Inflation, Recession, Pandemics and CATs:
Impacts & Implications for P-C Insurance Markets

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P/C Insurance Overview & Outlook: Outline

- Economic Overview & Outlook—Impacts for P/C Insurers
  - Growth, Employment, Inflation, Recession…
- Inflation: Where it Is Headed & What It Means for P/C Insurers
  - Impacts on claim severities and loss ratios
  - Long-term inflation considerations
- P/C Financial Overview & Outlook in the Post-COVID, High-Inflation Era
  - Premium Growth
  - Underwriting Performance
- Investment Market Issues: Volatility Rules and the Hawkish Fed
- Legal System Abuse (Social Inflation) Overview
- Summary and Q&A

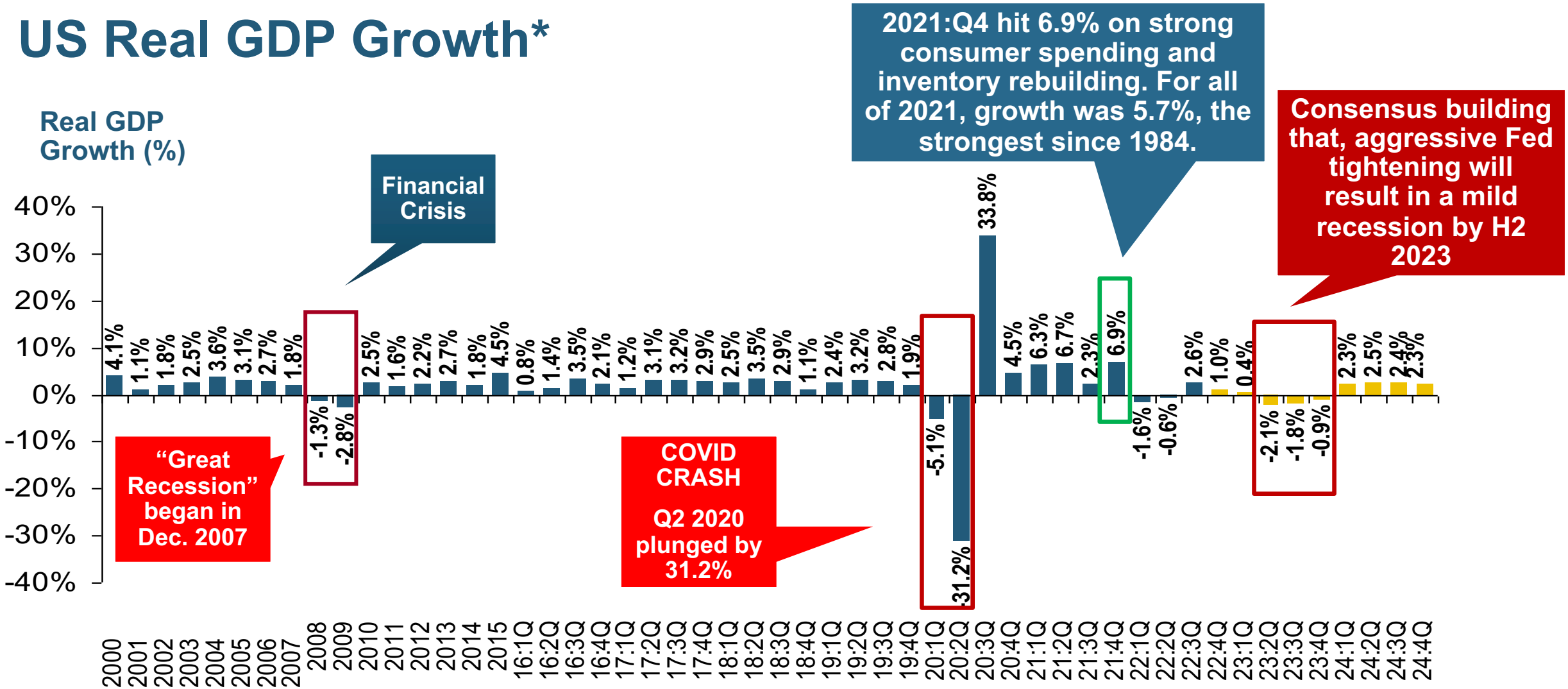
Economic Overview
Economic Optimism Has Plummetted in 2022
Inflation is Breeding Ground for Pessimism

Inflation, Geopolitical Conflicts and Rising Interest Rates and Weighing Heavily on Business and Consumer Sentiment

Can the Fed "Thread the Needle" and Achieve a "Soft Landing"?

3

US Real GDP Growth*

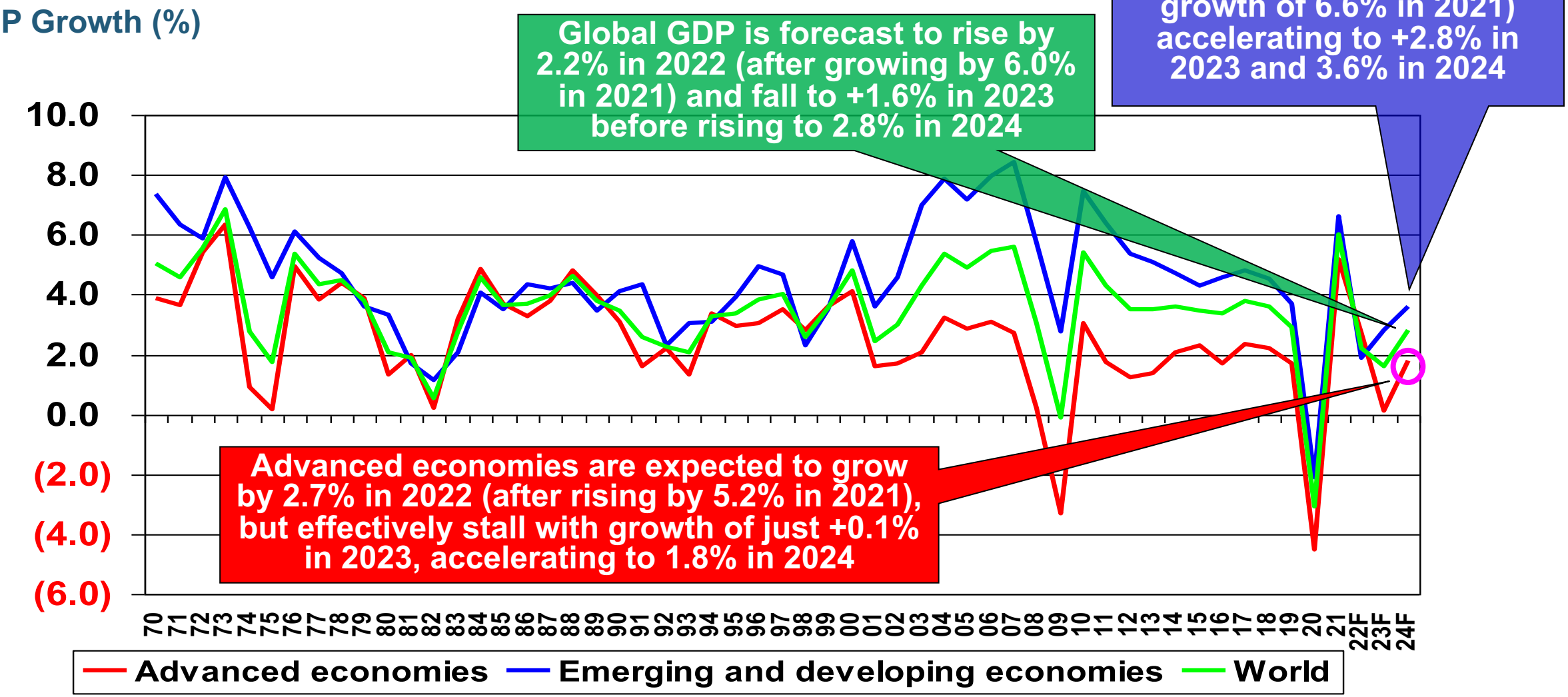


Demand for Insurance Increased Materially in 2021/22—Particularly in Economically Sensitive Commercial Lines Such as WC. Premium growth will likely slow in 2023 as Economy Slows.

* Estimates/Forecasts from Wells Fargo Securities.

Source: US Department of Commerce, Wells Fargo Securities (10/22); Center for Risk and Uncertainty Management, University of South Carolina.

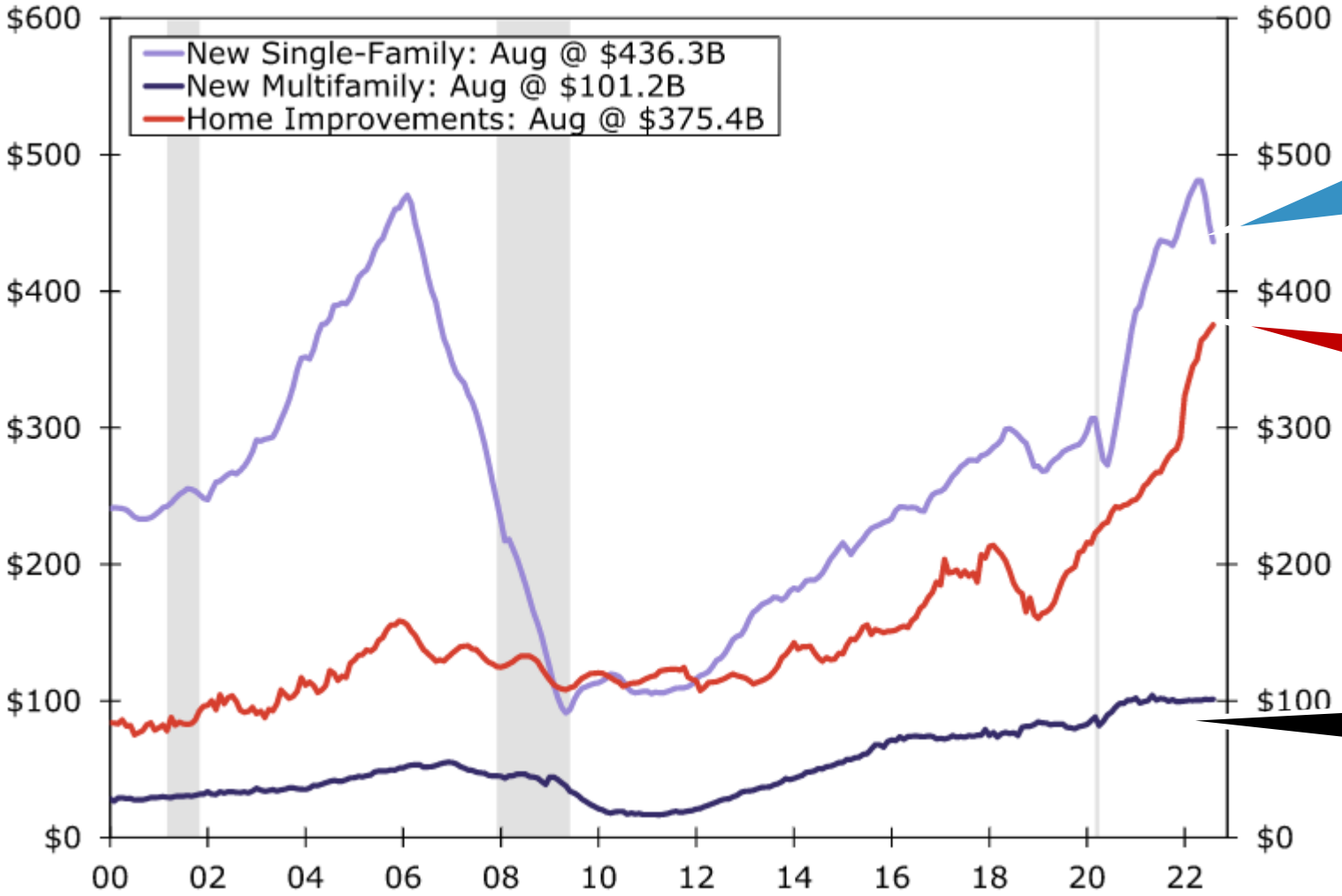
GDP Growth: Advanced & Emerging Economies vs. World, 1970-2024F



Source: International Monetary Fund, *World Economic Outlook* (1970-2020); Wells Fargo Economics (2021 – 2023F) [as of Oct. 2022]; Univ. of South Carolina, Risk and Uncertainty Management Center.

Total Value of Private Residential Construction Put in Place, Jan. 2000 – Aug. 2022*

($ Billions, Seasonally Adjusted Annual Rate)



The total value of single-family home construction is now falling as rising mortgage interest rates reduce demand for new homes

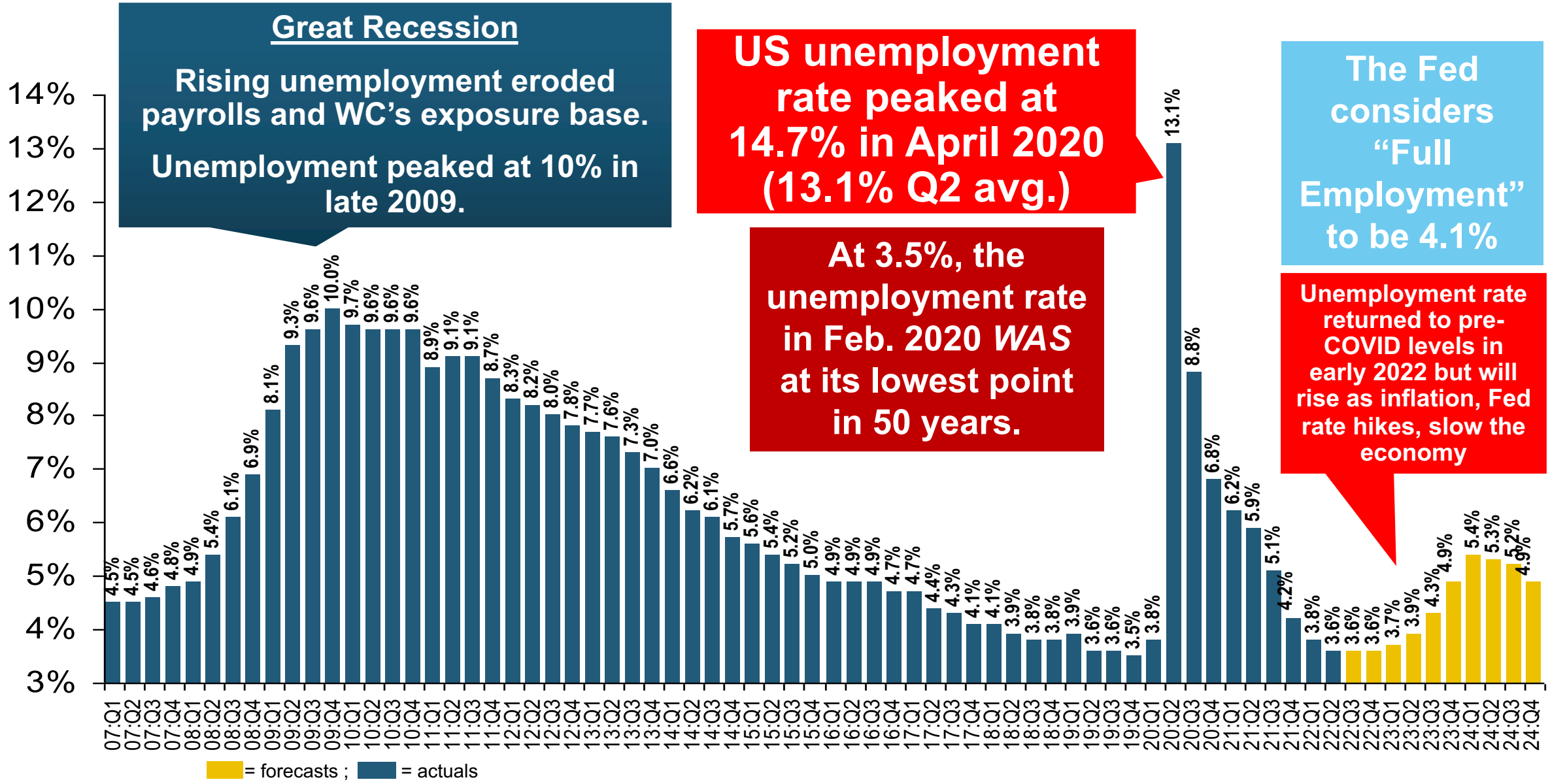
Spending on home improvements continues to increase

Multifamily construction is flat and likely to decline in the months ahead

*Latest available.

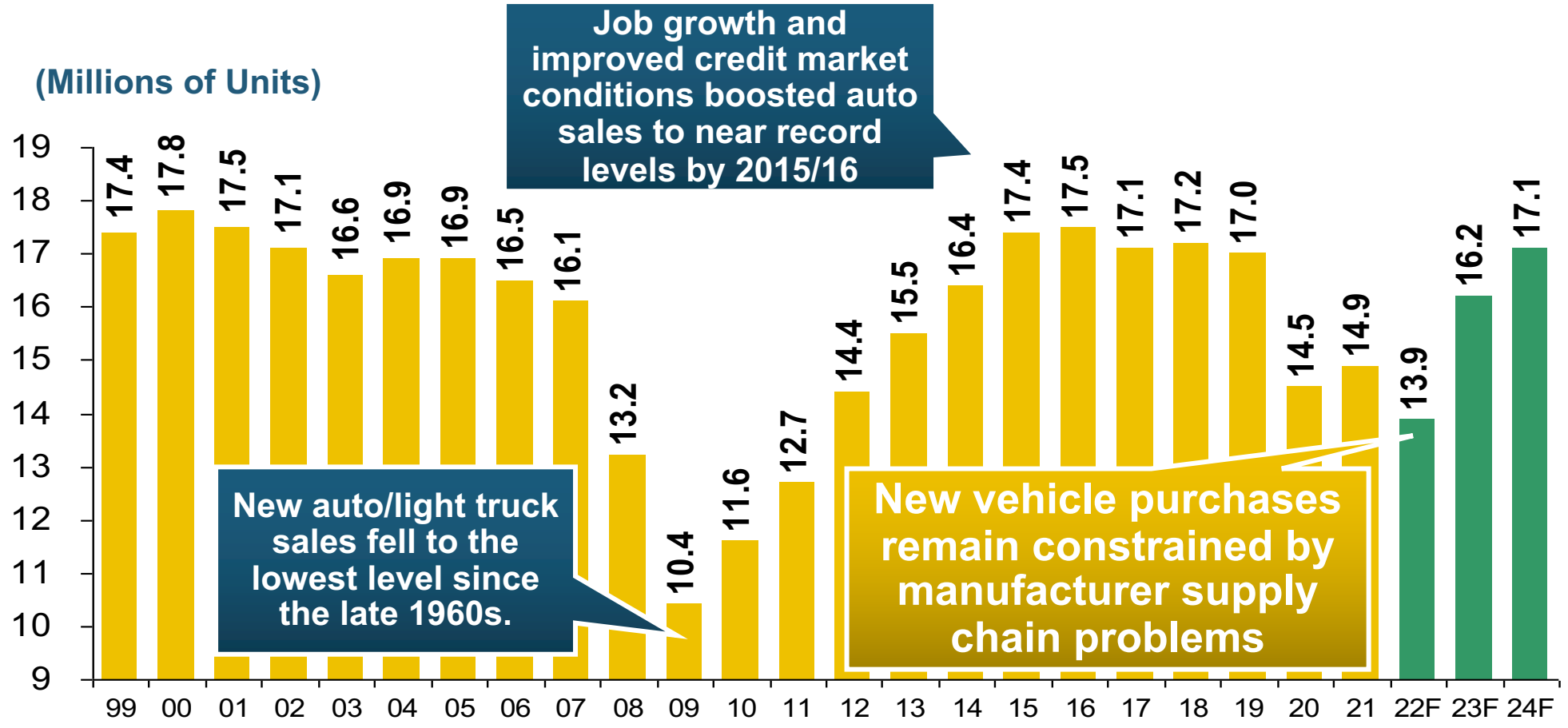
Sources: US Department of Commerce; Wells Fargo Securities (10/22); Risk and Uncertainty Management Center, University of South Carolina.

US Unemployment Rate Forecast: 2007:Q1–2024:Q4



Sources: US Bureau of Labor Statistics; Wells Fargo Securities (10/22 edition); Risk and Uncertainty Management Center, University of South Carolina.

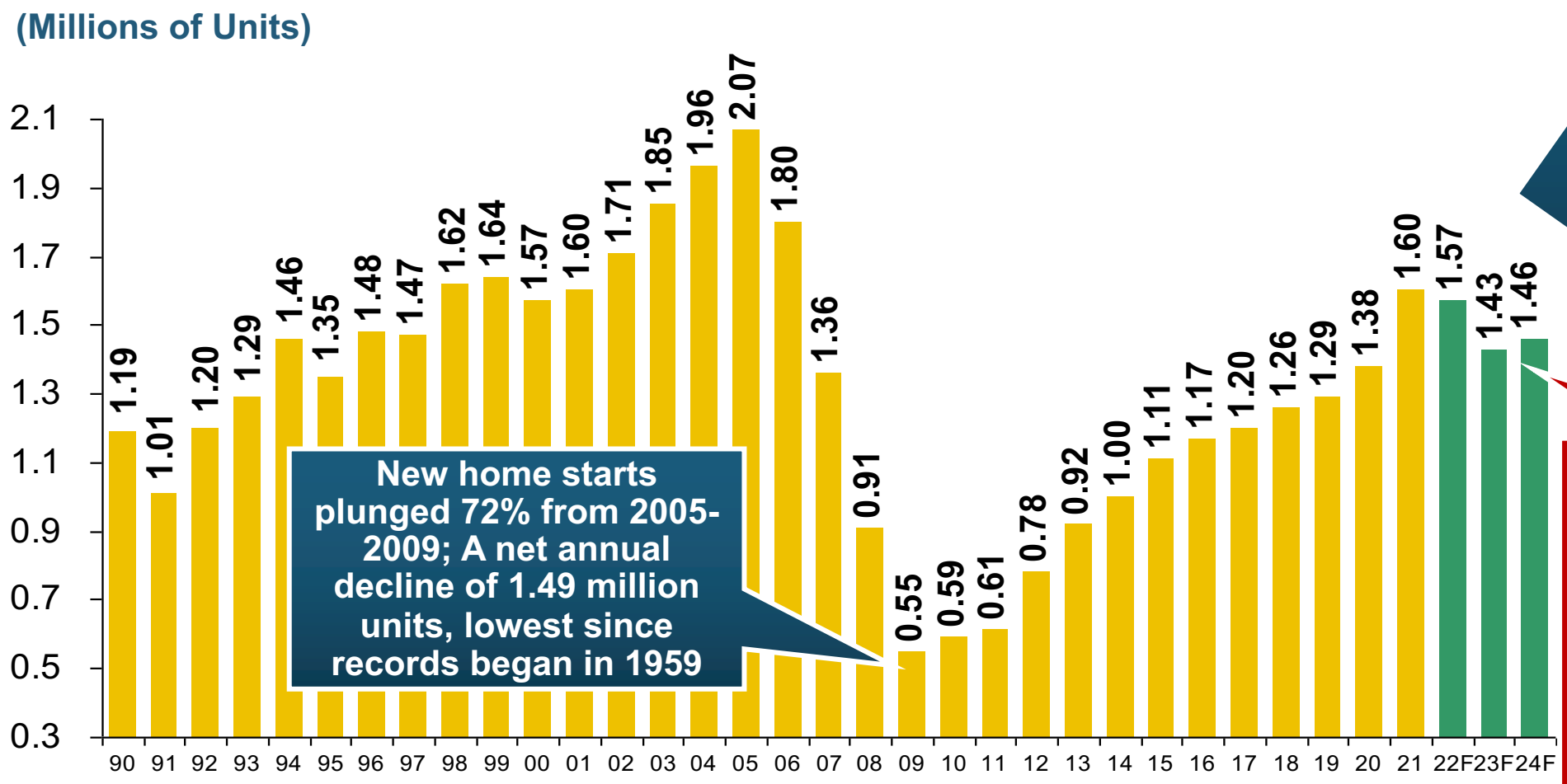
Auto/Light Truck Sales, 1999-2024F



Yearly car/light truck sales remain below pre-COVID levels. Auto manufacturer supply chain issues are expected to linger into 2023. PP Auto premium might grow by 3.5% - 5%.

