The Hanover Insurance Group, Inc.

Fourth Quarter and Full Year 2021 Results

February 3, 2022

To be read in conjunction with the press release dated February 2, 2022, and conference call scheduled for February 3, 2022

The Hanover Insurance Group®

Fourth Quarter Operating Highlights

The Hanover Reports Record Fourth Quarter Net and Operating Income[1] of $4.53 and $3.38 per Diluted Share, Respectively; Full Year Net Income and Operating Income of $11.49 and $8.73 per Diluted Share, Respectively

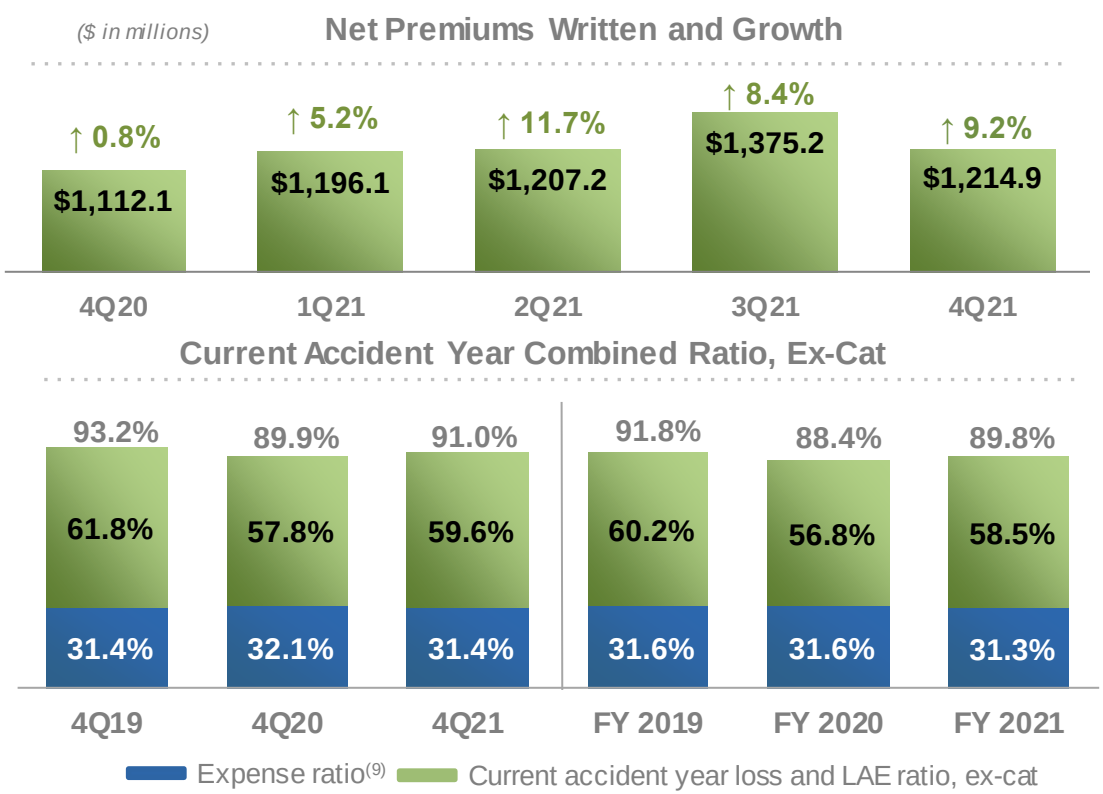
- Fourth quarter combined ratio of 92.9%; combined ratio, excluding catastrophes[2] of 89.8%
- Net premiums written increase of 9.2%*
- Rate increases[3] of 6.3% in core commercial lines[4], 8.9% in specialty[5], and 2.0% in Personal Lines
- Catastrophe loss ratio of 3.1%, which is 0.8 points below the company's catastrophe assumption for the fourth quarter
- Current accident year loss and loss adjustment expense ("LAE") ratio, excluding catastrophes[6], of 59.6%, up 1.8 points from the fourth quarter of 2020, and down 2.2 points from the fourth quarter of 2019, before the onset of the pandemic
- Net investment income of $79.5 million, up 13.2% from the prior-year quarter
- Book value per share of $88.59, up 1.8% from September 30, 2021, and up 0.7% from December 31, 2020, primarily driven by net income, partially offset by a decline in unrealized gains in our fixed income portfolio. Excluding net unrealized gains on fixed maturity investments, net of tax, book value per share[7] increased 4.4% from September 30, 2021, and 9.4% from December 31, 2020
- On December 6, 2021, the Board of Directors approved an increase to the quarterly dividend of 7.1% to $0.75 per common share

The Hanover Insurance Group, Inc. may also be referred to as "The Hanover" or "the company" interchangeably throughout this presentation.
(1) See information about this and other non-GAAP measures and definitions used throughout this presentation on the final pages of this document.
* Unless otherwise stated, net premiums written growth and other growth comparisons are to the same period of the prior year.

Consolidated Financial Results Snapshot

($ in millions, *except per share amounts)*	Three months ended		Year ended	
	December 31, 2020	**December 31, 2021**	**December 31, 2020**	**December 31, 2021**
Net income	**$164.6**	**$163.5**	**$358.7**	**$418.7**
Per diluted share	*$4.43*	*$4.53*	*$9.42*	*$11.49*
Operating income before interest expense and income taxes	$150.3	$162.9	$484.7	$432.3
Operating income after income taxes	**$112.0**	**$122.1**	**$355.0**	**$318.3**
Per diluted share	*$3.02*	*$3.38*	*$9.32*	*$8.73*
Book value per share	***$87.96***	***$88.59***	***$87.96***	***$88.59***
Shareholders' equity	$3,202.2	$3,144.9	$3,202.2	$3,144.9
Debt	$780.8	$781.6	$780.8	$781.6
Total capital	$3,983.0	$3,926.5	$3,983.0	$3,926.5
Debt/total capital	19.6%	19.9%	19.6%	19.9%
Total assets	$13,443.7	$14,254.3	$13,443.7	$14,254.3
Net income return on average equity[8]	20.7%	20.9%	11.9%	13.4%
Operating return on average equity[8]	**16.2%**	**16.8%**	**13.1%**	**11.2%**

Strong Operating Results



($ in millions)	Three months ended December 31		Year ended December 31	
	2020	2021	2020	2021
Net premiums written	$1,112.1	$1,214.9	$4,598.5	$4,993.4
Growth	0.8%	9.2%	0.4%	8.6%
Net premiums earned	$1,154.0	$1,242.6	$4,527.4	$4,770.2
Combined ratio	92.4%	92.9%	94.4%	97.0%
Combined ratio, ex-cat	89.4%	89.8%	88.1%	88.6%
Current accident year combined ratio, ex-cat (2)	89.9%	91.0%	88.4%	89.8%

Net premiums written increased 9.2% in the quarter and 8.6% in the year with strong growth across each business, particularly in specialty

Current accident year combined ratio, ex-CAT, improved from pre-COVID levels, but increased in the quarter and the year, relative to the comparative periods of 2020 due to:

- Declining frequency benefit in personal auto; however, frequency remains below pre-pandemic levels
- Increasing property severity pressure in homeowners and personal auto, particularly impacting the second half of 2021
- Elevated property severity and prudent liability loss selections in commercial multiple peril ("CMP")

Partially offset by:

- Earning-in robust rate increases, which drove underlying margin improvement, particularly in other commercial lines ("OCL")
- 70 and 30-basis point improvement in the quarterly and full-year expense ratio, respectively, reflecting the benefit from fixed cost leverage and operational efficiencies from technology investments

Higher net favorable prior-year reserve development, excluding catastrophes, in both periods driven by continued favorability in personal auto and workers' compensation

