is no accepted industry definition of “specialty lines”, but for our purpose specialty lines consist of products such as marine, surety, specialty industrial property, excess and surplus, professional liability, management liability and various other program businesses. When discussing net premiums written and other financial measures of our specialty businesses, we may include non-specialty premiums that are written as part of the entire account.

Statutory accounting practices – Recording transactions and preparing financial statements in accordance with the rules and procedures prescribed or permitted by insurance regulatory authorities including the National Association of Insurance Commissioners, which in general reflect a liquidating, rather than going concern, concept of accounting.

Underwriting – The process of selecting risks for insurance and determining in what amounts and on what terms the insurance company will accept risks.

Underwriting expenses – Expenses incurred in connection with the acquisition, pricing and administration of a policy or contract, and other insurance company expenses unrelated to claims handling or investments.

Unearned premiums – The portion of a premium representing the unexpired amount of the contract term as of a certain date.

Written premium – The premium assessed for the entire coverage period of an insurance policy or contract without regard to how much of the premium has been earned. See also “Earned premium” above. Net premium written is written premium net of reinsurance.

⁽¹⁾ Ratios may not be comparable to similarly titled measures of other companies.

ITEM 7A—QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Reference is made to “Quantitative and Qualitative Disclosures about Market Risk” in Management’s Discussion and Analysis.

ITEM 8 – FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of The Hanover Insurance Group, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of The Hanover Insurance Group, Inc. and its subsidiaries (the “Company”) as of December 31, 2021 and December 31, 2020, and the related consolidated statements of income, of comprehensive income, of shareholders' equity and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes and schedules of condensed financial information of the registrant, of supplementary insurance information, and of supplemental information concerning property and casualty insurance operations as of December 31, 2021 and 2020 and for each of the three years in the period ended December 31, 2021, schedule of valuation and qualifying accounts for each of the three years in the period ended December 31, 2021, and schedule of summary of investments – other than investments in related parties as of December 31, 2021 listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2021, 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and December 31, 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 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, 2021, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated 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 Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and 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 consolidated 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 consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated 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 consolidated 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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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 Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated 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.

Valuation of loss and loss adjustment expense reserves

As described in Notes 1 and 14 to the consolidated financial statements, loss and loss adjustment expense reserves were \$6.4 billion as of December 31, 2021. These liabilities are determined using case basis evaluations and statistical analyses of historical loss patterns and represent estimates of the ultimate cost of all losses incurred but not paid. The loss reserve estimation process relies on the basic assumption that past experience, adjusted for the effects of current developments and likely trends, is an appropriate basis for management to predict future outcomes. As part of this process, management uses a variety of analytical methods that consider experience, trends and other relevant factors, as well as considers numerous quantitative and qualitative factors, including the maturity of the accident year, the level of volatility within a particular class of business, the sufficiency or quality of historical reported and paid loss and loss adjustment expenses information, legal and regulatory developments and changes in underwriting, claim handling and case reserving practices. The Company's ultimate incurred but not reported ("IBNR") reserves are estimated by management and reserving actuaries on an aggregate basis for each line of business or coverage for loss and loss expense liabilities not reflected within the case reserves.

The principal considerations for our determination that performing procedures relating to the valuation of loss and loss adjustment expense reserves is a critical audit matter are the significant judgment by management when developing their estimate. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence relating to the various analytical methods and factors used by management in developing the estimate, such as historical loss patterns and other relevant quantitative and qualitative factors, which related to the maturity of the accident year, the level of volatility within a particular class of business, and the sufficiency or quality of historical reported and paid loss and loss adjustment expenses information. Also, our audit effort included the involvement of professionals with specialized skill and knowledge to assist in performing procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's valuation of loss and loss adjustment expense reserves, including controls over the analytical methods applied and development of qualitative and quantitative factors. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in either (i) developing an independent estimate of the reserves using historical loss patterns, and other relevant quantitative and qualitative factors, which related to the maturity of the accident year, the level of volatility within a particular class of business, and the sufficiency or quality of historical reported and paid loss and loss adjustment expenses information, for reserves by line of business or coverage on a test basis, and comparison of this independent estimate to management's actuarially determined reserves; or (ii) on a test basis for reserves by line of business or coverage, evaluating the appropriateness of management's analytical methods and reasonableness of factors for determining the reserve balances. Performing these procedures involved testing the completeness and accuracy of data provided by management.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

February 24, 2022

We have served as the Company's auditor since 1991.

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

YEARS ENDED DECEMBER 31 <i>(in millions, except per share data)</i>	2021	2020	2019
Revenues			
Premiums	\$ 4,770.2	\$ 4,527.4	\$ 4,474.5
Net investment income	310.7	265.1	281.3
Net realized and unrealized investment gains (losses):			
Net realized gains from sales and other	4.6	17.9	4.9
Net change in fair value of equity securities	119.1	13.4	106.5
Impairment losses on investments	(0.7)	(26.3)	(2.0)
Total net realized and unrealized investment gains	123.0	5.0	109.4
Fees and other income	23.9	27.3	25.5
Total revenues	5,227.8	4,824.8	4,890.7
Losses and expenses			
Losses and loss adjustment expenses	3,134.2	2,845.2	2,865.5
Amortization of deferred acquisition costs	982.7	951.0	926.7
Interest expense	34.0	37.1	37.5
Loss on repayment of debt	—	6.2	—
Other operating expenses	555.6	540.5	538.9
Total losses and expenses	4,706.5	4,380.0	4,368.6
Income from continuing operations before income taxes	521.3	444.8	522.1
Income tax expense (benefit):			
Current	77.5	105.9	80.5
Deferred	23.8	(23.1)	12.6
Total income tax expense	101.3	82.8	93.1
Income from continuing operations	420.0	362.0	429.0
Discontinued operations:			
Income from Chaucer business, net of taxes	1.2	0.4	0.4
Loss from discontinued life businesses, net of taxes	(2.5)	(3.7)	(4.3)
Net income	\$ 418.7	\$ 358.7	\$ 425.1
Earnings per common share:			
Basic:			
Income from continuing operations	\$ 11.70	\$ 9.61	\$ 10.72
Discontinued operations:			
Income from Chaucer business, net of taxes	0.03	0.01	0.01
Loss from discontinued life businesses, net of taxes	(0.06)	(0.10)	(0.11)
Net income per share	\$ 11.67	\$ 9.52	\$ 10.62
Weighted average shares outstanding	35.9	37.7	40.0
Diluted:			
Income from continuing operations	\$ 11.52	\$ 9.50	\$ 10.56
Discontinued operations:			
Income from Chaucer business, net of taxes	0.03	0.01	0.01
Loss from discontinued life businesses, net of taxes	(0.06)	(0.09)	(0.11)
Net income per share	\$ 11.49	\$ 9.42	\$ 10.46
Weighted average shares outstanding	36.4	38.1	40.6

The accompanying notes are an integral part of these consolidated financial statements.

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Net income	\$ 418.7	\$ 358.7	\$ 425.1
Other comprehensive income (loss), net of tax:			
Available-for-sale securities:			
Changes in net unrealized gains (losses) on investment securities:			
Having no credit losses recognized in the Consolidated Statements of Income	(243.2)	210.6	238.8
Having credit losses recognized in the Consolidated Statements of Income	—	1.5	2.8
Amount realized with sale of Chaucer business	—	—	0.1
Total available-for-sale securities	(243.2)	212.1	241.7
Pension and postretirement benefits:			
Net actuarial gains (losses) arising in the period	(9.8)	3.1	16.2
Amortization recognized as net periodic benefit and postretirement cost	2.7	4.7	9.0
Total pension and postretirement benefits	(7.1)	7.8	25.2
Cumulative foreign currency translation adjustment:			
Amount realized with sale of Chaucer business	—	—	0.7
Total cumulative foreign currency translation adjustment	—	—	0.7
Total other comprehensive income (loss), net of tax	(250.3)	219.9	267.6
Comprehensive income	\$ 168.4	\$ 578.6	\$ 692.7

The accompanying notes are an integral part of these consolidated financial statements.

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

DECEMBER 31	2021	2020
<i>(in millions, except share data)</i>		
Assets		
Investments:		
Fixed maturities, at fair value (amortized cost of \$7,514.8 and \$6,945.6)	\$ 7,723.9	\$ 7,454.4
Equity securities, at fair value	661.3	598.5
Other investments	767.4	793.2
Total investments	9,152.6	8,846.1
Cash and cash equivalents	230.9	120.6
Accrued investment income	49.8	51.2
Premiums and accounts receivable, net	1,469.5	1,339.3
Reinsurance recoverable on paid and unpaid losses and unearned premiums	1,907.3	1,874.3
Deferred acquisition costs	552.0	477.5
Goodwill	178.8	178.8
Other assets	606.3	445.7
Assets of discontinued businesses	107.1	110.2
Total assets	<u>\$ 14,254.3</u>	<u>\$ 13,443.7</u>
Liabilities		
Loss and loss adjustment expense reserves	\$ 6,447.6	\$ 6,024.0
Unearned premiums	2,734.9	2,482.7
Expenses and taxes payable	907.7	687.5
Deferred income tax liability	60.8	97.3
Reinsurance premiums payable	55.1	48.4
Debt	781.6	780.8
Liabilities of discontinued businesses	121.7	120.8
Total liabilities	11,109.4	10,241.5
Commitments and contingencies		
Shareholders' Equity		
Preferred stock, par value \$0.01 per share; 20.0 million shares authorized; none issued	—	—
Common stock, par value \$0.01 per share; 300.0 million shares authorized; 60.5 million shares issued	0.6	0.6
Additional paid-in capital	1,887.2	1,857.4
Accumulated other comprehensive income	122.2	372.5
Retained earnings	2,983.2	2,668.0
Treasury stock at cost (25.0 and 24.1 million shares)	(1,848.3)	(1,696.3)
Total shareholders' equity	3,144.9	3,202.2
Total liabilities and shareholders' equity	<u>\$ 14,254.3</u>	<u>\$ 13,443.7</u>

The accompanying notes are an integral part of these consolidated financial statements.

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Preferred Stock			
Balance at beginning and end of year	\$ —	\$ —	\$ —
Common Stock			
Balance at beginning and end of year	0.6	0.6	0.6
Additional Paid-in Capital			
Balance at beginning of year	1,857.4	1,837.3	1,871.8
Settlement and prepayment of accelerated share repurchases	5.0	4.4	(49.5)
Employee and director stock-based awards and other	24.8	15.7	15.0
Balance at end of year	1,887.2	1,857.4	1,837.3
Accumulated Other Comprehensive Income (Loss), net of tax			
Net Unrealized Appreciation (Depreciation) on Investments:			
Balance at beginning of year	428.1	216.0	(27.2)
Net appreciation (depreciation) on available-for-sale securities	(243.2)	212.1	241.6
Adoption of Accounting Standards Updates (No. 2017-08 in 2019)	—	—	1.5
Amount realized with sale of Chaucer business	—	—	0.1
Balance at end of year	184.9	428.1	216.0
Defined Benefit Pension and Postretirement Plans:			
Balance at beginning of year	(55.6)	(63.4)	(88.6)
Net amount arising in the period	(9.8)	3.1	16.2
Net amount recognized as net periodic benefit cost	2.7	4.7	9.0
Balance at end of year	(62.7)	(55.6)	(63.4)
Cumulative Foreign Currency Translation Adjustment:			
Balance at beginning of year	—	—	(0.7)
Amount realized with sale of Chaucer business	—	—	0.7
Balance at end of year	—	—	—
Total accumulated other comprehensive income	122.2	372.5	152.6
Retained Earnings			
Balance at beginning of year	2,668.0	2,410.9	2,182.3
Cumulative effect of accounting change, net of taxes	—	(0.9)	(1.5)
Balance at beginning of year, as adjusted	2,668.0	2,410.0	2,180.8
Net income	418.7	358.7	425.1
Dividends to shareholders	(103.5)	(100.7)	(195.0)
Balance at end of year	2,983.2	2,668.0	2,410.9
Treasury Stock			
Balance at beginning of year	(1,696.3)	(1,485.2)	(983.5)
Shares purchased at cost	(167.6)	(217.2)	(514.1)
Net shares reissued at cost under employee stock-based compensation plans	15.6	6.1	12.4
Balance at end of year	(1,848.3)	(1,696.3)	(1,485.2)
Total shareholders' equity	\$ 3,144.9	\$ 3,202.2	\$ 2,916.2

The accompanying notes are an integral part of these consolidated financial statements.

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31 <i>(in millions)</i>	2021	2020	2019
Cash Flows From Operating Activities			
Net income	\$ 418.7	\$ 358.7	\$ 425.1
Adjustments to reconcile net income to net cash provided by operating activities:			
Net loss from repayment of debt	—	6.2	—
Loss from sale of Chaucer business	—	—	1.2
Net realized investment gains	(123.5)	(5.1)	(109.0)
Net amortization and depreciation	16.9	18.2	21.6
Stock-based compensation expense	22.9	20.1	17.4
Amortization of defined benefit plan costs	3.4	6.0	11.4
Deferred income tax expense (benefit)	23.9	(23.0)	12.5
Change in deferred acquisition costs	(74.5)	(10.2)	(14.4)
Change in premiums receivable, net of reinsurance premiums payable	(123.4)	(84.0)	(78.7)
Change in loss, loss adjustment expense and unearned premium reserves	677.0	437.9	498.6
Change in reinsurance recoverable	(32.9)	(60.0)	(179.1)
Change in expenses and taxes payable	179.0	67.5	11.0
Other, net	(163.8)	(24.7)	(14.7)
Net cash provided by operating activities	823.7	707.6	602.9
Cash Flows From Investing Activities			
Proceeds from disposals and maturities of fixed maturities	1,564.4	1,317.5	1,336.9
Proceeds from disposals of equity securities and other investments	286.3	172.8	250.3
Purchase of fixed maturities	(2,112.7)	(1,829.1)	(1,588.3)
Purchase of equity securities and other investments	(190.2)	(255.1)	(332.2)
Capital expenditures	(8.0)	(14.9)	(13.3)
Net proceeds from sale of Chaucer business	—	—	34.7
Net cash used in investing activities	(460.2)	(608.8)	(311.9)
Cash Flows From Financing Activities			
Proceeds from exercise of employee stock options	20.5	6.3	14.4
Proceeds from debt borrowings, net	—	296.4	—
Change in cash collateral related to securities lending program	—	—	(5.0)
Dividends paid to shareholders	(102.2)	(99.5)	(386.2)
Repayment of debt	—	(175.8)	(151.1)
Repurchases of common stock	(162.6)	(212.8)	(563.6)
Other financing activities	(8.9)	(8.5)	(7.8)
Net cash used in financing activities	(253.2)	(193.9)	(1,099.3)
Net change in cash and cash equivalents	110.3	(95.1)	(808.3)
Net change in cash related to discontinued operations	—	—	3.3
Cash and cash equivalents, beginning of year	120.6	215.7	1,020.7
Cash and cash equivalents, end of year	\$ 230.9	\$ 120.6	\$ 215.7
Supplemental Cash Flow Information			
Interest payments	\$ 33.4	\$ 33.9	\$ 37.0
Income tax payments, net	\$ 74.0	\$ 97.0	\$ 113.7

The accompanying notes are an integral part of these consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. BASIS OF PRESENTATION AND PRINCIPLES OF CONSOLIDATION

The consolidated financial statements of The Hanover Insurance Group, Inc. (“THG” or the “Company”), include the accounts of The Hanover Insurance Company (“Hanover Insurance”) and Citizens Insurance Company of America (“Citizens”), THG’s principal property and casualty companies; and other insurance and non-insurance subsidiaries. These legal entities conduct their operations through several business segments discussed in Note 12 – “Segment Information.” The consolidated financial statements also include the Company’s discontinued operations, consisting primarily of the Company’s former accident and health and life insurance businesses and our former Chaucer operations.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America (“U.S. GAAP”) requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates. In the opinion of the Company’s management these financial statements reflect all adjustments, consisting of normal recurring items, necessary for a fair presentation of the financial position and results of operations.

B. INVESTMENTS

Fixed maturities are classified as available-for-sale and are carried at fair value, with unrealized gains and losses, net of taxes, reported in accumulated other comprehensive income (“AOCI”), a separate component of shareholders’ equity. The amortized cost of fixed maturities is adjusted for amortization of premiums and accretion of discounts to maturity.

Equity securities are carried at fair value. Increases and decreases in fair value are reported in net income.

Other investments consist primarily of mortgage participations and limited partnerships. Mortgage participations represent interests in commercial mortgage loans originated and serviced by a third-party of which the Company shares, on a pro-rata basis, in all related cash flows of the underlying mortgage loans. Mortgage participations are stated at unpaid principal balances adjusted for deferred fees or expenses, net of an allowance for credit losses. Investments in limited partnerships include interests in private equity and real estate funds. Investments in limited partnership interests purchased prior to January 1, 2018, where the Company’s interest is so minor that it exercises virtually no influence over operating and financial policies, are accounted for at fair value utilizing the net asset value (“NAV”) as a practical expedient to determine fair value. All other limited partnerships are accounted for in accordance with the equity method of accounting.

The Company excludes accrued interest receivable from both the estimated fair value and the amortized cost basis of its investment securities, and reports such amounts separately on the consolidated balance sheets as accrued investment income. When an accrued interest receivable is deemed uncollectible it is written off as a charge to investment income, rather than recorded through an allowance.

Net investment income includes interest, dividends and income from limited partnership interests. Interest income is recognized based on the effective yield method, which includes the amortization of premiums and accretion of discounts. The effective yield used to determine the amortization for fixed maturities subject to prepayment risk, such as mortgage-backed and asset-backed securities, is recalculated and adjusted periodically based upon actual historical and projected future cash flows. The adjustment to yields for highly rated prepayable fixed maturities is accounted for using the retrospective method. The adjustment to yields for all other prepayable fixed maturities is accounted for using the prospective method. Fixed maturities and mortgage participations for which payments are delinquent are placed on non-accrual status, and thereafter interest income is recognized only when cash payments are received.

Realized investment gains and losses on sales are reported as a component of revenues based upon specific identification of the investment assets sold. Impairments are reported as realized investment losses, and include credit losses (and any subsequent recoveries) on fixed maturities and mortgage participations, and intend-to-sell impairment losses on fixed maturities. Changes in the fair value of equity securities are reported in net realized and unrealized investment gains (losses), including increases and decreases in fair value on securities that are still held and realized gains and losses on securities that have been sold.

The Company reviews fixed maturity securities in an unrealized loss position and assesses whether it intends to sell the security or more likely than not will be required to sell the security before the recovery of its amortized cost basis. If the debt security meets either of these two criteria, an intend-to-sell impairment is recognized in earnings equal to the entire difference between the security’s amortized cost basis and its fair value at the impairment measurement date. If neither of the above criteria are met, the credit loss portion of the unrealized loss is recorded through earnings and the non-credit portion remains in other comprehensive income. Credit losses are estimated by comparing the amortized cost of the fixed maturity security with the net present value of the security’s projected future cash flows, discounted at the effective interest rate implicit in the investment prior to impairment. The non-credit portion of the impairment is equal to the difference between the fair value and the net present value of the security’s cash flows at the impairment measurement date. Until January 1, 2020, intend-to-sell impairments and credit losses on fixed maturities resulted in a

reduction of the amortized cost basis of the security, and reversal of an impairment was not allowed. Beginning January 1, 2020, credit losses are recorded through an allowance for credit losses rather than an adjustment to amortized cost. Recoveries of impairments on fixed maturities are recognized as reversals of the allowance for credit loss and are no longer accreted as investment income through an adjustment to investment yield. The allowance for credit losses is limited to the amount that fair value is less than amortized cost and therefore, increases in the fair value of investments due to reasons other than credit could result in decreases in the allowance and an increase in net income.

Mortgage participations are pooled by similar risk characteristics and evaluated for credit losses. The allowance for credit losses is calculated using expected loss rates, which vary based on risk factors such as property type, geographic market, and loan-to-value and debt service coverage ratios.

C. FINANCIAL INSTRUMENTS

In the normal course of business, the Company may enter into transactions involving various types of financial instruments, including debt, investments, such as fixed maturities, equity securities and mortgage loans, investment and loan commitments, and certain derivative contracts. These instruments involve credit risk and could also be subject to risk of loss due to interest rate fluctuation. The Company evaluates and monitors each financial instrument individually and, when appropriate, obtains collateral or other security to minimize losses.

D. CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash on hand, amounts due from banks and highly liquid debt instruments purchased with an original maturity of three months or less.

E. DEFERRED ACQUISITION COSTS

Acquisition costs consist of commissions, underwriting costs and other costs, which vary with, and are primarily related to, the successful production of premiums. Acquisition costs are deferred and amortized over the terms of the insurance policies.

Deferred acquisition costs (“DAC”) for each operating segment are reviewed to determine if the costs are recoverable from future income, including investment income. If such costs are determined to be unrecoverable, they are expensed at the time of determination. Although recoverability of DAC is not assured, the Company believes it is more likely than not that all of these costs will be recovered. The amount of DAC considered recoverable, however, could be reduced in the near term if the estimates of total revenues discussed above are reduced or permanently impaired as a result of a disposition of a line of business. The amount of amortization of DAC could be revised in the near term if any of the estimates discussed above are revised.

F. REINSURANCE RECOVERABLES

The Company shares certain insurance risks it has underwritten, through the use of reinsurance contracts, with various insurance entities. Reinsurance accounting is followed for ceded transactions when the risk transfer provisions of ASC 944, *Financial Services – Insurance*, have been met. As a result, when the Company experiences loss or claims events that are subject to a reinsurance contract, reinsurance recoverables are recorded. The amount of the reinsurance recoverable can vary based on the terms of the reinsurance contract, the size of the individual loss or claim, or the aggregate amount of all losses or claims in a particular line or book of business, or an aggregate amount associated with a particular accident year. The valuation of losses or claims recoverable depends on whether the underlying loss or claim is a reported loss or claim, or an incurred but not reported loss. For reported losses and claims, the Company values reinsurance recoverables at the time the underlying loss or claim is recognized, in accordance with contract terms. For incurred but not reported losses, the Company estimates the amount of reinsurance recoverables based on the terms of the reinsurance contracts and historical reinsurance recovery information and applies that information to the gross loss reserve. Amounts recoverable from reinsurers are estimated in a manner consistent with the claim liability associated with the reinsured business and the balance is disclosed separately in the financial statements. However, the ultimate amount of the reinsurance recoverable is not known until all losses and claims are settled. Allowances are established for amounts deemed uncollectible and reinsurance recoverables are recorded net of these allowances. The Company evaluates the financial condition of its reinsurers and monitors concentration risk to minimize its exposure to significant credit losses from individual reinsurers.

G. PROPERTY, EQUIPMENT, CAPITALIZED SOFTWARE AND LEASES

Property, equipment, leasehold improvements and capitalized software are recorded at cost, less accumulated depreciation and amortization. Depreciation is generally provided using the straight-line method over the estimated useful lives of the related assets, which generally range from 3 to 30 years. The estimated useful life for capitalized software is generally 5 to 7 years. Amortization of leasehold improvements is provided using the straight-line method over the lesser of the term of the lease or the estimated useful life of the improvements.

The Company has entered into operating and financing leases through which it uses “right-of-use” assets that are recorded at the present value of future minimum lease payments, less accumulated depreciation. Depreciation is generally provided using the straight-

line method over the estimated useful lives of the related assets, which generally range from 4 to 6 years for real estate and fleet leases.

The Company tests for the recoverability of long-lived assets whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. The Company recognizes impairment losses only to the extent that the carrying amounts of long-lived assets exceed the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the assets. When an impairment loss occurs, the Company reduces the carrying value of the asset to fair value and no longer depreciates the asset. Fair values are estimated using discounted cash flow analysis.