Source: U.S. Department of Commerce; Wells Fargo Securities (10/22 for 2022-24F); Univ. of South Carolina, Center for Risk and Uncertainty Management..

New Private Housing Starts, 1990-2024F



Job growth, low inventories of existing homes, low mortgage interest rates and demographics propelled new home construction into 2022, though materials prices, supply chain problems, lack of labor remain headwinds

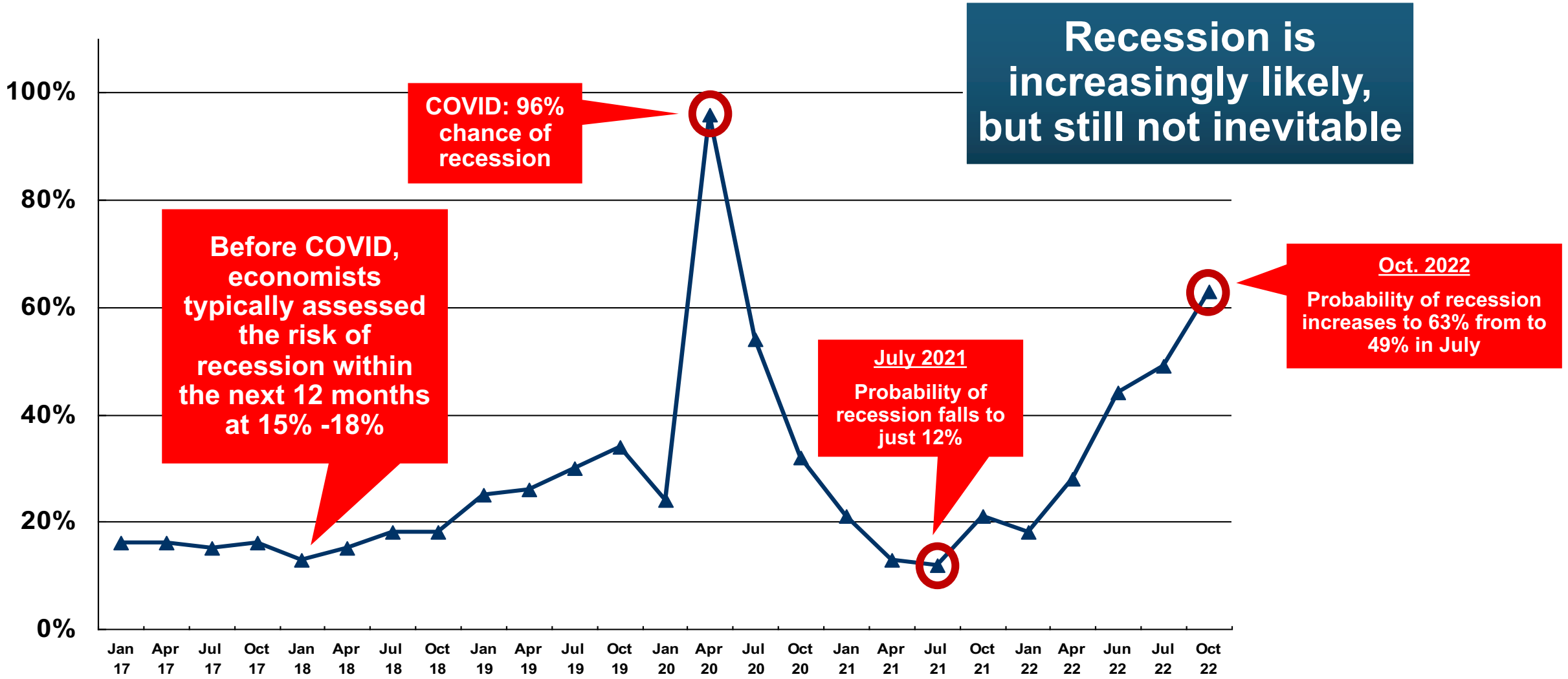
High prices, rising mortgage rates, lingering supply chain issues will erode new home construction activity into 2023

But No Repeat of the Housing Collapse that Began in 2007

Insurers Are Continue to See Meaningful Exposure Growth in the Homeowners Line as well as Lines Associated with Home Construction: Construction Risk Exposure, Surety, Commercial Auto; Potent Driver of Workers Comp Exposure

Source: U.S. Department of Commerce; Wells Fargo Securities (10/22 for 2022-23); Univ. of South Carolina, Center for Risk and Uncertainty Management..

Probability the U.S. Is in a Recession Within Next 12 Months: Jan. 2017 – Oct. 2022*

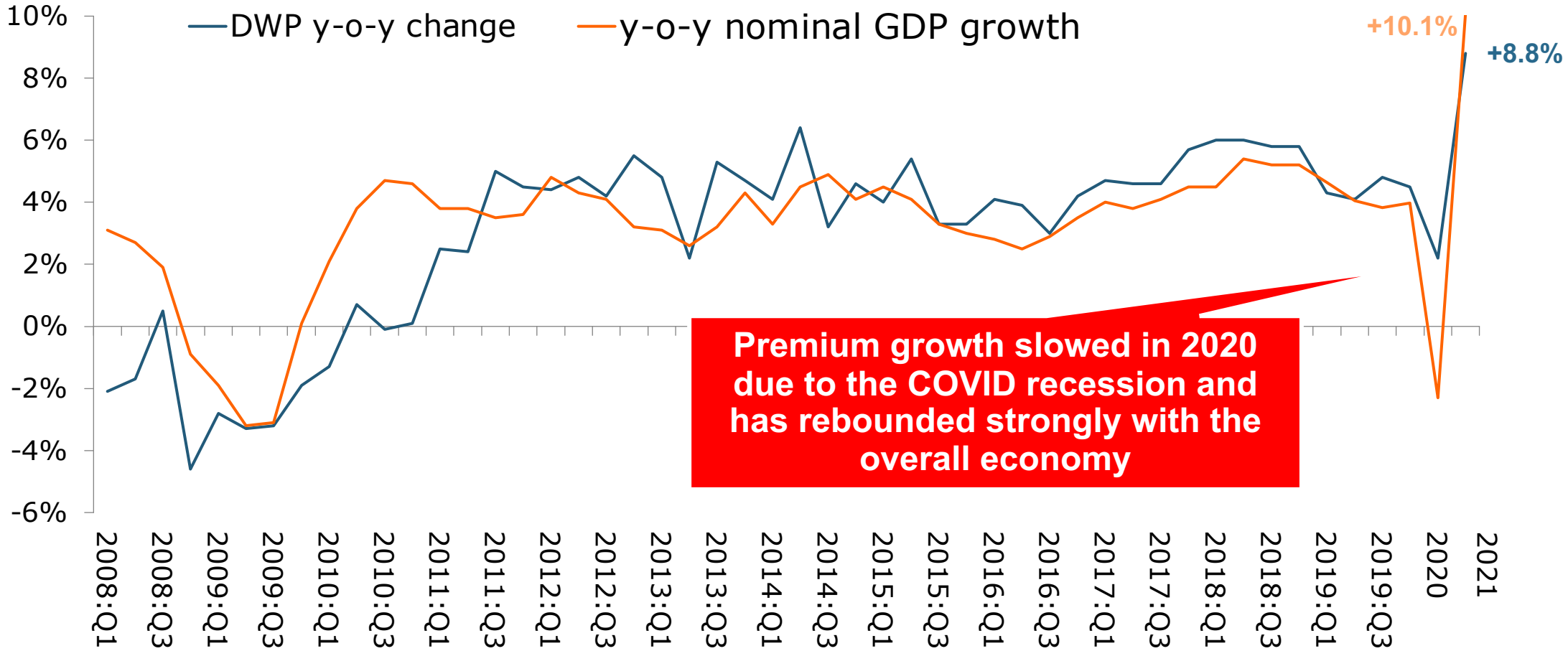


*Oct. 2022 survey included the responses of 75 economists.

Source: Wall Street Journal surveys of economists: https://www.wsj.com/articles/economists-now-expect-a-recession-job-losses-by-next-year-11665859869; Risk and Uncertainty Management Center, University of South Carolina.

The Economy Drives P/C Insurance Industry Premiums: 2006:Q1–2021*

Direct Premium Growth (All P/C Lines) vs. Nominal GDP: Quarterly Y-o-Y Pct. Change



Premium growth slowed in 2020 due to the COVID recession and has rebounded strongly with the overall economy

Direct written premiums track nominal GDP fairly tightly over time, suggesting the P/C insurance industry's growth prospects inextricably linked to economic performance.

*2020-21 figures are annual; 2021 DWP figure is preliminary.
Sources: SNL Financial; U.S. Commerce Dept., Bureau of Economic Analysis; ISO; I.I.I.; Risk and Uncertainty Management Center, University of South Carolina.

Question: Is the U.S. economy already in recession?

ANSWER: NO! Even though Q1/Q2 2022 real GDP were negative, Q3 was strongly positive at +2.6%, while labor markets also remain strong. The notion that 2 consecutive quarters of negative real GDP define the start of a recession is incomplete.

The U.S. Inflation Threat

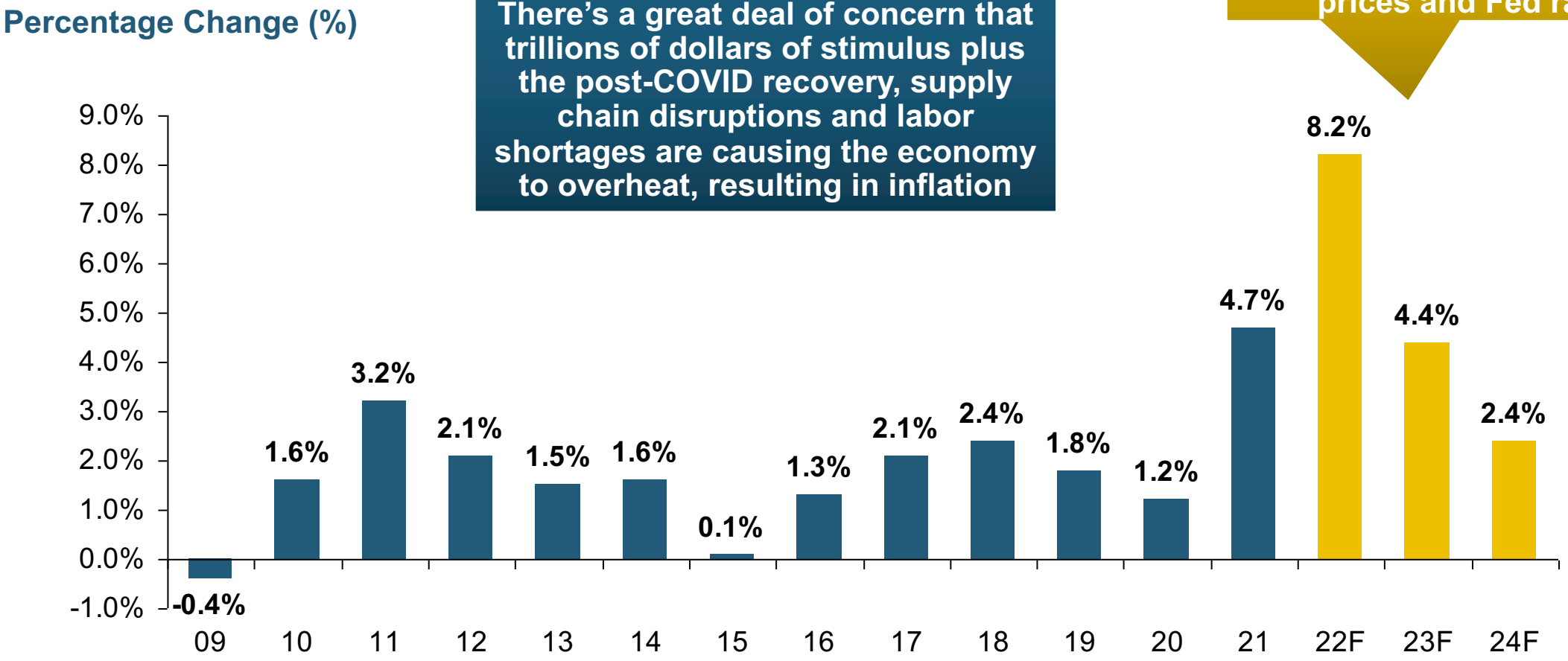
Inflation is the #1 Concern of U.S. Consumers and Corporations…

It's Also a Major Concern of Insurers

U.S. Inflation Rate: 2009-2024F*

Inflation accelerated sharply in 2021 before peaking at 9.1% in June 2022. Inflation should moderate through H2:2022 into 2023/24; Forecast is highly dependent of trajectory of energy prices and Fed rate hikes

There's a great deal of concern that trillions of dollars of stimulus plus the post-COVID recovery, supply chain disruptions and labor shortages are causing the economy to overheat, resulting in inflation



Insurer Concerns About Inflation

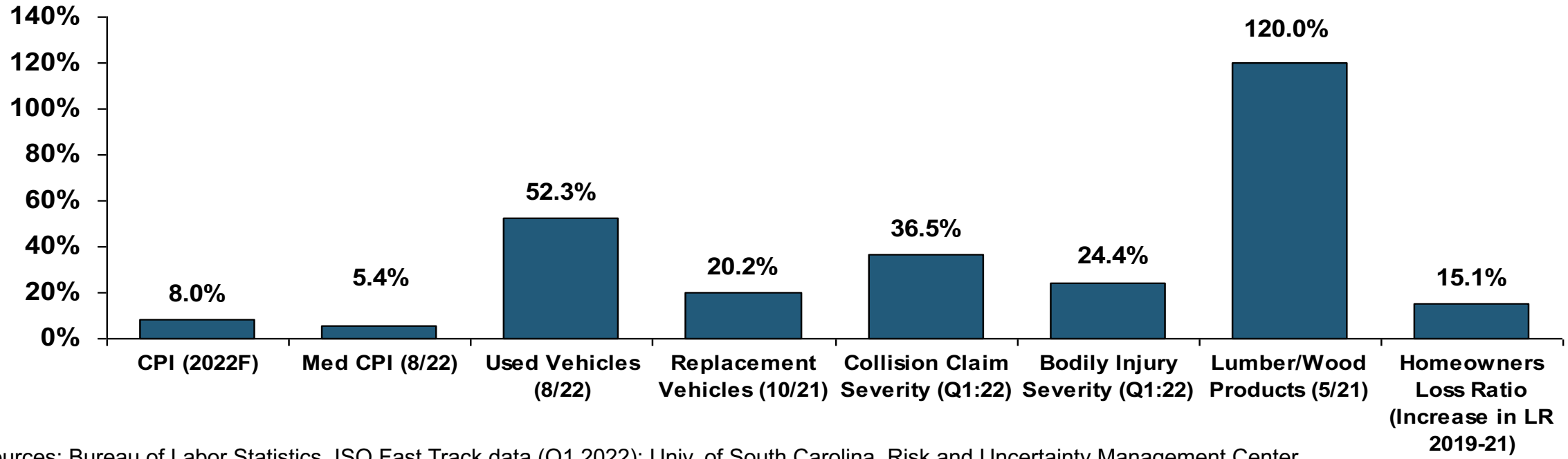
- **Rate Inadequacy**
- **Reserve Inadequacy**
- **Insurance-to-Value**

*Annual change in Consumer Price Index for All Urban Consumers (CPI-U).

Source: U.S. Bureau of Labor Statistics; Wells Fargo Securities (10/22); USC Center for Risk and Uncertainty Management.

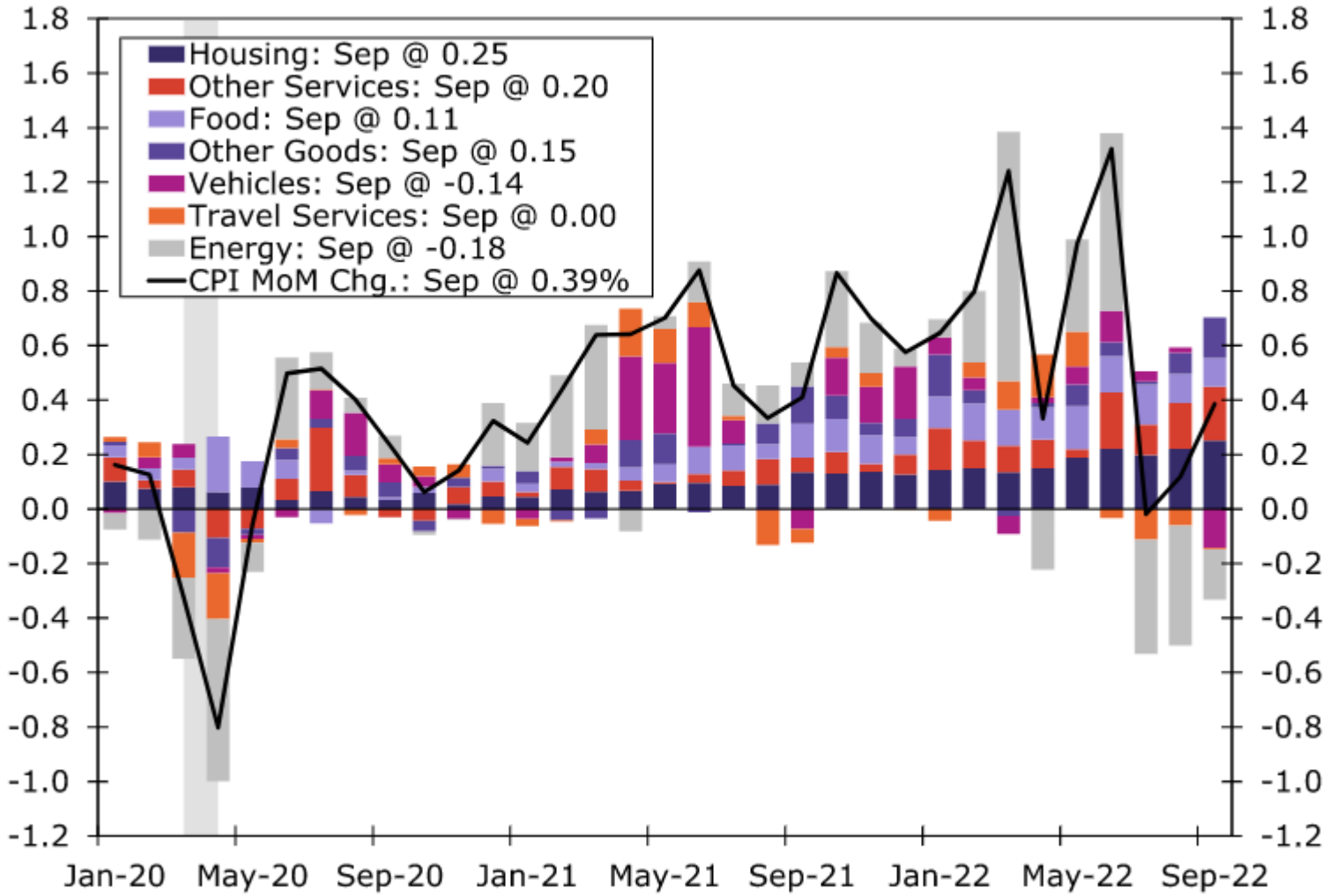
Inflation: Large, Immediate Impacts for Insurers

- Claims severities across property, auto and other lines have surged
- Medical inflation is now accelerating even as overall inflation eases
- Inherent lags in P/C ratemaking imply it will be years before rates are fully adequate
- If inflation persists, reserve adequacy could become a problem (as in the 1970s/80s)
- ITV is an increasing concern



Sources: Bureau of Labor Statistics, ISO Fast Track data (Q1 2022); Univ. of South Carolina, Risk and Uncertainty Management Center.