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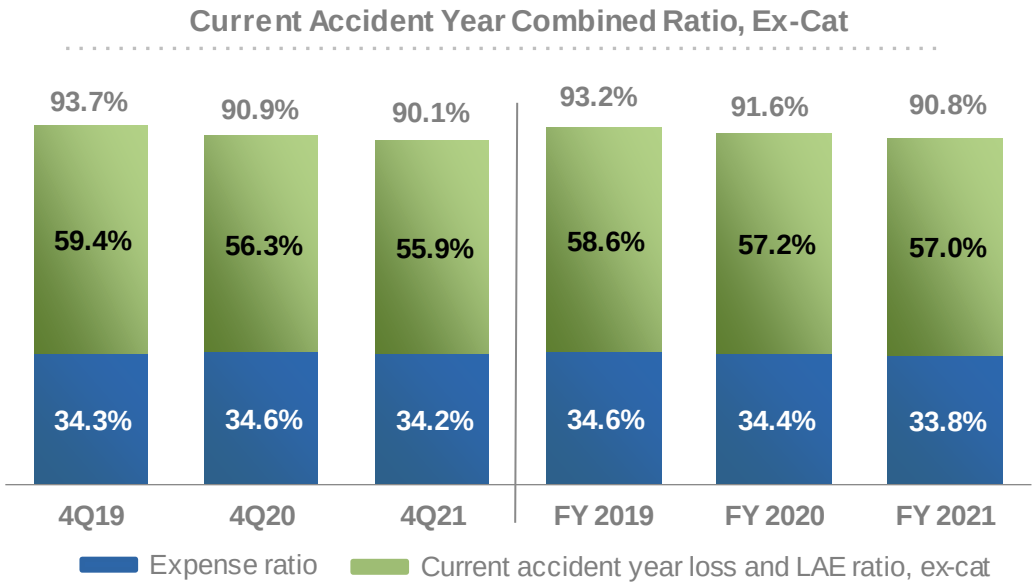
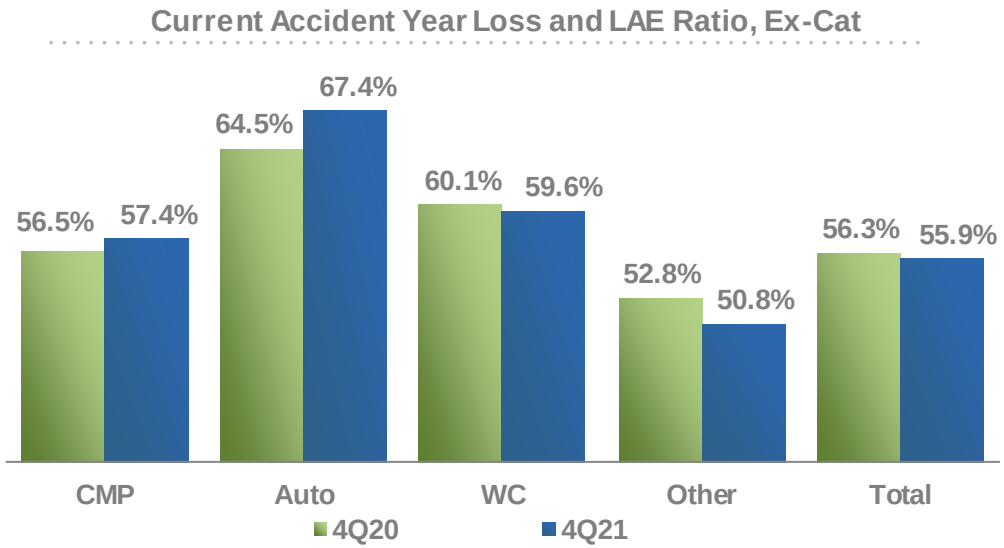
Commercial Lines Underwriting Highlights





Improvement in the current accident year combined ratio, ex-CAT, for the fourth quarter and the full year 2021 reflects a lower expense ratio and favorable loss experience from robust rate increases earning-in, particularly within OCL

This was partially offset by:

- Lessening frequency benefit, primarily in commercial auto, relative to the prior-year periods
- Elevated property severity and prudent liability loss selections in CMP; large loss experience consistent with historical levels in the fourth quarter of 2021

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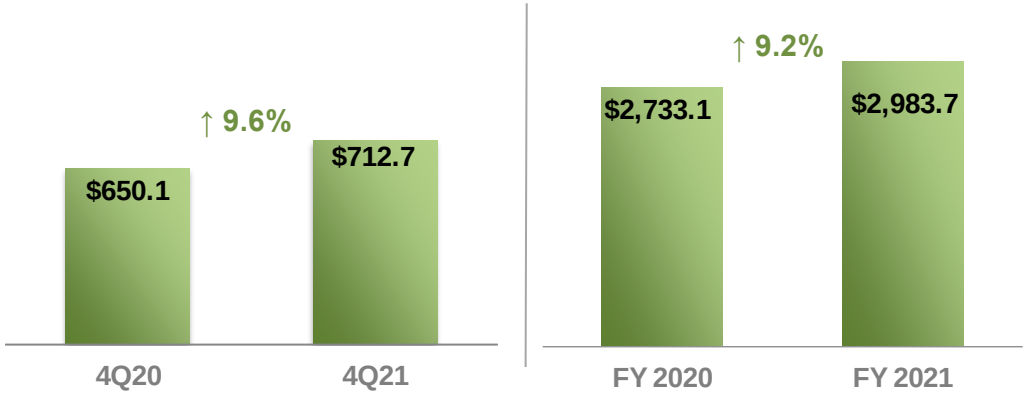
Commercial Lines Growth Highlights

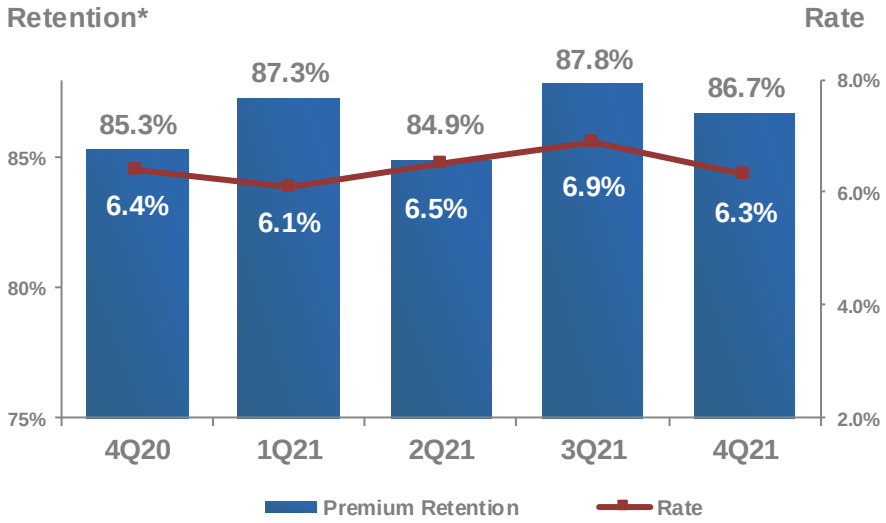
($ in millions) **Net Premiums Written and Growth**



Net premiums written increased 9.6% in the quarter and 9.2% in the year, reflecting:

- Meaningful contribution from OCL, which includes most of the specialty business
  - Rate increases of 8.9% in specialty, reflecting an increase of 0.9 points from the third quarter of 2021
  - Double-digit growth in most profitable businesses, including professional and executive lines, marine and Hanover specialty industrial

Core Commercial Lines[4]



- Continued strong performance in core commercial lines, driven by:
  - Robust pricing[3] increases of 9.5% in the quarter, including rate increases of 6.3%
  - Strong retention
  - Increasing momentum in small commercial, which delivered upper-single-digit growth in the quarter and the year

