

# Economic Fundamentals and P&C Insurance Performance

Prepared for CAS | June 2022

Michel Leonard, PhD, CBE, Chief Economist and Data Scientist, Triple-I



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GDP and Underlying P&C Growth

Inflation and P&C Replacement Costs

Economic and Insurance Metrics Correlation

P&C Industry Performance

## KEY INSIGHT

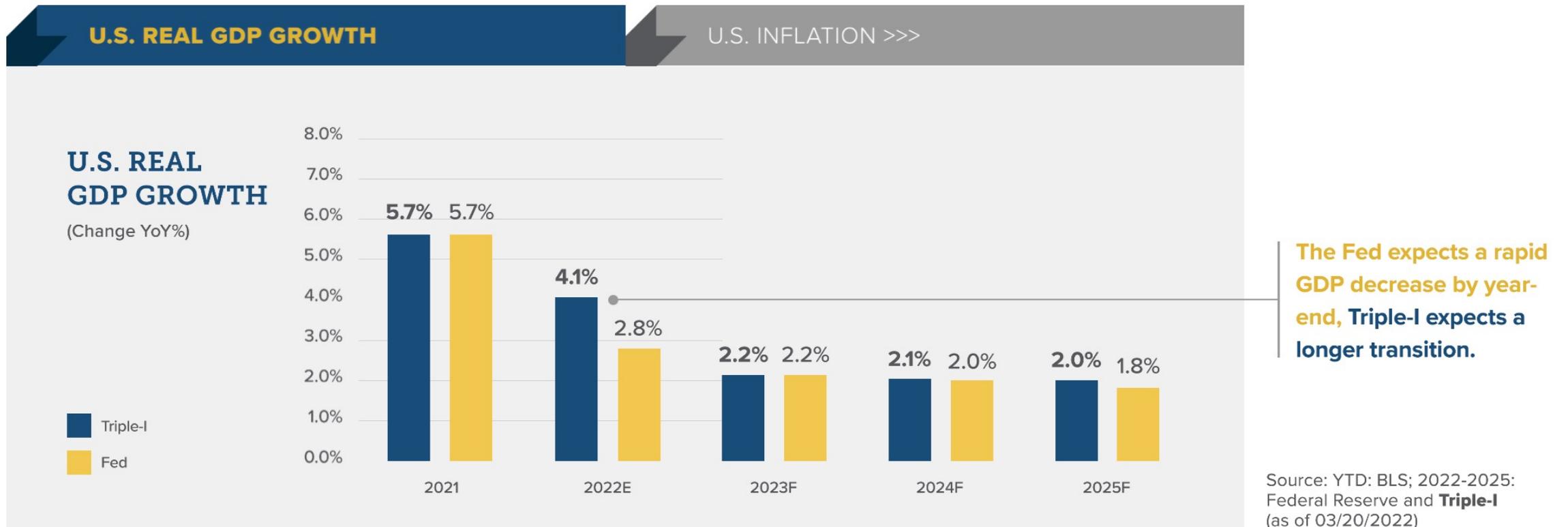
- Overall GDP growth to decrease from 2% to 4% by year-end – possible recession
- Insurance underlying growth more resilient than overall economy
- Fed forecasts inflation to decrease from 8.3% in April to 4.3% by December – overly optimistic
- Insurance replacement costs twice as high as overall inflation 16% v. 8% and will remain elevated into 2023
- P&C combined ratio significantly constrained by NatCat losses, lower than GDP underlying growth, and higher than CPI replacement costs
- Monetary policy to constrain homeowners, personal auto and CMP premium growth; have limited impact on replacement costs; will lift investment income

# GDP and Underlying P&C Growth



# U.S. GDP Growth decelerating and returning to pre-COVID trends

Federal Reserve expecting Real GDP Growth to end 2022 at 2.8%, down from 5.7% in 2021, and to stabilize at 1.8% by 2025, slightly below its long-term target

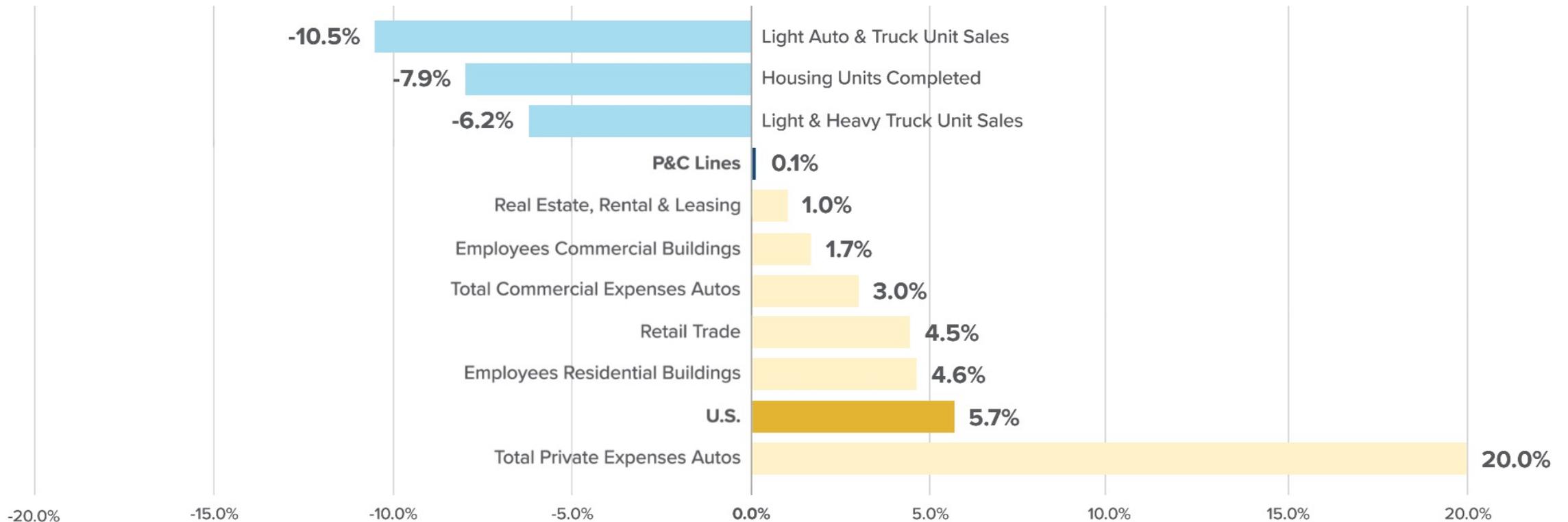


# YoY GDP growth fell from 5.7% in January to -1.5% in March

But growth for P&C components were growing at only 0.1% in January

## REAL GDP GROWTH KEY COMPONENTS 2021-2022

Change (YoY%) as of January 2022



Source: Analysis: Triple-I (as of 06/06/22); GDP data: FRED (as of 05/31/22 for reported date)

# P&C Growth Outlook 2022-2025

Underlying P&C growth may overtake GDP 6.7% v. 2.8% by year-end but significant caveats remain

## UNDERLYING GROWTH KEY P&C LINES

Change (YoY%)	2022E	2023F	2024F	2025F
<b>U.S.</b>	<b>2.8%</b>	<b>2.3%</b>	<b>1.9%</b>	<b>1.9%</b>
<b>P&amp;C Lines</b>	<b>6.7%</b>	<b>4.6%</b>	<b>3.4%</b>	<b>2.5%</b>
Homeowners	5.3%	5.9%	5.1%	3.8%
Personal Auto	10.1%	4.4%	2.3%	1.7%
Commercial Multi-Peril	3.2%	3.2%	2.7%	2.2%
Commercial Auto	4.5%	2.1%	1.5%	1.0%
General Liability	3.6%	3.2%	2.8%	2.4%
Workers Compensation	2.8%	2.5%	2.0%	1.5%

### P&C Underlying Growth:

The weighted average of a basket of GDP components driving each P&C line's premium growth.

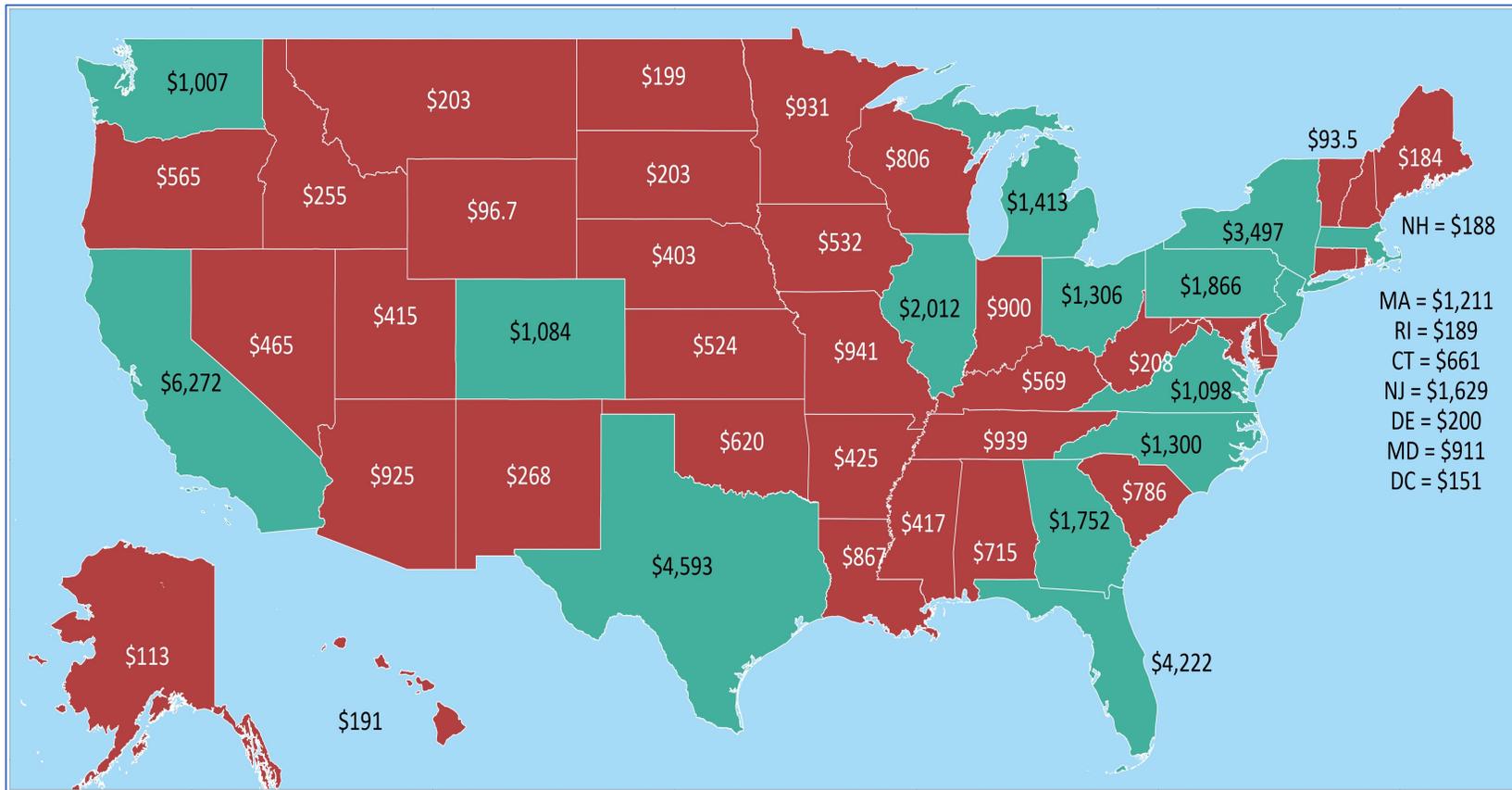
Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22)

