UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2022

or

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

For the transition period from __________ to

Commission File Number 1-13754

THE HANOVER INSURANCE GROUP, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3263626**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

440 Lincoln Street, Worcester, Massachusetts 01653
(Address of principal executive offices) (Zip Code)

(508) 855-1000
(Registrant's telephone number, including area code)

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

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

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

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

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

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

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

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

The number of shares outstanding of the registrant's common stock was 35,562,307 as of October 31, 2022.

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ITEM 1 - FINANCIAL STATEMENTS

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

(In millions, except per share data)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Revenues				
Premiums	**$ 1,331.2**	$ 1,186.0	**$ 3,888.8**	$ 3,527.6
Net investment income	**73.0**	78.8	**220.4**	231.2
Net realized and unrealized investment gains (losses):				
Net realized gains (losses) from sales and other	**(0.1)**	3.6	**(16.3)**	6.8
Net change in fair value of equity securities	**(29.1)**	0.3	**(106.1)**	65.9
Recoveries (impairments) on investments:				
Credit-related recoveries (impairments)	**(1.4)**	0.7	**(1.5)**	0.6
Losses on intent to sell securities	**(14.3)**	(0.6)	**(14.8)**	(0.7)
	(15.7)	0.1	**(16.3)**	(0.1)
Total net realized and unrealized investment gains (losses)	**(44.9)**	4.0	**(138.7)**	72.6
Fees and other income	**7.0**	6.1	**19.4**	17.9
Total revenues	**1,366.3**	1,274.9	**3,989.9**	3,849.3
Losses and expenses				
Losses and loss adjustment expenses	**939.6**	844.0	**2,572.6**	2,370.4
Amortization of deferred acquisition costs	**277.1**	244.0	**809.3**	728.5
Interest expense	**8.5**	8.5	**25.5**	25.5
Other operating expenses	**140.6**	135.9	**423.8**	408.4
Total losses and expenses	**1,365.8**	1,232.4	**3,831.2**	3,532.8
Income from continuing operations before income taxes	**0.5**	42.5	**158.7**	316.5
Income tax expense (benefit):				
Current	**12.9**	9.9	**72.5**	47.1
Deferred	**(13.0)**	(2.2)	**(42.5)**	12.2
Total income tax expense (benefit)	**(0.1)**	7.7	**30.0**	59.3
Income from continuing operations	**0.6**	34.8	**128.7**	257.2
Discontinued operations (net of taxes):				
Loss from discontinued life businesses	**(0.4)**	(0.8)	**(1.1)**	(2.0)
Net income	**$ 0.2**	$ 34.0	**$ 127.6**	$ 255.2
Earnings per common share:				
Basic:				
Income from continuing operations	**$ 0.02**	$ 0.98	**$ 3.62**	$ 7.14
Discontinued operations (net of taxes):				
Loss from discontinued life businesses	**(0.01)**	(0.03)	**(0.03)**	(0.05)
Net income per share	**$ 0.01**	$ 0.95	**$ 3.59**	$ 7.09
Weighted average shares outstanding	**35.6**	35.7	**35.6**	36.0
Diluted:				
Income from continuing operations	**$ 0.02**	$ 0.96	**$ 3.56**	$ 7.04
Discontinued operations (net of taxes):				
Loss from discontinued life businesses	**(0.01)**	(0.02)	**(0.03)**	(0.06)
Net income per share	**$ 0.01**	$ 0.94	**$ 3.53**	$ 6.98
Weighted average shares outstanding	**36.1**	36.3	**36.1**	36.6

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

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (UNAUDITED)

(In millions)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Net income	**$ 0.2**	$ 34.0	**$ 127.6**	$ 255.2
Other comprehensive income (loss), net of tax:				
Available-for-sale securities:				
Changes in net unrealized gains (losses) on investment securities:				
Having no credit losses recognized in the Consolidated Statements of Income	**(245.1)**	(47.8)	**(885.9)**	(171.4)
Having credit losses recognized in the Consolidated Statements of Income	**(2.2)**	(0.1)	**(5.7)**	0.1
Total available-for-sale securities	**(247.3)**	(47.9)	**(891.6)**	(171.3)
Pension and postretirement benefits:				
Net change in net actuarial loss	**1.1**	0.6	**3.3**	2.0
Total other comprehensive loss, net of tax	**(246.2)**	(47.3)	**(888.3)**	(169.3)
Comprehensive income (loss)	**$ (246.0)**	$ (13.3)	**$ (760.7)**	$ 85.9

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

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

(In millions, except share data)	September 30, 2022	December 31, 2021
Assets		
Investments:		
Fixed maturities, at fair value (amortized cost of $8,093.9 and $7,514.8)	**$ 7,200.9**	$ 7,723.9
Equity securities, at fair value	**399.5**	661.3
Other investments	**793.7**	767.4
Total investments	**8,394.1**	9,152.6
Cash and cash equivalents	**164.8**	230.9
Accrued investment income	**50.1**	49.8
Premiums and accounts receivable, net	**1,623.8**	1,469.5
Reinsurance recoverable on paid and unpaid losses and unearned premiums	**1,945.8**	1,907.3
Deferred acquisition costs	**600.2**	552.0
Deferred income tax asset	**211.2**	—
Goodwill	**178.8**	178.8
Other assets	**480.9**	606.3
Assets of discontinued businesses	**96.2**	107.1
Total assets	**$ 13,745.9**	$ 14,254.3
Liabilities		
Loss and loss adjustment expense reserves	**$ 6,774.0**	$ 6,447.6
Unearned premiums	**2,971.5**	2,734.9
Expenses and taxes payable	**723.3**	907.7
Deferred income tax liability	—	60.8
Reinsurance premiums payable	**78.5**	55.1
Debt	**782.2**	781.6
Liabilities of discontinued businesses	**120.5**	121.7
Total liabilities	**11,450.0**	11,109.4
Commitments and contingencies		
Shareholders' Equity		
Preferred stock, par value $0.01 per share; 20.0 million shares authorized; none issued	—	—
Common stock, par value $0.01 per share; 300.0 million shares authorized; 60.5 million shares issued	**0.6**	0.6
Additional paid-in capital	**1,904.5**	1,887.2
Accumulated other comprehensive income (loss)	**(766.1)**	122.2
Retained earnings	**3,029.6**	2,983.2
Treasury stock at cost (24.9 million and 25.0 million shares)	**(1,872.7)**	(1,848.3)
Total shareholders' equity	**2,295.9**	3,144.9
Total liabilities and shareholders' equity	**$ 13,745.9**	$ 14,254.3

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

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

(In millions)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Preferred Stock				
Balance at beginning and end of period	**$ —**	$ —	**$ —**	$ —
Common Stock				
Balance at beginning and end of period	**0.6**	0.6	**0.6**	0.6
Additional Paid-in Capital				
Balance at beginning of period	**1,896.8**	1,873.4	**1,887.2**	1,857.4
Employee and director stock-based awards and other	**7.7**	7.3	**17.3**	23.3
Balance at end of period	**1,904.5**	1,880.7	**1,904.5**	1,880.7
Accumulated Other Comprehensive Income (Loss), net of tax				
Net Unrealized Appreciation (Depreciation) on Investments:				
Balance at beginning of period	**(459.4)**	304.7	**184.9**	428.1
Net depreciation on available-for-sale securities	**(247.3)**	(47.9)	**(891.6)**	(171.3)
Balance at end of period	**(706.7)**	256.8	**(706.7)**	256.8
Defined Benefit Pension and Postretirement Plans:				
Balance at beginning of period	**(60.5)**	(54.2)	**(62.7)**	(55.6)
Net amount recognized as net periodic benefit cost	**1.1**	0.6	**3.3**	2.0
Balance at end of period	**(59.4)**	(53.6)	**(59.4)**	(53.6)
Total accumulated other comprehensive income (loss)	**(766.1)**	203.2	**(766.1)**	203.2
Retained Earnings				
Balance at beginning of period	**3,056.7**	2,837.9	**2,983.2**	2,668.0
Net income	**0.2**	34.0	**127.6**	255.2
Dividends to shareholders	**(27.3)**	(25.2)	**(81.2)**	(76.5)
Balance at end of period	**3,029.6**	2,846.7	**3,029.6**	2,846.7
Treasury Stock				
Balance at beginning of period	**(1,862.4)**	(1,808.4)	**(1,848.3)**	(1,696.3)
Shares purchased at cost	**(10.4)**	(24.0)	**(30.8)**	(147.6)
Net shares reissued at cost under employee stock-based compensation plans	**0.1**	3.5	**6.4**	15.0
Balance at end of period	**(1,872.7)**	(1,828.9)	**(1,872.7)**	(1,828.9)
Total shareholders' equity	**$ 2,295.9**	$ 3,102.3	**$ 2,295.9**	$ 3,102.3

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

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

(In millions)	Nine Months Ended September 30, 2022	2021
Cash Flows From Operating Activities		
Net income	**$ 127.6**	$ 255.2
Adjustments to reconcile net income to net cash provided by operating activities:		
Net realized and unrealized investment (gains) losses	**138.9**	(73.0)
Net amortization and depreciation	**10.0**	12.5
Stock-based compensation expense	**21.8**	16.8
Amortization of defined benefit plan costs	**4.1**	2.5
Deferred income tax expense (benefit)	**(42.5)**	12.4
Change in deferred acquisition costs	**(48.2)**	(67.1)
Change in premiums receivable, net of reinsurance premiums payable	**(131.0)**	(144.0)
Change in loss, loss adjustment expense and unearned premium reserves	**563.5**	776.9
Change in reinsurance recoverable	**(38.5)**	(128.4)
Change in expenses and taxes payable	**(29.3)**	(51.0)
Other, net	**(52.6)**	(17.4)
Net cash provided by operating activities	**523.8**	595.4
Cash Flows From Investing Activities		
Proceeds from disposals and maturities of fixed maturities	**799.0**	1,155.6
Proceeds from disposals of equity securities and other investments	**260.1**	209.6
Purchase of fixed maturities	**(1,429.2)**	(1,571.5)
Purchase of equity securities and other investments	**(92.2)**	(125.7)
Capital expenditures	**(13.9)**	(5.7)
Net cash used in investing activities	**(476.2)**	(337.7)
Cash Flows From Financing Activities		
Proceeds from exercise of employee stock options	**10.6**	19.3
Dividends paid to shareholders	**(80.1)**	(75.6)
Repurchases of common stock	**(30.8)**	(142.6)
Other financing activities	**(13.4)**	(8.2)
Net cash used in financing activities	**(113.7)**	(207.1)
Net change in cash and cash equivalents	**(66.1)**	50.6
Cash and cash equivalents, beginning of period	**230.9**	120.6
Cash and cash equivalents, end of period	**$ 164.8**	$ 171.2

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

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

NOTES TO INTERIM CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. Basis of Presentation and Principles of Consolidation

The accompanying unaudited consolidated financial statements of The Hanover Insurance Group, Inc. and its subsidiaries ("THG" or the "Company") have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP") for interim financial information and with the requirements of Form 10-Q. Certain financial information that is provided in annual financial statements, but is not required in interim reports, has been omitted.

The interim consolidated financial statements of THG include the accounts of The Hanover Insurance Company ("Hanover Insurance") and Citizens Insurance Company of America, THG's principal property and casualty insurance companies; and other insurance and non-insurance subsidiaries. These legal entities conduct their operations through several business segments discussed in Note 8 – "Segment Information." The interim consolidated financial statements also include the Company's discontinued operations, consisting primarily of the Company's former accident and health and life insurance businesses. All intercompany accounts and transactions have been eliminated.

The preparation of financial statements in conformity with U.S. GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates.

In the opinion of the Company's management, the accompanying interim consolidated financial statements reflect all adjustments, consisting of normal recurring items, necessary for a fair presentation of the financial position and results of operations. The results of operations for the nine months ended September 30, 2022, are not necessarily indicative of the results to be expected for the full year. These financial statements should be read in conjunction with the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 25, 2022.

2. New Accounting Pronouncements

The Company did not adopt any new accounting standards during the nine months ended September 30, 2022. An assessment was made regarding the effect that adoption of recently issued accounting standards by the Financial Accounting Standards Board would have on the Company's consolidated financial statements. There were no new accounting standards issued in the nine months ended September 30, 2022 that are expected to have a material effect on the Company's financial position or results of operations. For information regarding accounting standards that the Company implemented during 2021, see Note 1(O) — *Summary of Significant Accounting Policies — New Accounting Pronouncements* in the Notes to Consolidated Financial Statements in the Company's 2021 Annual Report on Form 10-K.

3. Investments

A. Fixed maturities

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

	September 30, 2022					
(in millions)	Amortized Cost	Allowance for Credit Losses	Amortized Cost, Net of Allowance for Credit Losses	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury and government agencies	$ 441.3	$ —	$ 441.3	$ 0.2	$ 61.6	$ 379.9
Foreign government	2.2	—	2.2	—	0.1	2.1
Municipal	1,214.3	—	1,214.3	0.8	163.3	1,051.8
Corporate	4,023.5	(3.1)	4,020.4	2.0	405.6	3,616.8
Residential mortgage-backed	1,166.3	—	1,166.3	—	148.0	1,018.3
Commercial mortgage-backed	916.8	—	916.8	—	91.0	825.8
Asset-backed	332.6	—	332.6	—	26.4	306.2
Total fixed maturities	$ 8,097.0	$ (3.1)	$ 8,093.9	$ 3.0	$ 896.0	$ 7,200.9

(in millions)	December 31, 2021 Amortized Cost		Allowance for Credit Losses		Amortized Cost, Net of Allowance for Credit Losses		Gross Unrealized Gains		Gross Unrealized Losses		Fair Value
U.S. Treasury and government agencies	$	394.3	$	—	$	394.3	$	9.3	$	7.4	$ 396.2
Foreign government		2.2		—		2.2		0.4		—	2.6
Municipal		1,176.2		—		1,176.2		32.6		8.0	1,200.8
Corporate		3,931.5		(0.3)		3,931.2		174.5		15.6	4,090.1
Residential mortgage-backed		1,068.2		—		1,068.2		12.4		11.0	1,069.6
Commercial mortgage-backed		802.4		—		802.4		26.6		4.6	824.4
Asset-backed		140.3		—		140.3		1.3		1.4	140.2
Total fixed maturities	$	7,515.1	$	(0.3)	$	7,514.8	$	257.1	$	48.0	$ 7,723.9

The Company deposits funds with various state and governmental authorities. For a discussion of the Company's deposits with state and governmental authorities, see also Note 2 – "Investments" in the Notes to Consolidated Financial Statements in the Company's 2021 Annual Report on Form 10-K.