Contribution to CPI by Category: September 2022

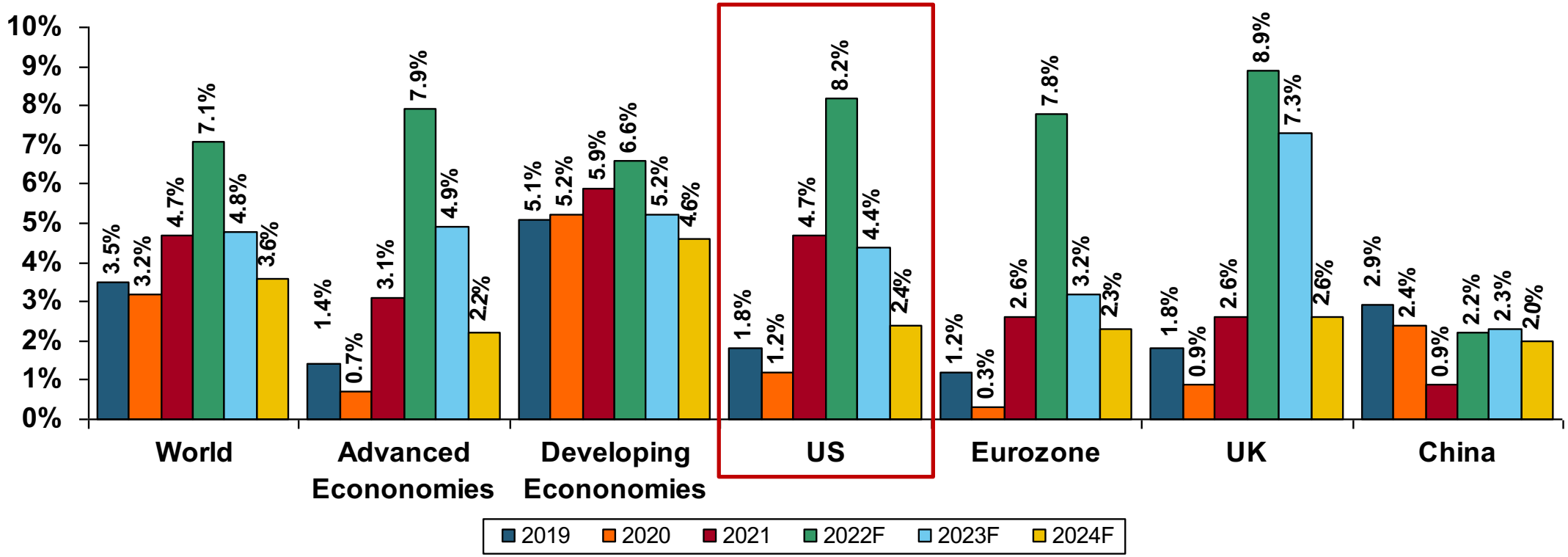


Prices were up 8.2% in Sept. 2022 vs. a year ago, down slightly from 8.3% in August. Energy and Vehicles pulled CPI down in Sept., but increases in Housing, Food, Travel and Other Services prevented a larger drop.

Source: U.S. Department of Commerce and Wells Fargo Economics.

Inflation: A Global Phenomenon—Outlook through 2024

- Inflation is global phenomenon
- For some countries, the cure (high interest rates) may be worse than the disease
- For (re)insurers, impacts were immediate but relief will take years
- Inflation will drive the need for tens of billions in additional (re)insurance capacity

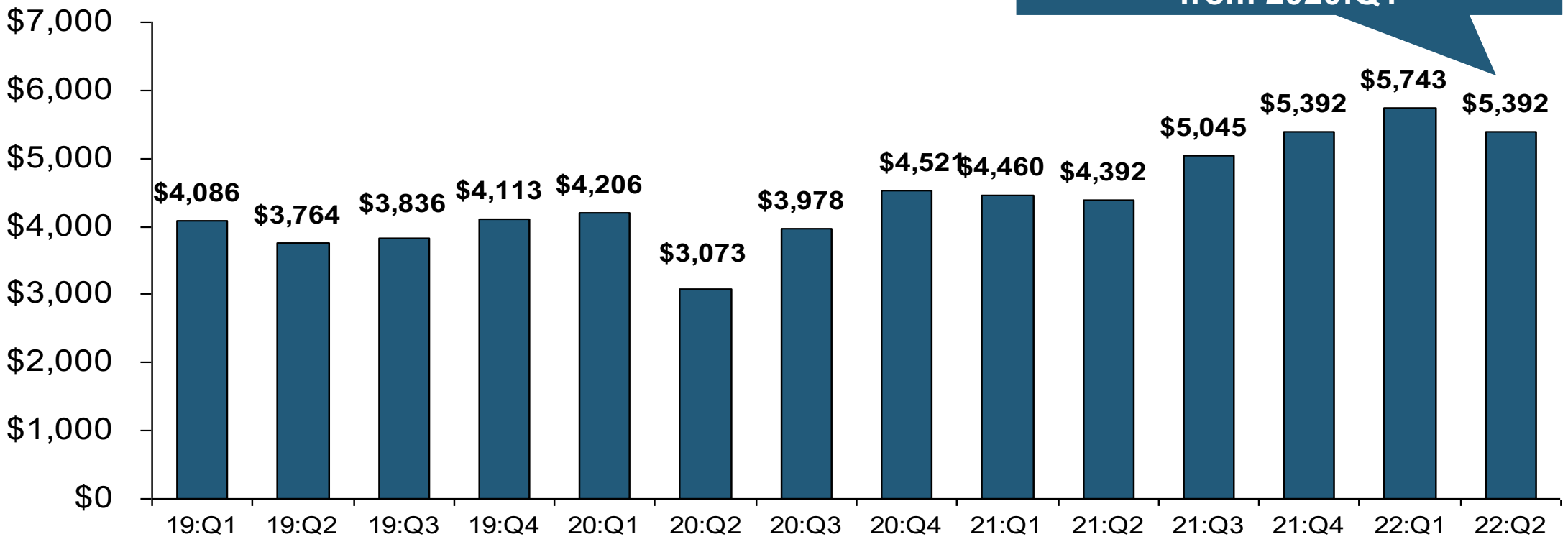


Source: IMF and Wells Fargo Securities (Oct. 2022); Univ. of South Carolina, Risk and Uncertainty Management Center.

Auto Collision Claim Severity: Rising to New Record Highs

Average Loss, 2019:Q1 through 2022:Q2

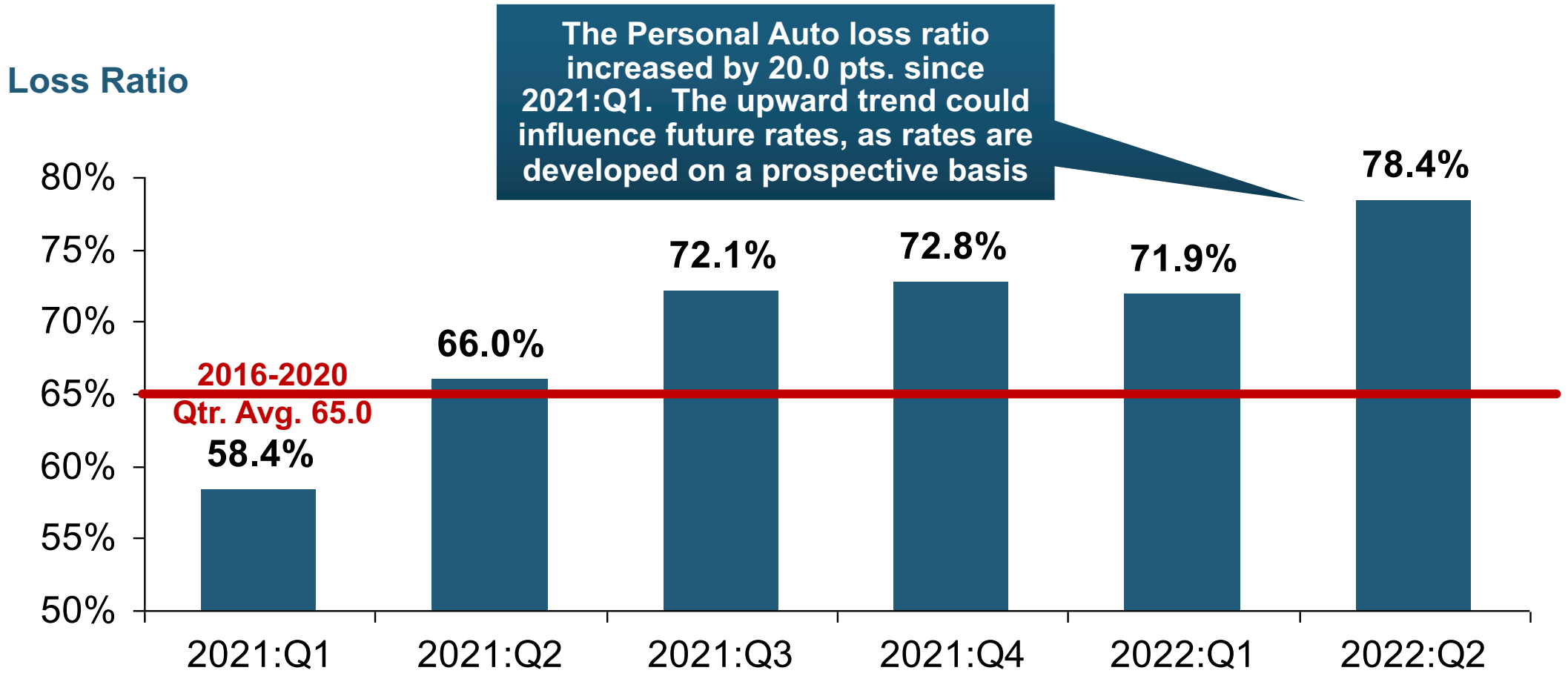
Collision claim severity hit a record high of $5,743 in Q1:2022, and remains up 28.2% from 2020:Q1



Severities Are Up Sharply—Inflation Is a Major Factor

Source: ISO/PCI *Fast Track* data; Center for Risk and Uncertainty Management, Univ. of South Carolina.

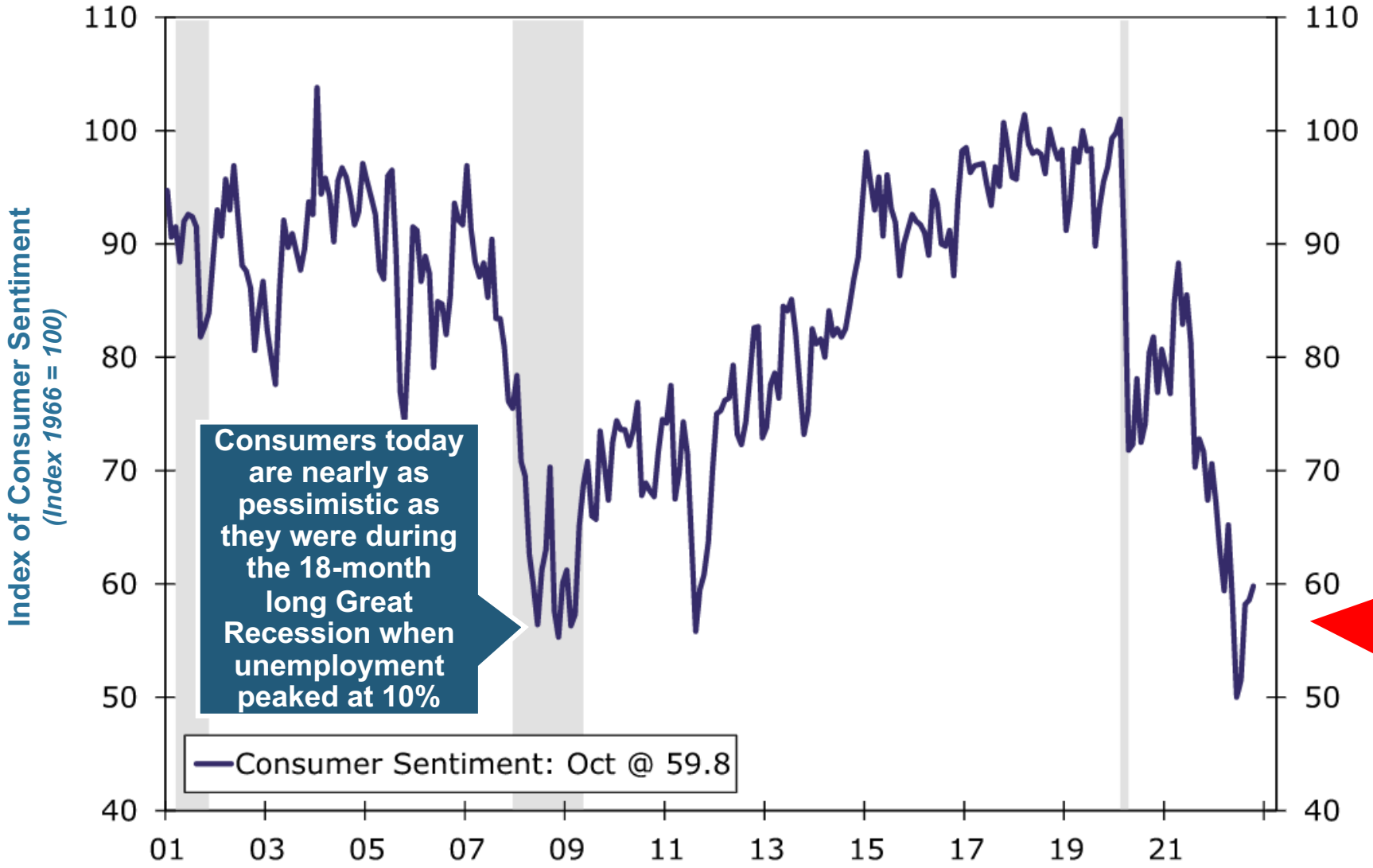
Personal Auto Loss Ratios: 2021:Q1 – 2022:Q2



Collision Loss Ratios Are Rising Rapidly and Are Now Far Above the 5-Year Average

Source: APCIA via S&P Global Market Intelligence; University of South Carolina, Risk & Uncertainty Management Center.

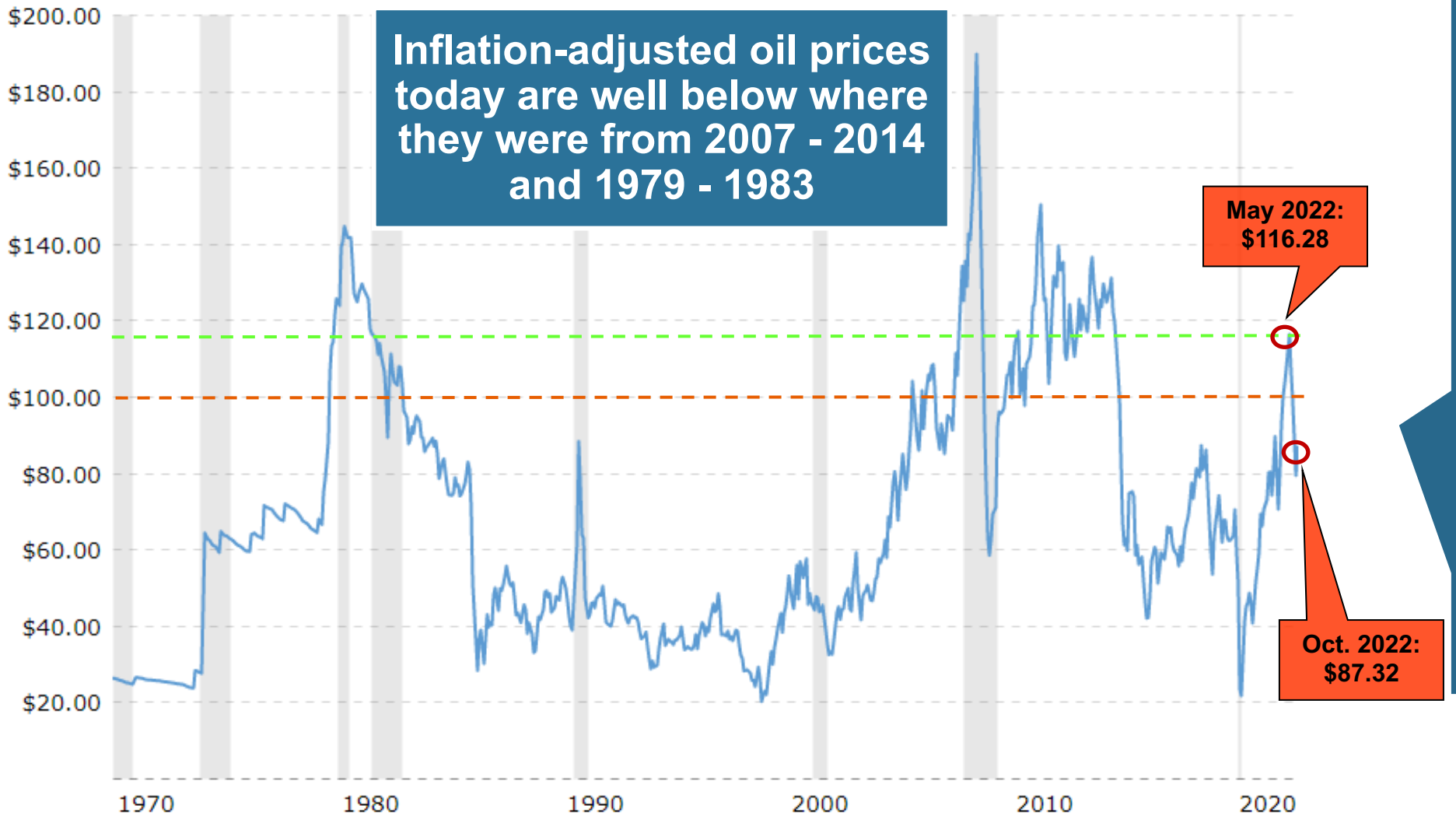
Consumer Sentiment: Close to the Lowest Ever Despite Strong Jobs Markets



Despite unemployment rates that are among the lowest in 50+ years and the "end" of the COVID pandemic, consumers are *GRUMPY*

Source: University of Michigan and Wells Fargo Economics.

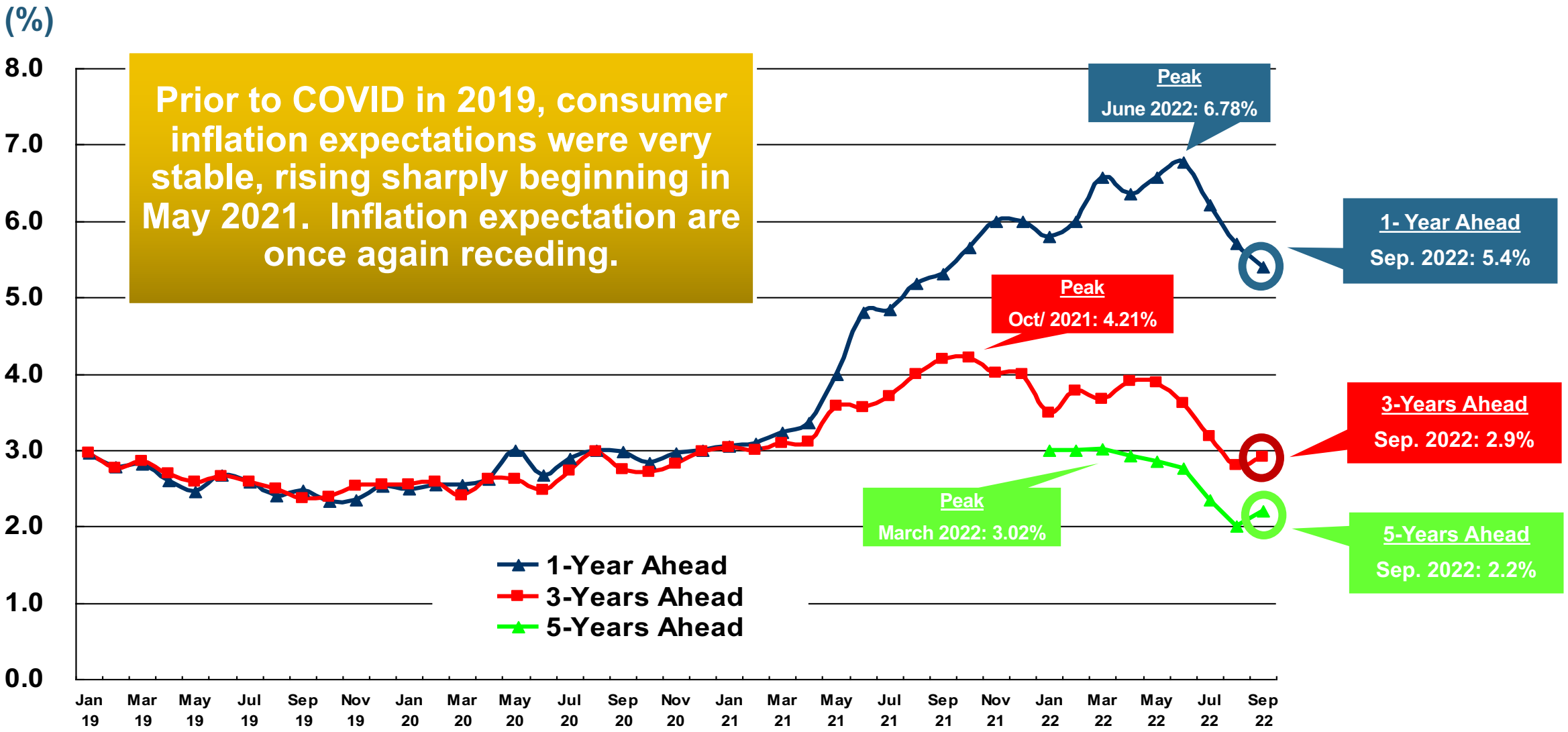
Crude Oil Prices: Price per Barrel,
Jan. 1970 – Oct. 2022 (Inflation Adjusted)



Crude peaked well above $100/bbl—a quintupling from its pandemic low—causing market panic and fueling inflation. The Russian invasion of Ukraine, US ban of Russian oil is exacerbating oil price pressures.

Sources: Macrotrends.net accessed 10/28/22 at: https://www.macrotrends.net/1369/crude-oil-price-history-chart; Risk and Uncertainty Management Center, University of South Carolina.

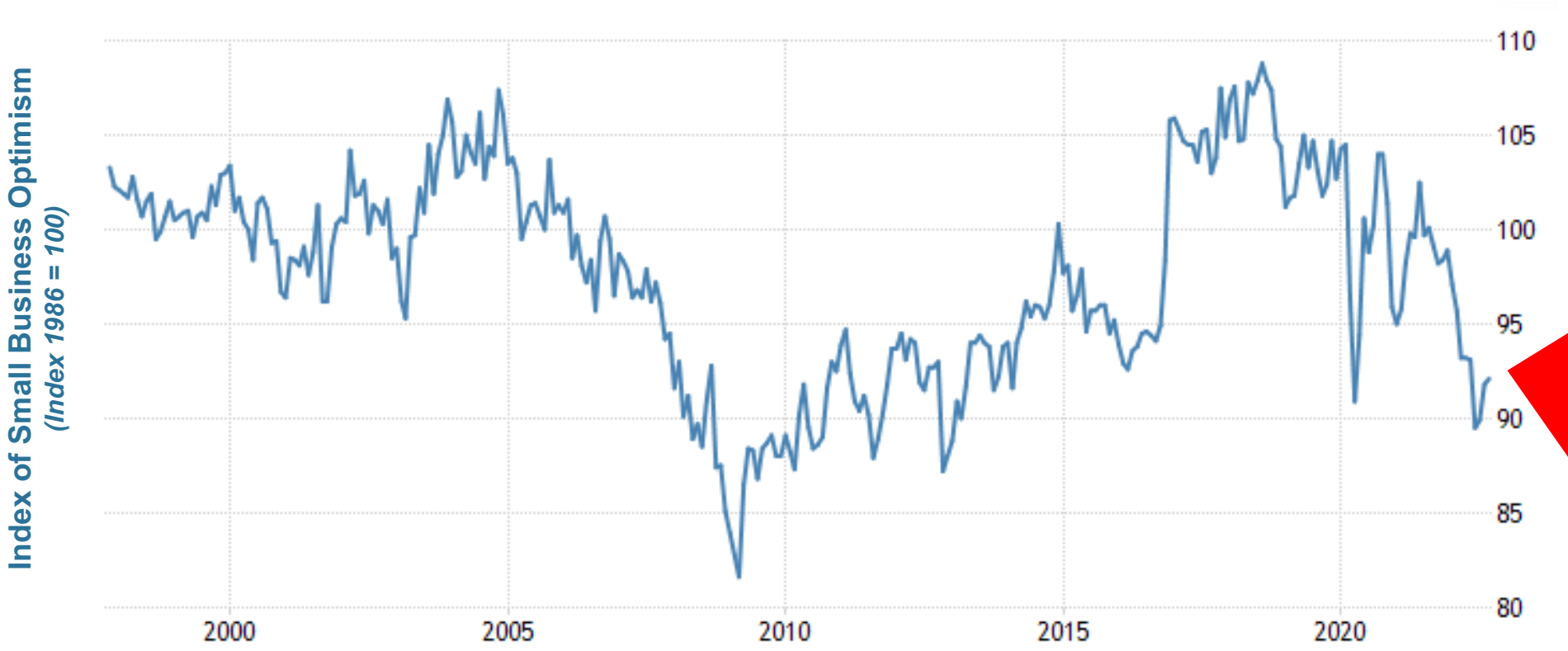
Consumer Inflation Expectations: 1, 3 and 5 Years Ahead*



*Survey data for 5-year ahead series begin in January 2022.

