

The Hanover Insurance Group, Inc.

Fourth Quarter and Full Year 2023 Results
February 1, 2024

*To be read in conjunction with the press release dated
January 31, 2024, and conference call scheduled for February 1, 2024*

Fourth Quarter and Full Year 2023 Operating Highlights

Fourth Quarter Highlights

- Combined ratio of 94.2%; combined ratio, excluding catastrophes⁽¹⁾, of 90.2%
- Catastrophe losses of \$57.7 million, or 4.0 points of the combined ratio
- Renewal price increases⁽²⁾ of 20.6% in Personal Lines, including 29.1% in homeowners, as well as increases of 12.4% in Core Commercial and 11.6% in Specialty
- Rate increases⁽²⁾ of 13.2% in Personal Lines, 9.3% in Core Commercial and 9.0% in Specialty
- Loss and loss adjustment expense (“LAE”) ratio of 63.6%, 13.5 points below the prior-year quarter, driven by both lower catastrophe and non-catastrophe losses
- Current accident year loss and LAE ratio, excluding catastrophes⁽³⁾, of 60.2%, 3.1 points below the prior-year quarter
- Net investment income of \$81.6 million, up 7.5%* from the prior-year quarter, primarily due to higher bond reinvestment rates and the continued investment of operational cashflows, partially offset by lower partnership income
- Book value per share of \$68.93, up 16.4% from September 30, 2023, primarily due to an increase in the fair value of fixed maturity investments and strong earnings in the quarter
- On December 4, 2023, the Board of Directors approved an increase of 5% to the regular quarterly dividend

Full Year Highlights

- Combined ratio of 103.5%; combined ratio, excluding catastrophes, of 91.3%
- Catastrophe losses of \$690.1 million, or 12.2 points of the combined ratio, driven primarily by severe convective storms across multiple states, particularly in the Midwestern United States in the first three quarters of the year
- Net premiums written of \$5.8 billion, an increase of 6.1%* from the prior year
- Loss and LAE ratio of 73.0%, 4.0 points above the prior year, driven by higher catastrophe losses
- Current accident year loss and LAE ratio, excluding catastrophes, improved from the prior year, reflecting the benefit of rate increases in each segment and loss ratio improvements in Core Commercial and Specialty, partially offset by a higher loss ratio in Personal Lines in the first half of the year
- Net investment income of \$332.1 million, up 12.1% from 2022, driven primarily by higher-than-expected bond reinvestment rates and higher cashflows

*Unless otherwise stated, net premiums written growth and other growth comparisons are to the same period of the prior year

(1) See information about this and other non-GAAP measures and definitions used throughout this press release on the final pages of this document.

The Hanover Insurance Group, Inc. may also be referred to as “The Hanover” or “the company” interchangeably throughout this presentation.

Consolidated Financial Results

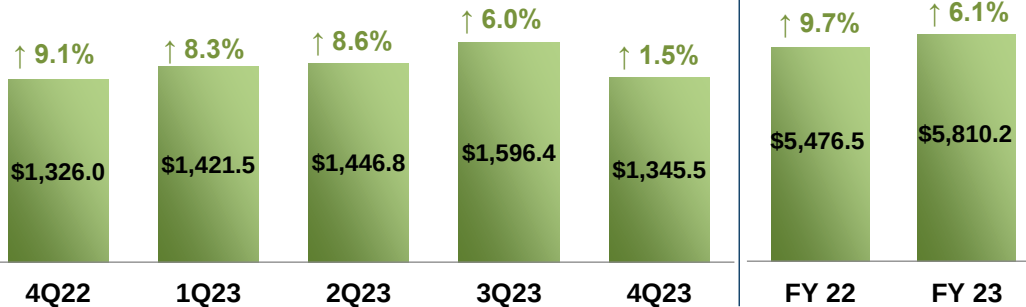
(\$ in millions, except per share amounts)

	Three months ended		Year ended	
	December 31, 2022	December 31, 2023	December 31, 2022	December 31, 2023
Net income (loss)	(\$12.1)	\$107.9	\$116.0	\$35.3
<i>Per diluted/(basic) share</i>	<i>(\$0.34)</i>	<i>\$2.98</i>	<i>\$3.21</i>	<i>\$0.98</i>
Operating income (loss) before interest expense and income taxes ⁽⁴⁾	(\$38.2)	\$158.1	\$285.1	\$105.6
Operating income (loss) after income taxes	(\$37.4)	\$113.1	\$199.9	\$56.2
<i>Per diluted/(basic) share</i>	<i>(\$1.05)</i>	<i>\$3.13</i>	<i>\$5.53</i>	<i>\$1.56</i>
Book value per share	\$65.61	\$68.93	\$65.61	\$68.93
<i>Book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax⁽⁵⁾</i>	<i>\$83.53</i>	<i>\$81.86</i>	<i>\$83.53</i>	<i>\$81.86</i>
Shareholders' equity	\$2,333.7	\$2,465.6	\$2,333.7	\$2,465.6
Debt	\$782.4	\$783.2	\$782.4	\$783.2
Total capital	\$3,116.1	\$3,248.8	\$3,116.1	\$3,248.8
Debt/total capital	25.1%	24.1%	25.1%	24.1%
Total assets	\$13,995.1	\$14,612.6	\$13,995.1	\$14,612.6
Net income (loss) return on average equity ⁽⁶⁾	(2.1)%	18.8%	4.4%	1.5%
Operating income (loss) return on average equity ⁽⁶⁾	(5.0)%	15.7%	6.7%	1.9%

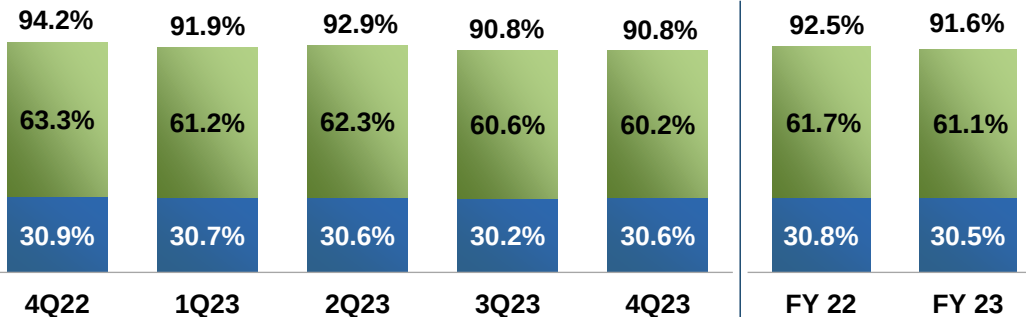
Fourth Quarter and Full Year Underwriting Results

(\$ in millions)

Net Premiums Written and Growth



Current Accident Year Combined Ratio, Ex-CAT



Expense ratio⁽⁷⁾ Current accident year loss and LAE ratio, ex-CAT

Fourth Quarter Results

- Combined ratio of 94.2% in the fourth quarter 2023, improved 13.8 points from the prior-year quarter, primarily driven by lower catastrophe losses
- Combined ratio, excluding catastrophes, improved 3.9 points from the prior-year quarter, primarily driven by a lower current accident year loss and LAE ratio, excluding catastrophes, with improvement in each segment
- Prior-year reserve development, excluding catastrophes, was slightly favorable in the quarter, with favorability in Specialty and Core Commercial offsetting unfavorable development in Personal Lines
- Expense ratio improved 30 basis points compared to the prior-year quarter, primarily driven by fixed cost leverage from earned premium growth, partially offset by strategic business investments
- Net premiums written increased 1.5%, impacted by targeted profitability improvement actions

Full Year Results

- Full year 2023 combined ratio increased 3.7 points from the prior year, driven by elevated catastrophes in the first three quarters of 2023; combined ratio, ex-CAT, improved 0.8 points
- Net premiums written increased 6.1%, with contributions from each segment driven by strong pricing increases