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

(in millions)	September 30, 2022 Amortized Cost, Net of Allowance for Credit Losses	Fair Value
Due in one year or less	**$ 257.5**	**$ 256.0**
Due after one year through five years	**2,263.0**	**2,149.2**
Due after five years through ten years	**2,757.6**	**2,319.3**
Due after ten years	**400.1**	**326.1**
	5,678.2	**5,050.6**
Mortgage-backed and asset-backed securities	**2,415.7**	**2,150.3**
Total fixed maturities	**$ 8,093.9**	**$ 7,200.9**

B. Fixed maturity securities in an unrealized loss position

The following tables provide information about the Company's available-for-sale fixed maturity securities that were in an unrealized loss position at September 30, 2022 and December 31, 2021, including the length of time the securities have been in an unrealized loss position:

	September 30, 2022					
	12 months or less		Greater than 12 months		Total	
(in millions)	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies	**$ 21.5**	**$ 243.2**	**$ 40.1**	**$ 129.7**	**$ 61.6**	**$ 372.9**
Foreign governments	**0.1**	**1.9**	**—**	**—**	**0.1**	**1.9**
Municipal	**116.6**	**806.3**	**46.7**	**170.9**	**163.3**	**977.2**
Corporate	**285.9**	**2,959.8**	**85.1**	**277.0**	**371.0**	**3,236.8**
Residential mortgage-backed	**93.6**	**796.7**	**54.4**	**213.7**	**148.0**	**1,010.4**
Commercial mortgage-backed	**62.6**	**716.9**	**28.4**	**105.0**	**91.0**	**821.9**
Asset-backed	**21.8**	**289.5**	**4.6**	**16.7**	**26.4**	**306.2**
Total investment grade	**602.1**	**5,814.3**	**259.3**	**913.0**	**861.4**	**6,727.3**
Below investment grade:						
Corporate	**28.0**	**235.8**	**6.6**	**23.7**	**34.6**	**259.5**
Total fixed maturities	**$ 630.1**	**$ 6,050.1**	**$ 265.9**	**$ 936.7**	**$ 896.0**	**$ 6,986.8**

(in millions)	December 31, 2021					
	12 months or less		Greater than 12 months		Total	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies	$ 2.3	$ 98.0	$ 5.1	$ 101.3	$ 7.4	$ 199.3
Municipal	7.9	480.8	0.1	2.5	8.0	483.3
Corporate	13.6	599.6	0.4	7.5	14.0	607.1
Residential mortgage-backed	11.0	653.5	—	—	11.0	653.5
Commercial mortgage-backed	4.6	204.0	—	—	4.6	204.0
Asset-backed	1.4	91.5	—	—	1.4	91.5
Total investment grade	40.8	2,127.4	5.6	111.3	46.4	2,238.7
Below investment grade:						
Corporate	1.6	95.8	—	—	1.6	95.8
Total fixed maturities	$ 42.4	$ 2,223.2	$ 5.6	$ 111.3	$ 48.0	$ 2,334.5

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

C. Proceeds from sales

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

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Proceeds from sales	**$ 35.2**	$ 83.4	**$ 308.9**	$ 335.5
Gross gains	**—**	1.0	**1.8**	4.9
Gross losses	**0.5**	1.7	**21.3**	9.1

D. Impairments

For the three and nine months ended September 30, 2022, the Company recognized net impairments of $15.7 million and $16.3 million, respectively, primarily consisting of intent to sell fixed maturity securities. For the three and nine months ended September 30, 2021, the Company recognized net recoveries of $0.1 million and net impairments of $0.1 million, respectively.

At September 30, 2022 and December 31, 2021, the allowance for credit losses on mortgage loans was $5.2 million and $7.1 million respectively, and the allowance for credit losses on available-for-sale debt securities was $3.1 million and $0.3 million, respectively.

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

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

E. Equity securities

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

(in millions)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Net gains (losses) recognized during the period	**$ (29.1)**	$ 0.3	**$ (106.1)**	$ 65.9
Less: net gains (losses) recognized on equity securities sold during the period	**(0.1)**	0.9	**(8.8)**	1.4
Net unrealized gains (losses) recognized during the period on equity securities still held	**$ (29.0)**	$ (0.6)	**$ (97.3)**	$ 64.5

4. Fair Value

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

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

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

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

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

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

Fixed Maturities

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

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

- U.S. government agencies – determination of direct versus indirect government support and whether any contingencies exist with respect to the timely payment of principal and interest.
- Foreign government – estimates of appropriate market spread versus underlying related sovereign treasury curve(s) dependent on liquidity and direct or contingent support.
- Municipals – overall credit quality, including assessments of the level and variability of: sources of payment such as income, sales or property taxes, levies or user fees; credit support such as insurance; state or local economic and political base; natural resource availability; and susceptibility to natural or man-made catastrophic events such as hurricanes, earthquakes or acts of terrorism.

- Corporate fixed maturities – overall credit quality, including assessments of the level and variability of: economic sensitivity; liquidity; corporate financial policies; management quality; regulatory environment; competitive position; ownership; restrictive covenants; and security or collateral.
- Residential mortgage-backed securities – estimates of prepayment speeds based upon: historical prepayment rate trends; underlying collateral interest rates; geographic concentration; vintage year; borrower credit quality characteristics; interest rate and yield curve forecasts; government or monetary authority support programs; tax policies; and delinquency/default trends.
- Commercial mortgage-backed securities – overall credit quality, including assessments of the value and supply/demand characteristics of: collateral type such as office, retail, residential, lodging, or other; geographic concentration by region, state, metropolitan statistical area and locale; vintage year; historical collateral performance including defeasance, delinquency, default and special servicer trends; and capital structure support features.
- Asset-backed securities – overall credit quality, including assessments of the underlying collateral type such as credit card receivables, automobile loan receivables and equipment lease receivables; geographic diversification; vintage year; historical collateral performance including delinquency, default and casualty trends; economic conditions influencing use rates and resale values; and contract structural support features.

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

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

Equity Securities

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

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

Other Investments

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

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

(in millions)	September 30, 2022 Carrying Value	September 30, 2022 Market Value	December 31, 2021 Carrying Value	December 31, 2021 Market Value
Financial Assets carried at:				
Fair Value through AOCI:				
Fixed maturities	**$ 7,200.9**	**$ 7,200.9**	$ 7,723.9	$ 7,723.9
Fair Value through Net Income:				
Equity securities	**399.5**	**399.5**	661.3	661.3
Other investments	**138.3**	**138.3**	143.8	143.8
Amortized Cost/Cost:				
Other investments	**451.9**	**430.8**	450.8	472.9
Cash and cash equivalents	**164.8**	**164.8**	230.9	230.9
Total financial instruments	**$ 8,355.4**	**$ 8,334.3**	$ 9,210.7	$ 9,232.8
Financial Liabilities carried at:				
Amortized Cost:				
Debt	**$ 782.2**	**$ 704.5**	$ 781.6	$ 845.5

The Company has processes designed to ensure that the values received from its third-party pricing services are accurately recorded, that the data inputs and valuation approaches and techniques utilized are appropriate and consistently applied, and that the assumptions are reasonable and consistent with the objective of determining fair value. The Company reviews the pricing services' policies describing its methodology, processes, practices and inputs, including various financial models used to value securities. For assets carried at fair value, the Company performs a review of the fair value hierarchy classifications and of prices received from its pricing services on a quarterly basis. Also, the Company reviews the portfolio pricing, including a process for which securities with changes in prices that exceed a defined threshold are verified to independent sources, if available. If upon review, the Company is not satisfied with the validity of a given price, a pricing challenge would be submitted to the applicable pricing service along with supporting documentation for its review. The Company does not adjust quotes or prices obtained from the pricing services unless the pricing service agrees with the Company's challenge. During the first nine months of 2022 and 2021, the Company did not adjust any prices received from its pricing services.

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

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

(in millions)	September 30, 2022 Total	Level 1	Level 2	Level 3
Fixed maturities:				
U.S. Treasury and government agencies	**$ 379.9**	**$ 244.0**	**$ 135.9**	**$ —**
Foreign government	**2.1**	**—**	**2.1**	**—**
Municipal	**1,051.8**	**—**	**1,041.8**	**10.0**
Corporate	**3,616.8**	**—**	**3,616.7**	**0.1**
Residential mortgage-backed	**1,018.3**	**—**	**1,018.3**	**—**
Commercial mortgage-backed	**825.8**	**—**	**818.2**	**7.6**
Asset-backed	**306.2**	**—**	**306.2**	**—**
Total fixed maturities	**7,200.9**	**244.0**	**6,939.2**	**17.7**
Equity securities	**399.5**	**389.5**	**—**	**10.0**
Other investments	**4.3**	**—**	**—**	**4.3**
Total investment assets at fair value	**$ 7,604.7**	**$ 633.5**	**$ 6,939.2**	**$ 32.0**

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

Limited partnerships measured at fair value using the NAV based on an ownership interest in partners' capital have not been included in the hierarchy tables. At September 30, 2022 and December 31, 2021, the fair values of these investments were $134.0 million and $139.5 million, respectively, approximately 2% of total investment assets for both periods presented.

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

(in millions)	September 30, 2022 Total	Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	**$ 164.8**	**$ 164.8**	**$ —**	**$ —**
Other investments	**430.8**	**—**	**6.1**	**424.7**
Total financial instruments	**$ 595.6**	**$ 164.8**	**$ 6.1**	**$ 424.7**
Liabilities:				
Debt	**$ 704.5**	**$ —**	**$ 704.5**	**$ —**

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

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

(in millions)	Fixed Maturities: Municipal	Fixed Maturities: Corporate	Fixed Maturities: Commercial mortgage-backed	Fixed Maturities: Total	Equity and Other	Total Assets
Three Months Ended September 30, 2022						
Balance July 1, 2022	**$ 11.0**	**$ 0.1**	**$ 8.1**	**$ 19.2**	**$ 14.4**	**$ 33.6**
Total losses:						
Included in total net realized and unrealized investment losses	**—**	**—**	**—**	**—**	**(0.1)**	**(0.1)**
Included in other comprehensive loss-net depreciation on available-for-sale securities	**(0.3)**	**—**	**(0.4)**	**(0.7)**	**—**	**(0.7)**
Sales	**(0.7)**	**—**	**(0.1)**	**(0.8)**	**—**	**(0.8)**
Balance September 30, 2022	**$ 10.0**	**$ 0.1**	**$ 7.6**	**$ 17.7**	**$ 14.3**	**$ 32.0**
Change in unrealized losses for the period included in other comprehensive loss for assets held at the end of the period	**$ (0.4)**	**$ —**	**$ (0.3)**	**$ (0.7)**	**$ —**	**$ (0.7)**
Three Months Ended September 30, 2021						
Balance July 1, 2021	$ 5.5	$ 0.4	$ 11.7	$ 17.6	$ 9.6	$ 27.2
Total gains:						
Included in total net realized and unrealized investment gains	—	—	—	—	4.5	4.5
Sales	(0.1)	(0.3)	(0.2)	(0.6)	—	(0.6)
Balance September 30, 2021	$ 5.4	$ 0.1	$ 11.5	$ 17.0	$ 14.1	$ 31.1
Change in unrealized losses for the period included in other comprehensive loss for assets held at the end of the period	$ —	$ —	$ —	$ —	$ —	$ —

(in millions)	Fixed Maturities Municipal	Corporate	Commercial mortgage-backed	Total	Equity and Other	Total Assets
Nine Months Ended September 30, 2022						
Balance January 1, 2022	**$ 14.0**	**$ 0.1**	**$ 11.3**	**$ 25.4**	**$ 14.4**	**$ 39.8**
Total losses:						
Included in total net realized and unrealized investment losses	**—**	**—**	**—**	**—**	**(0.1)**	**(0.1)**
Included in other comprehensive loss-net depreciation on available-for-sale securities	**(1.1)**	**—**	**(1.2)**	**(2.3)**	**—**	**(2.3)**
Sales	**(2.9)**	**—**	**(2.5)**	**(5.4)**	**—**	**(5.4)**
Balance September 30, 2022	**$ 10.0**	**$ 0.1**	**$ 7.6**	**$ 17.7**	**$ 14.3**	**$ 32.0**
Change in unrealized losses for the period included in other comprehensive loss for assets held at the end of the period	**$ (1.2)**	**$ —**	**$ (1.1)**	**$ (2.3)**	**$ —**	**$ (2.3)**
Nine Months Ended September 30, 2021						
Balance January 1, 2021	$ 7.0	$ 0.5	$ 12.4	$ 19.9	$ 9.5	$ 29.4
Total gains (losses):						
Included in total net realized and unrealized investment gains	—	—	—	—	4.6	4.6
Included in other comprehensive loss-net depreciation on available-for-sale securities	—	—	(0.4)	(0.4)	—	(0.4)
Sales	(1.6)	(0.4)	(0.5)	(2.5)	—	(2.5)
Balance September 30, 2021	$ 5.4	$ 0.1	$ 11.5	$ 17.0	$ 14.1	$ 31.1
Change in unrealized losses for the period included in other comprehensive loss for assets held at the end of the period	$ —	$ —	$ (0.4)	$ (0.4)	$ —	$ (0.4)

There were no transfers between Level 2 and Level 3, and there were no Level 3 liabilities held by the Company for the three or nine months ended September 30, 2022 and 2021.

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

(in millions)	Valuation Technique	Significant Unobservable Inputs	September 30, 2022 Fair Value	Range (Wtd Average)	December 31, 2021 Fair Value	Range (Wtd Average)
Fixed maturities:						
Municipal	Discounted cash flow	Discount for: Small issue size	**$ 10.0**	**4.5 - 6.8% (6.6%)**	$ 14.0	4.5 - 6.8% (6.5%)
Corporate	Discounted cash flow	Discount for: Small issue size Above-market coupon	**0.1**	**2.5% (2.5%)** **0.3% (0.3%)**	0.1	2.5% (2.5%) 0.3% (0.3%)
Commercial mortgage-backed	Discounted cash flow	Discount for: Small issue size Above-market coupon Lease structure	**7.6**	**2.3 - 3.1% (2.9%)** **0.5% (0.5%)** **0.3% (0.3%)**	11.3	1.9 - 3.1% (2.7%) 0.5% (0.5%) 0.3% (0.3%)
Equity securities	Market comparables	Net tangible asset	**1.2**	**N/A**	1.3	N/A
	Internal price	Unadjusted price from financing round	**8.8**	**11.18 (11.18)**	8.8	11.18 (11.18)
Other	Discounted cash flow	Discount rate	**4.3**	**16.1% (16.1%)**	4.3	16.1% (16.1%)

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

5. Income Taxes

Income tax expense for the nine months ended September 30, 2022 and 2021 has been computed using estimated annual effective tax rates. These rates are revised, if necessary, at the end of each successive interim period to reflect current estimates of the annual effective tax rates.

The tax provision was comprised of a U.S. federal income tax expense of $30.0 million and $59.3 million for the nine months ended September 30, 2022 and 2021, respectively.

The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state jurisdictions, and have previously filed in foreign jurisdictions. The Company and its subsidiaries are subject to U.S. federal and state income tax examinations and foreign examinations for years after 2017. The audits of the Company's Massachusetts corporate excise tax years 2017 and 2018 commenced in June 2021 and the Illinois business income tax year 2019 commenced in May 2022.

6. Pension Plans

The components of net periodic pension cost (benefit) for the defined benefit pension plans included in the Company's results of operations are as follows:

	Three Months Ended September 30,	
	2022	**2021**
(in millions)	**Pension Plans**	
Interest cost	**$ 3.9**	$ 3.8
Expected return on plan assets	**(4.3)**	(4.6)
Recognized net actuarial loss	**1.3**	0.8
Net periodic pension cost	**$ 0.9**	$ —

	Nine Months Ended September 30,	
	2022	**2021**
(in millions)	**Pension Plans**	
Interest cost	**$ 11.5**	$ 11.2
Expected return on plan assets	**(12.9)**	(13.8)
Recognized net actuarial loss	**3.9**	2.4
Net periodic pension cost (benefit)	**$ 2.5**	$ (0.2)

7. Other Comprehensive Loss

The following tables provide changes in other comprehensive loss.

