The Hanover Insurance Group, Inc. (NYSE: THG)

Keefe, Bruyette and Woods Conference
September 8, 2022

The Hanover Insurance Group®

Key Takeaways

1. Differentiated strategy accelerates growth
Growing market share with our consumer- and agent-centric approach, while leveraging our diverse product set and proprietary analytical tools

2. Specialized capabilities are a critical growth driver
Further developing specialized capabilities across our business portfolio to position us for continued growth, including expansion of our specialty commercial business through new product solutions

3. Innovation and data analytics ensure competitiveness and consistent top performance
Deploying new capabilities and tools to enhance growth opportunities, increase operating efficiency and further improve claims expenses as the industry undergoes rapid change

4. Rigorous financial management enhances shareholder value
Building shareholder value and driving broad-based profitability through book value growth, delivering top-quartile operating ROE(1) (~14%) and rigorously managing capital to invest in our most profitable opportunities – building on our strong track record

5. ESG focus builds sustainable organization
Continuing our sustainability journey and focusing on human capital development, enterprise risk management and climate change

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

This presentation and the content thereof must be read and interpreted in conjunction with information regarding risk factors and forward-looking information as set forth in this presentation and in the company's most recently filed reports on Form 10-K and 10-Q and other documents filed by The Hanover Insurance Group, Inc. with the Securities and Exchange Commission ("SEC") and that are also available at hanover.com under "Investors."

The Hanover Insurance Group®

The Hanover Insurance Group Overview

Diversified U.S. P&C franchise with strong growth opportunities and track record of success

$4.6B
Market Capitalization*

$5.0B
2021 NPW

11.2%
2021 Operating ROE(1)

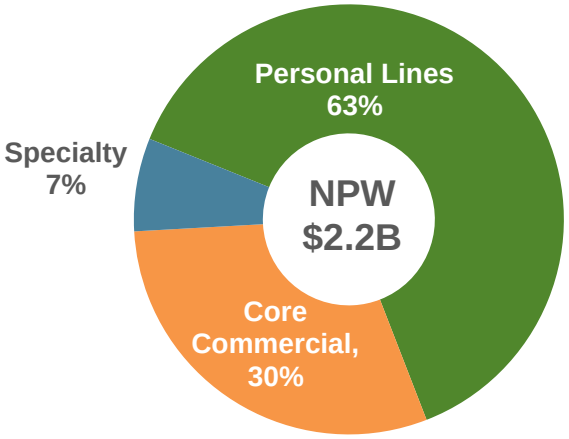
"A"
Financial Strength**

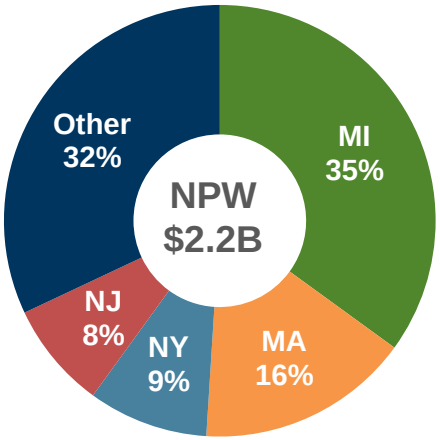
*As of the close of trading on 9/1/2022
**AM Best and S&P

Evolution to Today's Diversified Franchise

2005

Regional, personal lines driven carrier with property concentration

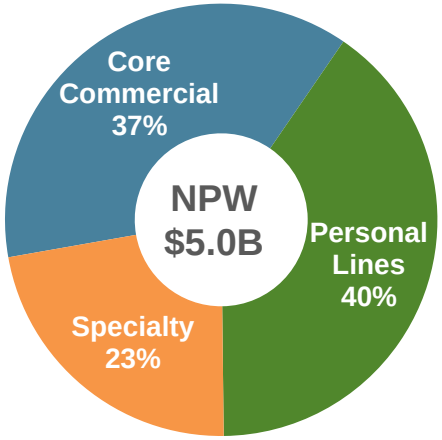


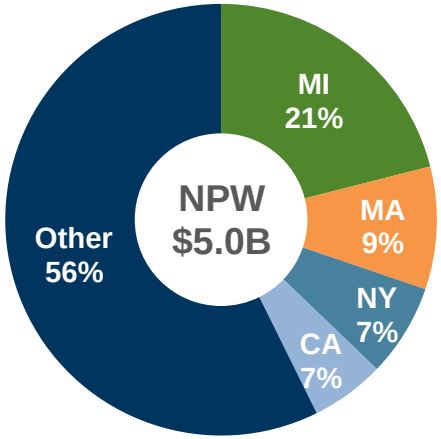


Top four states: 68%
Strong presence in 35 states

2021

Balanced, small/middle market focused commercial and personal lines carrier



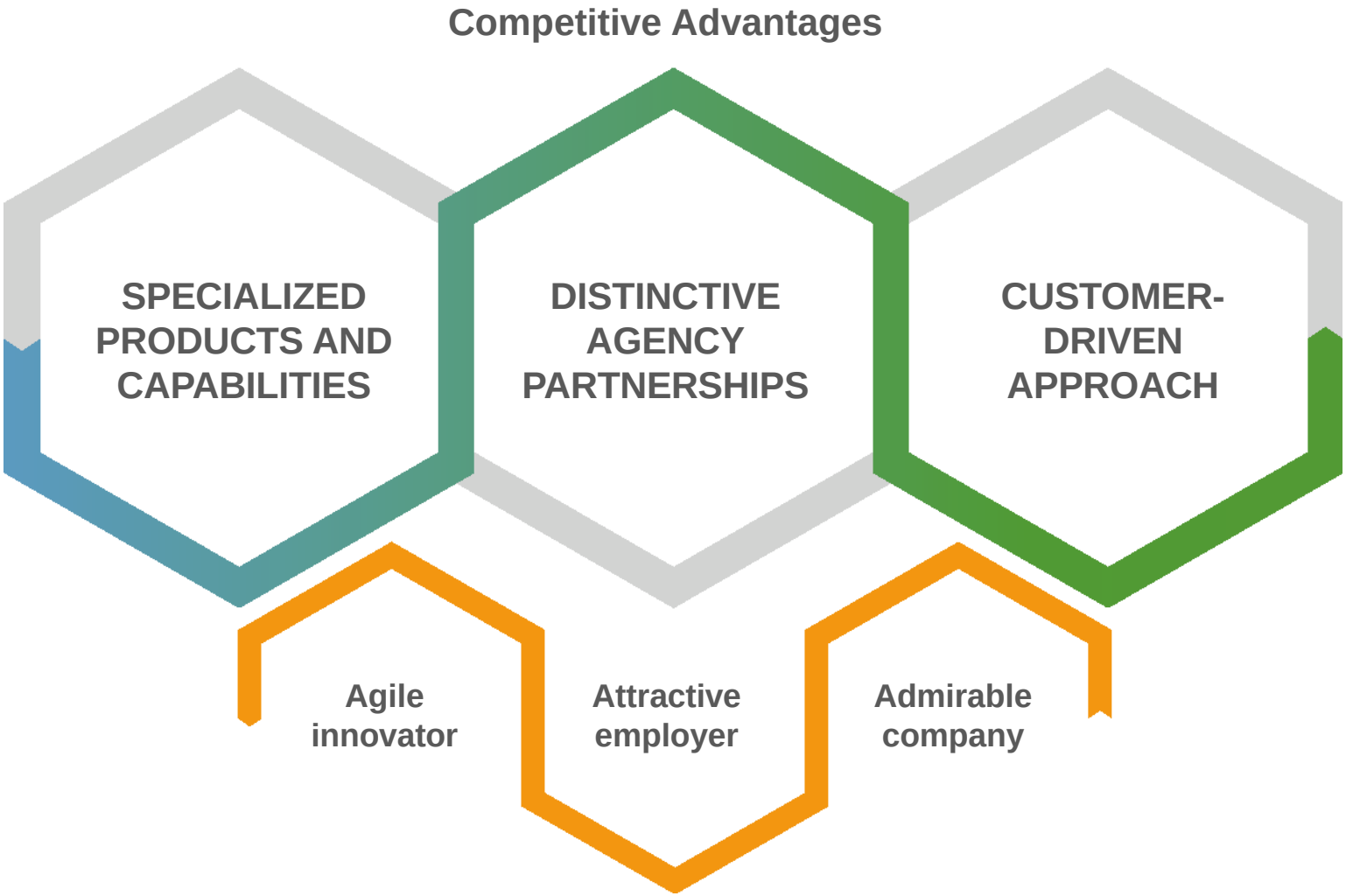


Top four states: 44%
National presence

- Transformed to a more balanced, differentiated P&C franchise
  - In 1Q22, disaggregated the former Commercial Lines segment into Core Commercial and Specialty segments
- Change fueled by organic growth and targeted "capabilities" acquisitions
- Established broad-based profitability
- Reduced reliance on volatile property lines in challenging geographies
- Strengthened the balance sheet

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Our Differentiated Strategy Presents a Sustainable Competitive Advantage



Well-Positioned in the Current, Highly Dynamic Environment

Market Dynamics	Our Strategic Focus
Distribution Consolidation	• Authentic partnership strategy • Actionable customer insights
Tech and Data Analytics	• Opportunity for agile innovation in every aspect of our business
Evolving Customer Expectations	• Customer-centric approach • Digital solutions
Migrating Profit Pools and New Risks	• Granular understanding of the market • Moving from reacting to anticipating loss trends
Dynamic Workforce	• Coveted magnet of talent • Highly engaged and agile workforce



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Our Distinctive Agency Approach Drives Growth and Profitability

Three-pronged partnership approach:

Targeted distribution

2,110 of the best agents in the U.S.