H. GOODWILL AND INTANGIBLE ASSETS

The Company carries its goodwill at cost, net of amortization accumulated prior to January 1, 2002, and net of impairments. Increases to goodwill are generated through acquisition and represent the excess of the cost of an acquisition over the fair value of net assets acquired, including any intangibles acquired. Since January 1, 2002, goodwill is no longer amortized but, rather, is reviewed for impairment. Additionally, acquisitions can also produce intangible assets, which have either a definite or indefinite life. Intangible assets with definite lives are amortized over that life, whereas those intangible assets determined to have an indefinite life are reviewed at least annually for impairment.

The Company tests for the recoverability of goodwill and intangible assets with indefinite lives annually, or whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. The Company recognizes impairment losses only to the extent that the carrying amounts of reporting units with goodwill exceed the fair value. The amount of the impairment loss that would be recognized is determined based upon the excess of the carrying value of goodwill compared to the implied fair value of the goodwill, as determined with respect to all assets and liabilities of the reporting unit. The Company has performed its annual review of goodwill and intangible assets with indefinite lives for impairment in the fourth quarters of 2021 and 2020 with no impairments recognized. At December 31, 2021 and 2020, the Company held goodwill of \$178.8 million and intangible assets with indefinite lives of \$15.0 million.

I. LIABILITIES FOR LOSSES, LAE AND UNEARNED PREMIUMS

Liabilities for outstanding claims, losses and loss adjustment expenses (“LAE”) are estimates of payments to be made for reported losses and LAE and estimates of losses and LAE incurred but not reported (“IBNR”). These liabilities are determined using case basis evaluations and statistical analyses of historical loss patterns, and represent estimates of the ultimate cost of all losses incurred but not paid. These estimates are continually reviewed and adjusted as necessary; adjustments are reflected in current operations. Estimated amounts of salvage and subrogation on unpaid losses are deducted from the liability for unpaid claims.

Premiums for direct and assumed business are reported as earned on a pro-rata basis over the contract period. The unexpired portion of these premiums is recorded as unearned premiums.

All losses, LAE and unearned premium liabilities are based on the various estimates discussed in this note. Although the adequacy of these amounts cannot be assured, the Company believes that it is more likely than not that these liabilities and accruals will be sufficient to meet future obligations of policies in force. The amount of liabilities and accruals, however, could be revised in the near-term if the estimates discussed above are revised.

J. DEBT

The Company’s debt at December 31, 2021 includes senior and subordinated debentures. Debt instruments are carried at principal amount borrowed, net of any applicable unamortized discounts and issuance costs. See Note 5 – “Debt and Credit Arrangements.”

K. PREMIUM, PREMIUM RECEIVABLE, FEE REVENUE AND RELATED EXPENSES

Insurance premiums written are generally recorded at the policy inception and are primarily earned on a pro-rata basis over the terms of the policies for all products. Premiums written may also include estimates that are derived from multiple sources, which include the historical experience of the underlying business, similar businesses, and available industry information. These estimates are regularly reviewed and updated, and any resulting adjustments are included in the current year’s results. Unearned premium reserves represent the portion of premiums written that relates to the unexpired terms of the underlying in-force insurance policies and reinsurance contracts. Premium receivables reflect the unpaid balance of premiums written as of the balance sheet date. Premium receivables are generally short-term in nature and are reported net of an allowance for estimated uncollectible premium accounts. The Company reviews its receivables for collectability at the balance sheet date. The allowance for uncollectible accounts was not material as of December 31, 2021 and 2020. Ceded premiums are charged to income over the applicable term of the various reinsurance contracts with third-party reinsurers. Reinsurance reinstatement premiums, when required, are recognized in the same period as the loss event that gave rise to the reinstatement premiums. Losses and related expenses are matched with premiums, resulting in their recognition over the lives of the contracts. This matching is accomplished through estimated and unpaid losses and amortization of deferred acquisition costs.

L. INCOME TAXES

The Company is subject to the tax laws and regulations of the U.S. federal jurisdiction and various state jurisdictions, as well as foreign jurisdictions in which it operates or where it operated previously. The Company files a consolidated U.S. federal income tax return that includes the holding company and its U.S. subsidiaries. Generally, taxes are accrued at the U.S. statutory tax rate of 21% for income from the U.S. operations. The Company accrues taxes on certain non-U.S. income that is subject to U.S. tax at the enacted U.S. tax rate. Foreign tax credits, where available, were utilized to offset U.S. tax, as permitted.

The Company's accounting for income taxes represents its best estimate of various events and transactions.

Deferred income taxes are generally recognized when assets and liabilities have different values for financial statement and tax reporting purposes, and for other temporary taxable and deductible differences as defined by ASC 740, *Income Taxes* ("ASC 740"). These temporary differences are measured at the balance sheet date using enacted tax rates expected to apply to taxable income in the years the temporary differences are expected to reverse. These differences result primarily from insurance reserves, deferred acquisition costs, investments, software capitalization and employee benefit plans.

The realization of deferred tax assets depends upon the existence of sufficient taxable income within the carryback or carryforward periods under the tax law in the applicable tax jurisdiction. Consideration is given to all available positive and negative evidence, including reversals of deferred tax liabilities, projected future taxable income, tax planning strategies and recent financial operations. Valuation allowances are established if, based on available information, it is determined that it is more likely than not that all or some portion of the deferred tax assets will not be realized. Changes in valuation allowances are generally reflected in income tax expense or as an adjustment to other comprehensive income (loss), depending on the nature of the item for which the valuation allowance is being recorded.

M. STOCK-BASED COMPENSATION

The Company recognizes the fair value of compensation costs for all share-based payments, including employee stock options, in the financial statements. Unvested awards are generally expensed on a straight-line basis, by tranche, over the vesting period of the award. The Company's stock-based compensation plans are discussed further in Note 9 – "Stock-Based Compensation Plans."

N. EARNINGS PER SHARE

Earnings per share ("EPS") for the years ended December 31, 2021, 2020 and 2019 is based on a weighted average of the number of shares outstanding during each year. Basic and diluted EPS is computed by dividing income available to common stockholders by the weighted average number of shares outstanding for the period. The weighted average shares outstanding used to calculate basic EPS differ from the weighted average shares outstanding used in the calculation of diluted EPS due to the effect of dilutive employee stock options, nonvested stock grants, and other contingently issuable shares. If the effect of such items is antidilutive, the weighted average shares outstanding used to calculate diluted EPS would be equal to those used to calculate basic EPS.

Options to purchase shares of common stock whose exercise prices are greater than the average market price of the common shares are not included in the computation of diluted earnings per share because the effect would be antidilutive.

O. NEW ACCOUNTING PRONOUNCEMENTS

Recently Implemented Standards

In October 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Codification ("ASC") Update No. 2020-08, *Codification Improvements to Subtopic 310-20, Receivables – Nonrefundable Fees and Other Costs*. This guidance clarifies, for each reporting period, that an entity should reevaluate whether a callable debt security with multiple call dates is required to amortize any premium to the next call date. The updated guidance is effective for annual and interim periods beginning after December 15, 2020 and should be applied on a prospective basis as of the beginning of the period of adoption for existing or newly purchased callable debt securities. The Company implemented this guidance effective January 1, 2021, and it did not have a material impact on its financial position or results of operations.

In January 2020, the FASB issued ASC Update No. 2020-01, *Investments – Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)*. This ASC update clarifies that an entity should consider observable transactions that require it to either apply or discontinue the equity method of accounting when using the measurement alternative under ASC 321. This update also clarifies the accounting for certain forward contracts and purchased options accounted for under ASC 815. The updated guidance is effective for annual and interim periods beginning after December 15, 2020. The Company implemented this guidance effective January 1, 2021, and it did not have a material impact on its financial position or results of operations.

In December 2019, the FASB issued ASC Update No. 2019-12, *Income Taxes (Topic 740) – Simplifying the Accounting for Income Taxes*. This ASC update removes certain exceptions to the general principles in ASC 740, including intraperiod tax allocation when there is a loss from continuing operations, foreign subsidiary treatment under certain conditions and for calculating interim income taxes when the year-to-date loss exceeds the anticipated loss. This update also clarifies and amends existing guidance related to

changes in tax laws, business combinations and employee stock plans, among others. The updated guidance is effective for interim and annual periods beginning after December 15, 2020. The Company implemented this guidance effective January 1, 2021, and it did not have a material impact on its financial position or results of operations.

In August 2018, the FASB issued ASC Update No. 2018-14 (Topic 715-20) *Compensation – Retirement Benefits – Defined Benefit Plans – General – Disclosure Framework – Changes to the Disclosure Requirements for the Defined Benefit Plans*. This ASC update modifies disclosures related to defined benefit pension or other postretirement plans. This ASC update removes the disclosure of amounts in AOCI expected to be recognized over the next fiscal year and the effects of a one percentage point change of health care cost trends on net periodic benefit costs and postretirement benefit obligations and clarifies the specific requirements of disclosures related to the project benefit obligation and accumulated benefit obligation. This ASC Update also adds disclosures related to weighted average crediting rates for cash balance plans and requires disclosure of an explanation of any significant gains and losses related to changes in benefit obligations for the period. The amendments in this ASC update are effective for fiscal years ending after December 15, 2020, and should be applied on a retrospective basis to all periods presented. Early adoption is permitted. The Company implemented this guidance effective December 31, 2020, and it did not have an impact on the Company's financial position or results of operations as the update is disclosure related.

In August 2018, the FASB issued ASC Update No. 2018-13, (Topic 820) *Fair Value Measurement, Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*. This update removes the requirement for disclosure of the following: 1) the amount and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, 2) the policy for timing of transfers between levels, and 3) the valuation processes for Level 3 fair value measurements. This update also added a requirement to disclose the changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, in addition to other fair value disclosure modifications. This update required both prospective and retrospective application to certain disclosures upon implementation. The Company implemented this guidance effective January 1, 2020 and it did not have an impact on the Company's financial position or results of operations as the update is disclosure related.

In June 2016, the FASB issued ASC Update No. 2016-13, (Topic 326) *Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments* (“ASC Update No. 2016-13”). This ASC update introduces new guidance for the accounting for credit losses on financial instruments within its scope. A new model, referred to as the current expected credit losses model, requires an entity to determine credit-related impairment losses for financial instruments held at amortized cost and to estimate these expected credit losses over the life of an exposure (or pool of exposures). The estimate of expected credit losses should consider both historical and current information, reasonable and supportable forecasts, as well as estimates of prepayments. The estimated credit losses and subsequent adjustment to such loss estimates are recorded through an allowance account which is deducted from the amortized cost of the financial instrument, with the offset recorded in current earnings. ASC Update No. 2016-13 also modifies the impairment model for available-for-sale debt securities. The new model requires an estimate of expected credit losses only when the fair value is below the amortized cost of an asset, thus the length of time the fair value of an available-for-sale debt security has been below the amortized cost no longer affects the determination of whether a credit loss exists. In addition, credit losses on available-for-sale debt securities will be limited to the difference between the security's amortized cost basis and its fair value. In November 2018, the FASB issued ASC Update No. 2018-19, *Codification Improvement to Topic 326, Financial Instruments – Credit Losses*, which explicitly states that receivables arising from operating leases are not within the scope of Subtopic 326-20.

In 2019 and 2020, the FASB issued several updates to ASC Update 2016-13, including the issuance in April 2019 of ASC Update 2019-04, *Codification Improvements to Topic 360, Financial Instruments – Credit Losses, Topic 815, Derivatives and Hedging and Topic 825, Financial Instruments*, the issuance in May 2019 of ASC Update 2019-05, *Financial Instruments – Credit Losses (Topic 326): Targeted Transition Relief*, the issuance in November 2019 of ASC Update No. 2019-11, *Codification Improvements to Topic 326, Financial Instruments – Credit Losses* and the issuance in February 2020 of ASC Update 2020-02, *Financial Instruments – Credit Losses (Topic 326) and Leases (Topic 842) – Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 119 and Update to SEC Section on Effective Date Related to Accounting Standards Update No. 2016-02, Leases (Topic 842)*. The Company implemented this guidance effective January 1, 2020 and it did not have a material impact on its financial position or results of operations.

P. RECLASSIFICATIONS

Certain prior year amounts have been reclassified to conform to the current year presentation, when applicable.

2. INVESTMENTS

A. FIXED MATURITIES

The amortized cost and fair value of available-for-sale fixed maturities were as follows:

DECEMBER 31, 2021

(in millions)

	Amortized Cost	Allowance for Credit Losses	Amortized Cost, Net of Allowance for Credit Losses	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury and government agencies	\$ 394.3	\$ —	\$ 394.3	\$ 9.3	\$ 7.4	\$ 396.2
Foreign government	2.2	—	2.2	0.4	—	2.6
Municipal	1,176.2	—	1,176.2	32.6	8.0	1,200.8
Corporate	3,931.5	(0.3)	3,931.2	174.5	15.6	4,090.1
Residential mortgage-backed	1,068.2	—	1,068.2	12.4	11.0	1,069.6
Commercial mortgage-backed	802.4	—	802.4	26.6	4.6	824.4
Asset-backed	140.3	—	140.3	1.3	1.4	140.2
Total fixed maturities	<u>\$ 7,515.1</u>	<u>\$ (0.3)</u>	<u>\$ 7,514.8</u>	<u>\$ 257.1</u>	<u>\$ 48.0</u>	<u>\$ 7,723.9</u>

DECEMBER 31, 2020

(in millions)

	Amortized Cost	Allowance for Credit Losses	Amortized Cost, Net of Allowance for Credit Losses	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury and government agencies	\$ 376.4	\$ —	\$ 376.4	\$ 17.6	\$ 2.0	\$ 392.0
Foreign government	2.2	—	2.2	0.5	—	2.7
Municipal	1,042.1	—	1,042.1	61.7	0.1	1,103.7
Corporate	3,770.0	(0.1)	3,769.9	341.8	0.4	4,111.3
Residential mortgage-backed	978.2	—	978.2	33.1	0.6	1,010.7
Commercial mortgage-backed	705.4	—	705.4	54.8	0.2	760.0
Asset-backed	71.4	—	71.4	2.6	—	74.0
Total fixed maturities	<u>\$ 6,945.7</u>	<u>\$ (0.1)</u>	<u>\$ 6,945.6</u>	<u>\$ 512.1</u>	<u>\$ 3.3</u>	<u>\$ 7,454.4</u>

The Company enters into various agreements that may require its fixed maturities to be held as collateral by others. At December 31, 2021 and 2020, fixed maturities with fair values of \$106.6 million and \$103.9 million, respectively, were held as collateral for the FHLB collateralized borrowing program. See Note 5 — “Debt and Credit Arrangements” for additional information related to the Company’s FHLB program. Additionally, at December 31, 2021 and 2020, fixed maturities with fair values of \$303.4 million and \$315.2 million, respectively, were on deposit with various state governmental authorities or trustees.

The amortized cost and fair value by maturity periods for fixed maturities are shown in the following table. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties, or the Company may have the right to put or sell the obligations back to the issuers.

DECEMBER 31

(in millions)

	2021	
	Amortized Cost, net of Allowance for Credit Losses	Fair Value
Due in one year or less	\$ 290.1	\$ 294.2
Due after one year through five years	1,955.7	2,059.8
Due after five years through ten years	2,641.2	2,715.7
Due after ten years	616.9	620.0
	<u>5,503.9</u>	<u>5,689.7</u>
Mortgage-backed and asset-backed securities	2,010.9	2,034.2
Total fixed maturities	<u>\$ 7,514.8</u>	<u>\$ 7,723.9</u>

B. UNREALIZED GAINS AND LOSSES

Unrealized gains and losses on available-for-sale fixed maturities are summarized in the following table.

YEARS ENDED DECEMBER 31

(in millions)

	2021	2020	2019
Net appreciation (depreciation), beginning of year	\$ 428.1	\$ 216.0	\$ (27.2)
Net appreciation (depreciation) on available-for-sale fixed maturities	(302.1)	280.2	324.7
Benefit (provision) for deferred income taxes	58.9	(68.1)	(83.0)
Cumulative effect adjustment for ASU 2017-08, net of tax	—	—	1.5
	(243.2)	212.1	243.2
Net appreciation, end of year	\$ 184.9	\$ 428.1	\$ 216.0

C. FIXED MATURITY SECURITIES IN AN UNREALIZED LOSS POSITION

The following tables provide information about the Company's available-for-sale fixed maturity securities that were in an unrealized loss position at December 31, 2021 and 2020, including the length of time the securities have been in an unrealized loss position:

DECEMBER 31, 2021

(in millions)

	12 months or less		Greater than 12 months		Total	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies	\$ 2.3	\$ 98.0	\$ 5.1	\$ 101.3	\$ 7.4	\$ 199.3
Municipal	7.9	480.8	0.1	2.5	8.0	483.3
Corporate	13.6	599.6	0.4	7.5	14.0	607.1
Residential mortgage-backed	11.0	653.5	—	—	11.0	653.5
Commercial mortgage-backed	4.6	204.0	—	—	4.6	204.0
Asset-backed	1.4	91.5	—	—	1.4	91.5
Total investment grade	40.8	2,127.4	5.6	111.3	46.4	2,238.7
Below investment grade:						
Corporate	1.6	95.8	—	—	1.6	95.8
Total fixed maturities	\$ 42.4	\$ 2,223.2	\$ 5.6	\$ 111.3	\$ 48.0	\$ 2,334.5

DECEMBER 31, 2020

(in millions)

	12 months or less		Greater than 12 months		Total	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies	\$ 2.0	\$ 140.7	\$ —	\$ —	\$ 2.0	\$ 140.7
Municipal	0.1	19.3	—	0.7	0.1	20.0
Corporate	0.4	53.4	—	—	0.4	53.4
Residential mortgage-backed	0.6	94.4	—	—	0.6	94.4
Commercial mortgage-backed	0.2	33.2	—	—	0.2	33.2
Total investment grade	3.3	341.0	—	0.7	3.3	341.7
Below investment grade:						
Corporate	—	4.6	—	—	—	4.6
Total fixed maturities	\$ 3.3	\$ 345.6	\$ —	\$ 0.7	\$ 3.3	\$ 346.3

The Company views gross unrealized losses on fixed maturities as non-credit related and through its assessment of unrealized losses has determined that these securities will recover, allowing the Company to realize the anticipated long-term economic value. The Company currently does not intend to sell, nor does it expect to be required to sell these securities before recovery of their amortized cost. The Company employs a systematic methodology to evaluate declines in fair value below amortized cost for fixed maturity securities. In determining impairments, the Company evaluates several factors and circumstances, including the issuer's overall financial condition; the issuer's credit and financial strength ratings; the issuer's financial performance, including earnings trends and asset quality; any specific events which may influence the operations of the issuer; the general outlook for market conditions in the industry or geographic region in which the issuer operates; and the degree to which the fair value of an issuer's securities is below the Company's amortized cost. The Company also considers any factors that might raise doubt about the issuer's ability to make contractual payments as they come due and whether the Company expects to recover the entire amortized cost basis of the security.

D. OTHER INVESTMENTS

The Company's mortgage participations and other mortgage loans were \$434.0 million and \$467.6 million at December 31, 2021 and 2020, respectively. Participating interests in commercial mortgage loans are originated and serviced by a third-party. For these investments, the Company shares, on a pro-rata basis, in all related cash flows of the underlying mortgages. Mortgage participations and other mortgage loans were comprised of the following property types and geographic locations.

DECEMBER 31 (in millions)	2021	2020
Property Type:		
Office	\$ 154.8	\$ 160.4
Apartments	125.5	128.3
Hotel	62.0	62.7
Retail	61.4	68.5
Industrial	37.4	55.6
Allowance for credit losses	(7.1)	(7.9)
Total	<u>\$ 434.0</u>	<u>\$ 467.6</u>

DECEMBER 31 (in millions)	2021	2020
Geographic Region:		
South Atlantic	\$ 108.8	\$ 108.3
Pacific	93.0	117.0
Mid-Atlantic	58.9	73.8
New England	58.2	43.5
West South Central	48.6	70.8
East North Central	27.7	27.8
Mountain	18.5	12.5
Other	27.4	21.8
Allowance for credit losses	(7.1)	(7.9)
Total	<u>\$ 434.0</u>	<u>\$ 467.6</u>

At December 31, 2021, scheduled maturities of mortgage participations and other loans were as follows: due in 2022 - \$16.0 million; in 2023 - \$16.4 million; 2024 - \$70.0 million; 2025 - \$88.2 million and thereafter - \$243.4 million. Actual maturities could differ from contractual maturities because borrowers may have the right to prepay obligations with or without prepayment penalties, and loans may be refinanced. During 2021, the Company did not refinance any loans based on terms that differed from current market rates.

In determining estimated credit losses on mortgage participations and other loans, the Company evaluates several factors, including credit risk. The amortized cost of mortgage participations and other loans by credit ratings and year of origination was as follows:

DECEMBER 31, 2021 (in millions)	Year of Origination						
	Prior to 2017	2017	2018	2019	2020	2021	Total
Credit Quality							
Aaa/Aa/A	\$ 115.3	\$ 48.5	\$ 31.0	\$ 47.3	\$ 27.4	\$ 62.1	\$ 331.6
Baa	44.9	—	9.8	—	6.0	—	60.7
Ba and lower	48.8	—	—	—	—	—	48.8
Amortized cost	<u>\$ 209.0</u>	<u>\$ 48.5</u>	<u>\$ 40.8</u>	<u>\$ 47.3</u>	<u>\$ 33.4</u>	<u>\$ 62.1</u>	<u>\$ 441.1</u>
Allowance for credit losses							(7.1)
Amortized cost, net of allowance for credit losses							<u>\$ 434.0</u>

Other investments also include interests in limited partnerships of \$319.9 million and \$312.5 million at December 31, 2021 and December 31, 2020, respectively.

E. OTHER

At December 31, 2021 and 2020, the Company's exposure to concentration of investments in a single investee that exceeded 10% of shareholders' equity included securities of U.S. government-sponsored agencies, as well as mortgage participations with a highly rated single third-party of \$425.7 million and \$459.3 million, respectively.

At December 31, 2021, there were contractual investment commitments of up to \$256.3 million.

3. INVESTMENT INCOME AND GAINS AND LOSSES

A. NET INVESTMENT INCOME

The components of net investment income were as follows:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Fixed maturities	\$ 216.9	\$ 222.5	\$ 232.4
Limited partnerships	68.2	16.7	19.7
Mortgage loans	18.0	17.5	16.3
Equity securities	15.6	14.8	16.3
Other investments	3.0	3.2	5.3
Gross investment income	321.7	274.7	290.0
Less: investment expenses	(11.0)	(9.6)	(8.7)
Net investment income	<u>\$ 310.7</u>	<u>\$ 265.1</u>	<u>\$ 281.3</u>

The change in fair value of limited partnerships measured using NAV is reported in net investment income, of which \$17.1 million of holding gains were related to securities still owned at December 31, 2021, and \$6.9 million and \$4.6 million of holding losses were related to securities still owned at December 31, 2020 and 2019 respectively.

There were no fixed maturity securities on non-accrual status at December 31, 2021. The carrying values of fixed maturity securities on non-accrual status at December 31, 2020 were not material. The effects of non-accruals for the years ended December 31, 2021, 2020 and 2019, compared with amounts of net investment income that would have been recognized in accordance with the original terms of the fixed maturities were also not material.