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

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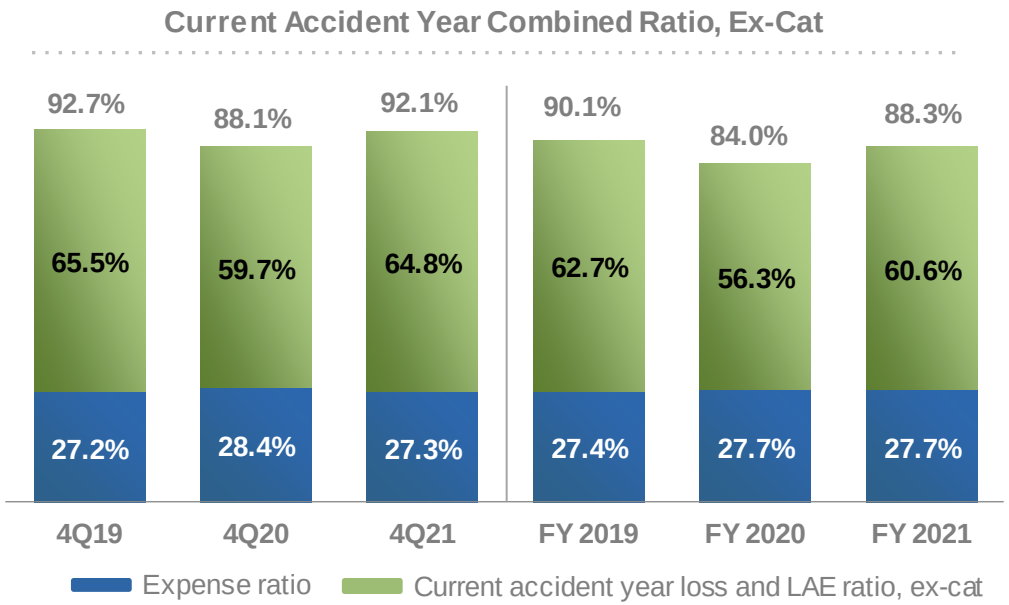
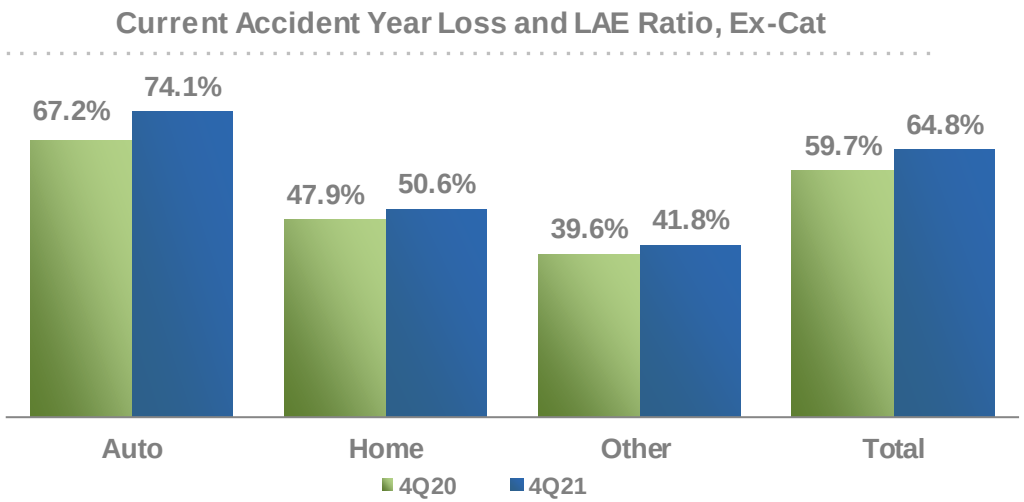
Personal Lines Underwriting Highlights





Current accident year combined ratio, ex-CAT, below pre-COVID levels, but increased in the quarter and the year, relative to the comparative periods of 2020 due to:

- Declining frequency benefit in personal auto; however, claim frequency remains below pre-pandemic levels
- Increasing property severity pressure in homeowners and auto, particularly impacting the second half of 2021
- Expense ratio improved 1.1 points in the fourth quarter from the prior-year quarter, driven by lower performance-based agency compensation and leverage from higher net earned premiums

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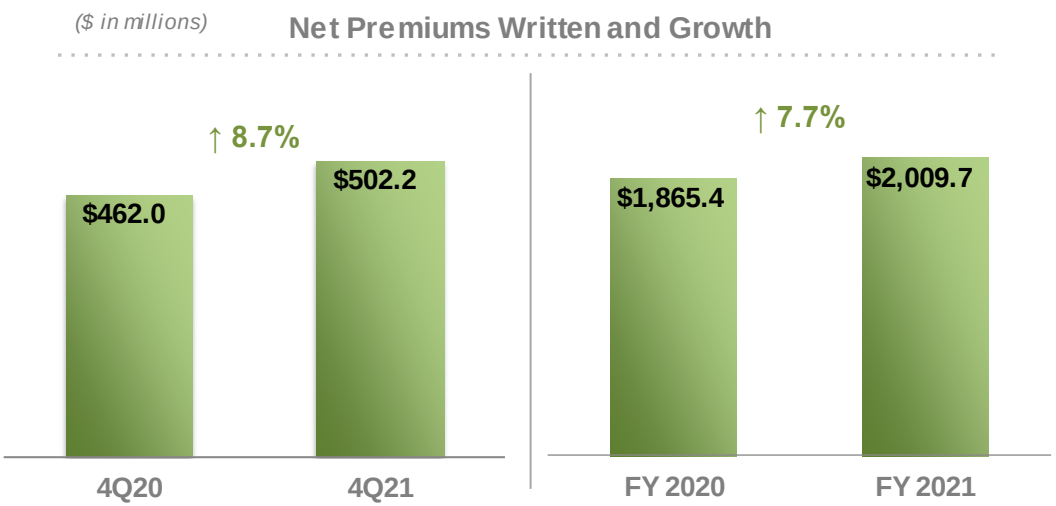
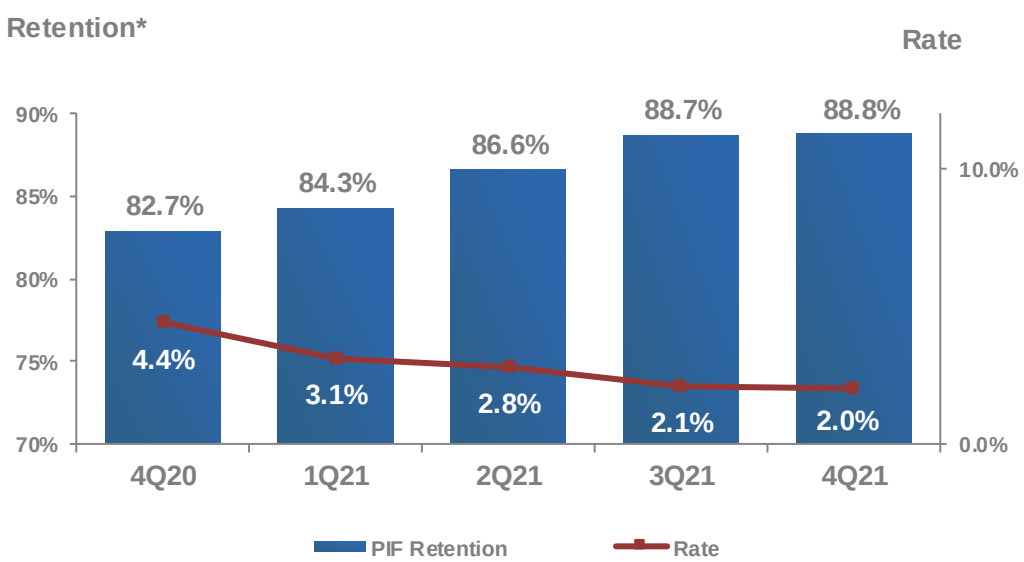
Personal Lines Growth Highlights





Net premiums written increased 8.7% in the quarter and 7.7% in the year, reflecting:

- Meaningful acceleration in new business growth
- Retention continuing on a strong upward trajectory and reaching near record levels, culminating in 88.8% for the fourth quarter of 2021
- Personal Lines rate increases of 2.0% (excludes exposure)
  - Homeowners renewal price change, including exposure, of 6.9%

Favorable business mix:

- Book is 87% account business
  - Umbrella penetration of 32% for account customers
- Number of policies per customer increased to 2.3, improving retention and customer lifetime value
- Platinum offering is 62% of the total book, and continues to meaningfully contribute to new business growth
- Gaining momentum in Prestige, which represents about $150 million of the portfolio and is expected to double in the next three years

*Retention is defined as ratio of net retained policies for the noted period to those policies available to renew over the same period and includes the impact of rewrites.

