



**INSURANCE
INFORMATION**
INSTITUTE

Trends and Topics in the Property/Casualty Industry

Midwest Actuarial Forum, Chicago, IL
March 10, 2017

James Lynch, FCAS MAAA, Chief Actuary

Insurance Information Institute ♦ 110 William Street ♦ New York, NY 10038
Tel: 212.346.5533 ♦ jamesl@iii.org ♦ www.iii.org

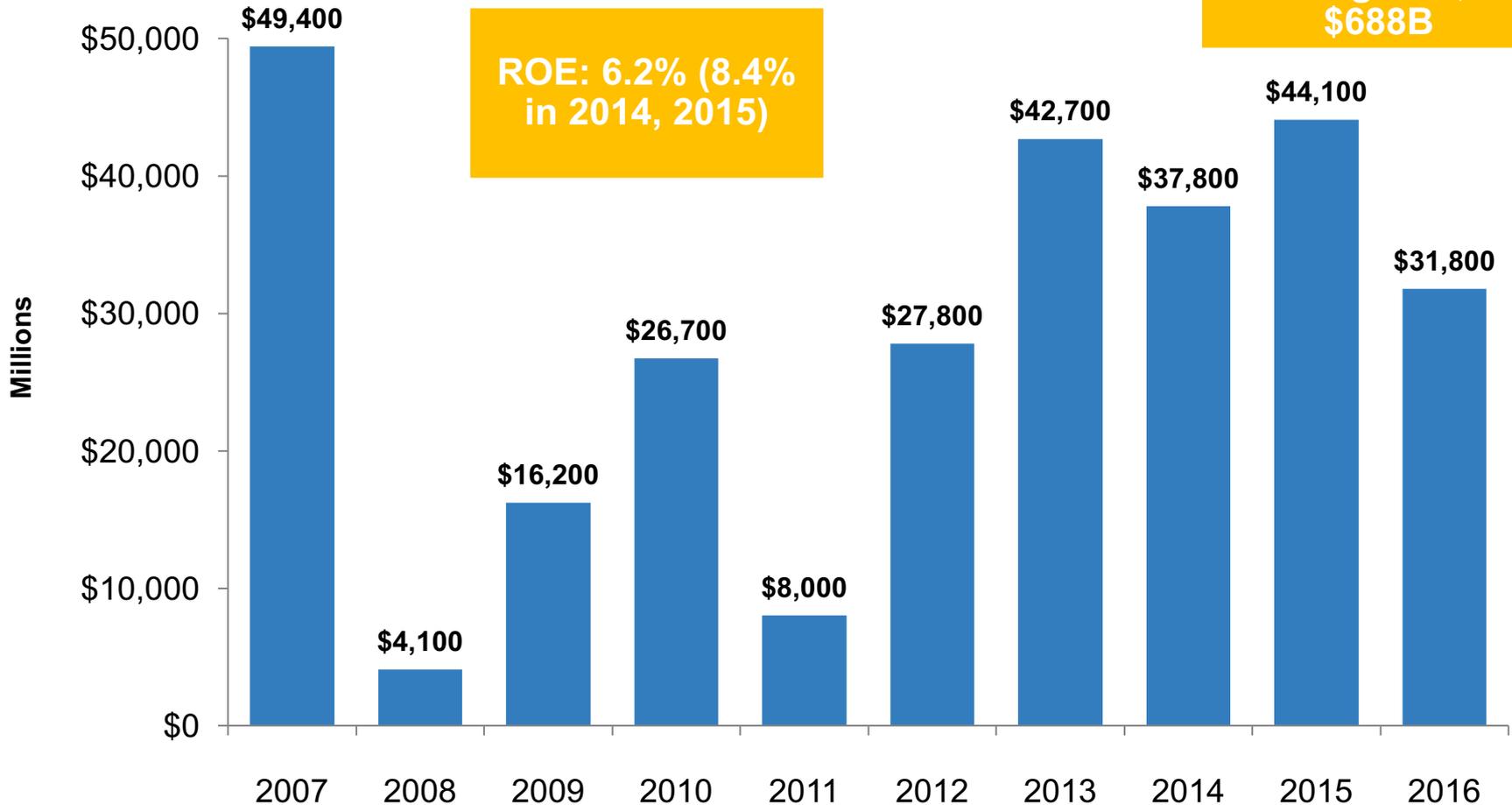
The P/C Insurance Industry: Financial Update & Outlook