B. NET REALIZED AND UNREALIZED INVESTMENT GAINS AND LOSSES

Net realized and unrealized gains (losses) on investments, including impairments, were as follows:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Equity securities	\$ 119.1	\$ 13.4	\$ 106.5
Fixed maturities	1.7	(4.2)	3.1
Other investments	1.5	2.5	—
Mortgage loans	0.7	(6.7)	(0.2)
Net realized and unrealized investment gains	<u>\$ 123.0</u>	<u>\$ 5.0</u>	<u>\$ 109.4</u>

The following table provides pre-tax net realized and unrealized gains (losses) on equity securities:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Net gains recognized during the period	\$ 119.1	\$ 13.4	\$ 106.5
Less: net gains (losses) recognized on equity securities sold during the period	2.2	(19.8)	2.8
Net unrealized gains recognized during the period on equity securities still held	<u>\$ 116.9</u>	<u>\$ 33.2</u>	<u>\$ 103.7</u>

Impairments

Included in net realized and unrealized investment gains for the years ended December 31, 2021, 2020 and 2019, were impairments of investment securities totaling \$0.7 million, \$26.3 million and \$2.0 million, respectively. In 2021, impairments consisted of \$1.3 million on fixed maturities, offset by recoveries of \$0.6 million of estimated credit losses on mortgage loans. In 2020, impairments primarily consisted of \$17.6 million on fixed maturities and \$6.7 million of estimated credit losses on mortgage loans. Impairments on fixed maturities included \$16.5 million relating to intend-to-sell securities and \$1.1 million of estimated credit losses. In 2019, impairments consisted entirely of corporate fixed maturity securities.

See Note 1, “Summary of Significant Accounting Policies — New Accounting Pronouncements: Recently Implemented Standards,” for a discussion of new guidance effective January 1, 2020, which affects the accounting for expected credit losses on fixed maturity securities and mortgage loans. Under the new guidance, credit losses on fixed maturities continue to be measured based on the present value of expected future cash flows compared to amortized cost; however, credit losses on available-for-sale fixed maturities are now recognized through an allowance instead of a direct write down of amortized cost. The new guidance stipulates that recoveries of previously recorded credit losses are recorded immediately as a reversal of the allowance. In addition, the allowance is limited to the amount that fair value is less than amortized cost and therefore, increases in the fair value of investments due to reasons other than

credit could result in decreases in the allowance. Changes in the allowance for credit losses are recorded in net realized and unrealized investment gains (losses). At December 31, 2021 and 2020, the allowance for credit losses on mortgage loans was \$7.1 million and \$7.9 million, respectively and the allowance for credit losses on available-for-sale securities was \$0.3 million and \$0.1 million, respectively.

The methodology and significant inputs used to measure the amount of credit losses were as follows:

Fixed maturities, Corporate bonds – the Company utilized a financial model that derives expected cash flows based on probability-of-default factors by credit rating and asset duration, and loss-given-default factors based on security type. These factors are based on historical data provided by an independent third-party rating agency. In addition, other qualitative market data relevant to the realizability of contractual cash flows may be considered, including current conditions and reasonable and supportable forecasts.

Mortgage loans – the Company estimated losses by applying expected loss rates, which are based on historical data. Embedded in expected loss rates are mortgage risk ratings and risk factors associated with property type such as office, retail, lodging, multi-family and industrial. Risk ratings, based on property characteristics and metrics including the geographic market, are predominantly driven by estimates of loan-to-value and debt service coverage ratios. Ratings may be adjusted to reflect current conditions and to incorporate reasonable and supportable forecasts, such as volatility of cash flows and valuation.

The proceeds from sales of available-for-sale fixed maturities, and the gross realized gains and gross realized losses on those sales, were as follows:

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Proceeds from sales	\$ 485.0	\$ 264.1	\$ 541.2
Gross gains	6.4	9.9	6.9
Gross losses	16.9	2.9	5.7

4. FAIR VALUE

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability, i.e., exit price, in an orderly transaction between market participants. The Company emphasizes the use of observable market data whenever available in determining fair value. Fair values presented for certain financial instruments are estimates which, in many cases, may differ significantly from the amounts that could be realized upon immediate liquidation. A hierarchy of the three broad levels of fair value is as follows, with the highest priority given to Level 1 as these are the most observable, and the lowest priority given to Level 3:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – Quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data, including model-derived valuations.

Level 3 – Unobservable inputs that are supported by little or no market activity.

When more than one level of input is used to determine fair value, the financial instrument is classified as Level 2 or Level 3 according to the lowest level input that has a significant impact on the fair value measurement.

The following methods and assumptions were used to estimate the fair value of each class of financial instruments and have not changed since last year.

FIXED MATURITIES

Level 1 securities generally include U.S. Treasury issues and other securities that are highly liquid, and for which quoted market prices are available. Level 2 securities are valued using pricing for similar securities and pricing models that incorporate observable inputs including, but not limited to, yield curves and issuer spreads. Level 3 securities include issues for which little observable data can be obtained, primarily due to the illiquid nature of the securities, and for which significant inputs used to determine fair value are based on the Company's own assumptions.

The Company utilizes third party pricing services for the valuation of the majority of its fixed maturity securities and receives one quote per security. When quoted market prices in an active market are available, they are provided by the pricing service as the fair value and such values are classified as Level 1. Since fixed maturities other than U.S. Treasury securities generally do not trade on a daily basis, the pricing services prepare estimates of fair value for those securities using pricing techniques based on a market approach. Inputs into the fair value pricing common to all asset classes include: benchmark U.S. Treasury security yield curves; reported trades of identical or similar fixed maturity securities; broker/dealer quotes of identical or similar fixed maturity securities

and structural characteristics such as maturity date, coupon, mandatory principal payment dates, frequency of interest and principal payments, and optional redemption features. Inputs into the fair value applications that are unique by asset class include, but are not limited to:

- U.S. government agencies – determination of direct versus indirect government support and whether any contingencies exist with respect to the timely payment of principal and interest.
- Foreign government – estimates of appropriate market spread versus underlying related sovereign treasury curve(s) dependent on liquidity and direct or contingent support.
- Municipals – overall credit quality, including assessments of the level and variability of: sources of payment such as income, sales or property taxes, levies or user fees; credit support such as insurance; state or local economic and political base; natural resource availability; and susceptibility to natural or man-made catastrophic events such as hurricanes, earthquakes or acts of terrorism.
- Corporate fixed maturities – overall credit quality, including assessments of the level and variability of: economic sensitivity; liquidity; corporate financial policies; management quality; regulatory environment; competitive position; ownership; restrictive covenants; and security or collateral.
- Residential mortgage-backed securities – estimates of prepayment speeds based upon: historical prepayment rate trends; underlying collateral interest rates; geographic concentration; vintage year; borrower credit quality characteristics; interest rate and yield curve forecasts; government or monetary authority support programs; tax policies; and delinquency/default trends.
- Commercial mortgage-backed securities – overall credit quality, including assessments of the value and supply/demand characteristics of: collateral type such as office, retail, residential, lodging, or other; geographic concentration by region, state, metropolitan statistical area and locale; vintage year; historical collateral performance including defeasance, delinquency, default and special servicer trends; and capital structure support features.
- Asset-backed securities – overall credit quality, including assessments of the underlying collateral type such as credit card receivables, automobile loan receivables and equipment lease receivables; geographic diversification; vintage year; historical collateral performance including delinquency, default and casualty trends; economic conditions influencing use rates and resale values; and contract structural support features.

Generally, all prices provided by the pricing service, except actively traded securities with quoted market prices, are reported as Level 2.

The Company holds privately placed fixed maturity securities and certain other fixed maturity securities that do not have an active market and for which the pricing service cannot provide fair values. The Company determines fair values for these securities using either matrix pricing, which utilizes the market approach, or broker quotes. The Company will use observable market data as inputs into the fair value techniques, as discussed in the determination of Level 2 fair values, to the extent it is available, but is also required to use a certain amount of unobservable judgment due to the illiquid nature of the securities involved. Unobservable judgment reflected in the Company's matrix model accounts for estimates of additional spread required by market participants for factors such as issue size, credit stress, structural complexity, high bond coupon or other unique features. These matrix-priced securities are reported as Level 2 or Level 3, depending on the significance of the impact of unobservable judgment on the security's value. Additionally, the Company may obtain non-binding broker quotes, which are reported as Level 3.

EQUITY SECURITIES

Level 1 consists of publicly traded securities, including exchange traded funds, valued at quoted market prices. Level 2 includes securities that are valued using pricing for similar securities and pricing models that incorporate observable inputs. Level 3 consists of common or preferred stock of private companies for which observable inputs are not available.

The Company utilizes a third-party pricing service for the valuation of the majority of its equity securities and receives one quote for each equity security. When quoted market prices in an active market are available, they are provided by the pricing service as the fair value, and such values are classified as Level 1. The Company holds certain equity securities that have been issued by privately-held entities that do not have an active market and for which the pricing service cannot provide fair values. Generally, the Company estimates fair value for these securities based on the issuer's book value and market multiples and reports them as Level 3. Additionally, the Company may obtain non-binding broker quotes, which are reported as Level 3.

OTHER INVESTMENTS

Other investments primarily include mortgage participations and limited partnerships not subject to the equity method of accounting. The fair values of limited partnerships not subject to the equity method of accounting are based on the NAV provided by the general partner, adjusted for recent financial information, and are excluded from the fair value hierarchy.

The estimated fair values of the financial instruments were as follows:

<i>(in millions)</i>	DECEMBER 31, 2021		DECEMBER 31, 2020	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Assets carried at:				
<i>Fair Value through AOCI:</i>				
Fixed maturities	\$ 7,723.9	\$ 7,723.9	\$ 7,454.4	\$ 7,454.4
<i>Fair Value through Net Income:</i>				
Equity securities	661.3	661.3	598.5	598.5
Other investments	143.8	143.8	176.8	176.8
<i>Amortized Cost/Cost:</i>				
Other investments	450.8	472.9	470.3	504.8
Cash and cash equivalents	230.9	230.9	120.6	120.6
Total financial instruments	<u>\$ 9,210.7</u>	<u>\$ 9,232.8</u>	<u>\$ 8,820.6</u>	<u>\$ 8,855.1</u>
Financial Liabilities carried at:				
<i>Amortized Cost:</i>				
Debt	<u>\$ 781.6</u>	<u>\$ 845.5</u>	<u>\$ 780.8</u>	<u>\$ 887.7</u>

The Company has processes designed to ensure that the values received from its third-party pricing services are accurately recorded, that the data inputs and valuation approaches and techniques utilized are appropriate and consistently applied, and that the assumptions are reasonable and consistent with the objective of determining fair value. The Company reviews the pricing services' policies describing its methodology, processes, practices and inputs, including various financial models used to value securities. For assets carried at fair value, the Company performs a review of the fair value hierarchy classifications and of prices received from its pricing services on a quarterly basis. Also, the Company reviews the portfolio pricing, including a process for which securities with changes in prices that exceed a defined threshold are verified to independent sources, if available. If upon review, the Company is not satisfied with the validity of a given price, a pricing challenge would be submitted to the pricing service along with supporting documentation for its review. The Company does not adjust quotes or prices obtained from the pricing service unless the pricing service agrees with the Company's challenge. During 2021 and 2020, the Company did not adjust any prices received from its pricing services.

Changes in the observability of valuation inputs may result in a reclassification of certain financial assets or liabilities within the fair value hierarchy. As previously discussed, the Company utilizes third-party pricing services for the valuation of the majority of its fixed maturities and equity securities. The pricing services have indicated that they will only produce an estimate of fair value if there is objectively verifiable information to produce a valuation. If a pricing service discontinues pricing an investment, the Company will use observable market data to the extent it is available, but may also be required to make assumptions for market based inputs that are unavailable due to market conditions.

The following tables provide, for each hierarchy level, the Company's investment assets that were measured at fair value on a recurring basis.

<i>(in millions)</i>	DECEMBER 31, 2021			
	Total	Level 1	Level 2	Level 3
Fixed maturities:				
U.S. Treasury and government agencies	\$ 396.2	\$ 221.5	\$ 174.7	\$ —
Foreign government	2.6	—	2.6	—
Municipal	1,200.8	—	1,186.8	14.0
Corporate	4,090.1	—	4,090.0	0.1
Residential mortgage-backed	1,069.6	—	1,069.6	—
Commercial mortgage-backed	824.4	—	813.1	11.3
Asset-backed	140.2	—	140.2	—
Total fixed maturities	<u>7,723.9</u>	<u>221.5</u>	<u>7,477.0</u>	<u>25.4</u>
Equity securities	661.3	651.2	—	10.1
Other investments	4.3	—	—	4.3
Total investment assets at fair value	<u>\$ 8,389.5</u>	<u>\$ 872.7</u>	<u>\$ 7,477.0</u>	<u>\$ 39.8</u>

<i>(in millions)</i>	DECEMBER 31, 2020			
	Total	Level 1	Level 2	Level 3
Fixed maturities:				
U.S. Treasury and government agencies	\$ 392.0	\$ 155.8	\$ 236.2	\$ —
Foreign government	2.7	—	2.7	—
Municipal	1,103.7	—	1,096.7	7.0
Corporate	4,111.3	—	4,110.8	0.5
Residential mortgage-backed	1,010.7	—	1,010.7	—
Commercial mortgage-backed	760.0	—	747.6	12.4
Asset-backed	74.0	—	74.0	—
Total fixed maturities	7,454.4	155.8	7,278.7	19.9
Equity securities	598.5	593.0	—	5.5
Other investments	4.0	—	—	4.0
Total investment assets at fair value	<u>\$ 8,056.9</u>	<u>\$ 748.8</u>	<u>\$ 7,278.7</u>	<u>\$ 29.4</u>

Limited partnerships measured at fair value using the NAV based on an ownership interest in partners' capital have not been included in the hierarchy tables. At December 31, 2021 and 2020, the fair values of these investments were \$139.5 million and \$172.8 million, respectively, approximately 2% of total investment assets.

The following tables provide, for each hierarchy level, the Company's estimated fair values of financial instruments that were not carried at fair value.

<i>(in millions)</i>	DECEMBER 31, 2021			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	\$ 230.9	\$ 230.9	\$ —	\$ —
Other investments	472.9	—	2.8	470.1
Total financial instruments	<u>\$ 703.8</u>	<u>\$ 230.9</u>	<u>\$ 2.8</u>	<u>\$ 470.1</u>
Liabilities:				
Debt	\$ 845.5	\$ —	\$ 845.5	\$ —

<i>(in millions)</i>	DECEMBER 31, 2020			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	\$ 120.6	\$ 120.6	\$ —	\$ —
Other investments	504.8	—	2.7	502.1
Total financial instruments	<u>\$ 625.4</u>	<u>\$ 120.6</u>	<u>\$ 2.7</u>	<u>\$ 502.1</u>
Liabilities:				
Debt	\$ 887.7	\$ —	\$ 887.7	\$ —

The following tables provide a reconciliation for all assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

YEAR ENDED DECEMBER 31, 2021

<i>(in millions)</i>	Fixed Maturities				Equity and Other	Total Assets
	Municipal	Corporate	Commercial mortgage-backed	Total		
Balance at beginning of year	\$ 7.0	\$ 0.5	\$ 12.4	\$ 19.9	\$ 9.5	\$ 29.4
Total gains (losses):						
Included in total net realized and unrealized investment gains	—	—	—	—	4.6	4.6
Included in other comprehensive income - net appreciation (depreciation) on available-for-sale securities	(0.1)	—	(0.5)	(0.6)	0.3	(0.3)
Purchases and sales:						
Purchases	10.0	—	—	10.0	—	10.0
Sales	(2.9)	(0.4)	(0.6)	(3.9)	—	(3.9)
Balance at end of year	<u>\$ 14.0</u>	<u>\$ 0.1</u>	<u>\$ 11.3</u>	<u>\$ 25.4</u>	<u>\$ 14.4</u>	<u>\$ 39.8</u>
Changes in unrealized losses for the period included in other comprehensive income for assets held at the end of the year	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (0.5)</u>	<u>\$ (0.5)</u>	<u>\$ —</u>	<u>\$ (0.5)</u>

YEAR ENDED DECEMBER 31, 2020

<i>(in millions)</i>	Fixed Maturities				Equity and Other	Total Assets
	Municipal	Corporate	Commercial mortgage-backed	Total		
Balance at beginning of year	\$ 12.1	\$ 0.6	\$ 12.7	\$ 25.4	\$ 5.6	\$ 31.0
Transfers out of Level 3	(3.5)	—	—	(3.5)	—	(3.5)
Total gains:						
Included in total net realized and unrealized investment gains	—	—	—	—	3.9	3.9
Included in other comprehensive income - net appreciation on available-for-sale securities	0.1	—	0.7	0.8	—	0.8
Sales	(1.7)	(0.1)	(1.0)	(2.8)	—	(2.8)
Balance at end of year	<u>\$ 7.0</u>	<u>\$ 0.5</u>	<u>\$ 12.4</u>	<u>\$ 19.9</u>	<u>\$ 9.5</u>	<u>\$ 29.4</u>
Changes in unrealized gains for the period included in other comprehensive income for assets held at the end of the year	<u>\$ 0.3</u>	<u>\$ —</u>	<u>\$ 0.7</u>	<u>\$ 1.0</u>	<u>\$ —</u>	<u>\$ 1.0</u>

During the year ended December 31, 2021, there were no transfers between Level 2 and Level 3. For the year ended December 31, 2020, a fixed maturity security was transferred from Level 3 to Level 2, primarily as a result of assessing the significance of unobservable inputs on the fair value measurement. There were no Level 3 liabilities held by the Company for the years ended December 31, 2021 and 2020.

The following table provides quantitative information about the significant unobservable inputs used by the Company in the fair value measurements of Level 3 assets. Where discounted cash flows were used in the valuation of fixed maturities, the internally-developed discount rate was adjusted by the significant unobservable inputs shown in the table.

(in millions)	DECEMBER 31,		2021		2020	
	Valuation Technique	Significant Unobservable Inputs	Fair Value	Range (Wtd Average)	Fair Value	Range (Wtd Average)
Fixed maturities:						
Municipal	Discounted cash flow	Discount for: Small issue size Credit stress	\$ 14.0	4.5 - 6.8% (6.5%) —	\$ 7.0	0.7 - 6.8% (5.0%) 0.2% (0.2%)
Corporate	Discounted cash flow	Discount for: Small issue size Above-market coupon	0.1	2.5% (2.5%) 0.3% (0.3%)	0.5	2.5% (2.5%) 0.3% (0.3%)
Commercial mortgage-backed	Discounted cash flow	Discount for: Small issue size Above-market coupon Lease structure Credit stress	11.3	1.9 - 3.1% (2.7%) 0.5% (0.5%) 0.3% (0.3%) —	12.4	1.9 - 3.1% (2.7%) 0.5% (0.5%) 0.3% (0.3%) 0.2% (0.2%)
Equity securities	Market comparables	Net tangible asset market multiple	1.3	1.0X (1.0X)	1.1	1.0X (1.0X)
	Internal price	Unadjusted price from financing rounding	8.8	11.18 (11.18)	4.4	5.60 (5.60)
Other	Discounted cash flow	Discount rate	4.3	16.1% (16.1%)	4.0	16.2% (16.2%)

The weighted average of the unobservable inputs was weighted by the relative fair value of the fixed maturity securities to which the inputs were applied. Each unobservable input is based on the Company's subjective opinion and therefore inherently contains a degree of uncertainty. Significant increases (decreases) in any of the above inputs in isolation would result in a significantly lower (higher) fair value measurement. There were no interrelationships between these inputs which might magnify or mitigate the effect of changes in unobservable inputs on the fair value measurement.

5. DEBT AND CREDIT ARRANGEMENTS

Debt consists of the following:

DECEMBER 31 (in millions)	2021	2020
Senior debentures maturing April 15, 2026	\$ 375.0	\$ 375.0
Senior debentures maturing September 1, 2030	300.0	300.0
Senior debentures maturing October 15, 2025	61.8	61.8
Subordinated debentures maturing February 3, 2027	50.1	50.1
Total principal debt	786.9	786.9
Unamortized debt issuance costs	(5.3)	(6.1)
Total	\$ 781.6	\$ 780.8

The Company held \$375.0 million par value of 4.5% unsecured senior debentures at December 31, 2021 and 2020, that were issued on April 8, 2016, and mature on April 15, 2026. The Company also held \$300.0 million aggregate principal amount of 2.50% unsecured senior debentures, issued on August 24, 2020 and maturing September 1, 2030 at December 31, 2021 and 2020.

Additionally, the Company had outstanding 7.625% unsecured senior debentures with a par value of \$61.8 million as of December 31, 2021 and 2020, maturing on October 15, 2025. All of the Company's outstanding senior debentures are subject to certain restrictive covenants, including limitations on the issuance or disposition of stock of restricted subsidiaries and limitations on liens, and pay interest semi-annually.

The Company also held subordinated debentures maturing February 3, 2027 which had a par value of \$50.1 million as of December 31, 2021 and 2020, and pay cumulative dividends semi-annually at 8.207%.

Membership in FHLB provides the Company with access to additional short-term liquidity based on the level of investment in FHLB stock and pledged collateral. Total holdings of FHLB stock were \$2.8 million and \$2.6 million at December 31, 2021 and 2020, respectively. At December 31, 2021 and 2020, the Company had pledged government agency securities with a fair value of \$106.6 million and \$103.9 million, respectively, as collateral for periodic short-term borrowings with the FHLB. There were no borrowings outstanding with the FHLB at December 31, 2021 or 2020.

At December 31, 2021, the Company had a \$200.0 million credit agreement which expires in April 2024. The Company had no borrowings under this agreement as of December 31, 2021.

Interest expense was \$34.0 million, \$37.1 million, and \$37.5 million in 2021, 2020 and 2019, respectively. At December 31, 2021, the Company was in compliance with the covenants associated with all of its debt indentures and credit arrangements.

6. INCOME TAXES

Provisions for income taxes have been calculated in accordance with the provisions of ASC 740. Income from continuing operations before income taxes and a summary of the components of income tax expense in the Consolidated Statements of Income are shown below:

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Income from continuing operations before income taxes	\$ 521.3	\$ 444.8	\$ 522.1
Income tax expense (benefit):			
Current	\$ 77.5	\$ 105.9	\$ 80.5
Deferred	23.8	(23.1)	12.6
Total income tax expense	\$ 101.3	\$ 82.8	\$ 93.1

On June 14, 2019, the U.S. Department of the Treasury issued regulations that changed the taxation of certain non-U.S. income. These regulations were applied retroactively to January 1, 2018. As a result, the Company incurred, in 2019, additional federal income tax of \$1.2 million from the 2018 sale of Chaucer. Although the impact of these regulations relates to the calculation of the income tax expense related to the sale of Chaucer, ASC 740 prescribes that the effect of certain retroactive law changes be presented in continuing operations. In accordance with ASC 740, the Company has recorded a provision for this amount as a component of income tax expense in continuing operations in its Consolidated Statements of Income for the year ended December 31, 2019.

The income tax expense attributable to the consolidated results of continuing operations is different from the amount determined by multiplying income from continuing operations before income taxes by the U.S. statutory federal income tax rate of 21%. The sources of the difference and the tax effects of each were as follows:

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Expected income tax expense	\$ 109.5	\$ 93.4	\$ 109.6
Tax difference related to investment disposals and maturities	(4.6)	(9.2)	(14.8)
Stock-based compensation windfall benefit	(2.6)	(2.1)	(3.0)
Prior years' federal research tax credits	(1.7)	—	—
Dividend received deduction	(1.2)	(1.1)	(1.3)
Current year federal tax credits	(0.5)	—	—
Tax-exempt interest	(0.2)	(0.2)	(0.3)
Nondeductible expenses	2.3	1.8	1.7
Effect of changes in the tax law and rates	—	—	1.2
Other, net	0.3	0.2	—
Income tax expense	\$ 101.3	\$ 82.8	\$ 93.1
Effective tax rate	19.4%	18.6%	17.8%

The following are the components of the Company's deferred tax assets and liabilities, (excluding those associated with its discontinued operations).

DECEMBER 31	2021	2020
<i>(in millions)</i>		
Deferred tax assets:		
Loss, LAE and unearned premium reserves, net	\$ 170.0	\$ 150.8
Employee benefit plans	7.2	6.0
Other	11.4	16.9
Total deferred tax assets	188.6	173.7
Deferred tax liabilities:		
Deferred acquisition costs	115.9	100.3
Investments, net	108.6	146.7
Software capitalization	24.9	24.0
Total deferred tax liabilities	249.4	271.0
Net deferred tax liability	\$ (60.8)	\$ (97.3)

Deferred tax assets are reduced by a valuation allowance if it is more likely than not that all or some portion of the deferred tax assets will not be realized. The Company believes it is more likely than not that the deferred tax assets will be realized; therefore there was no valuation allowance required at December 31, 2021 or 2020.