Sources: Federal Reserve Bank of New York, accessed at: https://www.newyorkfed.org/microeconomics/sce#/inflexp-1; Risk and Uncertainty Management Center, University of South Carolina.

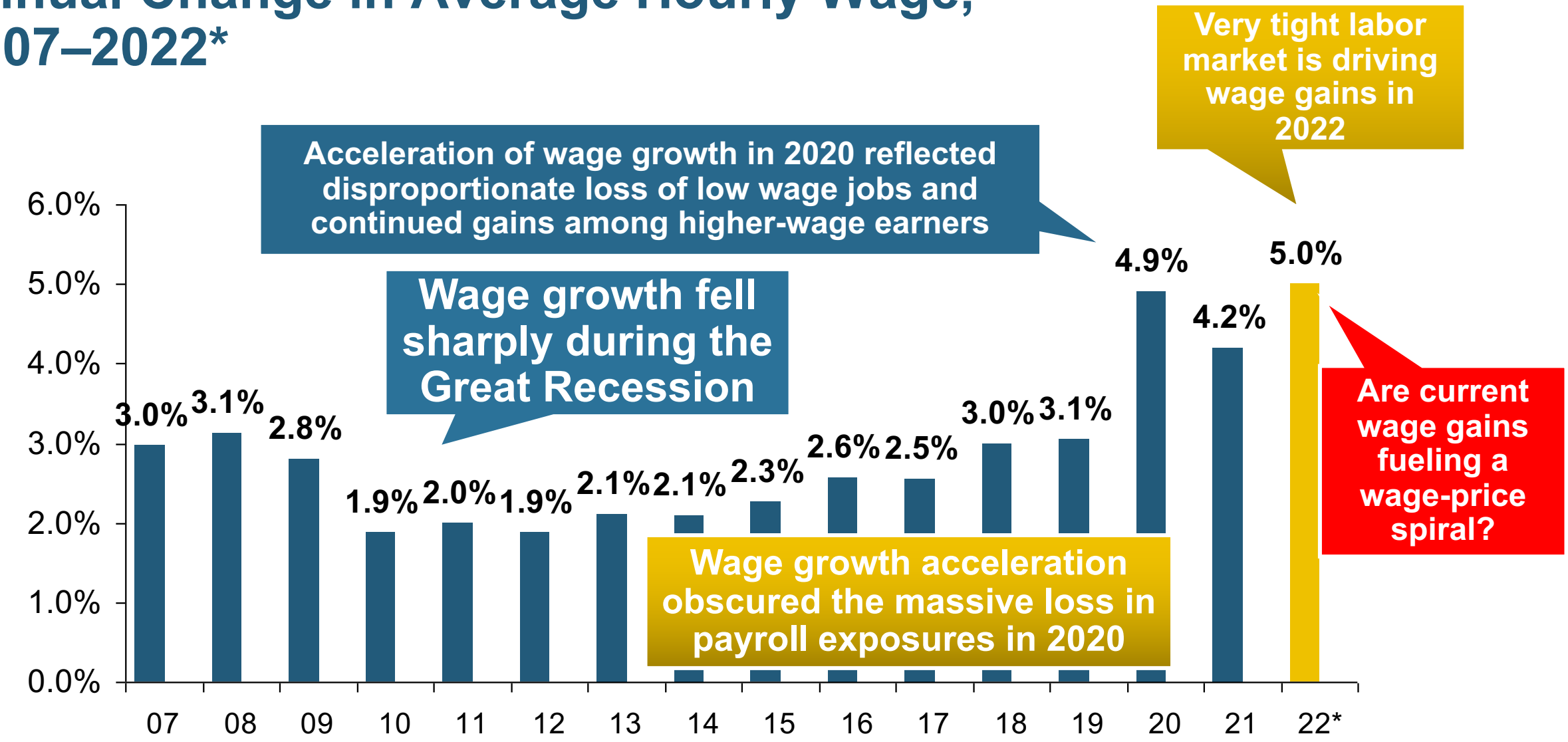
Small Business Optimism: Falling Sharply Despite Strong Demand



Small businesses today (Sept. 22) are about as pessimistic as they were during the depths of pandemic (lowest since 2013), despite strong sales. Inflation and labor issues are leading concerns.

Source: NFIB and tradingeconomics.com, accessed at: https://tradingeconomics.com/united-states/nfib-business-optimism-index.

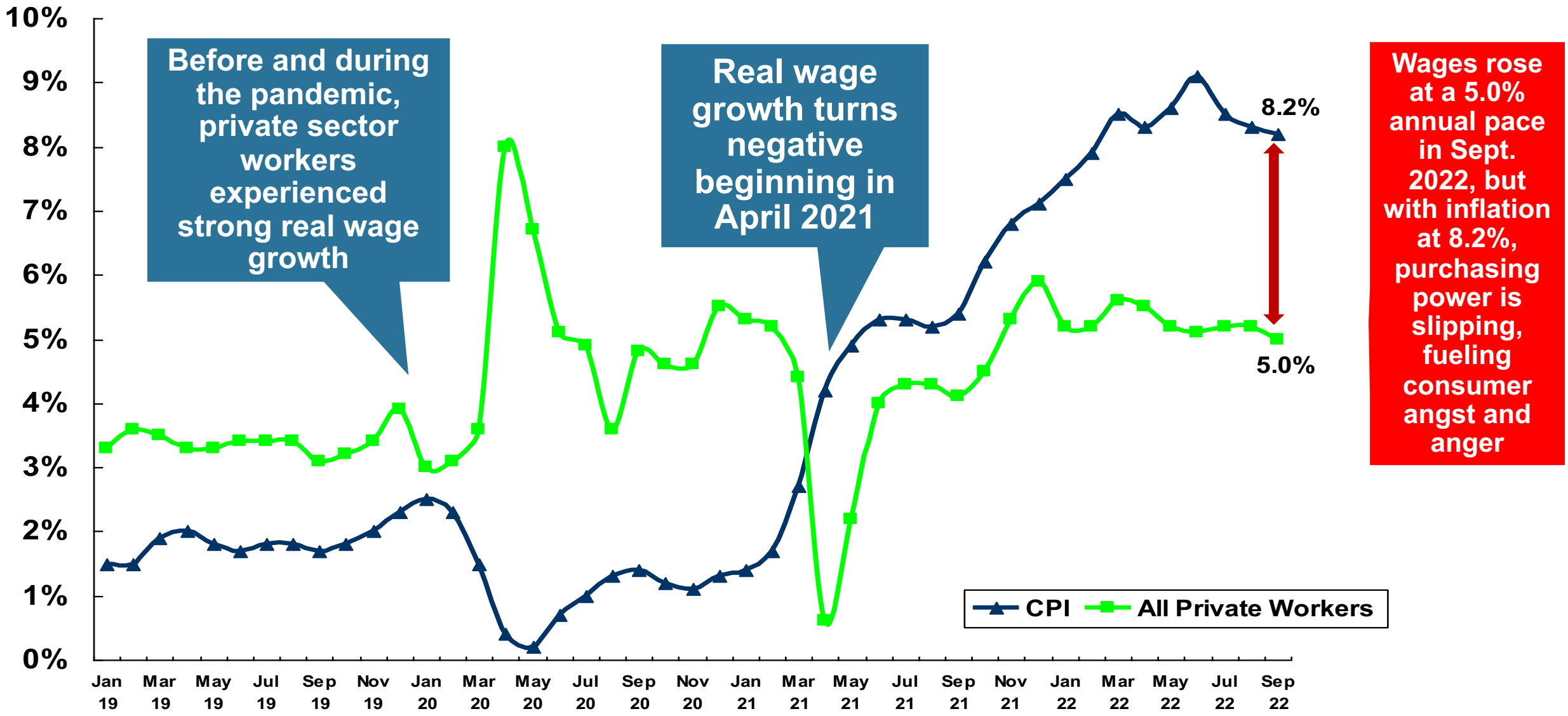
Annual Change in Average Hourly Wage, 2007–2022*



*2022 figure is year-over-year change from Sep. 2021 to Sep. 2022.

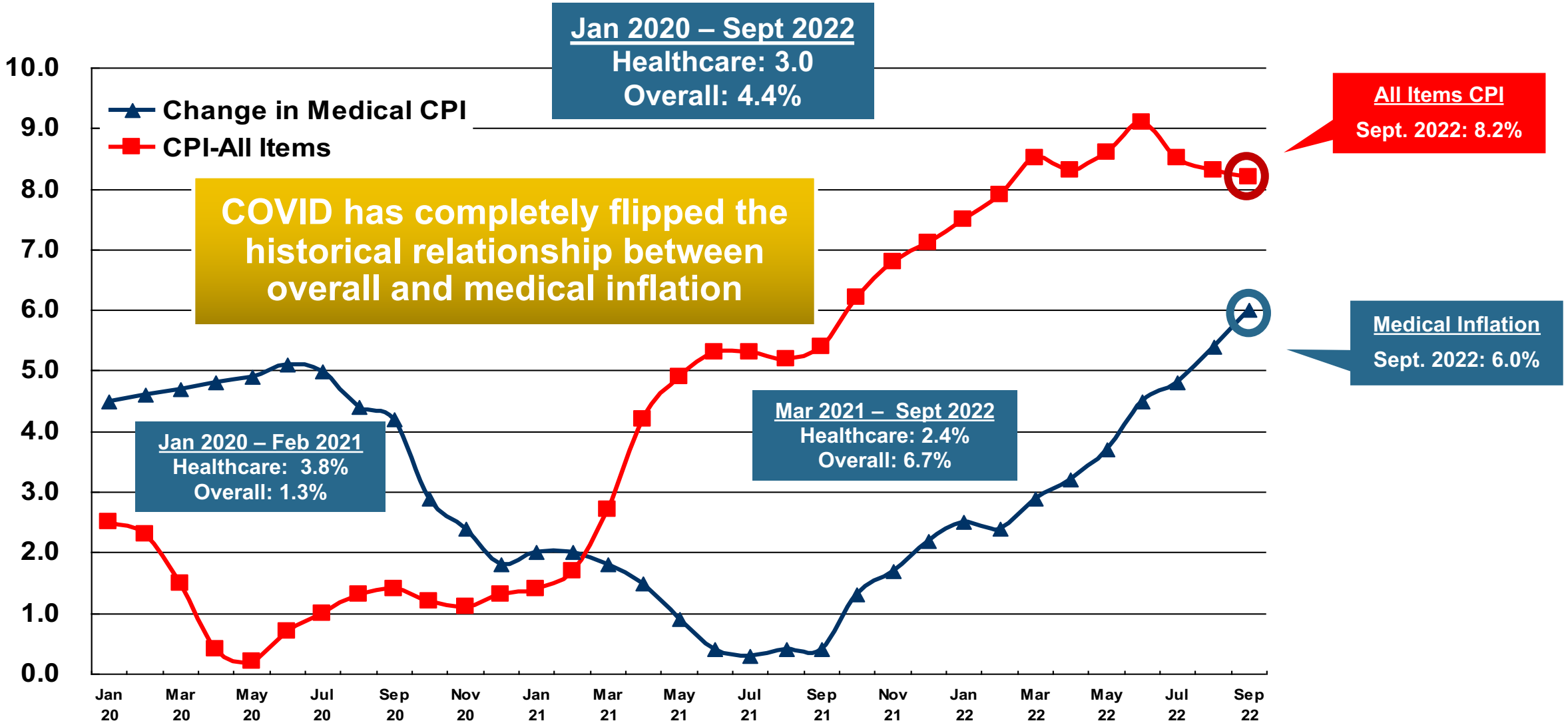
Sources: US Bureau of Labor Statistics at http://www.bls.gov/data/#employment; National Bureau of Economic Research (recession dates); Risk and Uncertainty Management Center, Univ. of South Carolina.

Inflation (CPI) vs. Hourly Earnings Growth: Jan. 2019 – Sept. 2022*



Sources: U.S Bureau of Labor Statistics; Risk and Uncertainty Management Center, University of South Carolina.

Medical Cost Inflation vs. Overall CPI During COVID, Jan. 2020 – Sept. 2022 *(Percent Change from Year Ago)*

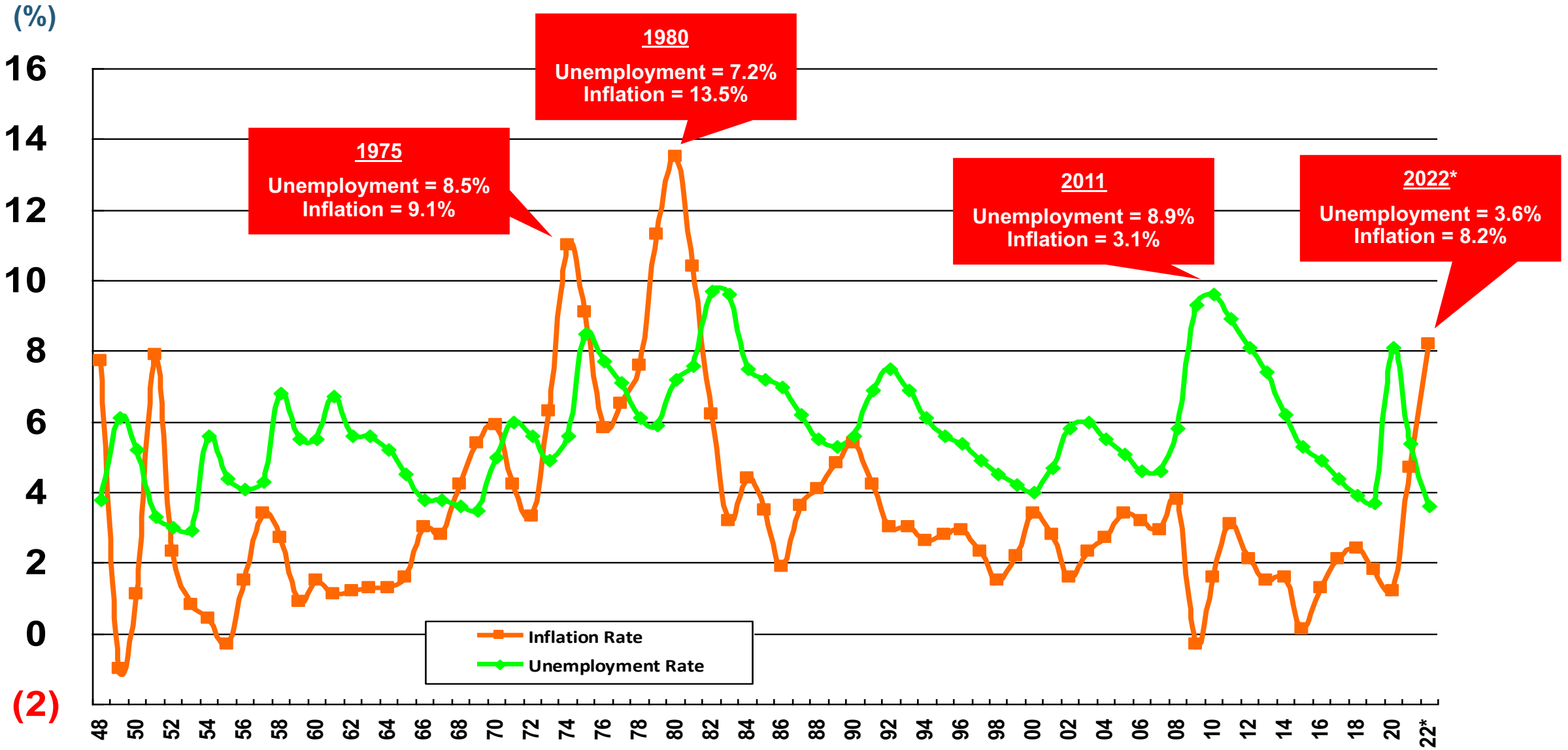


Sources: US Bureau of Labor Statistics; Risk and Uncertainty Management Center, University of South Carolina.

Are Things As Bad as Many Believe Them to Be?

A Quick Review of Economic History Is Helpful

Inflation and Unemployment Rate, 1948–2022F*



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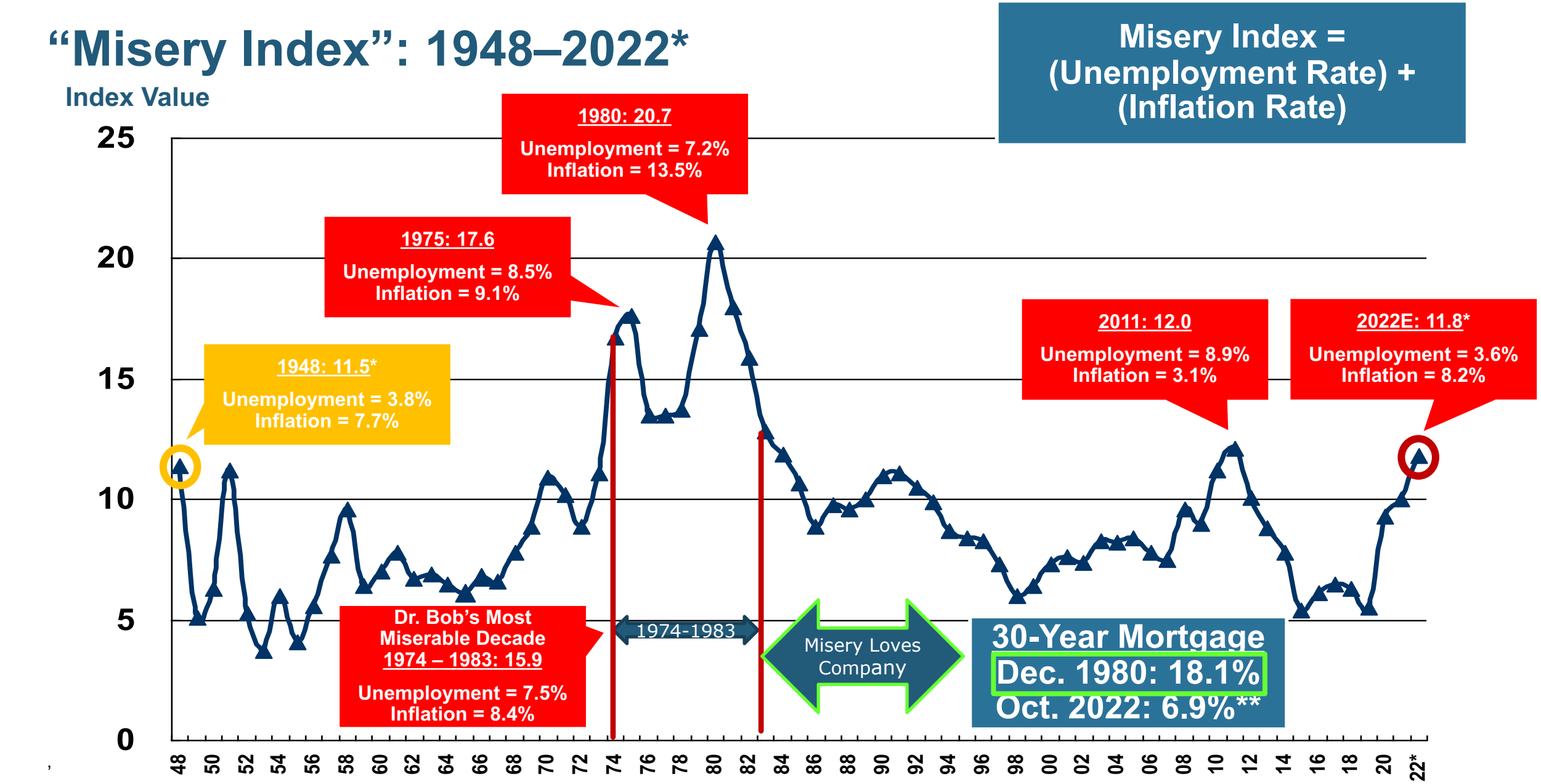
*2022 forecast based on Wells Fargo Securities forecasts (10/22).
Source: U.S. Bureau of Labor Statistics; Center for Risk and Uncertainty Management, University of South Carolina.

“Misery Index”: 1948–2022*



*Estimated based on Wells Fargo Securities forecasts (10/22).
**As of 10/20/22 based on Freddie Mac data.
Source: U.S. Bureau of Labor Statistics; Center for Risk and Uncertainty Management, University of South Carolina.