# State-by-state growth differences pushing NWP growth above US GDP

Pattern: Growth strongest in largest insurance markets

## Direct Written Premium Growth: P&C Lines 2022E

Additional Premium By State (Change YoY\$ in Millions)



Green: Above national average  
Red: Below national average

Source:  
Analysis & growth estimates: Triple-I (06/06/22);  
Economic data: FRED (05/31/22);  
Insurance data: NAIC through S&P (03/31/22)

# Inflation and P&C Replacement Costs



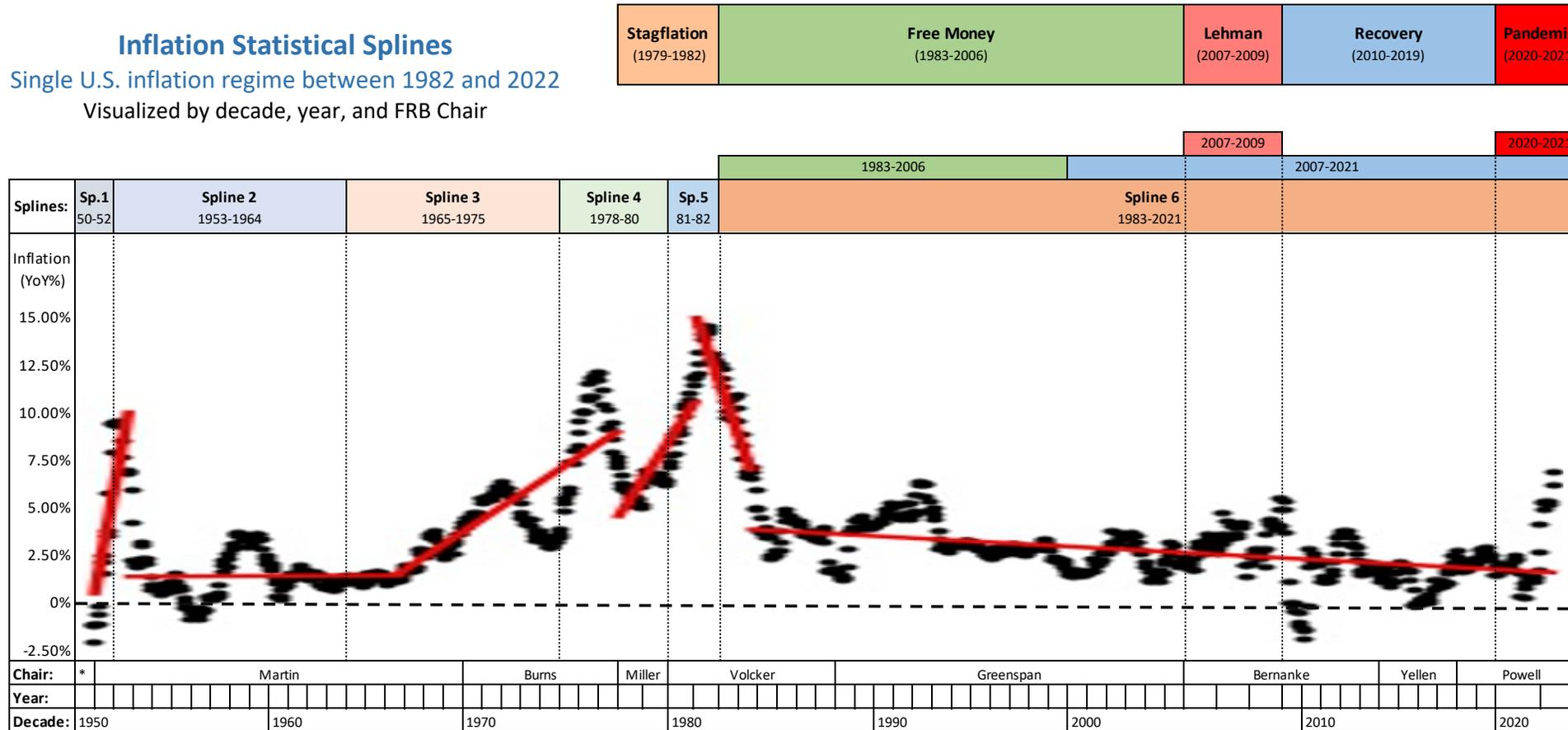
# Inflation Cycles from 1950 to 2022

Current U.S. inflation not 1980 level yet - but insurance replacement costs are

## Inflation Statistical Splines

Single U.S. inflation regime between 1982 and 2022

Visualized by decade, year, and FRB Chair

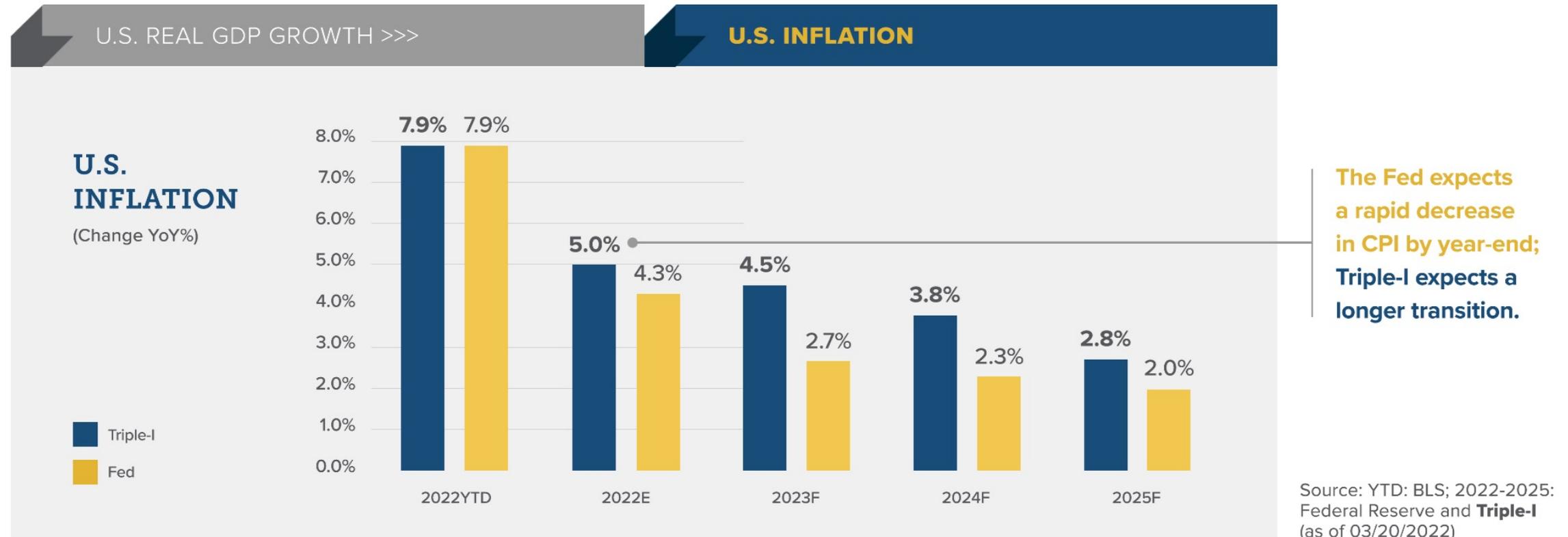


\*McCabe

Source: Analysis: Triple-I (as of 06/06/22); CPI data: FRED (as of 05/31/22).

# Federal Reserve forecasting inflation to decrease to 4.3% by year-end

There is consensus amongst central banks and markets economists about CPI's direction, but latter see former's timeline as overly optimistic