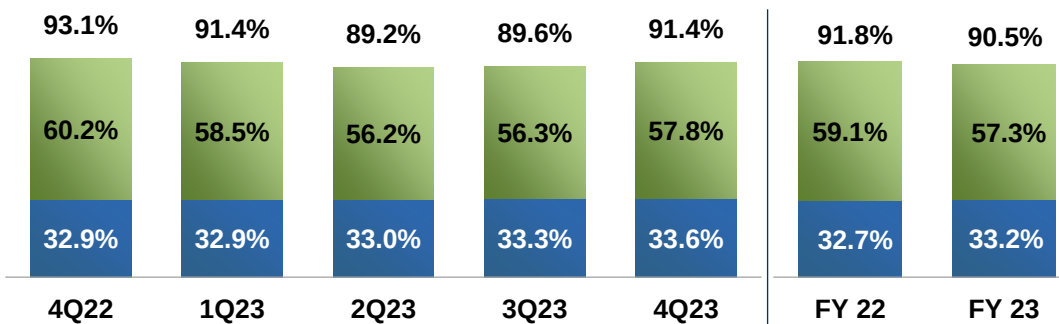
Core Commercial Underwriting Highlights

	Three months ended December 31		Year ended December 31	
	2022	2023	2022	2023
(\$ in millions)				
Net premiums written	\$453.2	\$465.5	\$1,999.9	\$2,107.0
<i>Growth</i>	5.9%	2.7%	7.2%	5.4%
Net premiums earned	\$503.0	\$519.9	\$1,950.5	\$2,060.3
Catastrophe ratio	24.6%	5.7%	9.9%	8.3%
Prior-year development ratio	(0.5)%	(0.4)%	(0.5)%	0.2%
Expense ratio	32.9%	33.6%	32.7%	33.2%
Combined ratio	117.2%	96.7%	101.2%	99.0%
Combined ratio, ex-CAT	92.6%	91.0%	91.3%	90.7%

Fourth Quarter Results

- Fourth quarter 2023 combined ratio, excluding catastrophes, improved 1.6 points from the prior-year quarter
- Current accident year loss and LAE ratio, ex-CAT, improved 2.4 points from the prior-year quarter, driven by strong rate increases and consistently lower large losses in our commercial multiple peril (CMP) middle market business, underscoring the effectiveness of our property margin improvement initiatives
- Net favorable prior-year reserve development, excluding catastrophes, of \$2.2 million, or 0.4 points, driven primarily by continued favorable development in workers' compensation

Current Accident Year Combined Ratio, Ex-CAT



Full Year Results

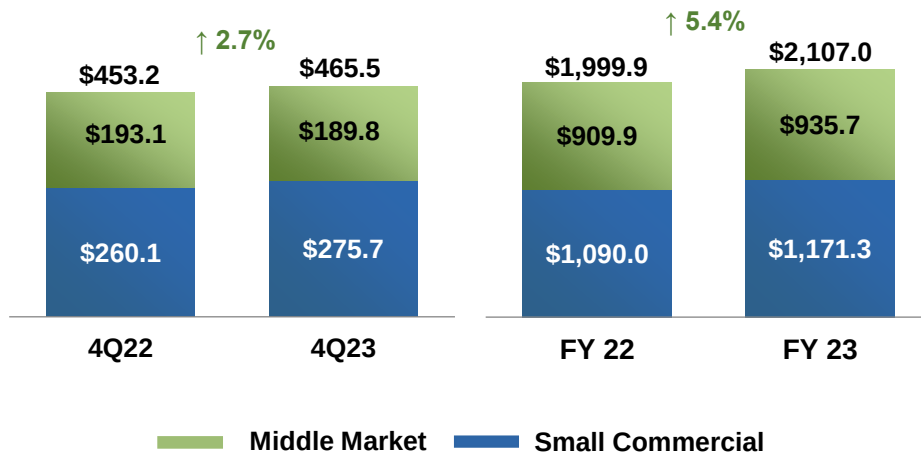
- Full year 2023 current accident year combined ratio, excluding catastrophes, improved 1.3 points from the prior year
- Current accident year loss and LAE ratio, ex-CAT, improved 1.8 points from the prior year, driven by strong CMP improvement

Expense ratio Current accident year loss and LAE ratio, ex-CAT

Core Commercial Growth Highlights

(\$ in millions)

Net Premiums Written and Growth

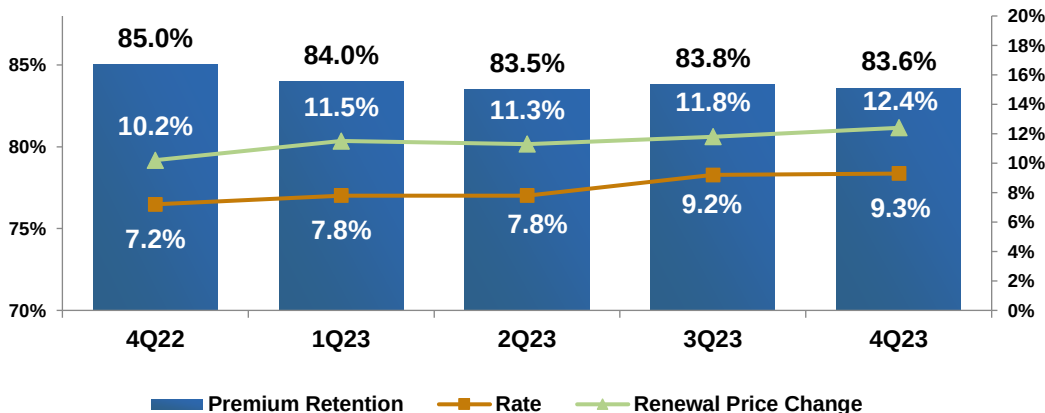


Fourth Quarter Results

- Net premiums written growth of 2.7% in the fourth quarter
 - Driven by growth of 6.0% in small commercial, propelled by strong pricing and new business
 - Partially offset by a decline of 1.7% in middle market due to continued targeted property non-renewals
- Renewal price increases of 12.4%, driven by rate, as well as insurance-to-value and other exposure adjustments
 - Retention relatively flat compared to the third quarter of 2023 and down 1.4 points from the prior-year quarter due to the middle market underwriting actions

Retention*

Rate/RPC



Full Year Results

- Full year 2023 growth of 5.4%, with growth of 7.5% in small commercial and 2.8% in middle market

* Retention is defined as the ratio of net retained premium for the noted period to the premium available to renew over the same period

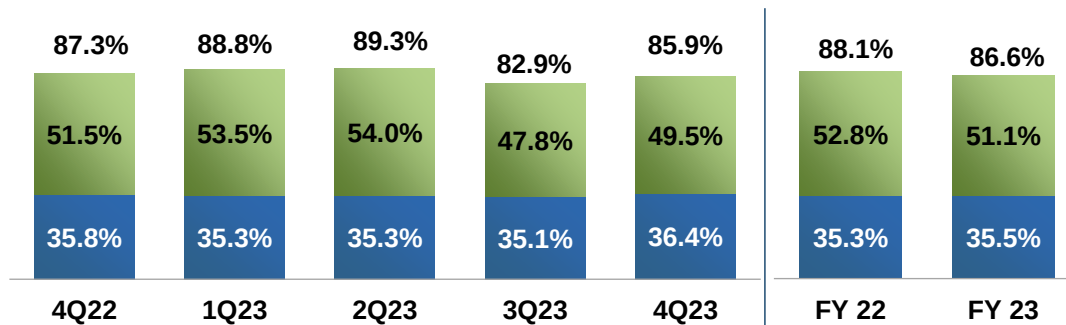
Specialty Underwriting Highlights

(\$ in millions)	Three months ended December 31		Year ended December 31	
	2022	2023	2022	2023
Net premiums written	\$309.5	\$304.9	\$1,243.7	\$1,293.3
Growth	8.7%	(1.5)%	11.2%	4.0%
Net premiums earned	\$308.4	\$321.0	\$1,189.0	\$1,274.2
Catastrophe ratio	3.2%	1.7%	2.8%	3.4%
Prior-year development ratio	0.0%	(4.4)%	(1.6)%	(3.8)%
Expense ratio	35.8%	36.4%	35.3%	35.5%
Combined ratio	90.5%	83.2%	89.3%	86.2%
Combined ratio, ex-CAT	87.3%	81.5%	86.5%	82.8%

Fourth Quarter Results

- Fourth quarter 2023 combined ratio, ex-CAT, decreased 5.8 points from the prior-year quarter
- Current accident year loss and LAE ratio, ex-CAT, improved 2.0 points from the prior-year quarter, favorable to the company's low-50s loss ratio target
 - The decrease from the prior-year quarter reflects the benefit of earned pricing above loss trends and lower-than-usual loss experience, primarily in Marine
- Net favorable prior-year reserve development, excluding catastrophes, of \$14.0 million, or 4.4 points, driven primarily by professional and executive lines claims-made business