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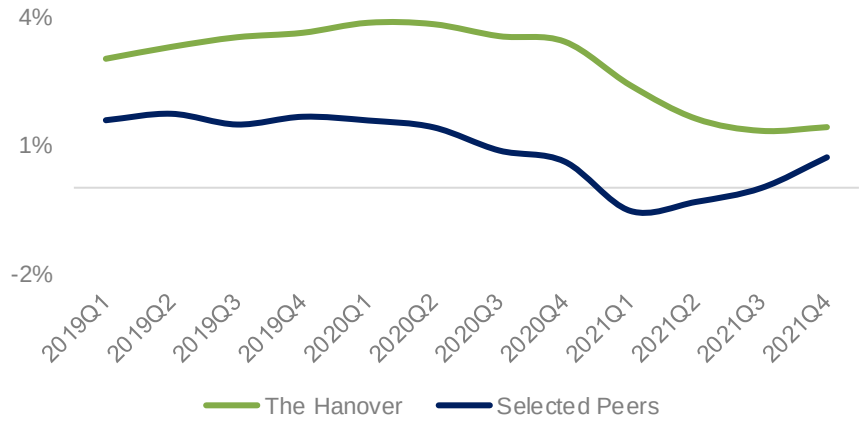
Differentiated Pricing Strategy and Reduced Claims Frequency Lead to Preferred Position in a Firming Personal Lines Market

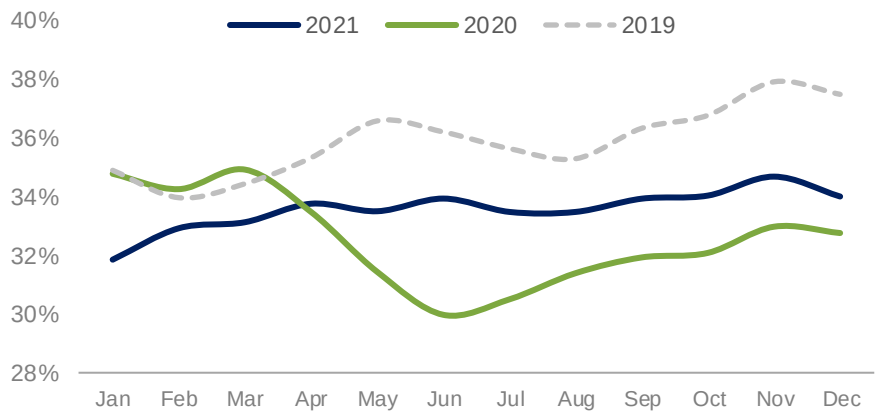
- Our prudent and measured rate strategy over the last 24 months has resulted in a more limited rate need in personal auto
- Our personal auto collision frequency remains below pre-COVID levels
- Our percentage of rush-hour collisions (AM + PM) has flattened since the second quarter of 2021 and remains below 2019, likely driven by distinctive target market mix
- Combination of measured pricing strategy and mix allows for continued personal auto profitability at or above target levels, despite increased physical damage severity

Average Auto and Home Filed Rate*

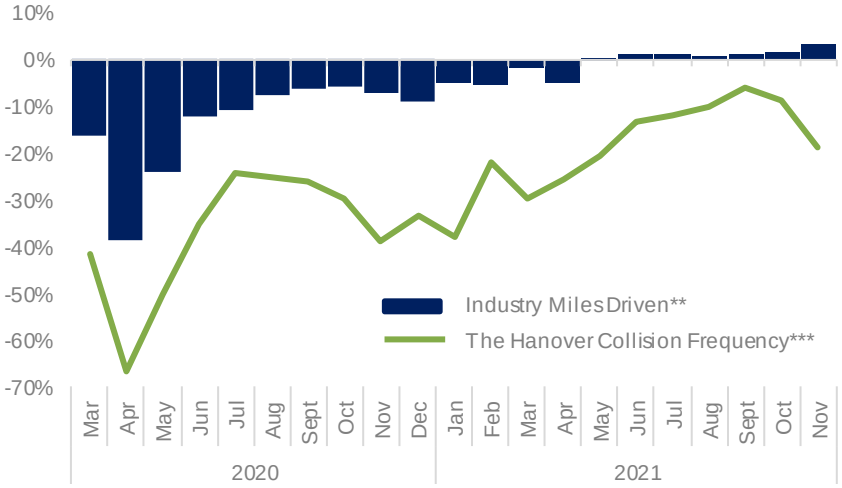


*Source: S&P Global as of 12/31/2021. Selected peers include AIG, Allstate, Chubb, Cincinnati, The Hartford, Kemper, Plymouth Rock, Progressive, Safety, and Travelers. Calculated on a rolling 12-month basis. Excludes Michigan auto in July for all years due to distorting impact of Michigan PIP reform in 2020

The Hanover Collision Claims % During Rush Hour



Monthly % Change Relative to Pre-COVID Levels



**Source: Department of Transportation. Industry miles driven represents the average change in miles driven from pre-COVID 2-year average (2018 and 2019). ***The Hanover collision frequency for depicted periods versus 4-year pre-COVID average (2016 through 2019).

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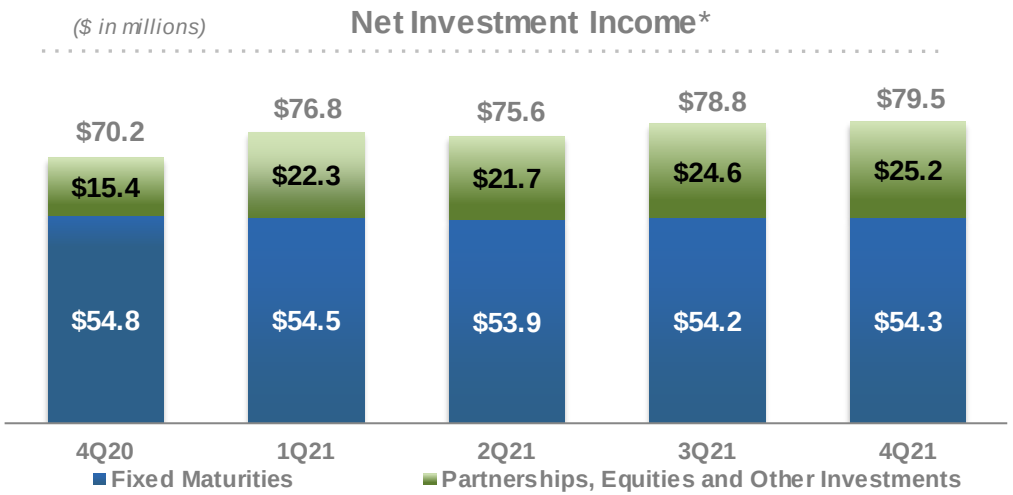
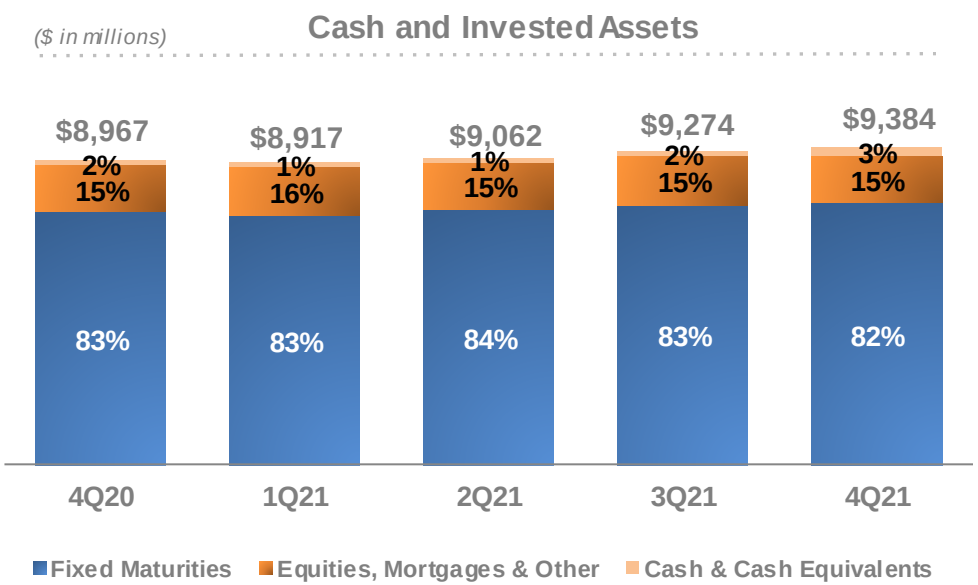
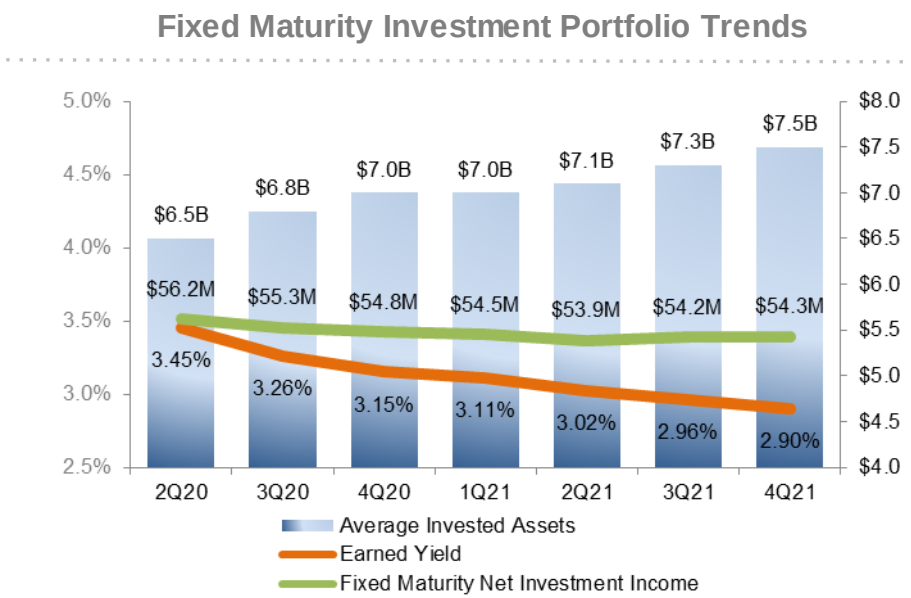
Net Investment Income Trends