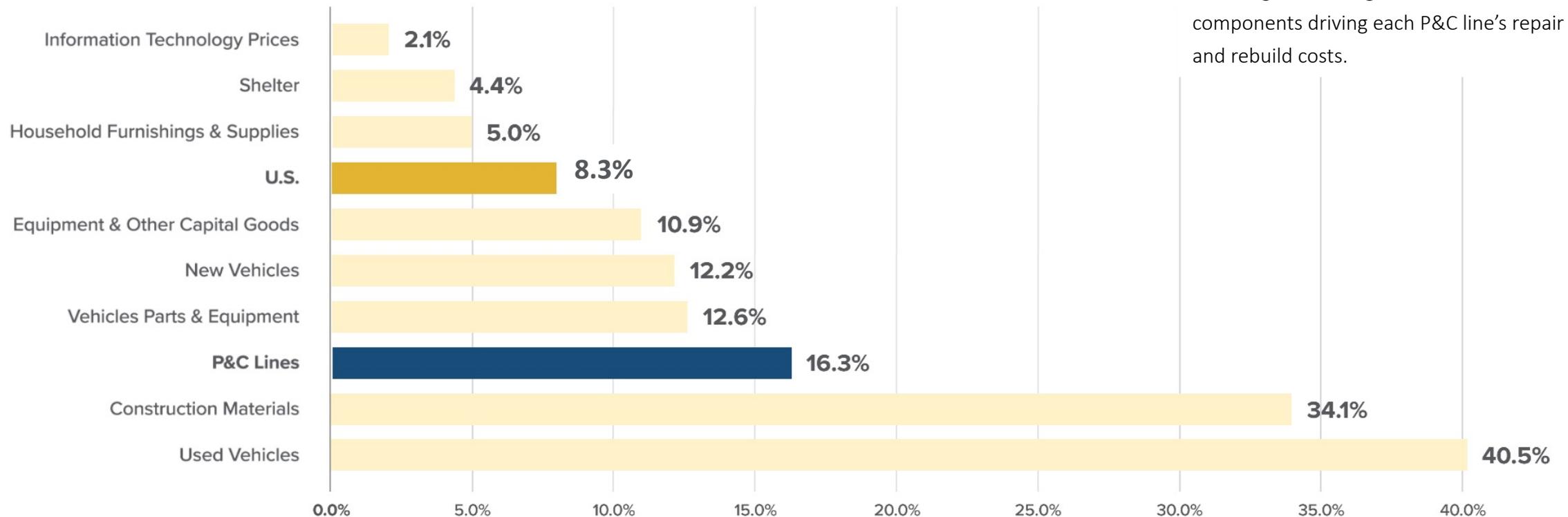


# Overall U.S. inflation reaches 8.3% in April

But insurance replacement costs were nearly twice as high at 16.3%

## INFLATION KEY CPI COMPONENTS 2021-2022

Change (YoY%) as of April



### P&C Replacement Costs:

The weighted average of a basket of CPI components driving each P&C line's repair and rebuild costs.

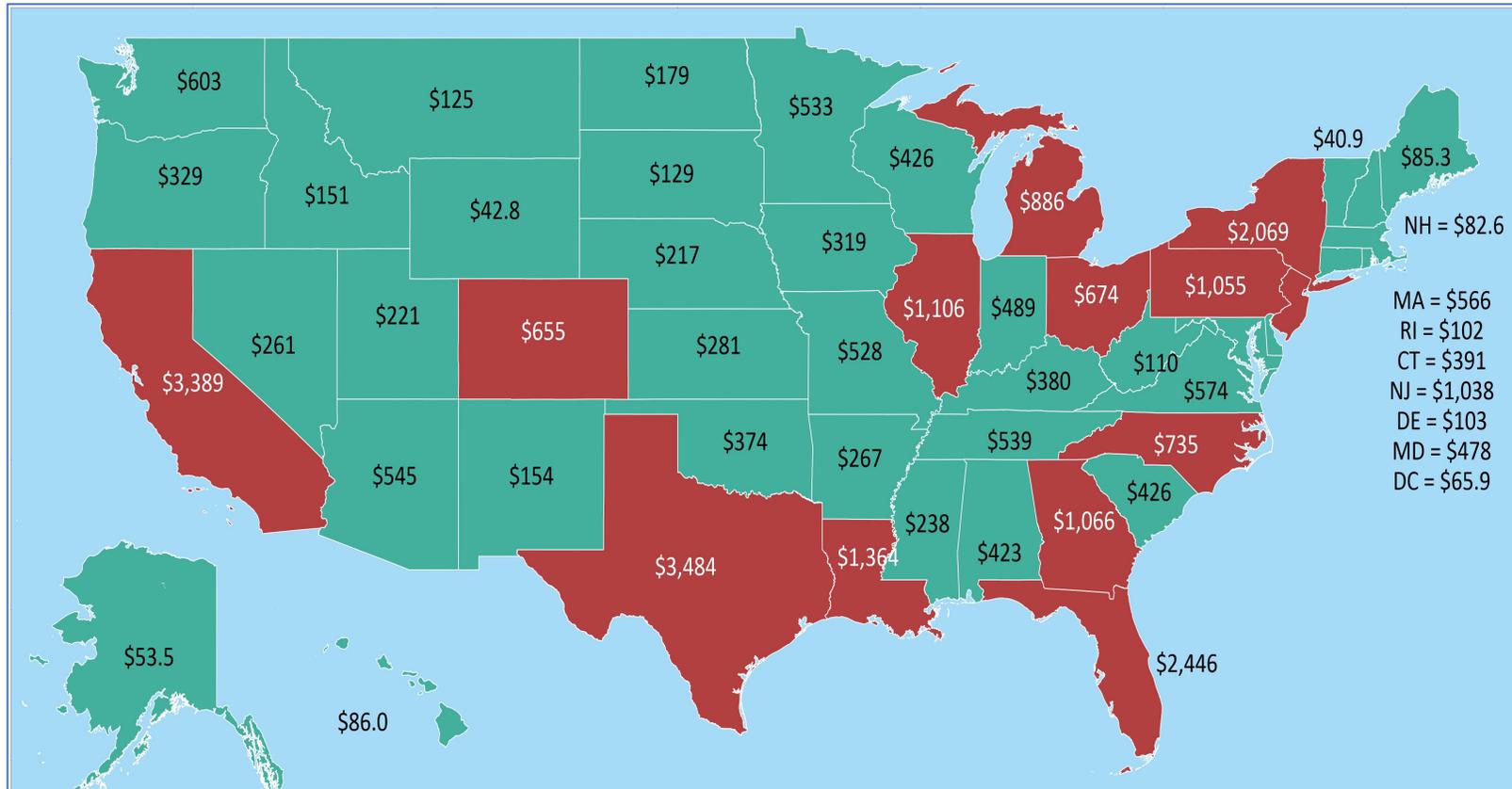
Source: Analysis: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# State-by-state CPI differences pushing P&C replacement costs up

Pattern: Inflation highest in largest insurance markets

## Replacement Costs Increases: P&C Lines 2022E (Physical Damages)

Additional Replacement Costs by State (Change YoY\$ in Millions)



Green: Below national average

Red: Above national average

A 9.9% YoY P&C replacement cost increase is the equivalent of nearly \$30B in added costs to carriers in 2022 compared to 2021

Source:

Analysis & cost estimates: Triple-I (as of 06/06/22);

Economic data: FRED (as of 05/31/22);

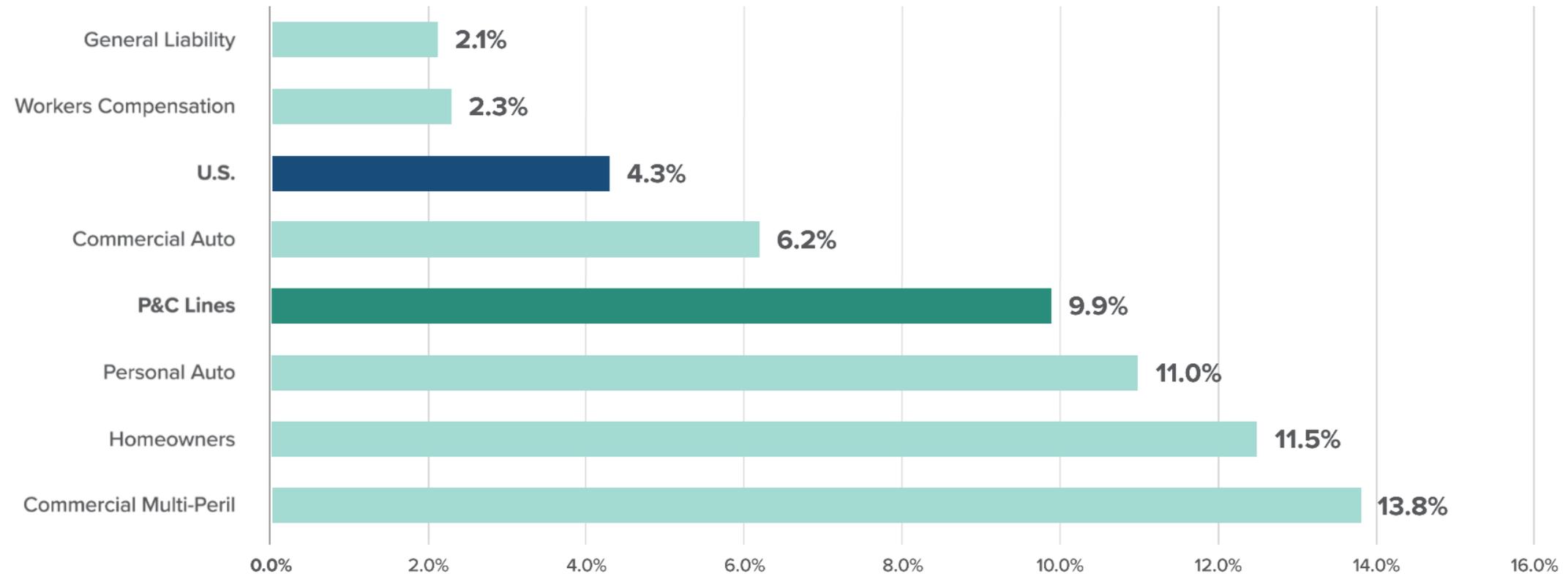
Insurance data: NAIC through S&P (as of 03/31/22)

# Insurance replacement costs expected to decrease to 9.9% by year-end

Would remain more than twice the Fed's year-end inflation target of 4.3%

## REPLACEMENT COSTS KEY P&C LINES 2021-2022

Forecasted change (YoY%) for year-end 2022



Source: Analysis and insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Replacement Costs: Return to Trend Obstacles and Timeline

Inflation may be plateauing, but significant caveats remain driven by shipping capacity, labor dislocations, and geopolitical risk

Replacement Costs: Return to Trend Obstacles & Forecasts							
	Return to Trend Obstacles			Forecasts (YoY%)			
	Shipping	Labor	Geo Political	2022E	2023F	2024F	2025F
U.S. Inflation (CPI)	•	•	•	4.30%	2.70%	2.30%	2.00%
P&C Lines	•	•	•	9.91%	6.74%	3.84%	2.50%
Homeowners	•	•	•	11.50%	7.50%	5.17%	3.17%
Personal Auto	•		•	11.00%	7.67%	3.17%	2.50%
CMP	•	•	•	13.83%	10.00%	7.17%	3.17%
Commercial Auto	•		•	6.17%	4.45%	2.47%	1.48%

Track these green/red flags to decipher month-to-month CPI data:

**Oil & Gas:** Crude down from March high, but gasoline climbing; prices likely to remain elevated except if producers with extra capacity (ex: Saudi) take actions.