	Three Months Ended September 30,					
	2022			**2021**		
(in millions)	**Pre-Tax**	**Tax Benefit (Expense)**	**Net of Tax**	**Pre-Tax**	**Tax Benefit (Expense)**	**Net of Tax**
Changes in net unrealized gains (losses) on investment securities:						
Net unrealized losses arising during period for those having no credit losses in Consolidated Statement of Income	**$ (324.5)**	**$ 68.1**	**$ (256.4)**	$ (57.0)	$ 12.1	$ (44.9)
Net unrealized losses arising during period for those having credit losses in Consolidated Statement of Income	**(4.2)**	**0.9**	**(3.3)**	(0.1)	—	(0.1)
Amount of (gains) losses realized from sales and other recognized in Consolidated Statement of Income	**0.3**	**(0.3)**	**—**	(2.5)	(0.3)	(2.8)
Amount of credit-related impairments recognized in the Consolidated Statement of Income	**1.4**	**(0.3)**	**1.1**	—	—	—
Amount of additional impairment losses (recoveries) recognized in the Consolidated Statement of Income	**14.3**	**(3.0)**	**11.3**	(0.1)	—	(0.1)
Net unrealized losses	**(312.7)**	**65.4**	**(247.3)**	(59.7)	11.8	(47.9)
Pension and postretirement benefits:						
Amortization of net actuarial losses recognized as net periodic benefit cost	**1.4**	**(0.3)**	**1.1**	0.8	(0.2)	0.6
Other comprehensive loss	**$ (311.3)**	**$ 65.1**	**$ (246.2)**	$ (58.9)	$ 11.6	$ (47.3)

(in millions)	Nine Months Ended September 30, 2022 Pre-Tax	2022 Tax Benefit (Expense)	2022 Net of Tax	2021 Pre-Tax	2021 Tax Benefit (Expense)	2021 Net of Tax
Changes in net unrealized gains (losses) on investment securities:						
Net unrealized losses arising during period for those having no credit losses in Consolidated Statement of Income	**$ (1,151.7)**	**$ 241.8**	**$ (909.9)**	$ (206.8)	$ 43.5	$ (163.3)
Net unrealized gains (losses) arising during period for those having credit losses in Consolidated Statement of Income	**(10.5)**	**2.2**	**(8.3)**	0.2	(0.1)	0.1
Amount of (gains) losses realized from sales and other recognized in Consolidated Statement of Income	**16.9**	**(4.6)**	**12.3**	(5.7)	(2.5)	(8.2)
Amount of credit-related impairments recognized in the Consolidated Statement of Income	**3.3**	**(0.7)**	**2.6**	—	—	—
Amount of additional impairment losses recognized in the Consolidated Statement of Income	**14.8**	**(3.1)**	**11.7**	0.1	—	0.1
Net unrealized losses	**(1,127.2)**	**235.6**	**(891.6)**	(212.2)	40.9	(171.3)
Pension and postretirement benefits:						
Amortization of net actuarial losses recognized as net periodic benefit cost	**4.1**	**(0.8)**	**3.3**	2.5	(0.5)	2.0
Other comprehensive loss	**$ (1,123.1)**	**$ 234.8**	**$ (888.3)**	$ (209.7)	$ 40.4	$ (169.3)

Reclassifications out of accumulated other comprehensive income (loss) were as follows:

(in millions) Details about Accumulated Other Comprehensive Income Components	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021	Affected Line Item in the Statement Where Net Income is Presented
	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)				
Net unrealized gains (losses) on investment securities	**$ —**	$ 2.5	**$ (16.7)**	$ 5.7	Net realized gains (losses) from sales and other
	(15.7)	0.1	**(18.1)**	(0.1)	Recoveries (impairments) on investments
	(15.7)	2.6	**(34.8)**	5.6	Total before tax
	3.6	0.3	**8.4**	2.5	Income tax benefit
	(12.1)	2.9	**(26.4)**	8.1	Continuing operations; net of tax
	(0.3)	—	**(0.2)**	—	Discontinued operations - loss from discontinued life businesses
	(12.4)	2.9	**(26.6)**	8.1	Net of tax
Amortization of defined benefit pension and postretirement actuarial losses	**(1.4)**	(0.8)	**(4.1)**	(2.5)	Loss adjustment expenses and other operating expenses (1)
	0.3	0.2	**0.8**	0.5	Income tax benefit
	(1.1)	(0.6)	**(3.3)**	(2.0)	Continuing operations; net of tax
Total reclassifications for the period	**$ (13.5)**	$ 2.3	**$ (29.9)**	$ 6.1	Benefit (expense) reflected in income, net of tax

(1) The amount reclassified from accumulated other comprehensive income (loss) for the pension and postretirement benefits was allocated approximately 40% to loss adjustment expenses and 60% to other operating expenses for the three and nine months ended September 30, 2022 and 2021.

8. Segment Information

The Company’s primary business operations include insurance products and services provided through four operating segments: Core Commercial, Specialty, Personal Lines and Other. Core Commercial includes commercial multiple peril, commercial automobile, workers’ compensation, and other commercial lines coverages provided to small and mid-sized businesses. Specialty includes four divisions of business: Professional and Executive Lines, Specialty Property and Casualty (“Specialty P&C”), Marine, and Surety and Other. Specialty P&C includes coverages such as program business (provides commercial insurance to markets with specialized coverage or risk management needs related to groups of similar businesses), specialty industrial and commercial property, and excess and surplus lines. Personal Lines includes personal automobile, homeowners and other personal coverages. Included in the Other segment are Opus Investment Management, Inc., which markets investment management services to institutions, pension funds and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to the Company’s former life insurance employees and agents; and run-off voluntary assumed property and casualty pools and run-off direct asbestos and environmental businesses. During the first quarter of 2022, the Company disaggregated its former Commercial Lines segment into the aforementioned Core Commercial and Specialty segments. Prior periods reflect this new presentation. This presentation is consistent with the way results are regularly evaluated by the chief operating decision maker in deciding how to allocate resources and in assessing performance.

The Company reports interest expense related to debt separately from the earnings of its operating segments. This consists primarily of interest on the Company’s senior and subordinated debentures.

Management evaluates the results of the aforementioned segments based on operating income before income taxes, excluding interest expense on debt. Operating income before income taxes excludes certain items which are included in net income, such as net realized and unrealized investment gains and losses. Such gains and losses are excluded since they are determined by interest rates, financial markets and the timing of sales. Also, operating income before income taxes excludes net gains and losses on disposals of businesses, gains and losses related to the repayment of debt, discontinued operations, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Although the items excluded from operating income before interest expense and income taxes may be important components in understanding and assessing the Company’s overall financial performance, management believes that the presentation of operating income before interest expense and income taxes enhances an investor’s understanding of the Company’s results of operations by highlighting net income attributable to the core operations of the business. However, operating income before income taxes should not be construed as a substitute for income before income taxes or income from continuing operations, and operating income should not be construed as a substitute for net income.

Summarized below is financial information with respect to the Company's business segments.

(in millions)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Operating revenues:				
Core Commercial	**$ 527.1**	$ 497.6	**$ 1,551.8**	$ 1,453.9
Specialty	**319.9**	256.4	**931.0**	804.1
Personal Lines	**560.5**	512.6	**1,635.4**	1,506.3
Other	**3.7**	4.3	**10.4**	12.4
Total	**1,411.2**	1,270.9	**4,128.6**	3,776.7
Net realized and unrealized investment gains (losses)	**(44.9)**	4.0	**(138.7)**	72.6
Total revenues	**$ 1,366.3**	$ 1,274.9	**$ 3,989.9**	$ 3,849.3
Operating income before interest expense and income taxes:				
Core Commercial:				
Underwriting income (loss)	**$ (7.7)**	$ (25.7)	**$ 58.8**	$ (41.9)
Net investment income	**33.4**	37.0	**101.4**	108.9
Other expense	**(0.5)**	(0.3)	**(0.6)**	(0.9)
Core Commercial operating income	**25.2**	11.0	**159.6**	66.1
Specialty:				
Underwriting income	**32.0**	15.5	**96.2**	36.2
Net investment income	**15.2**	15.9	**46.2**	46.8
Other expense	**(0.3)**	—	**(0.3)**	(0.1)
Specialty operating income	**46.9**	31.4	**142.1**	82.9
Personal Lines:				
Underwriting income (loss)	**(42.7)**	(20.3)	**(50.3)**	48.1
Net investment income	**21.4**	22.6	**64.6**	66.5
Other income	**2.5**	1.3	**6.0**	3.0
Personal Lines operating income (loss)	**(18.8)**	3.6	**20.3**	117.6
Other:				
Underwriting loss	**—**	(0.4)	**—**	(1.0)
Net investment income	**3.0**	3.3	**8.2**	9.0
Other expense	**(2.4)**	(1.9)	**(6.9)**	(5.2)
Other operating income	**0.6**	1.0	**1.3**	2.8
Operating income before interest expense and income taxes	**53.9**	47.0	**323.3**	269.4
Interest on debt	**(8.5)**	(8.5)	**(25.5)**	(25.5)
Operating income before income taxes	**45.4**	38.5	**297.8**	243.9
Non-operating items:				
Net realized and unrealized investment gains (losses)	**(44.9)**	4.0	**(138.7)**	72.6
Other non-operating	**—**	—	**(0.4)**	—
Income from continuing operations before income taxes	**$ 0.5**	$ 42.5	**$ 158.7**	$ 316.5

The following table provides identifiable assets for the Company's business segments and discontinued operations:

(in millions)	September 30, 2022	December 31, 2021
Property and Casualty	**$ 13,649.7**	$ 14,147.2
Assets of discontinued businesses	**96.2**	107.1
Total	**$ 13,745.9**	$ 14,254.3

The Company reviews the assets of its insurance companies collectively and does not allocate them between the Core Commercial, Specialty, Personal Lines and Other segments.

9. Stock-based Compensation

On May 10, 2022 the shareholders approved The Hanover Insurance Group 2022 Long-Term Incentive Plan (the "2022 Stock Plan"). With respect to new share-based issuances, the 2022 Stock Plan replaced The Hanover Insurance Group, Inc. 2014 Long-Term Incentive Plan (the "2014 Stock Plan") and provided authorization for 3,380,000 shares in a new share pool plus any shares subject to outstanding awards under the 2014 Stock Plan that may become available for reissuance as a result of the cash settlement, forfeiture, expiration or cancellation of such awards. The 2022 Stock Plan provides for the granting of the same types of awards as the 2014 Stock Plan, which includes stock options and stock appreciation rights ("SARS"), restricted and unrestricted stock, stock units, performance based stock awards and cash awards. In accordance with the 2022 Stock Plan, the issuance of one share of common stock in the form of an option or SAR will reduce the share pool by one share, whereas the issuance of one share of common stock for the other types of stock awards provided by the plan will reduce the pool by 3.2 shares. As of September 30, 2022, there were 3,387,033 shares available for grants under the 2022 Stock Plan.

As of September 30, 2022, there were 2,303,574 shares available for grant under The Hanover Insurance Group 2014 Employee Stock Purchase Plan.

Compensation cost for the Company's stock-based awards and the related tax benefits were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	**2022**	**2021**	**2022**	**2021**
Stock-based compensation expense	**$ 7.7**	$ 5.8	**$ 21.8**	$ 16.8
Tax benefit	**(1.7)**	(1.2)	**(4.6)**	(3.5)
Stock-based compensation expense, net of taxes	**$ 6.0**	$ 4.6	**$ 17.2**	$ 13.3

Stock Options

Information on the Company's stock option activity for the nine months ended September 30, 2022 and 2021 is summarized below.

	Nine Months Ended September 30,			
	2022		2021	
(in whole shares and dollars)	**Shares**	**Weighted Average Exercise Price**	**Shares**	**Weighted Average Exercise Price**
Outstanding, beginning of period	**1,230,211**	**$ 99.14**	1,282,278	$ 93.64
Granted	**140,339**	**139.51**	178,040	115.35
Exercised	**(262,900)**	**86.82**	(223,426)	80.46
Forfeited or cancelled	**(6,075)**	**116.44**	(4,769)	118.01
Outstanding, end of period	**1,101,575**	**107.13**	1,232,123	99.07

Restricted Stock Units

The Company currently issues time-based, market-based and performance-based restricted stock units to eligible employees, all of which generally vest after 3 years of continued employment.

The following tables summarize activity information about employee restricted stock units:

	Nine Months Ended September 30,			
	2022		2021	
(in whole shares and dollars)	**Shares**	**Weighted Average Grant Date Fair Value**	**Shares**	**Weighted Average Grant Date Fair Value**
Time-based restricted stock units:				
Outstanding, beginning of period	**380,100**	**$ 117.60**	350,480	$ 116.37
Granted	**147,438**	**138.46**	171,575	115.44
Vested	**(120,715)**	**119.29**	(116,739)	111.06
Forfeited	**(23,148)**	**122.94**	(20,846)	117.18
Outstanding, end of period	**383,675**	**124.77**	384,470	117.53
Performance-based and market-based restricted stock units:				
Outstanding, beginning of period	**113,848**	**$ 115.92**	97,043	$ 119.59
Granted	**47,954**	**140.36**	62,143	114.66
Vested	**(39,338)**	**124.42**	(43,506)	122.27
Forfeited	**(3,301)**	**120.66**	(1,832)	116.90
Outstanding, end of period	**119,163**	**122.81**	113,848	115.92

In the first nine months of 2022 and 2021, the Company granted market-based awards totaling 19,057 and 37,348, respectively, to certain members of senior management, which are included in the table above as performance and market-based restricted stock activity. The vesting of these stock units is based on the relative total shareholder return (“TSR”) of the Company. This metric is generally based on relative TSR for a three-year period as compared to a pre-selected group of property and casualty companies. The fair value of market-based awards was estimated at the date of grant using a valuation model. These units have the potential to range from 0% to 150% of the shares disclosed. Included in the amount forfeited above in 2022 are 1,282 shares related to market-based awards that achieved a payout below 100%. These awards were forfeited in the first quarter of 2022. Included in the amount granted above in 2021 are 14,501 shares related to market-based awards that achieved a payout in excess of 100%. These awards vested in the first quarter of 2021.

The Company also granted performance-based restricted stock units in 2022 and 2021, totaling 28,897 and 21,401, respectively, which are based upon the Company’s achievement of return on equity objectives. These units have the potential to range from 0% to 150% of the shares disclosed. Increases above the 100% target level are reflected as granted in the period after which performance-based stock unit goals are achieved. Decreases below the 100% target level are reflected as forfeited. Included in the amount granted above in 2022 are 7,988 shares related to performance-based awards that achieved a payout in excess of 100%. These awards vested in the first quarter of 2022.