Delivered net investment income of $310.7 million for the full year, an increase of 17.2% from prior-year, driven by:

- Higher partnership income, which outperformed the company's expectations by $40 million in 2021
- Impact of lower new money rates, mostly offset by higher operating cash flows



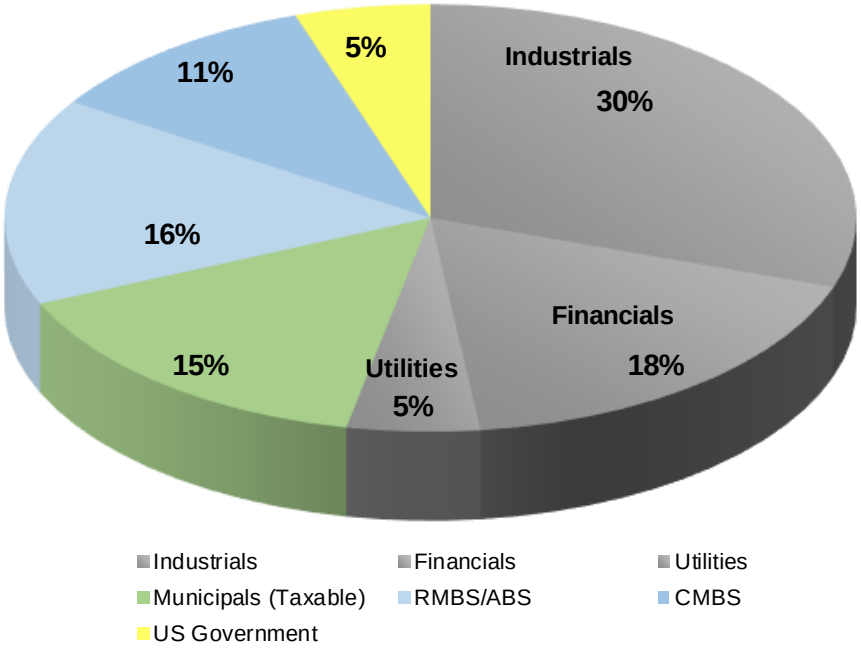


* Net investment income from partnerships, equities and other investments is presented net of investment expenses

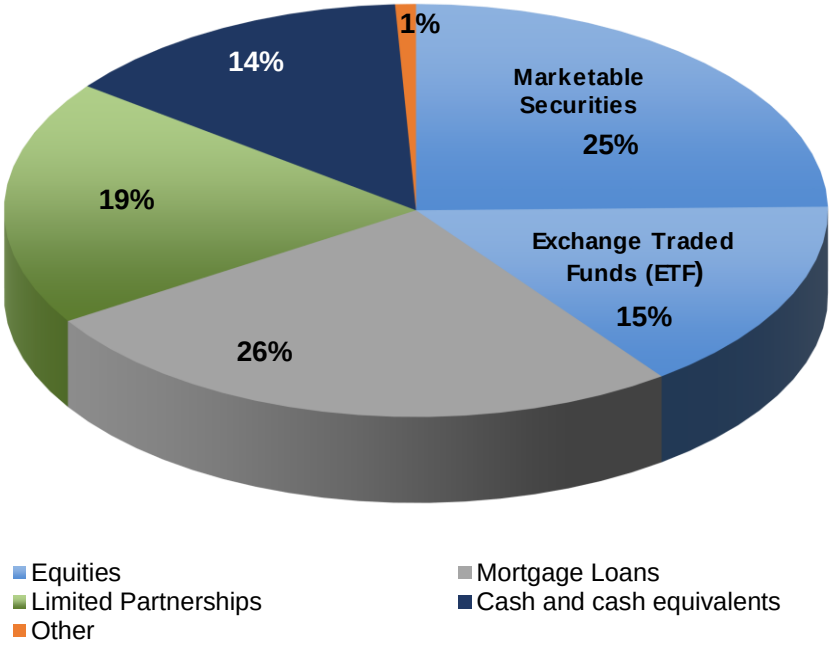
Investment Portfolio – Total Invested Assets and Cash of $9.4 Billion

As of December 31, 2021

Fixed Maturities: $7.7 Billion



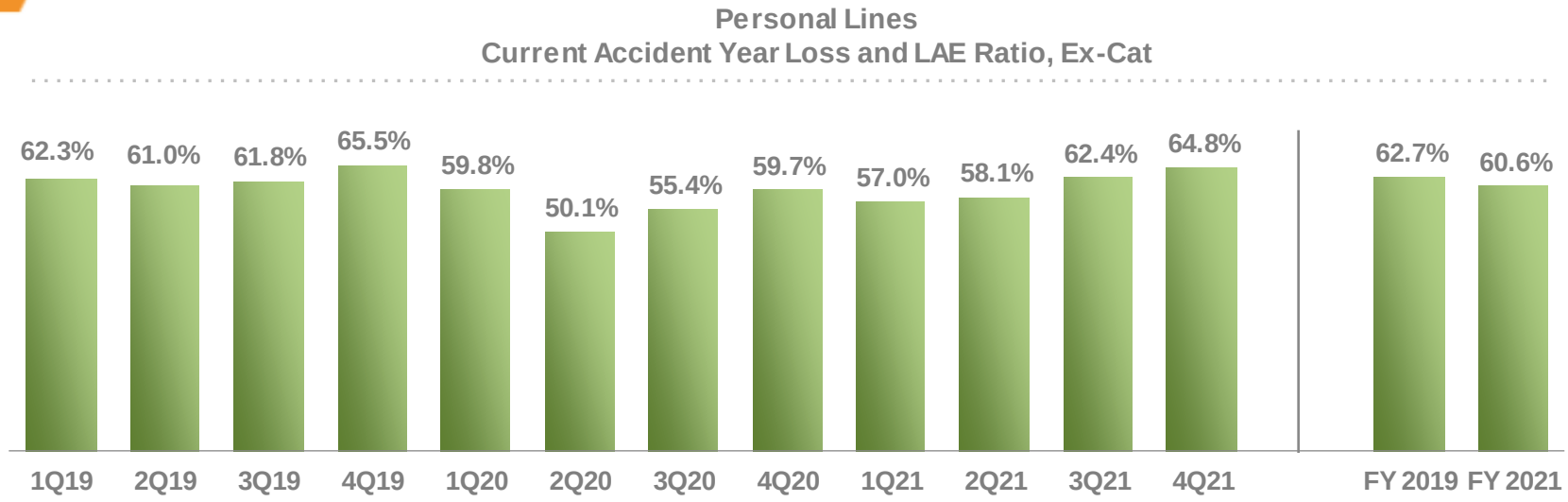
Equities, Cash and Other: $1.7 Billion



Fixed Income Characteristics:

- 95% of fixed maturity securities are investment grade
- Weighted average quality: A+
- Duration: 4.9 years