Franchise value

Broad & relevant underwriting expertise

Specialized products

Local underwriting

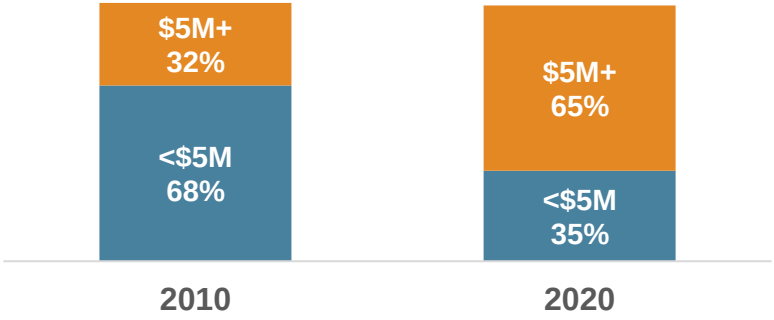
Deep business insights

Consultative approach

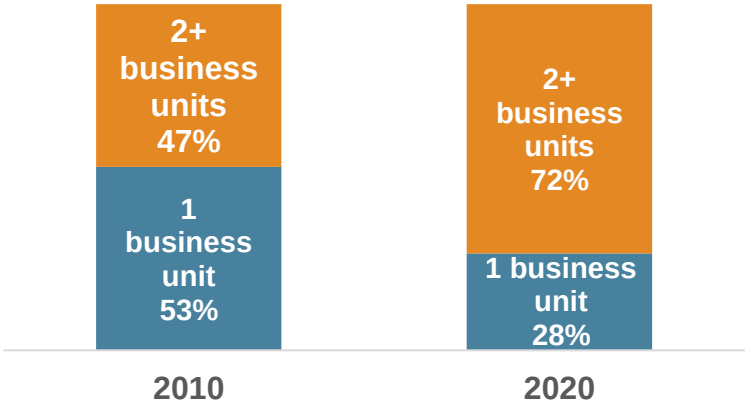
$76 billion of target market data profiled

Increased depth and breadth drive improved economics

Depth of Hanover Relationships



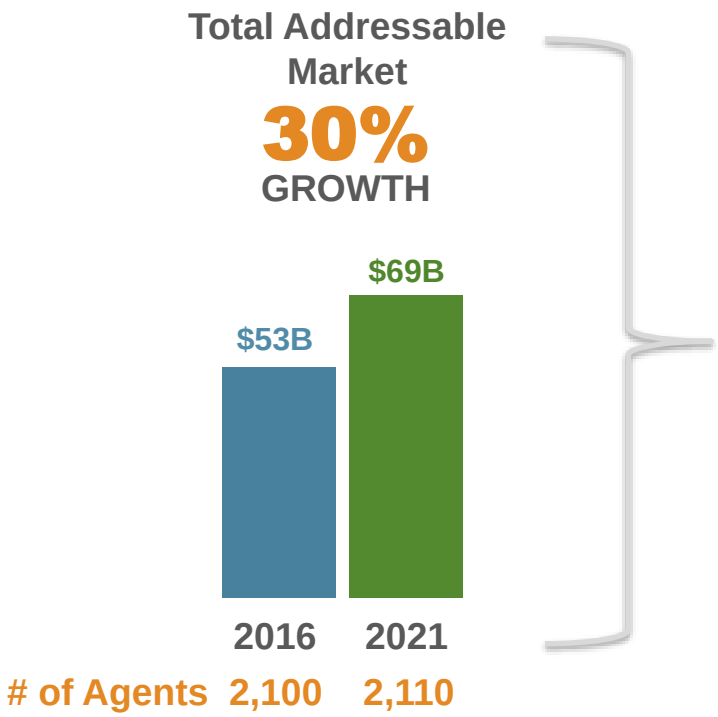
Breadth of Hanover Relationships



Increased relevance leads to higher retention and improved loss ratios

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A Partnership Strategy Capitalizing on Our Agents' Growth and Consolidation Trends



Tailwind

- Increased relevance and share with long-term partners as they grew
- Agency M&A activity increased addressable market access by >10%
- Increased leadership position, as our partners acquired 450 existing Hanover relationships
- Expanded geographic and product reach through 600 new agency appointments, increased market access by 10%
- Further opportunity to expand distribution points through targeted new appointments and agency consolidation benefits

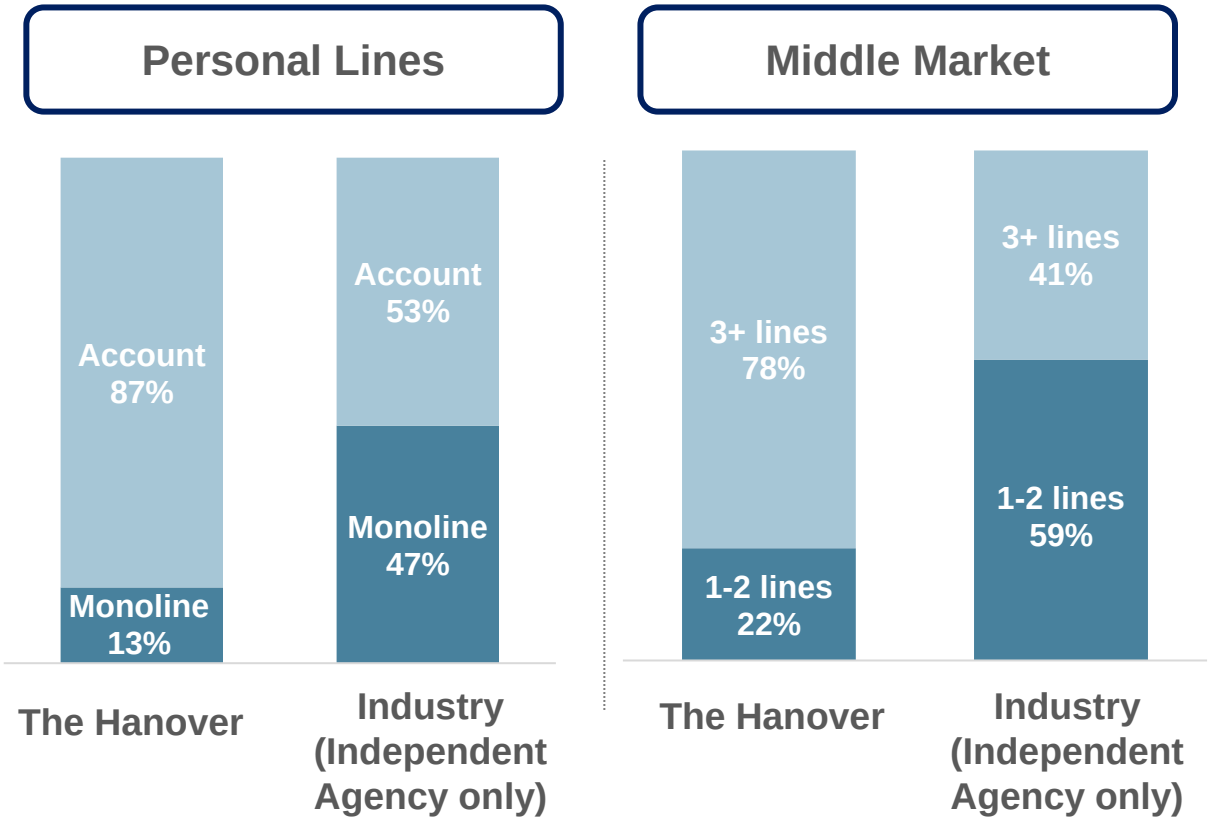
Positioned to drive continued expansion in a consolidating market through organic growth, agency M&A and new agency appointments

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Partner with Agents to Deliver Holistic, Customer-Centric Solutions

Differentiated and relevant approach in an increasingly fragmented market

Premium mix by number of lines written with one carrier



Benefits of customer-centric approach

- Ease of doing business
- Reduction in coverage gaps
- Better servicing needs/coordination
- Higher retention/account tenure

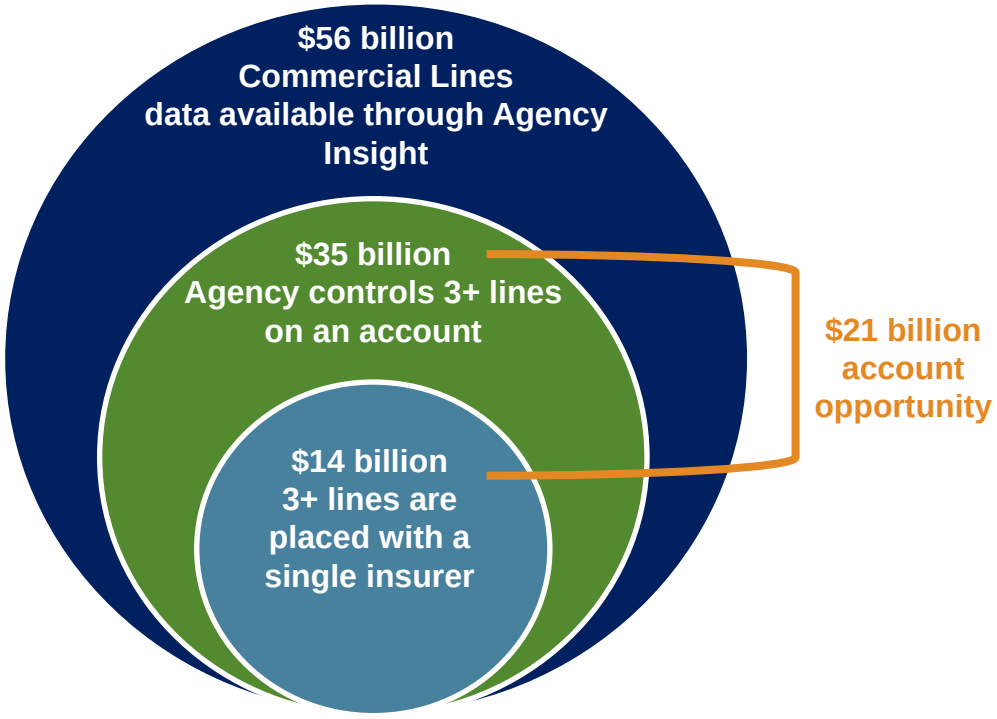
Confident that our success in personal lines account business can be achieved in sectors of commercial lines as agents strengthen customer focus

Source: The Hanover Agency Insight

Winning in a Fragmented Market

Enhancing our growth and relevancy in sectors that become more account centric

Client Buying Patterns / Account Fragmentation

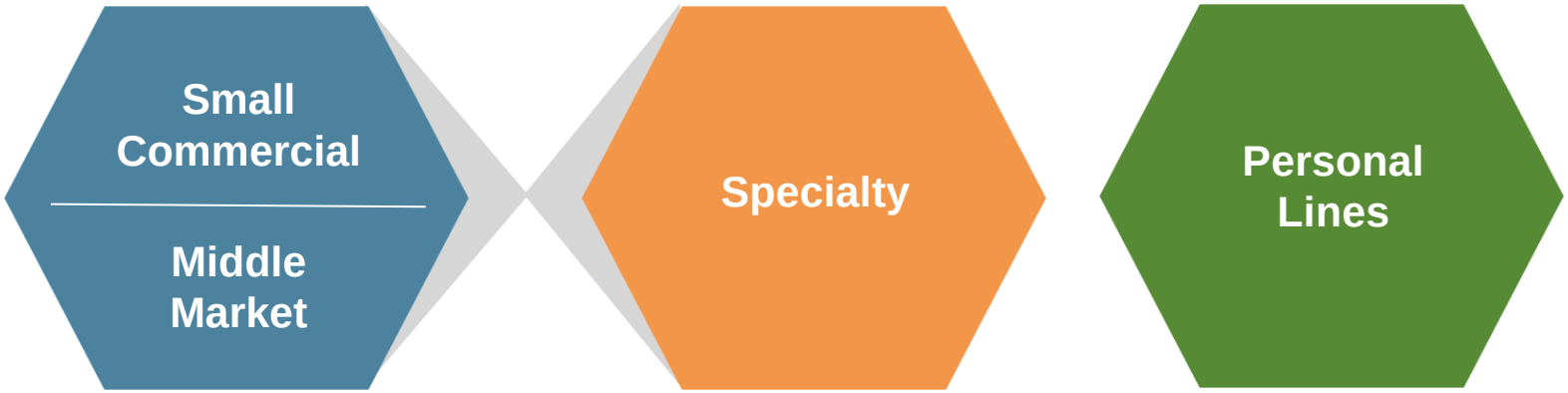


- Based on our Agency Insight data, $35 billion, or 63% of overall profiled commercial lines premiums are assembled by agents as accounts, but only $14 billion, or 25% are placed with the same insurer
  - This represents a $21 billion opportunity for The Hanover to help agents improve efficiencies by leveraging our insights and capabilities
- Account-centric industries typically include, among others:
  - Tech
  - Schools
  - Manufacturing
  - Media
  - Energy and Utilities
- The true market premium associated with such industries accounts for 45% of the commercial lines market (~$155 billion)