10. Earnings Per Share and Shareholders’ Equity Transactions

The following table provides weighted average share information used in the calculation of the Company’s basic and diluted earnings per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions, except per share data)	**2022**	**2021**	**2022**	**2021**
Basic shares used in the calculation of earnings per share	**35.6**	35.7	**35.6**	36.0
Dilutive effect of securities:				
Employee stock options	**0.2**	0.3	**0.3**	0.3
Non-vested stock grants	**0.3**	0.3	**0.2**	0.3
Diluted shares used in the calculation of earnings per share	**36.1**	36.3	**36.1**	36.6
Per share effect of dilutive securities on income from continuing operations	**—**	$ (0.02)	**$ (0.06)**	$ (0.10)
Per share effect of dilutive securities on net income	**—**	$ (0.01)	**$ (0.06)**	$ (0.11)

Diluted earnings per share for the three months ended September 30, 2022 excludes 0.1 million shares issuable under the Company’s stock compensation plans because their effect would be antidilutive. Diluted earnings per share for the nine months ended September 30, 2022 and 2021, excludes 0.1 million and 0.2 million shares, respectively, issuable under the Company's stock compensation plans because their effect would be antidilutive.

The Board of Directors authorized a stock repurchase program which provides for aggregate repurchases of the Company’s common stock of up to $1.3 billion. Under this program the Company had approximately $330 million available at September 30, 2022. Under the repurchase authorization, the Company may repurchase, from time to time, common stock in amounts, at prices and at such times as the Company deems appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs or other transactions. The Company is not required to purchase any specific number of shares or to make purchases by any certain date under this program.

11. Liabilities for Outstanding Claims, Losses and Loss Adjustment Expenses

Reserve Rollforward and Prior Year Development

The Company regularly updates its reserve estimates as new information becomes available and further events occur which may impact the resolution of unsettled claims. Reserve adjustments are reflected in results of operations as adjustments to losses and loss adjustment expenses ("LAE"). Often these adjustments are recognized in periods subsequent to the period in which the underlying policy was written, and loss event occurred. These types of subsequent adjustments are described as "prior years' loss reserves." Such development can be either favorable or unfavorable to the Company's financial results and may vary by line of business. In this section, all amounts presented include catastrophe losses and LAE, unless otherwise indicated.

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

(in millions)	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Gross reserve for losses and LAE, beginning of period	**$ 6,447.6**	$ 6,024.0
Reinsurance recoverable on unpaid losses	**1,693.8**	1,641.6
Net reserve for losses and LAE, beginning of period	**4,753.8**	4,382.4
Net incurred losses and LAE in respect of losses occurring in:		
Current year	**2,603.8**	2,427.1
Prior years	**(31.2)**	(56.7)
Total incurred losses and LAE	**2,572.6**	2,370.4
Net payments of losses and LAE in respect of losses occurring in:		
Current year	**1,041.3**	981.0
Prior years	**1,226.2**	1,036.5
Total payments	**2,267.5**	2,017.5
Net reserve for losses and LAE, end of period	**5,058.9**	4,735.3
Reinsurance recoverable on unpaid losses	**1,715.1**	1,804.8
Gross reserve for losses and LAE, end of period	**$ 6,774.0**	$ 6,540.1

As a result of continuing trends in the Company's business, reserves, including catastrophes, have been re-estimated for all prior accident years and were decreased by $31.2 million and $56.7 million in 2022 and 2021, respectively.

2022

For the nine months ended September 30, 2022, net favorable loss and LAE development was $31.2 million, primarily as a result of favorable Specialty development of $24.2 million and favorable Core Commercial development of $20.2 million, partially offset by unfavorable Personal Lines development of $13.2 million. Specialty favorable development was primarily due to lower than expected losses of $13.2 million in the Professional and Executive lines, lower than expected losses of $11.5 million in the surety line, and lower than expected losses of $10.2 million in the marine line, partially offset by higher than expected losses of $10.5 million in the Specialty P&C lines. Core Commercial favorable development was primarily due to lower than expected losses of $21.0 million in the workers' compensation line primarily in accident years 2013 through 2018 and 2020, and lower than expected losses of $9.9 million in the commercial multiple peril line, partially offset by higher than expected losses of $11.5 million in the commercial automobile line. Personal Lines unfavorable development was due to higher than expected losses of $19.4 million, in the homeowners line, primarily due to higher severity and longer cycle times in repair activity, primarily related to claims incurred in the fourth quarter of 2021.

2021

For the nine months ended September 30, 2021, net favorable loss and LAE development was $56.7 million, as a result of favorable Personal Lines development of $23.1 million, favorable Core Commercial development of $20.3 million, and favorable Specialty development of $14.3 million. Personal Lines favorable development was primarily due to lower than expected losses of $20.1 million in the personal automobile line, driven by lower bodily injury and personal injury protection losses, primarily in accident year 2020. Core Commercial favorable development was primarily due to lower than expected losses of $12.8 million in the workers' compensation line primarily in accident years 2014 through 2019, and lower than expected losses of $11.8 million in the commercial multiple peril line. Specialty favorable development was primarily due to lower than expected losses of $13.8 million in the marine line.

12. Commitments and Contingencies

Legal Proceedings

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

Residual Markets

The Company is required to participate in residual markets in various states, which generally pertain to high risk insureds, disrupted markets or lines of business or geographic areas where rates are regarded as excessive. The results of the residual markets are not subject to the predictability associated with the Company's own managed business, and are significant to both the personal and commercial automobile lines of business.

13. Subsequent Events

There were no subsequent events requiring adjustment to the financial statements and no additional disclosure required in the notes to the consolidated financial statements.

PART I
ITEM 2

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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Introduction

The following Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to assist readers in understanding the interim consolidated results of operations and financial condition of The Hanover Insurance Group, Inc. and its subsidiaries ("THG"). Consolidated results of operations and financial condition are prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP"). This discussion should be read in conjunction with the interim consolidated financial statements and related footnotes included elsewhere in this Quarterly Report on Form 10-Q and Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K filed with the Securities and Exchange Commission (the "SEC") on February 25, 2022.

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

Executive Overview

Business operations consist of four operating segments: Core Commercial, Specialty, Personal Lines and Other.

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

During the nine months ended September 30, 2022, our net income was $127.6 million, compared to $255.2 million for the nine months ended September 30, 2021, a decrease of $127.6 million, primarily due to changes in the fair value of equity securities, partially offset by higher operating income.

Operating income before interest expense and income taxes (a non-GAAP financial measure; see also "Results of Operations – Consolidated – Non-GAAP Financial Measures") was $323.3 million for the nine months ended September 30, 2022, compared to $269.4 million for the nine months ended September 30, 2021, an increase of $53.9 million. This increase was primarily due to lower catastrophe losses and earned premium growth, partially offset by higher current accident year losses. The higher current accident year losses were primarily due to higher losses in our personal automobile line driven by increased severity, as a result of inflation and supply chain disruptions, and increased accident frequency. In addition, losses in our homeowners line have increased due to higher severity.

Pre-tax catastrophe losses were $213.0 million for the nine months ended September 30, 2022, compared to $363.6 million during the same period of 2021, a decrease of $150.6 million. Catastrophe losses in 2022 include $28.0 million resulting from hurricane Ian. The higher level of catastrophe losses in 2021 was primarily due to freeze events in Texas and surrounding states. Net favorable development on prior years' loss reserves was $19.2 million for the nine months ended September 30, 2022, compared to $41.7 million for the nine months ended September 30, 2021, a decrease of $22.5 million.

Due to persistent supply chain disruptions emerging from the COVID-19 pandemic ("Pandemic"), and significant inflation in the U.S economy, among other factors outside our control, we are experiencing substantially higher claims costs, particularly in our automobile and homeowners lines of business. Additionally, several other Pandemic uncertainties persist, including the pace and effectiveness of return to workplace initiatives across the economy, the emergence of virus variants, non-traditional driving patterns and court caseload backlogs. Although we are taking actions to address our higher claims costs, such elevated costs may affect the property and casualty insurance industry, our business, and our financial results over future periods. (See "Contingencies and Regulatory Matters" and "Item 1A – Risk Factors" for further discussion).

Core Commercial

Core Commercial entails two distinct businesses, small commercial and middle market, both of which focus on account business, including commercial multiple peril, commercial automobile, workers' compensation and other (general liability, ancillary professional, commercial umbrella, and monoline property). Small commercial focuses on small businesses, with annual policy premiums generally up to $50,000. Small commercial recently launched TAP sales, a quoting platform that has enhanced the ease of doing business, and has generated approximately a 20% increase in new business submissions during the quarter. Middle market provides coverage to mid-sized businesses with annual policy premiums generally between $50,000 and $500,000. Middle market offers coverage in distinct industry segments, including technology, manufacturing, human services, retail, real estate, and others. We believe that our account-focused approach to the small commercial market and distinctiveness in the middle market provides us with a diversified portfolio of products and delivers significant value to agents and policyholders. We continue to pursue our core strategy of developing strong relationships with retail agents, enhanced franchise value through selective distribution, distinctive products and coverages, and through continued investment in industry segmentation. Net premiums written increased 7.6% in the first nine months of 2022, compared to the same period in 2021, primarily driven by pricing and exposure increases and continued strong retention.

Underwriting results increased in the first nine months of 2022, primarily due to lower catastrophe losses. The competitive nature of the Core Commercial market requires us to be highly disciplined in our underwriting process to ensure that we write business at acceptable margins, and we continue to seek rate increases across many lines of business.

Specialty

Specialty offers a competitive set of products that is focused predominately on small to mid-sized businesses. This includes numerous specialized product areas that are organized into four distinct divisions – Professional and Executive Lines, Specialty Property and Casualty ("Specialty P&C"), Marine, and Surety and Other. We believe that this distribution of Specialty products, primarily with retail agents supplemented by select specialists, serves as a complement to our Core Commercial business and helps to enhance our overall agent value and increase growth opportunities. Net premiums written increased 12.0% in the first nine months of 2022, compared to the same period in 2021, primarily due to pricing increases.

Underwriting results increased in the first nine months of 2022, primarily due to lower catastrophe losses, earned premium growth, and lower current accident year losses. The competitive nature of the Specialty market requires us to be highly disciplined in our underwriting process to ensure that we write business at acceptable margins, and we continue to seek rate increases across many lines of business.

Personal Lines

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

Net premiums written increased by 10.8% in the first nine months of 2022, compared to the same period in 2021, primarily due to increased new business production and improved retention. Underwriting results decreased in the first nine months of 2022, primarily due to higher current accident year losses in our personal automobile and homeowners lines, partially offset by lower catastrophe losses.

Description of Operating Segments

Primary business operations include insurance products and services currently provided through four operating segments: Core Commercial, Specialty, Personal Lines and Other. Core Commercial includes commercial multiple peril, commercial automobile, workers' compensation, and other commercial lines coverages provided to small and mid-sized businesses. Specialty includes four divisions of business: Professional and Executive Lines, Specialty P&C, Marine, and Surety and Other. Specialty P&C includes coverages such as program business (provides commercial insurance to markets with specialized coverage or risk management needs related to groups of similar businesses), specialty industrial and commercial property, and excess and surplus lines. Personal Lines includes personal automobile, homeowners and other personal coverages, such as umbrella. Included in the "Other" segment are Opus Investment Management, Inc., which markets investment management services to institutions, pension funds, and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to our former life insurance employees and agents; and our run-off voluntary assumed property and casualty pools and run-off direct asbestos and environmental businesses. During the first quarter of 2022, we disaggregated our former Commercial Lines segment into the aforementioned Core Commercial and Specialty segments. Prior periods reflect this new presentation. This presentation is consistent with the manner in which our chief operating decision maker evaluates results in deciding how to allocate resources and in assessing performance.

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

Results of Operations – Consolidated

Consolidated net income for the three months ended September 30, 2022 was $0.2 million, compared to $34.0 million for the three months ended September 30, 2021, a decrease of $33.8 million. The decrease in consolidated net income was primarily due to after-tax net realized and unrealized investment losses of approximately $35.1 million in 2022 compared to after-tax net realized and unrealized investment gains of $4.0 million in 2021. The after-tax net realized and unrealized investments losses in 2022 were primarily due to the change in the fair value of equity securities and, to a lesser extent, from impairment losses on fixed maturity securities that we intend to sell as part of a planned transfer of certain investment management responsibilities to an external manager. These losses were partially offset by operating income before interest expense and income taxes which increased $6.9 million, primarily due to lower catastrophe losses and earned premium growth, partially offset by higher Personal Lines current accident year losses and lower favorable development on prior years' loss reserves.

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Consolidated net income for the nine months ended September 30, 2022 was $127.6 million, compared to $255.2 million for the nine months ended September 30, 2021, a decrease of $127.6 million. The decrease in consolidated net income was primarily due to after-tax net realized and unrealized investment losses of approximately $108.3 million in 2022 compared to after-tax net realized and unrealized investment gains of $61.0 million in 2021, primarily related to the change in the fair value of equity securities. This was partially offset by an increase of $53.9 million in operating income before interest expense and income taxes for the nine months ended September 30, 2022, primarily due to lower catastrophe losses and earned premium growth, partially offset by higher Personal Lines current accident year losses.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	**2022**	2021	**2022**	2021
Operating income (loss) before interest expense and income taxes:				
Core Commercial	**$ 25.2**	$ 11.0	**$ 159.6**	$ 66.1
Specialty	**46.9**	31.4	**142.1**	82.9
Personal Lines	**(18.8)**	3.6	**20.3**	117.6
Other	**0.6**	1.0	**1.3**	2.8
Operating income before interest expense and income taxes	**53.9**	47.0	**323.3**	269.4
Interest expense on debt	**(8.5)**	(8.5)	**(25.5)**	(25.5)
Operating income before income taxes	**45.4**	38.5	**297.8**	243.9
Income tax expense on operating income	**(9.7)**	(7.7)	**(60.5)**	(47.7)
Operating income	**35.7**	30.8	**237.3**	196.2
Non-operating items:				
Net realized and unrealized investment gains (losses)	**(44.9)**	4.0	**(138.7)**	72.6
Other non-operating	**—**	—	**(0.4)**	—
Income tax benefit (expense) on non-operating items	**9.8**	—	**30.5**	(11.6)
Income from continuing operations, net of taxes	**0.6**	34.8	**128.7**	257.2
Discontinued operations (net of taxes):				
Loss from discontinued life businesses	**(0.4)**	(0.8)	**(1.1)**	(2.0)
Net income	**$ 0.2**	$ 34.0	**$ 127.6**	$ 255.2

Non-GAAP Financial Measures

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

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

Results of Operations – Segments

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in millions)	2022	2021	2022	2021
Operating revenues				
Net premiums written	**$ 1,505.4**	$ 1,375.2	**$ 4,150.5**	$ 3,778.5
Net premiums earned	**$ 1,331.2**	$ 1,186.0	**$ 3,888.8**	$ 3,527.6
Net investment income	**73.0**	78.8	**220.4**	231.2
Other income	**7.0**	6.1	**19.4**	17.9
Total operating revenues	**1,411.2**	1,270.9	**4,128.6**	3,776.7
Losses and operating expenses				
Losses and LAE	**939.6**	844.0	**2,572.6**	2,370.4
Amortization of deferred acquisition costs	**277.1**	244.0	**809.3**	728.5
Other operating expenses	**140.6**	135.9	**423.4**	408.4
Total losses and operating expenses	**1,357.3**	1,223.9	**3,805.3**	3,507.3
Operating income before interest expense and income taxes	**$ 53.9**	$ 47.0	**$ 323.3**	$ 269.4

Three Months Ended September 30, 2022 Compared to Three Months Ended September 30, 2021

Operating income before interest expense and income taxes was $53.9 million for the three months ended September 30, 2022, compared to $47.0 million for the three months ended September 30, 2021, an increase of $6.9 million. This increase was primarily due to lower catastrophe losses and earned premium growth, partially offset by higher Personal Lines current accident year losses and lower favorable development of prior years' loss reserves.