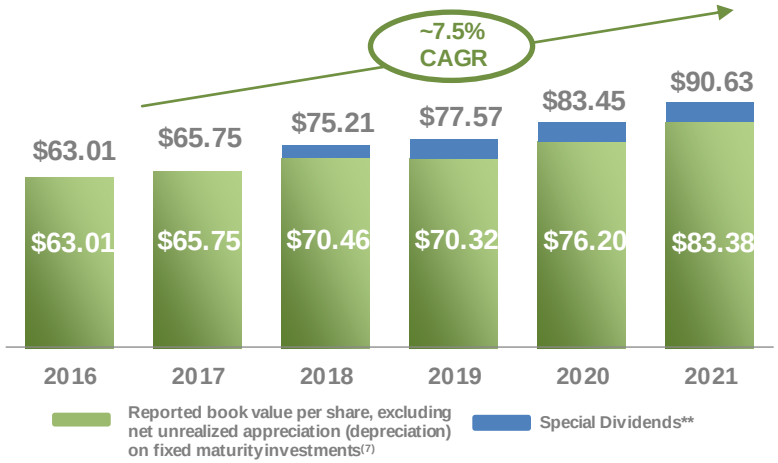
Delivering Underlying Profitability Above Pre-Pandemic Levels



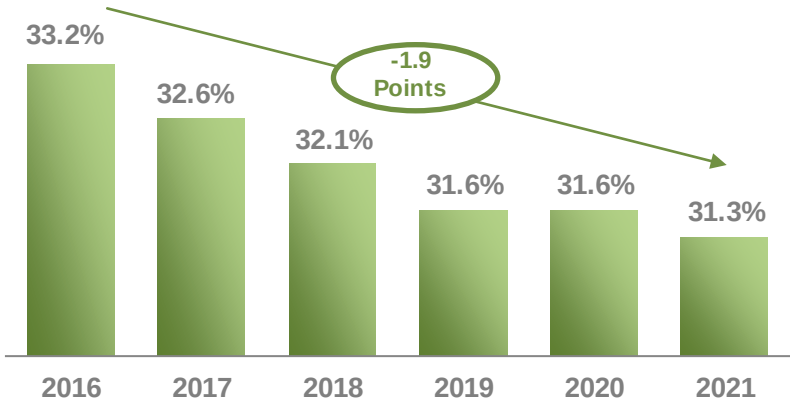
Strong Financial Track Record

($ in billions) **Net Premiums Written***

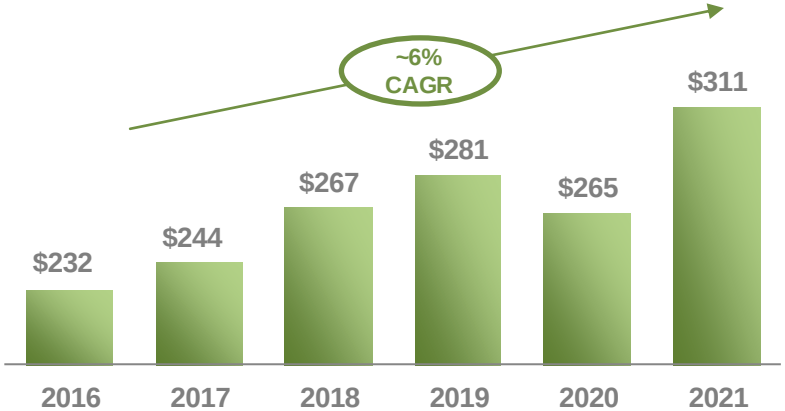
Book Value Per Share, Excluding Net Unrealized Appreciation (Depreciation) On Fixed Maturity Investments[7], and Adjusted for Special Dividends



Expense Ratio*



($ in millions) **Pre-Tax Net Investment Income***



*Reflects the company's domestic operations
**Adjusted book value in 2018 excludes the impact of the $4.75 per share special dividend declared on December 30, 2018. Adjusted book value from 2019 through 2021 excludes the impact of the $4.75 per share special dividend declared on December 30, 2018, and the $2.50 per share special dividend declared on December 13, 2019

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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 and Additional Risks and Uncertainties

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," "may," "projects," "projections," "plan," "likely," "potential," "targeted," "forecasts," "should," "could," "continue," "outlook," "guidance," "modeling," "moving forward" 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 or including both prior-year reserve development and/or 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; and/or the effective tax rate;
- The continued impacts of the global pandemic ("Pandemic") and related economic 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, severity from higher cost of repairs due to, among other things, supply chain disruptions, inflation, declines in premium as a result of, among other things, credits or returns to the company's customers, lower submissions, changes in renewals and policy endorsements, public health guidance, and the impact of government orders and restrictions in the states and jurisdictions in which the company operates;
- 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;
- Variability of catastrophe losses due to risk concentrations, changes in weather patterns including climate change, wildfires, severe storms, hurricanes, 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;
- Ability to manage the impact of inflationary pressures, as a result of the Pandemic or otherwise, including, but not limited to, supply chain disruptions, labor shortages, and increases in cost of goods, services, 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 related to the Pandemic, 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;
- Mix improvement, underwriting initiatives, coverage restrictions and pricing segmentation actions, among others, to grow businesses believed to be more profitable or reduce premiums attributable to products or lines of business 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 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 the Pandemic, inflationary pressures and corresponding governmental and/or central banking initiatives taken in response thereto, and geopolitical circumstances on new money yields and overall investment returns.

Additional Risks and Uncertainties (continued)

Additional Risks and Uncertainties

- The severity, duration and long-term impact related to the Pandemic, including, but not limited to, actual and possible government responses, legislative, regulatory and judicial actions, changes in frequency and severity of claims in both Commercial and Personal Lines, impacts to distributors (including agent partners), and the possibility of additional premium adjustments, including credits and returns, for the benefit of insureds;
- Changes in regulatory, legislative, economic, market and political conditions, particularly in response to COVID-19 and the Pandemic (such as legislative or regulatory actions that would retroactively require insurers to cover business interruption or other types of claims irrespective of terms, exclusions or other conditions included in the contractual terms of the policies that would otherwise preclude coverage, mandatory returns and other rate-related actions, as well as presumption legislation in regards to workers' compensation);
- Heightened investment market volatility, fluctuations in interest rates (which have a significant impact on the market value of the investment portfolio and thus book value), U.S. Federal Reserve actions, inflationary pressures, default rates, prolonged global market conditions and other factors that affect investment returns from the investment portfolio;
- Data security 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 or data sources;
- Adverse claims experience, including those driven by large or increased frequency of catastrophe events (including those related to terrorism, riots and civil unrest), and severe weather;
- The uncertainty in estimating weather-related losses or the long-term impacts of the Pandemic, and the limitations and assumptions used to model other 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;
- 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" 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, including the impact of competition and consolidation in the industry and among agents and brokers;
- Competition, particularly from competitors who have resource and capability advantages;
- The global macroeconomic environment, including actions taken in response to the Pandemic, inflation, global trade wars, 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;
- Adverse state and federal regulation, legislative and/or regulatory actions (including recent significant revisions to Michigan's automobile personal injury protection system and related litigation, and various regulations, orders and proposed legislation related to business interruption and workers' compensation coverages, premium grace periods and returns, 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, and the risk of cyber-security attacks on or breaches of the company's systems and/or impacting our outsourcing relationships and third-party operations, or resulting in claim payments (including from products not intended to provide cyber coverage);
- 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 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.

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, 2020, the company uses non-GAAP financial measures as important measures of its operating performance, including operating income, operating income before interest expense and income taxes, operating income 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 2020 Annual Report on pages 67-70.

Operating income and operating income per share are non-GAAP measures. They are defined as net income 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 is the sum of the segment income from: Commercial Lines, Personal Lines, and Other, after interest expense and income taxes. In reference to one of the company's three segments, "operating income" is the segment income before both interest expense and income taxes. The company also uses "operating income per share" (which is after both interest expense and income taxes). It is calculated by dividing operating income by the weighted average number of diluted shares of common stock. The company believes that metrics of operating income and operating income in relation to its three segments provide investors with a valuable measure of the performance of the company's continuing businesses because they highlight the portion of net income attributable to the core operations of the business. Income (loss) from continuing operations is the most directly comparable GAAP measure for operating income (and operating income before income taxes) and measures of operating income that exclude the effects of catastrophe losses and/or reserve development should not be misconstrued as substitutes for income from continuing operations or net income determined in accordance with GAAP. A reconciliation of operating income (loss) to income from continuing operations and net income for the relevant periods is included on page 18 of this presentation and in the Financial Supplement.