Current Accident Year Combined Ratio, Ex-CAT



Full Year Results

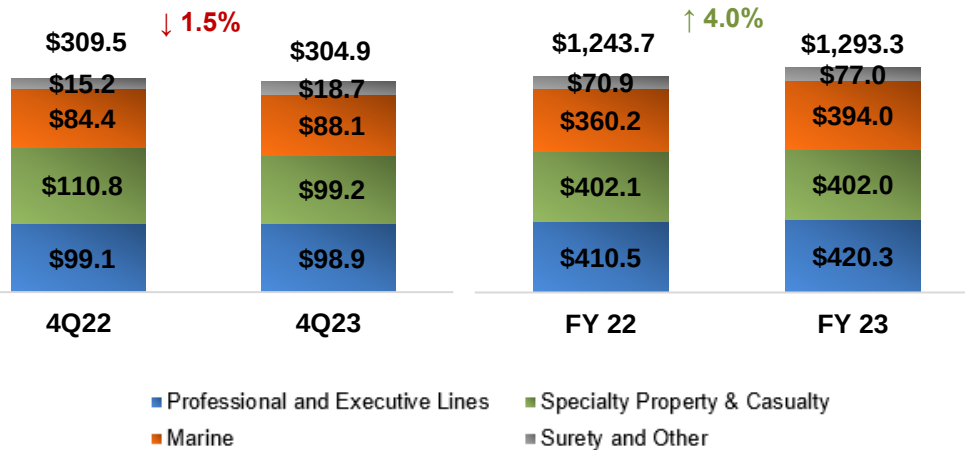
- Combined ratio, ex-CAT, decreased 3.7 points from the prior year, driven by a 1.7-point improvement in the current accident year loss ratio, excluding catastrophes, and an increase in net favorable prior-year reserve development, excluding catastrophes, to 3.8 points of earned premiums

Expense ratio Current accident year loss and LAE ratio, ex-CAT

Specialty Growth Highlights

(\$ in millions)

Net Premiums Written and Growth



Fourth Quarter Results

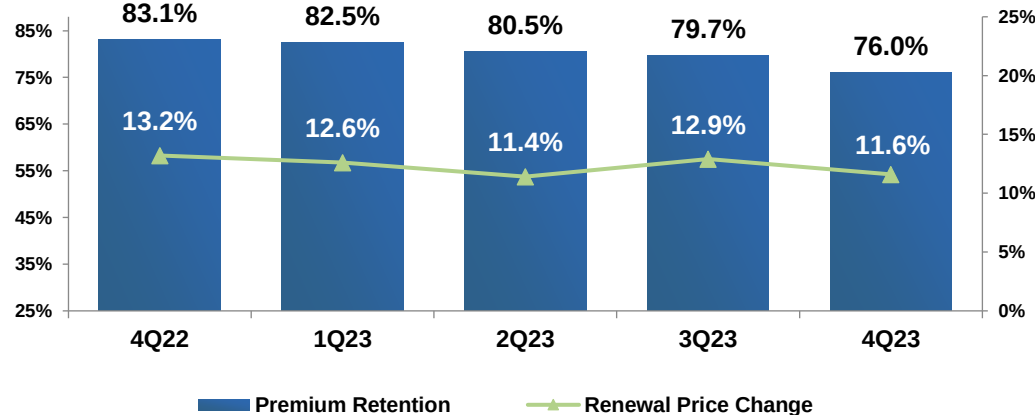
- Net premiums written declined 1.5% in the fourth quarter:
 - Driven by the continued non-renewal of certain programs within Specialty Property and Casualty as we execute our enterprise margin recapture plan
 - Excluding program business, net premiums written grew 6.3% and retention remained stable
 - Expect Specialty to return to upper-single digit growth in 2024 as growth ramps up through the year
- Renewal price increases remain strong at 11.6%, driven primarily by property pricing
 - Robust rate increases of 9.0% in the quarter

Full Year Results

- Net premiums written growth of 4.0% in the full year, impacted by our targeted non-renewal actions in the third and fourth quarter and supported by strong growth of 9.4% in Marine and 8.6% in Surety and Other

Retention*

RPC



* Retention is defined as the ratio of net retained premium for the noted period to the premium available to renew over the same period

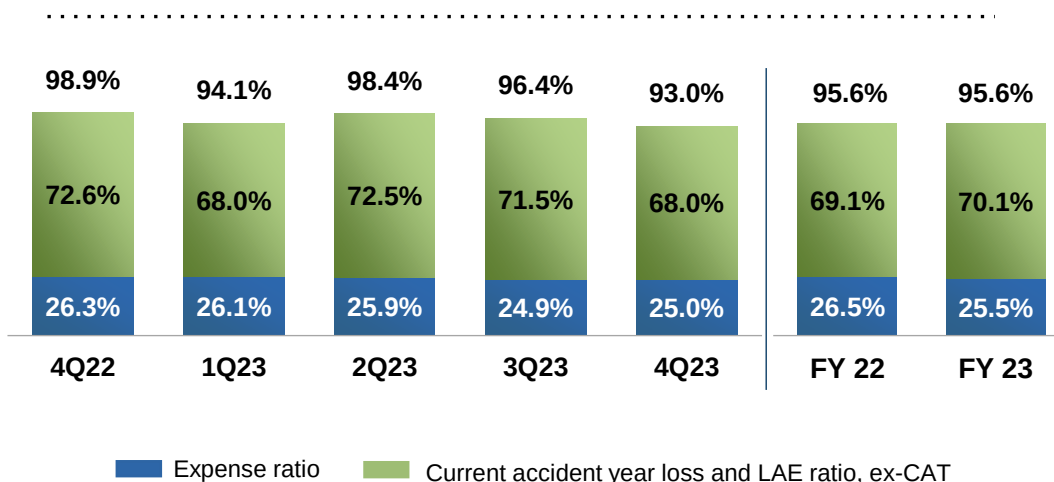
Personal Lines Underwriting Highlights

(\$ in millions)	Three months ended December 31		Year ended December 31	
	2022	2023	2022	2023
Net premiums written	\$563.3	\$575.1	\$2,232.9	\$2,409.9
<i>Growth</i>	12.2%	2.1%	11.1%	7.9%
Net premiums earned	\$552.1	\$599.4	\$2,112.8	\$2,328.6
Catastrophe ratio	10.2%	3.8%	8.3%	20.4%
Prior-year development ratio	0.0%	0.8%	0.4%	1.1%
Expense ratio	26.3%	25.0%	26.5%	25.5%
Combined ratio	109.1%	97.6%	104.3%	117.1%
Combined ratio, ex-CAT	98.9%	93.8%	96.0%	96.7%

Fourth Quarter Results

- Combined ratio, ex-CAT, improved 5.1 points from the prior-year quarter driven by improvements in both the underlying loss ratio and expense ratio
- Net unfavorable prior-year reserve development, excluding catastrophes, of \$4.8 million, or 0.8 points, driven primarily by umbrella, which is reported in Home and Other
- Current accident year loss and LAE ratio, ex-CAT, improved 4.6 points from the prior-year quarter
 - Primarily driven by a 7.1-point improvement in personal auto, reflecting the benefit of earned rates, improved auto collision loss trends, and milder-than-normal weather in the Northeast and Midwest
- Homeowners underlying loss ratio improved slightly, driven by the earning-in of rate increases in Home, partially offset by prudent increase in umbrella loss assumptions

Current Accident Year Combined Ratio, Ex-CAT



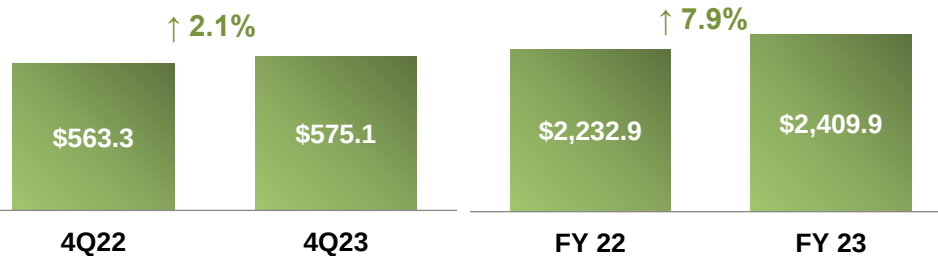
Full Year Results

- Combined ratio, ex-CAT, increased 0.7 points from the prior year driven by elevated loss ratios that began to show improvement as premiums earned-in throughout the year
- Elevated catastrophe experience in the year was driven primarily by severe convective storm activity in the Midwest during the first three quarters of the year

Personal Lines Growth Highlights

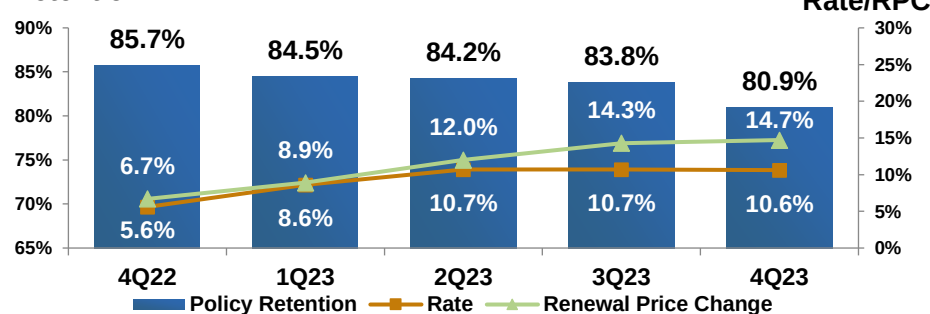
(\$ in millions)