In prior years, the Company completed several transactions which resulted in, for tax purposes only, realized gains in its investment portfolio. As a result of these transactions, the Company was able to utilize capital losses carried forward and to release the valuation allowance recorded against the deferred tax asset related to these losses. The releases of these valuation allowances were recorded as a benefit in accumulated other comprehensive income. Previously unrealized benefits of \$4.6 million, \$9.2 million and \$14.8 million, were recognized as part of income from continuing operations during 2021, 2020 and 2019, respectively. The remaining amount of \$7.0 million in accumulated other comprehensive income will be released into income from continuing operations in future years, as the investment securities subject to these transactions are sold or mature.

The table below provides a reconciliation of the beginning and ending liability for uncertain tax positions as follows:

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Liability at beginning of year, net	\$ 0.9	\$ 1.3	\$ 3.0
Additions for tax positions of current year	2.0	—	—
Subtractions as a result of a lapse of the applicable statute of limitations	(0.9)	(0.4)	(1.7)
Liability at end of year, net	\$ 2.0	\$ 0.9	\$ 1.3

There were no tax positions at December 31, 2021, 2020 and 2019 for which the ultimate deductibility was highly certain, but for which there was uncertainty about the timing of such deductibility. Because of the impact of deferred tax accounting, other than interest and penalties, a change in the timing of deductions would not impact the annual effective tax rate.

The Company recognizes interest and penalties related to unrecognized tax benefits in federal income tax expense. For the years ended December 31, 2021, 2020 and 2019 the Company recognized a de minimis amount of net interest and has not recognized any penalties associated with unrecognized tax benefits. During both 2021 and 2020, the Company released accrued interest of \$0.1 million due to the expirations of a statute of limitations.

The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state jurisdictions, as well as foreign jurisdictions. The Company and its subsidiaries are subject to U.S. federal and state income tax examinations and foreign examinations for years after 2017. The audit of the Company's Massachusetts corporate excise tax for years 2017 and 2018 commenced in June 2021.

7. PENSION PLANS

DEFINED BENEFIT PLANS

The Company recognizes the funded status of its defined benefit plans in its Consolidated Balance Sheets. The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation of the Company's defined benefit plans. The Company provides information for its overfunded plan separate from its underfunded plan.

Defined Benefit Plans

Prior to 2005, THG provided retirement benefits to substantially all of its employees under defined benefit pension plans. These plans were based on a defined benefit cash balance formula, whereby the Company annually provided an allocation to each covered employee based on a percentage of that employee's eligible salary, similar to a defined contribution plan arrangement. In addition to the cash balance allocation, certain employees who had met specified age and service requirements as of December 31, 1994 were eligible for a grandfathered benefit based primarily on each employee's years of service and compensation during their highest five consecutive plan years of employment. The Company's policy for the plans is to fund at least the minimum amount required by the Employee Retirement Income Security Act of 1974 ("ERISA").

As of January 1, 2005, the defined benefit pension plans were frozen, and since that date no further cash balance allocations have been credited to participants. Participants' accounts are credited with interest daily, based upon the General Agreement of Trades and Tariffs rate (the 30-year Treasury Bond interest rate). As of December 31, 2021, based on current estimates of plan liabilities and other assumptions, the assets of the qualified defined benefit pension plan exceeded the projected benefit obligation by approximately \$19.4 million.

Assumptions

Defined Benefit Plans

In order to measure the expense associated with these plans, management must make various estimates and assumptions, including discount rates used to value liabilities, assumed rates of return on plan assets, employee turnover rates and anticipated mortality rates, for example. The estimates used by management are based on the Company's historical experience, as well as current facts and circumstances. In addition, the Company uses outside actuaries to assist in measuring the expense and liability associated with these plans.

The Company measures the funded status of its plans as of the date of its year-end statement of financial position. The Company utilizes a measurement date of December 31st to determine its benefit obligations, consistent with the date of its Consolidated Balance Sheets.

Weighted average assumptions used to determine pension benefit obligations are as follows:

DECEMBER 31	2021	2020	2019
Discount rate - qualified plan	3.25%	3.00%	3.75%
Discount rate - non-qualified plan	3.25%	2.88%	4.00%
Cash balance interest crediting rate	3.00%	3.00%	3.50%

The Company utilizes a measurement date of January 1st to determine its periodic pension costs. Weighted average assumptions used to determine net periodic pension costs for the defined benefit plans are as follows:

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>Qualified plan</i>			
Discount rate	3.00%	3.75%	4.50%
Expected return on plan assets	3.75%	4.75%	5.50%
Cash balance interest crediting rate	3.00%	3.50%	3.50%
<i>Non-qualified plan</i>			
Discount rate	2.88%	4.00%	4.50%

The expected rates of return were determined using historical mean returns for each asset class, adjusted for certain factors believed to have an impact on future returns. These returns are generally weighted to the plan's actual asset allocation, and are net of administrative expenses. For the qualified defined benefit plan, the 2021 expected return on plan assets of 3.75% reflects long-term expectations and decreased modestly based upon long-term market expectations and expense management efforts. The Company reviews and updates, at least annually, its expected return on plan assets based on changes in the actual assets held by the plan and market conditions.

Plan Assets

Qualified Defined Benefit Plan

For the qualified defined benefit plan, a target allocation approach is utilized, which focuses on creating a mix of assets that will generate modest growth from equity securities while minimizing volatility from changes in the markets and economic environment. Various factors are taken into consideration in determining the appropriate asset mix, such as census data, actuarial valuation information and capital market assumptions. Target allocations are reviewed and updated at least annually. Changes are made periodically.

The following table provides its year-end 2021 target allocations and actual invested asset allocations at December 31, 2021 and 2020.

DECEMBER 31	2021 TARGET LEVELS	2021	2020
Fixed income securities:			
Fixed maturities	88%	88%	87%
Money market funds	2%	1%	3%
Total fixed income securities	90%	89%	90%
Equity securities	10%	11%	10%
Total plan assets	100%	100%	100%

The following table presents, for each hierarchy level, the qualified defined benefit plan's investment assets that are measured at fair value at December 31, 2021 and 2020. Refer to Note 4 – "Fair Value" for a description of the different levels in the Fair Value Hierarchy.

DECEMBER 31 (in millions)	2021				2020			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Fixed income securities:								
Fixed maturities	\$ 64.5	\$ 48.5	\$ —	\$ 16.0	\$ 29.5	\$ 10.4	\$ —	\$ 19.1
Money market mutual funds	7.2	7.2	—	—	11.3	11.3	—	—
Total investments at fair value	\$ 71.7	\$ 55.7	\$ —	\$ 16.0	\$ 40.8	\$ 21.7	\$ —	\$ 19.1

Fixed Income Securities and Mutual Funds

Securities classified as Level 1 at December 31, 2021 and 2020 include actively traded mutual funds and publicly traded securities, which are valued at quoted market prices. Securities classified as Level 3 at December 31, 2021 and 2020 include assets held in a fixed account of an insurance company. The fair value of the investment is estimated using a comparable public market financial institution derived fair value curve that uses non-observable inputs for market liquidity and unique credit characteristics of its underlying securities.

The Plan also holds investments measured at fair value using NAV based on the value of the underlying investments, which is determined independently by the investment manager and have not been included in the table above. These include investments in commingled pools and investment-grade fixed income securities held in a custom fund, and other commingled pools that primarily invest in publicly traded common stocks. The daily NAV, which is not published as a quoted market price for these investments, is used as the basis for transactions. Redemption of these funds is not subject to restriction. The fair values of these investments are as follows:

DECEMBER 31	2021	2020
Fixed maturities	\$ 354.0	\$ 414.4
Equity securities	52.3	52.7
Total investments carried at NAV	\$ 406.3	\$ 467.1

The table below provides a reconciliation for all assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

YEARS ENDED DECEMBER 31 (in millions)	2021	2020
Balance at beginning of period	\$ 19.1	\$ 22.9
Less: Assets transferred to Level 1 investments	(3.5)	(4.3)
Return on plan assets related to assets still held	0.4	0.5
Balance at end of year	\$ 16.0	\$ 19.1

Obligations and Funded Status

The Company recognizes the current funded status of its plans in its Consolidated Balance Sheets. Changes in the funded status of the plans are reflected as components of either net income or accumulated other comprehensive income. The components of accumulated other comprehensive income are reflected as a net actuarial gain or loss.

The following table reflects the benefit obligations, fair value of plan assets and funded status of the plans at December 31, 2021 and 2020.

DECEMBER 31 (in millions)	Qualified Pension Plan		Non-Qualified Pension Plan	
	2021	2020	2021	2020
Change in benefit obligation:				
Benefit obligation, beginning of period ⁽¹⁾	\$ 483.3	\$ 472.5	\$ 33.0	\$ 31.7
Interest cost	14.0	17.1	0.9	1.2
Actuarial (gains) losses	(5.2)	25.9	(0.1)	3.0
Benefits paid	(33.5)	(32.2)	(2.8)	(2.9)
Benefit obligation, end of year ⁽¹⁾	458.6	483.3	31.0	33.0
Change in plan assets:				
Fair value of plan assets, beginning of period	510.7	487.6	—	—
Actual return on plan assets	0.8	55.3	—	—
Contributions	—	—	2.8	2.9
Benefits paid	(33.5)	(32.2)	(2.8)	(2.9)
Fair value of plan assets, end of year	478.0	510.7	—	—
Funded status of the plans	\$ 19.4	\$ 27.4	\$ (31.0)	\$ (33.0)

(1) The accumulated benefit obligation for these plans is equal to the projected benefit obligation.

Actuarial gains related to the change in the benefit obligation for the Company's qualified benefit plan were \$5.2 million for the year ended December 31, 2021, compared to actuarial losses of \$25.9 million for the year ended December 31, 2020. Actuarial gains related to the change in the benefit obligation for the Company's non-qualified benefit plan were \$0.1 million for the year ended December 31, 2021, compared to actuarial losses of \$3.0 million for the year ended December 31, 2020. For both plans, the actuarial gains in 2021 primarily reflect slight increases in the discount rate, partially offset by less favorable mortality experience. In 2020, the actuarial losses primarily reflect reductions in the discount rate driven by decreases in corporate bond interest rates, partially offset by favorable mortality experience.

Components of Net Periodic Pension (Benefit) Cost

The components of total net periodic pension (benefit) cost are as follows:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Interest cost	\$ 14.9	\$ 18.3	\$ 21.3
Expected return on plan assets	(18.4)	(22.2)	(23.4)
Recognized net actuarial loss	3.2	5.8	11.3
Net periodic pension (benefit) cost	\$ (0.3)	\$ 1.9	\$ 9.2

The following table reflects the total amounts recognized in accumulated other comprehensive income relating to the defined benefit pension plans as of December 31, 2021 and 2020.

DECEMBER 31 (in millions)	2021	2020
Net actuarial loss	\$ 76.6	\$ 67.4

The unrecognized net actuarial gains or losses which exceed 10% of the greater of the projected benefit obligations or the fair value of plan assets are amortized as a component of net periodic pension cost over the next five years.

Contributions

In accordance with ERISA guidelines, the Company is not required to fund its qualified benefit plan in 2022. The Company expects to contribute \$2.9 million to its non-qualified pension plan to fund 2022 benefit payments. During 2019, the Company made a discretionary contribution of \$10.0 million to its qualified benefit plan. At this time, no additional discretionary contributions are expected to be made into any of the plans during 2022.

Benefit Payments

YEARS ENDED DECEMBER 31	2022	2023	2024	2025	2026	2027-2031
<i>(in millions)</i>						
Qualified pension plan	\$ 38.3	\$ 37.6	\$ 36.6	\$ 34.6	\$ 33.6	\$ 147.2
Non-qualified pension plan	\$ 2.9	\$ 2.7	\$ 2.7	\$ 2.6	\$ 2.5	\$ 10.8

The benefit payments are based on the same assumptions used to measure the Company's benefit obligations at the end of 2021. Benefit payments related to the qualified plan will be made from plan assets held in trust and not included with Company assets, whereas those payments related to the non-qualified plan will be provided for by the Company.

DEFINED CONTRIBUTION PLAN

In addition to the defined benefit plans, THG provides a qualified defined contribution 401(k) plan for all of its employees, whereby the Company matches employee elective 401(k) contributions, up to a maximum of 6% of eligible compensation in 2021, 2020 and 2019. The Company's expense for this matching provision was \$25.2 million, \$24.1 million and \$22.2 million for 2021, 2020 and 2019, respectively. In addition to this matching provision, the Company can elect to make an annual contribution to employees' accounts.

8. OTHER COMPREHENSIVE INCOME (LOSS)

The following table provides changes in other comprehensive income (loss).

YEARS ENDED DECEMBER 31	2021			2020			2019		
	Pre-Tax	Tax Benefit (Expense)	Net of Tax	Pre-Tax	Tax Benefit (Expense)	Net of Tax	Pre-Tax	Tax Benefit (Expense)	Net of Tax
<i>(in millions)</i>									
Changes in net unrealized gains (losses) on investment securities:									
Net unrealized gains (losses) arising during period for those having no credit losses in Consolidated Statements of Income	\$(300.1)	\$ 63.0	\$(237.1)	\$274.6	\$ (57.7)	\$216.9	\$326.0	\$ (68.5)	\$257.5
Net unrealized gains arising during period for those having credit losses in Consolidated Statements of Income	(0.2)	0.1	(0.1)	1.3	(0.2)	1.1	1.5	(0.4)	1.1
Amount of gains realized from sales and other recognized in Consolidated Statements of Income	(3.0)	(3.9)	(6.9)	(13.5)	(6.4)	(19.9)	(5.0)	(13.7)	(18.7)
Amount of credit (losses) recoveries recognized in Consolidated Statements of Income	0.2	(0.1)	0.1	1.2	(0.3)	0.9	2.1	(0.4)	1.7
Amount of additional impairment losses recognized in Consolidated Statements of Income	1.0	(0.2)	0.8	16.6	(3.5)	13.1	—	—	—
Unrealized losses realized with sale of Chaucer business	—	—	—	—	—	—	0.1	—	0.1
Net unrealized gains (losses)	(302.1)	58.9	(243.2)	280.2	(68.1)	212.1	324.7	(83.0)	241.7
Pension and postretirement benefits:									
Net gains (losses) arising in the period from net actuarial gains (losses)	(12.4)	2.6	(9.8)	3.9	(0.8)	3.1	20.5	(4.3)	16.2
Amortization of net actuarial losses recognized as net periodic benefit cost	3.4	(0.7)	2.7	6.0	(1.3)	4.7	11.4	(2.4)	9.0
Total pension and postretirement benefits	(9.0)	1.9	(7.1)	9.9	(2.1)	7.8	31.9	(6.7)	25.2
Cumulative foreign currency translation obligation recognized with sale of Chaucer business	—	—	—	—	—	—	0.9	(0.2)	0.7
Other comprehensive income (loss)	\$(311.1)	\$ 60.8	\$(250.3)	\$290.1	\$ (70.2)	\$219.9	\$357.5	\$ (89.9)	\$267.6

Reclassifications out of accumulated other comprehensive income (loss) were as follows:

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019	
Details about Accumulated Other Comprehensive Income (Loss) Components	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)			Affected Line Item in the Statement Where Net Income is Presented
Net unrealized gains on investment securities	\$ 3.0	\$ 13.4	\$ 5.0	Net realized gains from sales and other
	(1.3)	(17.6)	(2.0)	Impairment losses on investments
	1.7	(4.2)	3.0	Total before tax
	4.2	10.2	14.1	Tax benefit
	5.9	6.0	17.1	Continuing operations; net of tax
	—	—	(0.1)	Gain on sale of Chaucer business
	0.1	(0.1)	(0.1)	Discontinued life businesses
	6.0	5.9	16.9	Net of tax
Amortization of defined benefit pension and postretirement actuarial losses	(3.4)	(6.0)	(11.4)	Loss adjustment expenses and other operating expenses ⁽¹⁾
	0.7	1.3	2.4	Tax benefit
	(2.7)	(4.7)	(9.0)	Continuing operations; net of tax
Cumulative foreign currency translation obligation recognized with sale of Chaucer business	—	—	(0.7)	Gain on sale of Chaucer business
Total reclassifications for the period	\$ 3.3	\$ 1.2	\$ 7.2	Benefit reflected in income, net of tax

- (1) The amount reclassified from accumulated other comprehensive income for the pension and postretirement benefits was allocated approximately 40% to loss adjustment expenses and 60% to other operating expenses for each of the years ended December 31, 2021, 2020 and 2019.

9. STOCK-BASED COMPENSATION PLANS

On May 20, 2014, shareholders approved The Hanover Insurance Group 2014 Long-Term Incentive Plan (the “2014 Stock Plan”). With respect to new share-based award issuances, the 2014 Stock Plan replaced The Hanover Insurance Group, Inc. 2006 Long-Term Incentive Plan (the “2006 Stock Plan”) and authorized the issuance of 6,100,000 shares in a new share pool, plus any shares subject to outstanding awards under the 2006 Stock Plan that may become available for reissuance as a result of the cash settlement, forfeiture, expiration or cancellation of such awards. The 2014 Stock Plan provides for the granting of the same types of awards as the 2006 Stock Plan, including stock options and stock appreciation rights (“SARS”), restricted and unrestricted stock, stock units, performance and market-based stock awards and cash awards. In accordance with the 2014 Stock Plan, the issuance of one share of common stock in the form of an option or SAR will reduce the share pool by one share, whereas the issuance of one share of common stock for the other types of stock awards provided by the Plan will reduce the pool by 3.8 shares. As of December 31, 2021, there were 1,981,322 shares available for grants under the 2014 Stock Plan.

Additionally, on May 20, 2014, shareholders approved The Hanover Insurance Group 2014 Employee Stock Purchase Plan (the “ESPP Plan”) authorizing the issuance of 2,500,000 shares under such plan. As of December 31, 2021, 2,313,265 shares were available for grant under the ESPP Plan.

Compensation cost for the years ended December 31, 2021, 2020 and 2019 totaled \$22.9 million, \$20.1 million and \$17.4 million, respectively. Related tax benefits were \$4.8 million, \$4.2 million and \$3.7 million, respectively.

STOCK OPTIONS

Under the 2014 Stock Plan, options may be granted to eligible employees, directors or consultants at an exercise price equal to the market price of the Company’s common stock on the date of grant. Option shares may be exercised subject to the terms prescribed by the Compensation and Human Capital Committee of the Board of Directors (the “Committee”) at the time of grant. Options granted in 2021, 2020 and 2019 generally vest over 3 years with 33 1/3% vesting in each year. Options must be exercised not later than ten years from the date of grant.

Information on the Company's stock options is summarized below.

YEARS ENDED DECEMBER 31	2021		2020		2019	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
<i>(in whole shares and dollars)</i>						
Outstanding, beginning of year	1,282,278	\$ 93.64	1,121,559	\$ 87.88	1,099,076	\$ 85.75
Granted (1)	178,040	115.35	242,598	118.34	252,813	119.36
Exercised	(225,338)	80.24	(54,721)	75.86	(191,601)	71.20
Forfeited or cancelled	(4,769)	118.01	(27,158)	112.18	(38,729)	107.34
Outstanding, end of year	1,230,211	\$ 99.14	1,282,278	\$ 93.64	1,121,559	\$ 87.88
Exercisable, end of year	845,429	\$ 91.10	852,804	\$ 82.76	662,555	\$ 75.63

- (1) In accordance with plan provisions, 2019 includes 67,605 options related to special dividends paid by the Company in January 2019 and December 2019, in order to retain the intrinsic value of outstanding awards. The remaining 185,208 option awards were granted at an exercise price of \$119.36.

Cash received for options exercised for the years ended December 31, 2021, 2020 and 2019 was \$18.0 million, \$3.9 million and \$12.3 million, respectively. The intrinsic value of options exercised for the years ended December 31, 2021, 2020 and 2019 was \$12.2 million, \$2.7 million and \$10.1 million, respectively.

The excess tax benefit realized from options exercised for the years ended December 31, 2021, 2020 and 2019 was \$2.0 million, \$0.4 million and \$1.7 million, respectively. The aggregate intrinsic value at December 31, 2021 for shares outstanding and shares exercisable was \$39.3 million and \$33.8 million, respectively. At December 31, 2021, the weighted average remaining contractual life for shares outstanding and shares exercisable was 6.4 years and 5.4 years, respectively. Additional information about employee options outstanding and exercisable at December 31, 2021 is included in the following table:

Range of Exercise Prices	Options Outstanding			Options Currently Exercisable	
	Number	Weighted Average Remaining Contractual Lives	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
\$40.01 to \$54.61	78,093	1.81	\$ 49.75	78,093	\$ 49.75
\$66.14 to \$66.26	78,599	3.16	66.14	78,599	66.14
\$70.51 to \$77.91	113,328	4.42	74.57	113,328	74.57
\$82.39 to \$92.68	155,291	5.22	85.45	154,029	85.39
\$104.11 to \$113.32	243,285	6.16	104.25	243,485	104.25
\$115.35	178,040	9.16	115.35	—	—
\$117.22 to \$118.54	383,375	7.77	118.01	177,895	117.76

The fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model. For all options granted through December 31, 2021, the exercise price equaled the market price on the grant date. Compensation cost related to options is based upon the grant date fair value and expensed on a straight-line basis over the service period for each separately vesting portion of the option as if the option was, in substance, multiple awards.

The weighted average grant date fair value of options granted during the years ended December 31, 2021, 2020 and 2019 was \$20.96, \$14.45 and \$18.12, respectively.

The following significant assumptions were used to determine the fair value for options granted in the years indicated.

	2021	2020	2019
Dividend yield	2.427 %	2.193% to 2.805 %	2.011%
Expected volatility	24.115% to 31.315 %	17.671% to 24.495 %	18.495% to 19.100%
Weighted average expected volatility	27.45 %	18.10 %	18.86%
Risk-free interest rate	0.194% to 1.046 %	0.262% to 1.042 %	2.527% to 2.617%
Expected term, in years	2.5 to 6.5	2.5 to 6.5	2.5 to 6.5

The expected dividend yield is based on the Company's dividend payout rate(s), in the year noted, excluding the effect of any special dividends provided. Expected volatility is based generally on the Company's historical daily stock price volatility. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant. The

expected term of options granted represents the period of time that options are expected to be outstanding and is derived primarily using historical exercise, forfeit and cancellation behavior, along with certain other factors expected to differ from historical data.

The fair value of shares that vested during the years ended December 31, 2021 and 2020 was \$1.0 million and \$4.6 million, respectively. As of December 31, 2021, the Company had unrecognized compensation expense of \$2.7 million related to unvested stock options that is expected to be recognized over a weighted average period of 1.4 years.

RESTRICTED STOCK UNITS

Stock grants may be awarded to eligible employees at a price established by the Committee (which may be zero). Under the 2014 Stock Plan, the Company may award shares of restricted stock, restricted stock units, as well as shares of unrestricted stock. Restricted stock grants may vest based upon performance criteria, market criteria or continued employment and be in the form of shares or units. Vesting periods are established by the Committee.

The Company granted both market-based and performance-based restricted share units in 2021, 2020 and 2019. These units generally vest after three years of continued employment and after the achievement of certain performance targets. The Company also granted time-based restricted stock units to eligible employees in 2021, 2020 and 2019 that generally vest after three years of continued employment.