Net premiums written increased $130.2 million for the three months ended September 30, 2022, compared to the three months ended September 30, 2021, primarily due to pricing and exposure increases and continued strong retention.

Production and Underwriting Results

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

	Three Months Ended September 30, 2022						
(dollars in millions)	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Core Commercial	**$ 638.7**	**$ 565.9**	**$ 492.7**	**6.6**	**68.6**	**32.7**	**101.3**
Specialty	**392.3**	**329.1**	**303.3**	**2.8**	**54.7**	**34.5**	**89.2**
Personal Lines	**629.3**	**610.4**	**535.2**	**9.1**	**81.4**	**25.9**	**107.3**
Total	**$ 1,660.3**	**$ 1,505.4**	**$ 1,331.2**	**6.8**	**70.6**	**30.4**	**101.0**

	Three Months Ended September 30, 2021						
(dollars in millions)	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Core Commercial	$ 601.1	$ 534.6	$ 459.7	12.3	72.8	32.6	105.4
Specialty	327.2	292.2	238.9	7.7	57.0	36.2	93.2
Personal Lines	564.9	548.4	487.4	16.1	76.5	27.3	103.8
Total	$ 1,493.2	$ 1,375.2	$ 1,186.0	12.9	71.2	31.1	102.3

The following table summarizes U.S. GAAP underwriting results for the Core Commercial, Specialty, Personal Lines and Other segments and reconciles them to operating income (loss) before interest expense and income taxes.

	Three Months Ended September 30,									
	2022					2021				
(in millions)	Core Commercial	Specialty	Personal Lines	Other	Total	Core Commercial	Specialty	Personal Lines	Other	Total
Underwriting profit, excluding prior year reserve development and catastrophes	**$ 26.3**	**$ 35.5**	**$ 5.9**	**$ —**	**$ 67.7**	$ 27.4	$ 25.8	$ 48.5	$ —	$ 101.7
Prior year favorable (unfavorable) loss and LAE reserve development on non-catastrophe losses	**(1.3)**	**5.1**	**0.2**	**—**	**4.0**	3.3	8.1	9.9	(0.4)	20.9
Prior year favorable (unfavorable) catastrophe development	**1.4**	**1.6**	**(3.0)**	**—**	**—**	0.9	(0.9)	—	—	—
Current year catastrophe losses	**(34.1)**	**(10.2)**	**(45.8)**	**—**	**(90.1)**	(57.3)	(17.5)	(78.7)	—	(153.5)
Underwriting profit (loss)	**(7.7)**	**32.0**	**(42.7)**	**—**	**(18.4)**	(25.7)	15.5	(20.3)	(0.4)	(30.9)
Net investment income	**33.4**	**15.2**	**21.4**	**3.0**	**73.0**	37.0	15.9	22.6	3.3	78.8
Fees and other income	**1.0**	**1.4**	**3.9**	**0.7**	**7.0**	0.9	1.6	2.6	1.0	6.1
Other operating expenses	**(1.5)**	**(1.7)**	**(1.4)**	**(3.1)**	**(7.7)**	(1.2)	(1.6)	(1.3)	(2.9)	(7.0)
Operating income (loss) before interest expense and income taxes	**$ 25.2**	**$ 46.9**	**$ (18.8)**	**$ 0.6**	**$ 53.9**	$ 11.0	$ 31.4	$ 3.6	$ 1.0	$ 47.0

Core Commercial

Core Commercial net premiums written were $565.9 million for the three months ended September 30, 2022, compared to $534.6 million for the three months ended September 30, 2021. This $31.3 million increase was primarily driven by pricing and exposure increases.

Core Commercial underwriting loss for the three months ended September 30, 2022 was $7.7 million, compared to $25.7 million for the three months ended September 30, 2021, an improvement of $18.0 million. Catastrophe losses for the three months ended September 30, 2022 were $32.7 million, compared to $56.4 million for the three months ended September 30, 2021, a decrease of $23.7 million. Net unfavorable development on prior years' loss reserves for the three months ended September 30, 2022 was $1.3 million, compared to $3.3 million favorable development for the three months ended September 30, 2021, an unfavorable change of $4.6 million.

Core Commercial current accident year underwriting profit, excluding catastrophes, was $26.3 million for the three months ended September 30, 2022, compared to $27.4 million for the three months ended September 30, 2021. This $1.1 million decrease was primarily driven by slightly higher current accident year losses, primarily from higher property losses in our commercial multiple peril line. Higher property large loss activity in our commercial multiple peril line impacted both the current quarter and the prior-year quarter. Additionally, the commercial multiple peril losses in the current quarter also reflected the impact of higher inflation and continued supply chain delays on overall claims costs, including the business interruption component of our commercial multiple peril line.

We continue to manage underwriting performance through rate actions, pricing segmentation, specific underwriting actions and targeted new business growth. Our ability to achieve overall rate increases is affected by many factors, including regulatory activity and the competitive pricing environment, particularly within the workers' compensation line. Due to uncertainty caused by the Pandemic, and the increase in inflation and supply chain disruptions, there is a level of uncertainty in our ability to grow our business and maintain or improve our underwriting profitability in this environment. The extent and duration of these uncertainties are unknown and has resulted in an increase in claims costs, which may persist, and may also result in reduced premium levels.

Specialty

Specialty net premiums written were $329.1 million for the three months ended September 30, 2022, compared to $292.2 million for the three months ended September 30, 2021. This $36.9 million increase was primarily driven by improved pricing.

Specialty underwriting profit for the three months ended September 30, 2022 was $32.0 million, compared to $15.5 million for the three months ended September 30, 2021, an increase of $16.5 million. Catastrophe losses for the three months ended September 30, 2022 were $8.6 million, compared to $18.4 million for the three months ended September 30, 2021, a decrease of $9.8 million. Net favorable development on prior years' loss reserves for the three months ended September 30, 2022 was $5.1 million, compared to $8.1 million for the three months ended September 30, 2021, a decrease of $3.0 million.

Specialty current accident year underwriting profit, excluding catastrophes, was $35.5 million for the three months ended September 30, 2022, compared to $25.8 million for the three months ended September 30, 2021. This $9.7 million increase was primarily driven by earned premium growth.

We continue to manage underwriting performance through rate actions, pricing segmentation, specific underwriting actions and targeted new business growth. Our ability to achieve overall rate increases is affected by many factors, including regulatory activity and the competitive pricing environment. Due to uncertainty caused by the Pandemic, and the increase in inflation and supply chain disruptions, there is a level of uncertainty in our ability to grow our business and maintain or improve our underwriting profitability in this environment. The extent and duration of these uncertainties are unknown and may result in an increase in claims costs and reduced premium levels.

Personal Lines

Personal Lines net premiums written were $610.4 million for the three months ended September 30, 2022, compared to $548.4 million for the three months ended September 30, 2021. This $62.0 million increase was primarily driven by continued strong retention and renewal price changes.

Net premiums written in the personal automobile line of business for the three months ended September 30, 2022 were $354.0 million, compared to $330.8 million for the three months ended September 30, 2021, an increase of $23.2 million. Personal automobile policies in force increased by 7.1%. Net premiums written in the homeowners and other lines of business for the three months ended September 30, 2022 were $256.4 million, compared to $217.6 million for the three months ended September 30, 2021, an increase of $38.8 million. Homeowners policies in force increased by 6.8%.

Personal Lines underwriting loss for the three months ended September 30, 2022 was $42.7 million, compared to $20.3 million for the three months ended September 30, 2021, an unfavorable change of $22.4 million. Catastrophe losses for the three months ended September 30, 2022 were $48.8 million, compared to $78.7 million for the three months ended September 30, 2021, a decrease of $29.9 million. Net favorable development on prior years' loss reserves for the three months ended September 30, 2022 was $0.2 million, compared to $9.9 million for the three months ended September 30, 2021, a decrease of $9.7 million.

Personal Lines current accident year underwriting profit, excluding catastrophes, was $5.9 million for the three months ended September 30, 2022, compared to $48.5 million for the three months ended September 30, 2021. This $42.6 million decrease was primarily due to higher current accident year personal automobile and homeowners losses. We experienced an increase in personal automobile physical damage and property loss frequency from the unusually low levels of 2021, as well as an increase in loss severity, driven by inflationary pressures associated with supply chain issues, higher used vehicle prices, a reduction in salvage and subrogation recoveries, delays in obtaining parts, and higher cost of parts and other repair costs. In addition, homeowners losses have increased due to higher property severity as a result of higher inflation, higher large fire loss activity and an increase in the frequency of water-related losses. We have experienced inflationary pressures on building material and labor costs, supply chain constraints that increase building and repair times, and an increase in lodging and additional living expense reimbursements. Although we are taking actions to address our higher claims costs, the underlying issues may persist during future periods.

We have been able to obtain rate increases in our Personal Lines markets and believe that our ability to obtain increases will continue over the long-term. Our ability to maintain Personal Lines net premiums written may be affected, however, by price competition, and regulatory and legal activity and developments. See "Contingencies and Regulatory Matters." Additionally, these factors, along with the aforementioned issues contributing to our recent increase in losses, may also affect our ability to maintain and improve underwriting results. We monitor these trends and consider them in our rate actions. Due to uncertainty caused by the Pandemic, and the increase in inflation and supply chain disruptions, there is a level of uncertainty in our ability to retain or grow our business, and may result in an increase in claims costs.

Other

Our Other segment had operating income of $0.6 million for the three months ended September 30, 2022, compared to $1.0 million for the three months ended September 30, 2021, a decrease of $0.4 million.

Nine Months Ended September 30, 2022 Compared to Nine Months Ended September 30, 2021

Operating income before interest expense and income taxes was $323.3 million for the nine months ended September 30, 2022, compared to $269.4 million for the nine months ended September 30, 2021, an increase of $53.9 million. This increase was primarily due to lower catastrophe losses and earned premium growth, partially offset by higher current accident year losses. The higher current accident year losses were primarily due to higher severity, as a result of inflation and supply chain disruptions, and increased accident frequency in our personal automobile line.

Net premiums written increased by $372.0 million for the nine months ended September 30, 2022, compared to the nine months ended September 30, 2021. This was primarily due to pricing and exposure increases and continued strong retention.

Production and Underwriting Results

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

	Nine Months Ended September 30, 2022						
(dollars in millions)	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Core Commercial	**$ 1,756.2**	**$ 1,546.7**	**$ 1,447.5**	**4.8**	**63.1**	**32.7**	**95.8**
Specialty	**1,126.0**	**934.2**	**880.6**	**2.6**	**53.7**	**35.1**	**88.8**
Personal Lines	**1,722.1**	**1,669.6**	**1,560.7**	**7.7**	**76.0**	**26.6**	**102.6**
Total	**$ 4,604.3**	**$ 4,150.5**	**$ 3,888.8**	**5.5**	**66.2**	**30.8**	**97.0**

	Nine Months Ended September 30, 2021						
(dollars in millions)	Gross Premiums Written	Net Premiums Written	Net Premiums Earned	Catastrophe Loss Ratios	Loss & LAE Ratios	Expense Ratios	Combined Ratios
Core Commercial	$ 1,614.6	$ 1,436.9	$ 1,342.5	12.3	70.4	32.6	103.0
Specialty	1,003.4	834.1	752.4	6.3	59.1	35.7	94.8
Personal Lines	1,555.6	1,507.5	1,432.7	10.6	68.4	27.8	96.2
Total	$ 4,173.6	$ 3,778.5	$ 3,527.6	10.3	67.2	31.3	98.5

The following table summarizes U.S. GAAP underwriting results for the Core Commercial, Specialty, Personal Lines and Other segments and reconciles them to operating income before interest expense and income taxes.

	Nine Months Ended September 30,									
	2022					2021				
(in millions)	**Core Commercial**	**Specialty**	**Personal Lines**	**Other**	**Total**	**Core Commercial**	**Specialty**	**Personal Lines**	**Other**	**Total**
Underwriting profit, excluding prior year reserve development and catastrophes	**$ 121.1**	**$ 99.5**	**$ 77.9**	**$ —**	**$ 298.5**	$ 112.1	$ 71.4	$ 179.8	$ —	$ 363.3
Prior year favorable (unfavorable) loss and LAE reserve development on non-catastrophe losses	**7.9**	**19.5**	**(8.2)**	**—**	**19.2**	10.6	12.0	20.1	(1.0)	41.7
Prior year favorable (unfavorable) catastrophe development	**12.3**	**4.7**	**(5.0)**	**—**	**12.0**	9.7	2.3	3.0	—	15.0
Current year catastrophe losses	**(82.5)**	**(27.5)**	**(115.0)**	**—**	**(225.0)**	(174.3)	(49.5)	(154.8)	—	(378.6)
Underwriting profit (loss)	**58.8**	**96.2**	**(50.3)**	**—**	**104.7**	(41.9)	36.2	48.1	(1.0)	41.4
Net investment income	**101.4**	**46.2**	**64.6**	**8.2**	**220.4**	108.9	46.8	66.5	9.0	231.2
Fees and other income	**2.9**	**4.2**	**10.1**	**2.2**	**19.4**	2.5	4.9	7.1	3.4	17.9
Other operating expenses	**(3.5)**	**(4.5)**	**(4.1)**	**(9.1)**	**(21.2)**	(3.4)	(5.0)	(4.1)	(8.6)	(21.1)
Operating income before interest expense and income taxes	**$ 159.6**	**$ 142.1**	**$ 20.3**	**$ 1.3**	**$ 323.3**	$ 66.1	$ 82.9	$ 117.6	$ 2.8	$ 269.4

Core Commercial

Core Commercial net premiums written were $1,546.7 million for the nine months ended September 30, 2022, compared to $1,436.9 million for the nine months ended September 30, 2021. This $109.8 million increase was primarily driven by pricing and exposure increases.

Core Commercial underwriting profit for the nine months ended September 30, 2022 was $58.8 million, compared to a $41.9 million loss for the nine months ended September 30, 2021, a favorable change of $100.7 million. Catastrophe losses for the nine months ended September 30, 2022 were $70.2 million, compared to $164.6 million for the nine months ended September 30, 2021, a decrease of $94.4 million. The higher catastrophe losses in 2021 were primarily due to freeze events in Texas and surrounding states. Net favorable development on prior years' loss reserves for the nine months ended September 30, 2022 was $7.9 million, compared to $10.6 million for the nine months ended September 30, 2021, a decrease of $2.7 million.

Core Commercial current accident year underwriting profit, excluding catastrophes, was $121.1 million for the nine months ended September 30, 2022, compared to $112.1 million for the nine months ended September 30, 2021. This $9.0 million increase was primarily due to earned premium growth.

Specialty

Specialty net premiums written were $934.2 million for the nine months ended September 30, 2022, compared to $834.1 million for the nine months ended September 30, 2021. This $100.1 million increase was primarily driven by improved pricing.