Net Premiums Written and Growth



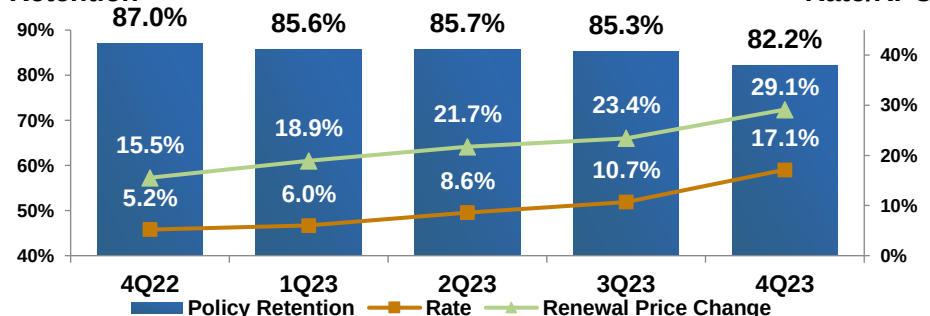
Personal Auto

Retention*



Homeowners

Retention*



*Retention is defined as the ratio of net retained policies for the noted period to those policies available to renew over the same period and includes policies that were cancelled and rewritten.

Fourth Quarter Results

- Net premiums written growth of 2.1%, as strong pricing increases were partially offset by the impact of margin recapture initiatives and targeted non-renewals, which led to lower PIF and retention
- Renewal price increases of 20.6%, including 29.1% in homeowners and 14.7% in auto, outpacing the company's original expectations
- PIF declined 2.3% sequentially from the third quarter, with a decline of 3.3% in the Midwestern United States

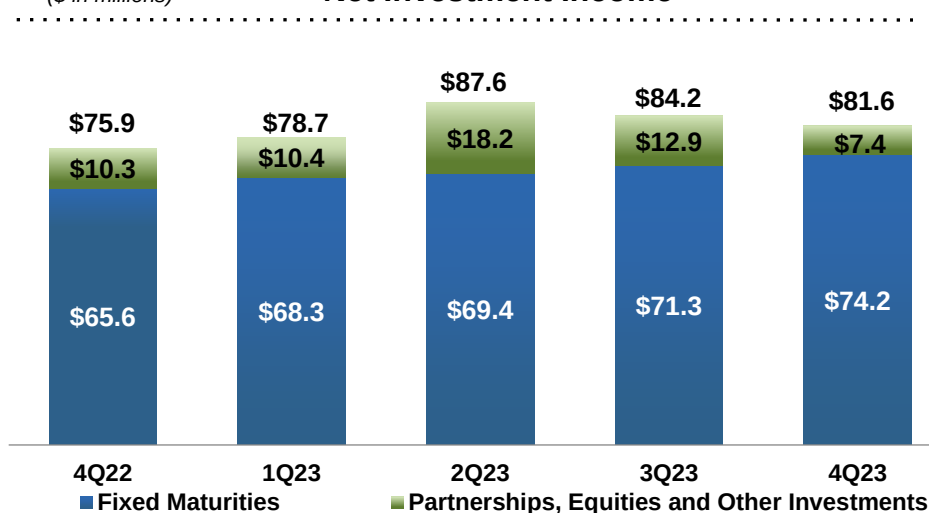
Full Year Results

- Net premiums written growth of 7.9% in the year, as strong pricing increases were partially offset by lower PIF and retention

Net Investment Income Trends

(\$ in millions)

Net Investment Income*



Fourth Quarter Results

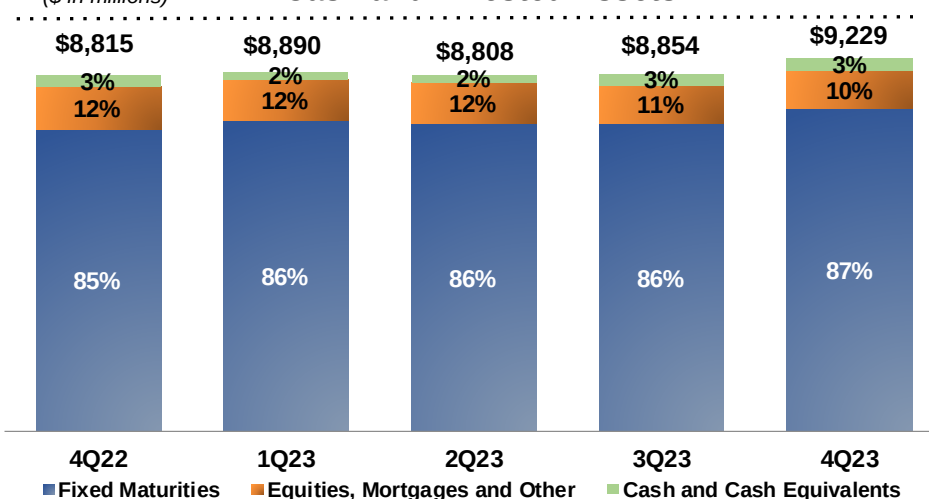
- Net investment income of \$81.6 million in the fourth quarter, up 7.5% from the prior-year quarter, reflecting an approximate 13% increase in net investment income in our fixed maturity portfolio due to higher bond reinvestment rates and the continued investment of operational cashflows
 - Partially offset by lower partnership income

Full Year Results

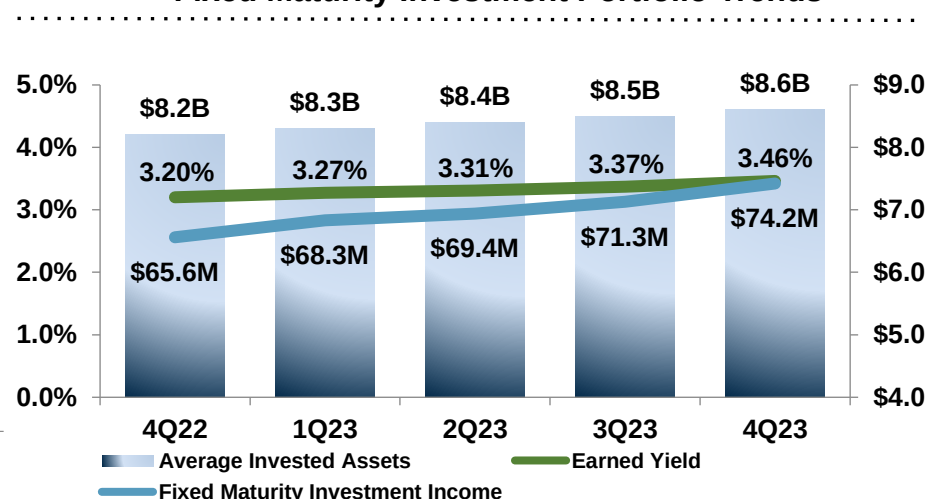
- Net investment income of \$332.1 million in the year, up approximately 12% from the prior year
- Expect interest rate environment to provide meaningful tailwind to net investment income going forward

(\$ in millions)

Cash and Invested Assets



Fixed Maturity Investment Portfolio Trends

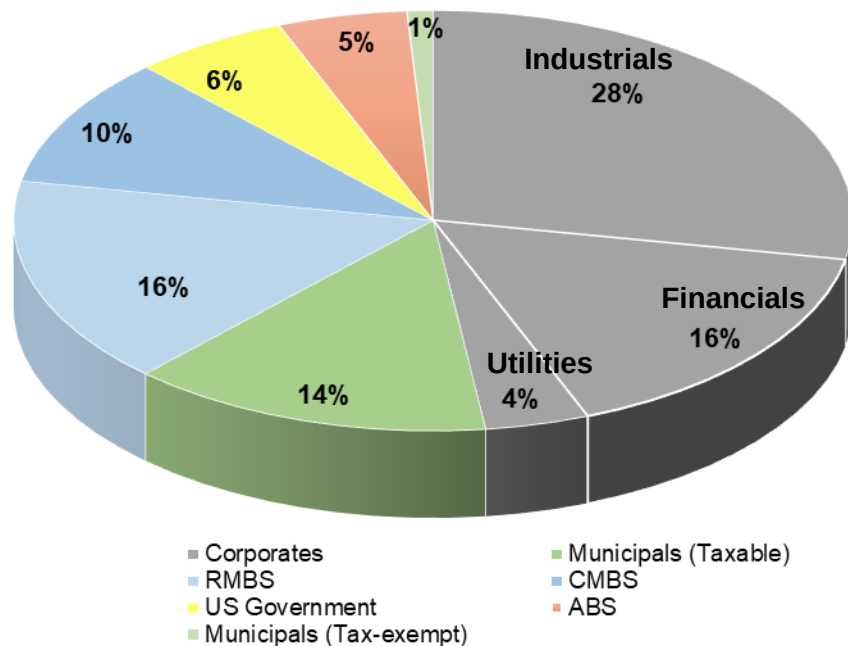


* Net investment income from partnerships, equities and other investments are presented net of investment expenses