The following table summarizes information about employee restricted stock units:

YEARS ENDED DECEMBER 31	2021		2020		2019	
	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value
Time-based restricted stock units:						
Outstanding, beginning of year	350,480	\$ 116.37	335,166	\$ 109.55	332,481	\$ 97.28
Granted	173,963	115.69	143,128	117.72	149,698	117.60
Vested	(119,645)	111.30	(94,993)	94.54	(109,493)	84.57
Forfeited	(24,698)	117.17	(32,821)	115.74	(37,520)	106.03
Outstanding, end of year	380,100	\$ 117.60	350,480	\$ 116.37	335,166	\$ 109.55
Performance and market-based restricted stock units:						
Outstanding, beginning of year	97,043	\$ 119.59	86,252	\$ 110.70	69,838	\$ 95.58
Granted	62,143	114.66	54,415	105.10	42,605	116.67
Vested	(43,506)	122.27	(40,601)	80.92	(23,521)	79.57
Forfeited	(1,832)	116.90	(3,023)	124.78	(2,670)	135.92
Outstanding, end of year	113,848	\$ 115.92	97,043	\$ 119.59	86,252	\$ 110.70

In 2021, 2020 and 2019, the Company granted market-based awards totaling 37,848, 21,379, and 24,410, respectively, to certain members of senior management, which are included in the table above as performance and market-based restricted stock activity. The vesting of these stock units is based on the relative total shareholder return ("TSR") of the Company. This metric is generally based on relative TSR for a three-year period as compared to a group of Property and Casualty peer companies. The fair value of market-based awards was estimated at the date of grant using a valuation model. These units have the potential to range from 0% to 150% of the shares disclosed.

In 2021, 14,501 market-based restricted stock units were included as granted due to completion levels in excess of 100% for units granted in 2018. The weighted average grant date fair value of these awards was \$122.27. In 2020, 13,532 market-based restricted stock units were included as granted due to completion levels in excess of 100% for units granted in 2017. The weighted average grant date fair value of these awards was \$80.92. In 2019, 5,820 market-based restricted stock units were included as granted due to completion levels in excess of 100% for units granted in both 2016 and 2017. The weighted average grant date fair value of these awards was \$75.95.

In 2021, 2020 and 2019, the Company also granted performance-based restricted stock units totaling 21,401, 19,504 and 18,195, respectively to certain members of senior management, which are included in the table above as performance and market-based restricted stock activity. The vesting of these stock units is determined through the use of a performance-based metric (return on equity) and has the potential to range from 0% to 150% of the shares disclosed.

The increase in fair value from grant date of restricted stock and restricted stock units that vested during the years ended December 31, 2021, 2020 and 2019 was \$1.2 million, \$4.5 million and \$3.7 million, respectively. There was no increase in the fair value from grant date for performance and market-based restricted stock units that vested in 2021; however, for 2020 and 2019 the increase was \$2.0 million, \$1.1 million, respectively.

Also, during 2021, 2020 and 2019 there were 900 shares, 1,074 shares, and 966 shares, respectively, of performance-based awards that forfeited.

At December 31, 2021, the fair value of outstanding restricted stock units was \$44.7 million and the weighted average remaining contractual life was 1.3 years. The fair value of outstanding performance and market-based restricted stock units was \$13.2 million and the weighted average remaining contractual life was 1.3 years. As of December 31, 2021, there was \$26.7 million of total unrecognized compensation cost related to unvested restricted stock units and performance and market-based restricted stock units. The cost is expected to be recognized over a weighted average period of 1.7 years. Compensation cost associated with restricted stock, restricted stock units and performance and market-based restricted stock units is generally calculated based upon grant date fair value, which is determined using current market prices.

10. EARNINGS PER SHARE AND SHAREHOLDERS' EQUITY TRANSACTIONS

The following table provides weighted average share information used in the calculation of the Company's basic and diluted earnings per share:

DECEMBER 31	2021	2020	2019
<i>(in millions, except per share data)</i>			
Basic shares used in the calculation of earnings per share	35.9	37.7	40.0
Dilutive effect of securities:			
Employee stock options	0.3	0.2	0.3
Non-vested stock grants	0.2	0.2	0.3
Diluted shares used in the calculation of earnings per share	36.4	38.1	40.6
Per share effect of dilutive securities on income from continuing operations	\$ (0.18)	\$ (0.11)	\$ (0.16)
Per share effect of dilutive securities on net income	\$ (0.18)	\$ (0.10)	\$ (0.16)

Diluted earnings per share during 2021, 2020 and 2019 excludes 0.2 million, 0.4 million and 0.2 million, respectively, of common shares issuable under the Company's stock compensation plans, because their effect would be antidilutive.

The Board of Directors has authorized a stock repurchase program which provides for aggregate repurchases of the Company's common stock of up to \$1.3 billion. Under this program the Company had approximately \$361 million available at December 31, 2021. Under the repurchase authorization, the Company may repurchase, from time to time, common stock in amounts, at prices and at such times as the Company deems appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs or other transactions. The Company is not required to purchase any specific number of shares or to make purchases by any certain date under this program. During 2019, the Company executed two accelerated share repurchase ("ASR") agreements, through which it repurchased approximately 2.2 million shares of its common stock for \$300 million. On October 29, 2020, pursuant to the terms of another ASR agreement the Company paid \$100 million and received 0.9 million shares of its common stock, with approximately 80% of the total number of shares received in October 2020 and approximately 45,000 shares received in January 2021 as final settlement of shares repurchased. The Company also repurchased 1.2 million, 1.1million and 0.1 million shares through open market purchases during 2021, 2020 and 2019, respectively.

11. DIVIDEND RESTRICTIONS

The individual law of all states, including New Hampshire and Michigan, where Hanover Insurance and Citizens are domiciled, respectively, restrict the payment of dividends to stockholders by insurers. These laws affect the dividend paying ability of Hanover Insurance and Citizens.

Pursuant to New Hampshire's statute, the maximum dividends and other distributions that an insurer may pay in any twelve month period, without prior approval of the New Hampshire Insurance Commissioner, is limited to the lesser of 10% of such insurer's statutory policyholder surplus as of the preceding December 31, or statutory net income less net realized gains. Hanover Insurance declared and paid dividends to its parent totaling \$255.0 million in 2021, \$245.0 million in 2020 and \$140.0 million in 2019. At January 1, 2022, the maximum dividend payable without prior approval was \$16.3 million. In May 2022, the maximum dividend declared payable without prior approval will increase by \$255.0 million to a total amount of \$271.3 million.

Pursuant to Michigan's statute, the maximum dividends and other distributions that an insurer may pay in any twelve month period, without prior approval of the Michigan Insurance Commissioner, is limited to the greater of 10% of policyholders' surplus as of December 31 of the immediately preceding year or the statutory net income less net realized gains, for the immediately preceding calendar year. Citizens declared and paid an ordinary dividend to its parent, Hanover Insurance, totaling \$90.0 million in 2021. In 2020 and 2019, an extraordinary dividend of \$82.0 million and an ordinary dividend of \$106.0 million, respectively, were declared and paid by Citizens. Accordingly, Citizens cannot declare a further dividend without prior approval until November 2022, at which time the maximum dividend declared payable without prior approval will be \$72.9 million.

The statutes in both New Hampshire and Michigan require that prior notice to the respective Insurance Commissioner of any proposed dividend be provided and such Commissioner may, in certain circumstances, prohibit the payment of the proposed dividend.

12. SEGMENT INFORMATION

The Company's primary business operations include insurance products and services provided through three operating segments: Commercial Lines, Personal Lines and Other. Commercial Lines includes commercial multiple peril, commercial automobile, workers' compensation, and other commercial coverages, such as management and professional liability, marine, Hanover Programs, specialty industrial and commercial property, monoline general liability and surety. Personal Lines includes personal automobile, homeowners and other personal coverages. Included in the Other segment are Opus Investment Management, Inc., which markets investment management services to institutions, pension funds and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to the Company's former life insurance employees and agents; and, a run-off property and casualty voluntary pools business. The separate financial information is presented consistent with the way results are regularly evaluated by the chief operating decision maker in deciding how to allocate resources and in assessing performance.

The Company reports interest expense related to debt separately from the earnings of its operating segments. For 2021, this consisted of interest on the Company's senior and subordinated debentures.

Management evaluates the results of the aforementioned segments based on operating income before income taxes, excluding interest expense on debt. Operating income before income taxes excludes certain items which are included in net income, such as net realized and unrealized investment gains and losses. Such gains and losses are excluded since they are determined by interest rates, financial markets and the timing of sales. Also, operating income before income taxes excludes net gains and losses on disposals of businesses, gains and losses related to the repayment of debt, discontinued operations, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Although the items excluded from operating income before income taxes may be important components in understanding and assessing the Company's overall financial performance, management believes that the presentation of operating income before income taxes enhances an investor's understanding of the Company's results of operations by highlighting net income attributable to the core operations of the business. However, operating income before income taxes should not be construed as a substitute for income before income taxes or income from continuing operations and operating income should not be construed as a substitute for net income.

Summarized below is financial information with respect to the Company's business segments.

YEARS ENDED DECEMBER 31 (in millions)	2021	2020	2019
Operating revenues:			
Commercial Lines	\$ 3,059.9	\$ 2,868.3	\$ 2,843.5
Personal Lines	2,028.5	1,931.4	1,911.8
Other	16.4	20.1	26.0
Total	5,104.8	4,819.8	4,781.3
Net realized and unrealized investment gains	123.0	5.0	109.4
Total revenues	\$ 5,227.8	\$ 4,824.8	\$ 4,890.7
Operating income (loss) before interest expense and income taxes:			
Commercial Lines:			
Underwriting income	\$ 61.9	\$ 106.3	\$ 121.5
Net investment income	209.4	175.3	180.1
Other expense	(1.4)	(6.2)	(1.5)
Commercial Lines operating income	269.9	275.4	300.1
Personal Lines:			
Underwriting income	65.1	132.9	59.1
Net investment income	89.4	76.7	80.1
Other income	4.0	2.9	5.7
Personal Lines operating income	158.5	212.5	144.9
Other:			
Underwriting loss	(1.0)	(4.3)	(1.3)
Net investment income	11.9	13.1	21.1
Other expense	(7.0)	(12.0)	(11.2)
Other operating income (loss)	3.9	(3.2)	8.6
Operating income before interest expense and income taxes	432.3	484.7	453.6
Interest on debt	(34.0)	(37.1)	(37.5)
Operating income before income taxes	398.3	447.6	416.1
Non-operating income (loss) items:			
Net realized and unrealized investment gains	123.0	5.0	109.4
Net loss from repayment of debt	—	(6.2)	—
Other non-operating items	—	(1.6)	(3.4)
Income from continuing operations before income taxes	\$ 521.3	\$ 444.8	\$ 522.1

The following table provides identifiable assets for the Company's business segments and discontinued operations:

DECEMBER 31 (in millions)	2021	2020
	Identifiable Assets	
Property and Casualty	\$ 14,147.2	\$ 13,333.5
Assets of discontinued businesses	107.1	110.2
Total	\$ 14,254.3	\$ 13,443.7

The Company reviews the assets of its insurance subsidiaries collectively and does not allocate them among the Commercial Lines, Personal Lines and Other segments.

Discontinued accident and health and life businesses

During 1999, the Company exited its accident and health insurance business, consisting of its Employee Benefit Services business, its Affinity Group Underwriters business and its accident and health assumed reinsurance pool business. Prior to 1999, these businesses comprised substantially all of the former Corporate Risk Management Services segment. On January 2, 2009, Hanover Insurance directly assumed a portion of the accident and health business and the remainder of the discontinued First Allmerica Financial Life Insurance Company ("FAFLIC") accident and health business was reinsured by Hanover Insurance in connection with the sale of FAFLIC to Commonwealth Annuity.

At December 31, 2021 and 2020, the portion of the discontinued accident and health business that was directly assumed had assets of \$87.7 million and \$90.3 million, respectively, consisting primarily of invested assets, and liabilities of \$92.3 million and \$89.8 million, respectively, consisting primarily of policy liabilities. At December 31, 2021 and 2020, the assets and liabilities of this business, as well as those of the reinsured portion of the accident and health business are classified as assets and liabilities of discontinued operations in the Consolidated Balance Sheets.

The Company's former life insurance businesses include indemnity obligations and other activities.

Discontinued accident and health and life operations for the year ended December 31, 2021, resulted in losses of \$2.5 million. For the years ended December 31, 2020 and 2019, this business resulted in losses of \$3.7 million, including \$1.7 million related to income taxes, and \$4.3 million, including \$0.9 million related to income taxes, respectively.

13. REINSURANCE

In the normal course of business, the Company seeks to reduce the losses that may arise from catastrophes or other events that cause unfavorable underwriting results by reinsuring certain levels of risk in various areas of exposure with other insurance enterprises or reinsurers. Reinsurance transactions are accounted for in accordance with the provisions of ASC 944.

Amounts recoverable from reinsurers are estimated in a manner consistent with the claim liability associated with the reinsured policy. Reinsurance contracts do not relieve the Company from its obligations to policyholders. Failure of reinsurers to honor their obligations could result in losses to the Company; consequently, allowances are established for amounts deemed uncollectible. The Company determines the appropriate amount of reinsurance based on evaluations of the risks accepted and analyses prepared by consultants and on market conditions (including the availability and pricing of reinsurance). The Company also believes that the terms of its reinsurance contracts are consistent with industry practice in that they contain standard terms with respect to lines of business covered, limit and retention, arbitration and occurrence. The Company believes that its reinsurers are financially sound, based upon an ongoing review of financial strength ratings assigned to them by rating agencies, their reputations in the reinsurance marketplace, collections history, advice from third parties, and the analysis and guidance of the Company's reinsurance advisors.

As a condition to conduct certain business in various states, the Company is required to participate in residual market mechanisms, facilities, and pooling arrangements such as the Michigan Catastrophic Claims Association ("MCCA"). The Company is subject to concentration of risk with respect to reinsurance ceded to the MCCA. Funding for MCCA comes from assessments against automobile insurers based upon their share of insured automobiles in the state for which the policyholders have elected unlimited personal injury protection ("PIP") benefits. Insurers are allowed to pass along this cost to Michigan automobile policyholders that have elected unlimited PIP benefits.

On November 3, 2021, the MCCA Board voted unanimously to return approximately \$3.0 billion of its estimated surplus to policyholders through its member insurance companies. Since policyholders are the ultimate payers of the MCCA premium, this return of MCCA surplus will be passed through to policyholders. The refund is expected to be paid to the Company during March 2022 and will be refunded to the policyholders shortly thereafter. The refund was treated as a refund of premium transaction in the Company's financial statements, reducing both direct written premium and ceded written premium. There is no effect on net written premium or net earned premium. The total amount of the refund to the Company is expected to be approximately \$183.2 million, comprising of \$179.1 million for personal automobile and \$4.1 million for commercial automobile policyholders. Direct and ceded premium numbers in the table below reflect this refund. The Company has reflected the expected payment to its policyholders in "Expenses and taxes payable" in the Consolidated Balance Sheets.

Additionally, Michigan enacted major reforms to its prior system governing personal and commercial automobile insurance in June 2019. Among other things, the reform legislation set forth cost saving measures for personal injury protection claims, including MCCA-reinsured claims, that took effect in July 2021. The Company's current estimate of MCCA reinsurance receivables has been reduced for these potential future claim cost savings. This resulted in a \$122.9 million decrease in MCCA reinsurance recoverables during 2021, and a corresponding decrease in MCCA ceded losses incurred. This estimate of MCCA reinsurance receivables is subject to change and will be revised further as the actual impacts of these cost saving measures emerge in the future.

Including the aforementioned refund of \$183.2 million, during 2021 the Company's MCCA net impact was to reduce both direct premiums earned and premiums ceded by \$143.7 million. Including the aforementioned decrease in the Company's estimated MCCA reinsurance recoverables of \$122.9 million, during 2021 the Company's MCCA net impact was to reduce ceded incurred losses and LAE by \$68.0 million. The Company ceded to the MCCA premiums earned and losses and LAE incurred of \$84.6 million and \$99.2 million, respectively, in 2020, and \$84.3 million and \$108.5 million, respectively, in 2019.

The MCCA represented 47.3% of the total reinsurance receivable balance at December 31, 2021. Reinsurance recoverables related to the MCCA were \$901.8 million and \$1,024.7 million at December 31, 2021 and 2020, respectively. Since the MCCA is supported by assessments permitted by statute, and there have been no significant uncollectible balances from the MCCA identified during the three years ending December 31, 2021, the Company believes it has no significant exposure to uncollectible reinsurance balances from this entity.

The following table provides the effects of reinsurance.

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Premiums written: ⁽¹⁾			
Direct	\$ 5,310.7	\$ 5,131.4	\$ 5,090.8
Assumed	33.6	23.1	27.7
Ceded	(350.9)	(556.0)	(536.8)
Net premiums written	<u>\$ 4,993.4</u>	<u>\$ 4,598.5</u>	<u>\$ 4,581.7</u>
Premiums earned: ⁽¹⁾			
Direct	\$ 5,131.3	\$ 5,063.8	\$ 4,953.3
Assumed	27.7	24.6	26.3
Ceded	(388.8)	(561.0)	(505.1)
Net premiums earned	<u>\$ 4,770.2</u>	<u>\$ 4,527.4</u>	<u>\$ 4,474.5</u>
Percentage of assumed to net premiums earned	0.6 %	0.5 %	0.6 %
Losses and LAE:			
Direct	\$ 3,407.1	\$ 3,200.5	\$ 3,223.3
Assumed	17.7	15.9	21.4
Ceded ⁽²⁾	(290.6)	(371.2)	(379.2)
Net losses and LAE	<u>\$ 3,134.2</u>	<u>\$ 2,845.2</u>	<u>\$ 2,865.5</u>

- (1) Direct and ceded premiums written and earned in 2021 were reduced by the \$183.2 million MCCA refund of premium, as discussed above.
- (2) The ceded losses and LAE in 2021 declined compared to 2020 and 2019 primarily due to the decrease in MCCA incurred losses that resulted from Michigan automobile reform, as discussed above.

14. LIABILITIES FOR OUTSTANDING CLAIMS, LOSSES AND LOSS ADJUSTMENT EXPENSES

Reserving Process Overview

Management's process for establishing loss reserves is a comprehensive process that involves input from multiple functions throughout the organization, including actuarial, finance, claims, legal, underwriting, distribution and business operations management. A review of loss reserves for each of the classes of business that the Company writes is conducted regularly, generally quarterly. This review process takes into consideration a variety of trends that impact the ultimate settlement of claims. Where appropriate, the loss reserving process includes a review of overall payment patterns and the emergence of paid and reported losses relative to expectations.

The loss reserve estimation process relies on the basic assumption that past experience, adjusted for the effects of current developments and likely trends, is an appropriate basis for predicting future outcomes. As part of this process, the Company uses a variety of analytical methods that consider experience, trends and other relevant factors. IBNR reserves are generally calculated by first projecting the ultimate cost of all claims that have been reported or expected to be reported in the future and then subtracting reported losses and LAE. IBNR reserves include both incurred-but-not-reported liabilities plus expected development on reported claims included in the liability for unpaid claims and claim adjustment expenses. Reported losses include cumulative paid losses and LAE plus outstanding case reserves. The Company's ultimate IBNR reserves are estimated by management and reserving actuaries on an aggregate basis for each line of business or coverage for loss and LAE liabilities not reflected within the case reserves. Case reserves are established by claim personnel individually on a claim by claim basis and based on information specific to the occurrence and terms of the underlying policy. Case reserves are periodically reviewed and modified based on new or additional information pertaining to the claim.

For events designated as catastrophes, the Company generally calculates IBNR reserves directly as a result of an estimated IBNR claim count and an estimated average claim amount for each event. 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.

Carried reserves for each line of business and coverage are determined based on the quarterly loss reserving process. In making the determination, the Company considers numerous quantitative and qualitative factors. Quantitative factors include actual payments made and changes in case reserve estimates in the period, as compared to previously experienced patterns, the maturity of the accident year, trends observed over the recent past, the level of volatility within a particular class of business, the estimated effects of reinsurance, including reinstatement premiums, general economic trends and other factors. Qualitative factors may include legal and regulatory developments, changes in claim handling and case reserving practices, recent entry into new markets or products, changes in underwriting practices, concerns that the Company does not have sufficient or quality historical reported and paid loss and LAE

information with respect to a particular line of business and coverage, effects of the economy and political outlook, perceived anomalies in the historical results, evolving trends or other factors, such as the continuing impact of the Pandemic.

Reserve Rollforward and Prior Year Development

The Company regularly updates its reserve estimates as new information becomes available and further events occur which may impact the resolution of unsettled claims. Reserve adjustments are reflected in results of operations as adjustments to losses and LAE. Often these adjustments are recognized in periods subsequent to the period in which the underlying policy was written and loss event occurred. These types of subsequent adjustments are described as loss and LAE “development.” Such development can be either favorable or unfavorable to the Company’s financial results and may vary by line of business. In this section, all amounts presented include catastrophe losses and LAE.

The table below provides a reconciliation of the gross beginning and ending reserve for unpaid losses and loss adjustment expenses.

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Gross reserve for losses and LAE, beginning of year	\$ 6,024.0	\$ 5,654.4	\$ 5,304.1
Reinsurance recoverable on unpaid losses	1,641.6	1,574.8	1,472.6
Net loss and LAE reserves, beginning of year	4,382.4	4,079.6	3,831.5
Net incurred losses and LAE in respect of losses occurring in:			
Current year	3,205.3	2,877.8	2,893.0
Prior years	(71.1)	(32.6)	(28.4)
Total incurred losses and LAE	3,134.2	2,845.2	2,864.6
Net payments of losses and LAE in respect of losses occurring in:			
Current year	1,464.1	1,347.7	1,315.4
Prior years	1,298.7	1,194.7	1,301.1
Total payments	2,762.8	2,542.4	2,616.5
Net reserve for losses and LAE, end of year	4,753.8	4,382.4	4,079.6
Reinsurance recoverable on unpaid losses	1,693.8	1,641.6	1,574.8
Gross reserve for losses and LAE, end of year	\$ 6,447.6	\$ 6,024.0	\$ 5,654.4

The following table provides a summary of (favorable) unfavorable loss and LAE reserve development.

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Commercial multiple peril	\$ (13.0)	\$ (0.2)	\$ (19.5)
Workers’ compensation	(23.1)	(36.0)	(32.6)
Commercial automobile	2.1	15.4	5.8
Other commercial lines	(12.0)	(17.0)	(7.0)
Total Commercial Lines	(46.0)	(37.8)	(53.3)
Personal automobile	(24.8)	5.2	21.6
Homeowners and other personal lines	(1.3)	(4.2)	2.1
Total Personal Lines	(26.1)	1.0	23.7
Total Other Segment	1.0	4.2	1.2
Total loss and LAE reserve development, including catastrophes	\$ (71.1)	\$ (32.6)	\$ (28.4)

As a result of continuing trends in the Company’s business, reserves, including catastrophes, have been re-estimated for all prior accident years and were decreased by \$71.1 million, \$32.6 million and \$28.4 million in 2021, 2020 and 2019, respectively.

2021

In 2021, net favorable loss and LAE development was \$71.1 million, primarily as a result of net favorable Commercial Lines development of \$46.0 million, and net favorable Personal Lines development of \$26.1 million. Commercial Lines favorable development was primarily due to lower than expected losses of \$23.1 million within the workers’ compensation line in accident years 2014 through 2020, and within commercial multiple peril and other commercial lines. In addition, Commercial Lines favorable development includes lower than expected losses related to certain 2018 through 2020 hurricanes, tornadoes, and other storms. Within other commercial lines, lower than expected losses in the commercial miscellaneous property line, primarily in accident years 2019 and 2020, the surety line, primarily in accident years 2013 through 2016, 2018 and 2019, the marine line, primarily in accident year

2020, and within the specialty industrial property line, primarily in accident years 2019 and 2020, were partially offset by higher than expected losses of \$25.6 million within the general liability lines, primarily in accident years 2018 through 2020. Personal Lines favorable development was primarily due to lower than expected losses of \$24.8 million in the personal automobile line, driven by lower bodily injury and personal injury protection losses, primarily in accident year 2020. In addition, Other Segment unfavorable development of \$1.0 million was due to the Company's run-off voluntary assumed property and casualty reinsurance pools business, which includes asbestos and environmental reserves.