Specialty underwriting profit for the nine months ended September 30, 2022 was $96.2 million, compared to $36.2 million for the nine months ended September 30, 2021, an increase of $60.0 million. Catastrophe losses for the nine months ended September 30, 2022 were $22.8 million, compared to $47.2 million for the nine months ended September 30, 2021, a decrease of $24.4 million. The higher catastrophe losses in 2021 were primarily due to freeze events in Texas and surrounding states. Net favorable development on prior years' loss reserves for the nine months ended September 30, 2022 was $19.5 million, compared to $12.0 million for the nine months ended September 30, 2021, an increase of $7.5 million.

Specialty current accident year underwriting profit, excluding catastrophes, was $99.5 million for the nine months ended September 30, 2022, compared to $71.4 million for the nine months ended September 30, 2021. This $28.1 million increase was primarily due to earned premium growth and lower current accident year losses across most product lines.

Personal Lines

Personal Lines net premiums written were $1,669.6 million for the nine months ended September 30, 2022, compared to $1,507.5 million for the nine months ended September 30, 2021. This $162.1 million increase was primarily driven by increased retention, new business and renewal price changes.

Personal Lines underwriting loss for the nine months ended September 30, 2022 was $50.3 million, compared to an underwriting profit of $48.1 million for the nine months ended September 30, 2021, a decrease of $98.4 million. Catastrophe losses for the nine months ended September 30, 2022 were $120.0 million, compared to $151.8 million for the nine months ended September 30, 2021, a decrease of $31.8 million. Unfavorable development on prior years' loss reserves for the nine months ended September 30, 2022 was $8.2 million, compared to favorable development of $20.1 million for the nine months ended September 30, 2021, an unfavorable change of $28.3 million.

Personal Lines current accident year underwriting profit, excluding catastrophes, was $77.9 million for the nine months ended September 30, 2022, compared to $179.8 million for the nine months ended September 30, 2021. This $101.9 million decrease was primarily due to higher current accident year loss severity in our personal automobile and homeowners lines, partially offset by lower performance-based agency compensation expenses and earned premium growth. We experienced an increase in personal automobile physical damage and property loss frequency from the unusually low levels of 2021, as well as an increase in loss severity, driven by inflationary pressures associated with supply chain issues, higher used vehicle prices, a reduction in salvage and subrogation recoveries, delays in obtaining parts, and higher cost of parts and other repair costs. In addition, homeowners losses have increased due to higher property severity as a result of higher inflation and higher than usual frequency of water-related losses, large loss activity and non-catastrophe weather. We have experienced inflationary pressures on building material and labor costs, supply chain constraints that increase building and repair times, and an increase in lodging and additional living expense reimbursements.

Other

Our Other segment had operating income of $1.3 million for the nine months ended September 30, 2022, compared to $2.8 million for the nine months ended September 30, 2021, a decrease of $1.5 million.

Reserve for Losses and Loss Adjustment Expenses

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

	Nine Months Ended September 30,	
(in millions)	**2022**	**2021**
Gross reserve for losses and LAE, beginning of period	**$ 6,447.6**	$ 6,024.0
Reinsurance recoverable on unpaid losses	**1,693.8**	1,641.6
Net reserve for losses and LAE, beginning of period	**4,753.8**	4,382.4
Net incurred losses and LAE in respect of losses occurring in:		
Current year	**2,603.8**	2,427.1
Prior year non-catastrophe loss development	**(19.2)**	(41.7)
Prior year catastrophe loss development	**(12.0)**	(15.0)
Total incurred losses and LAE	**2,572.6**	2,370.4
Net payments of losses and LAE in respect of losses occurring in:		
Current year	**1,041.3**	981.0
Prior years	**1,226.2**	1,036.5
Total payments	**2,267.5**	2,017.5
Net reserve for losses and LAE, end of period	**5,058.9**	4,735.3
Reinsurance recoverable on unpaid losses	**1,715.1**	1,804.8
Gross reserve for losses and LAE, end of period	**$ 6,774.0**	$ 6,540.1

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

(in millions)	September 30, 2022	December 31, 2021
Commercial multiple peril	**$ 1,451.0**	$ 1,338.4
Workers' compensation	**731.6**	698.5
Commercial automobile	**476.1**	473.1
Other core commercial	**570.5**	481.0
Total Core Commercial	**3,229.2**	2,991.0
Specialty Property & Casualty	**802.1**	798.6
Professional and Executive Lines	**518.0**	494.9
Marine	**126.5**	122.5
Surety and Other	**103.9**	106.0
Total Specialty	**1,550.5**	1,522.0
Personal automobile	**1,595.8**	1,590.7
Homeowners and Other	**335.0**	277.7
Total Personal Lines	**1,930.8**	1,868.4
Total Other	**63.5**	66.2
Total loss and LAE reserves	**$ 6,774.0**	$ 6,447.6

Loss and LAE reserves in our "Other core commercial" lines include general liability, commercial umbrella, and monoline property. "Specialty Property & Casualty" includes program business, specialty industrial and commercial property, and excess and surplus lines. "Professional and Executive Lines" includes professional and management liability, fidelity and crime, and other property and liability lines for healthcare firms. Loss and LAE reserves in our "Total Other" segment relate to our run-off voluntary assumed property and casualty reinsurance pools business and our run-off direct asbestos and environmental business.

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

	Nine Months Ended September 30,					
	2022			2021		
(in millions)	Loss & LAE	Catastrophe	Total	Loss & LAE	Catastrophe	Total
Core Commercial	**$ (7.9)**	**$ (12.3)**	**$ (20.2)**	$ (10.6)	$ (9.7)	$ (20.3)
Specialty	**(19.5)**	**(4.7)**	**(24.2)**	(12.0)	(2.3)	(14.3)
Personal Lines	**8.2**	**5.0**	**13.2**	(20.1)	(3.0)	(23.1)
Other	**—**	**—**	**—**	1.0	—	1.0
Total prior year favorable development	**$ (19.2)**	**$ (12.0)**	**$ (31.2)**	$ (41.7)	$ (15.0)	$ (56.7)

It is not possible to know whether the factors that affected loss reserves in the first nine months of 2022 will also occur in future periods. We encourage you to read our 2021 Annual Report on Form 10-K for more information about our reserving process and the judgments, uncertainties and risks associated therewith.

Catastrophe Loss Development

For the nine months ended September 30, 2022 and 2021, favorable catastrophe development was $12.0 million and $15.0 million, respectively. The favorable catastrophe development during the nine months ended September 30, 2022 was primarily due to lower than expected losses related to 2021 events, including $11.5 million related to hurricane Ida. The favorable catastrophe development during the nine months ended September 30, 2021 was primarily due to lower than expected losses related to certain 2018 through 2020 hurricanes, tornadoes, and other storms.

2022 Loss and LAE Development, excluding catastrophes

For the nine months ended September 30, 2022, net favorable loss and LAE development, excluding catastrophes, was $19.2 million. Core Commercial favorable loss and LAE development of $7.9 million was primarily due to lower than expected losses of $21.0 million in the workers' compensation line, primarily in accident years 2013 through 2018 and 2020, partially offset by higher than expected losses in our commercial automobile line of $11.4 million driven by higher bodily injury and personal injury protection losses in accident years 2016 through 2020. Specialty favorable loss and LAE development of $19.5 million was primarily due to lower than expected losses of $12.3 million in our Professional and Executive lines, lower than expected losses of $11.5 million in our surety line, and lower than expected losses in our marine line, partially offset by higher than expected losses of $11.2 million in our general liability lines. Personal Lines unfavorable loss and LAE development of $8.2 million was due to higher than expected losses of $12.8 million in our homeowners line, primarily in accident year 2021. The increase in homeowners losses was primarily due to higher severity and longer cycle times in repair activity, primarily related to claims incurred in the fourth quarter of 2021.

2021 Loss and LAE Development, excluding catastrophes

For the nine months ended September 30, 2021, net favorable loss and LAE development, excluding catastrophes, was $41.7 million. Core Commercial favorable loss and LAE development of $10.6 million was primarily due to lower than expected losses of $12.8 million in the workers' compensation line, primarily in accident years 2014 through 2019. Specialty favorable loss and LAE development of $12.0 million was primarily due to lower than expected losses in the marine and surety lines, partially offset by higher than expected losses in Specialty Property & Casualty. Personal Lines favorable loss and LAE development of $20.1 million was primarily due to lower than expected losses of $19.1 million in the personal automobile line, driven by lower bodily injury and personal injury protection losses primarily in accident year 2020.

Reinsurance Recoverables

Reinsurance recoverables were $1,945.8 million and $1,907.3 million at September 30, 2022 and December 31, 2021, respectively, of which $124.5 million and $100.4 million, respectively, represent billed recoverables. A reinsurance recoverable is billed after an eligible reinsured claim is paid by an insurer. Billed reinsurance recoverables related to the Michigan Catastrophic Claims Association (the "MCCA") were $49.8 million at both September 30, 2022 and December 31, 2021, and billed non-MCCA reinsurance recoverables totaled $74.7 million and $50.6 million at September 30, 2022 and December 31, 2021, respectively. At September 30, 2022, $0.9 million of the billed non-MCCA recoverables were outstanding greater than 90 days, whereas at December 31, 2021, there were no balances outstanding greater than 90 days.

Reinsurance - Catastrophe Bonds

Effective July 1, 2022, we have catastrophe protection through a per occurrence excess of loss reinsurance agreement with Commonwealth Re Ltd. ("Commonwealth Re"), an independent company, licensed as a Special Purpose Insurer in Bermuda. The reinsurance agreement meets the requirements to be accounted for as reinsurance in accordance with the guidance for reinsurance contracts. In connection with the reinsurance agreement, Commonwealth Re issued notes (generally referred to as "catastrophe bonds") to investors in amounts totaling $150.0 million, consistent with the amount of coverage provided under the reinsurance agreement as described below. The proceeds were deposited in a reinsurance trust account.

The reinsurance agreement provides us with coverage of up to $150.0 million through June 30, 2025, for catastrophe losses from named tropical storms or hurricanes, including all events or perils directly resulting from such storm or storm system, which may include, by way of example and not limitation, hurricane, wind, gusts, typhoon, hail, rain, tornadoes, cyclones, ensuing flood, storm surge, water damage, fire following, sprinkler leakage, riots, vandalism, and collapse. For events up to and including June 30, 2025, we are entitled to begin recovering amounts under this reinsurance agreement if the covered losses in the covered area for a single occurrence reach an initial attachment amount of $1.3 billion. The full $150.0 million coverage amount is available until such covered losses reach a maximum $1.45 billion. The attachment level and the maximum level (or exhaustion level) under this agreement may be reset annually to adjust the expected loss of the layer within a predetermined range. The coverage under the reinsurance agreement is limited to specified personal and commercial property coverage written in the following geographies in the United States: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Virginia.

Under the terms of the reinsurance agreement, we are obligated to pay annual reinsurance premiums to Commonwealth Re for the reinsurance coverage. Amounts payable under the reinsurance agreement with respect to any covered event cannot exceed our actual losses from such event. The principal amount of the catastrophe bonds will be reduced by any amounts paid to us under the reinsurance agreement.

As with any reinsurance agreement, there is credit risk associated with collecting amounts due from reinsurers. With regard to Commonwealth Re, since the reinsurance coverage is fully collateralized by the proceeds from the catastrophe bond offering, the credit risk is largely mitigated. Commonwealth Re has funded a reinsurance trust account with money market funds that invest primarily in cash or direct U.S. federal government obligations and obligations backed by the U.S. federal government with maturities of no more than 397 calendar days. The money market funds must have a principal stability rating of at least AAAm by Standard & Poor's or Aaa by Moody's on the issuance date of the bonds and thereafter must be rated by Standard & Poor's and Moody's, as applicable.

At the time the agreement was entered into with Commonwealth Re, we evaluated the applicability of the accounting guidance that addresses variable interest entities ("VIE"). Under this guidance, an entity that is formed for business purposes is considered a VIE if (a) the equity investors lack the direct or indirect ability through voting rights or similar rights to make decisions about an entity's activities that have a significant effect on the entity's operations or (b) the equity investors do not provide sufficient financial resources for the entity to support its activities. Additionally, a company that absorbs a majority of the expected losses from a VIE's activities or is entitled to receive a majority of the entity's expected residual returns, or both, is considered to be the primary beneficiary of the VIE and is required to consolidate the VIE in the company's financial statements. We concluded that Commonwealth Re was a VIE because the conditions described in items (a) and (b) above were present. However, while Commonwealth Re was determined to be a VIE, we concluded that we do not have a variable interest in the entity, as the variability in its results, caused by the reinsurance agreement, is expected to be absorbed entirely by the investors in the catastrophe bonds issued by Commonwealth Re and residual amounts earned by it, if any, are expected to be absorbed by the equity investors (we have neither an equity nor a residual interest in Commonwealth Re). Accordingly, we are not the primary beneficiary of Commonwealth Re and do not consolidate that entity in our consolidated financial statements. Additionally, because we have no intention to pursue any transaction that would result in our acquisition of an interest in and becoming the primary beneficiary of Commonwealth Re, the consolidation of that entity in our consolidated financial statements in future periods is unlikely.

Investments

Investment Results

Net investment income before income taxes was as follows:

(dollars in millions)	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Fixed maturities	**$ 60.3**	$ 54.2	**$ 173.7**	$ 162.6
Limited partnerships	**7.5**	18.9	**30.5**	49.5
Mortgage loans	**4.0**	4.0	**12.4**	13.6
Equity securities	**3.1**	3.7	**9.8**	11.3
Other investments	**1.0**	0.7	**2.6**	2.3
Investment expenses	**(2.9)**	(2.7)	**(8.6)**	(8.1)
Net investment income	**$ 73.0**	$ 78.8	**$ 220.4**	$ 231.2
Earned yield, fixed maturities	**3.02 %**	2.96 %	**2.98 %**	3.03 %
Earned yield, total portfolio	**3.21 %**	3.72 %	**3.30 %**	3.70 %

The decrease in net investment income for the three and nine months ended September 30, 2022 was primarily due to lower partnership income, partially offset by higher income from fixed maturities. Income from partnerships can vary significantly from period to period based on the performance in the underlying portfolios. Lower income from our limited partnerships reflects a more normalized return environment as compared to 2021, where performance was driven by substantial valuation increases across all private capital strategies, and which results are not indicative of the long-term targeted returns for this asset class. Fixed maturity income benefited primarily from the continued investment of operational cash flows and the impact of higher new money yields.

Investment Portfolio

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

(dollars in millions)	September 30, 2022 Carrying Value	September 30, 2022 % of Total Carrying Value	December 31, 2021 Carrying Value	December 31, 2021 % of Total Carrying Value
Fixed maturities, at fair value	**$ 7,200.9**	**84.1 %**	$ 7,723.9	82.3 %
Mortgage and other loans	**407.6**	**4.8**	434.0	4.6
Equity securities, at fair value	**399.5**	**4.7**	661.3	7.0
Other investments	**386.1**	**4.5**	333.4	3.6
Cash and cash equivalents	**164.8**	**1.9**	230.9	2.5
Total cash and investments	**$ 8,558.9**	**100.0 %**	$ 9,383.5	100.0 %

Cash and Investments

Total cash and investments decreased $824.6 million, or 8.8%, for the nine months ended September 30, 2022 as compared to December 31, 2021, primarily due to net market value depreciation and the funding of financing activities, including our dividend payments and stock repurchases, partially offset by the continued investment of operational cashflows.