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Source: The Hanover Agency Insight

Highly Specialized and Differentiated Offering in Each Business Segment



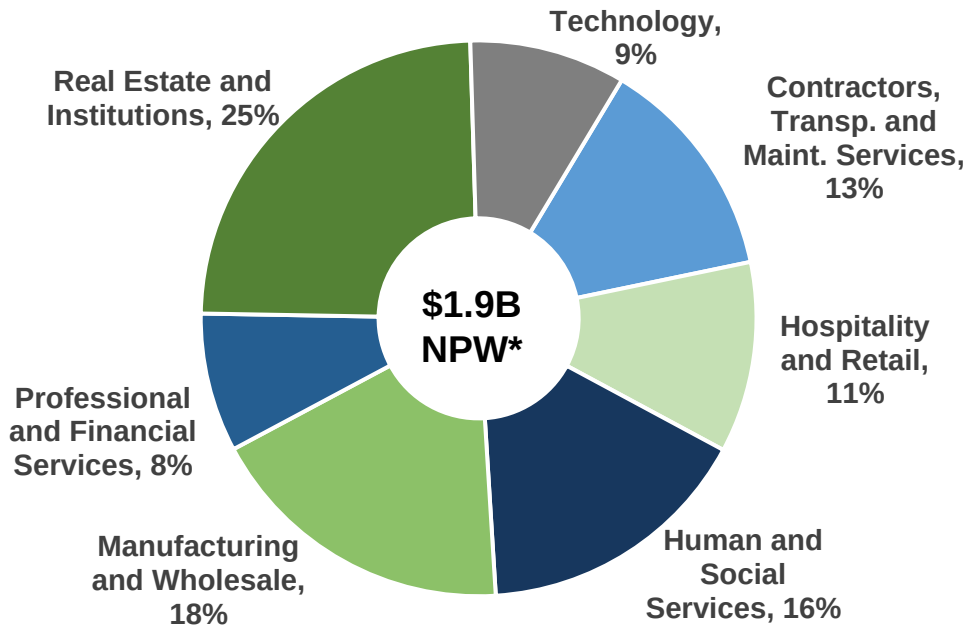
	Small Commercial / Middle Market	Specialty	Personal Lines
2021 NPW	**$1.9B**	**$1.1B**	**$2.0B**
	✓ Targeted, profitable account business	✓ Account-based approach, integrated with core commercial	✓ Account business (87%*) creates higher retention and lifetime value
	✓ Specialized products by industry class	✓ Retail agency focus	✓ Moving up-market to higher value

WHERE WE PLAY

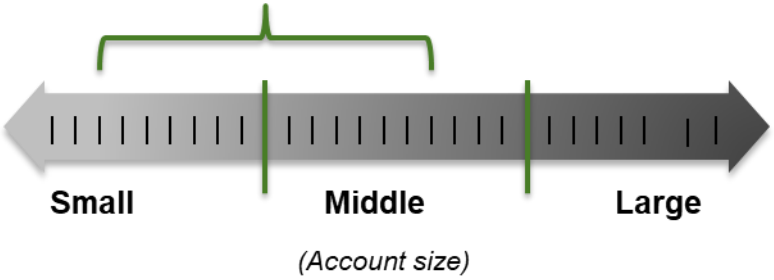
**Account business is defined as two or more lines of coverage. Represents account business for the period ended June 30, 2022*

Core Commercial

Diversified portfolio, providing industry focused solutions…



…to a profitable and growing market segment



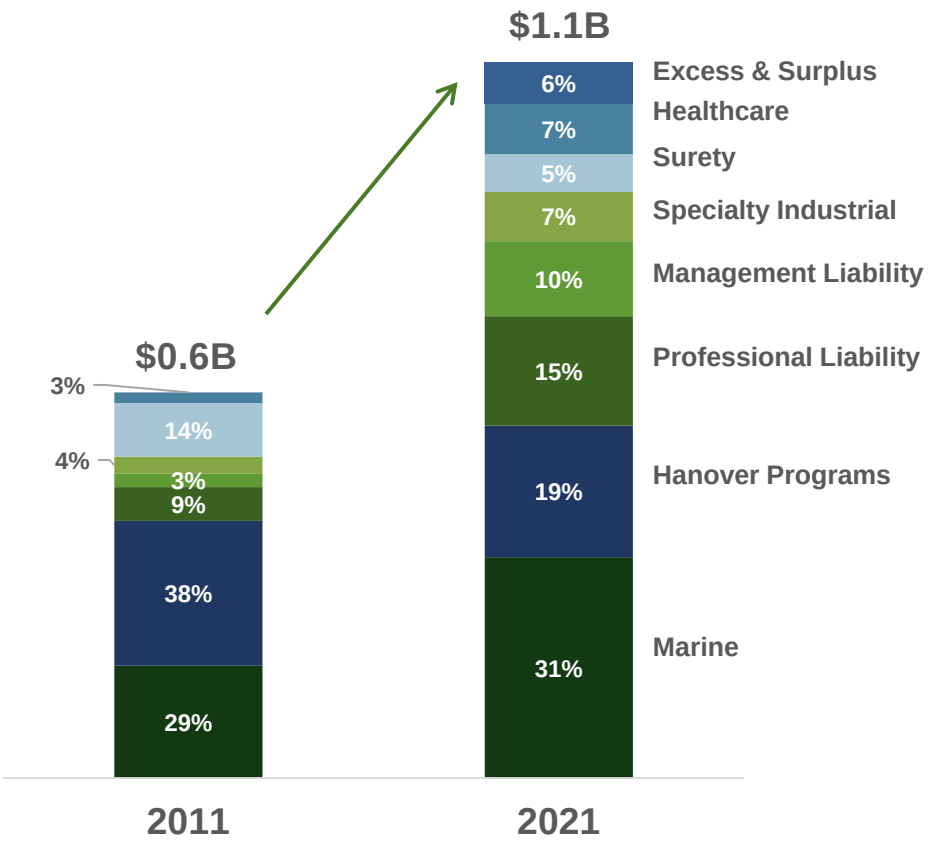
Growth drivers

- Deepen agency relationships, leveraging market insights
- Enhanced use of granular pricing and segmentation; capitalizing on rate momentum
- New, state-of-the-art quoting and binding platform
- Targeted underwriting appetite expansion (workers' comp)

*Based on 2021 year-end data

Specialty

$1+ billion diversified retail driven specialty business highly relevant to agents



Growth drivers

- Expanding product capabilities focused on agent needs:
  - Financial Institutions
  - Retail E&S platform
  - Cyber
- Expanding shelf space with agent partners
- Leveraging Core Commercial to pursue account strategy
- Capitalizing on rate increases (8.0% in Q2'22)
- Growth in capital efficient fronted business

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The Hanover's Specialty Portfolio

Broad capabilities for small to mid-sized clients primarily served by retail agents

A leading carrier in the small and middle markets:



Examples of our comprehensive specialty solutions:



Complex Manufacturer

1) Excess & Surplus Property and Casualty
2) Management Liability
3) Specialty General Liability
4) Industrial Property
5) Cyber



Large-scale Product Distributor

1) Industrial Property
2) Excess & Surplus Property and Casualty
3) Marine Warehouse Legal Liability
4) Management Liability, including Crime
5) Cyber



Large Community Bank

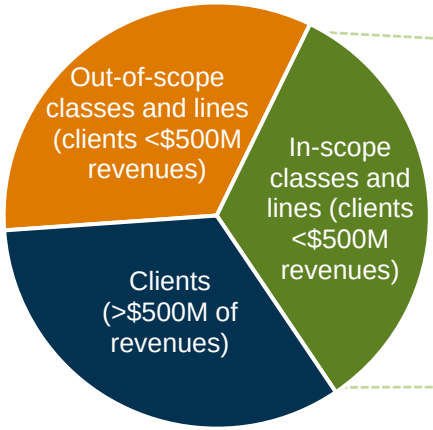
1) Professional Liability
2) Management Liability, including D&O, EPLI and Crime
3) Cyber
4) Financial Institutions Bond
5) Marine Fine Arts Floater
6) Lease Bond

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Proven Growth Strategy on Track to Deliver ~10% CAGR Over the Next 5 Years

Clear line of sight to attractive market opportunities

$129B
U.S. Specialty Market



The Hanover Specialty Market Opportunity

~$45B

Segment	Premium
Excess & Surplus	$10B
Marine	$10B
Professional Liability	$8B
Management Liability	$6B
Healthcare	$5B
Surety & Fidelity	$4B
Industrial Property	$2B