The company may also provide measures of operating income 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, tornadoes, 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.

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 reserve development. The presentation of loss and combined ratios calculated excluding the effects of catastrophe losses and/or reserve development should not be misconstrued as substitutes for the loss and/or combined ratios determined in accordance with GAAP.

Operating return on equity ("ROE") is a non-GAAP measure. See end note (8) for a detailed explanation of how this measure is calculated. Operating ROE is based on non-GAAP operating income. 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 and shareholders' equity of the entire company and without adjustments.

End notes

(1) Operating income (loss) and operating income (loss) per diluted share are non-GAAP measures. See the disclosure on the use of non-GAAP measures throughout this presentation under the heading "Non-GAAP Financial Measures." The following table provides the reconciliation of operating income (loss) and operating income (loss) per diluted share to the most directly comparable GAAP measures, income from continuing operations and income from continuing operations per diluted share, respectively, which are then reconciled to net income and net income per diluted share, respectively:

	Three months ended				Year ended			
	December 31, 2020		December 31, 2021		December 31, 2020		December 31, 2021	
(In millions, except per share data)	$ Amount	Per Share (Diluted)	$ Amount	Per Share (Diluted)	$ Amount	Per Share (Diluted)	$ Amount	Per Share (Diluted)
OPERATING INCOME (LOSS)								
Commercial Lines	$103.2		$120.9		$275.4		$269.9	
Personal Lines	50.8		40.9		212.5		158.5	
Other	(3.7)		1.1		(3.2)		3.9	
Total	150.3		162.9		484.7		432.3	
Interest expense	(8.5)		(8.5)		(37.1)		(34.0)	
Operating income before income taxes	141.8	$3.82	154.4	$4.27	447.6	$11.75	398.3	$10.93
Income tax expense on operating income	(29.8)	(0.80)	(32.3)	(0.89)	(92.6)	(2.43)	(80.0)	(2.20)
Operating income after income taxes	112.0	3.02	122.1	3.38	355.0	9.32	318.3	8.73
Non-operating items:								
Net realized gains (losses) from sales and other	5.8	0.16	(2.2)	(0.06)	17.9	0.47	4.6	0.13
Net change in fair value of equity securities	57.8	1.56	53.2	1.47	13.4	0.35	119.1	3.27
Impairment recoveries (losses) on investments	1.6	0.04	(0.6)	(0.02)	(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	(11.3)	(0.31)	(9.7)	(0.26)	9.8	0.26	(21.3)	(0.59)
Income from continuing operations, net of taxes	165.9	4.47	162.8	4.51	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	0.4	0.01	1.2	0.03
Loss from discontinued life businesses	(1.7)	(0.05)	(0.5)	(0.01)	(3.7)	(0.09)	(2.5)	(0.06)
Net income	$164.6	$4.43	$163.5	$4.53	$358.7	9.42	$418.7	$11.49
Dilutive weighted average shares outstanding		37.1		36.1		38.1		36.4

End notes continued

(2) Combined ratio, excluding catastrophes, and current accident year combined ratio, excluding catastrophes, are non-GAAP measures. The combined ratio, excluding catastrophes is equal to the combined ratio, excluding catastrophe losses. The current accident year combined ratio, excluding catastrophes, is equal to the combined ratio, excluding catastrophe losses and prior-year reserve development. These measures are used throughout this document. The combined ratio (which includes catastrophe losses and prior-year reserve development) is the most directly comparable GAAP measure. The following is a reconciliation of the GAAP combined ratio to the combined ratio, excluding catastrophe losses, and the current accident year combined ratio, excluding catastrophe losses:

	Three months ended December 31, 2021			Year ended December 31, 2021		
	Commercial Lines	Personal Lines	Total	Commercial Lines	Personal Lines	Total
Total combined ratio (GAAP)	90.7 %	96.2 %	92.9 %	97.6 %	96.2 %	97.0 %
Less: Catastrophe loss ratio	2.1 %	4.7 %	3.1 %	8.0 %	9.1 %	8.4 %
Combined ratio, excluding catastrophe losses (non-GAAP)	88.6 %	91.5 %	89.8 %	89.6 %	87.1 %	88.6 %
Less: Prior-year reserve development ratio	(1.5)%	(0.6)%	(1.2)%	(1.2)%	(1.2)%	(1.2)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	90.1 %	92.1 %	91.0 %	90.8 %	88.3 %	89.8 %
	December 31, 2020			December 31, 2020		
Total combined ratio (GAAP)	91.5 %	93.4 %	92.4 %	95.8 %	92.4 %	94.4 %
Less: Catastrophe loss ratio	1.5 %	5.3 %	3.0 %	4.9 %	8.4 %	6.3 %
Combined ratio, excluding catastrophe losses (non-GAAP)	90.0 %	88.1 %	89.4 %	90.9 %	84.0 %	88.1 %
Less: Prior-year reserve development ratio	(0.9)%	-	(0.5)%	(0.7)%	-	(0.3)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	90.9 %	88.1 %	89.9 %	91.6 %	84.0 %	88.4 %
	December 31, 2019			December 31, 2019		
Total combined ratio (GAAP)	96.1 %	96.5 %	96.2 %	95.2 %	96.3 %	95.6 %
Less: Catastrophe loss ratio	4.1 %	1.6 %	3.1 %	3.1 %	4.7 %	3.8 %
Combined ratio, excluding catastrophe losses (non-GAAP)	92.0 %	94.9 %	93.1 %	92.1 %	91.6 %	91.8 %
Less: Prior-year reserve development ratio	(1.7)%	2.2 %	(0.1)%	(1.1)%	1.5 %	-
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	93.7 %	92.7 %	93.2 %	93.2 %	90.1 %	91.8 %

End notes continued

(3) Price increases in Commercial Lines represent 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 risks. Rate increases in Commercial Lines 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 available to renew 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 cumulatve premium effect of approved rate actions applied to policies available for 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.

(4) Core Commercial business provides commercial property and casualty coverages to small and mid-sized businesses in the U.S., generally with annual premiums per policy up to $250,000, primarily through the commercial multiple peril, commercial auto and workers' compensation lines of business, as reported on the current quarter Financial Supplement.

($ in millions)	Three months ended			Year ended		
	December 31, 2021			December 31, 2021		
	Core Commercial	Other Commercial	Total Commercial	Core Commercial	Other Commercial	Total Commercial
Net premiums written	$387.1	$325.6	$712.7	$1,682.3	$1,301.4	$2,983.7
Net premiums earned	$421.8	$324.1	$745.9	$1,643.6	$1,197.2	$2,840.8
	September 30, 2021					
	Core Commercial	Other Commercial	Total Commercial			
Net premiums written	$478.1	$348.7	$826.8			
Net premiums earned	$417.6	$281.0	$698.6			
	June 30, 2021					
	Core Commercial	Other Commercial	Total Commercial			
Net premiums written	$385.2	$301.6	$686.8			
Net premiums earned	$408.1	$295.3	$703.4			
	March 31, 2021					
	Core Commercial	Other Commercial	Total Commercial			
Net premiums written	$431.9	$325.5	$757.4			
Net premiums earned	$396.1	$296.8	$692.9			
	December 31, 2020			December 31, 2020		
	Core Commercial	Other Commercial	Total Commercial	Core Commercial	Other Commercial	Total Commercial
Net premiums written	$367.9	$282.2	$650.1	$1,578.0	$1,155.1	$2,733.1
Net premiums earned	$398.6	$285.1	$683.7	$1,561.6	$1,121.7	$2,683.3

End notes continued

(5) Specialty lines, a major component of Other Commercial Lines, consist of products such as marine, surety, specialty industrial property, excess and surplus, professional liability, management liability and program business. 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.