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

(in millions) Investment Type	September 30, 2022 Amortized Cost, Net of Allowance for Credit Losses	Fair Value	Net Unrealized Loss	Change in Net Unrealized For the Year
U.S. Treasury and government agencies	$ 441.3	$ 379.9	$ (61.4)	$ (63.3)
Foreign government	2.2	2.1	(0.1)	(0.5)
Municipals:				
Taxable	1,193.4	1,032.2	(161.2)	(185.0)
Tax-exempt	20.9	19.6	(1.3)	(2.1)
Corporate	4,020.4	3,616.8	(403.6)	(562.5)
Asset-backed:				
Residential mortgage-backed	1,166.3	1,018.3	(148.0)	(149.4)
Commercial mortgage-backed	916.8	825.8	(91.0)	(113.0)
Asset-backed	332.6	306.2	(26.4)	(26.3)
Total fixed maturities	$ 8,093.9	$ 7,200.9	$ (893.0)	$ (1,102.1)

The change in net unrealized loss on fixed maturities was primarily due to higher prevailing interest rates and, to a lesser extent, wider credit spreads.

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

(dollars in millions) NAIC Designation	Rating Agency Equivalent Designation	September 30, 2022 Amortized Cost, Net of Allowance for Credit Losses	Fair Value	% of Total Fair Value	December 31, 2021 Amortized Cost, Net of Allowance for Credit Losses	Fair Value	% of Total Fair Value
1	Aaa/Aa/A	$ 5,524.3	$ 4,927.3	68.4 %	$ 4,867.5	$ 4,987.6	64.6 %
2	Baa	2,202.4	1,939.9	26.9	2,302.2	2,380.4	30.8
3	Ba	215.5	198.1	2.8	216.9	225.2	2.9
4	B	138.4	123.8	1.7	123.2	125.3	1.6
5	Caa and lower	11.8	11.1	0.2	5.0	5.4	0.1
6	In or near default	1.5	0.7	—	—	—	—
Total fixed maturities		$ 8,093.9	$ 7,200.9	100.0 %	$ 7,514.8	$ 7,723.9	100.0 %

Based on ratings by the National Association of Insurance Commissioners (“NAIC”), approximately 95% of the fixed maturity portfolio consisted of investment grade securities at both September 30, 2022 and December 31, 2021. The quality of our fixed maturity portfolio remains strong based on ratings, capital structure position, support through guarantees, underlying security, issuer diversification and yield curve position.

Our investment portfolio primarily consists of fixed maturity securities whose fair value is susceptible to market risk, including interest rate changes. See also "Quantitative and Qualitative Disclosures about Market Risk" included in Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our 2021 Annual Report on Form 10-K. Duration is a measurement used to quantify our inherent interest rate risk and analyze invested assets relative to our reserve liabilities.

The duration of our fixed maturity portfolio was as follows:

(dollars in millions)	September 30, 2022			December 31, 2021		
Duration	Amortized Cost, Net of Allowance for Credit Losses	Fair Value	% of Total Fair Value	Amortized Cost, Net of Allowance for Credit Losses	Fair Value	% of Total Fair Value
0-2 years	**$ 1,347.2**	**$ 1,318.1**	**18.3 %**	$ 1,080.2	$ 1,108.3	14.3 %
2-4 years	**2,010.0**	**1,889.1**	**26.2**	1,581.1	1,660.9	21.5
4-6 years	**2,179.3**	**1,952.3**	**27.1**	2,263.8	2,349.0	30.4
6-8 years	**2,060.1**	**1,657.8**	**23.0**	1,603.8	1,622.4	21.0
8-10 years	**368.1**	**285.8**	**4.0**	854.9	846.5	11.0
10+ years	**129.2**	**97.8**	**1.4**	131.0	136.8	1.8
Total fixed maturities	**$ 8,093.9**	**$ 7,200.9**	**100.0 %**	$ 7,514.8	$ 7,723.9	100.0 %
Weighted average duration		**4.5**			4.9	

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

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

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

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

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

Impairments

For the three and nine months ended September 30, 2022, we recognized net impairments of $15.7 million and $16.3 million, respectively, consisting primarily of losses on fixed maturity securities that we intend to sell as part of a planned transfer of certain investment management responsibilities to an external manager. For the three and nine months ended September 30, 2021, we recognized net recoveries of $0.1 million and net impairments of $0.1 million, respectively.

At September 30, 2022 and December 31, 2021, the allowance for credit losses on mortgage loans was $5.2 million and $7.1 million, respectively, and the allowance for credit losses on available-for-sale debt securities was $3.1 million and $0.3 million, respectively.

At September 30, 2022 and December 31, 2021 we held no fixed maturities on non-accrual status. The effects of non-accruals for the nine months ended September 30, 2022 and 2021, compared with amounts that would have been recognized in accordance with the original terms of the fixed maturities, were not material. Any defaults in the fixed maturities portfolio in future periods may negatively affect investment income.

Unrealized Losses

Gross unrealized losses on fixed maturities at September 30, 2022 were $896.0 million, an increase of $848.0 million compared to December 31, 2021, primarily attributable to higher interest rates and, to a lesser extent, wider credit spreads. At September 30, 2022, gross unrealized losses consisted primarily of $405.6 million on corporate fixed maturities, $163.3 million on municipals, $148.0 million on residential mortgage-backed securities and $91.0 million on commercial mortgage-backed securities. See Note 3 – "Investments" in the Notes to Interim Consolidated Financial Statements.

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

The following table sets forth gross unrealized losses for fixed maturities by maturity period at September 30, 2022 and December 31, 2021. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations, with or without call or prepayment penalties, or we may have the right to put or sell the obligations back to the issuers.

(in millions)	September 30, 2022	December 31, 2021
Due in one year or less	**$ 1.5**	$ —
Due after one year through five years	**115.3**	0.7
Due after five years through ten years	**439.5**	19.4
Due after ten years	**74.3**	10.9
	630.6	31.0
Mortgage-backed and asset-backed securities	**265.4**	17.0
Total fixed maturities	**$ 896.0**	$ 48.0

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

The Federal Reserve (the "Fed") has continued increasing the federal funds rate, announcing a total increase of 1.50% during the third quarter to a target range of 3.00% to 3.25%. Further, the Fed has indicated that ongoing increases to the target range may be appropriate well into 2023. The Fed will also continue to reduce the size of its balance sheet.

Despite these efforts to tame pricing pressures in the U.S., inflation remains at high levels. The Fed's limited set of quantitative tightening tools may be insufficient to address certain drivers of price pressures including supply and demand imbalances and energy price volatility derived from geopolitical risk. Tighter financial conditions for businesses and consumers are increasing the probability of an economic slowdown in 2023.

We may experience defaults on fixed income securities, particularly with respect to non-investment grade debt securities. Although we perform rigorous credit analysis of our fixed income investments, it is difficult to foresee which issuers, industries or markets will be most affected. As a result, the value of our fixed maturity portfolio could change rapidly in ways we cannot currently anticipate, and we could incur additional realized and unrealized losses in future periods.

Other Items

Net income also included the following items:

(in millions)	Three Months Ended September 30,					
	Core Commercial	Specialty	Personal Lines	Other	Discontinued Operations	Total
2022						
Net realized and unrealized investment gains (losses)	**$ (21.5)**	**$ (9.8)**	**$ (13.8)**	**$ 0.2**	**$ —**	**$ (44.9)**
Discontinued life businesses	**—**	**—**	**—**	**—**	**(0.4)**	**(0.4)**
2021						
Net realized and unrealized investment gains	$ 2.1	$ 0.9	$ 0.8	$ 0.2	$ —	$ 4.0
Discontinued life businesses	—	—	—	—	(0.8)	(0.8)

(in millions)	Nine Months Ended September 30,					
	Core Commercial	Specialty	Personal Lines	Other	Discontinued Operations	Total
2022						
Net realized and unrealized investment gains (losses)	**$ (66.1)**	**$ (30.1)**	**$ (43.1)**	**$ 0.6**	**$ —**	**$ (138.7)**
Discontinued life businesses	**—**	**—**	**—**	**—**	**(1.1)**	**(1.1)**
2021						
Net realized and unrealized investment gains (losses)	$ 38.0	$ 16.4	$ 22.8	$ (4.6)	$ —	$ 72.6
Discontinued life businesses	—	—	—	—	(2.0)	(2.0)

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

Net realized and unrealized investment losses were $44.9 million for the three months ended September 30, 2022, compared to net realized and unrealized gains of $4.0 million for the three months ended September 30, 2021. For the three months ended September 30, 2022, net realized and unrealized investment losses were primarily due to changes in the fair value of equity securities and, to a lesser extent, from impairment losses on investments. For the three months ended September 30, 2021, net realized and unrealized investment gains were primarily due to net realized gains of $3.6 million from sales of investments, primarily fixed maturities.

Net realized and unrealized investment losses were $138.7 million for the nine months ended September 30, 2022, compared to net realized and unrealized gains of $72.6 million for the nine months ended September 30, 2021. For the nine months ended September 30, 2022 and 2021, net realized and unrealized investment gains (losses) were primarily due to changes in the fair value of equity securities. Additionally, for the nine months ended September 30, 2022, we recognized net realized losses of $16.3 million from sales of investments, primarily fixed maturities, as well as $16.3 million of impairment losses, of which $14.8 million related to intent to sell securities. (See also "Investments - Impairments.")

Discontinued operations include our former accident and health and life businesses. Losses of $0.4 million and $0.8 million for the three months ended September 30, 2022 and 2021, respectively, and $1.1 million and $2.0 million for the nine months ended September 30, 2022 and 2021, respectively, primarily reflect adverse loss trends related to the long-term care pool.

Income Taxes

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

Three Months Ended September 30, 2022 Compared to Three Months Ended September 30, 2021

The provision for income taxes from continuing operations was a benefit of $0.1 million compared to an expense of $7.7 million for the three months ended September 30, 2022 and 2021, respectively. These provisions resulted in a benefit of 20.0% on pre-tax income for the three months ended September 30, 2022, and an effective tax rate on pre-tax income of 18.1% for the three months ended September 30, 2021. These provisions include excess tax benefits related to stock-based compensation of $0.1 million and $0.8 million for the three months ended September 30, 2022 and 2021, respectively. In addition, these provisions reflect benefits related to tax planning strategies implemented in prior years of $0.3 million and $0.8 million for the three months ended September 30, 2022 and 2021, respectively. Absent these items, the provision for income taxes would have been an expense of $0.3 million and $9.3 million for the three months ended September 30, 2022 and 2021, respectively.

The income tax provision on operating income was an expense of $9.7 million and $7.7 million for the three months ended September 30, 2022 and 2021, respectively. These provisions resulted in effective tax rates for operating income of 21.4% and 20.0% for the three months ended September 30, 2022 and 2021, respectively. These provisions include excess tax benefits related to stock-based compensation of $0.1 million and $0.8 million for the three months ended September 30, 2022 and 2021, respectively. Absent this item, the provisions for income taxes would have been an expense of $9.8 million, or 21.6%, and $8.5 million, or 22.1%, for the three months ended September 30, 2022 and 2021, respectively.

Nine Months Ended September 30, 2022 Compared to Nine Months Ended September 30, 2021

The provision for income taxes from continuing operations was an expense of $30.0 million and $59.3 million for the nine months ended September 30, 2022 and 2021, respectively. These provisions resulted in consolidated effective federal tax rates of 18.9% and 18.7% for the nine months ended September 30, 2022 and 2021, respectively. These provisions include excess tax benefits related to stock-based compensation of $3.1 million and $2.6 million for the nine months ended September 30, 2022 and 2021, respectively. In addition, these provisions reflect benefits related to tax planning strategies implemented in prior years of $1.1 million and $3.7 million for the nine months ended September 30, 2022 and 2021, respectively. Finally, the provision for 2021 includes a net benefit related to prior years' federal tax credit of $1.7 million. Absent these items, the provisions for income taxes would have been an expense of $34.2 million, or 21.6%, and $67.3 million, or 21.3%, for the nine months ended September 30, 2022 and 2021, respectively.

The income tax provision on operating income was an expense of $60.5 million and $47.7 million for the nine months ended September 30, 2022 and 2021, respectively. These provisions resulted in effective tax rates for operating income of 20.3% and 19.6% for the nine months ended September 30, 2022 and 2021, respectively. These provisions include excess tax benefits related to stock-based compensation of $3.1 million and $2.6 million for the nine months ended September 30, 2022 and 2021, respectively. In addition, the provision for 2021 includes a net benefit related to prior years' federal tax credit of $1.7 million. Absent these items, the provisions for income taxes would have been an expense of $63.6 million, or 21.4%, and $52.0 million, or 21.3%, for the nine months ended September 30, 2022 and 2021, respectively.

Critical Accounting Estimates

Interim consolidated financial statements have been prepared in conformity with U.S. GAAP and include certain accounting policies that we consider to be critical due to the amount of judgment and uncertainty inherent in the application of those policies. While we believe that the amounts included in our consolidated financial statements reflect our best judgment, the use of different assumptions could produce materially different accounting estimates. As disclosed in our 2021 Annual Report on Form 10-K, we believe the following accounting estimates are critical to our operations and require the most subjective and complex judgment:

- Reserve for losses and loss expenses
- Reinsurance recoverable balances
- Pension benefit obligations
- Investment credit losses

For a more detailed discussion of these critical accounting estimates, see our 2021 Annual Report on Form 10-K.

Statutory Surplus of Insurance Subsidiaries

The following table reflects statutory surplus for our insurance subsidiaries:

(in millions)	September 30, 2022	December 31, 2021
Total Statutory Capital and Surplus	**$ 2,681.8**	$ 2,720.0

The statutory capital and surplus for our insurance subsidiaries decreased $38.2 million during the first nine months of 2022. This decrease was primarily driven by unrealized investment losses, primarily due to changes in the fair value of equity securities, and the payment of a $100.0 million dividend to its parent company, partially offset by an increase in underwriting profits and, to a lesser extent, an increase in admitted deferred tax assets.

The NAIC prescribes an annual calculation regarding risk-based capital (“RBC”). RBC ratios for regulatory purposes are expressed as a percentage of the capital required to be above the Authorized Control Level (the “Regulatory Scale”); however, in the insurance industry, RBC ratios are widely expressed as a percentage of the Company Action Level. The following table reflects the Company Action Level, the Authorized Control Level and RBC ratios for Hanover Insurance (which includes Citizens and other insurance subsidiaries), as of September 30, 2022, expressed both on the Industry Scale (Total Adjusted Capital divided by the Company Action Level) and Regulatory Scale (Total Adjusted Capital divided by Authorized Control Level):

(dollars in millions)	Company Action Level	Authorized Control Level	RBC Ratio Industry Scale	RBC Ratio Regulatory Scale
The Hanover Insurance Company	**$ 1,222.3**	**$ 611.1**	**219 %**	**437 %**

Liquidity and Capital Resources

Liquidity is a measure of our ability to generate sufficient cash flows to meet the cash requirements of business operations. As a holding company, our primary ongoing source of cash is dividends from our insurance subsidiaries. However, dividend payments to us by our insurance subsidiaries are subject to limitations imposed by regulators, such as prior notice periods and the requirement that dividends in excess of a specified percentage of statutory surplus or prior years' statutory earnings receive prior approval (so called “extraordinary dividends”). During the first nine months of 2022, Hanover Insurance paid $100.0 million in dividends, which were provided to the holding company.