P/C Insurance Industry Financial Overview & Outlook:

Challenges Amid Rising Inflation and Higher Interest Rates

The Current Economic Environment Presents Many Challenges for P/C Insurers

Industry Remains Strong

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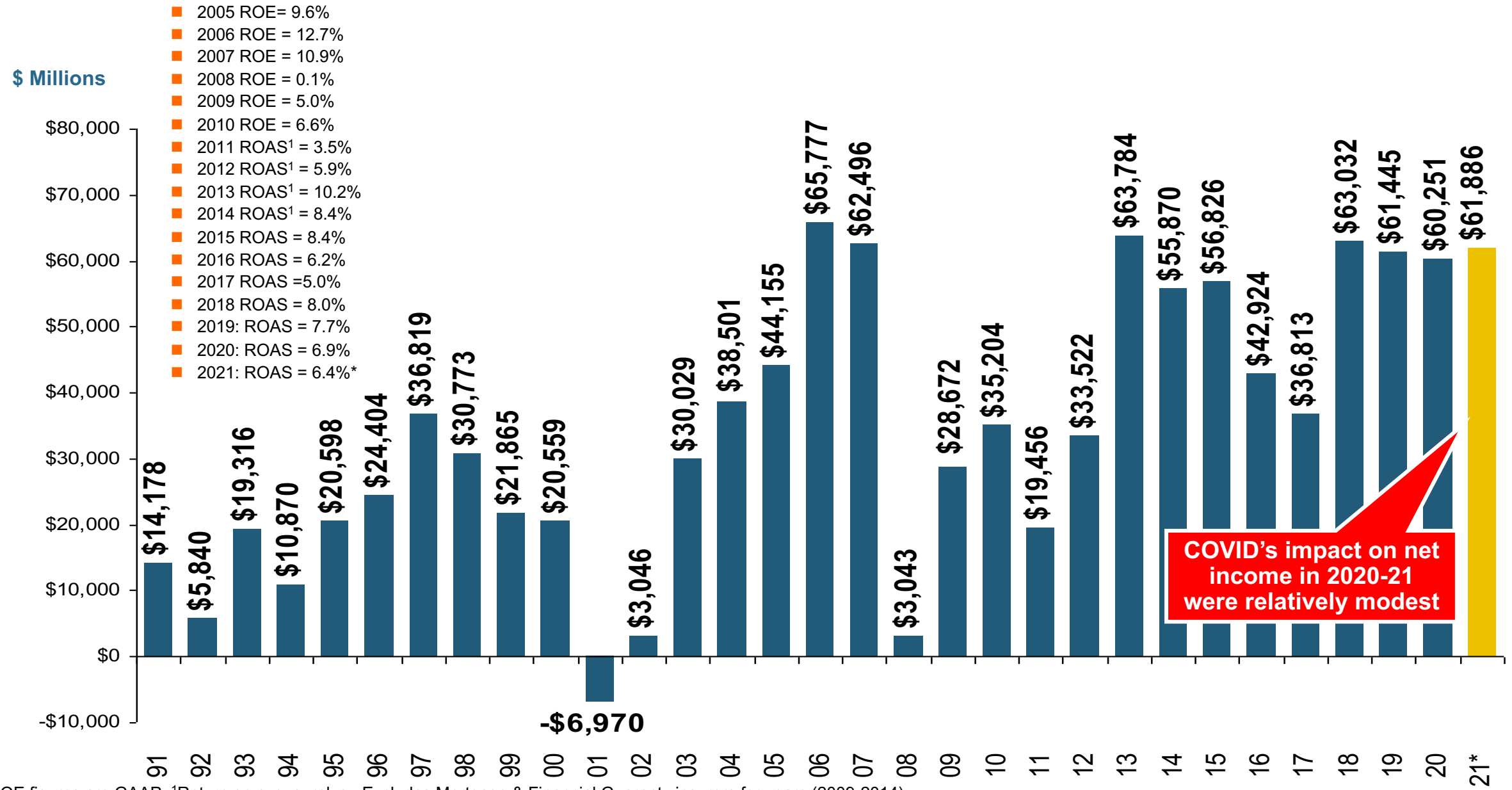
Profits and Profitability

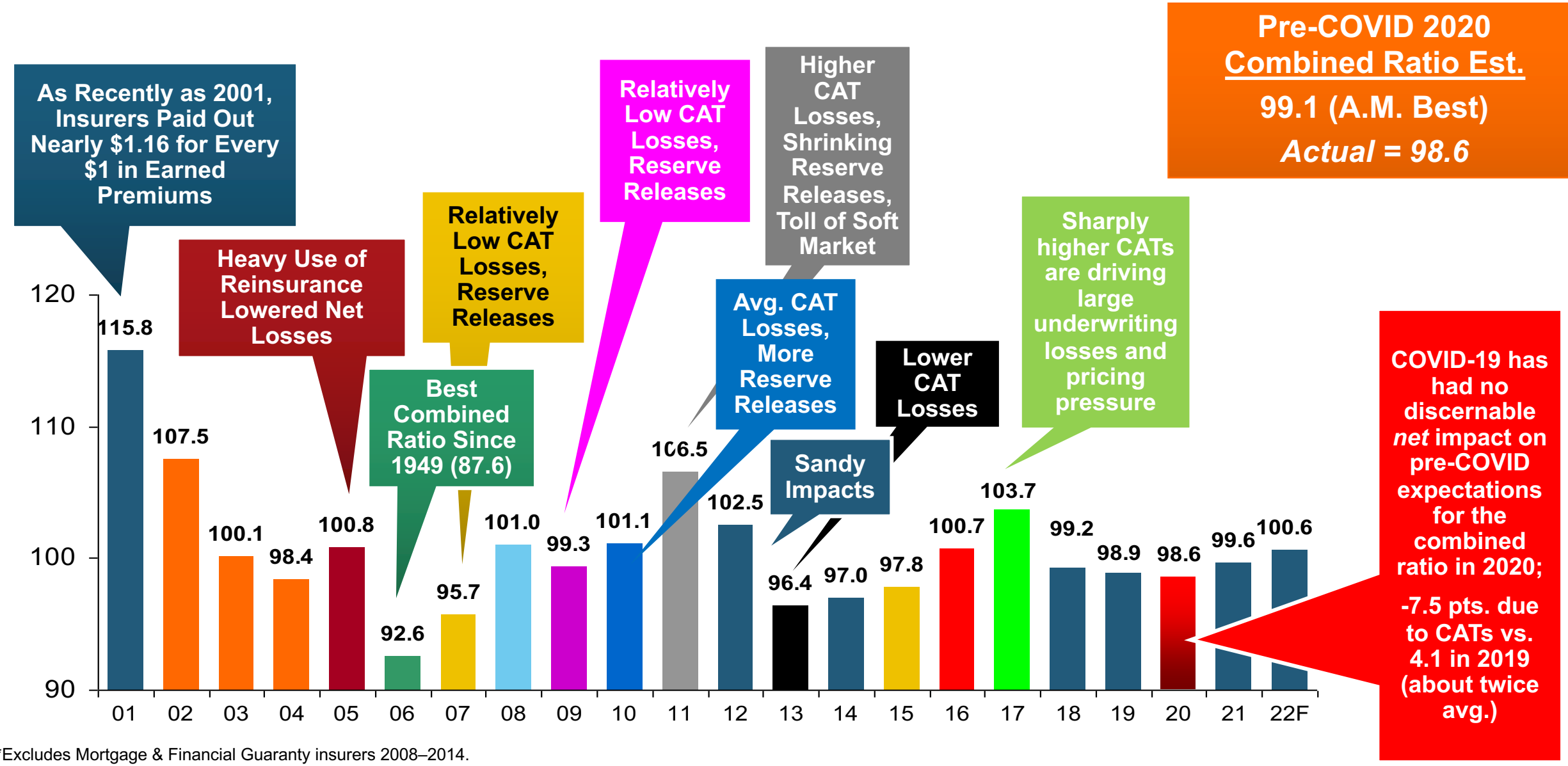
P/C Profitability Is Extremely Volatile

P/C Industry Net Income After Taxes, 1991–2021*



*ROE figures are GAAP; [1]Return on avg. surplus. Excludes Mortgage & Financial Guaranty insurers for years (2009-2014).
Sources: A.M. Best, ISO, APCIA.

P/C Insurance Industry Combined Ratio, 2001–2022F**



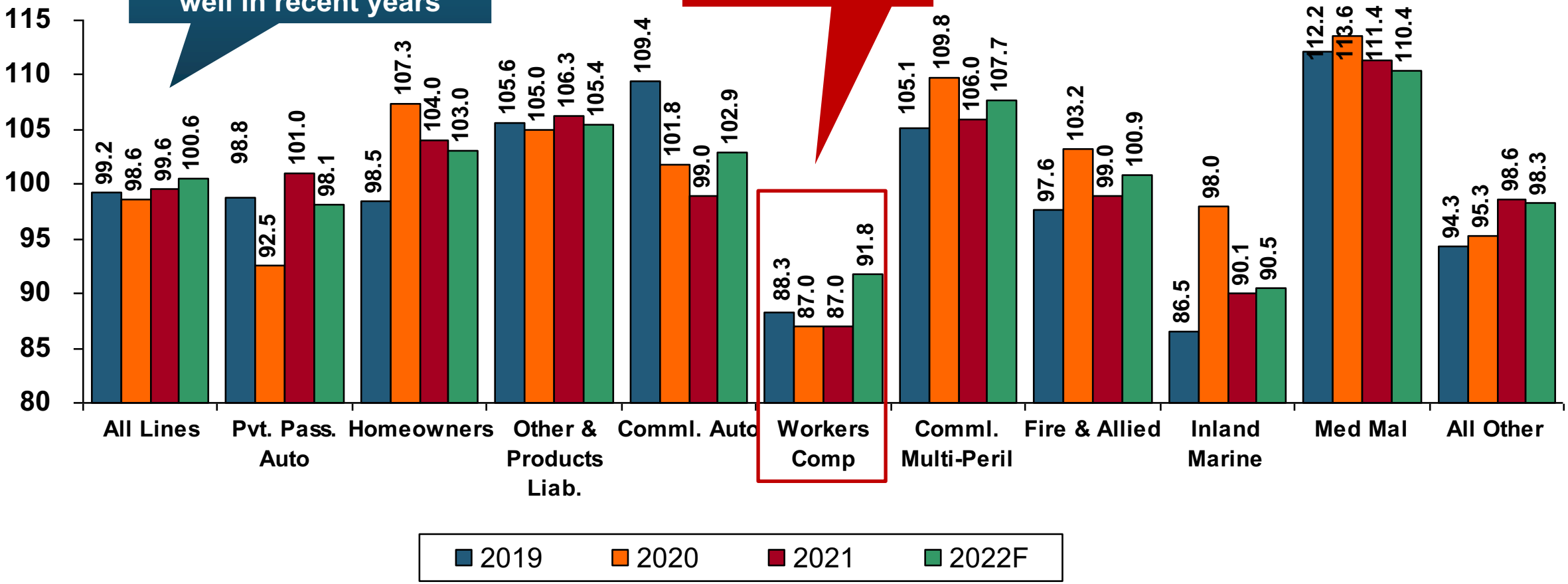
*Excludes Mortgage & Financial Guaranty insurers 2008–2014.
**2022 figure is forecast..
Sources: A.M. Best, ISO (2014-2022F).

Combined Ratios by Line: 2019 – 2022F

Despite COVID and high CAT losses, the overall P/C industry has performed reasonably well in recent years

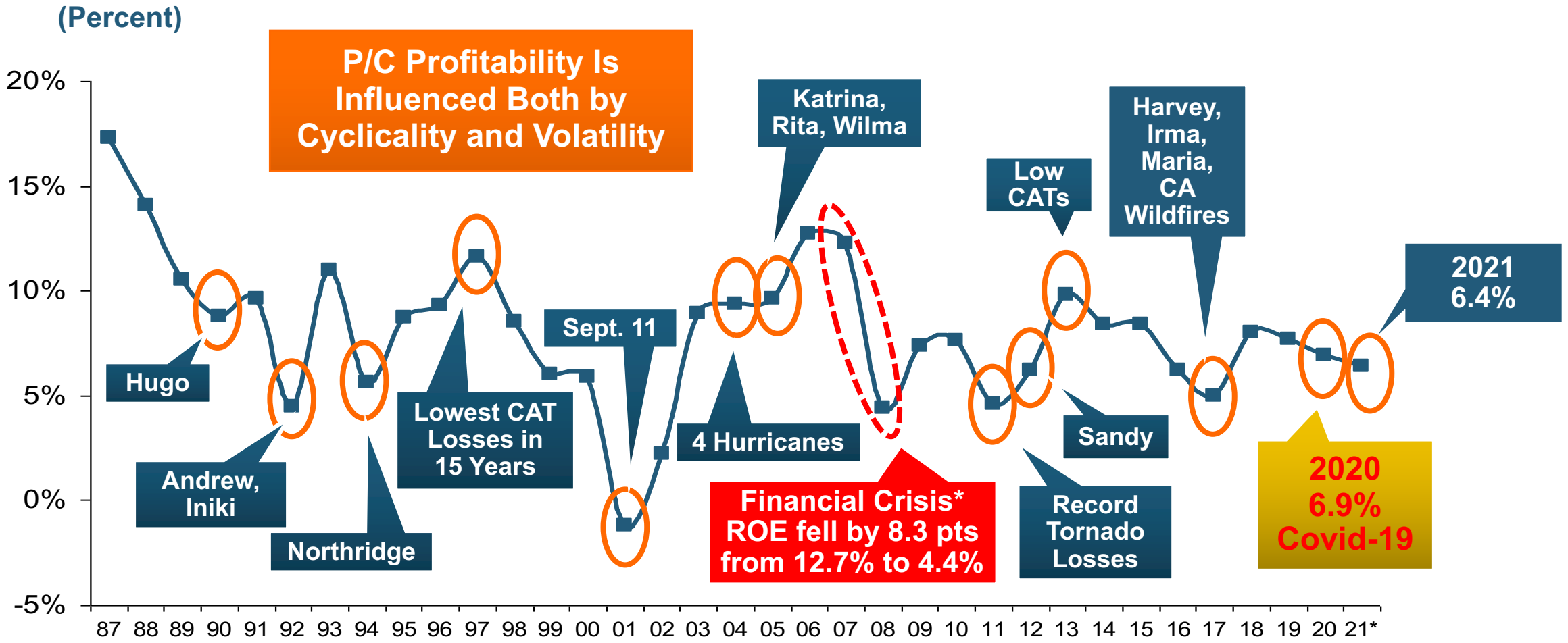
WC is the best performing line of insurance

Accelerating inflation could push the combined ratio upward in 2022 beyond the estimates shown here



Source: A.M. Best *Review & Preview* (2022 forecasts as of Feb. 2022); Univ. of South Carolina, Risk and Uncertainty Management Center.

ROE: Property/Casualty Insurance by Major Event, 1987–2021*



*Excludes Mortgage & Financial Guarantee in 2008 – 2014.
Sources: ISO, *Fortune,* APCIA; USC RUM Center.

ROE: Property/Casualty Insurance, 1973 - 1989 vs. Recent

Although underwriting experience was far worse in the mid/late-1970s and most of the 1980s than in recent years, industry profitability was actually materially higher. Though after adjusting for inflation the difference is small.

Avg. ROE

1973 – 1979: 11.5%

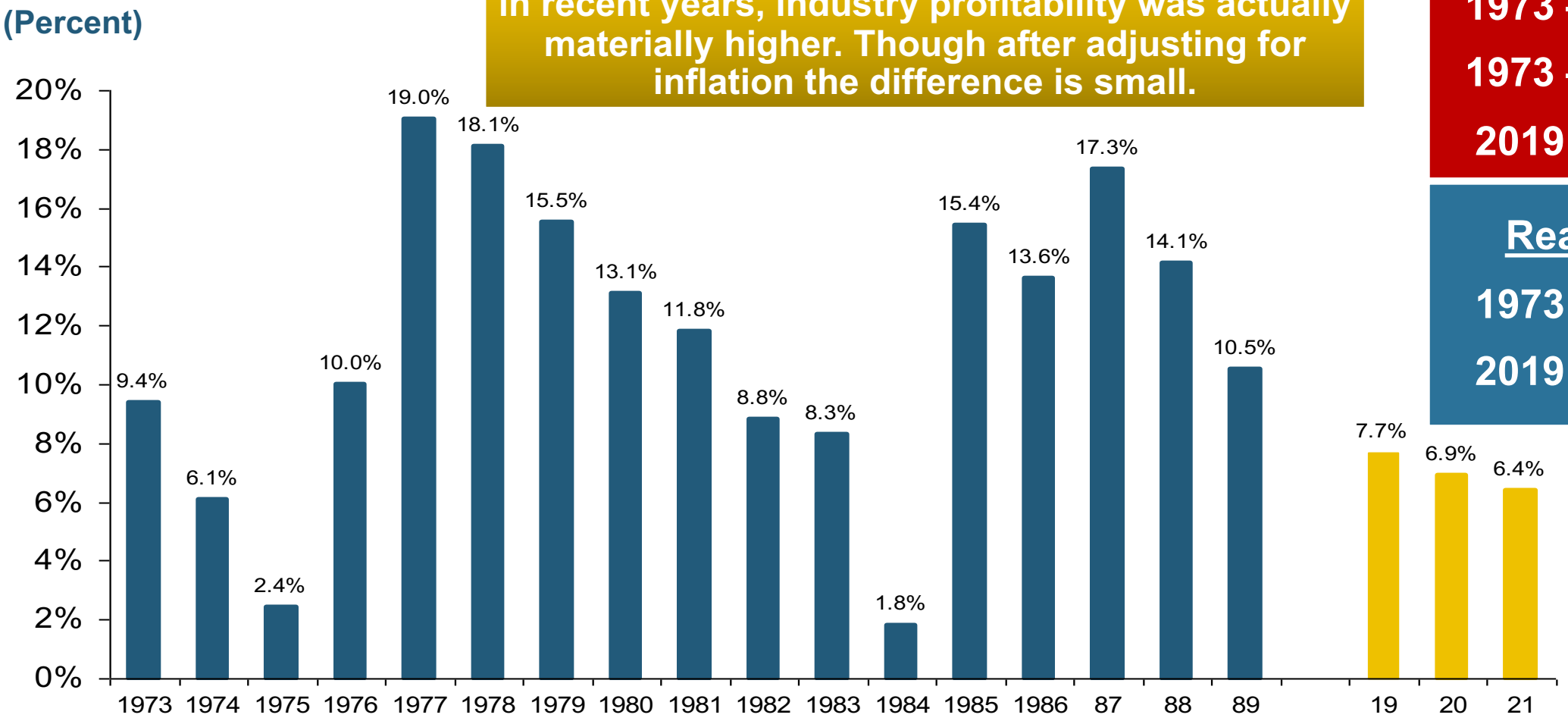
1973 – 1989: 11.5%

2019 – 2021: 7.0%

Real Avg. ROE

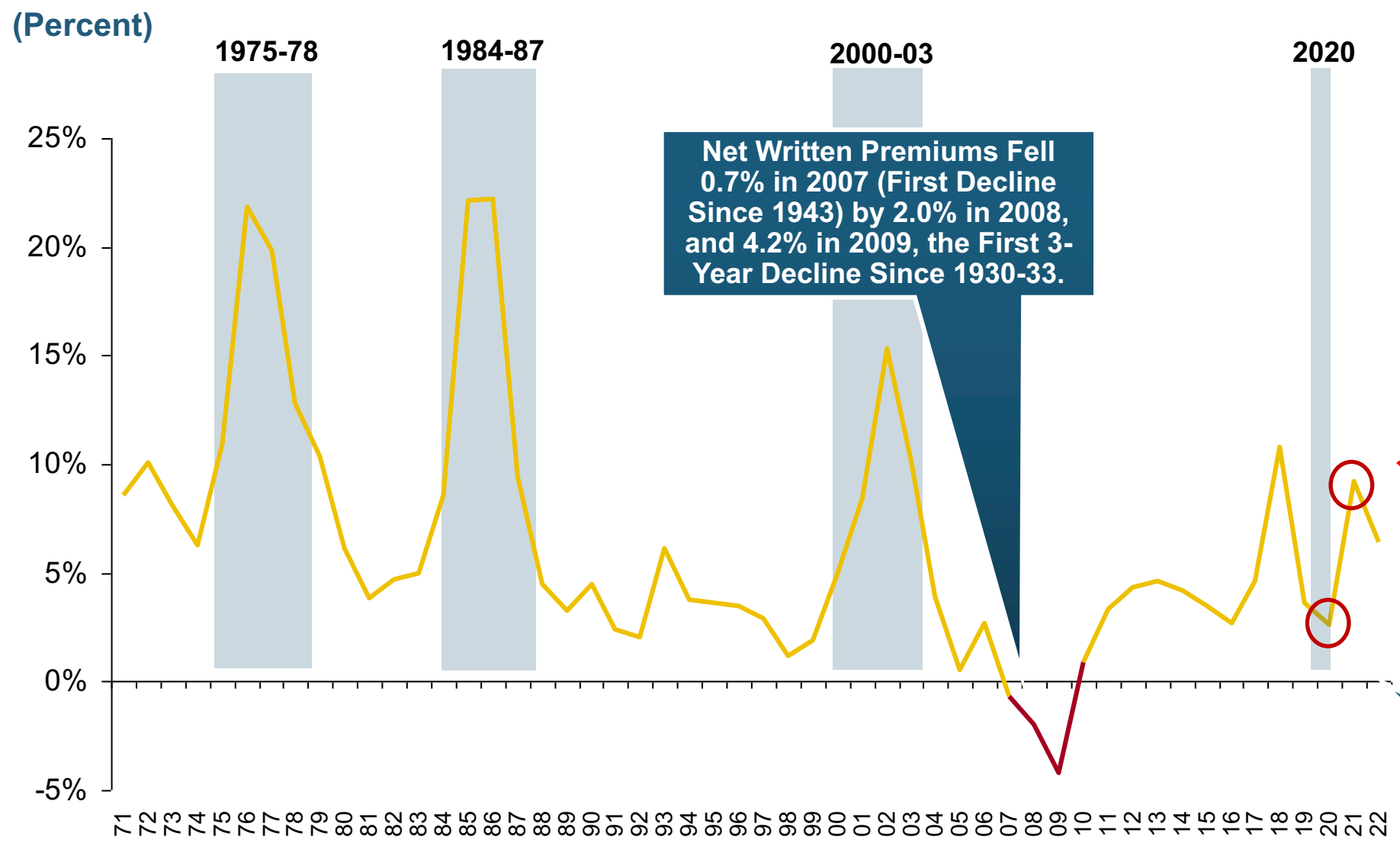
1973 – 1989: 4.8%

2019 – 2021: 4.5%



Sources: ISO, APCIA; USC RUM Center.

Net Written Premium Growth (All P/C Lines): Annual Change, 1971–2022F



Net Written Premiums Fell 0.7% in 2007 (First Decline Since 1943) by 2.0% in 2008, and 4.2% in 2009, the First 3-Year Decline Since 1930-33.

2022F: 6.4%
2021: 9.2%
2020: 2.6%
2019: 3.6%
2018: 10.8%
2017: 4.6%
2016: 2.7%
2015: 3.5%

Sharp recovery in NWP in 2021 (9.2%). Strong economic recovery and favorable rate environment both powered growth.