2020

In 2020, net favorable loss and LAE development was \$32.6 million, primarily as a result of net favorable Commercial Lines development of \$37.8 million, partially offset by unfavorable development in the Other Segment. Commercial Lines favorable development was primarily due to lower than expected losses of \$36.0 million within the workers' compensation line in accident years 2016 through 2019 and within other commercial lines. These were partially offset by higher than expected losses in the commercial automobile line driven by higher bodily injury and personal injury protection losses, primarily in accident years 2017 through 2019. In addition, Commercial Lines favorable development includes lower than expected losses related to certain 2017, 2018 and 2019 wind storms, winter storms and hurricanes, and the 2017 and 2018 California wildfires. Within other commercial lines, lower than expected losses in the marine line, primarily in accident years 2017 through 2019, and the specialty industrial property lines were partially offset by higher than expected losses in the general liability coverages within Hanover Programs in accident years 2016 through 2019. Other Segment unfavorable development was due to the Company's run-off voluntary assumed property and casualty reinsurance pools business primarily based on an updated third-party actuarial study received during 2020 for the Excess and Casualty Reinsurance Association pool that primarily consists of asbestos and environmental exposures.

2019

In 2019, net favorable loss and LAE development was \$28.4 million, primarily as a result of net favorable Commercial Lines development of \$53.3 million, partially offset by unfavorable Personal Lines development of \$23.7 million. Commercial Lines favorable development was primarily due to lower than expected losses of \$32.6 million within the workers' compensation line in accident years 2015 through 2018, as well as within the commercial multiple peril line in accident years 2015 and 2016, and within other commercial lines. These were partially offset by higher than expected losses in the commercial automobile line driven by higher bodily injury severity and personal injury protection losses. In addition, Commercial Lines favorable development includes lower than expected losses related to the 2017 and 2018 California wildfires, including the sale of subrogation rights on certain California wildfire losses, and hurricane Florence in 2018. Within other commercial lines, lower than expected losses in the marine line, primarily in accident years 2015 through 2018, general liability lines and surety line were partially offset by higher than expected losses in Hanover Programs, primarily in accident years 2011, 2013, 2015 and 2017. Personal Lines unfavorable development was primarily due to higher than expected losses of \$21.6 million in the personal automobile line, driven by bodily injury severity and personal injury protection in accident years 2016 through 2017. In addition, Other Segment unfavorable development of \$1.2 million was due to the Company's run-off voluntary assumed property and casualty reinsurance pools business, which includes asbestos and environmental reserves.

Carried Reserves

The table below summarizes the gross, ceded and net reserve for losses and LAE and reconciles to the incurred claims development in the following section. Accordingly, the commercial multiple peril, workers' compensation, commercial automobile liability and general liability and umbrella - occurrence lines presentation includes Hanover Programs business.

YEAR ENDED DECEMBER 31, (in millions)	2021			2020		
	Gross	Ceded	Net	Gross	Ceded	Net
Commercial multiple peril	\$ 1,613.3	\$ (197.1)	\$ 1,416.2	\$ 1,429.4	\$ (163.9)	\$ 1,265.5
Workers' compensation	815.6	(187.8)	627.8	795.4	(182.6)	612.8
Commercial automobile liability	533.4	(29.4)	504.0	504.1	(30.6)	473.5
General liability and umbrella - occurrence	699.7	(221.2)	478.5	612.0	(176.0)	436.0
General liability - claims made	386.0	(41.2)	344.8	323.7	(30.5)	293.2
Other lines	531.1	(173.4)	357.7	451.6	(85.1)	366.5
Total Commercial Lines and other	4,579.1	(850.1)	3,729.0	4,116.2	(668.7)	3,447.5
Personal automobile liability	1,560.0	(838.4)	721.6	1,649.9	(968.5)	681.4
Homeowners	238.5	(4.0)	234.5	210.6	(3.0)	207.6
Other personal lines	70.0	(1.3)	68.7	47.3	(1.4)	45.9
Total Personal Lines	1,868.5	(843.7)	1,024.8	1,907.8	(972.9)	934.9
Total loss and LAE reserves	\$ 6,447.6	\$ (1,693.8)	\$ 4,753.8	\$ 6,024.0	\$ (1,641.6)	\$ 4,382.4

General liability and umbrella - occurrence is primarily comprised of the Company's commercial monoline general liability and umbrella coverages. General liability - claims made is primarily comprised of the Company's commercial professional and management liability lines. Within Total Commercial Lines and other, other lines is primarily comprised of marine, surety, specialty industrial and commercial property, product liability, voluntary pools, healthcare, and fidelity lines. Included in the above table, primarily in other lines, are \$57.3 million and \$57.7 million of gross asbestos and environmental reserves as of December 31, 2021 and 2020, respectively.

Incurred claims development tables

For the following net reserve components, commercial multiple peril, workers' compensation, commercial automobile liability, general liability and umbrella - occurrence, general liability - claims made, personal automobile liability and homeowners, the Company is presenting incurred claims development tables by accident year. The commercial multiple peril, workers' compensation, commercial automobile liability, general liability and umbrella - occurrence lines presentation includes Hanover Programs business. In each of these tables, the Company is presenting the number of years for which claims are typically outstanding, which is consistent with the period at which substantially all of the reserve development has emerged based on past history. The tables presented below include cumulative incurred loss and allocated loss adjustment expenses ("ALAE"), cumulative paid loss and ALAE and IBNR balances at December 31, 2021. IBNR includes both incurred but not reported liabilities and expected development on reported claims. In addition, cumulative incurred claim counts are presented as of December 31, 2021 and claim duration is presented in a separate table disclosing the average annual percentage payout of incurred claims by age, net of reinsurance. Claim duration is calculated as an average of paid loss and ALAE divided by incurred loss and ALAE by elapsed year. The incurred claims development tables presented are reconciled to the net carried reserves in the preceding table as of December 31, 2021.

Incurred claim count information presented represents claim frequency by individual claimant and measures the frequency of direct claim settlements that have resulted in or are expected to result in claim payments. Claim count information is presented in a manner consistent with that used in the quarterly loss reserving process. A single claim event, particularly in automobile lines, may result in multiple individual claimants and, therefore, multiple claim counts. Incurred claim counts are comprised of outstanding claims and those that are closed with a loss payment and exclude those that are closed without a loss payment. A single claim event may result in multiple claims closed with a payment when a claim is subsequently reopened with further payment. In this case, a reopened claim payment is counted as an incremental claim settlement. Claim count information is not available for direct and assumed participations in various involuntary pools and residual market mechanisms, which represent approximately 4% or less of the total gross earned premium and gross incurred claims for the lines presented. Incurred claim counts are also not adjusted for the effect of claims ceded as part of reinsurance programs, although the incurred losses and cumulative paid losses presented in the following tables are presented net of reinsurance ceded.

Commercial multiple peril
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance									As of	
YEARS ENDED DECEMBER 31,									December 31, 2021	
Accident Year	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021	IBNR	Cumulative Incurred Claim Count
2014	\$ 443.9	\$ 439.6	\$ 464.8	\$ 459.4	\$ 449.1	\$ 444.4	\$ 441.0	\$ 439.9	\$ 10.2	15,870
2015		446.0	456.3	463.7	467.4	465.2	460.9	457.3	15.3	15,566
2016			447.1	449.6	448.7	447.4	449.6	446.6	17.3	15,723
2017				538.7	544.8	551.6	555.6	558.9	26.9	16,562
2018					578.2	560.9	556.1	557.6	45.1	17,100
2019						583.8	593.0	605.9	86.2	16,073
2020							628.9	613.8	161.9	13,927
2021								739.3	275.0	14,522
Total								<u>\$4,419.3</u>		

Cumulative Paid Losses and ALAE, Net of Reinsurance										
YEARS ENDED DECEMBER 31,										
Accident Year	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021		
2014	\$ 171.7	\$ 267.8	\$ 316.0	\$ 363.4	\$ 395.2	\$ 407.7	\$ 411.7	\$ 414.5		
2015		161.9	260.1	315.6	363.2	397.0	413.6	421.8		
2016			140.3	237.9	290.2	342.2	369.6	389.0		
2017				170.9	296.4	370.6	422.9	466.7		
2018					178.8	306.2	363.7	406.9		
2019						169.3	317.2	386.5		
2020							217.4	350.8		
2021								259.9		
Total								<u>3,096.1</u>		
Total reserves for 2014 – 2021 accident years (incurred - paid)								<u>1,323.2</u>		
Total reserves for 2013 and prior accident years								67.5		
Unallocated loss adjustment expense								25.5		
Net reserves at December 31, 2021								<u><u>\$1,416.2</u></u>		

Workers' compensation
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance											As of December 31, 2021	
YEARS ENDED DECEMBER 31,												
Accident Year	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021	IBNR	Cumulative Incurred Claim Count
2012	\$ 176.3	\$ 171.1	\$ 165.2	\$ 157.2	\$162.9	\$163.7	\$163.7	\$161.9	\$161.4	\$ 160.9	\$ 7.6	13,091
2013		179.3	167.4	160.1	154.4	155.3	155.4	154.9	153.3	152.4	8.5	11,741
2014			182.1	172.9	154.7	152.1	150.3	148.2	145.8	143.7	10.7	10,959
2015				189.6	164.2	157.5	150.3	146.0	142.7	139.5	13.5	11,495
2016					189.6	180.5	164.6	158.2	152.8	149.3	14.6	15,951
2017						186.1	172.1	160.8	156.6	151.3	15.9	16,776
2018							187.2	182.1	172.1	170.1	20.4	17,552
2019								187.9	182.0	179.7	21.8	17,451
2020									182.5	180.9	51.2	13,455
2021										193.7	63.1	14,398
Total										\$1,621.5		

Cumulative Paid Losses and ALAE, Net of Reinsurance										
YEARS ENDED DECEMBER 31,										
Accident Year	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021
2012	\$ 30.4	\$ 74.8	\$ 102.6	\$ 120.1	\$130.7	\$136.0	\$141.4	\$143.7	\$146.6	\$ 147.4
2013		30.9	74.6	101.2	114.0	122.8	127.4	131.4	133.8	135.5
2014			30.6	70.5	92.3	105.6	112.5	117.8	121.0	122.8
2015				28.0	65.7	87.2	99.4	105.8	109.6	112.3
2016					33.9	78.1	99.5	111.1	117.1	121.0
2017						32.8	73.0	94.1	106.6	113.7
2018							35.6	80.7	103.4	118.1
2019								33.3	83.1	112.7
2020									30.7	76.4
2021										43.0
Total										1,102.9
Total reserves for 2012 – 2021 accident years (incurred - paid)										518.6
Total reserves for 2011 and prior accident years										88.5
Unallocated loss adjustment expense and other										20.7
Net reserves at December 31, 2021										\$ 627.8

Commercial automobile liability
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance									As of December 31, 2021	
YEARS ENDED DECEMBER 31,									Cumulative Incurred Claim Count	
Accident Year	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021	IBNR	
2014	\$ 168.5	\$ 163.3	\$ 177.3	\$ 181.7	\$ 185.1	\$ 185.0	\$ 183.5	\$ 183.1	0.5	13,481
2015		163.4	168.3	166.9	167.8	167.6	170.3	168.5	0.5	12,831
2016			157.0	157.7	163.0	174.3	172.5	173.3	0.9	11,666
2017				159.5	170.1	182.1	188.5	195.5	4.7	11,522
2018					182.8	176.1	182.9	190.0	13.4	11,248
2019						180.5	192.0	195.0	31.4	10,333
2020							171.6	159.0	69.4	6,200
2021								173.4	117.7	5,550
Total								<u>\$1,437.8</u>		

Cumulative Paid Losses and ALAE, Net of Reinsurance								
YEARS ENDED DECEMBER 31,								
Accident Year	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021
2014	\$ 33.1	\$ 70.8	\$ 102.7	\$ 137.1	\$ 168.2	\$ 176.3	\$ 178.2	\$ 178.6
2015		32.2	63.8	96.4	129.3	144.5	152.5	156.7
2016			27.8	60.7	98.3	134.0	147.2	155.0
2017				26.9	71.2	105.9	137.7	158.6
2018					29.2	59.7	92.5	127.3
2019						29.5	75.8	108.5
2020							23.4	48.1
2021								19.0
Total								<u>951.8</u>
Total reserves for 2014 – 2021 accident years (incurred - paid)								486.0
Total reserves for 2013 and prior accident years								11.4
Unallocated loss adjustment expense								6.6
Net reserves at December 31, 2021								<u>\$ 504.0</u>

General liability and umbrella - occurrence
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance											As of December 31, 2021	
YEARS ENDED DECEMBER 31,												
Accident Year	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021	IBNR	Cumulative Incurred Claim Count
2012	\$ 77.2	\$ 59.3	\$ 62.2	\$ 64.3	\$ 71.1	\$ 74.2	\$ 69.1	\$ 71.2	\$ 72.8	\$ 73.7	\$ 2.5	1,774
2013		84.1	67.4	71.5	88.6	84.4	81.2	80.4	79.1	79.9	3.6	1,995
2014			100.9	82.3	98.6	101.4	98.3	99.8	98.4	98.5	5.8	2,087
2015				104.2	99.3	99.6	97.0	98.3	99.7	98.5	9.6	2,437
2016					95.6	100.7	101.5	100.8	98.7	100.0	10.9	1,896
2017						97.7	107.6	109.2	110.7	110.5	20.0	1,799
2018							99.8	106.4	104.0	105.4	26.2	1,809
2019								104.2	105.7	115.5	38.1	1,640
2020									99.8	101.1	66.2	1,145
2021										102.8	81.6	1,308
Total										\$985.9		

Cumulative Paid Losses and ALAE, Net of Reinsurance										
YEARS ENDED DECEMBER 31,										
Accident Year	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016	2017	2018	2019	2020	2021
2012	\$ 2.2	\$ 12.6	\$ 29.8	\$ 43.8	\$ 52.1	\$ 60.6	\$ 63.0	\$ 64.5	\$ 65.0	\$ 65.9
2013		2.4	11.0	26.8	43.1	56.1	63.5	67.6	70.1	71.3
2014			3.1	14.5	31.4	52.8	70.4	83.6	87.3	89.3
2015				3.3	15.2	30.8	48.5	65.7	77.3	83.9
2016					3.1	15.0	31.6	52.5	63.4	68.9
2017						4.4	17.0	34.5	49.8	63.6
2018							4.1	15.6	35.7	48.4
2019								7.5	16.7	33.5
2020									3.9	16.6
2021										4.1
Total										545.5
Total reserves for 2012 – 2021 accident years (incurred - paid)										440.4
Total reserves for 2011 and prior accident years										24.6
Unallocated loss adjustment expense and other										13.5
Net reserves at December 31, 2021										\$478.5

General liability - claims made
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance								As of December 31, 2021	
YEARS ENDED DECEMBER 31,								Cumulative Incurred Claim Count	
Accident Year	2015 Unaudited	2016	2017	2018	2019	2020	2021	IBNR	
2015	\$ 93.2	\$ 98.8	\$ 98.4	\$ 90.2	\$ 90.3	\$ 91.0	\$ 90.5	\$ 0.3	991
2016		103.6	101.7	97.1	89.7	95.2	95.2	1.3	1,010
2017			103.3	104.6	98.1	96.0	94.4	4.7	1,111
2018				120.9	127.8	132.5	133.2	9.9	1,369
2019					126.8	127.1	133.7	23.5	1,373
2020						142.8	141.0	48.8	1,554
2021							159.0	88.3	2,164
Total							\$ 847.0		

Cumulative Paid Losses and ALAE, Net of Reinsurance									
YEARS ENDED DECEMBER 31,									
Accident Year	2015 Unaudited	2016	2017	2018	2019	2020	2021		
2015	\$ 10.0	\$ 43.6	\$ 64.2	\$ 76.0	\$ 81.8	\$ 83.7	\$ 87.1		
2016		11.1	42.9	66.1	75.5	80.4	86.4		
2017			12.3	42.3	67.2	76.5	82.7		
2018				17.3	56.1	87.5	104.7		
2019					17.8	56.7	81.3		
2020						18.1	52.9		
2021							17.7		
Total							512.8		
Total reserves for 2015 – 2021 accident years (incurred - paid)							334.2		
Total reserves for 2014 and prior accident years							5.1		
Unallocated loss adjustment expense							5.5		
Net reserves at December 31, 2021							\$ 344.8		

Personal automobile liability
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance						As of	
YEARS ENDED DECEMBER 31,						December 31, 2021	
Accident Year	2017	2018	2019	2020	2021	IBNR	Cumulative Incurred Claim Count
2017	\$ 363.6	\$ 362.3	\$ 383.4	\$ 392.2	\$ 393.8	\$ 5.9	43,097
2018		394.2	395.3	400.3	406.7	13.3	42,995
2019			431.2	431.8	436.1	31.9	42,119
2020				378.0	347.0	95.9	26,038
2021					407.2	188.4	26,735
Total					\$ 1,990.8		

Cumulative Paid Losses and ALAE, Net of Reinsurance					
YEARS ENDED DECEMBER 31,					
Accident Year	2017	2018	2019	2020	2021
2017	\$ 115.0	\$ 229.2	\$ 302.7	\$ 343.8	\$ 363.4
2018		121.7	237.2	307.4	353.1
2019			131.0	262.2	336.6
2020				95.9	179.2
2021					106.4
Total					1,338.7
Total reserves for 2017 – 2021 accident years (incurred - paid)					652.1
Total reserves for 2016 and prior accident years					53.3
Unallocated loss adjustment expense					16.2
Net reserves at December 31, 2021					\$ 721.6

Homeowners
(\$ in millions)

Incurred Losses and ALAE, Net of Reinsurance					As of	
YEARS ENDED DECEMBER 31,					December 31, 2021	
Accident Year	2018	2019	2020	2021	IBNR	Cumulative Incurred Claim Count
2018	\$ 312.9	\$ 316.2	\$ 317.3	\$ 314.5	3.2	32,742
2019		344.5	345.3	342.1	7.6	33,700
2020			418.8	423.3	10.0	35,116
2021				461.4	97.1	33,672
Total				\$ 1,541.3		

Cumulative Paid Losses and ALAE, Net of Reinsurance				
YEARS ENDED DECEMBER 31,				
Accident Year	2018	2019	2020	2021
2018	\$ 213.7	\$ 290.1	\$ 300.8	\$ 305.6
2019		234.7	311.7	322.5
2020			281.5	387.7
2021				306.9
Total				1,322.7
Total reserves for 2018 – 2021 accident years (incurred - paid)				218.6
Total reserves for 2017 and prior accident years				12.3
Unallocated loss adjustment expense				3.6
Net reserves at December 31, 2021				\$ 234.5

The following table is information about average historical claims duration as of December 31, 2021. The table is computed based on the paid and incurred claims data, net of reinsurance, for the accident years presented in the preceding claims development tables.

Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance:
Unaudited

	1	2	3	4	5	6	7	8	9	10
Commercial multiple peril	33.4%	22.4%	11.6%	10.0%	7.2%	3.6%	1.3%	0.6%		
Workers' compensation	20.3%	27.4%	15.4%	8.9%	5.1%	3.1%	2.5%	1.4%	1.4%	0.5%
Commercial automobile liability	15.4%	19.5%	18.4%	18.7%	11.1%	4.5%	1.7%	0.3%		
General liability and umbrella										
- occurrence	3.8%	11.5%	17.8%	18.0%	14.3%	10.3%	4.7%	2.4%	1.1%	1.2%
General liability - claims made	12.3%	30.9%	23.1%	11.4%	6.1%	4.2%	3.7%			
Personal automobile liability	28.6%	27.9%	17.7%	10.8%	5.0%					
Homeowners	67.4%	24.0%	3.3%	1.5%						

15. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

The Company has been named a defendant in various legal proceedings arising in the normal course of business. In addition, the Company is involved, from time to time, in examinations, investigations and proceedings by governmental and self-regulatory agencies. The potential outcome of any such action or regulatory proceedings in which the Company has been named a defendant or the subject of an inquiry, examination or investigation, and its ultimate liability, if any, from such action or regulatory proceedings, is difficult to predict at this time. The ultimate resolutions of such proceedings are not expected to have a material effect on its financial position, although they could have a material effect on the results of operations for a particular quarterly or annual period.

Residual Markets

The Company is required to participate in residual markets in various states, which generally pertain to high risk insureds, disrupted markets or lines of business or geographic areas where rates are regarded as excessive. The results of the residual markets are not subject to the predictability associated with the Company's own managed business, and are significant to both the personal and commercial automobile lines of business.

16. STATUTORY FINANCIAL INFORMATION

The Company's insurance subsidiaries are required to file annual statements with state regulatory authorities prepared on an accounting basis prescribed or permitted by such authorities (statutory basis), as codified by the National Association of Insurance Commissioners ("NAIC"). Permitted statutory accounting practices encompass all accounting practices that are not prescribed; such practices differ from state to state, may differ from company to company within a state, and may change in the future. The Company's insurance subsidiaries did not have any permitted practices as of or for the years ended December 31, 2021, 2020 and 2019.

Statutory capital and surplus differs from shareholders' equity reported in accordance with U.S. GAAP primarily because under the statutory basis of accounting, deferred acquisition costs are expensed when incurred and the recognition of deferred tax assets is based on different recoverability assumptions.

The following table provides statutory net income for the years ended December 31 and statutory capital and surplus for the insurance subsidiaries as of December 31 for the periods indicated:

<i>(in millions)</i>	2021	2020	2019
Statutory Net Income	\$ 301.3	\$ 360.9	\$ 348.4
Statutory Capital and Surplus	2,720.0	2,588.5	2,470.2

The minimum statutory capital and surplus necessary to satisfy the Company's regulatory requirements was \$593.9 million, \$552.6 million and \$531.8 million, which equals the Authorized Control Level at December 31, 2021, 2020 and 2019, respectively.

17. SUBSEQUENT EVENTS

There were no subsequent events requiring adjustment to the financial statements and no additional disclosures required in the notes to the consolidated financial statements.

ITEM 9—CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A—CONTROLS AND PROCEDURES

DISCLOSURE CONTROLS AND PROCEDURES EVALUATION

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of our “disclosure controls and procedures”, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

LIMITATIONS ON THE EFFECTIVENESS OF CONTROLS

Our management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls over financial reporting will prevent all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system’s objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

CONCLUSION REGARDING THE EFFECTIVENESS OF DISCLOSURE CONTROLS AND PROCEDURES

Based on our controls evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this annual report, our disclosure controls and procedures were effective to provide reasonable assurance that (i) the information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and (ii) material information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

INTERNAL CONTROL OVER FINANCING REPORTING

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate “internal control over financial reporting”, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the updated *Internal Control – Integrated Framework* issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the updated framework in *Internal Control – Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2021.

The effectiveness of our internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

CHANGES IN INTERNAL CONTROL

Our management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the internal control over financial reporting, as required by Rule 13a-15(d) of the Exchange Act, to determine whether any changes occurred during the period covered by this Annual Report on Form 10-K that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that there was no such change during the last quarter of the fiscal year covered by this Annual Report on Form 10-K that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B—OTHER INFORMATION

None.

ITEM 9C—DISCLOSURES REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10—DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

DIRECTORS OF THE REGISTRANT

Except for the portions about executive officers and our Code of Conduct that are set forth below, this information is incorporated herein by reference to the Proxy Statement for the Annual Meeting of Shareholders to be held on May 10, 2022 to be filed pursuant to Regulation 14A under the Exchange Act.

EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below is biographical information concerning our executive officers.