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

Net cash provided by operating activities was $523.8 million during the first nine months of 2022, as compared to $595.4 million during the first nine months of 2021. The $71.6 million decrease in cash provided was primarily due to an increase in loss and LAE payments and, to a lesser extent, higher federal income tax payments made in the first nine months of 2022, partially offset by an increase in premiums received.

Net cash used in investing activities was $476.2 million during the first nine months of 2022, as compared to $337.7 million during the first nine months of 2021. During the first nine months of 2022 and 2021, cash used in investing activities primarily related to net purchases of fixed maturities, partially offset by net sales of equity securities.

Net cash used in financing activities was $113.7 million during the first nine months of 2022, as compared to $207.1 million during the first nine months of 2021. During the first nine months of 2022, cash used in financing activities primarily resulted from three quarterly dividend payments to our shareholders and, to a lesser extent, the repurchase of common stock. During the first nine months of 2021, cash used in financing activities primarily resulted from the repurchase of common stock and, to a lesser extent, from three quarterly dividend payments to our shareholders.

Dividends to common shareholders are subject to quarterly board approval and declaration. During the first nine months of 2022, as declared by the Board, we paid three quarterly dividends, each for $0.75 per share, to our shareholders totaling $80.1 million. We believe that our holding company assets are sufficient to provide for future shareholder dividends should the Board of Directors declare them.

At September 30, 2022, THG, as a holding company, held approximately $326.0 million of fixed maturities and cash. We believe our holding company assets will be sufficient to meet our short-term obligations, which we expect to consist primarily of quarterly dividends to our shareholders (as and to the extent declared), interest on our senior and subordinated debentures, certain costs associated with benefits due to our former life employees and agents, and, to the extent required, payments related to indemnification of liabilities associated with the sale of various subsidiaries. As discussed below, we have, and opportunistically may continue to, repurchase our common stock and our debt. We do not expect that it will be necessary to dividend additional funds from our insurance subsidiaries in order to fund current year holding company obligations; however, we may decide to do so.

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

Our insurance subsidiaries maintain a high degree of liquidity within their respective investment portfolios in fixed maturity and short-term investments. During 2022, the financial markets have experienced significant volatility and declines in value, including many securities currently held by THG and its subsidiaries. We believe that the quality of the assets we hold will allow us to realize the long-term economic value of our portfolio, including securities that are currently in an unrealized loss position. We do not anticipate the need to sell these securities to meet our insurance subsidiaries' cash requirements since we expect our insurance subsidiaries to generate sufficient operating cash to meet all short-term and long-term cash requirements relating to current operations. However, there can be no assurance that unforeseen business needs or other items will not occur causing us to have to sell those securities in a loss position before their values fully recover, thereby causing us to recognize impairment charges in that time period.

The Board of Directors authorized a stock repurchase program which provides for aggregate repurchases of our common stock of up to $1.3 billion. Under the repurchase authorization, we may repurchase, from time to time, common stock in amounts, at prices and at such times as we deem appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs, or other transactions. We are not required to purchase any specific number of shares or to make purchases by any certain date under this program. During the first nine months of 2022 we repurchased approximately 0.2 million shares at an aggregate cost of $30.8 million. As of September 30, 2022, we had repurchased 7.9 million shares under this $1.3 billion program and had approximately $330 million available for additional repurchases.

We maintain our membership in the Federal Home Loan Bank ("FHLB") to provide access to additional liquidity based on our holdings of FHLB stock and pledged collateral. At September 30, 2022, we had borrowing capacity of $101.0 million. There were no outstanding borrowings under this short-term facility at September 30, 2022; however, we have and may continue to borrow, from time to time, through this facility to provide short-term liquidity.

On April 30, 2019, we entered into a credit agreement that provides for a five-year unsecured revolving credit facility not to exceed $200.0 million at any one time outstanding, with the option to increase the facility up to $300.0 million (assuming no default and satisfaction of other specified conditions, including the receipt of additional lender commitments). The agreement also includes an uncommitted subfacility of $50.0 million for standby letters of credit. Borrowings, if any, under this agreement are unsecured and incur interest at a rate per annum equal to, at our election, either (i) the greater of, (a) the prime commercial lending rate of the administrative agent, (b) the NYFRB Rate plus half a percent, or (c) the one month Adjusted LIBOR plus one percent and a margin that ranges from 0.25% to 0.625% depending on our debt rating, or (ii) Adjusted LIBOR for the applicable interest period, plus a margin that ranges from 1.25% to 1.625% depending on our debt rating. The agreement also contains certain financial covenants such as maintenance of specified levels of consolidated equity and leverage ratios, and requires that certain of our subsidiaries maintain minimum RBC ratios. We currently have no borrowings under this agreement and had no borrowings under this agreement during the first nine months of 2022. The LIBOR rate, upon which Adjusted LIBOR is based, is in process of being discontinued. During 2021, certain key tenors of LIBOR were extended with a new cessation date of June 20, 2023. Our credit agreement permits us to agree with the Administrative Agent for the credit facility on a replacement to Adjusted LIBOR subject to the satisfaction of certain conditions.

At September 30, 2022, we were in compliance with the covenants of our debt and credit agreements.

Contingencies and Regulatory Matters

REGULATORY AND INDUSTRY DEVELOPMENTS

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

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

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

Information regarding litigation, legal contingencies and regulatory matters appears in Part I – Note 12 “Commitments and Contingencies” in the Notes to Interim Consolidated Financial Statements.

Risks and Forward-Looking Statements

Information regarding risk factors and forward-looking information appears in Part II – Item 1A of this Quarterly Report on Form 10-Q and in Part I – Item 1A of our 2021 Annual Report on Form 10-K. This Management’s Discussion and Analysis should be read and interpreted in light of such factors.

ITEM 3

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our market risks, the ways we manage them, and sensitivity to changes in interest rates, and equity price risk are summarized in Management's Discussion and Analysis of Financial Condition and Results of Operations as of December 31, 2021, included in our Annual Report on Form 10-K for the year ended December 31, 2021. There have been no material changes in the first nine months of 2022 to these risks or our management of them.

ITEM 4

CONTROLS AND PROCEDURES

Disclosure Controls and Procedures Evaluation

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of our "disclosure controls and procedures," as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls over financial reporting will prevent all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Based on our controls evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this quarterly report, our disclosure controls and procedures were effective to provide reasonable assurance that (i) the information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) material information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate "internal control over financial reporting," as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting, as required by Rule 13a-15(d) of the Exchange Act, to determine whether any changes occurred during the period covered by this quarterly report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on the that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that there were no such changes during the quarter ended September 30, 2022, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1 – LEGAL PROCEEDINGS

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

ITEM 1A – RISK FACTORS

This document contains, and management may make, certain "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. When used in our Management's Discussion and Analysis, words such as: "believes," "anticipates," "expects," "projections," "outlook," "should," "could," "plan," "guidance," "likely," "on track to," "potential," "continue," "targeted," and similar expressions are intended to identify forward-looking statements. Forward-looking statements by their nature address matters that are, to different degrees, uncertain. We caution readers that accuracy with respect to forward-looking projections is difficult and subject to risks and uncertainties. Those risks and uncertainties, in some cases, have affected, and in the future could affect, our actual results and could cause our actual results for the remainder of 2022 and beyond to differ materially from historical results and from those expressed in any of our forward-looking statements. We operate in a business environment that is continually changing, and as such, new risk factors may emerge over time. Additionally, our business is conducted in competitive markets and, therefore, involves a higher degree of risk. We cannot predict these new risk factors, nor can we assess the impact, if any, that they may have on our business in the future.

Some of the factors that could cause actual results to differ include, but are not limited to, the following:

- changes in the demand for our products;
- 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;
- adverse claims experience or changes in our estimates of loss and loss adjustment expense reserves, including with respect to catastrophes, which may result in lower current year underwriting income or adverse loss development, and could impact our carried reserves;
- uncertainties with respect to the long-term profitability of our products, including with respect to newer products, or longer-tail products covering casualty losses;
- disruption in our distribution channels, including the loss or disruption of our independent agency channel, including the impact of competition and consolidation in the industry and among agents and brokers;
- changes in frequency and loss severity trends, including due to continually evolving insureds' behavior emerging from the Pandemic, exacerbated by persistent inflation and supply chain disruptions;
- changes in regulation, legislation, economic, market and political conditions, particularly with respect to rates, policy terms and conditions, payment flexibility, and regions where we have geographical concentrations;
- volatile and unpredictable developments, including severe weather and other natural physical events, catastrophes, pandemics, civil unrest, and terrorist actions, and the uncertainty in estimating the resulting losses;
- changes in weather patterns, whether as a result of global climate change, or otherwise, causing a higher level of losses from weather events to persist;
- limitations on the physical ability to adjust claims or the availability of sufficient information to accurately estimate a loss at a point in time and the limitations and assumptions used to model property and casualty losses in general;
- risks and uncertainties with respect to our ability to collect all amounts due from reinsurers and to maintain current levels of reinsurance in the future at commercially reasonable rates, or at all;
- heightened 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 our investment portfolio;
- recessionary economic periods that may inhibit our ability to increase pricing or renew business, and which may be accompanied by higher claims activity in certain lines;

- risks and uncertainties associated with our participation in shared market mechanisms, mandatory reinsurance programs and mandatory and voluntary pooling arrangements, including the MCCA;
- an increase in mandatory assessments by state guaranty funds;
- risks and uncertainties associated with the Michigan legislation that took effect on July 2, 2020 and reformed the prior requirements that all personal and commercial automobile polices issued in the state include no-fault personal injury protection coverage without a cap on maximum benefits allowed and the resulting increase in litigation challenging or associated with this reform;
- actions by our competitors, many of which are larger or have greater financial resources than we do;
- loss, prolonged illness or retirement of key employees;
- operating difficulties and other unintended consequences from the introduction of new products and related technology changes and applications, as well as new operating models;
- changes in our claims-paying and financial strength ratings;
- negative changes in our level of statutory surplus;
- risks and uncertainties with respect to our growth or operating strategies, or with respect to our expense and strategic initiatives;
- our ability to declare and pay dividends;
- changes in accounting principles and related financial reporting requirements;
- errors or omissions in connection with the administration of any of our products;
- risks and uncertainties with our operations and technology, including cloud-based data information storage, data security, cyber-security attacks, remote working capabilities, and/or outsourcing relationships and third-party operations and data security that may negatively impact our ability to conduct business;
- an inability to be compliant with recently implemented regulations or existing regulation such as those relating to Sarbanes-Oxley;
- unfavorable developments as a result of the implementation of the enacted legislation in Michigan described above, or litigation matters, social inflation and the possibility of adverse judicial decisions, including those which expand policy coverage beyond its intended scope or award “bad faith” or other non-contractual damages;
- continuing risks and uncertainties associated with the impact of the Pandemic and related general economic conditions; and
- other factors described in such forward-looking statements.

In addition, historical and future reported financial results include estimates with respect to premiums written and earned, reinsurance recoverables, current accident year “picks,” loss and loss adjustment reserves and development, fair values of certain investments, other assets and liabilities, tax, contingent and other liabilities, and other items. These estimates are subject to change as more information becomes available.

Readers should not place undue reliance on forward-looking statements, which speak only as of the date they are made. We do not undertake any responsibility to update or revise our forward-looking statements, except as required by law.

For a more detailed discussion of our risks and uncertainties, see also Item 1A – Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2021.

ITEM 2 – UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Issuer Purchases of Equity Securities

Shares purchased in the third quarter of 2022 are as follows:

Period	**Total Number of Shares Purchased**[(1)]	**Average Price Paid per Share**	**Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs**	**Approximate Dollar Value of Shares That May Yet be Purchased Under the Plans or Programs *(in millions)***
July 1 - 31, 2022	368	$ 131.19	—	$ 341
August 1 - 31, 2022	39,618	132.48	39,500	335
September 1 - 30, 2022	39,732	131.30	39,500	330
Total	79,718	$ 131.89	79,000	$ 330

(1) Includes 368 shares, 118 shares and 232 shares withheld to satisfy tax withholding amounts due from employees related to the receipt of stock which resulted from the exercise or vesting of equity awards for the months ended July 31, August 31 and September 30, 2022, respectively.

ITEM 6 – EXHIBITS

EX – 31.1	Certification of the Chief Executive Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002.
EX – 31.2	Certification of the Chief Financial Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002.
EX – 32.1	Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002.
EX – 32.2	Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002.
EX – 101	The following materials from The Hanover Insurance Group, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 formatted in Inline eXtensible Business Reporting Language ("iXBRL"): (i) Consolidated Statements of Income for the three and nine months ended September 30, 2022 and 2021; (ii) Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2022 and 2021; (iii) Consolidated Balance Sheets at September 30, 2022 and December 31, 2021; (iv) Consolidated Statements of Shareholders' Equity for the three and nine months ended September 30, 2022 and 2021; (v) Consolidated Statements of Cash Flows for the nine months ended September 30, 2022 and 2021, and (vi) related notes to these financial statements.
EX – 104	The cover page from The Hanover Insurance Group Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, formatted in iXBRL (embedded within EX – 101).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

	The Hanover Insurance Group, Inc. Registrant
November 2, 2022 Date	/s/ John C. Roche John C. Roche President, Chief Executive Officer and Director
November 2, 2022 Date	/s/ Jeffrey M. Farber Jeffrey M. Farber Executive Vice President and Chief Financial Officer

Exhibit 31.1

CERTIFICATION AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, John C. Roche, certify that:

1. I have reviewed this quarterly report on Form 10-Q of The Hanover Insurance Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining “disclosure controls and procedures” (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and “internal control over financial reporting” (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 2, 2022

/s/ John C. Roche
John C. Roche
President, Chief Executive Officer and Director

**CERTIFICATION AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Jeffrey M. Farber, certify that:

1. I have reviewed this quarterly report on Form 10-Q of The Hanover Insurance Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining “disclosure controls and procedures” (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and “internal control over financial reporting” (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 2, 2022

/s/ Jeffrey M. Farber
Jeffrey M. Farber
Executive Vice President and Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
SECTION 1350, CHAPTER 63 OF TITLE 18, UNITED STATES CODE,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to Section 1350, Chapter 63 of Title 18, United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, as President, Chief Executive Officer and Director of The Hanover Insurance Group, Inc. (the “Company”), does hereby certify that to the undersigned’s knowledge:

1) the Company’s Quarterly Report on Form 10-Q for the period ended September 30, 2022 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2) the information contained in the Company’s Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ John C. Roche
John C. Roche
President, Chief Executive Officer and
Director

Dated: November 2, 2022

Exhibit 32.2

**CERTIFICATION PURSUANT TO
SECTION 1350, CHAPTER 63 OF TITLE 18, UNITED STATES CODE,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 1350, Chapter 63 of Title 18, United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, as Executive Vice President and Chief Financial Officer of The Hanover Insurance Group, Inc. (the “Company”), does hereby certify that to the undersigned’s knowledge:

1) the Company’s Quarterly Report on Form 10-Q for the period ended September 30, 2022 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2) the information contained in the Company’s Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Jeffrey M. Farber

Jeffrey M. Farber
Executive Vice President and
Chief Financial Officer

Dated: November 2, 2022