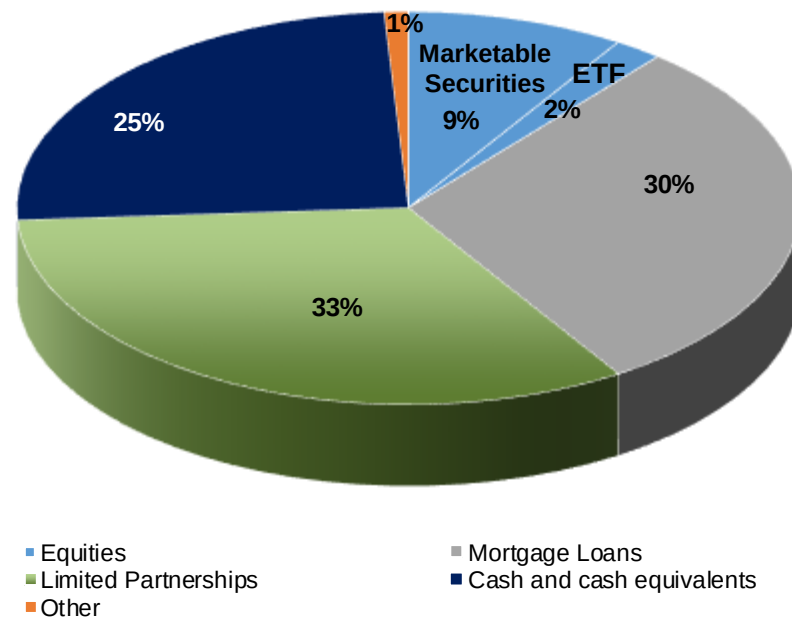
Investment Portfolio – Total Invested Assets and Cash of \$9.2 Billion As of December 31, 2023

High quality, well-diversified investment portfolio

Fixed Maturities: \$8.0 Billion



Equities, Cash and Other: \$1.2 Billion



High-quality, well-laddered fixed income portfolio

- 95% of fixed maturity securities are investment grade
- Weighted average quality: A+
- Duration: 3.9 years

The Hanover Insurance Group 2024 Outlook*

Metric	Full Year 2024 Expectations**
Net Premiums Written	• Mid-single digit growth
Expense Ratio	• 30.7%, an improvement of 10 basis points from 2023 guidance
Combined Ratio, Ex-CAT***	• 90% – 91%
Catastrophe Loss Ratio	• 7.0%, reflecting adjustments to internal catastrophe assumptions
Effective Tax Rate	• 21%
Net Investment Income	• Overall NII growth of ~10%

* Based on year-end 2023 results as reported January 31, 2024

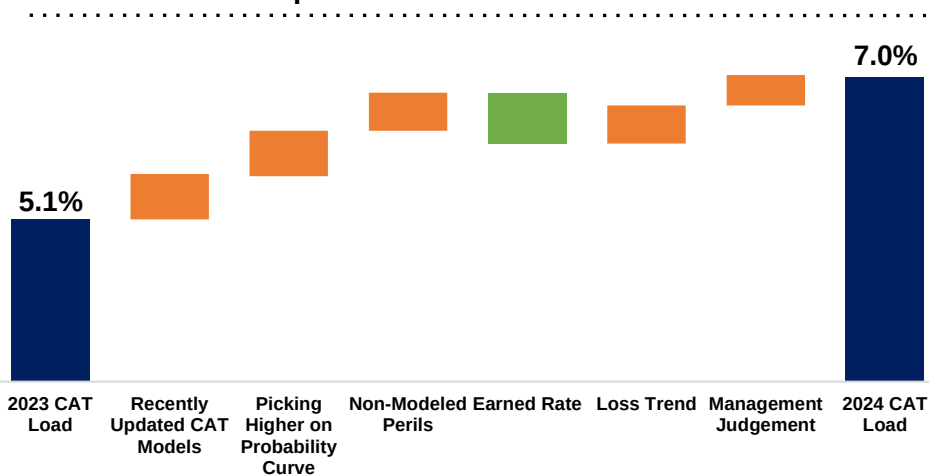
** See pages 16 and 17 of this presentation for additional risks and uncertainties. Investors are further cautioned and should consider the risks and uncertainties in the company's business that may affect such estimates and future performance that are discussed in the company's most recently filed reports on Form 10-K and Form 10-Q and other documents filed by The Hanover Insurance Group, Inc. with the Securities and Exchange Commission ("SEC")

*** See information about this and other non-GAAP measures and definitions used throughout this presentation on the final pages of this document.

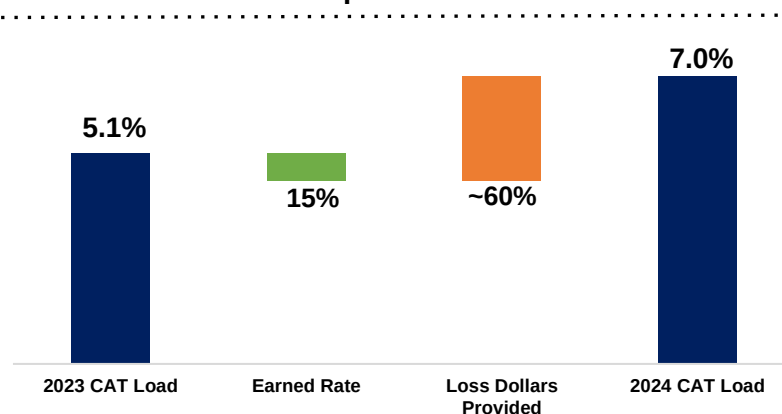
The Hanover Insurance Group 2024 Catastrophe Guidance

We have made a significant adjustment in our catastrophe assumptions

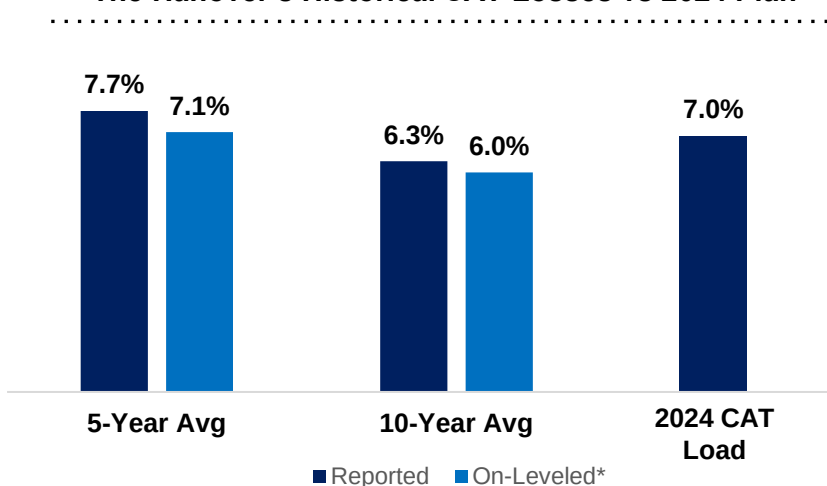
Catastrophe Load – 2023 Plan to 2024 Plan



2024 Catastrophe Load allows for a ~60% increase in loss dollars based on expected levels of earned rate



The Hanover's Historical CAT Losses vs 2024 Plan



Drivers of CAT Load Change

- Utilizing recently updated Verisk (formerly AIR) Severe Convective Storm and Moody's RMS Winter Storm models
- Picking higher on the probability curve
- Expanding assumptions for non-modeled perils
- Management adjustment for recognition of other factors:
 - Acknowledgement of social inflation impacts in contractor market, demographic trends, and infrastructure obsolescence
 - Considering recent experience
- Assume mid-teen earned rate
- 2024 guidance does not contemplate impact of home deductible and roof strategies, which we expect to have a more meaningful impact in 2025, along with continued earned rate greater than loss trend
- Longer-term levels to manage catastrophe load include further reducing property exposure in certain concentrated geographies, and shifting business mix toward liability lines

*On-Leveled brings historical results (2021-2023) to 2024 plan levels of pricing and loss trend

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 agent partners, The Hanover 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.