Jeffrey M. Farber, 57

Executive Vice President, Chief Financial Officer

Mr. Farber joined THG in October 2016 after spending the previous five years with American International Group (AIG). He joined AIG as Senior Vice President and Deputy Chief Financial Officer and then was appointed Chief Risk Officer, Commercial and Consumer Business. Prior to AIG, Mr. Farber served as Executive Vice President and Chief Financial Officer of GAMCO Investors, Inc., a public company asset manager. Previously, he held senior accounting and finance roles at The Bear Stearns Companies, Inc., most recently as Senior Managing Director, Controller and Senior Vice President, responsible for finance, tax and global procurement. He began his career at Deloitte & Touche LLP, rising to partner in the firm.

Dennis F. Kerrigan, 57

Executive Vice President, General Counsel and Assistant Secretary

Mr. Kerrigan joined the Company as Executive Vice President, Deputy General Counsel and Assistant Secretary, in January 2020, becoming General Counsel in April 2020. Before joining THG, Mr. Kerrigan was Executive Vice President, General Counsel and Corporate Secretary for Zurich North America, from 2008 to 2019. Previously, he was a litigation partner with the law firm then known as Dewey & LeBoeuf.

Richard W. Lavey, 54

Executive Vice President; President, Hanover Agency Markets

Mr. Lavey has served as Executive Vice President, and President Hanover Agency Markets since November 2017. Mr. Lavey previously served as Executive Vice President, Chief Growth Innovation Officer from February 2017 to November 2017. Prior to that time, he was President, Personal Lines of THG since November 2014 and Chief Marketing Officer since 2011, assuming responsibility for Field Operations in 2016. Mr. Lavey joined THG in 2004 and during this time has also served in the following roles: Chief Distribution Officer, Senior Vice President, Operations and Marketing; Regional President, Northeast; and Vice President, Field Operations and Marketing and Distribution. Prior to joining the Company, Mr. Lavey worked for The Hartford Financial Services Group, Inc. and The Travelers Corp.

Willard T. Lee, 52

Executive Vice President, Chief Information and Innovation Officer

Mr. Lee became Executive Vice President, Chief Information Officer in April 2021 after briefly serving as Deputy Chief Information and Technology Innovation Officer. Prior to that time, he was Business and Innovation CIO of THG since October 2017 and Chief Operating Officer, Specialty Lines since June 2012. Mr. Lee joined THG in May 2003 and during this time has also served in the following roles: Vice President, Corporate Development and Vice President, Commercial Lines Product Development. Prior to joining THG, Mr. Lee worked for BancTec/Plexus.

Denise M. Lowsley, 50

Executive Vice President, Chief Human Resources Officer

Ms. Lowsley joined the Company as Executive Vice President and Chief Human Resources Officer in October 2019. Prior to joining the Company, she spent the previous 10 years as Senior Vice President and Chief Human Resources Officer at The Navigators Group, Inc., a specialty property and casualty insurance holding company. Before joining Navigators, Ms. Lowsley was International Vice President, Compensation and Benefits at New York Life Insurance Company, and had spent the previous 10 years at Liberty Mutual Insurance Group, rising to the role of Global Human Resources Manager.

John C. Roche, 58

President and Chief Executive Officer

Mr. Roche became President and Chief Executive Officer in November 2017. Prior to that he led the Company's personal and commercial lines businesses as Executive Vice President and President, Hanover Agency Markets. Since joining the Company in 2006, Mr. Roche has served in several senior leadership positions, including President, Business Insurance; Vice President, Field Operations, Marketing and Distribution; and Vice President, Commercial Lines Underwriting and Product Management. Prior to joining the Company, he served in senior roles at the St. Paul Travelers Companies. He began his career at Fireman's Fund and Atlantic Mutual, where he held a number of underwriting and management positions.

Bryan J. Salvatore, 57

Executive Vice President; President, Specialty

Mr. Salvatore joined the Company in June 2017 as Executive Vice President and President, Specialty. Prior to joining the Company, he spent 20 years with Zurich North America in a number of leadership roles, most recently serving as President of the company's specialty products business since 2012. Prior to joining Zurich in 1997, Mr. Salvatore was a Director in the programs division of Frank Crystal & Co., Inc., a leading brokerage firm.

Mark J. Welzenbach, 62

Executive Vice President, Chief Claims Officer

Mr. Welzenbach was appointed Chief Claims Officer of THG shortly after joining the Company in 2005. Before joining the Company, Mr. Welzenbach was Senior Vice President, Claims for The Hartford Financial Services Group, Inc. from 1995 to 2005. Prior to that, he was Director of Claims from 1991 to 1995 for Travelers Insurance Company. Mr. Welzenbach began his career as a practicing attorney.

OTHER SENIOR CORPORATE OFFICER OF THE REGISTRANT**Warren E. Barnes, 60**

Senior Vice President, Corporate Controller and Principal Accounting Officer

Mr. Barnes was appointed Principal Accounting Officer in 2015. Mr. Barnes joined the Company in 1993, and has been its Controller since 1997. Before joining the Company, Mr. Barnes was employed from 1985 to 1993 by the public accounting firm then known as Price Waterhouse. He is a certified public accountant in the Commonwealth of Massachusetts and the State of Vermont.

Pursuant to section 4.4 of the Company's by-laws, each officer shall hold office until the first meeting of the Board of Directors following the next annual meeting of the shareholders and until his or her respective successor is chosen and qualified unless a shorter period shall have been specified by the terms of his or her election or appointment, or in each case until such officer sooner dies, resigns, is removed or becomes disqualified.

ANNUAL MEETING OF SHAREHOLDERS

The Board of Directors of THG has scheduled the 2022 Annual Meeting of Shareholders for May 10, 2022. The record date for determining the shareholders of the Company entitled to notice of and to vote at such Annual Meeting is March 14, 2022.

CODE OF CONDUCT

Our Code of Conduct is available, free of charge, on our website at www.hanover.com under "Why The Hanover – Our Governance – Company Policies". The Code of Conduct applies to our directors, officers and employees, including our Chief Executive Officer, Chief Financial Officer and Corporate Controller. In addition, we expect our agents, contractors and others with whom we do business to act in accordance with our Code of Conduct. We will disclose any future amendments to the Code of Conduct (other than technical, administrative or non-substantive amendments) within four business days following the date of such amendment. While we do not expect to grant waivers to our Code of Conduct, any such waivers to our Chief Executive Officer, Chief Financial Officer or Corporate Controller will be posted on our website at www.hanover.com, as required by applicable law or New York Stock Exchange requirements. A printed copy of the Code of Conduct will be provided, free of charge, by contacting the Company's Corporate Secretary at the Company's headquarters, 440 Lincoln Street, Worcester, MA 01653.

ITEM 11—EXECUTIVE COMPENSATION

Incorporated herein by reference from the Proxy Statement for the Annual Meeting of Shareholders to be held May 10, 2022, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934.

ITEM 12—SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information as of December 31, 2021 with respect to compensation plans under which equity securities of the Company are authorized for issuance.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights ⁽¹⁾	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans ⁽²⁾
Equity compensation plans approved by security holders	1,808,143	\$ 99.14	4,294,587
Equity compensation plans not approved by security holders	—	—	—
Total	1,808,143	\$ 99.14	4,294,587

- (1) Includes 577,932 shares of common stock which may be issued upon vesting of outstanding restricted stock units, performance-based stock units, and market-based restricted stock units (assuming the maximum award amount) of which, 27,060 represent dividend equivalent shares associated with the 2019, 2020 and 2021 awards. The weighted average exercise price does not take these awards into account.
- (2) On May 20, 2014, shareholders approved The Hanover Insurance Group 2014 Long-Term Incentive Plan (the “2014 Stock Plan”). With respect to new share-based award issuances, the 2014 Stock Plan replaced The Hanover Insurance Group, Inc. 2006 Long-Term Incentive Plan (the “2006 Stock Plan”) and authorized the issuance of 6,100,000 shares in a new share pool, plus any shares subject to outstanding awards under the 2006 Stock Plan that may become available for reissuance as a result of the cash settlement, forfeiture, expiration or cancellation of such awards. In accordance with the 2014 Stock Plan, the issuance of one share of common stock in the form of an option or Stock Appreciation Right will reduce the share pool by one share, whereas the issuance of one share of common stock for the other types of stock awards provided by the Plan will reduce the pool by 3.8 shares. Additionally, on May 20, 2014, the shareholders approved The Hanover Insurance Group 2014 Employee Stock Purchase Plan, authorizing the issuance of 2,500,000 shares, under such plan.

Additional information related to Security Ownership of Certain Beneficial Owners and Management is incorporated herein by reference from the Proxy Statement for the Annual Meeting of Shareholders to be held May 10, 2022, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934.

ITEM 13—CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Incorporated herein by reference from the Proxy Statement for the Annual Meeting of Shareholders to be held May 10, 2022, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934.

ITEM 14—PRINCIPAL ACCOUNTANT FEES AND SERVICES

Incorporated herein by reference from the Proxy Statement for the Annual Meeting of Shareholders to be held May 10, 2022, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934.

PART IV

ITEM 15—EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(A)(1) FINANCIAL STATEMENTS

The consolidated financial statements and accompanying notes thereto are included on pages 67 to 113 of this Form 10-K.

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Consolidated Statements of Income for the years ended December 31, 2021, 2020 and 2019	69
Consolidated Statements of Comprehensive Income for the years ended December 31, 2021, 2020 and 2019	70
Consolidated Balance Sheets as of December 31, 2021 and 2020	71
Consolidated Statements of Shareholders' Equity for the years ended December 31, 2021, 2020 and 2019	72
Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019	73
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(A)(2) FINANCIAL STATEMENTS SCHEDULES

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(A)(3) EXHIBIT INDEX

- 2.1 Agreement for the Sale and Purchase of Shares in the Capital of The Hanover Insurance International Holdings Limited, Chaucer Insurance Company Designated Activity Company and Hanover Australia HoldCo Pty Ltd., dated September 13, 2018, by and between the Registrant and China Reinsurance (Group) Corporation (the schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K), previously filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the Commission on September 13, 2018 and incorporated herein by reference.
- 2.2 Supplemental Agreement by and between the Registrant and China Reinsurance (Group) Corporation, dated December 28, 2018 relating to the Agreement for the Sale and Purchase of Shares in the Capital of The Hanover Insurance International Holdings Limited, Chaucer Insurance Company Designated Activity Company and Hanover Australia HoldCo Pty Ltd., dated September 13, 2018, by and between the Registrant and China Reinsurance (Group) Corporation, previously filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the Commission on January 3, 2019 and incorporated herein by reference.
- 2.3 Second Supplemental Agreement by and between the Registrant and China Reinsurance (Group) Corporation, dated March 27, 2019 relating to the Agreement for the Sale and Purchase of Shares in the Capital of The Hanover Insurance International Holdings Limited, Chaucer Insurance Company Designated Activity Company and Hanover Australia HoldCo Pty Ltd., dated September 13, 2018, by and between the Registrant and China Reinsurance (Group) Corporation, previously filed as Exhibit 2.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on May 2, 2019 and incorporated herein by reference.
- 3.1 Certificate of Incorporation of the Registrant, previously filed as Exhibit 3.1 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 16, 2006 and incorporated herein by reference.
- 3.2 Amended By-Laws of the Registrant, previously filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the Commission on November 21, 2006 and incorporated herein by reference.
- 4.1 Specimen Certificate of the Registrant's Common Stock, previously filed as Exhibit 4 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 16, 2006 and incorporated herein by reference.
- 4.2 Form of Indenture relating to the Debentures between the Registrant, as issuer, and State Street Bank & Trust Company, as trustee, previously filed as Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (File No. 33-96764) filed with the Commission on September 11, 1995 and incorporated herein by reference. (P)
- 4.3 Form of Global Debenture relating to the Registrant's 7 5/8% Senior Debentures due 2025, previously filed as Exhibit 4.2 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 16, 2006 and incorporated herein by reference.
- 4.4 Indenture, dated February 3, 1997, relating to the Registrant's Junior Subordinated Debentures, previously filed as Exhibit 3 to the Registrant's Current Report on Form 8-K filed with the Commission on February 5, 1997 and incorporated herein by reference.
- 4.5 First Supplemental Indenture, dated July 30, 2009, amending the indenture dated February 3, 1997 relating to the Junior Subordinated Debentures of the Registrant, previously filed as Exhibit 4.5 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 1, 2010 and incorporated herein by reference.
- 4.6 Form of Global Security representing \$300,000,000 principal amount of Junior Subordinated Debentures of the Registrant, previously filed as Exhibit 4.6 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 1, 2010 and incorporated herein by reference.
- 4.7 Base Indenture, dated as of April 8, 2016, between the Registrant, as issuer, and U.S. Bank National Association, as trustee, previously filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the Commission on April 8, 2016 and incorporated herein by reference.
- 4.8 First Supplemental Indenture (to the Base Indenture dated as of April 8, 2016), as of April 8, 2016, between the Registrant, as issuer, and U.S. Bank National Association, as trustee, previously filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed with the Commission on April 8, 2016 and incorporated herein by reference.
- 4.9 Form of Security Certificate representing the 4.5% Notes due 2026, previously filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed with the Commission on April 8, 2016 and incorporated herein by reference.
- 4.10 Second Supplemental Indenture (to the Base Indenture dated as of April 8, 2016) dated as of August 24, 2020 between the Registrant, as issuer, and U.S. Bank National Association, as trustee, previously filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed with the Commission on August 24, 2020 and incorporated herein by reference.

- 4.11 Form of Security Certificate representing the 2.5% Notes due 2030, previously filed as Exhibit 4.3 (and included in Exhibit 4.2) to the Registrant's Current Report on Form 8-K filed with the Commission on August 24, 2020 and incorporated herein by reference.
- 4.12 Description of Registrant's Securities.
- +10.1 State Mutual Life Assurance Company of America Excess Benefit Retirement Plan, previously filed as Exhibit 10.5 to the Registrant's Registration Statement on Form S-1 (No. 33-91766) filed with the Commission on May 1, 1995 and incorporated herein by reference. (P)
- +10.2 The Hanover Insurance Group Cash Balance Pension Plan, as amended, previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on October 31, 2019 and incorporated herein by reference.
- +10.3 The Hanover Insurance Group Retirement Savings Plan, as amended.
- +10.4 The Hanover Insurance Group, Inc. Amended and Restated Non-Qualified Retirement Savings Plan, previously filed as Exhibit 10.30 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 24, 2011 and incorporated herein by reference.
- +10.5 The Hanover Insurance Group, Inc. 2006 Long-Term Incentive Plan, as amended, previously filed as Annex I to the Registrant's Definitive Proxy Statement on Schedule 14A filed with the Commission on March 29, 2012 and incorporated herein by reference.
- +10.6 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group, Inc. 2006 Long-Term Incentive Plan, previously filed as Exhibit 10.38 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 26, 2013 and incorporated herein by reference.
- +10.7 Amendment to outstanding Stock Options issued under The Hanover Insurance Group, Inc. 2006 Long-Term Incentive Plan, previously filed as Exhibit 10.11 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2016 and incorporated herein by reference.
- +10.8 The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Annex I to the Registrant's Definitive Proxy Statement on Schedule 14A filed with the Commission on April 3, 2014 and incorporated herein by reference.
- +10.9 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on May 20, 2014 and incorporated herein by reference.
- +10.10 Amendment to outstanding Stock Options issued under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.18 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2016 and incorporated herein by reference.
- +10.11 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.19 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2016 and incorporated herein by reference.
- +10.12 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan for Chief Financial Officer, previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 4, 2016 and incorporated herein by reference.
- +10.13 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.16 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.14 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan for Chief Financial Officer, previously filed as Exhibit 10.17 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.15 Form of Non-Qualified Stock Option Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.16 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 24, 2020 and incorporated herein by reference.
- +10.16 Form of Performance-Based Restricted Stock Unit Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.21 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.

- +10.17 Form of Performance-Based Restricted Stock Unit Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan for Chief Financial Officer, previously filed as Exhibit 10.22 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.18 Form of Restricted Stock Unit Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.24 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.19 Form of Restricted Stock Unit Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan, previously filed as Exhibit 10.25 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.20 Form of Restricted Stock Unit Agreement under The Hanover Insurance Group 2014 Long-Term Incentive Plan for Chief Financial Officer, previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on May 2, 2019 and incorporated herein by reference.
- +10.21 The Hanover Insurance Group, Inc. Amended and Restated Employment Continuity Plan, previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 11, 2008 and incorporated herein by reference.
- +10.22 Form of Side Letter Agreement for New Participants in The Hanover Insurance Group, Inc. Amended and Restated Employment Continuity Plan waiving right to IRC §280G "Gross-Up" Payments, previously filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on July 29, 2016 and incorporated herein by reference.
- +10.23 Description of 2019 — 2020 Non-Employee Director Compensation, previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 1, 2019 and incorporated herein by reference.
- +10.24 The Hanover Insurance Group, Inc. Non-Employee Director Deferral Plan, previously filed as Exhibit 10.28 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2009 and incorporated herein by reference.
- +10.25 Offer Letter, dated September 21, 2016, by and between Jeffrey M. Farber and the Registrant, previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on September 23, 2016 and incorporated herein by reference.
- +10.26 The Hanover Insurance Group Second Amended and Restated 2014 Employee Stock Purchase Plan, previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on October 28, 2020 and incorporated herein by reference.
- +10.27 Form of Leadership Severance Arrangement, previously filed as Exhibit 10.40 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 27, 2018 and incorporated herein by reference.
- +10.28 Offer Letter, dated December 2, 2019, by and between Dennis F. Kerrigan and the Registrant, previously filed as Exhibit 10.29 to the Registrant's Annual Report of Form 10-K filed with the Commission on February 24, 2021 and incorporated herein by reference.
- 10.29 Form of Accident and Health Coinsurance Agreement between The Hanover Insurance Company, as Reinsurer, and First Allmerica Financial Life Insurance Company (the schedules and certain exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K), previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on August 4, 2008 and incorporated herein by reference.
- 10.30 Credit Agreement dated April 30, 2019, among the Registrant, as Borrower, JPMorgan Chase Bank, N.A., as administrative agent, and various other lender parties, previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on May 2, 2019 and incorporated herein by reference.
- 21 Subsidiaries of THG.
- 23 Consent of Independent Registered Public Accounting Firm.
- 24 Power of Attorney.
- 31.1 Certification of Chief Executive Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002.

- 31.2 Certification of the Chief Financial Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1 Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002.
- 99.1 Internal Revenue Service Ruling dated April 15, 1995 previously filed as Exhibit 99.1 to the Registrant's Registration Statement on Form S-1 (No. 33-91766) filed with the Commission on May 1, 1995 and incorporated herein by reference. (P)
- 101 The following materials from The Hanover Insurance Group, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021 formatted in Inline eXtensible Business Reporting Language ("iXBRL"): (i) Consolidated Statements of Income for the years ended December 31, 2021, 2020 and 2019; (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2021, 2020 and 2019; (iii) Consolidated Balance Sheets at December 31, 2021 and 2020; (iv) Consolidated Statements of Shareholders' Equity for the years ended December 31, 2021, 2020 and 2019; (v) Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019; (vi) related notes to these consolidated financial statements; and (vii) Financial Statement Schedules.
- 104 The cover page from The Hanover Insurance Group Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, formatted in iXBRL (embedded within EX-101).

+ Management contract or compensatory plan or arrangement.

(P) Paper exhibits.

ITEM 16 – FORM 10-K SUMMARY

None.

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.

THE HANOVER INSURANCE GROUP, INC.

Registrant

Date: February 24, 2022

By: _____ /S/ **JOHN C. ROCHE**

John C. Roche,
President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Date: February 24, 2022	By: <u>/S/ JOHN C. ROCHE</u> John C. Roche, President, Chief Executive Officer and Director
Date: February 24, 2022	By: <u>/S/ JEFFREY M. FARBER</u> Jeffrey M. Farber, Executive Vice President and Chief Financial Officer
Date: February 24, 2022	By: <u>/S/ WARREN E. BARNES</u> Warren E. Barnes, Senior Vice President, Corporate Controller and Principal Accounting Officer
Date: February 24, 2022	By: <u>*</u> Kevin J. Bradicich, Director
Date: February 24, 2022	By: <u>*</u> Theodore H. Bunting, Jr. Director
Date: February 24, 2022	By: <u>*</u> Jane D. Carlin, Director
Date: February 24, 2022	By: <u>*</u> J. Paul Condryn III, Director
Date: February 24, 2022	By: <u>*</u> Cynthia L. Egan, Chair of the Board
Date: February 24, 2022	By: <u>*</u> Daniel T. Henry, Director
Date: February 24, 2022	By: <u>*</u> Martin P. Hughes, Director
Date: February 24, 2022	By: <u>*</u> Wendell J. Knox, Director
Date: February 24, 2022	By: <u>*</u> Kathleen S. Lane, Director
Date: February 24, 2022	By: <u>*</u> Joseph R. Ramrath, Director
Date: February 24, 2022	By: <u>*</u> Harriett “Tee” Taggart, Director
Date: February 24, 2022	*By: <u>/S/ JEFFREY M. FARBER</u> Jeffrey M. Farber, Attorney-in-fact

SCHEDULE I

THE HANOVER INSURANCE GROUP, INC.

SUMMARY OF INVESTMENTS – OTHER THAN INVESTMENTS IN RELATED PARTIES

DECEMBER 31, 2021

(in millions)

<i>Type of investment</i>	<i>Cost ⁽¹⁾</i>	<i>Fair Value</i>	<i>Amount at which shown in the balance sheet ⁽²⁾</i>
Fixed maturities:			
Bonds:			
United States Government and government agencies and authorities	\$ 1,461.7	\$ 1,464.9	\$ 1,464.9
States, municipalities and political subdivisions	1,176.2	1,200.8	1,200.8
Foreign governments	2.2	2.6	2.6
Public utilities	371.2	387.3	387.3
All other corporate bonds	4,503.8	4,668.3	4,668.3
Total fixed maturities	7,515.1	7,723.9	7,723.9
Equity securities:			
Common stocks:			
Public utilities	59.4	96.6	96.6
Banks, trusts and insurance companies	57.0	78.9	78.9
Industrial, miscellaneous and all other	247.8	477.0	477.0
Nonredeemable preferred stock	1.0	8.8	8.8
Total equity securities	365.2	661.3	661.3
Mortgage loans on real estate	441.1	456.1	434.0
Real estate	6.4	7.2	6.4
Other long-term investments	276.5	327.0	327.0
Total investments	\$ 8,604.3	\$ 9,175.5	\$ 9,152.6

(1) Original cost of equity securities and, as to fixed maturities, original cost reduced by repayments and adjusted for amortization of premiums and accretion of discounts.

(2) Mortgage loans on real estate are shown on the balance sheet net of the allowance for credit losses.

SCHEDULE II

THE HANOVER INSURANCE GROUP, INC.

CONDENSED FINANCIAL INFORMATION OF REGISTRANT

PARENT COMPANY ONLY

STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Revenues			
Net investment income	\$ 8.7	\$ 10.7	\$ 19.8
Net realized gains from sales and other	1.2	0.4	5.3
Other income	—	—	0.4
Total revenues	9.9	11.1	25.5
Expenses			
Interest expense	34.0	37.0	37.4
Employee benefit related expenses	1.5	2.3	5.0
Interest expense on loan from subsidiary	6.9	7.0	6.9
Loss from repayment of debt	—	6.2	—
Other operating expenses	5.8	9.8	7.1
Total expenses	48.2	62.3	56.4
Net loss before income taxes and equity in income of subsidiaries	(38.3)	(51.2)	(30.9)
Income tax benefit	16.4	22.1	25.6
Equity in income of subsidiaries	440.6	387.2	432.4
Income from continuing operations	418.7	358.1	427.1
Sale of Chaucer business (net of income tax benefit of \$5.3 in 2019)	—	—	(2.1)
Income from discontinued life business (net of income tax benefit of \$0.5 in 2020)	—	0.6	0.1
Net income	418.7	358.7	425.1
Other comprehensive (loss) income, net of tax	(250.3)	219.9	267.6
Comprehensive income	\$ 168.4	\$ 578.6	\$ 692.7

The condensed financial information should be read in conjunction with the consolidated financial statements and notes thereto.