**Construction Materials:** Still a multiple of pre-COVID prices; at least 3 months of price decreases is needed to confirm prices are heading back to pre-COVID levels.

**Vehicles:** Prices down from COVID highs; shipping capacity has improved but need at least 3 months without (China) lock downs to confirm sustained decrease toward pre-COVID levels.

Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Replacement costs and rate increases

Carriers sharing burden of rising inflation with insureds – average P&C rates increasing less than half that of replacement costs

Rate Changes and Replacement Costs			
	Rate Changes (YoY Q4 2021)	Replacement Costs (YoY Q4 2021)	Rate Changes / Replacement Costs
P&C Lines	5.9%	14.58%	40.5%
Homeowners	3.7%	13.39%	27.6%
Personal Auto	4.0%	11.80%	33.9%
Commercial Multi-Perils	5.3%	21.62%	24.5%
Commercial Auto	6.7%	11.48%	58.4%

Source: Analysis and Replacement Costs estimates: Triple-I (as of 06/06/22 for ); Rate Changes: Market Scout (as of Q4 2021).

# Economic and Insurance Metrics Correlation



# Homeowners Underlying Growth & Replacement Costs

Below average completion rates and above average commodity and labor costs constrained performance in 2021 – all expected to continue into 2022

## Homeowners Underlying Growth & Replacement Costs

(Change YoY%)	2016	2017	2018	2019	2020	2021	2022E
<b>Underlying Growth</b>	7.46%	6.02%	4.10%	4.39%	0.29%	5.35%	5.25%
Housing Units Completed	10.4%	8.9%	3.6%	6.1%	2.4%	5.0%	
All Employees Residential Buildings	5.3%	3.0%	6.0%	2.8%	-0.8%	7.7%	
Retail Trade	3.7%	3.3%	3.2%	2.5%	-2.9%	3.7%	
<b>Replacement Cost Basket</b>	0.61%	1.77%	3.05%	1.52%	1.76%	11.14%	11.5%
Shelter	3.4%	3.3%	3.3%	3.4%	2.5%	2.7%	
Household Furnishing & Supplies	-1.7%	-1.7%	-0.5%	1.1%	1.3%	4.0%	
Construction Materials	0.2%	3.6%	6.4%	0.0%	1.5%	26.7%	

Personal housing completion rates and labor costs more volatile during pandemic (and economic corrections) than commercial's

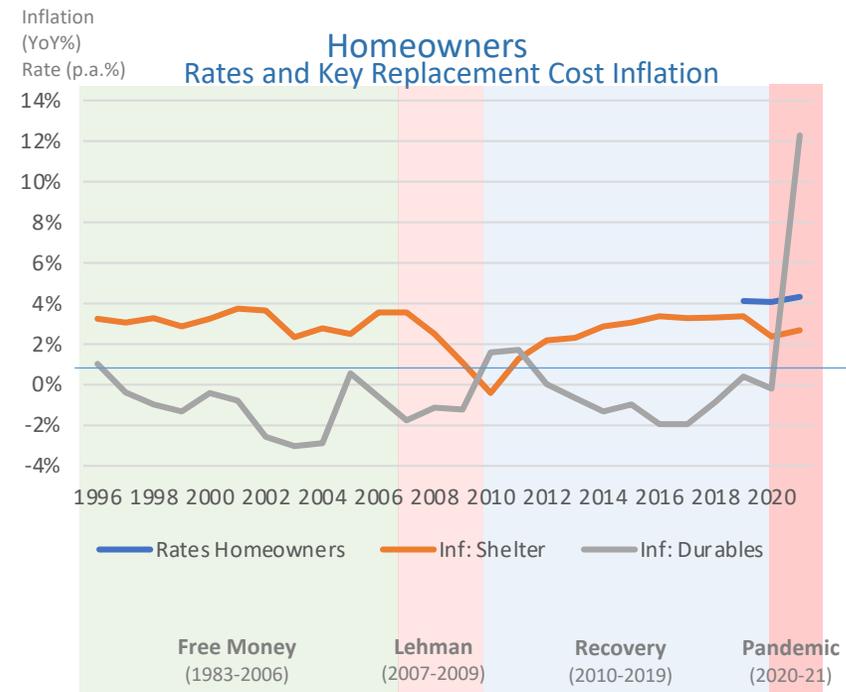
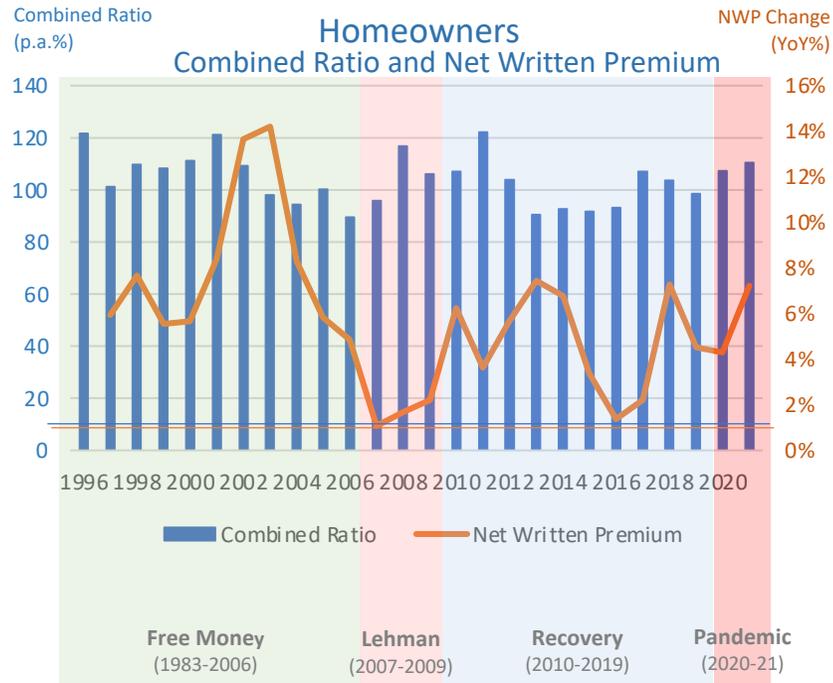
Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Homeowners Economic Correlation Through Inflation Cycles

CR relationship to durables prices stronger than to shelter's (*unexpected*)

NWP relationship to durables prices stronger than to shelter's (*unexpected*)

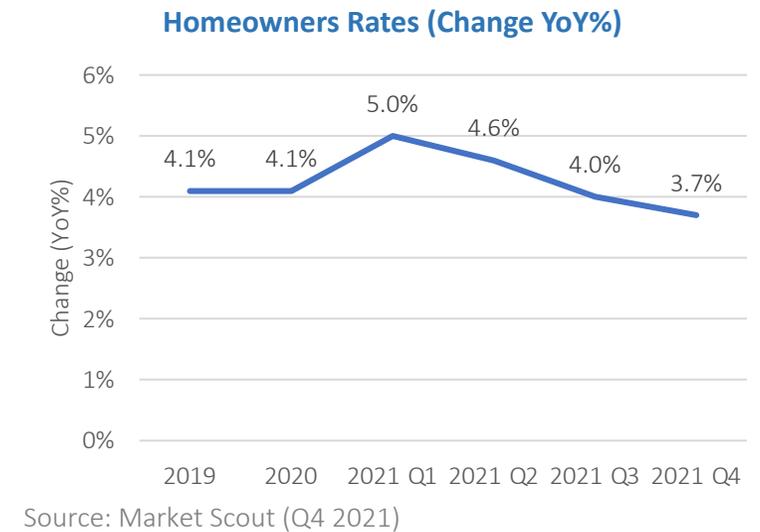
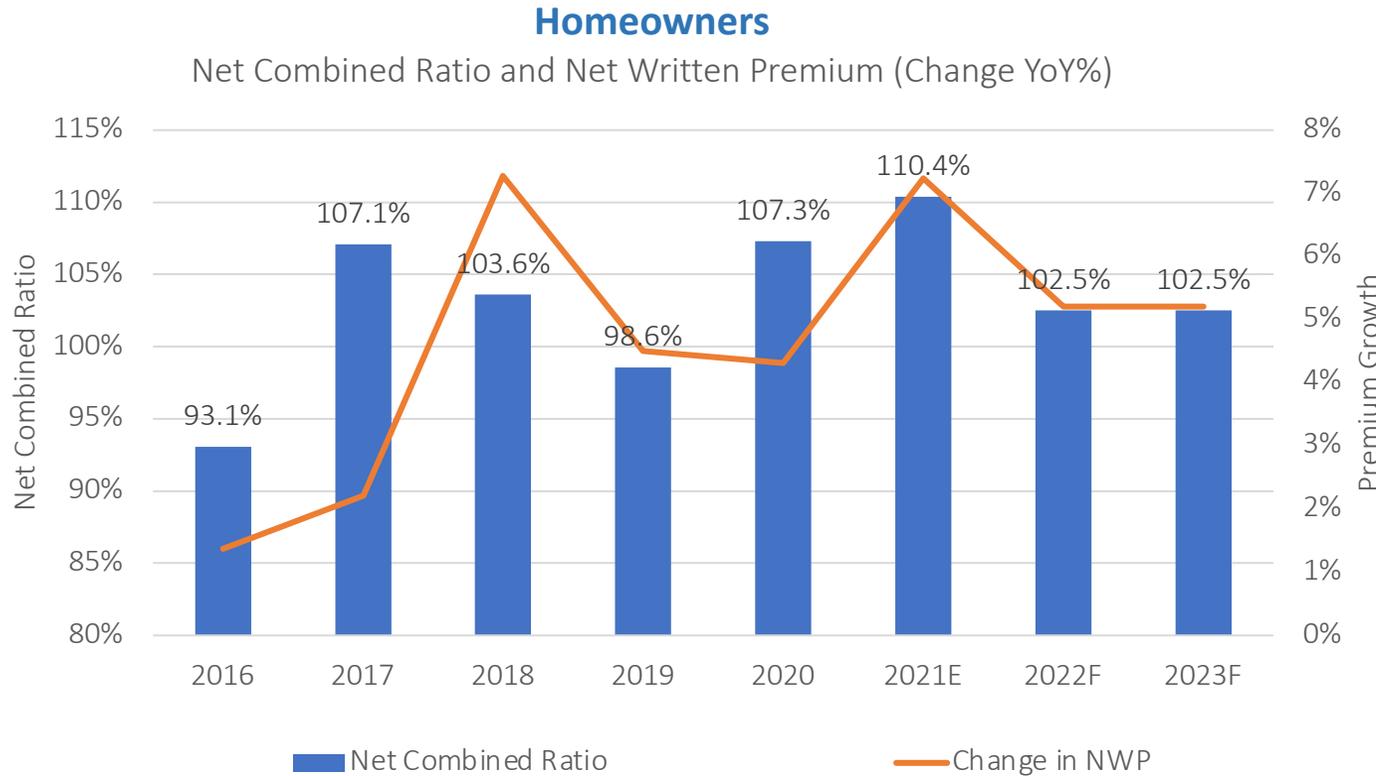
CR outperforming during low inflation volatility as opposed to CPI trend (*expected*)



Source: Analysis: Triple-I; Economic data: FRED; Insurance Data: NAIC through S&P and Market Scout.