Forward-Looking Statements

Certain statements in this document and comments made by management may be “forward-looking statements” as defined in the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, may be forward-looking statements. Words such as, but not limited to, “believes,” “anticipates,” “expects,” “intends,” “may,” “projects,” “projections,” “plan,” “likely,” “potential,” “targeted,” “forecasts,” “should,” “could,” “continue,” “outlook,” “guidance,” “modeling,” “target profitability,” “target margins,” “confident,” “will,” and other similar expressions are intended to identify forward-looking statements. Forward-looking statements by their nature address matters that are, to different degrees, uncertain. The company cautions investors that any such forward-looking statements are estimates, beliefs, expectations and/or projections that involve significant judgment, and that historical results, trends and forward-looking statements are not guarantees and are not necessarily indicative of future performance. Actual results could differ materially from those anticipated.

These statements include, but are not limited to, the company’s statements regarding:

- The company’s outlook and its ability to achieve components or the sum of the respective period guidance on its future results of operations including: the combined ratio, excluding catastrophe losses; catastrophe losses; net investment income; growth of net premiums written and/or net premiums earned in total or by line of business; expense ratio; operating return on equity; interest rate assumptions and investment portfolio management, renewal price change, rate, and/or the effective tax rate;
- The company’s ability to deliver on expectations set forth related to target margins, target returns and/or return to target profitability in total or by line of business;
- The company’s ability to deliver on its long-term targets, including, but not limited to, return on equity;
- The impacts of general economic and sociopolitical conditions on the company’s operating and financial results, including, but not limited to, the impact on the company’s investment portfolio, changes in claims frequency as a result of fluctuations in economic activity, the potential impacts of inflation, and/or claims severity from higher cost of repairs due to, among other things, supply chain disruptions and inflation;
- Uses of capital for share repurchases, special or ordinary cash dividends, business investments or growth, or otherwise, and outstanding shares in future periods as a result of various share repurchase mechanisms, capital management framework, especially in the current environment, and overall comfort with liquidity and capital levels;
- Catastrophe modeling and variability of catastrophe losses due to risk concentrations, changes in weather patterns, severe weather including wildfires, hurricanes and other convective storms, winter storms and freezes, and tornados, or terrorism, civil unrest, riots or other events, as well as the complexity in estimating losses from large catastrophe events due to delayed reporting of the existence, nature or extent of losses or where “demand surge,” regulatory assessments, litigation, coverage and technical complexities or other factors may significantly impact the ultimate amount of such losses;
- Current accident year losses and loss selections (“picks”), excluding catastrophes, and prior accident year loss reserve development patterns, particularly in complex “longer-tail” liability lines, as well as the inherent variability in short-tail property and non-catastrophe weather losses;
- Changes in frequency and loss severity trends in Core Commercial, Specialty and/or Personal Lines;
- Ability to manage the impact of inflationary pressures, global market disruptions, economic conditions, geopolitical events or otherwise, including, but not limited to, supply chain disruptions, labor shortages, and increases in cost of goods, services, labor, and materials;
- The confidence or concern that the current level of reserves is adequate and/or sufficient for future claim payments, whether due to losses that have been incurred but not reported, circumstances that delay the reporting of losses, business complexity, adverse judgments or developments with respect to case reserves, the difficulties and uncertainties inherent in projecting future losses from historical data, changes in replacement and medical costs, as well as complexities including legislative, regulatory or judicial actions that expand the intended scope of coverages, or other factors;
- Characterization of some business as being “more profitable” in light of inherent uncertainty of ultimate losses incurred, especially for “longer-tail” liability businesses;
- Efforts to manage expenses, including the company’s long-term expense savings targets, while allocating capital to business investment, which is at management’s discretion;
- Risks and uncertainties with respect to our ability to retain profitable policies in force and attract profitable policies and to increase rates commensurate with, or in excess of, loss trends;
- Mix improvement, underwriting initiatives, coverage restrictions, non-renewals, changes in terms and conditions, and pricing segmentation, among others, to grow businesses believed to be more profitable or reduce premiums attributable to products or lines of business or geographies believed to be less profitable; balance rate actions and retention; offset long-term and/or short-term loss trends due to increased frequency; increased “social inflation” from a more litigious environment and higher average cost of resolution; increased property replacement or repair costs; and/or social movements;
- The ability to generate growth in targeted segments through new agency appointments; rate increases (as a result of its market position, agency relationships or otherwise), retention improvements or new business; expansion into new geographies; new product introductions; or otherwise; and
- Investment returns and the effect of macro-economic interest rate trends and overall security yields, including the macro-economic impact of governmental and/or central banking initiatives taken in response to inflationary pressures, and geopolitical circumstances, on new money yields and overall investment returns.

Additional Risks and Uncertainties

Investors are further cautioned and should consider the risks and uncertainties in the company's business that may affect such estimates and future performance that are discussed in the company's most recently filed reports on Form 10-K and Form 10-Q and other documents filed by The Hanover Insurance Group, Inc. with the Securities and Exchange Commission ("SEC") and that are also available at www.hanover.com under "Investors." These risks and uncertainties include, but are not limited to:

- Changes in regulatory, legislative, economic, market and political conditions, particularly with respect to rates, the use of data, technology, artificial intelligence, cybersecurity, policy terms and conditions, restrictions on cancellations and/or non-renewals, payment flexibility, and regions where the company has geographical concentrations;
- Heightened financial market volatility, fluctuations in interest rates (which have a significant impact on the market value of our investment portfolio and thus our book value), inflationary pressures, default rates and other factors that affect investment returns from the investment portfolio;
- Recessionary economic periods that may inhibit the company's ability to increase pricing or renew business, or otherwise impact the company's results, and which may be accompanied by higher claims activity in certain lines;
- Data security and privacy incidents, including, but not limited to, those resulting from a malicious cyber-security attack on the company or its business partners and service providers, or intrusions into the company's systems, including cloud-based data storage, or data sources;
- Adverse claims experience, including those driven by large or increased frequency and/or severity of catastrophe events, including those related to wildfires, winter storms and freezes, hurricanes, or other severe weather, or due to terrorism, civil unrest, riots, or cybersecurity events (including from products not intended to provide cyber coverage);
- The limitations and assumptions used to model non-catastrophe property and casualty losses (particularly with respect to products with longer-tail liability lines, such as casualty and bodily injury claims, or involving emerging issues related to losses incurred as the result of new lines of business, such as cyber or financial institutions coverage, or reinsurance contracts and reinsurance recoverables), leading to potential adverse development of loss and loss adjustment expense reserves;
- Changes in weather patterns and severity, whether as a result of global climate change or otherwise, causing a higher level of losses from weather events to persist;
- Litigation and the possibility of adverse judicial decisions, including those which expand policy coverage beyond its intended scope and/or award "bad faith" or other non-contractual damages, and the impact of "social inflation" and third-party litigation funding affecting judicial awards and settlements;
- The ability to increase or maintain insurance rates in line with anticipated loss costs and/or governmental action, including mandates by state departments of insurance to either raise or lower rates, or provide credits or return premium to insureds;
- Investment impairments, which may be affected by, among other things, the company's ability and willingness to hold investment assets until they recover in value, as well as credit and interest rate risk, and general financial and economic conditions;
- Disruption of the independent agency channel or its operating model, including the impact of competition and consolidation in the industry and among agents and brokers, and the impact of artificial intelligence tools;
- Competition, particularly from competitors who have resource and capability advantages;
- The global macroeconomic environment, including inflation, recessionary effects, global trade disputes, war, energy market disruptions, equity price risk, and interest rate fluctuations, which, among other things, could result in reductions in market values of fixed maturities and other investments, and/or increases in loss costs;
- Adverse state and federal regulation, legislative and/or regulatory actions (including significant revisions to Michigan's automobile personal injury protection system and related litigation, and various regulations, orders and proposed legislation regarding bad faith, premium grace periods and returns, changes to terms and conditions, and rate actions);
- Financial ratings actions, in particular, downgrades to the company's ratings;
- Operational and technology risks and evolving technological and product innovation, including risks created by remote work environments, the evolving use of artificial intelligence, and cyber-security threats;
- Uncertainties in estimating indemnification liabilities recorded in conjunction with obligations undertaken in connection with the sale of various businesses and discontinued operations; and
- The ability to collect from reinsurers, reinsurance availability and pricing, reinsurance terms and conditions, and the performance of the run-off voluntary property and casualty pools business (including those in the Other segment or in discontinued operations).

Investors should not place undue reliance on forward-looking statements, which speak only as of the date they are made and should understand the risks and uncertainties inherent in or particular to the company's business. The company does not undertake the responsibility to update or revise such forward-looking statements, except as required by law.

Non-GAAP Financial Measures

Non-GAAP Financial Measures

As discussed on page 38 of the company's Annual Report on Form 10-K for the year ended December 31, 2022, the company uses non-GAAP financial measures as important measures of its operating performance, including operating income (loss), operating income (loss) before interest expense and income taxes, operating income (loss) per share, and components of the combined ratio, both excluding and/or including catastrophe losses, prior-year reserve development and the expense ratio. Management believes these non-GAAP financial measures are important indications of the company's operating performance. The definition of other non-GAAP financial measures and terms can be found in the 2022 Annual Report on pages 63-66.