Accelerating Growth Fueled By…

Expanded Product Capabilities

Continue to broaden product offerings in small to mid-sized market segments

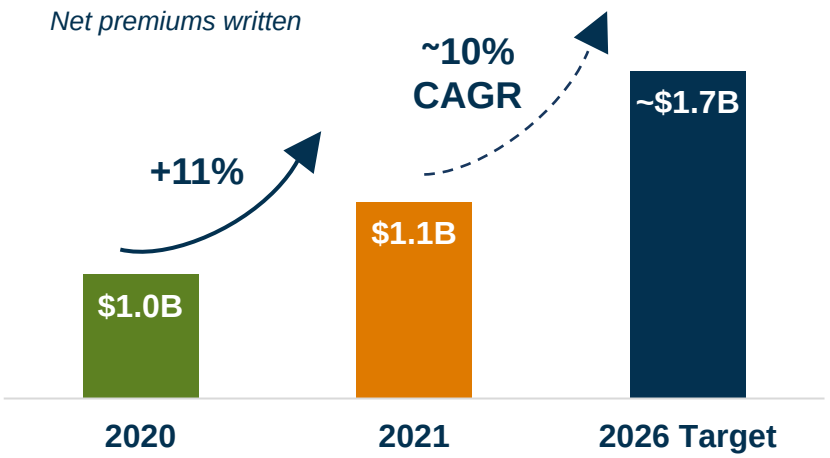
Optimized Distribution

Deepen retail, specialist and wholesaler relationships

Advanced Technology

Optimize performance through digital investment

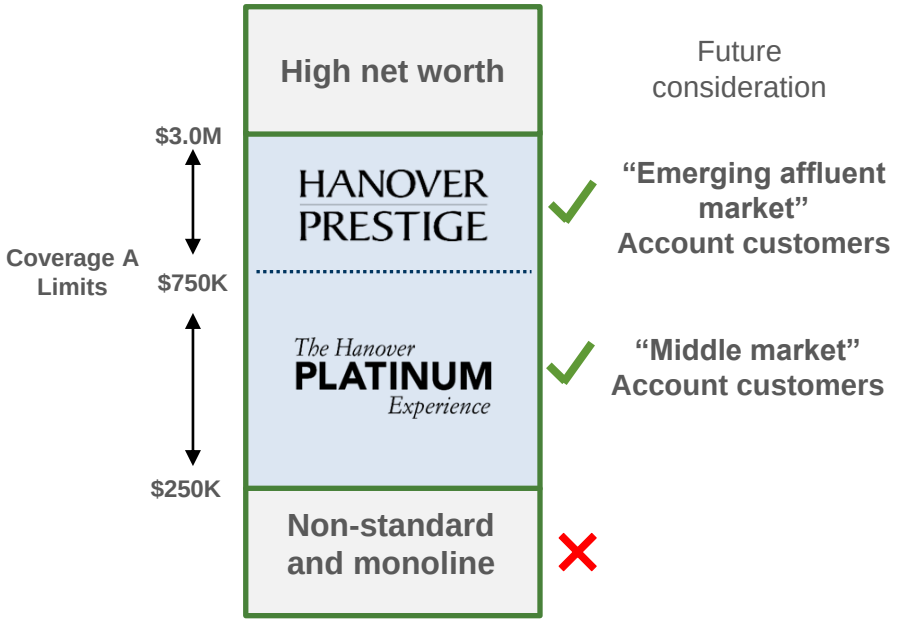
Specialty is a Critical Growth Driver



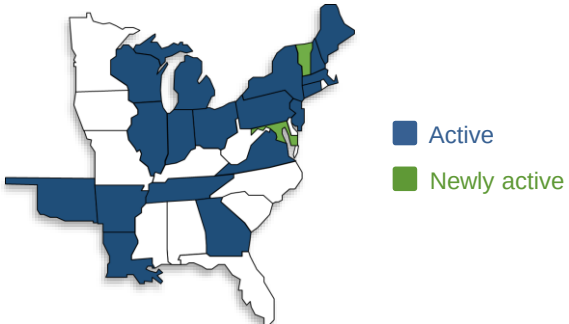
*Forward-looking non-GAAP measures are not reconciled because such measures and reconciliations are not available without unreasonable effort that would require the company to make estimates or assumptions about unidentified and unknown factors during the period referenced, such as economic and market conditions and competitive factors, among others. For additional information regarding forward-looking non-GAAP measures on this page and throughout this presentation, please refer to page 18 of this presentation.

Personal Lines

Moving upstream toward a more value-oriented and growing customer segment…



… in an attractive and growing regional footprint



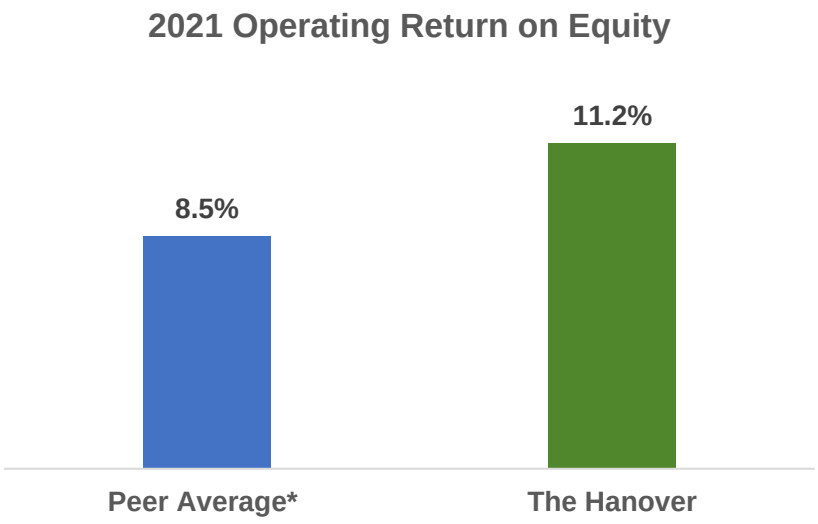
Growth Drivers

- Leveraging agent-centric distribution strategy and state-of-the-art TAP Sales platform to gain share
- Success with market consolidation opportunities provide a tailwind to growth and validate strategy is resonating with agent partners
- Continue successful move "upmarket" through launch of Prestige product
  - Added ~30,000 new customer accounts in 2021
  - Expect Prestige book to double within the next three years
- New agency appointments in under-penetrated geographies
- Consistent and measured expansion into contiguous states

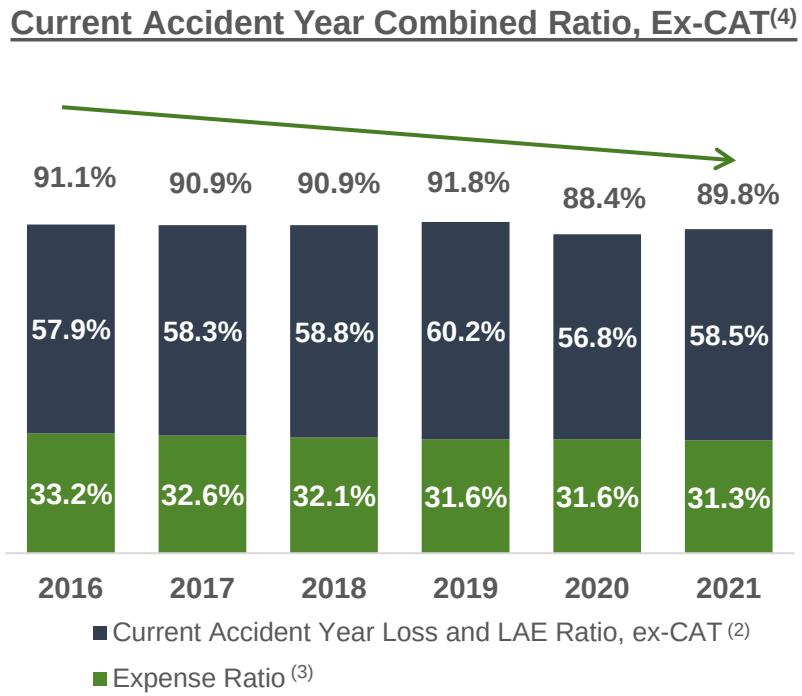
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Platform Positioned to Deliver Consistent Profitability

Franchise repositioning delivers robust ROEs…



Improved domestic performance generated by lower expense and loss ratios



*The peer group used to determine the peer average above is a list of 24 companies with which we compete for capital. It includes publicly traded competitors that are predominantly U.S. primary P&C insurers with multiple lines of business. The list is comprised of American Financial, AIG, Allstate, Argo, Axis, Chubb, Cincinnati, CNA, Donegal, Hartford, Horace Mann, James River, Kemper, Markel, Mercury, Old Republic, ProAssurance, RLI, Safety, Selective, State Auto, Travelers, United Fire, and W.R. Berkley.

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Ambitious, But Achievable Financial Targets For The Next Five Years Outlined During September 2021 Investor Day

Long-Term Target

ROE ~14%

Our Long-Term Aspirational Goals

CAGR

NPW 7+%

EPS 12-13%

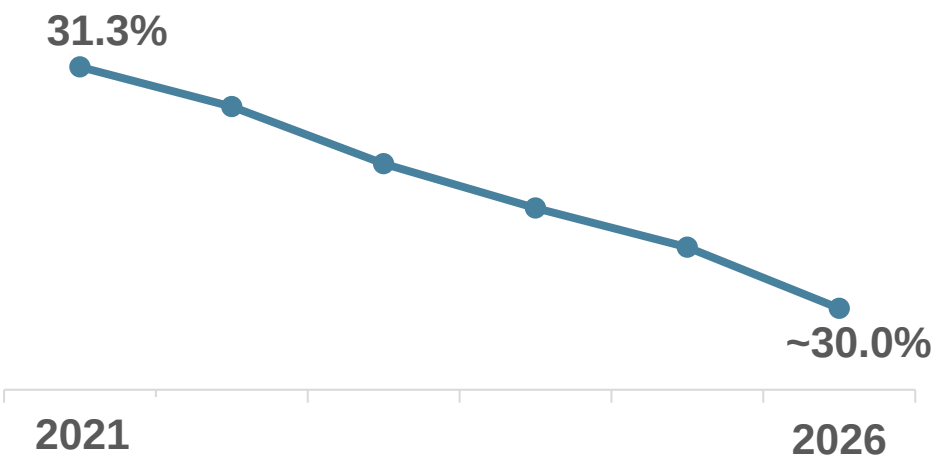
BVPS 7-8%

Forward-looking non-GAAP measures, including normalized run rate and 2026 forecast, are not reconciled because such measures and reconciliations are not available without unreasonable effort that would require the company to make estimates or assumptions about unidentified and unknown factors during the period referenced, such as catastrophes, economic and market conditions, and competitive factors, among others. References to return on equity ("ROE") and earnings per share ("EPS") on this page and throughout this presentation reflect operating ROE and operating EPS, which are non-GAAP measures. For additional information regarding forward-looking non-GAAP measures on this page and throughout this presentation, please refer to page 38 of this presentation.

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Continued Fixed Cost Leverage From Growth is the Foundation of Improved Financial Performance Looking Forward

Expense Ratio Improvement from Fixed Cost Leverage



- We expect at least 20 basis point annual improvement via fixed cost leverage
- After significant investment in modernization of our enterprise platforms, spend becomes increasingly available to further enable business growth and innovation

Deliver 130 basis points of expense ratio improvement on the $2 billion in premium growth

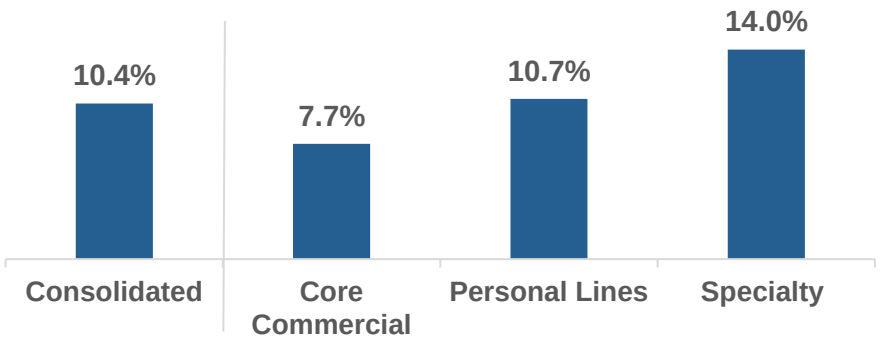
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For additional information regarding forward-looking non-GAAP measures on this page and throughout this presentation, please refer to page 37 of this presentation.