# Homeowners: Current Outlook

2021E Combined Ratio estimate increasing to 110.4% from Q1 estimate on higher impact of extreme weather events and continuing impact of high replacement costs



Source: Analysis: Triple-I & Milliman; Data: NAIC Statutory Data through S&P. (As of 05/11/22).

# Personal Auto Underlying Growth & Replacement Costs

Low inventory and high labor costs constrained performance in 2021 – inventory expected to recover in 2022 while labor costs likely to remain elevated longer

## Personal Auto Underlying Growth & Replacement Costs

(Change YoY%)	2016	2017	2018	2019	2020	2021	2022E
<b>Underlying Growth</b>	-2.76%	2.70%	-0.34%	2.58%	-8.68%	8.49%	10.05%
Auto & Light Trucks Sales	0.5%	-1.9%	0.5%	-1.5%	-14.7%	12.9%	
Average Expenditures on Autos, All Units, Consumers	-9.08%	11.56%	-1.95%	10.54%	2.94%		
<b>Replacement Costs</b>	-1.74%	-0.21%	-0.60%	0.09%	1.11%	13.07%	11.0%
New Vehicles	0.2%	-0.2%	-0.5%	0.4%	0.5%	5.8%	
Used Vehicles	-2.6%	-3.6%	0.1%	1.0%	3.2%	26.5%	
Parts & Equipment	-2.8%	3.2%	-1.4%	-1.1%	-0.4%	6.9%	

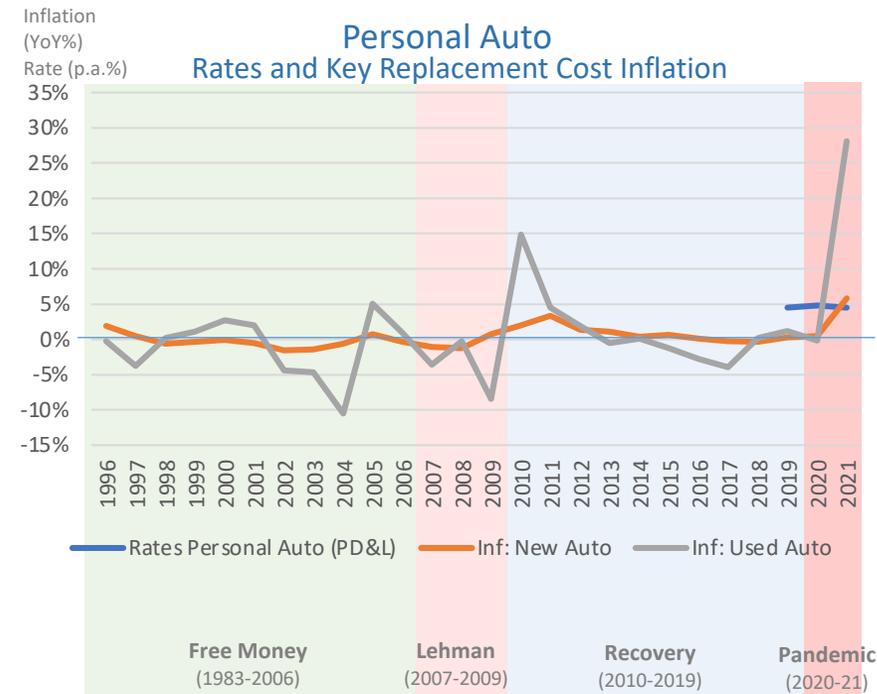
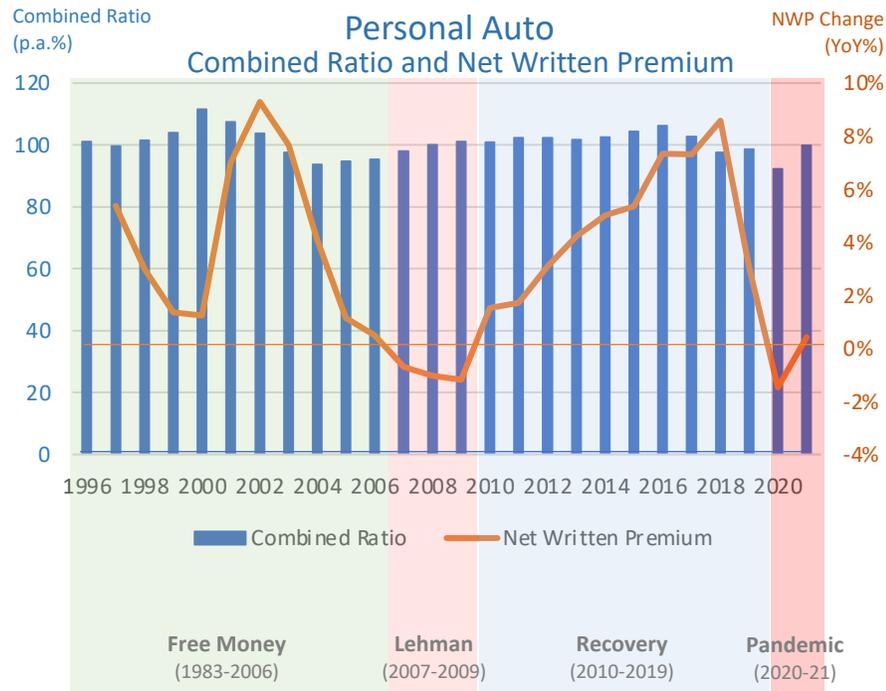
Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Personal Auto Economic Correlation Through Inflation Cycles

CR relationship to used auto prices stronger than to new auto's (*unexpected*)

NWP relationship to new auto prices stronger than to used auto's (*expected*)

CR performance more related to overall growth than to inflation volatility (*expected*)



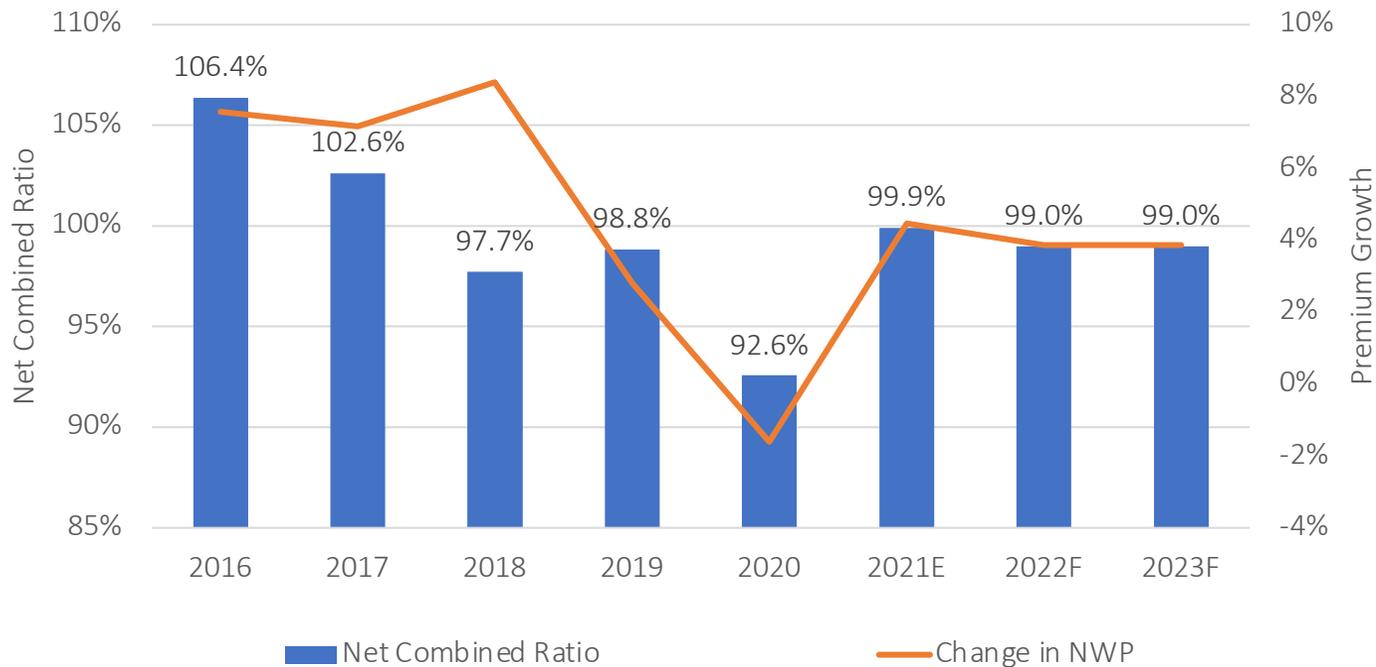
Source: Analysis: Triple-I; Economic data: FRED; Insurance Data: NAIC through S&P and Market Scout.