Operating income (loss) and operating income (loss) per share are non-GAAP measures. They are defined as net income (loss) excluding the after-tax impact of net realized and unrealized investment gains (losses), gains and/or losses on the repayment of debt, other non-operating items, and results from discontinued operations. Net realized and unrealized investment gains (losses), which include changes in the fair value of equity securities still held, are excluded for purposes of presenting operating income, as they are, to a certain extent, determined by interest rates, financial markets and the timing of sales. Operating income also excludes net gains and losses from disposals of businesses, gains and losses related to the repayment of debt, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes, and certain other items. Operating income (loss) is the sum of the segment income (loss) from: Core Commercial, Specialty, Personal Lines, and Other, after interest expense and income taxes. In reference to one of the company's four segments, "operating income (loss)" is the segment income (loss) before both interest expense and income taxes. The company also uses "operating income (loss) per share" (which is after both interest expense and income taxes). Operating income per share is calculated by dividing operating income by the weighted average number of diluted shares of common stock. Operating loss per share is calculated by dividing operating loss by the weighted average number of basic shares of common stock due to antidilution. The company believes that metrics of operating income (loss) and operating income (loss) in relation to its four segments provide investors with a valuable measure of the performance of the company's continuing businesses because they highlight the portion of net income (loss) attributable to the core operations of the business. Income (loss) from continuing operations is the most directly comparable GAAP measure for operating income (loss) (and operating income before income taxes) and measures of operating income that exclude the effects of catastrophe losses and/or prior-year reserve development should not be misconstrued as substitutes for income (loss) from continuing operations or net income (loss) determined in accordance with GAAP. A reconciliation of operating income (loss) to income (loss) from continuing operations and net income (loss) for the relevant periods is included on page 21 of this presentation.

Operating return on average equity ("ROE") is a non-GAAP measure. See end note (6) for a detailed explanation of how this measure is calculated. Operating ROE is based on non-GAAP operating income (loss). In addition, the portion of shareholder equity attributed to unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is excluded. The company believes this measure is helpful in that it provides insight to the capital used by, and results of, the continuing business exclusive of interest expense, income taxes, and other non-operating items. These measures should not be misconstrued as substitutes for GAAP ROE, which is based on net income (loss) and shareholders' equity of the entire company and without adjustments.

The company may provide measures of operating income (loss) and combined ratios that exclude the impact of catastrophe losses (which in all respects include prior accident year catastrophe loss development). A catastrophe is a severe loss, resulting from natural or manmade events, including, but is not limited to, hurricanes, tornados, windstorms, earthquakes, hail, severe winter weather, freeze events, fire, explosions, civil unrest and terrorism. Due to the unique characteristics of each catastrophe loss, there is an inherent inability to reasonably estimate the timing or loss amount in advance. The company believes a separate discussion excluding the effects of catastrophe losses is meaningful to understand the underlying trends and variability of earnings, loss and combined ratio results, among others.

Book value per share is total shareholders' equity divided by the number of common shares outstanding. Book value per share excluding net unrealized gains and losses related to fixed maturity investments, net of tax, is total shareholders' equity excluding the after-tax effect of unrealized investment gains and losses on fixed maturities and market risk divided by the number of common shares outstanding.

Prior accident year reserve development, which can either be favorable or unfavorable, represents changes in the company's estimate of costs related to claims from prior years. Calendar year loss and loss adjustment expense ("LAE") ratios determined in accordance with GAAP, excluding prior accident year reserve development, are sometimes referred to as "current accident year loss ratios." The company believes a discussion of loss and combined ratios, excluding prior accident year reserve development, is helpful since it provides insight into both estimates of current accident year results and the accuracy of prior-year estimates.

The loss and combined ratios in accordance with GAAP are the most directly comparable GAAP measures for the loss and combined ratios calculated excluding the effects of catastrophe losses and/or prior-year reserve development. The presentation of loss and combined ratios calculated excluding the effects of catastrophe losses and/or prior-year reserve development should not be misconstrued as substitutes for the loss and/or combined ratios determined in accordance with GAAP.

End notes

(1) Combined ratio, excluding catastrophes, and current accident year combined ratio, excluding catastrophes, are non-GAAP measures. The combined ratio (which includes catastrophe losses and prior-year loss reserve development) is the most directly comparable GAAP measure. This and other non-GAAP measures are used throughout this document. See the disclosure on the use of this and other non-GAAP measures under the heading “Forward-Looking Statements and Non-GAAP Financial Measures.” A reconciliation of the GAAP combined ratio to the combined ratio, excluding catastrophes, and to the current accident year combined ratio, excluding catastrophes, is shown below.

	Three months ended December 31, 2023			
	Core Commercial	Specialty	Personal Lines	Total
Total combined ratio (GAAP)	96.7%	83.2%	97.6%	94.2%
Less: Catastrophe ratio	5.7%	1.7%	3.8%	4.0%
Combined ratio, excluding catastrophe losses (non-GAAP)	91.0%	81.5%	93.8%	90.2%
Less: Prior-year reserve development ratio	(0.4)%	(4.4)%	0.8 %	(0.6)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	<u>91.4%</u>	<u>85.9%</u>	<u>93.0%</u>	<u>90.8%</u>
	December 31, 2022			
Total combined ratio (GAAP)	117.2%	90.5%	109.1%	108.0%
Less: Catastrophe ratio	24.6%	3.2%	10.2%	13.9%
Combined ratio, excluding catastrophe losses (non-GAAP)	92.6%	87.3%	98.9%	94.1%
Less: Prior-year reserve development ratio	(0.5)%	-	-	(0.1)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	<u>93.1%</u>	<u>87.3%</u>	<u>98.9%</u>	<u>94.2%</u>
	Year ended December 31, 2023			
	Core Commercial	Specialty	Personal Lines	Total
Total combined ratio (GAAP)	99.0%	86.2%	117.1 %	103.5%
Less: Catastrophe ratio	8.3%	3.4%	20.4 %	12.2%
Combined ratio, excluding catastrophe losses (non-GAAP)	90.7%	82.8%	96.7 %	91.3%
Less: Prior-year reserve development ratio	0.2 %	(3.8)%	1.1 %	(0.3)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	<u>90.5%</u>	<u>86.6%</u>	<u>95.6 %</u>	<u>91.6%</u>
	December 31, 2022			
Total combined ratio (GAAP)	101.2%	89.3%	104.3 %	99.8%
Less: Catastrophe ratio	9.9%	2.8%	8.3 %	7.7%
Combined ratio, excluding catastrophe losses (non-GAAP)	91.3%	86.5%	96.0 %	92.1%
Less: Prior-year reserve development ratio	(0.5)%	(1.6)%	0.4 %	(0.4)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	<u>91.8%</u>	<u>88.1%</u>	<u>95.6 %</u>	<u>92.5%</u>

End notes continued

(2) Renewal price changes in Core Commercial and Specialty represent the average change in premium on renewed policies caused by the estimated net effect of base rate changes, discretionary pricing, specific inflationary changes or changes in policy level exposure or insured risks. Rate increases in Core Commercial and Specialty represent the average change in premium on renewed policies caused by the base rate changes, discretionary pricing, and inflation, excluding the impact of changes in policy level exposure or insured risks. Renewal price change in Personal Lines represents the average change in premium on policies charged at renewal caused by the net effects of filed rate, inflation adjustments or other changes in policy level exposure or insured risks, regardless of whether or not the policies are retained for the duration of their contractual terms. Rate change in Personal Lines is the estimated cumulative premium effect of approved rate actions applied to policies at renewal, regardless of whether or not policies are actually renewed. Accordingly, rate changes do not represent actual increases or decreases realized by the company. Personal Lines rate changes do not include inflation or changes in policy level exposure or insured risks.

(3) Current accident year loss and LAE ratio, excluding catastrophe losses, is a non-GAAP measure, which is equal to the loss and LAE ratio ("loss ratio"), excluding prior-year reserve development and catastrophe losses. The loss ratio (which includes losses, LAE, catastrophe losses and prior-year loss reserve development) is the most directly comparable GAAP measure. A reconciliation of the GAAP loss ratio to the current accident year loss and LAE ratio, excluding catastrophe losses is shown below.