SCHEDULE II (CONTINUED)

THE HANOVER INSURANCE GROUP, INC.

CONDENSED FINANCIAL INFORMATION OF REGISTRANT

PARENT COMPANY ONLY

BALANCE SHEETS

DECEMBER 31	2021	2020
<i>(in millions, except per share data)</i>		
Assets		
Fixed maturities - at fair value (amortized cost of \$354.6 and \$369.5)	\$ 356.7	\$ 381.3
Equity securities - at fair value	1.2	1.1
Cash and cash equivalents	21.4	15.6
Investments in subsidiaries	3,665.2	3,718.3
Net receivable from subsidiaries	26.0	25.2
Current income tax receivable	6.7	—
Other assets	2.6	2.9
Total assets	<u>\$ 4,079.8</u>	<u>\$ 4,144.4</u>
Liabilities		
Expenses and state taxes payable	\$ 18.0	\$ 23.2
Current income tax payable	—	2.7
Interest payable	10.3	10.5
Debt	906.6	905.8
Total liabilities	<u>934.9</u>	<u>942.2</u>
Shareholders' Equity		
Preferred stock, par value \$0.01 per share; 20.0 million shares authorized; none issued	—	—
Common stock, par value \$0.01 per share; 300.0 million shares authorized; 60.5 million shares issued	0.6	0.6
Additional paid-in capital	1,887.2	1,857.4
Accumulated other comprehensive income	122.2	372.5
Retained earnings	2,983.2	2,668.0
Treasury stock at cost (25.0 and 24.1 million shares)	(1,848.3)	(1,696.3)
Total shareholders' equity	<u>3,144.9</u>	<u>3,202.2</u>
Total liabilities and shareholders' equity	<u>\$ 4,079.8</u>	<u>\$ 4,144.4</u>

The condensed financial information should be read in conjunction with the consolidated financial statements and notes thereto.

SCHEDULE II (CONTINUED)

THE HANOVER INSURANCE GROUP, INC.

CONDENSED FINANCIAL INFORMATION OF REGISTRANT

PARENT COMPANY ONLY

STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31	2021	2020	2019
<i>(in millions)</i>			
Cash flows from operating activities			
Net income	\$ 418.7	\$ 358.7	\$ 425.1
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Loss from sale of Chaucer business	—	—	2.1
Net realized investment gains	(1.2)	(0.4)	(5.3)
Net loss from repayment of debt	—	6.2	-
Equity in net income of subsidiaries	(440.6)	(387.2)	(432.3)
Dividends received from subsidiaries	89.5	60.3	69.9
Deferred income tax benefit	(2.0)	(8.5)	(13.9)
Change in expenses and taxes payable	(14.1)	5.6	(107.8)
Change in net receivable from subsidiaries	16.9	15.5	11.6
Other, net	4.8	4.4	3.9
Net cash provided by (used in) operating activities	72.0	54.6	(46.7)
Cash flows from investing activities			
Proceeds from disposals and maturities of fixed maturities	238.7	166.6	447.9
Proceeds from disposals of equity securities	—	—	122
Purchase of fixed maturities	(60.6)	(32.4)	(316.1)
Purchase of equity securities	—	—	(122)
Net cash received from sale of Chaucer business	—	—	35.1
Net cash provided by investing activities	178.1	134.2	166.9
Cash flows from financing activities			
Proceeds from exercise of employee stock options	20.5	6.3	14.4
Proceeds from debt borrowings, net	—	296.4	—
Dividends paid to shareholders	(102.2)	(99.5)	(386.2)
Repayment of debt	—	(175.8)	—
Repurchases of common stock	(162.6)	(212.8)	(563.6)
Net cash used in financing activities	(244.3)	(185.4)	(935.4)
Net change in cash and cash equivalents	5.8	3.4	(815.2)
Cash and cash equivalents, beginning of year	15.6	12.2	827.4
Cash and cash equivalents, end of year	\$ 21.4	\$ 15.6	\$ 12.2

Included in other operating cash flows was the cash portion of dividends received from unconsolidated subsidiaries. Additionally, investment assets of \$166.0 million, \$185.6 million and \$70.1 million were transferred to the parent company in 2021, 2020 and 2019, respectively, to settle dividend obligations and other intercompany borrowings and balances.

The condensed financial information should be read in conjunction with the consolidated financial statements and notes thereto.

SCHEDULE III

THE HANOVER INSURANCE GROUP, INC.

SUPPLEMENTARY INSURANCE INFORMATION

DECEMBER 31, 2021

(in millions)

Segments	Deferred acquisition costs	Future policy benefits, losses, claims and loss expenses	Unearned premiums	Other policy claims and benefits payable	Premium revenue	Net investment income (1)	Benefits, claims, losses and settlement expenses	Amortization of deferred acquisition costs	Other operating expenses (2)	Premiums written
Commercial Lines	\$ 370.0	\$ 4,529.8	\$ 1,667.5	\$ 9.6	\$ 2,840.8	\$ 209.4	\$ 1,811.2	\$ 641.2	\$ 337.6	\$ 2,983.7
Personal Lines	182.0	1,868.4	1,067.4	—	1,929.4	89.4	1,322.0	341.5	206.5	2,009.7
Other	—	39.8	—	—	—	11.9	1.0	—	18.8	—
Interest on Debt	—	—	—	—	—	—	—	—	34.0	—
Eliminations	—	—	—	—	—	—	—	—	(7.3)	—
Total	<u>\$ 552.0</u>	<u>\$ 6,438.0</u>	<u>\$ 2,734.9</u>	<u>\$ 9.6</u>	<u>\$ 4,770.2</u>	<u>\$ 310.7</u>	<u>\$ 3,134.2</u>	<u>\$ 982.7</u>	<u>\$ 589.6</u>	<u>\$ 4,993.4</u>

DECEMBER 31, 2020

(in millions)

Segments	Deferred acquisition costs	Future policy benefits, losses, claims and loss expenses	Unearned premiums	Other policy claims and benefits payable	Premium revenue	Net investment income (1)	Benefits, claims, losses and settlement expenses	Amortization of deferred acquisition costs	Other operating expenses (2) (3)	Premiums written
Commercial Lines	\$ 312.1	\$ 4,067.4	\$ 1,513.9	\$ 8.6	\$ 2,683.3	\$ 175.3	\$ 1,647.6	\$ 618.4	\$ 327.8	\$ 2,733.1
Personal Lines	165.4	1,907.6	968.8	—	1,844.1	76.7	1,193.3	332.6	193.7	1,865.4
Other	—	40.4	—	—	—	13.1	4.3	—	31.4	—
Interest on Debt	—	—	—	—	—	—	—	—	37.1	—
Eliminations	—	—	—	—	—	—	—	—	(6.2)	—
Total	<u>\$ 477.5</u>	<u>\$ 6,015.4</u>	<u>\$ 2,482.7</u>	<u>\$ 8.6</u>	<u>\$ 4,527.4</u>	<u>\$ 265.1</u>	<u>\$ 2,845.2</u>	<u>\$ 951.0</u>	<u>\$ 583.8</u>	<u>\$ 4,598.5</u>

DECEMBER 31, 2019

(in millions)

Segments	Deferred acquisition costs	Future policy benefits, losses, claims and loss expenses	Unearned premiums	Other policy claims and benefits payable	Premium revenue	Net investment income (1)	Benefits, claims, losses and settlement expenses	Amortization of deferred acquisition costs	Other operating expenses (2)	Premiums written
Commercial Lines	\$ 307.4	\$ 3,768.9	\$ 1,446.7	\$ 8.4	\$ 2,654.2	\$ 180.1	\$ 1,610.0	\$ 604.4	\$ 330.3	\$ 2,707.2
Personal Lines	160.0	1,839.4	970.0	—	1,820.3	80.1	1,254.2	322.3	191.6	1,874.5
Other	—	37.7	—	—	—	21.1	1.3	—	23.1	—
Interest on Debt	—	—	—	—	—	—	—	—	37.5	—
Eliminations	—	—	—	—	—	—	—	—	(6.1)	—
Total	<u>\$ 467.4</u>	<u>\$ 5,646.0</u>	<u>\$ 2,416.7</u>	<u>\$ 8.4</u>	<u>\$ 4,474.5</u>	<u>\$ 281.3</u>	<u>\$ 2,865.5</u>	<u>\$ 926.7</u>	<u>\$ 576.4</u>	<u>\$ 4,581.7</u>

- (1) The Company manages investment assets for its Commercial Lines, Personal Lines and Other segments on a combined basis, based on the requirements of its combined insurance companies. Net investment income is allocated to these segments based on actuarial information related to the underlying businesses.
- (2) For other operating expenses that are not directly attributable to a single segment, expenses are generally allocated based upon either net premiums written or net premiums earned.
- (3) In 2020, the Other segment includes \$6.2 million of losses from the repayment of debt.

SCHEDULE IV

THE HANOVER INSURANCE GROUP, INC.

REINSURANCE

Incorporated herein by reference to Note 13 — “Reinsurance” in the Notes to Consolidated Financial Statements.

SCHEDULE V

THE HANOVER INSURANCE GROUP, INC.

VALUATION AND QUALIFYING ACCOUNTS

DECEMBER 31

<i>(in millions)</i> Description	<i>Balance at beginning of period</i>	<i>Additions (Charged to costs and expenses)</i>	<i>Deductions</i>	<i>Balance at end of period</i>
2021				
Allowance for doubtful accounts	\$ 9.3	\$ 10.1	\$ (13.1)	\$ 6.3
Allowance for uncollectible reinsurance recoverables	6.6	2.3	—	8.9
	<u>\$ 15.9</u>	<u>\$ 12.4</u>	<u>\$ (13.1)</u>	<u>\$ 15.2</u>
2020				
Allowance for doubtful accounts	\$ 3.5	\$ 16.9	\$ (11.1)	\$ 9.3
Allowance for uncollectible reinsurance recoverables	3.9	2.7	—	6.6
	<u>\$ 7.4</u>	<u>\$ 19.6</u>	<u>\$ (11.1)</u>	<u>\$ 15.9</u>
2019				
Allowance for doubtful accounts	\$ 4.2	\$ 9.5	\$ (10.2)	\$ 3.5
Allowance for uncollectible reinsurance recoverables	3.9	—	—	3.9
	<u>\$ 8.1</u>	<u>\$ 9.5</u>	<u>\$ (10.2)</u>	<u>\$ 7.4</u>

SCHEDULE VI

THE HANOVER INSURANCE GROUP, INC.

SUPPLEMENTAL INFORMATION CONCERNING PROPERTY AND CASUALTY INSURANCE OPERATIONS

YEARS ENDED DECEMBER 31

(in millions)

<i>Affiliation with Registrant</i>	<i>Deferred acquisition costs</i>	<i>Reserves for unpaid claims and claim adjustment expenses ⁽¹⁾</i>	<i>Discount, if any, deducted from previous column ⁽²⁾</i>	<i>Unearned premiums ⁽¹⁾</i>
Consolidated Property and Casualty Subsidiaries				
2021	\$ 552.0	\$ 6,447.6	\$ —	\$ 2,734.9
2020	\$ 477.5	\$ 6,024.0	\$ —	\$ 2,482.7

	<i>Earned premiums</i>	<i>Net investment income</i>	<i>Claims and claim adjustment expenses incurred related to</i>		<i>Amortization of deferred acquisition costs</i>	<i>Paid claims and claim adjustment expenses</i>	<i>Premiums written</i>
			<i>Current year</i>	<i>Prior years</i>			
2021	\$ 4,770.2	\$ 310.7	\$ 3,205.3	\$ (71.1)	\$ 982.7	\$ 2,762.8	\$ 4,993.4
2020	\$ 4,527.4	\$ 265.1	\$ 2,877.8	\$ (32.6)	\$ 951.0	\$ 2,542.4	\$ 4,598.5
2019	\$ 4,474.5	\$ 281.3	\$ 2,893.9	\$ (28.4)	\$ 926.7	\$ 2,616.5	\$ 4,581.7

(1) Reserves for unpaid claims and claim adjustment expenses are shown gross of \$1,693.8 million and \$1,641.6 million of reinsurance recoverable on unpaid losses in 2021 and 2020, respectively. Unearned premiums are shown gross of prepaid premiums of \$113.1 million and \$144.2 million in 2021 and 2020, respectively. Reserves for unpaid claims and claims adjustment expense also include policyholder dividends.

(2) The Company does not use discounting techniques.

ENDNOTES

(1) Operating income and operating income per diluted share are non-GAAP measures. The following is a reconciliation of operating income and operating income per diluted share to the closest GAAP measures, income from continuing operations and income from continuing operations per diluted share, respectively:

	YEARS ENDED			
	Dec. 31, 2020		Dec. 31, 2021	
	\$ Amount	Per Share Diluted	\$ Amount	Per Share Diluted
(\$ in millions, except per share data)				
OPERATING INCOME (LOSS)				
Commercial Lines	\$275.4		\$269.9	
Personal Lines	212.5		158.5	
Other	(3.2)		3.9	
Total	484.7		432.3	
Interest expense	(37.1)		(34.0)	
Operating income before income taxes	447.6	\$11.75	398.3	\$10.93
Income tax expense on operating income	(92.6)	(2.43)	(80.0)	(2.20)
Operating income after income taxes	355.0	9.32	318.3	8.73
Non-operating items:				
Net realized gains from sales and other	17.9	0.47	4.6	0.13
Net change in fair value of equity securities	13.4	0.35	119.1	3.27
Impairment losses on investments	(26.3)	(0.69)	(0.7)	(0.02)
Loss from repayment of borrowings	(6.2)	(0.16)	-	-
Other non-operating items	(1.6)	(0.05)	-	-
Income tax benefit (expense) on non-operating items	9.8	0.26	(21.3)	(0.59)
Income from continuing operations, net of taxes	362.0	9.50	420.0	11.52
Discontinued operations (net of taxes):				
Income from Chaucer business	0.4	0.01	1.2	0.03
Loss from discontinued life businesses	(3.7)	(0.09)	(2.5)	(0.06)
Net income	\$358.7	\$9.42	\$418.7	\$11.49
Dilutive weighted average shares outstanding		38.1		36.4

(2) Combined ratio, excluding catastrophe losses, is a non-GAAP measure. The combined ratio (which includes catastrophe losses) is the most directly comparable GAAP measure. The following is a reconciliation of the GAAP combined ratio to the combined ratio, excluding catastrophes.

	YEARS ENDED				
	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2020	Dec. 31, 2021
Total combined ratio	97.3%	96.1%	95.6%	94.4%	97.0%
Less: catastrophe ratio	6.4%	5.2%	3.8%	6.3%	8.4%
Combined ratio, excluding catastrophe losses	90.9%	90.9%	91.8%	88.1%	88.6%

(3) The expense ratio is reduced by installment fee and other revenues for purposes of the calculation.

(4) Operating return on average equity ("Operating ROE") is a non-GAAP measure. Operating ROE is calculated by dividing operating income after income taxes for the applicable period (end note (1)), by the average of beginning, ending and interim quarter ends' total shareholders' equity, excluding unrealized appreciation (depreciation) on fixed maturity investments, net of tax, for the period presented. Total shareholders' equity, excluding unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is also a non-GAAP measure. Total shareholders' equity is the most directly comparable GAAP measure. Operating ROE should not be construed as a substitute for GAAP ROE. See calculations in the following tables, including the calculation of ROE using net income and average shareholders' equity without adjustments:

	PERIODS ENDED				
	Dec. 31, 2020	Mar. 31, 2021	Jun. 30, 2021	Sep. 30, 2021	Dec. 31, 2021
(\$ in millions)					
Total shareholders' equity (GAAP)	\$3,202.2	\$3,046.8	\$3,154.0	\$3,102.3	\$3,144.9
Less: net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	428.1	242.6	304.7	256.8	184.9
Total shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	\$2,774.1	\$2,804.2	\$2,849.3	\$2,845.5	\$2,960.0
Average shareholders' equity (GAAP)					\$3,130.0
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					\$2,846.6

	YEAR ENDED	
	Dec. 31, 2021	
NET INCOME ROE (GAAP)		
Net income		\$418.7
Average shareholders' equity		3,130.0
Return on equity		13.4%
OPERATING INCOME ROE (non-GAAP)		
Operating income, net of tax (end note (1))		\$318.3
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax		2,846.6
Operating return on equity		11.2%

(5) Book value per share, adjusted for special dividends, is a non-GAAP measure.

Book value per share is the most directly comparable GAAP measure and is reconciled in the table below.

	YEARS ENDED				
	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2020	Dec. 31, 2021
(\$ in millions)					
Book value per share (GAAP)	\$70.59	\$69.81	\$75.94	\$87.96	\$88.59
Add: Special dividend per share declared on December 30, 2018	-	4.75	4.75	4.75	4.75
Add: Special dividend per share declared on December 13, 2019	-	-	2.50	2.50	2.50
Book value per share, adjusted for special dividends (non-GAAP)	\$70.59	\$74.56	\$83.19	\$95.21	\$95.84

REGISTRAR AND STOCK TRANSFER AGENT

Computershare Investor Services
P.O. Box 505000
Louisville, KY 40233-5000
800-317-4454

INDEPENDENT ACCOUNTANTS

PricewaterhouseCoopers LLP
101 Seaport Boulevard
Suite 500
Boston, MA 02210

CORPORATE OFFICE

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440 Lincoln Street
Worcester, MA 01653
508-855-1000

PRINCIPAL SUBSIDIARIES

The Hanover Insurance Company
440 Lincoln Street
Worcester, MA 01653

Citizens Insurance Company
of America
808 North Highlander Way
Howell, MI 48843

FINANCIAL STRENGTH RATINGS*

	A.M. BEST	STANDARD & POOR'S	MOODY'S
The Hanover Insurance Company	A	A	A2
Citizens Insurance Company of America	A	A	–

DEBT RATING*

THE HANOVER INSURANCE GROUP, INC.	A.M. BEST	STANDARD & POOR'S	MOODY'S
Senior Debt	bbb+	BBB	Baa2
Subordinated Debentures	bbb-	BB+	Baa3

* The above ratings are accurate as of March 14, 2022, and may be revised, superseded or withdrawn by the respective rating agency at any time. For the most current information concerning the financial ratings of The Hanover Insurance Group, Inc. and its subsidiaries, please visit the websites of the respective rating agencies.

INVESTOR INFORMATION

For more information, including our annual report on Form 10-K and our quarterly reports on Form 10-Q and other documents filed with the Securities and Exchange Commission, please visit our website at hanover.com under "Investors." Alternatively, investors may address questions to:

Oksana Lukasheva
Senior Vice President, Corporate Finance
The Hanover Insurance Group, Inc.
olukasheva@hanover.com

ABOUT THE HANOVER

The Hanover Insurance Group, Inc. is the holding company for several property and casualty insurance companies, which together constitute one of the largest insurance businesses in the United States. The company provides exceptional insurance solutions through a select group of independent agents and brokers. Together with its agents, the company offers standard and specialized insurance protection for small and mid-sized businesses, as well as for homes, automobiles, and other personal items. For more information, please visit hanover.com.

ANNUAL MEETING OF SHAREHOLDERS

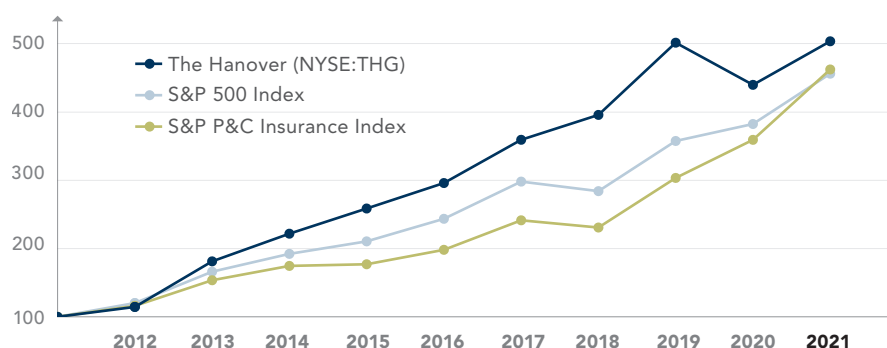
The management and Board of Directors of The Hanover Insurance Group, Inc. cordially invite shareholders to attend the company's Annual Meeting of Shareholders. The meeting will be held on Tuesday, May 10, 2022, at 9:00 a.m. Eastern Time, in a virtual, online meeting format. We believe the online, virtual meeting format enables the Annual Meeting to be accessible for all of our shareholders despite the uncertainty regarding the public health situation caused by COVID-19. For information on how to register and attend the Annual Meeting, please see our proxy statement.

CORPORATE GOVERNANCE AND RESPONSIBILITY

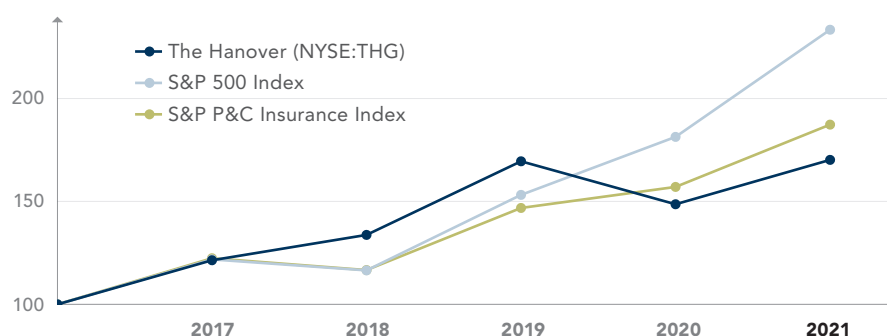
Our Corporate Governance Guidelines, Board committee charters, Code of Conduct policy, and other company policies and information are available on our website at hanover.com, under "Why The Hanover—Our Governance." For a printed copy of any of these documents, shareholders may contact the company's secretary at our corporate offices.

The company has filed its CEO and CFO Section 302 certificates as exhibits to its Annual Report on Form 10-K for the year ended December 31, 2021. In 2021, the company also submitted its annual CEO certification to the New York Stock Exchange.

TEN-YEAR TOTAL RETURN PERFORMANCE**



FIVE-YEAR TOTAL RETURN PERFORMANCE***



COMMON STOCK

The common stock of The Hanover Insurance Group, Inc. is traded on the New York Stock Exchange under the symbol "THG." As of the close of business on March 14, 2022, the company had approximately 14,742 shareholders of record. On the same date, the closing price of the company's common stock was \$142.02 per share.

COMMON STOCK PRICES

2021	HIGH	LOW
First Quarter	\$133.12	\$112.47
Second Quarter	\$142.80	\$129.83
Third Quarter	\$142.35	\$127.33
Fourth Quarter	\$136.97	\$121.75

2020	HIGH	LOW
First Quarter	\$140.54	\$83.67
Second Quarter	\$115.06	\$84.64
Third Quarter	\$107.36	\$89.10
Fourth Quarter	\$118.34	\$93.58

** The graph at left compares the performance of the company's common stock since December 31, 2011, with the performance of the S&P Property and Casualty Insurance Index and the S&P 500 Index. Assumes \$100 invested on December 31, 2011, in The Hanover Insurance Group, Inc.'s stock or applicable index, including reinvestment of dividends. Source: S&P Global Market Intelligence ©2022

*** The graph at left compares the performance of the company's common stock since December 31, 2016, with the performance of the S&P Property and Casualty Insurance Index and the S&P 500 Index. Assumes \$100 invested on December 31, 2016, in The Hanover Insurance Group, Inc.'s stock or applicable index, including reinvestment of dividends. Source: S&P Global Market Intelligence ©2022



^{The}
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