Strong Second Quarter 2022 Operating Results

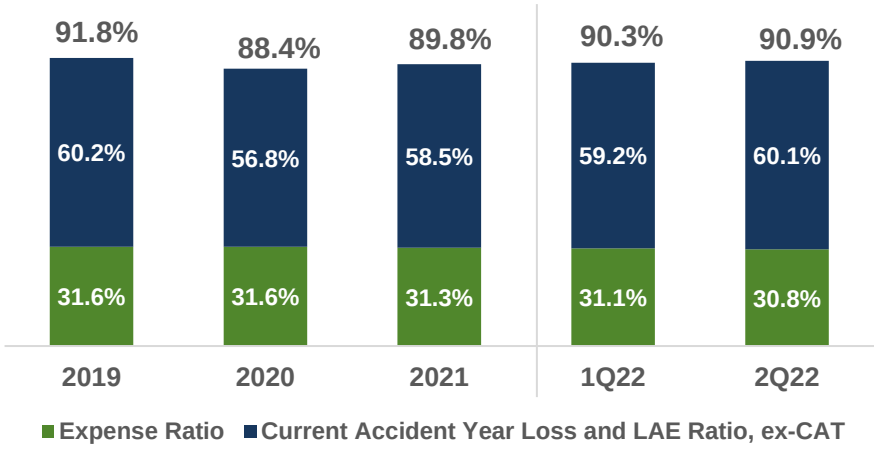
Achieving strong growth in each segment…

2Q22 Net Premiums Written Growth



…While delivering solid underlying returns

Current Accident Year Combined Ratio, Ex-CAT



Current accident year combined ratio, ex-CAT, increased from the prior-year quarter, primarily driven by Personal Lines:

- Higher underlying loss ratio in Auto, due to increased property severity, and higher frequency as compared to the unusuallyy low level of claims in Q2'2021
- Higher underlying loss ratio in Homeowners, primarily due to higher than usual large losses, and to a lesser extent, non-CAT weather and continued inflationary pressure on claims costs

This was partially offset by:

- Strong underlying performance within Core Commercial and Specialty, which both benefited from earned rate increases above loss trends
- Lower expense ratio, which improved 0.4 points from the prior-year quarter, and is in line with the company's full year target

Favorable prior-year reserve development of $9.2 million, or 0.7 points, driven by workers' compensation, surety, management liability, personal auto, and homeowners lines

Net premiums written increased 10.4%, fueled by strong growth and robust price increases in each segment

- Rate increases[(5)] of 6.9% in Core Commercial, 8.0% in Specialty and 3.2% in Personal Lines
- Renewal price change[(5)] of 11.0% in Core Commercial, 12.0% in Specialty and 5.4% in Personal Lines
- Expect renewal price change* by the fourth quarter of 2022 to 12% - 13% in Home and 6% - 7% in Auto

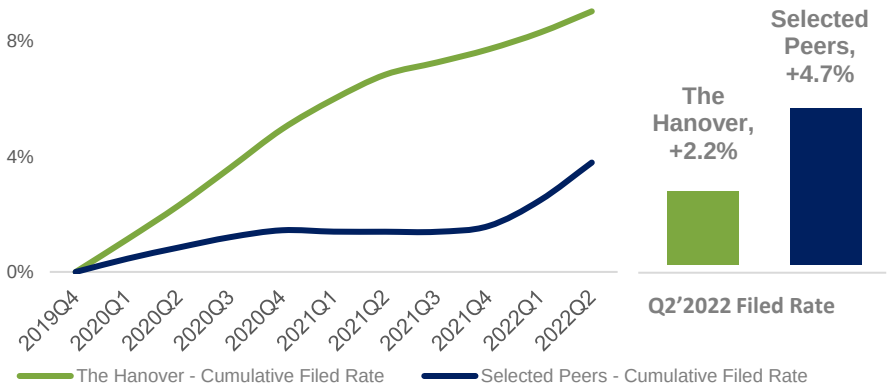
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*A part of renewal price change is subject to regulatory approvals

Differentiated Pricing Strategy and Reduced Claims Frequency Lead to Favorable Position in the Current Inflationary Environment

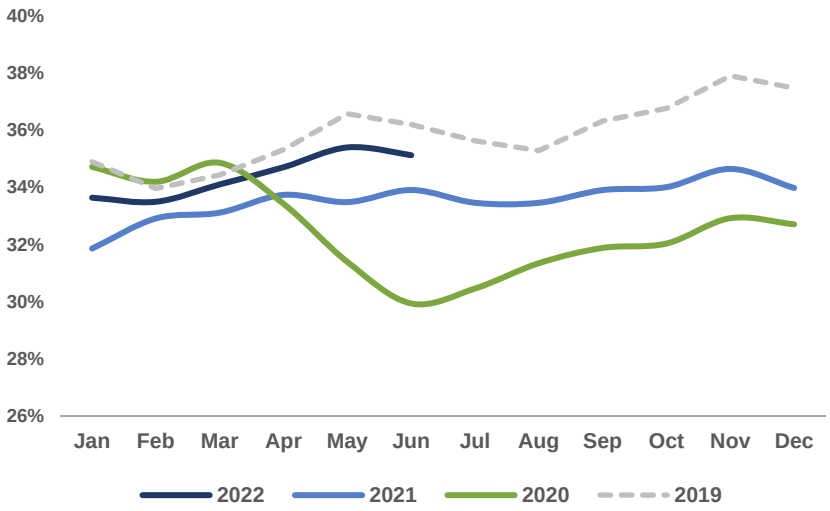
- Our prudent and measured rate strategy during the pandemic has resulted in a more measured current rate need in personal auto
- Our personal auto collision frequency remains below pre-COVID levels
- Our percentage of rush-hour collisions (AM + PM) has flattened since the second quarter of 2021 and remains below 2019, likely driven by distinctive target market mix
- Combination of pricing strategy and mix positions us favorably to weather macroeconomic trends over the next 6-18 months

Auto and Home Cumulative Filed Rate vs. Q2'2022 Filed Rate*

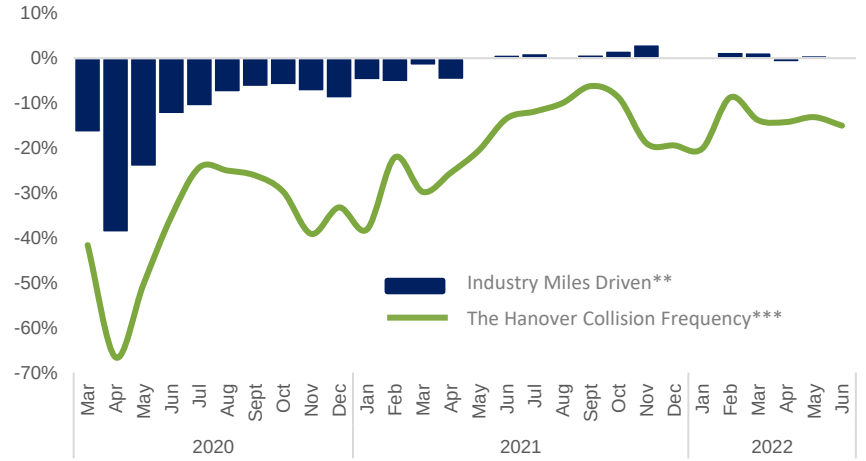


*Source: S&P Global as of 6/30/2022. Selected peers include AIG, Allstate, Chubb, Cincinnati, The Hartford, Kemper, Plymouth Rock, Progressive, Safety, and Travelers. Calculated on a rolling 12-month basis. Excludes Michigan auto in July for all years due to distorting impact of Michigan PIP reform in 2020. Cumulative rate is calculated by multiplying each quarters filed rate and indexing to Q4 2019.

The Hanover Personal Auto Collision Claims % During Rush Hour



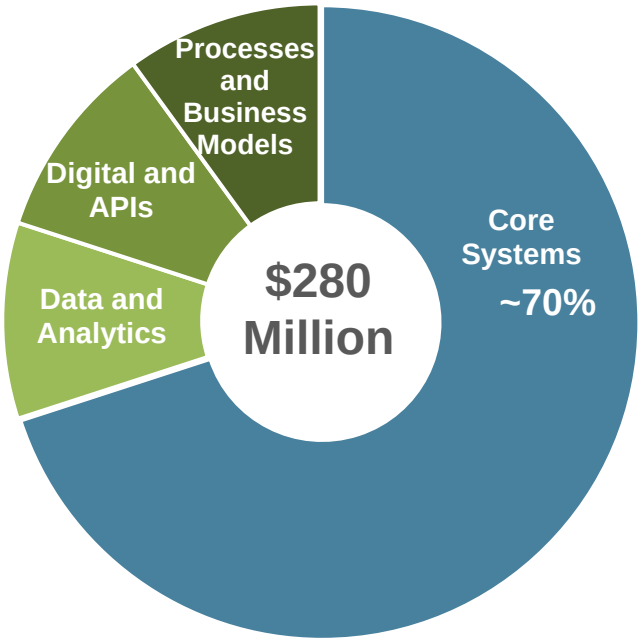
Monthly % Change Relative to Pre-COVID Levels



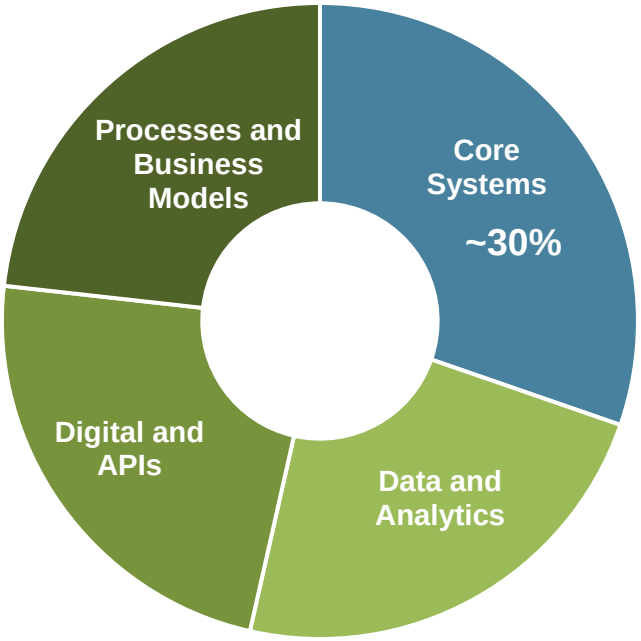
**Source: Department of Transportation. Industry miles driven represents the average change in miles driven from pre-COVID 2-year average (2018 and 2019). June 2022 industry miles driven not available as of August 2, 2022. **The Hanover collision frequency for depicted periods versus 4-year pre-COVID average (2016 through 2019).