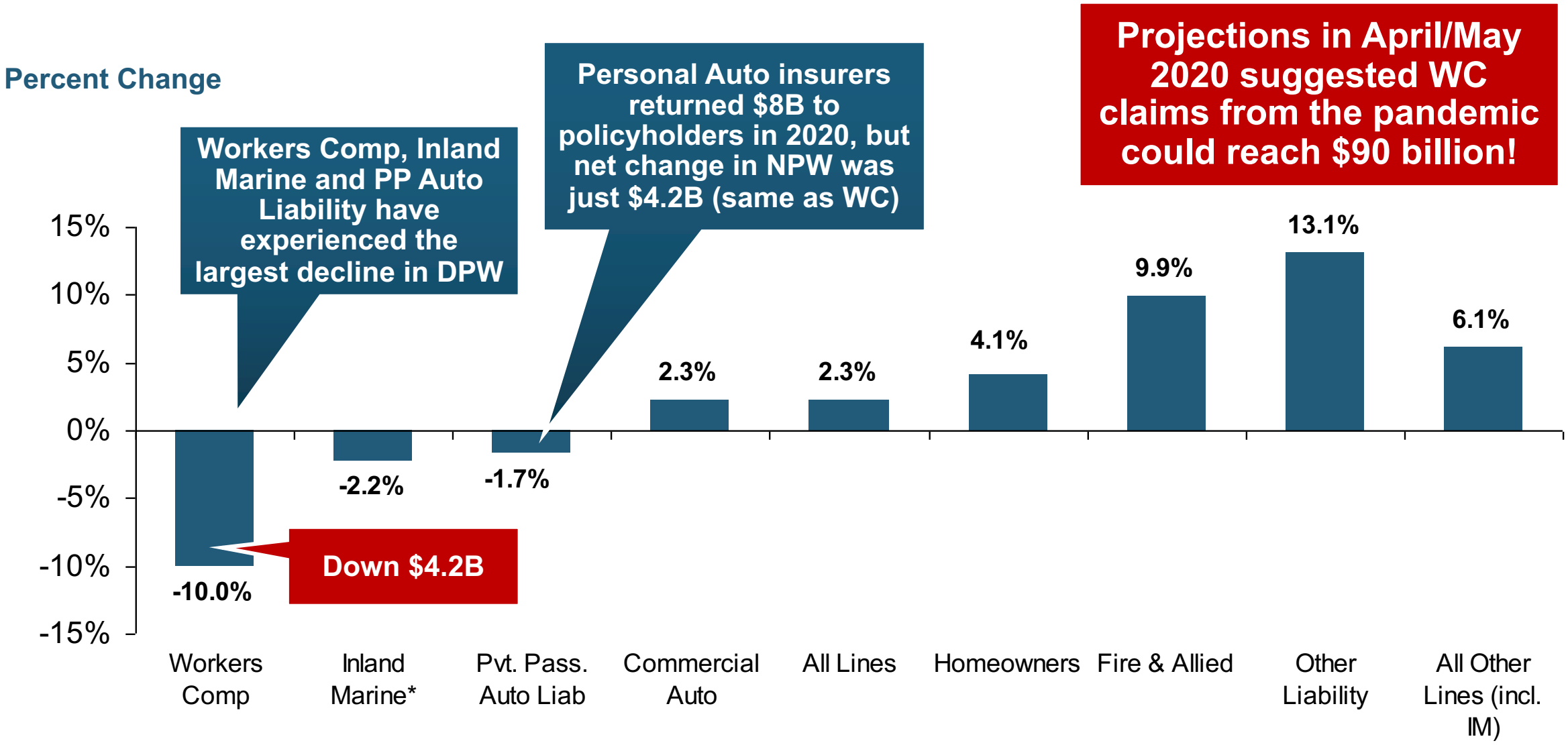
2020 Outlook

Pre-COVID: 3.8%

Actual: 2.6%**

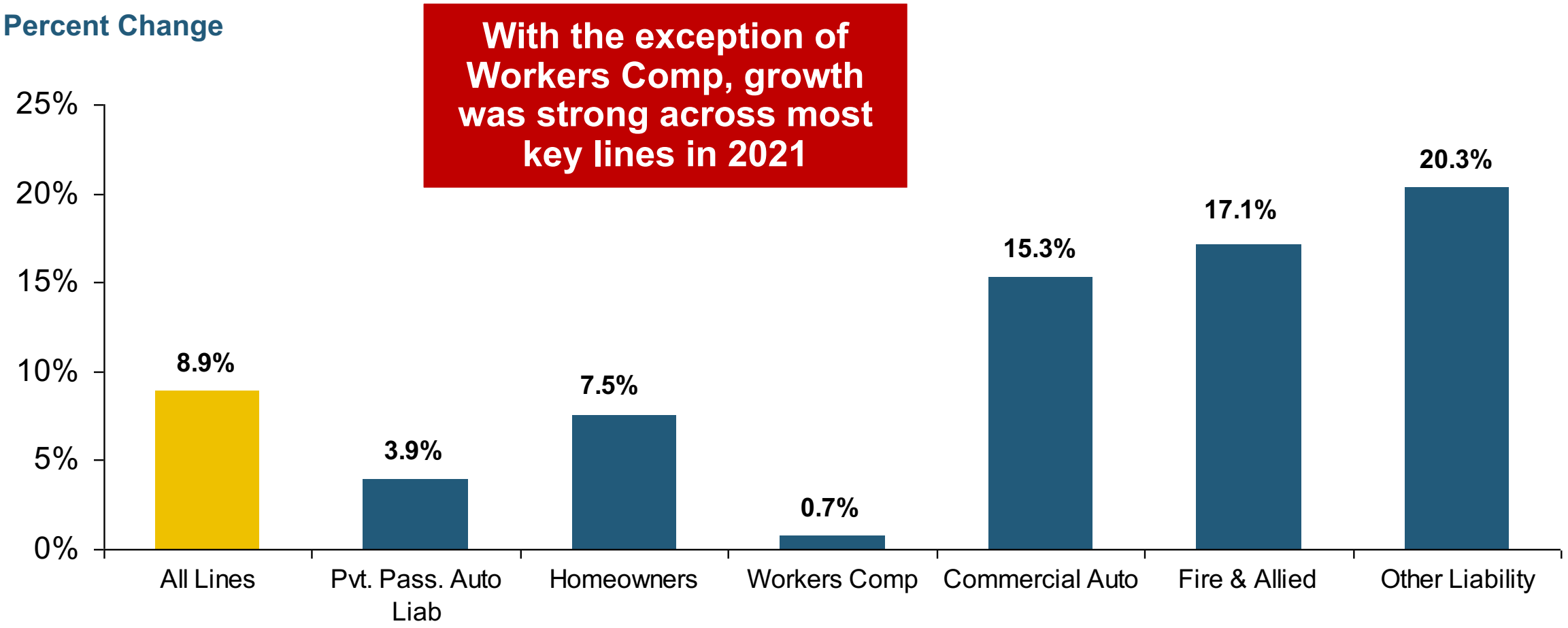
NOTE: Shaded areas denote "hard market" periods.
Sources: A.M. Best (1971-2013, 2022F), ISO (2014-21); Risk & Uncertainty Management Center, Univ. of South Carolina

COVID's Impact on NPW Growth for Largest P/C Lines: 2020



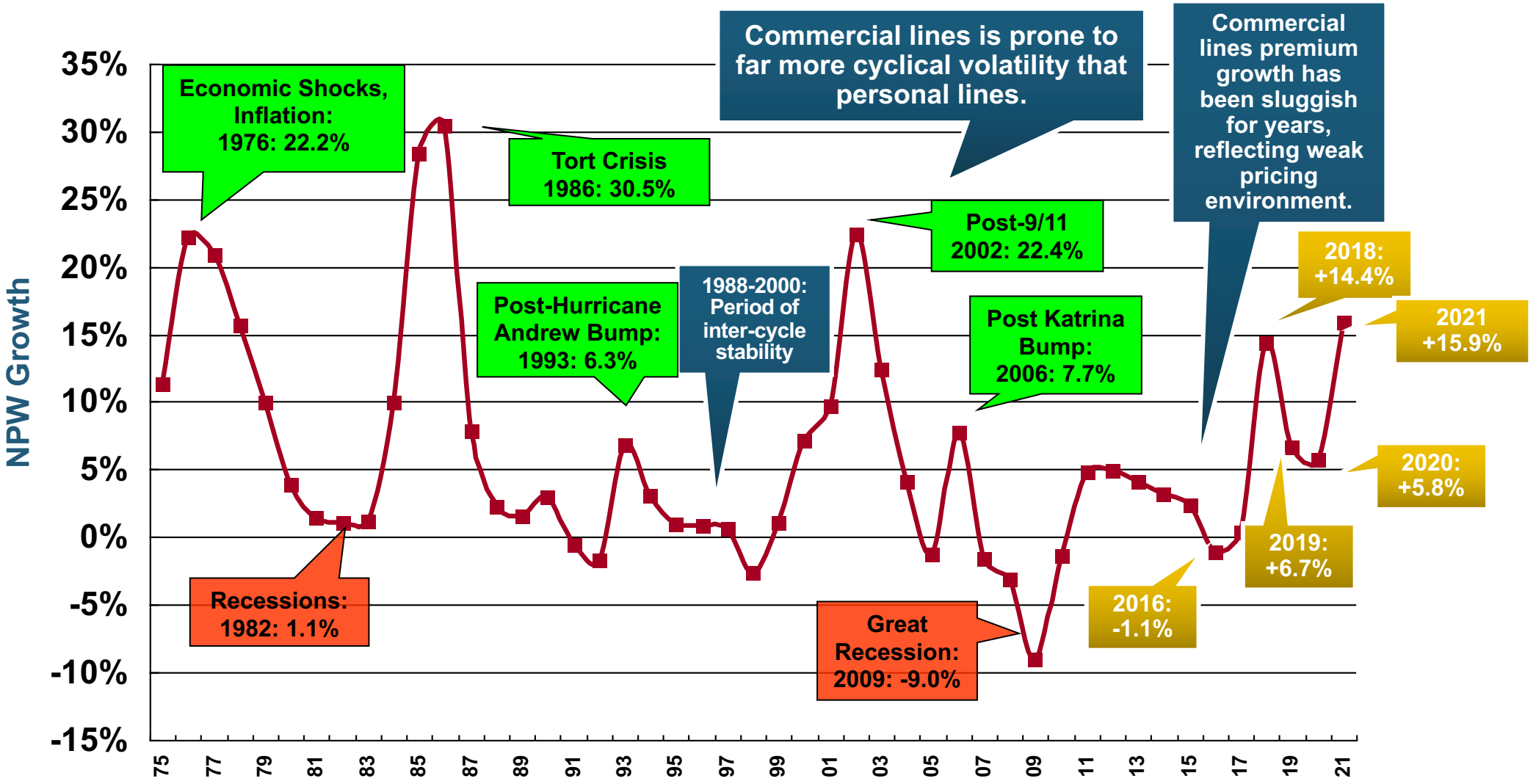
*Inland Marine figure is DPW though first 9-months of 2020 (A.M. Best).
Sources: NAIC Annual Statement data, NCCI; Risk and Uncertainty Management Center, Univ. of South Carolina.

Change in NPW for Key Lines: 2021



Sources: NAIC Annual Statement data, NCCI; Risk and Uncertainty Management Center, Univ. of South Carolina.

Commercial Lines NPW Premium Growth: 1975 – 2021



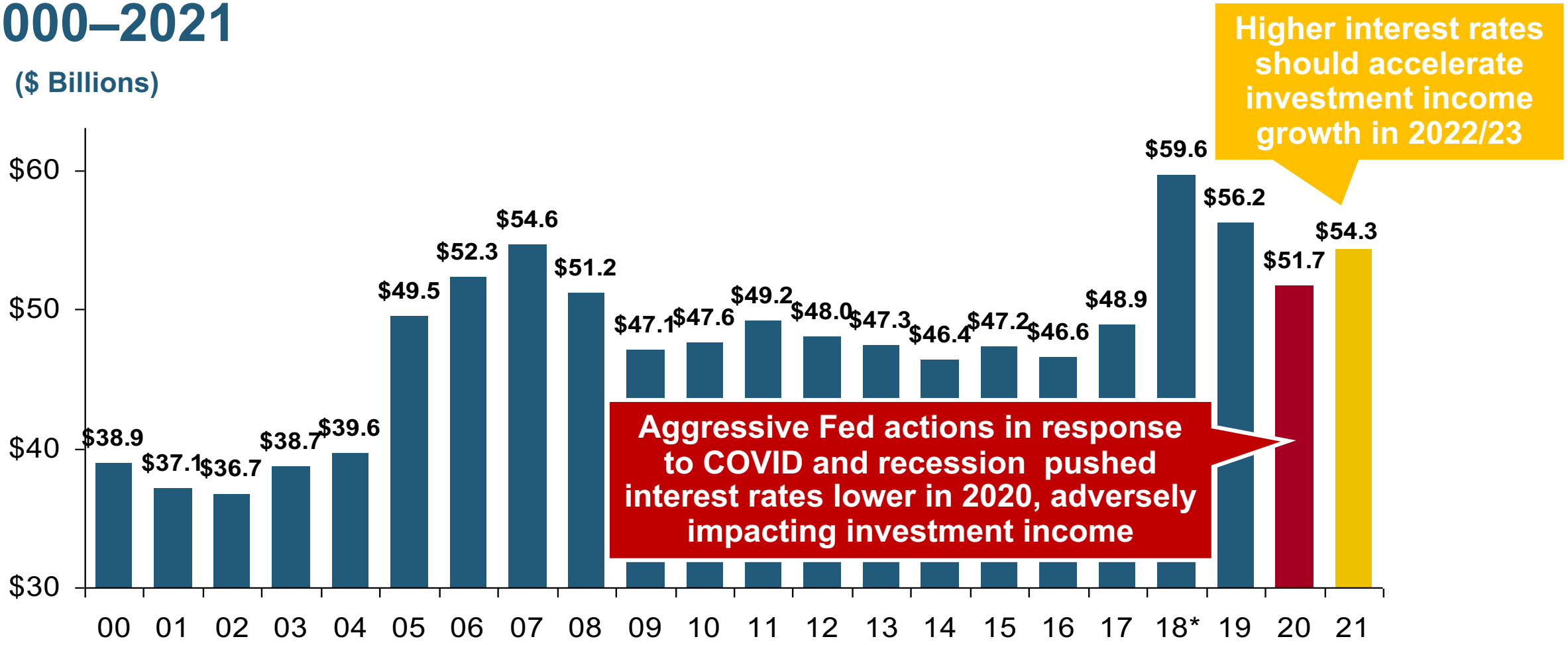
Note: Data include state funds beginning in 1998.
Source: A.M. Best; ISO; APCIA; Univ. of South Carolina Center for Risk and Uncertainty Management Center.

Investments

Investment Performance Is a Key Driver of Insurer Profitability, Especially in Long-Tailed Lines Such as Workers Comp

Dove to Hawk: How Will an Aggressive Fed Impact Insurer Portfolios?

Property/Casualty Insurance Industry Investment Income: 2000–2021

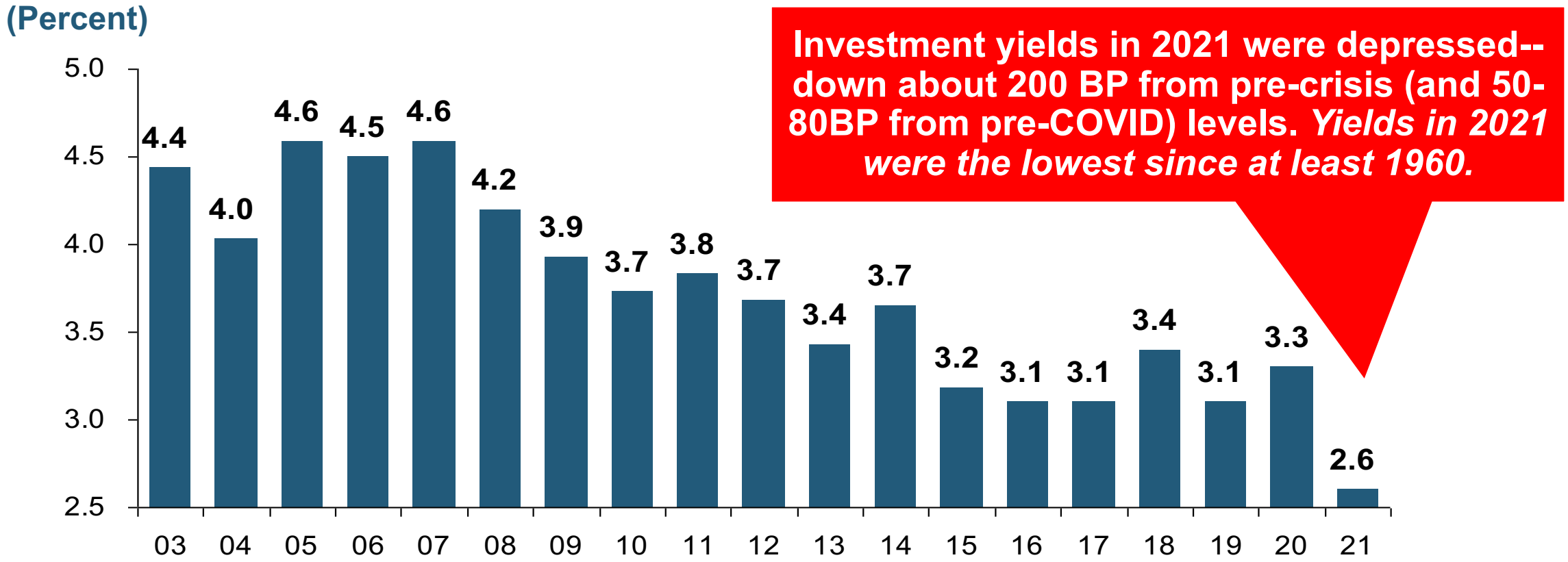


Due to persistently low interest rates, investment income remained below pre-crisis levels for a decade. Lower interest rates during COVID drove investment income down once again. Fed rate hikes in 2022 could reverse this trend.

*2021 figure is actual as of 12/31/21. 2018-19 figures are distorted by provisions of the TCJA of 2017. Increase reflects such items as dividends from foreign subsidiaries.

[1] Investment gains consist primarily of interest and stock dividends. Sources: ISO; University of South Carolina, Center for Risk and Uncertainty Management.

Net Investment Yield on Property/Casualty Insurance Invested Assets, 2007–2021



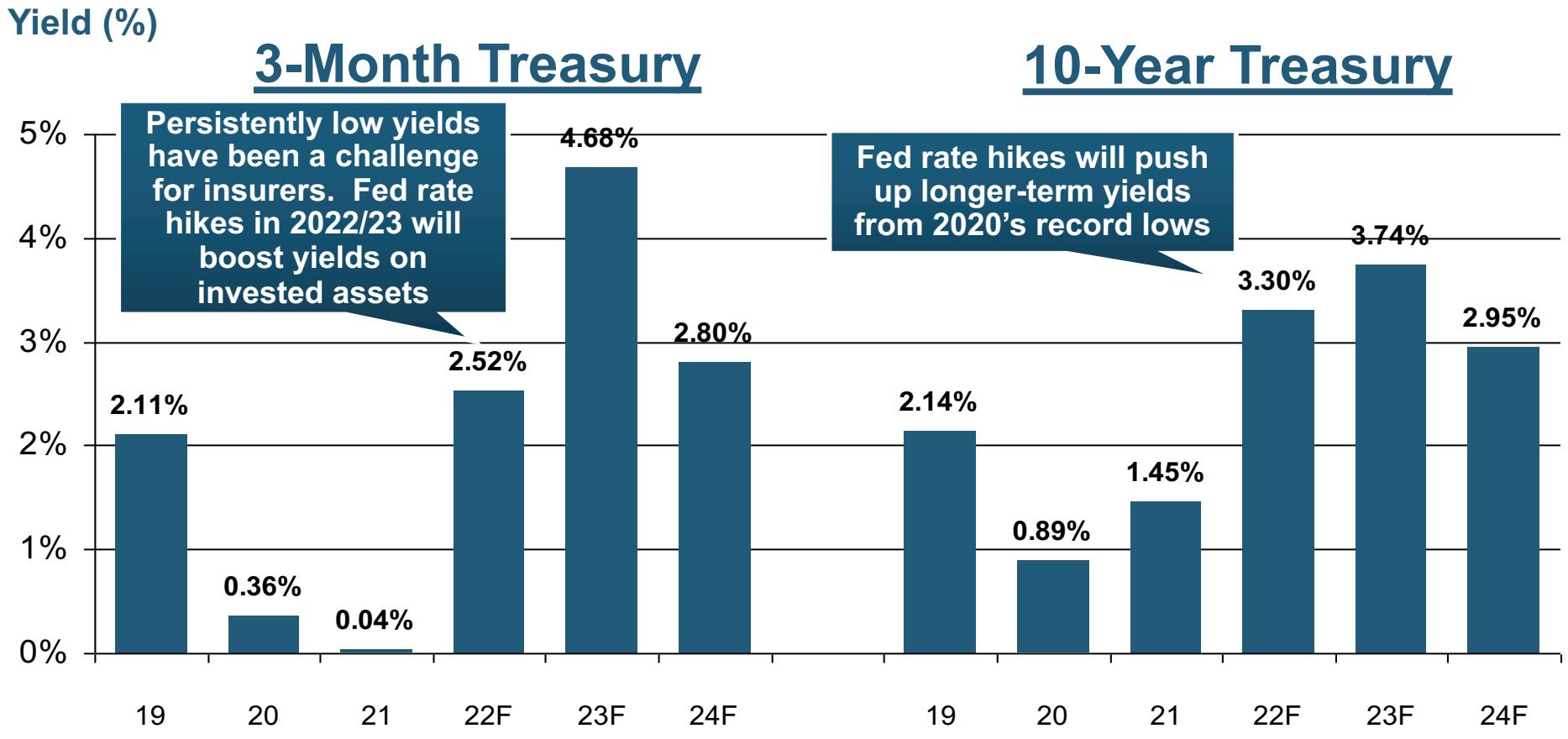
Investment yields in 2021 were depressed--down about 200 BP from pre-crisis (and 50-80BP from pre-COVID) levels. *Yields in 2021 were the lowest since at least 1960.*

The yield on invested assets remains depressed relative to pre-financial crisis and pre-COVID yields. Fed rate hikes in 2022 should begin to slowly lift yields.

Average: 1960-2019 = 4.9%
Low: 2.8% (1961)
High: 8.2% (1984/85)

Sources: NAIC data, sourced from S&P Global Market Intelligence; 2017-19 figures are from ISO. 2020-21 data from the APCIA. Risk and Uncertainty Management Center, Univ. of South Carolina.