# Personal Auto: Current Outlook

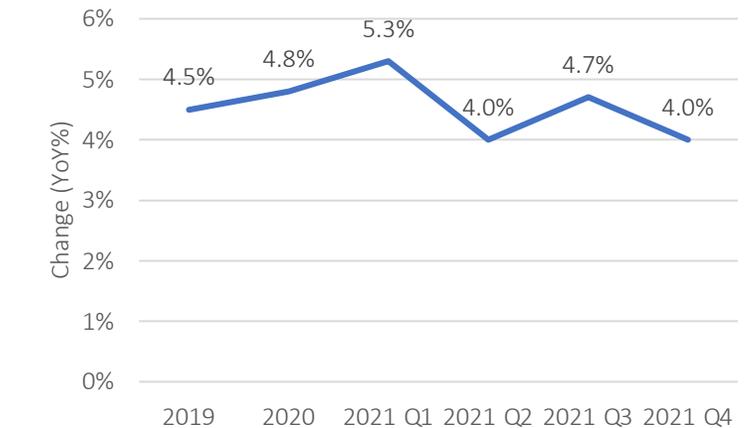
Deteriorating Non-Cat loss trends and excess Cat losses causing 2022-23F profitability to remain at pre-pandemic levels

## Personal Auto

Net Combined Ratio and Net Written Premium (Change YoY%)



## Personal Auto Rates (Change YoY%)



Source: Market Scout (Q4 2021)

Source: Analysis: Triple-I & Milliman; Data: NAIC Statutory Data through S&P (As of 05/11/22).

# Commercial Multi-Peril Underlying Growth & Replacement Costs

Labor disruptions and high commodity prices constrained performance in 2021 – disruptions likely to continue but prices to improve in 2022

## Commercial Multi-Peril Underlying Growth & Replacement Costs

(Change YoY%)	2016	2017	2018	2019	2020	2021	2022E
<b>Underlying Growth</b>	1.97%	2.43%	3.41%	2.01%	-2.24%	1.94%	3.16%
Real Estate, Rental & leasing	0.7%	1.7%	2.8%	2.1%	-1.3%	2.3%	
All Employees Commercial Buildings	4.4%	3.8%	4.5%	1.8%	-4.0%	1.2%	
<b>Replacement Costs</b>	-0.45%	0.94%	2.48%	0.36%	0.23%	10.83%	13.83%
Construction Materials	0.2%	3.6%	6.4%	0.0%	1.5%	26.7%	
Equipment & Other Capital Goods	1.6%	1.6%	3.1%	2.1%	0.1%	5.2%	
Information Technology Prices	-3.1%	-2.4%	-2.0%	-1.1%	-0.9%	0.6%	

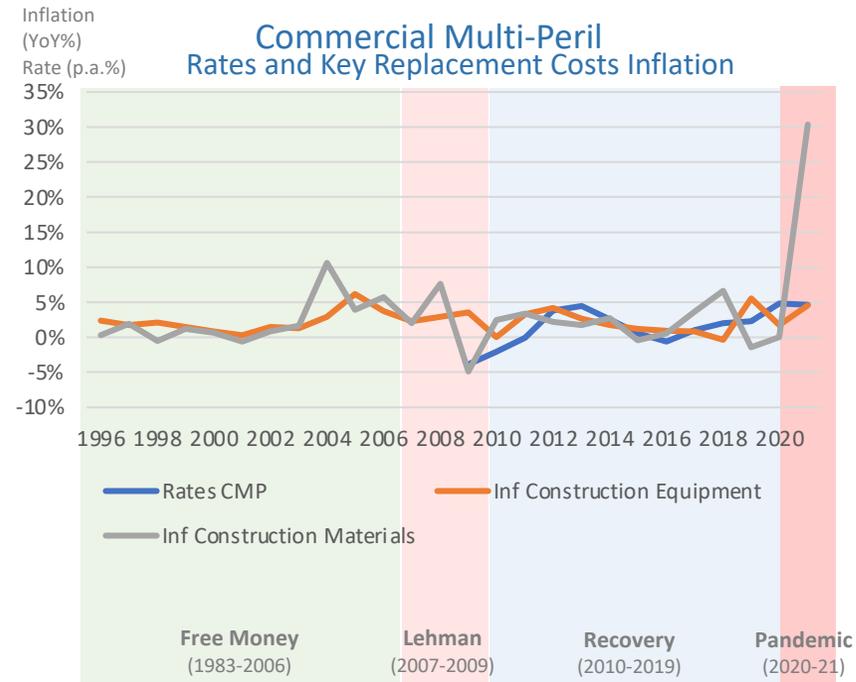
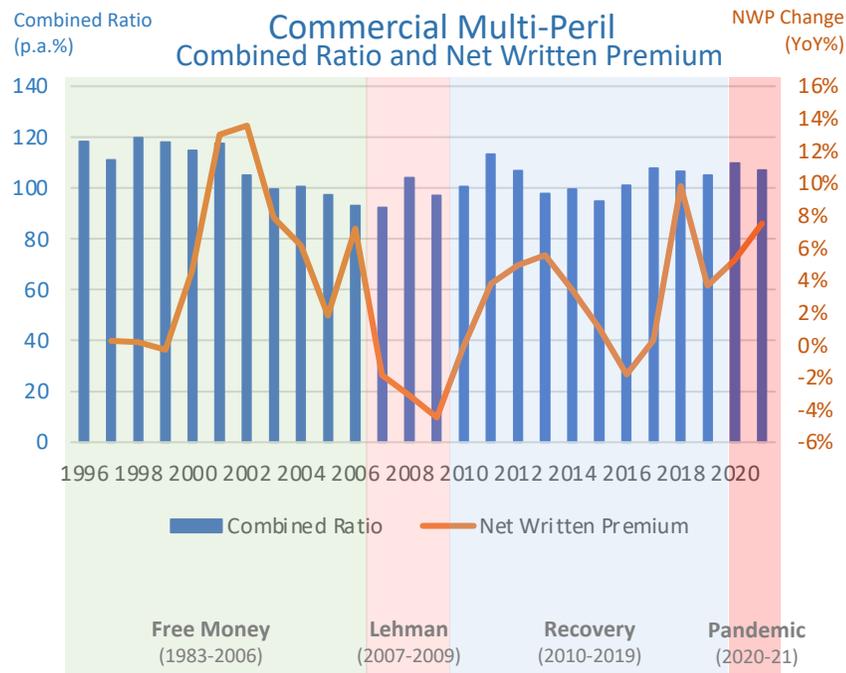
Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Commercial Multi-Peril Economic Correlation Through Inflation Cycles

CR relationship to materials prices stronger than to equipment's *(expected)*

NWP relationship to material prices stronger than to equipment's *(expected)*

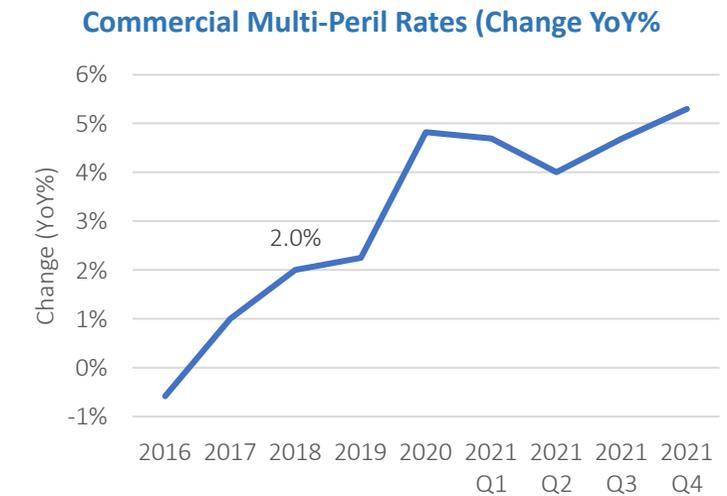
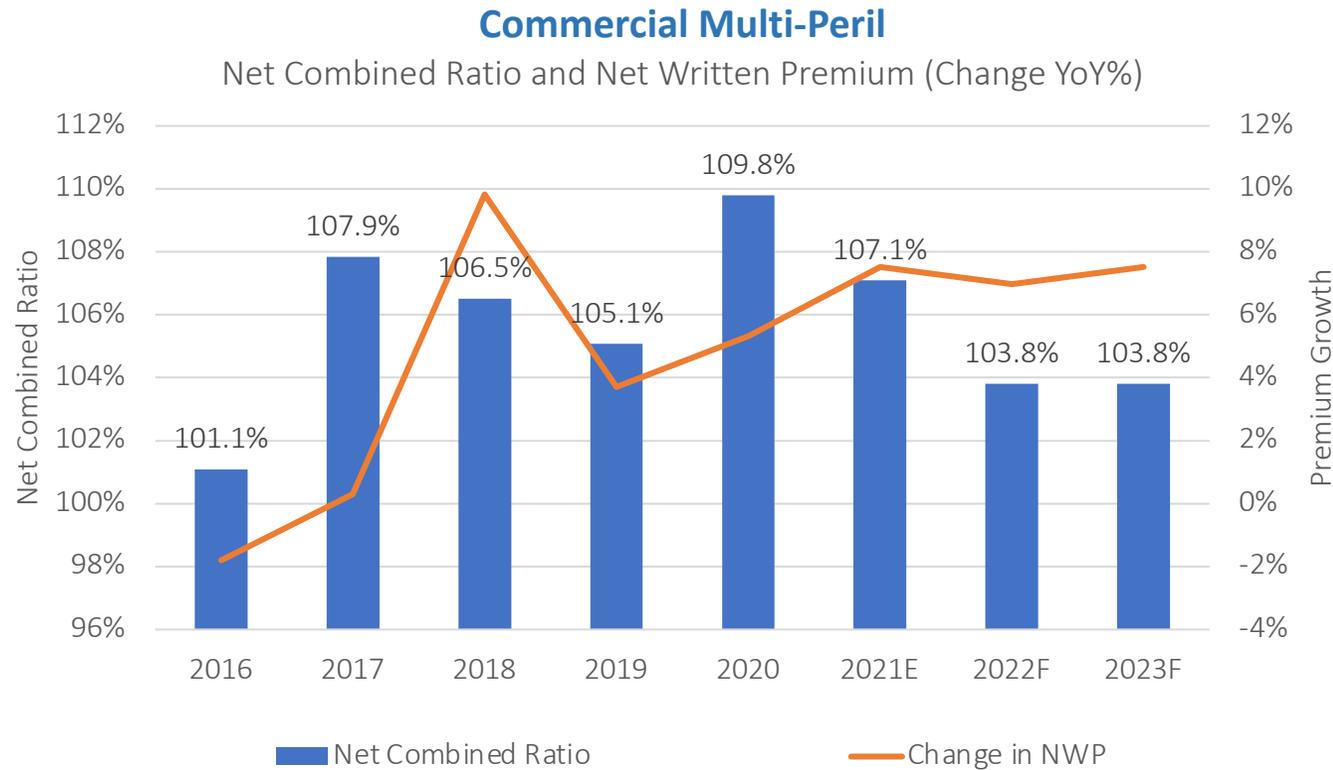
CR performance less related to inflation volatility than other lines' *(unexpected)*



Source: Analysis: Triple-I; Economic data: FRED; Insurance Data: NAIC through S&P and Market Scout.