Technology Investments to Enhance Our Front-End Capabilities

2016 – 2020
Foundation building



2021 and beyond
Customer-facing, high-visibility enhancements



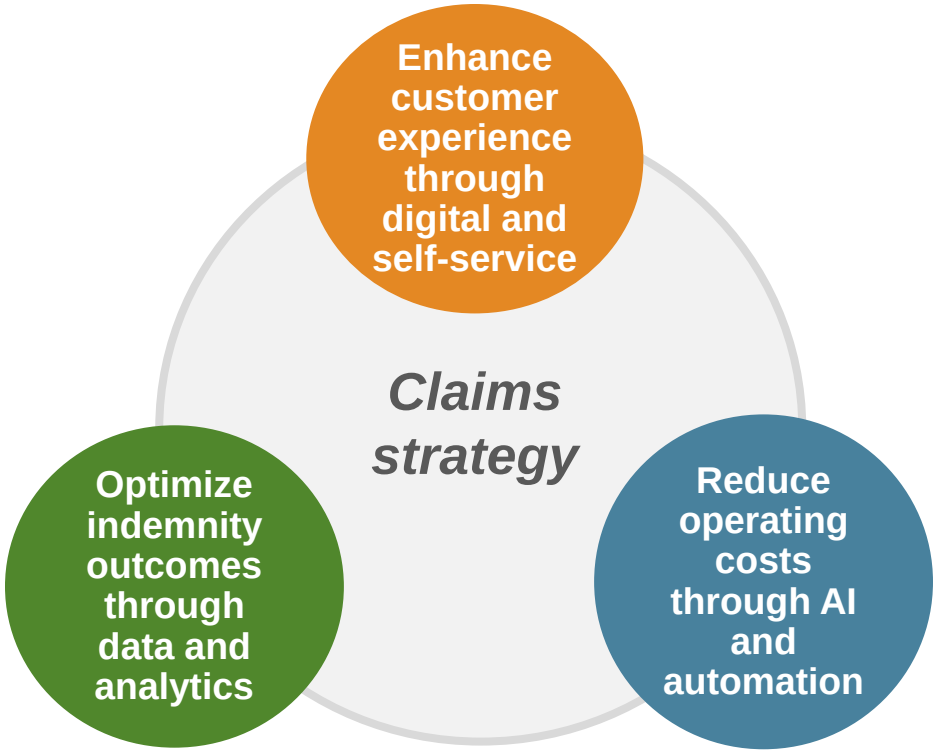
Invested over $200 million to upgrade or replace nearly all core systems within our technology stack:

- Small commercial platform
- Personal Lines platforms
- Claims
- Billing, general ledger

Open-ended infrastructure allows for agility in future innovation and investments in R&D, with a focus on:

- Agent engagement and experience
- Digital customer experience
- New business sourcing models

Our Claims Organization is a Strong Contributor to Earnings and Growth



- Technology and digital capabilities have yielded ~60 basis point reduction in unallocated loss adjustment expense ("ULAE") ratio between 2017 and 2020
- Over the next five years, pursuit of our claims strategy implementation should yield 80 to 100 basis point reduction in the loss adjustment expense ("LAE") ratio

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Financial Discipline Drives Success



- Conservative reserving philosophy strengthens resilience for future uncertainty
- Limited earnings volatility

- Business investment based on risk-adjusted returns
- Return excess capital to shareholders

- Enterprise-wide risk management
- Responsible appetite expansion

- Rigorous underwriting performance management
- Investment in innovation

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Targeted Management of Property Aggregation Reduces Volatility

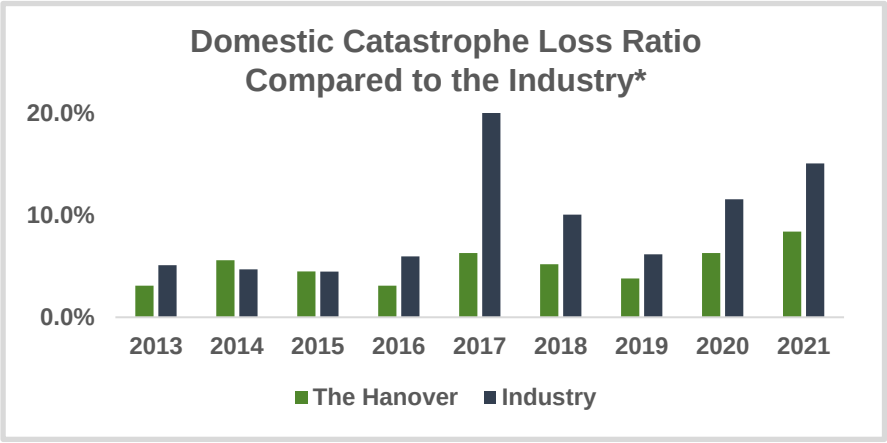
Our catastrophe management and corporate reinsurance philosophy is grounded in risk analytics, and the group's earnings and financial strength

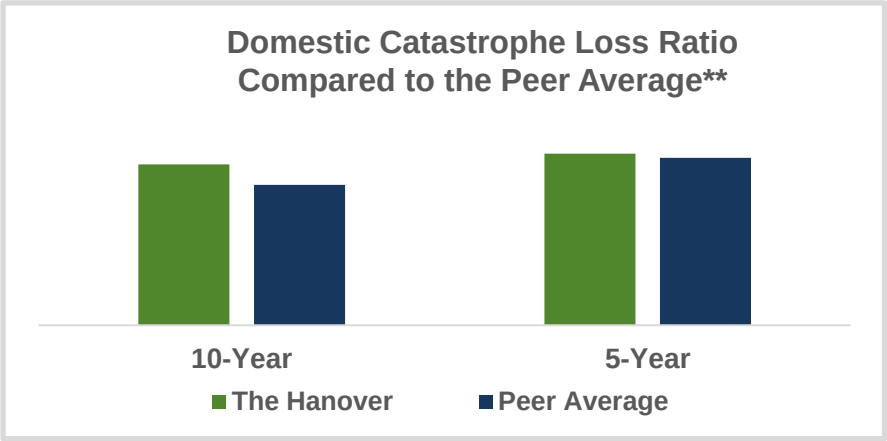
Prior exposure management actions have proven effective

- Proactively exited Personal Lines in Florida
- Restricted capital allocation in coastal exposures on the east coast, in addition to wildfire exposed regions in the west coast
- Reduced micro concentrations

Continue to enhance our resiliency to climate change by:

- Leveraging best-in-class analytical tools
  - Surge tool (evaluating catastrophe aggregation in micro concentrations for specific geographies and coverages)
  - Underwriting property workbook
  - Catastrophe models
- Directing more capital to liability risks
- Effectively using reinsurance, including strengthening aggregate cover





*Source: Insurance Information Institute

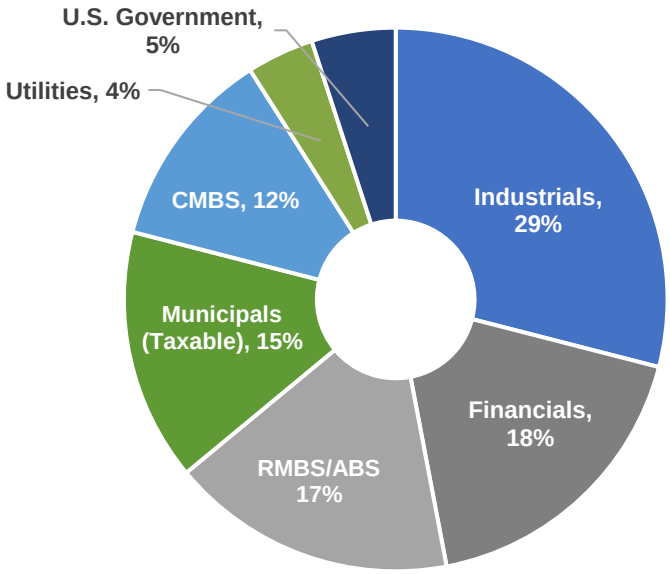
**The peer group used to determine the quartiles above is a list of 24 companies with which we compete for capital. It includes publicly traded competitors that are predominantly U.S. primary P&C insurers with multiple lines of business. The list is comprised of American Financial, AIG, Allstate, Argo, Axis, Chubb, Cincinnati, CNA, Donegal, Hartford, Horace Mann, James River, Kemper, Markel, Mercury, Old Republic, ProAssurance, RLI, Safety, Selective, State Auto, Travelers, United Fire, and W.R. Berkley.

High Quality Diversified Investment Portfolio

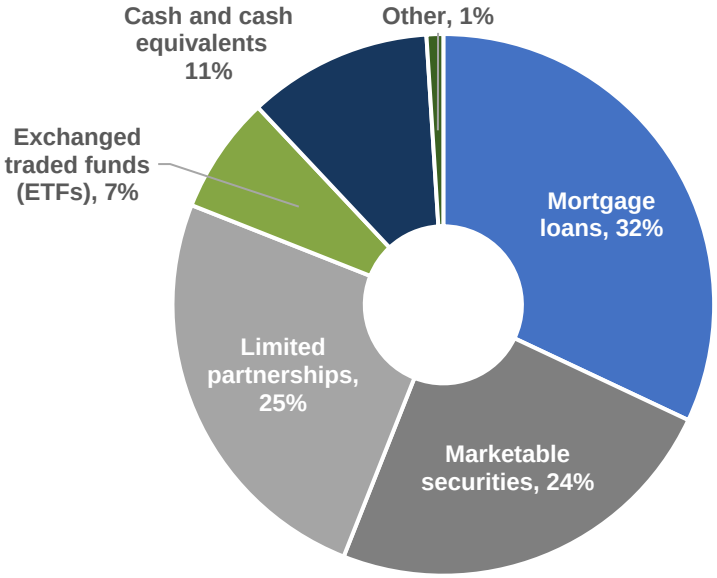
Total invested assets and capital of $8.6 billion

As of June 30, 2022

Fixed Maturities: $7.2 billion



Equities, Cash and Other: $1.4 billion



High-quality, well-laddered fixed income portfolio

- 95% of fixed maturity securities are investment grade
- Weighted average quality: A+
- Duration: 4.7 years

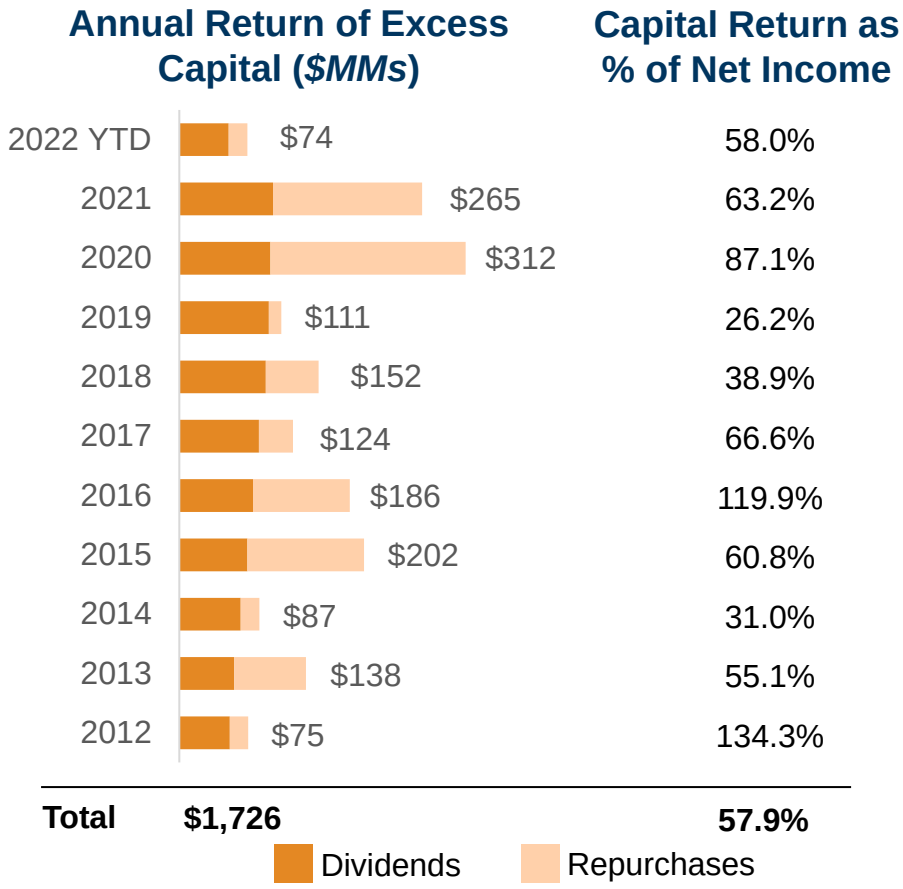
The Hanover Insurance Group®

Clear Priorities Have Driven Consistent Return of Capital

Maintain strong capitalization and adequate liquidity

Organic and inorganic growth

Capital return (dividends and share repurchases)