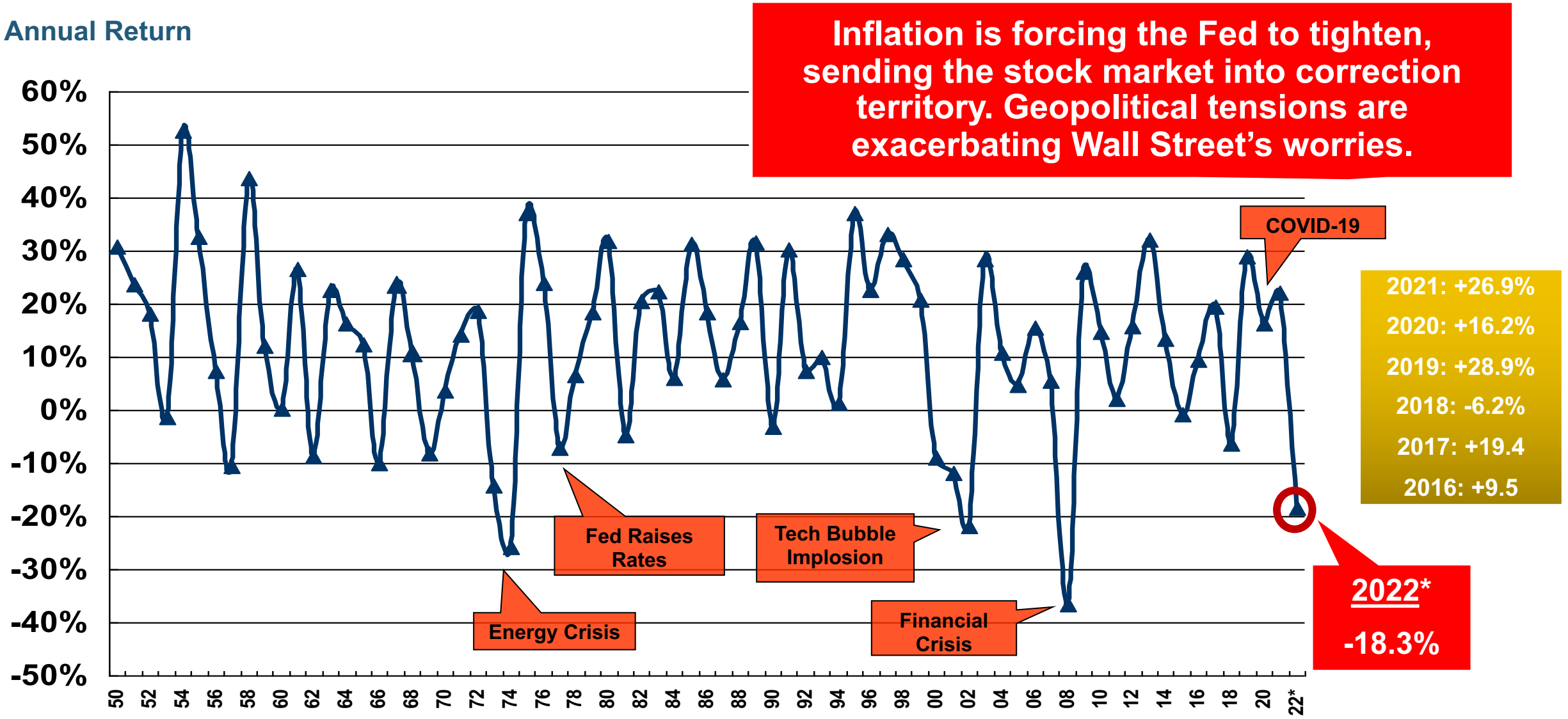
Interest Rate Forecasts: 2019 – 2024F



Rising interest rates will provide a modest tailwind for insurers as the Fed raises interest rates. This will be especially beneficial to longer-tailed lines such as Workers Comp.

Sources: Wells Fargo Securities (10/22); Risk and Uncertainty Management Center, University of South Carolina.

S&P 500 Index Returns, 1950–2022*



*Through Oct. 28, 2022.
Source: NYU Stern School of Business: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html;
Center for Risk and Uncertainty Management, University of South Carolina.

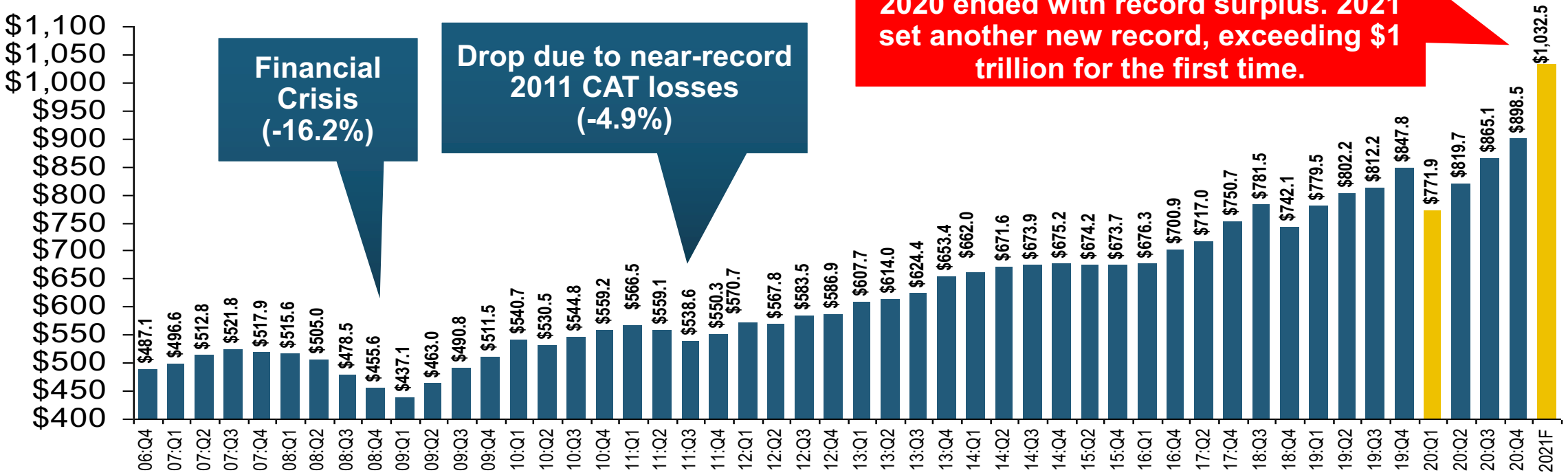
Capital and Capacity

P/C Insurance: Over or Under Capitalized?

Is the Industry Creating Economic Value?

Policyholder Surplus (Capacity), 2006:Q4 – 2021*

The P/C insurance industry entered the COVID-19 pandemic from a position of strength and was able to withstand the 9.0% surplus decline in Q1 2020 (far less than during the Financial Crisis). 2020 ended with record surplus. 2021 set another new record, exceeding $1 trillion for the first time.



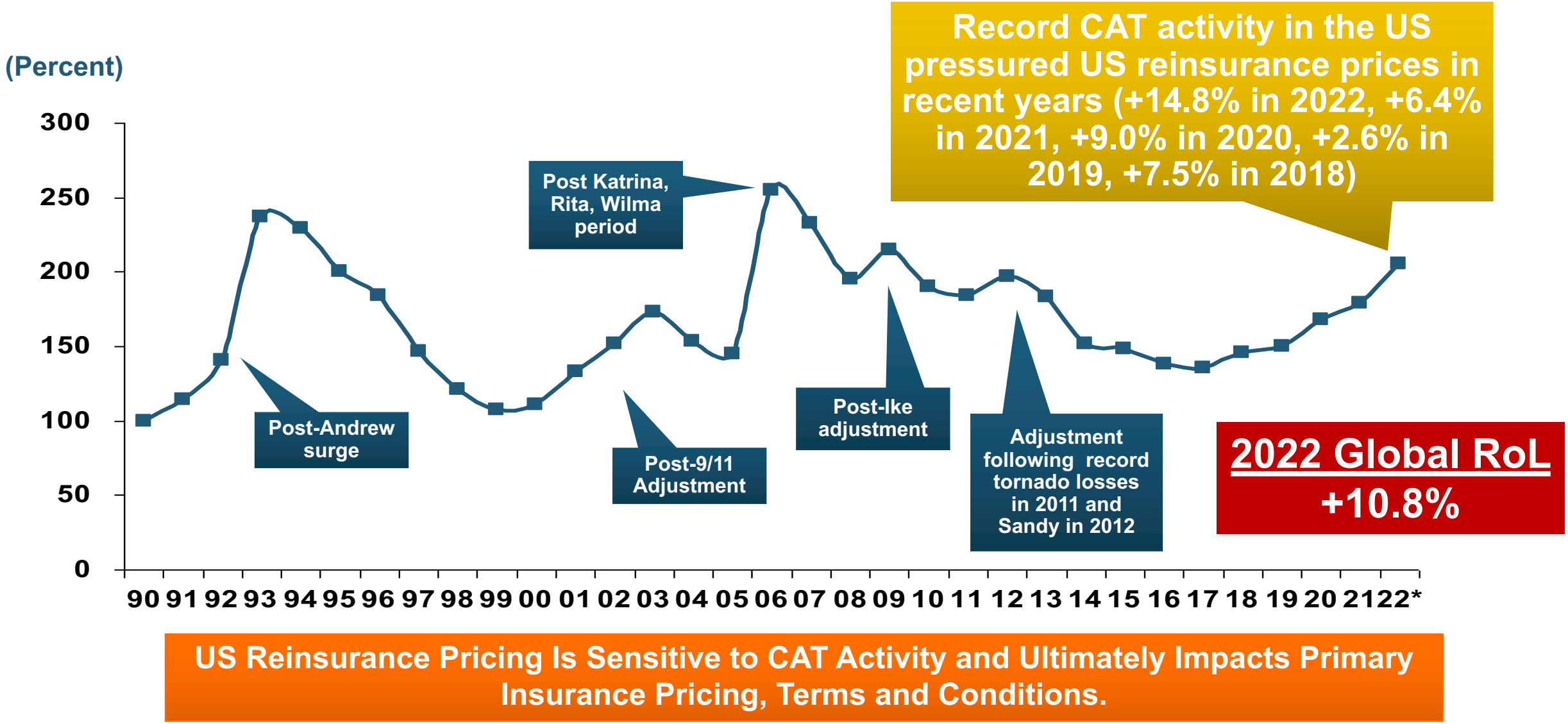
2010: Q1 data includes $22.5B of paid-in capital from a holding company parent for one insurer's investment in a non-insurance business.

Policyholder Surplus is the industry's financial cushion against large insured events, periods of economic stress and financial market volatility. It is also a source of capital to underwrite new risks.

*2021 figure is actual through Q4.

Sources: ISO, A.M .Best; Risk and Uncertainty Management Center, University of South Carolina.

US Property Catastrophe Rate-on-Line Index: 1990 – 2022*



US Reinsurance Pricing Is Sensitive to CAT Activity and Ultimately Impacts Primary Insurance Pricing, Terms and Conditions.

*As of January 1 each year.

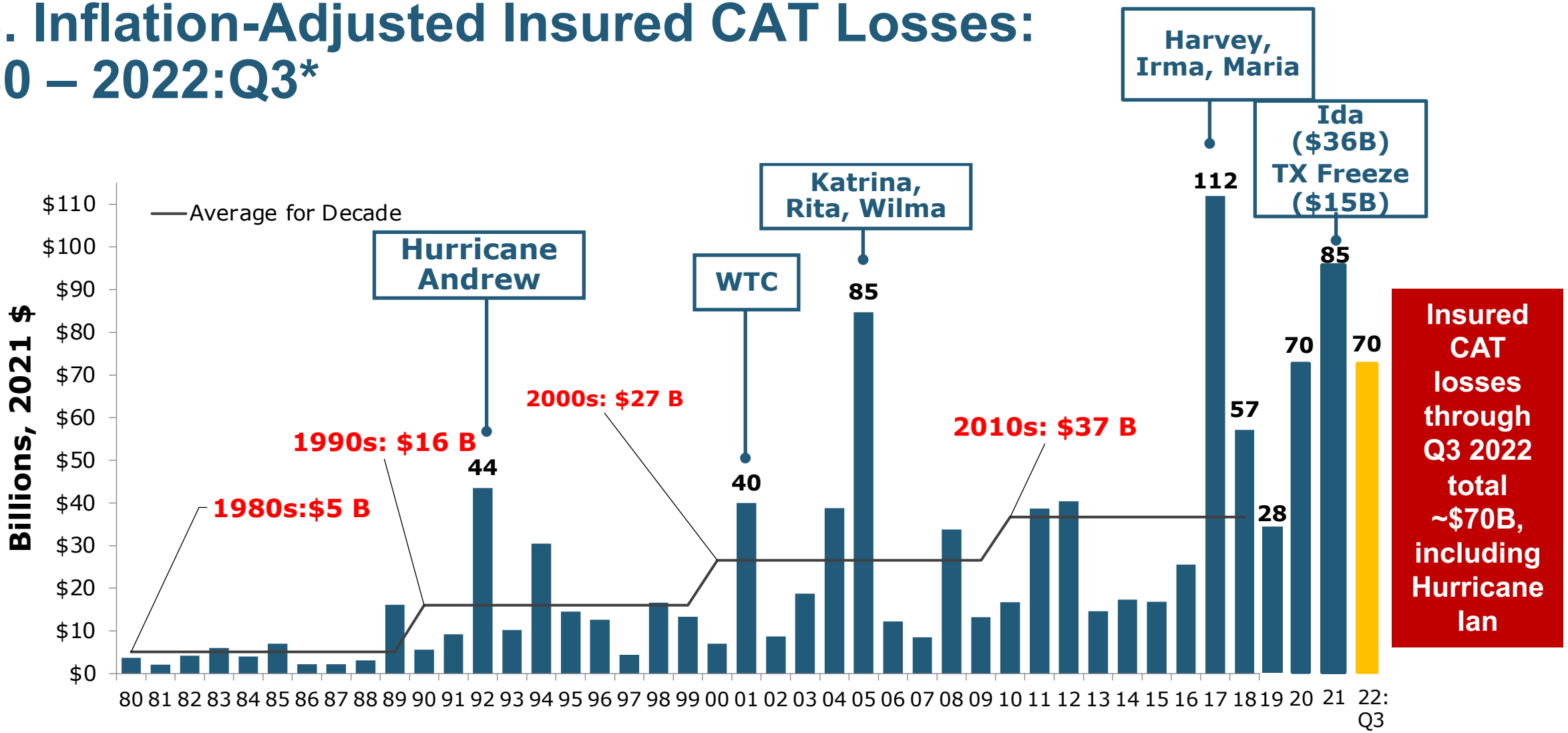
Source: Guy Carpenter; Artemis.bm accessed at: http://www.artemis.bm/us-property-cat-rate-on-line-index

Catastrophe Loss Trends

The Rise in CAT Losses Shows No Signs of Easing

The 2020s Are Off to an Ominous Beginning

U.S. Inflation-Adjusted Insured CAT Losses: 1980 – 2022:Q3*



Insured CAT losses through Q3 2022 total ~$70B, including Hurricane Ian

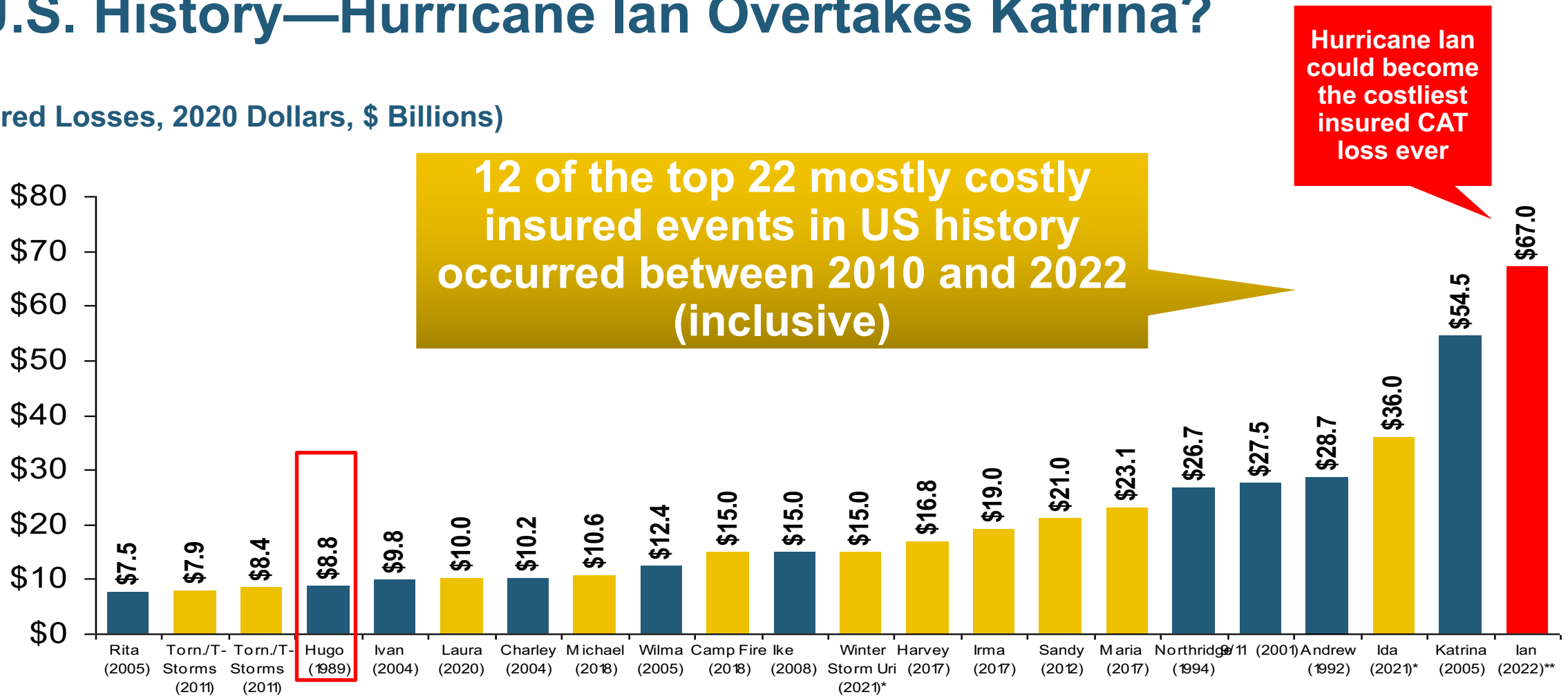
Average Insured Loss per Year*
1980-2021: $23.8 Billion
2012-2021: $44.1 Billion

The 2020s are off to an ominous start with $76B in average annual insured losses (2020-21)

*Stated in 2021 dollars except 2022:Q3 (2022 dollars).
Sources: Property Claims Service, a Verisk Analytics business (1980-2019); 2020-21 figures from Munich Re; 2023 YTD data from Aon; Insurance Information Institute; University of South Carolina, Risk & Uncertainty Management Center.

Top 22 Most Costly Disasters in U.S. History—Hurricane Ian Overtakes Katrina?

(Insured Losses, 2020 Dollars, $ Billions)



*2021 dollars; **2022 dollars (RMS private insurer estimate as of 10/10/22).

Sources: PCS, RMS, Aon, Karen Clark & Co; USC Center for Risk and Uncertainty Management adjustments to 2020 dollars using the CPI.

Hurricane Ian: Estimated Insured Losses, by Type*

Type of Loss	Estimated Insured Loss ($B)
Wind (incl. covered leakage)	$46 - $67
Storm Surge (excl. NFIP)	$6
Inland Flood (excl. NFIP)	$1
Total Private	$53 - $74
NFIP	$10
Total Insured	$63 - $84

- **Ian will potentially become the costliest disaster in U.S. history in terms of insured losses, overtaking Hurricane Katrina, which has held the top spot since 2005**
- **Average annual insured CAT loss in the US so far this decade (2020-2022) are $75B, up from $37B during the 2010s, suggesting a rapid acceleration from prior decadal increases of ~$10B per decade**

Sources: RMS estimate as of Oct. 10, 2022: https://www.insurancebusinessmag.com/us/news/catastrophe/hurricane-ian-losses-could-hit-74-billion--rms-423367.aspx; University of South Carolina Risk and Uncertainty Management Center.