Three months ended December 31, 2023						
	Core Commercial	Specialty	Personal Auto	Home & Other	Personal Lines	Total
Total loss and LAE ratio (GAAP)	63.1 %	46.8 %	78.6 %	64.1 %	72.6 %	63.6 %
Less:						
Prior-year reserve development ratio	(0.4)%	(4.4)%	(0.5)%	2.6 %	0.8 %	(0.6)%
Catastrophe ratio	5.7 %	1.7 %	0.6 %	8.3 %	3.8 %	4.0 %
Current accident year loss and LAE ratio, excluding catastrophes (non-GAAP)	57.8 %	49.5 %	78.5 %	53.2 %	68.0 %	60.2 %
December 31, 2022						
Total loss and LAE ratio (GAAP)	84.3 %	54.7 %	85.1 %	79.5 %	82.8 %	77.1 %
Less:						
Prior-year reserve development ratio	(0.5)%	-	(0.2)%	0.2 %	-	(0.1)%
Catastrophe ratio	24.6 %	3.2 %	(0.3)%	25.4 %	10.2 %	13.9 %
Current accident year loss and LAE ratio, excluding catastrophes (non-GAAP)	60.2 %	51.5 %	85.6 %	53.9 %	72.6 %	63.3 %
Year ended December 31, 2023						
	Core Commercial	Specialty	Personal Auto	Home & Other	Personal Lines	Total
Total loss and LAE ratio (GAAP)	65.8 %	50.7 %	81.3 %	106.1 %	91.6 %	73.0 %
Less:						
Prior-year reserve development ratio	0.2 %	(3.8)%	1.1 %	1.1 %	1.1 %	(0.3)%
Catastrophe ratio	8.3 %	3.4 %	2.5 %	46.1 %	20.4 %	12.2 %
Current accident year loss and LAE ratio, excluding catastrophes (non-GAAP)	57.3 %	51.1 %	77.7 %	58.9 %	70.1 %	61.1 %
December 31, 2022						
Total loss and LAE ratio (GAAP)	68.5 %	54.0 %	77.3 %	78.6 %	77.8 %	69.0 %
Less:						
Prior-year reserve development ratio	(0.5)%	(1.6)%	(0.3)%	1.4 %	0.4 %	(0.4)%
Catastrophe ratio	9.9 %	2.8 %	0.7 %	19.8 %	8.3 %	7.7 %
Current accident year loss and LAE ratio, excluding catastrophes (non-GAAP)	59.1 %	52.8 %	76.9 %	57.4 %	69.1 %	61.7 %

End notes continued

(4) Operating income (loss) and operating income (loss) per diluted (basic) share are non-GAAP measures. The following table provides the reconciliation of operating income (loss) and operating income (loss) per diluted (basic) share to the most directly comparable GAAP measures, income (loss) from continuing operations and income (loss) from continuing operations per diluted (basic) share, respectively, which are reconciled to net income (loss) and net income (loss) per diluted (basic) share, respectively.

The Hanover Insurance Group, Inc.								
Three months ended December 31				Year ended December 31				
2023		2022		2023		2022		
\$	Per Share	\$	Per Share*	\$	Per Share	\$	Per Share	
Amount	(Diluted)	Amount	Per Share*	Amount	(Diluted)	Amount	(Diluted)	
(\$ in millions, except per share data)								
Operating income (loss)								
Core Commercial	\$ 52.8		\$ (52.7)		\$ 167.2		\$ 106.9	
Specialty	70.5		43.9		243.5		186.0	
Personal Lines	36.8		(29.1)		(304.3)		(8.8)	
Other	(2.0)		(0.3)		(0.8)		1.0	
Total	158.1		(38.2)		105.6		285.1	
Interest expense	(8.5)		(8.6)		(34.1)		(34.1)	
Operating income (loss) before income taxes	149.6	\$ 4.14	(46.8)	\$ (1.31)	71.5	\$ 1.98	251.0	\$ 6.95
Income tax benefit (expense) on operating income (loss)	(36.5)	(1.01)	9.4	0.26	(15.3)	(0.42)	(51.1)	(1.42)
Operating income (loss) after income taxes	113.1	3.13	(37.4)	(1.05)	56.2	1.56	199.9	5.53
Non-operating items:								
Net realized losses from sales and other	(7.0)	(0.19)	(10.2)	(0.29)	(8.9)	(0.25)	(26.5)	(0.73)
Net change in fair value of equity securities	7.8	0.21	42.8	1.20	(5.6)	(0.16)	(63.3)	(1.75)
Impairments on investments:								
Credit-related impairments	(1.5)	(0.04)	(0.4)	(0.01)	(7.7)	(0.21)	(1.9)	(0.05)
Losses on intent to sell securities	-	-	-	-	(10.3)	(0.29)	(14.8)	(0.41)
	(1.5)	(0.04)	(0.4)	(0.01)	(18.0)	(0.50)	(16.7)	(0.46)
Other non-operating items	1.3	0.04	(0.1)	-	2.1	0.06	(0.5)	(0.02)
Income tax benefit (expense) on non-operating items	(6.4)	(0.18)	(6.6)	(0.18)	7.7	0.22	23.9	0.66
Income (loss) from continuing operations, net of taxes	107.3	2.97	(11.9)	(0.33)	33.5	0.93	116.8	3.23
Discontinued operations (net of taxes):								
Income from discontinued Chaucer business	-	-	-	-	1.2	0.03	-	-
Income (loss) from discontinued life business	0.6	0.01	(0.2)	(0.01)	0.6	0.02	(0.8)	(0.02)
Net income (loss)	\$ 107.9	\$ 2.98	\$ (12.1)	\$ (0.34)	\$ 35.3	\$ 0.98	\$ 116.0	\$ 3.21
Dilutive weighted average shares outstanding		36.2		36.1		36.1		36.1
Basic weighted average shares outstanding		35.8		35.6		35.7		35.6

*Per share data is calculated using basic shares outstanding due to antidilution.

End notes continued

(5) Book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is a non-GAAP measure. Book value per share is the most directly comparable GAAP measure and is reconciled in the table below.

	Period ended		
	December 31 2022	September 30 2023	December 31 2023
Book value per share	\$ 65.61	\$ 59.21	\$ 68.93
Less: Net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, per share	(17.92)	(20.17)	(12.93)
Book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	\$ 83.53	\$ 79.38	\$ 81.86
<u>Versus prior quarter</u>			
Change in book value per share			16.4 %
Change in book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax			3.1 %

End notes continued

(6) Operating return on average equity (“operating ROE”) is a non-GAAP measure. Operating ROE is calculated by dividing annualized operating income (loss) after tax for the applicable period (see end note (4)), by average shareholders’ equity, excluding unrealized appreciation (depreciation) on fixed maturity investments, net of tax, for the period presented. Total shareholders’ equity, excluding net 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 and is reconciled below. For the calculation of operating ROE, the average of beginning and ending shareholders’ equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is used for the period as shown in the table below.

(\$ in millions)	Three months ended		Year ended	
	December 31		December 31	
	2022	2023	2022	2023
<i>Net Income (Loss) ROE</i>				
Net income (loss) (GAAP)	\$ (12.1)	\$ 107.9	\$ 116.0	\$ 35.3
Annualized net income (loss)*	(48.4)	431.6		
Average shareholders' equity	2,319.3	2,291.0	2,636.3	2,308.5
Net income (loss) return on equity	(2.1)%	18.8 %	4.4 %	1.5 %
<i>Operating Income (Loss) ROE</i>				
Operating income (loss) after income taxes	\$ (37.4)	\$ 113.1	\$ 199.9	\$ 56.2
Annualized operating income (loss), net of tax* (end note (4))	(149.6)	452.4		
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	2,989.2	2,882.6	3,002.0	2,903.7
Operating income (loss) return on equity	(5.0)%	15.7 %	6.7 %	1.9 %

*For the three months ended December 31, 2022, and 2023, annualized net income (loss) and operating income (loss) after income taxes is calculated by multiplying three months ended net income (loss) and operating income (loss) after income taxes, respectively, by 4

(\$ in millions)	Period Ended							
	December 31	March 31	June 30	September 30	December 31	March 31	June 30	September 30
	2021	2022	2022	2022	2022	2023	2023	2023
Total shareholders' equity (GAAP)	\$ 3,136.0	\$ 2,830.9	\$ 2,576.2	\$ 2,304.9	\$ 2,333.7	\$ 2,389.0	\$ 2,237.9	\$ 2,116.3
Less: net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	171.9	(201.1)	(459.3)	(702.3)	(637.4)	(545.2)	(610.0)	(720.9)
Total shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	\$ 2,964.1	\$ 3,032.0	\$ 3,035.5	\$ 3,007.2	\$ 2,971.1	\$ 2,934.2	\$ 2,847.9	\$ 2,837.2
Quarter-to-date Averages								
Average shareholders' equity (GAAP)					\$ 2,319.3			\$ 2,291.0
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					\$ 2,989.2			\$ 2,882.6
Year-to-date Averages								
Average shareholders' equity (GAAP)					\$ 2,636.3			\$ 2,308.5
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					\$ 3,002.0			\$ 2,903.7

(7) Here, and later in this document, the expense ratio is reduced by installment and other fee revenues for purposes of the ratio calculation.