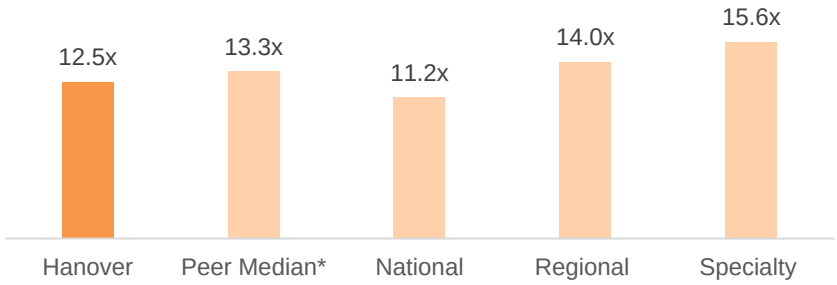
Excludes the use and return of capital related to the purchase and sale of Chaucer. $850M related to the Chaucer sale was returned in the form of $550M of share repurchases and $300M of special dividends.

The Hanover Insurance Group®

Valuation Perspectives

- Strong market position and growth prospects
- Broad-based profitability
- Top-quartile ROE
- Strong track record of earnings improvement
- Earnings consistency and low volatility compared to many peers
- Financial discipline
  - Capital management
  - Expense rigor

Price/NTM Earnings



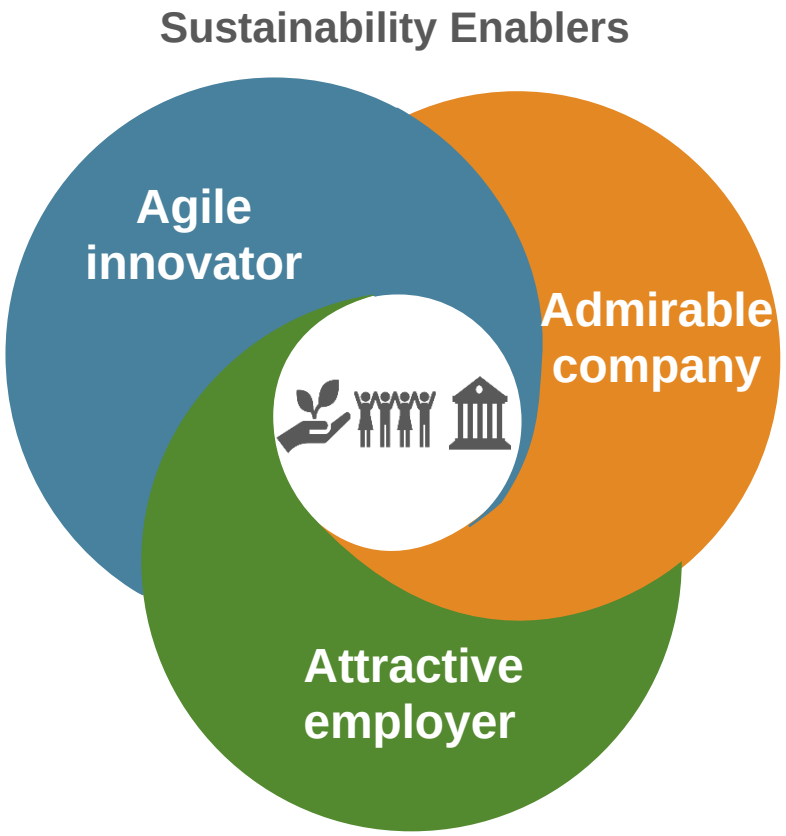
Source: S&P Global Market Intelligence. Data as of 9/2/2022
**The peer group is a list of 24 companies with which we compete for capital. It includes publicly traded competitors that are predominantly U.S. primary P&C insurers with multiple lines of business. The list is comprised of American Financial, AIG, Allstate, Argo, Axis, Chubb, Cincinnati, CNA, Donegal, Hartford, Horace Mann, James River, Kemper, Markel, Mercury, Old Republic, ProAssurance, RLI, Safety, Selective, State Auto, Travelers, United Fire, and W.R. Berkley.*

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Appendix

Strategic Sustainability Enablers are at the Heart of Our Hanover Identity

- In these dynamic times, great companies can only thrive if they are built on a sustainability foundation
- Effectiveness of our strategy, combined with strong talent, innovative approach and financial discipline, provide a sustainable foundation
- This is what has enabled our performance to date and will drive our future success



The Hanover Insurance Group®

Recent ESG updates

Process



- Embedding ESG into our business strategy
- Established Board of Directors oversight
- Established a cross disciplinary management committee, known as our **ESG Council**
- Created and following a responsible investment policy

Disclosures



- Launched Global Reporting Initiative (GRI) Index in 2019
- Created GRI disclosure that cross references to TCFD in 2021
- Signed CEO Action for Diversity and Inclusion pledge in 2019; signed Insurer's Principles of Climate Change Adaptation
- Published an inaugural inclusion and diversity report in 2020, recently updated with 2021 information

Awards



- 100% score on Human Rights Corporate Equality Index
- Recognized by Forbes as one of America's best midsize employers
- Named one of America's Most Responsible Companies by Newsweek
- Women on Boards Winning Company

The Hanover Insurance Group®

Our Culture and People are Our Greatest Assets

Our CARE values

88%

of managers have received leadership development training

100%

of employees who can work remotely have flexibility in when and where they work

83%

participation in annual United Way campaign, donating $1.5 million



7

Business resource groups for women and underrepresented populations

Recognized by Forbes

as one of America's best mid-size employers

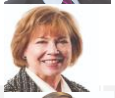
Best place to work for

LGBTQ equality, Disability Inclusion and Women

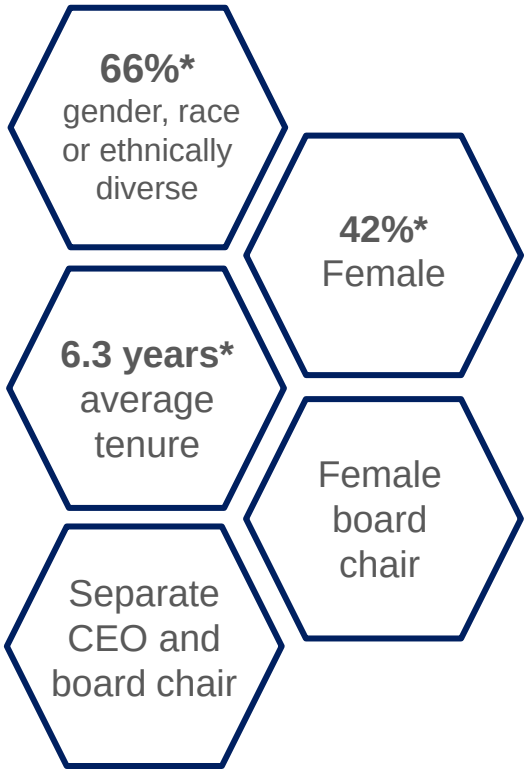
Highly engaged and agile workforce positions us well to compete in the dynamic environment and drives top-quartile growth and returns

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Diverse Board Focused on Delivering Sustainable, Long-Term Stakeholder Value Through Strong Governance

	Board Member	Selected Experience
	**Cynthia Egan** *Chair of the Board*	T. Rowe Price, Fidelity
	**Francisco Aristeguieta**	Citigroup, State Street
	**Kevin Bradicich**	McKinsey
	**Theodore Bunting, Jr.**	Entergy
	**Jane Carlin**	Morgan Stanley, Credit Suisse
	**J. Paul Condrin III**	Liberty Mutual, KPMG
	**Martin Hughes**	HUB
	**Wendell Knox**	Abt Associates
	**Kathleen Lane**	TJX, National Grid, Gillette, GE, Pepsi
	**Joseph Ramrath**	Colchester Partners, United Asset Management
	**Harriett "Tee" Taggart**	Wellington
	**Elizabeth Ward**	MassMutual, Babson Capital Management
	**Jack Roche** *CEO, The Hanover*	Travelers, Fireman's Fund, Atlantic Mutual

**Excluding CEO*



Collective Expertise

- P&C Insurance
- Financial Services
- Mergers and Acquisitions
- Finance / Accounting
- Investments / Capital Markets
- Technology
- Senior Management and Talent Development
- Operations
- Marketing and Distribution
- Governance

The Hanover Insurance Group®

Awards and Recognitions

Recognized by Newsweek as one of America's Most Responsible Companies (2022)

$1.5M Raised through United Way Campaign (2021)

100% score on Human Rights Corporate Equality Index (2018, 2019, 2020, 2021)

Women on Boards Award (2016, 2019, 2020)

Fairygodboss Best Company for Women (2020, 2021)

Over **95%** Say-on-Pay Approval Rating Annually Since 2011 Inception



Joined CEO Action for Diversity & Inclusion pledge (2019)

Top Gun Award for High-Quality Investments (2014 – 2020)

Top Charitable Contributor (Boston Business Journal)

Opus named **Pension and Investments Best Places to Work** (2019)

Fairygodboss Best Company Where CEOs Support Gender Diversity (2020, 2021)

The Hanover Insurance Group®

About The Hanover

The Hanover Insurance Group, Inc. is the holding company for several property and casualty insurance companies, which together constitute one of the largest insurance businesses in the United States. The company provides exceptional insurance solutions through a select group of independent agents and brokers. Together with its agent partners, The Hanover offers standard and specialized insurance protection for small and mid-sized businesses, as well as for homes, automobiles, and other personal items. For more information, please visit hanover.com.

All products are underwritten by The Hanover Insurance Company or one of its insurance company subsidiaries or affiliates ("The Hanover"). Coverage may not be available in all jurisdictions and is subject to the company underwriting guidelines and the issued policy. This material is provided for informational purposes only and does not provide any coverage. For more information about The Hanover visit our website at hanover.com.