# Commercial Multi-Peril: Current Outlook

2021E Combined Ratio decreasing to 107.1 due to reallocation of Cats



Source: Market Scout (Q4 2021)

Source: Analysis: Triple-I & Milliman; Data: NAIC Statutory Data through S&P (As of 05/11/22).

# Commercial Auto Underlying Growth & Replacement Costs

Low inventory and high labor costs constrained performance in 2021 – inventory expected to recover in 2022 while labor costs likely to remain elevated longer

## Commercial Auto Underlying Growth & Replacement Costs

(Change YoY%)	2016	2017	2018	2019	2020	2021	2022E
<b>Underlying Growth</b>	1.26%	6.80%	4.72%	5.54%	-5.68%	9.55%	4.49%
Light & Heavy Truck Sales	6.6%	4.4%	8.2%	3.0%	-10.1%	14.5%	
Average Expenditures on Autos, All Units	-9.08%	11.56%	-1.95%	10.54%	2.94%		
<b>Replacement Costs</b>	-1.74%	-0.21%	-0.60%	0.09%	1.11%	13.07%	6.17%
New Vehicles	0.2%	-0.2%	-0.5%	0.4%	0.5%	5.8%	
Used Vehicles	-2.6%	-3.6%	0.1%	1.0%	3.2%	26.5%	
Parts & Equipment	-2.8%	3.2%	-1.4%	-1.1%	-0.4%	6.9%	

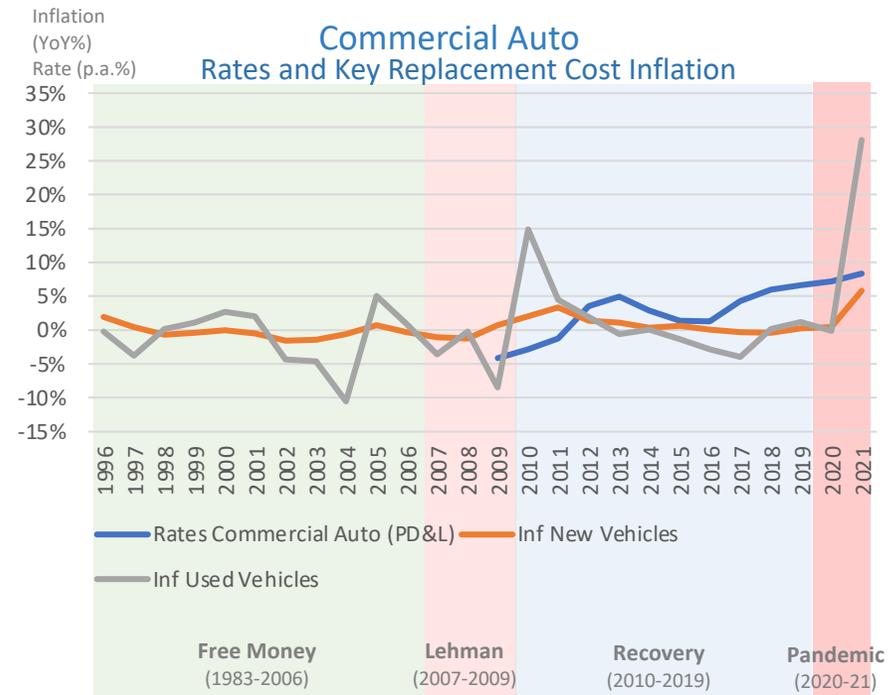
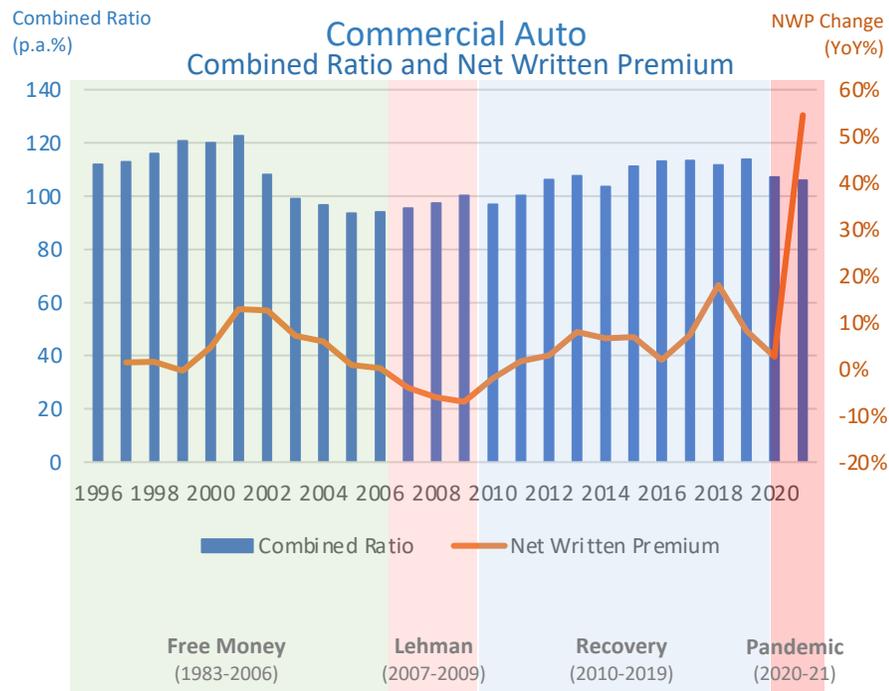
Source: Analysis & insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# Commercial Auto Economic Correlation Through Inflation Cycles

CR relationship to used auto prices stronger than to new auto's (*unexpected*)

NWP relationship to used auto prices stronger than to new auto's (*unexpected*)

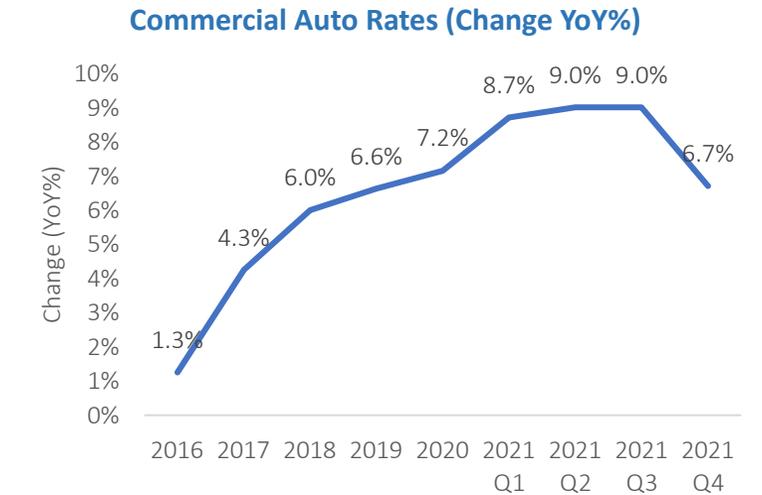
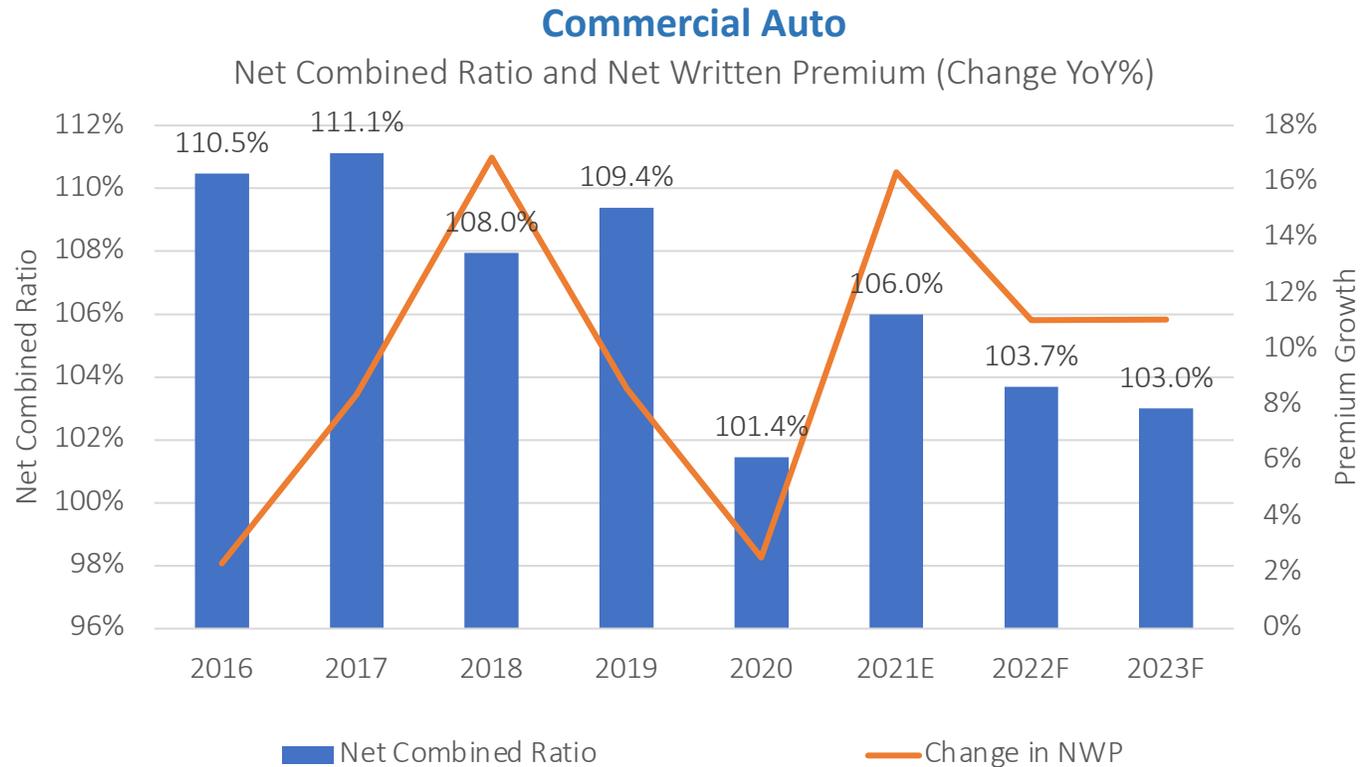
CR performance shows limited relationship to inflation volatility or overall economic growth (*unexpected*)



Source: Analysis: Triple-I; Economic data: FRED; Insurance Data: NAIC through S&P and Market Scout.