(6) 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. The following is a reconciliation of the GAAP loss ratio to the current accident year loss and LAE ratio, excluding catastrophe losses:

	Three months ended December 31, 2021									
	Commercial Multiple Peril	Commercial Auto	Workers' Comp	Commercial Other	Commercial Lines	Personal Auto	Home	Other Personal	Personal Lines	Total
Total loss and LAE Ratio	60.1 %	68.8 %	48.7 %	52.8 %	56.5 %	73.4 %	63.7 %	41.8 %	68.9 %	61.5 %
Less:										
Prior-year reserve development ratio	(0.6)%	0.5 %	(10.9)%	(0.1)%	(1.5)%	(1.4)%	1.1 %	(2.7)%	(0.6)%	(1.2)%
Catastrophe ratio	3.3 %	0.9 %	-	2.1 %	2.1 %	0.7 %	12.0 %	2.7 %	4.7 %	3.1 %
Current accident year loss ratio, excluding catastrophe losses	57.4 %	67.4 %	59.6 %	50.8 %	55.9 %	74.1 %	50.6 %	41.8 %	64.8 %	59.6 %
	December 31, 2020									
Total loss and LAE Ratio	58.4 %	70.9 %	47.7 %	54.3 %	56.9 %	68.1 %	62.0 %	37.6 %	65.0 %	60.3 %
Less:										
Prior-year reserve development ratio	0.4 %	5.7 %	(12.4)%	(0.6)%	(0.9)%	0.6 %	(0.7)%	(4.0)%	-	(0.5)%
Catastrophe ratio	1.5 %	0.7 %	-	2.1 %	1.5 %	0.3 %	14.8 %	2.0 %	5.3 %	3.0 %
Current accident year loss ratio, excluding catastrophe losses	56.5 %	64.5 %	60.1 %	52.8 %	56.3 %	67.2 %	47.9 %	39.6 %	59.7 %	57.8 %
	December 31, 2019									
Total loss and LAE Ratio	67.1 %	72.9 %	41.3 %	60.3 %	61.8 %	80.0 %	52.0 %	36.2 %	69.3 %	64.8 %
Less:										
Prior-year reserve development ratio	(0.6)%	1.7 %	(19.7)%	1.8 %	(1.7)%	2.8 %	1.3 %	0.8 %	2.2 %	(0.1)%
Catastrophe ratio	10.7 %	0.2 %	-	1.2 %	4.1 %	0.3 %	3.9 %	0.8 %	1.6 %	3.1 %
Current accident year loss ratio, excluding catastrophe losses	57.0 %	71.0 %	61.0 %	57.3 %	59.4 %	76.9 %	46.8 %	34.6 %	65.5 %	61.8 %

End notes continued

	Commercial Multiple Peril	Commercial Auto	Workers' Comp	Commercial Other	Commercial Lines	Personal Auto	Home	Other Personal	Personal Lines	Total
	Year ended December 31, 2021									
Total loss and LAE Ratio	76.2 %	64.4 %	52.9 %	56.8 %	63.8 %	66.0 %	75.5 %	43.9 %	68.5 %	65.7 %
Less:										
Prior-year reserve development ratio	(0.5)%	1.0 %	(6.7)%	(0.8)%	(1.2)%	(2.0)%	0.2 %	(1.2)%	(1.2)%	(1.2)%
Catastrophe ratio	17.5 %	0.4 %	-	5.0 %	8.0 %	1.6 %	23.1 %	2.7 %	9.1 %	8.4 %
Current accident year loss ratio, excluding catastrophe losses	59.2 %	63.0 %	59.6 %	52.6 %	57.0 %	66.4 %	52.2 %	42.4 %	60.6 %	58.5 %
	December 31, 2020									
Total loss and LAE Ratio	68.6 %	69.0 %	49.5 %	56.6 %	61.4 %	62.7 %	71.1 %	31.6 %	64.7 %	62.8 %
Less:										
Prior-year reserve development ratio	1.6 %	4.6 %	(11.4)%	(1.1)%	(0.7)%	0.4 %	(0.1)%	(8.3)%	-	(0.3)%
Catastrophe ratio	9.3 %	0.6 %	-	4.1 %	4.9 %	1.0 %	22.1 %	2.5 %	8.4 %	6.3 %
Current accident year loss ratio, excluding catastrophe losses	57.7 %	63.8 %	60.9 %	53.6 %	57.2 %	61.3 %	49.1 %	37.4 %	56.3 %	56.8 %
	December 31, 2019									
Total loss and LAE Ratio	63.0 %	71.9 %	50.7 %	58.3 %	60.6 %	74.0 %	61.5 %	41.5 %	68.9 %	64.0 %
Less:										
Prior-year reserve development ratio	(0.7)%	1.9 %	(10.0)%	0.4 %	(1.1)%	1.9 %	0.8 %	(0.2)%	1.5 %	-
Catastrophe ratio	7.5 %	0.4 %	-	1.4 %	3.1 %	0.5 %	12.8 %	2.8 %	4.7 %	3.8 %
Current accident year loss ratio, excluding catastrophe losses	56.2 %	69.6 %	60.7 %	56.5 %	58.6 %	71.6 %	47.9 %	38.9 %	62.7 %	60.2 %

(7) 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, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, and 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.

	Period ended						
	December 31 2016	December 31 2017	December 31 2018	December 31 2019	December 31 2020	September 30 2021	December 31 2021
Book value per share	$ 67.40	$ 70.59	$ 69.81	$ 75.94	$ 87.96	$ 87.04	$ 88.59
Less: Net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, per share	4.39	4.84	(0.65)	5.62	11.76	7.20	5.21
Book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	$ 63.01	$ 65.75	$ 70.46	$ 70.32	$ 76.20	$ 79.84	$ 83.38
Add: Special dividend per share declared on December 30, 2018	-	-	4.75	4.75	4.75	4.75	4.75
Add: Special dividend per share declared on December 13, 2019	-	-	-	2.50	2.50	2.50	2.50
Book value per share, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, and adjusted for special dividends	$ 63.01	$ 65.75	$ 75.21	$ 77.57	$ 83.45	$ 87.09	$ 90.63

End notes continued

(8) Operating Return on Average Equity ("Operating ROE") is a non-GAAP measure. Operating ROE is calculated by dividing annualized operating income after taxes for the applicable period (see under the heading in this presentation "Non-GAAP Financial Measures" and end note (1)), by average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, for the stated period (end note (9)). Please see end note (9) for a detailed reconciliation of adjusted shareholders' equity with and without net unrealized appreciation (depreciation) on fixed maturity investments, net of tax. Operating ROE should not be misconstrued as a substitute for GAAP ROE. See calculations in table below, including the calculation of net income ROE using net income, annualized, and average shareholders' equity without adjustments:

($ in millions)	(Non-GAAP) Three months ended		(GAAP) Year ended	
Net Income ROE	December 31, 2020	December 31, 2021	December 31, 2020	December 31, 2021
Net Income ROE	$164.6	$163.5	$358.7	$418.7
Annualized net income	658.4	654.0	358.7	418.7
Average shareholders' equity (end note (9))	3,178.6	3,123.6	3,016.3	3,130.0
Return on equity	20.7 %	20.9 %	11.9 %	13.4 %
Operating Income ROE	(Non-GAAP)		(Non-GAAP)	
Operating income after income taxes	$112.0	$122.1	$355.0	$318.3
Annualized operating income, net of tax* (end note (1))	448.0	488.4	355.0	318.3
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax (end note (9))	2,758.4	2,902.8	2,701.6	2,846.6
Operating return on equity	16.2 %	16.8 %	13.1%	11.2%

*For three months ended December 31, 2020, and 2021, annualized net income and operating income after income taxes is calculated by multiplying three months ended net income and operating income after income taxes, respectively, by four.

End notes continued

(9) Total shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is a non-GAAP measure. Total shareholders' equity is the most directly comparable GAAP measure and is reconciled in the table below. For the calculation of operating ROE, the average of beginning and each included quarter's ending shareholders' equity, excluding net unrealized appreciation (depreciation) onfixed maturity investments, net of tax, is used for the period as shown and reconciled in the table below:

($ in millions)	December 31, 2019	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Total shareholders' equity (GAAP)	$2,916.2	$2,736.6	$3,071.7	$3,155.0	$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	216.0	132.8	384.5	412.3	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	$2,700.2	$2,603.8	$2,687.2	$2,742.7	$2,774.1	$2,804.2	$2,849.3	$2,845.5	$2,960.0
Quarter Averages									
Average shareholders' equity (GAAP)					$3,178.6				$3,123.6
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					$2,758.4				$2,902.8
Year-to-date Averages									
Average shareholders' equity (GAAP)					$3,016.3				$3,130.0
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					$2,701.6				$2,846.6