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Forward-Looking Statements and Additional Risks and Uncertainties

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

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

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

Additional Risks and Uncertainties (continued)

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

- The severity, duration and long-term impact related to the Pandemic, including, but not limited to, actual and possible government responses, legislative, regulatory and judicial actions, changes in frequency and severity of claims in Core Commercial, Specialty and/or Personal Lines, impacts to distributors (including agent partners), and the possibility of additional premium adjustments, including credits and returns, for the benefit of insureds;
- Changes in regulatory, legislative, economic, market and political conditions, particularly in response to COVID-19 and the Pandemic (such as legislative or regulatory actions that would retroactively require insurers to cover business interruption or other types of claims irrespective of terms, exclusions or other conditions included in the contractual terms of the policies that would otherwise preclude coverage, mandatory returns and other rate-related actions, as well as presumption legislation in regards to workers' compensation);
- Heightened volatility, fluctuations in interest rates (which have a significant impact on the market value of our investment portfolio and thus our book value), inflationary pressures, default rates and other factors that affect investment returns from the investment portfolio;
- Recessionary economic periods that may inhibit the company's ability to increase pricing or renew business;
- Data security incidents, including, but not limited to, those resulting from a malicious cyber security attack on the company or its business partners and service providers, or intrusions into the company's systems or data sources;
- Adverse claims experience, including those driven by large or increased frequency of catastrophe events (including those related to terrorism, riots and civil unrest), and severe weather;
- The uncertainty in estimating weather-related losses or the long-term impacts of the Pandemic, and the limitations and assumptions used to model other property and casualty losses (particularly with respect to products with longer-tail liability lines, such as casualty and bodily injury claims, or involving emerging issues related to losses incurred as the result of new lines of business, such as cyber or financial institutions coverage, or reinsurance contracts and reinsurance recoverables), leading to potential adverse development of loss and loss adjustment expense reserves;
- Changes in weather patterns, whether as a result of global climate change, or otherwise;
- Litigation and the possibility of adverse judicial decisions, including those which expand policy coverage beyond its intended scope and/or award "bad faith" or other non-contractual damages, and the impact of "social inflation" affecting judicial awards and settlements;
- The ability to increase or maintain insurance rates in line with anticipated loss costs and/or governmental action, including mandates by state departments of insurance to either raise or lower rates or provide credits or return premium to insureds;
- Investment impairments, which may be affected by, among other things, the company's ability and willingness to hold investment assets until they recover in value, as well as credit and interest rate risk, and general financial and economic conditions;
- Disruption of the independent agency channel, including the impact of competition and consolidation in the industry and among agents and brokers;
- Competition, particularly from competitors who have resource and capability advantages;
- The global macroeconomic environment, including actions taken in response to the Pandemic, inflation, global trade disputes, war, energy market disruptions, equity price risk, and interest rate fluctuations, which, among other things, could result in reductions in market values of fixed maturities and other investments;
- Adverse state and federal regulation, legislative and/or regulatory actions (including recent significant revisions to Michigan's automobile personal injury protection system and related litigation, and various regulations, orders and proposed legislation related to business interruption and workers' compensation coverages, premium grace periods and returns, and rate actions);
- Financial ratings actions, in particular, downgrades to the company's ratings;
- Operational and technology risks and evolving technological and product innovation, including risks created by remote work environments, and the risk of cyber-security attacks on or breaches of the company's systems and/or impacting our outsourcing relationships and third-party operations, or resulting in claim payments (including from products not intended to provide cyber coverage);
- Uncertainties in estimating indemnification liabilities recorded in conjunction with obligations undertaken in connection with the sale of various businesses and discontinued operations; and
- The ability to collect from reinsurers, reinsurance pricing, reinsurance terms and conditions, and the performance of the run-off voluntary property and casualty pools business (including those in the Other segment or in discontinued operations).

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

Non-GAAP Financial Measures

As discussed on page 37 of the company's Annual Report on Form 10-K for the year ended December 31, 2021, the company uses non-GAAP financial measures as important measures of its operating performance, including operating income, operating income before interest expense and income taxes, operating income per share, and components of the combined ratio, both excluding and/or including, catastrophe losses, prior-year reserve development and the expense ratio. Management believes these non-GAAP financial measures are important indications of the company's operating performance. The definition of other non-GAAP financial measures and terms can be found in the 2021 Annual Report on pages 63-66.

Operating income and operating income per share are non-GAAP measures. They are defined as net income excluding the after-tax impact of net realized and unrealized investment gains (losses), gains and/or losses on the repayment of debt, other non-operating items, and results from discontinued operations. Net realized and unrealized investment gains (losses), which include changes in the fair value of equity securities still held, are excluded for purposes of presenting operating income, as they are, to a certain extent, determined by interest rates, financial markets and the timing of sales. Operating income also excludes net gains and losses from disposals of businesses, gains and losses related to the repayment of debt, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Operating income is the sum of the segment income from: Core Commercial, Specialty, Personal Lines, and Other, after interest expense and income taxes. In reference to one of the company's three segments, "operating income" is the segment income before both interest expense and income taxes. The company also uses "operating income per share" (which is after both interest expense and income taxes). It is calculated by dividing operating income by the weighted average number of diluted shares of common stock. The company believes that metrics of operating income and operating income in relation to its three segments provide investors with a valuable measure of the performance of the company's continuing businesses because they highlight the portion of net income attributable to the core operations of the business. Income (loss) from continuing operations is the most directly comparable GAAP measure for operating income (and operating income before income taxes) and measures of operating income that exclude the effects of catastrophe losses and/or reserve development should not be misconstrued as substitutes for income from continuing operations or net income determined in accordance with GAAP. A reconciliation of operating income (loss) to income from continuing operations and net income for the relevant periods is included on page 19 of this presentation and in the Financial Supplement.

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

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

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

Operating return on equity ("ROE") is a non-GAAP measure. See end note (1) for a detailed explanation of how this measure is calculated. Operating ROE is based on non-GAAP operating income. In addition, the portion of shareholder equity attributed to unrealized appreciation (depreciation) on fixed maturity investments, net of tax, is excluded. The company believes this measure is helpful in that it provides insight to the capital used by, and results of, the continuing business exclusive of interest expense, income taxes, and other non-operating items. These measures should not be misconstrued as substitutes for GAAP ROE, which is based on net income and shareholders' equity of the entire company and without adjustments.

Forward-looking Non-GAAP Measures

The company calculates forward-looking non-GAAP financial measures based on its internal forecasts, among other factors. Forward-looking non-GAAP measures, including normalized run rate and 2026 forecast, are not reconciled because such measures and reconciliations are not available without unreasonable effort that would require the company to make estimates or assumptions about unidentified and unknown factors during the period referenced, such as catastrophes, economic and market conditions, and competitive factors, among others. References to return on equity ("ROE") and earnings per share ("EPS") on this page and throughout this presentation reference operating ROE and operating EPS, which are non-GAAP measures. The company's forecast, including, but not limited to, operating return on equity ("ROE"), net premiums written ("NPW"), operating earnings per share ("EPS"), book value per share ("BVPS") and expense ratio, are non-GAAP measures. The company's forecast represents long-term aspirational goals, which reflect the company's current expectations for future periods and could differ materially from actual results. Normalized run rate for operating ROE includes normalization for catastrophe losses, favorable prior-year development, partnership income and current accident year losses, primarily COVID-19.

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End notes

(1) Operating Return on Average Equity ("Operating ROE") is a non-GAAP measure. Operating ROE is calculated by dividing annualized operating income after taxes for the applicable period (see under the heading in this presentation "Non-GAAP Financial Measures") by the average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax, (end note (7)).Operating ROE should not be misconstrued as a substitute for GAAP ROE. See calculations in table below, including the calculation of Net Income ROE using net income and average shareholders' equity without adjustments:

($ in millions)	Year ended December 31
Net Income ROE	2021
Net income (GAAP)	$418.7
Average shareholders' equity (GAAP)	$3,130.0
Return on equity	13.4%
Operating Income ROE (non-GAAP)	
Operating income after taxes	$318.3
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	$2,846.6
Operating return on equity	11.2%

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

	Year ended						Three Months Ended	
	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021	March 31, 2022	June 30, 2022
Total loss and LAE Ratio (GAAP)	67.2 %	64.7 %	64.0 %	64.0 %	62.8 %	65.7 %	62.3 %	65.4 %
Less:								
Prior-year reserve development ratio	6.2 %	-	-	-	(0.3)%	(1.2)%	(0.5)%	(0.7)%
Catastrophe ratio	3.1 %	6.4 %	5.2 %	3.8 %	6.3 %	8.4 %	3.6 %	6.0 %
Current accident year loss and LAE ratio, excluding catastrophe losses (non-GAAP)	57.9 %	58.3 %	58.8 %	60.2 %	56.8 %	58.5 %	59.2 %	60.1 %

End notes continued

(3) Throughout this presentation, for purposes of the expense ratio calculation, expenses are reduced by installment and other fee revenues.

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

	Year ended						Three Months Ended	
	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021	March 31, 2022	June 30, 2022
Total combined ratio (GAAP)	100.4 %	97.3 %	96.1 %	95.6 %	94.4 %	97.0 %	93.4 %	96.2 %
Less: Catastrophe loss ratio	3.1 %	6.4 %	5.2 %	3.8 %	6.3 %	8.4 %	3.6 %	6.0 %
Combined ratio, excluding catastrophe losses (non-GAAP)	97.3 %	90.9 %	90.9 %	91.8 %	88.1 %	88.6 %	89.8 %	90.2 %
Less: Prior-year reserve development ratio	6.2 %	-	-	-	(0.3)%	(1.2)%	(0.5)%	(0.7)%
Current accident year combined ratio, excluding catastrophe losses (non-GAAP)	91.1 %	90.9 %	90.9 %	91.8 %	88.4 %	89.8 %	90.3 %	90.9 %

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

End notes continued

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

(In millions, except per share data)	Year ended December 31, 2021 $ Amount	Per Share (Diluted)
OPERATING INCOME		
Commercial Lines	$269.9	
Personal Lines	158.5	
Other	3.9	
Total	432.3	
Interest expense	(34.0)	
Operating income before income taxes	398.3	$10.93
Income tax expense on operating income	(80.0)	(2.20)
Operating income after income taxes	318.3	8.73
Non-operating items:		
Net realized gains from sales and other	4.6	0.13
Net change in fair value of equity securities	119.1	3.27
Impairment losses on investments	(0.7)	(0.02)
Income tax expense on non-operating items	(21.3)	(0.59)
Income from continuing operations, net of taxes	420.0	11.52
Discontinued Operations (net of taxes):		
Income from Chaucer business	1.2	0.03
Loss from discontinued life businesses	(2.5)	(0.06)
Net income	$418.7	$11.49
Dilutive weighted average shares outstanding		36.4

End notes continued

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

($ in millions)	December 31, 2020	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Total shareholders' equity (GAAP)	$3,202.2	$3,046.8	$3,154.0	$3,102.3	$3,144.9
Less: net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	428.1	242.6	304.7	256.8	184.9
Total shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax	$2,774.1	$2,804.2	$2,849.3	$2,845.5	$2,960.0
Year-to-date Averages					
Average shareholders' equity (GAAP)					$3,130.0
Average shareholders' equity, excluding net unrealized appreciation (depreciation) on fixed maturity investments, net of tax					$2,846.6