# Commercial Auto: Current Outlook

Underwriting losses continue through 2023F, but improving year-over-year



Source: Market Scout (Q4 2021)

Source: Analysis: Triple-I & Milliman; Data: NAIC Statutory Data through S&P (As of 05/11/22).

# Industry Performance



# Monetary Policy Outlook and P&C Industry

Fed Governors remain dovish in short term regardless of pressure from Main and Wall Streets as medicine (interest rates) must match disease (inflation)

Federal Funds Rate Projected Appropriate Policy Path (Median) Federal Reserve Board of Governors					
	2022 (June)	2022 (Dec)	2023	2024	Longer Run
Board Leans	Dovish	Dovish	Hawkish	Hawkish	Hawkish
March 2022	1.0%	1.9%	2.8%	2.8%	1.6% – 2.4%
December 2021	0.3%	0.9%	1.6%	2.1%	0.6% – 0.9%

Source: Analysis Triple-I; Data: Federal Reserve (05/04/22).

## FMOC Statement May 04, 2022

### Deciphering “Fed Talk”

Although (**negates**) economic activity edged down in first quarter Household spending and business investment **remained strong** unemployment rate has **declined substantially**

Inflation **elevated (but)** related to the pandemic, higher energy prices, and broader price pressures

Ukraine upward **pressure** on inflation

lockdowns in China **exacerbate** supply chain disruptions.

The Committee is highly attentive to inflation risks (**no mea culpa**)

Monetary policy to constrain homeowners, personal auto and commercial multi-peril premium growth, have limited impact constraining inflation replacement costs, but will lift P&C investment income

# P&C Insurance Sector Growth and Employment

Sector's growth recovery and employment gains may lag overall economy longer than after previous recessions

P&C Sector Performance							
(Change YoY%)	2017	2018	2019	2020	2021	2022E	2023F
P&C Sector Growth	-1.8%	7.6%	2.0%	3.0%	3.4%	2.4%	1.4%
<i>U.S. GDP Growth</i>	2.3%	3.0%	2.2%	-3.5%	5.8%	3.7%	2.2%
P&C Employment Change	3.6%	2.3%	1.4%	-3.6%	6.6%	4.1%	1.5%
<i>U.S. Payrolls</i>	1.6%	1.7%	1.3%	-5.8%	3.0%	4.6%	2.8%

Source: Analysis and forecasts: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# 2021E combined ratio increases 0.8% to 101.3 from previous quarter

P&C performance constrained by replacement costs rising faster than CPI, underlying growth below national GDP, add significant full-year NatCat losses



## Prudent Management

Policyholders Surplus increased 7% from \$929B in 2020 to \$990B in 2021

Source: Data: NAIC, S&P, MarketScout; Analysis: Triple-I and Milliman (as of 02/16/2022)

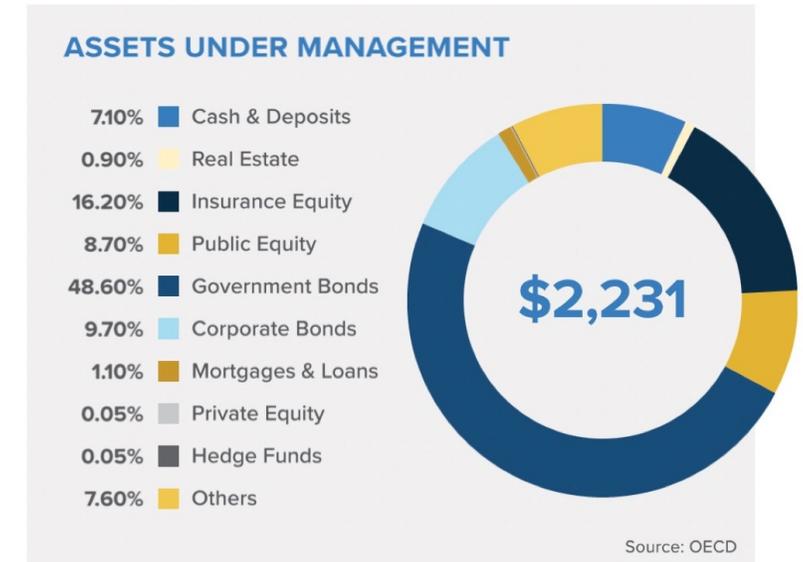
Source: Analysis and insurance estimates: Triple-I (as of 06/06/22); Economic data: FRED (as of 05/31/22).

# P&C Industry Investments

Prudent asset allocation reducing exposures to equity amid asset class' growing volatility while increasing exposures to fixed income instruments and adjusting strategy to rising interest rates environment

P&C Industry Investments					
	2017	2018	2019	2020	2021
Assets Under Mngt (\$B)	\$1,550	\$1,694	\$1,869	\$2,007	\$2,231
Exposure to Equity	21.0%	20.0%	19.0%	24.9%	26.0%
Investment Income	\$49.41	\$56.70	\$55.99	\$53.26	\$54.86
Capital Gains	\$19.37	\$10.67	\$10.70	\$10.26	\$19.07

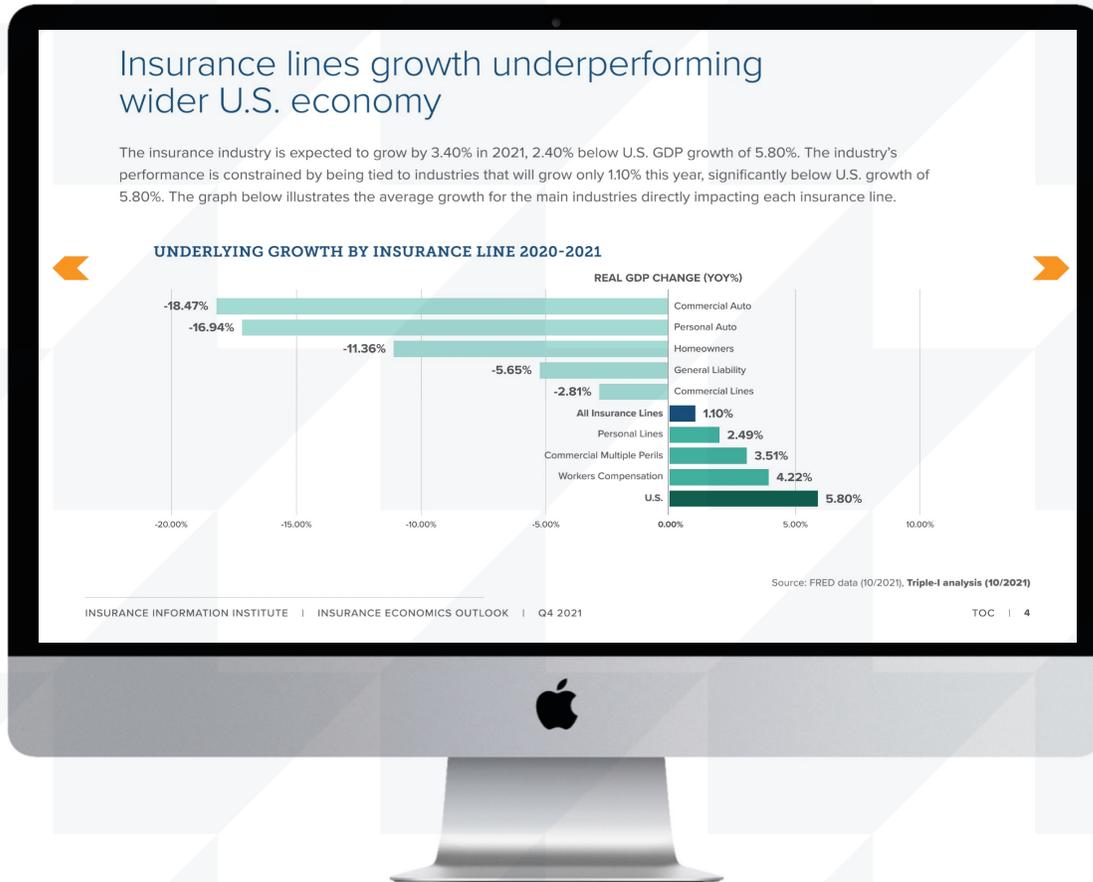
Source: Data for 2017-2020: NAIC through S&P; Data for 2021: OECD.



Triple-I estimates that less than 1% of insurance carriers' total assets under management are invested in extraction sector equity.

# ECONOMICS.III.ORG

Quarterly Outlook | Dashboard | The Daily's Weekly Chart | Webinars | Podcasts





**Michel Léonard, PhD, CBE**, leads the Triple-I's Economics and Analytics Department. He is responsible for providing analysis and insight on industry economics and business performance, as well as other forward-looking, data driven insurance insights.

Michel brings more than twenty years of insurance experience to Triple-I, including senior and leadership positions such as Chief Economist for Trade Credit and Political Risk at Aon; Chief Economist at Jardine Lloyd Thompson; Chief Economist and Data Scientist at Alliant; and Chief Data Scientist at MaKro LLC. In these roles, he worked closely with underwriters, brokers and risk managers to model risk exposures for property-casualty and specialty lines such as credit, political risk, business interruption and cyber.

Michel also currently serves as adjunct faculty at New York University's Economics Department. Previous academic appointments include Adjunct Faculty in NYU's Center for Data Science and Adjunct Faculty at Columbia University's Data Science Institute and Statistics Department. He was the recipient of a grant from the Spencer Educational Foundation to develop a course in data analytics for insurance. In these capacities, Michel provides a key link between the Triple-I, its Non-Resident Scholars and academia.

Michel holds a Bachelors of Arts from McGill University, a Masters of Theological Studies from Harvard University, and a Masters of Arts and Doctorate of Philosophy in Political Economy from the University of Virginia, focusing on qualitative and quantitative risk modeling. He is a member of the Insurance Research Council Advisory Board.

E: [michell@iii.org](mailto:michell@iii.org) | T: 646 498-9607

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**iii.org**  
110 William Street  
New York, NY 10038