Commercial Lines & Pricing Cyclicality

Economic and Tort Environment Create Pricing Pressure

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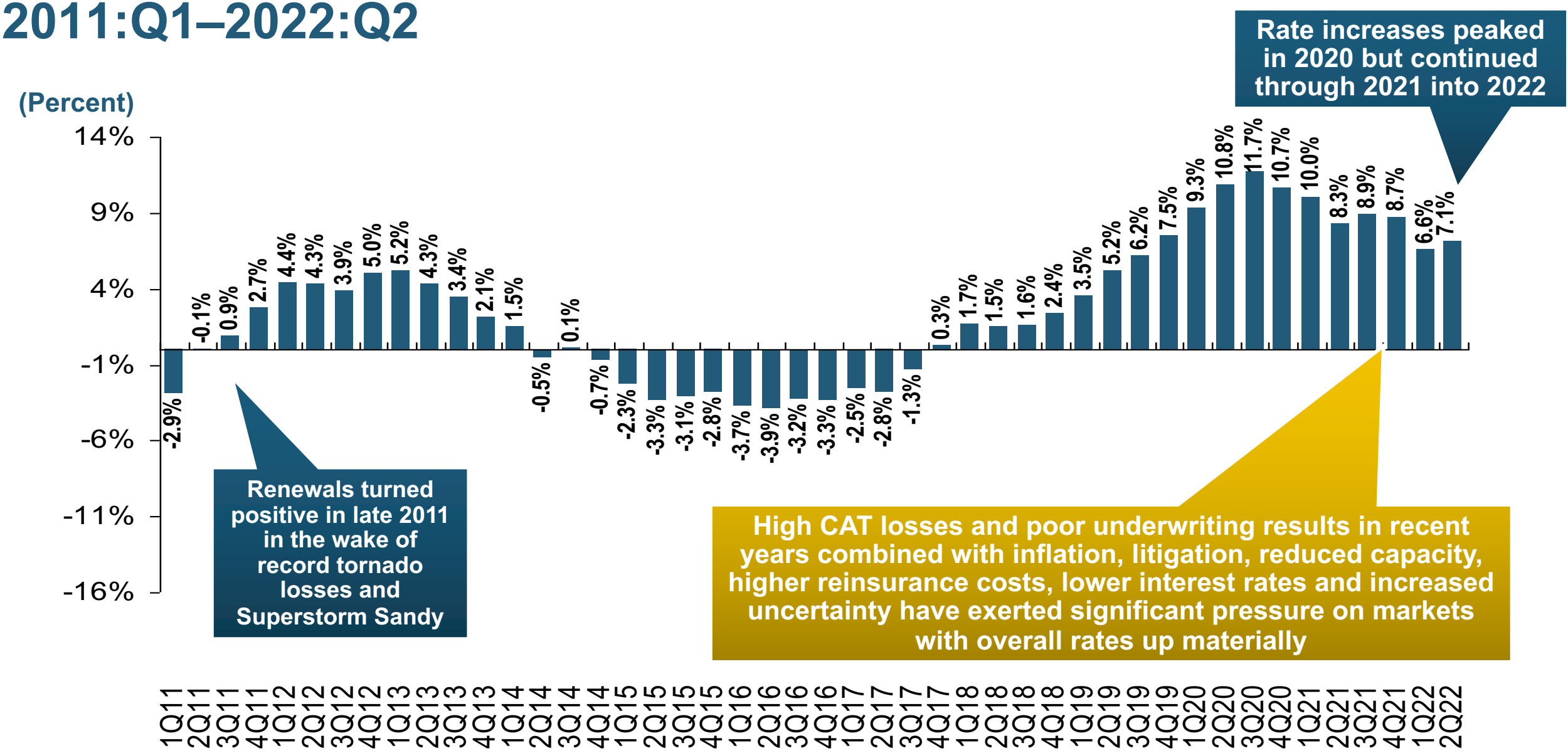
CIAB: Average Commercial Rate Change, All Lines, 2011:Q1–2022:Q2

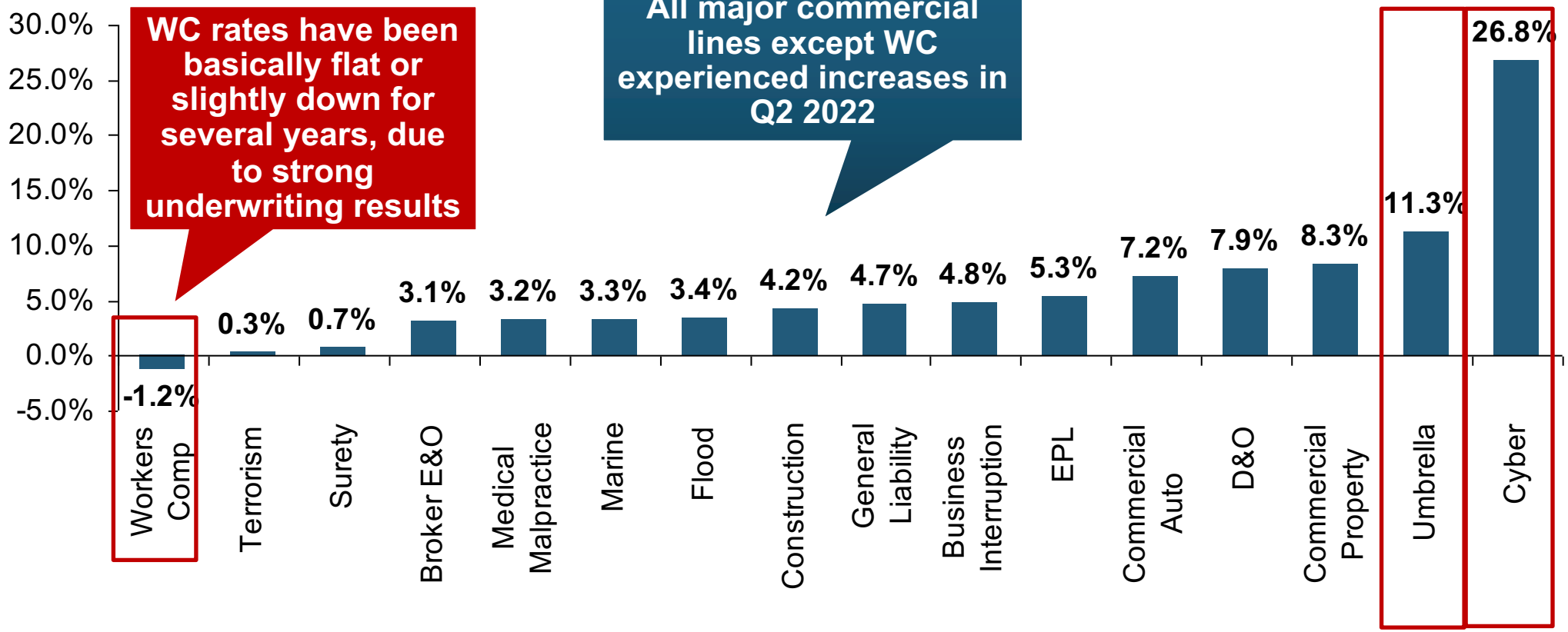


Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.
Source: Council of Insurance Agents & Brokers; Center for Risk and Uncertainty Management, Univ. of South Carolina.

Change in Commercial Rate Renewals, by Line: 2022:Q2

Cyber is seeing record increase, in response to major breaches in 2020 and 2021, overtaking Commercial Umbrella

(Percent Change)



Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

Source: Council of Insurance Agents and Brokers; USC Center for Risk and Uncertainty Management.

Legal System Abuse (Social Inflation) & Litigation Trends

Rising Litigation Costs Are a Concern for Businesses Large and Small—*and Their Insurers*

Major Driver of Rate Across Multiple Lines

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Social Inflation: Many Interrelated Causes, Difficult to Manage

INSURANCE CLAIM COSTS

- Increasing Propensity to Sue
- Size of Jury Awards
- Courts/ Juries Favoring Plaintiffs
- Growing Distrust of Large Corps.
- Litigation Financing
- Aggressive Plaintiff Bar Ads
- Changes in Regulatory and Legal Environment Bar Ads

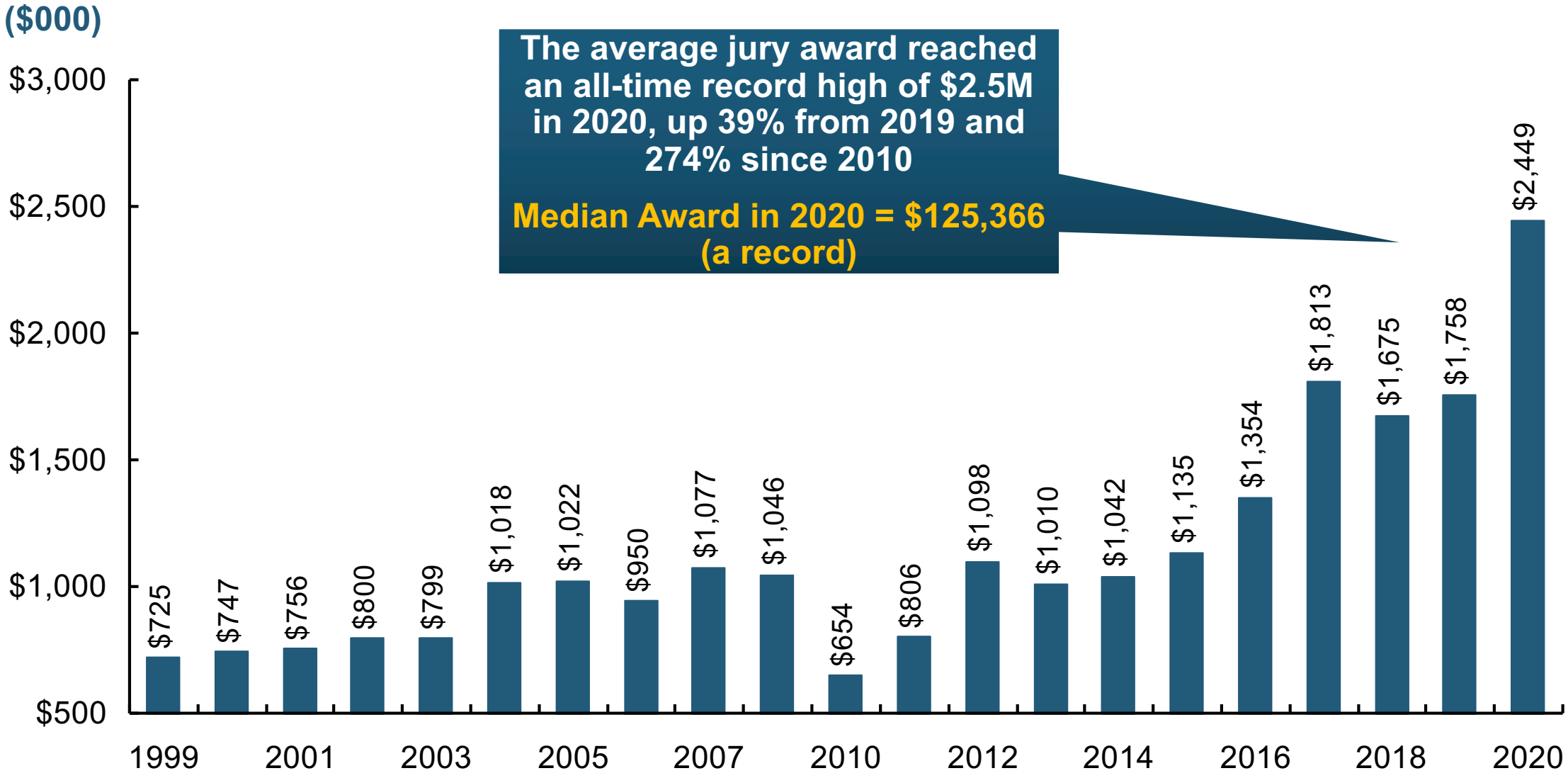
Applied to a seemingly limitless number of issues, these drivers are pushing tort costs (and therefore claim costs upward)

Source:Risk and Uncertainty Management Center, Univ. of South Carolina, adapted from Verisk “Social Inflation” presentation (2020).

(Small) Sample of Issues Driving Claims Costs Higher

- Assignment of Benefits (Florida Homeowners)
- Trucking Accident Litigation (Commercial Auto)
- Reviver Statutes (e.g, Boy Scouts, Catholic Church, Southern Baptists)
- Opioids, Glyphosate, Paraquat (Products)
- Asbestos
- Public Nuisance Replacing/Circumventing Strict Liability? (Products, GL)
- Technology Issues/Technology Firms (e.g., cyber breaches, privacy, antitrust)
- Securities Issues (e.g., Crypto, SPACs, Bear Market of 2022)

Average Jury Awards, 1999 – 2020 (latest available)



Source: Jury Verdict Research; *Current Award Trends in Personal Injury* (61st Edition), Thomson Reuters; Risk and Uncertainty Management Center, Univ. of South Carolina.

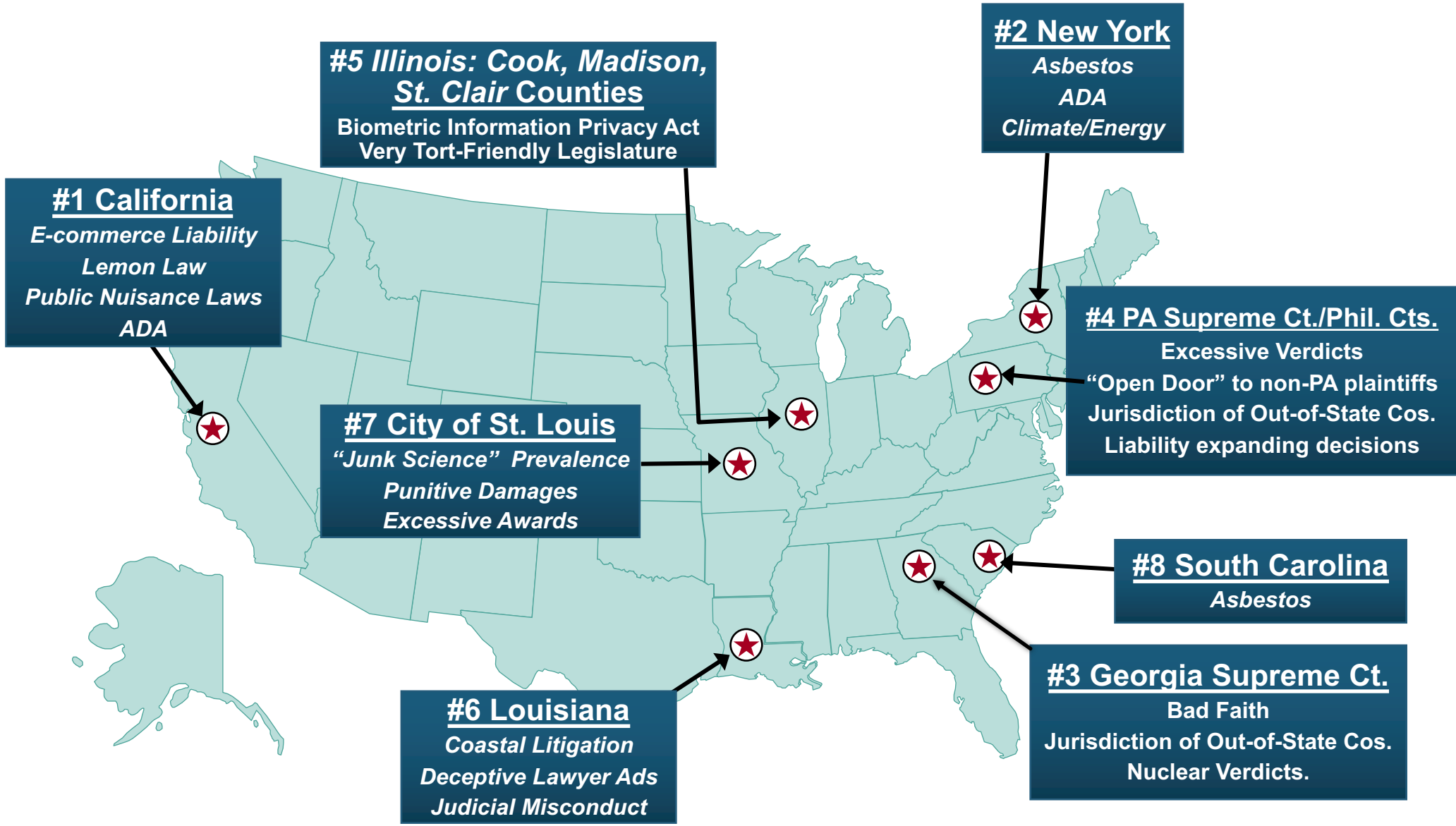
The Nation's Judicial Hellholes: 2021/2022

Watch List

- Florida Legislature
- Colorado
- TX Ct. of Appeals
- Minnesota
- Maryland

Dishonorable Mention

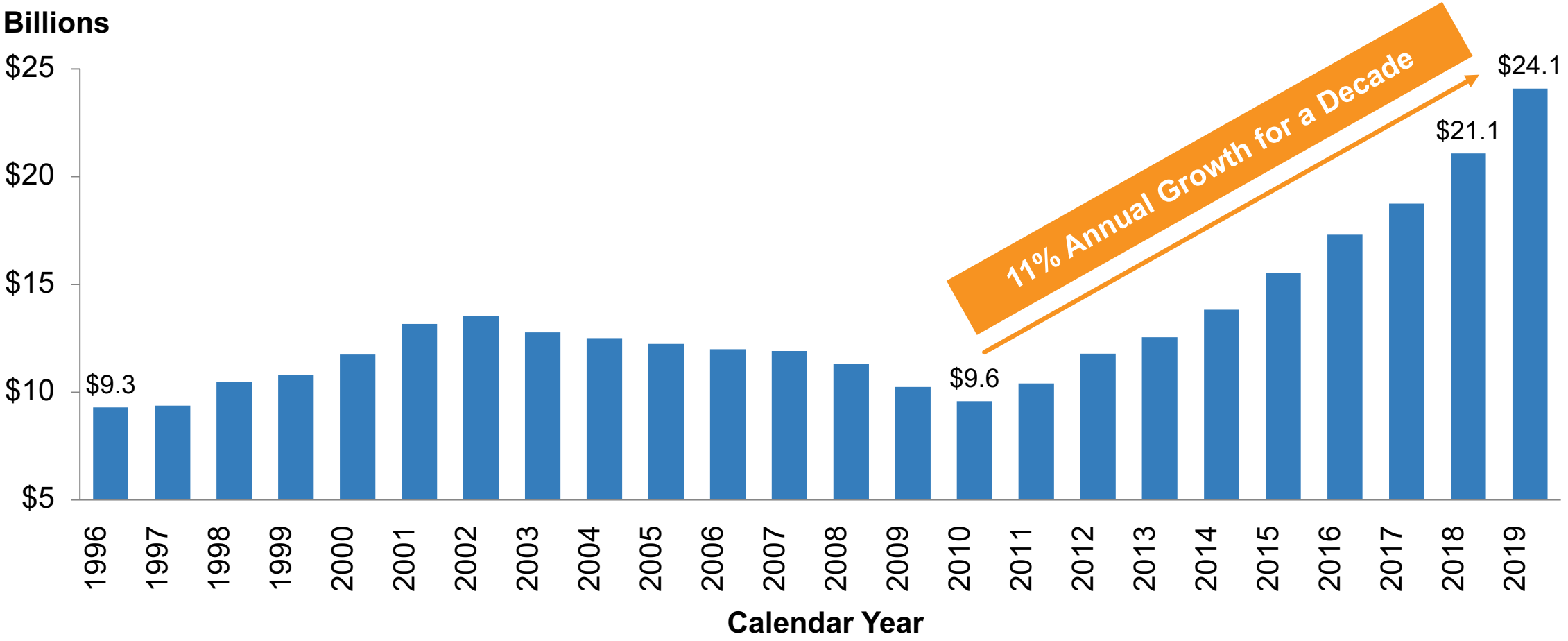
- American Law Inst.
- FL Appellate Ct.
- KY Atty. General
- Ohio
- Utah Supreme Ct.



Source: American Tort Reform Association; Risk & Uncertainty Management Center, University of South Carolina.

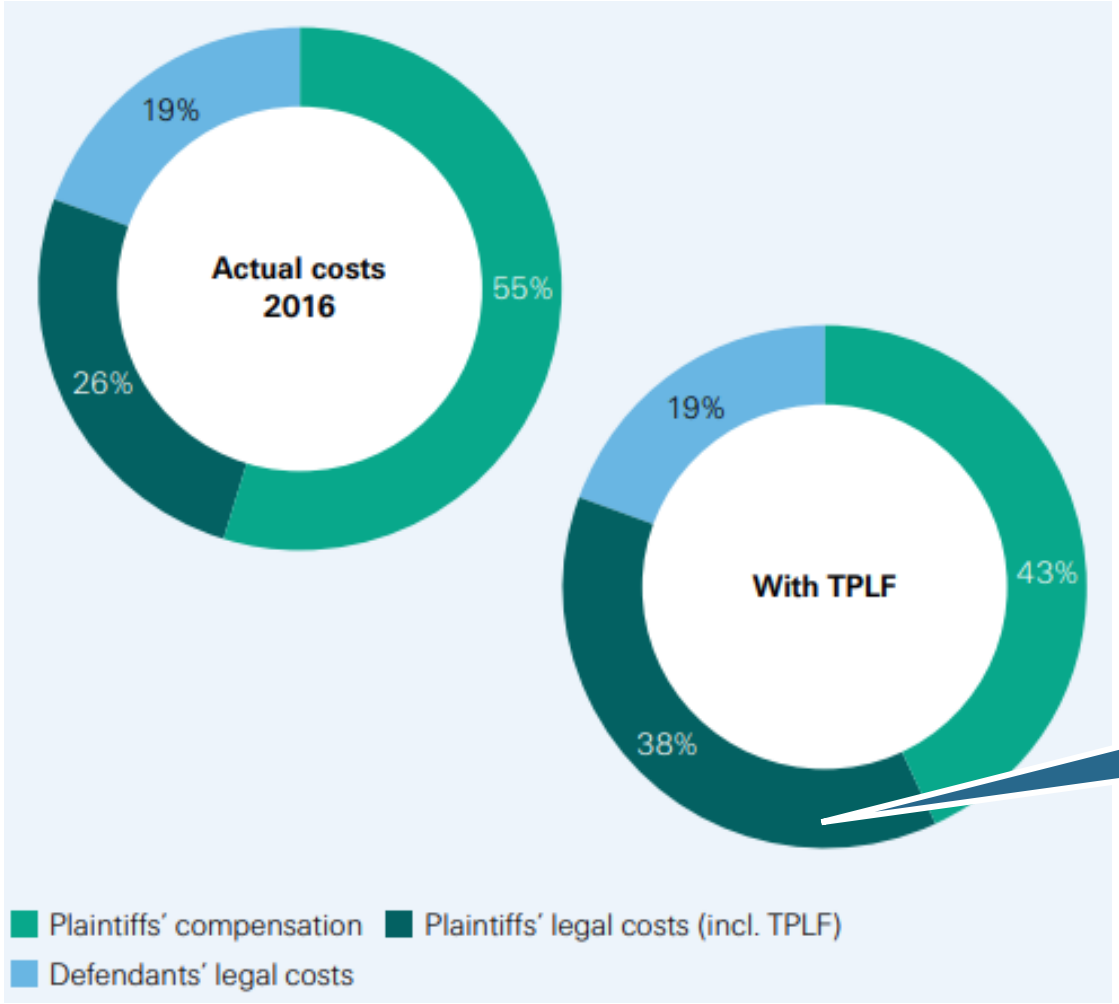
Upward Trend in Incurred Losses

Incurred Losses, Commercial Auto Liability



Sources: NAIC data sourced from S&P Market Intelligence; Insurance Information Institute.

Impact of Third-Party Litigation Funding on Distribution of Tort System Costs



TPLF skews system cash flows toward plaintiff legal costs (which include TPLF) and away from plaintiff compensation

Source: Swiss Re, *US Litigation Funding and Social Inflation* (Dec. 2021), from Council of Insurance Agents and Brokers accessed at: https://www.claimsjournal.com/app/uploads/2021/12/swissre.litigation.funding2021.pdf.pdf .

SUMMARY

- The P/C Insurance Industry Remains Strong, Stable, Sound and Secure
- A Shallow Recession is Increasingly Likely Beginning in mid-2023
- Asset Price Volatility Will Persist as Inflation, Geopolitical Concerns Remain High
- Higher Interest Rates Will Eventually Provide a Modest Tailwind for Investment Income
- Inflationary Pressures Will Persist into 2023, But Will Subside (Peak Likely Reached in June 2022)
- Many Loss Cost Challenges—Inflation, Supply Chain and Social Inflation Issues
- Immediate P/C Concerns: CATs, Inflation→Rate/Reserve Adequacy, ITV

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Thank you for your time and your attention!

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