Higher Cats Create Slight U/W Loss

Rising Rates May Help A Little

P/C Industry Net Income After Taxes, First Three Quarters, 2007-2016

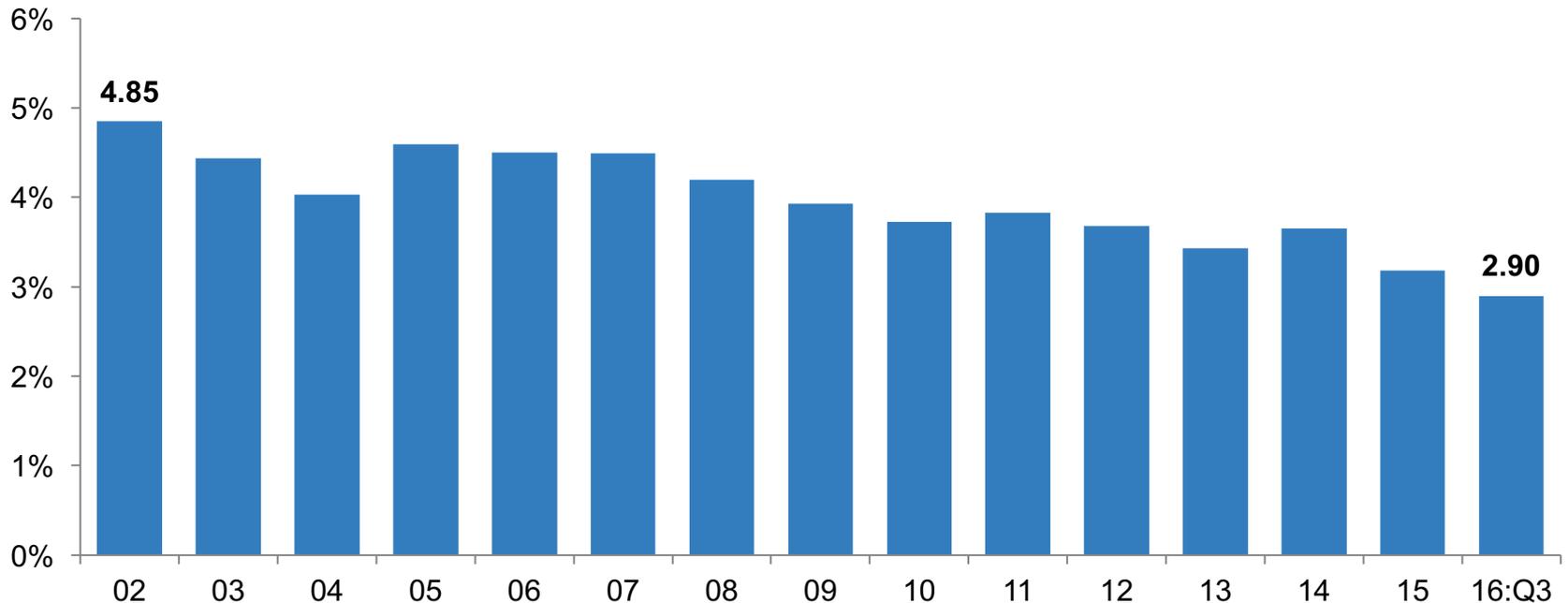
Surplus Has Grown \$15B Through Q3, to \$688B



Sources: A.M. Best; ISO, a Verisk Analytics company; Insurance Information Institute.

P/C Insurer Portfolio Yields, 2002-2016

(Yield on Invested Assets)



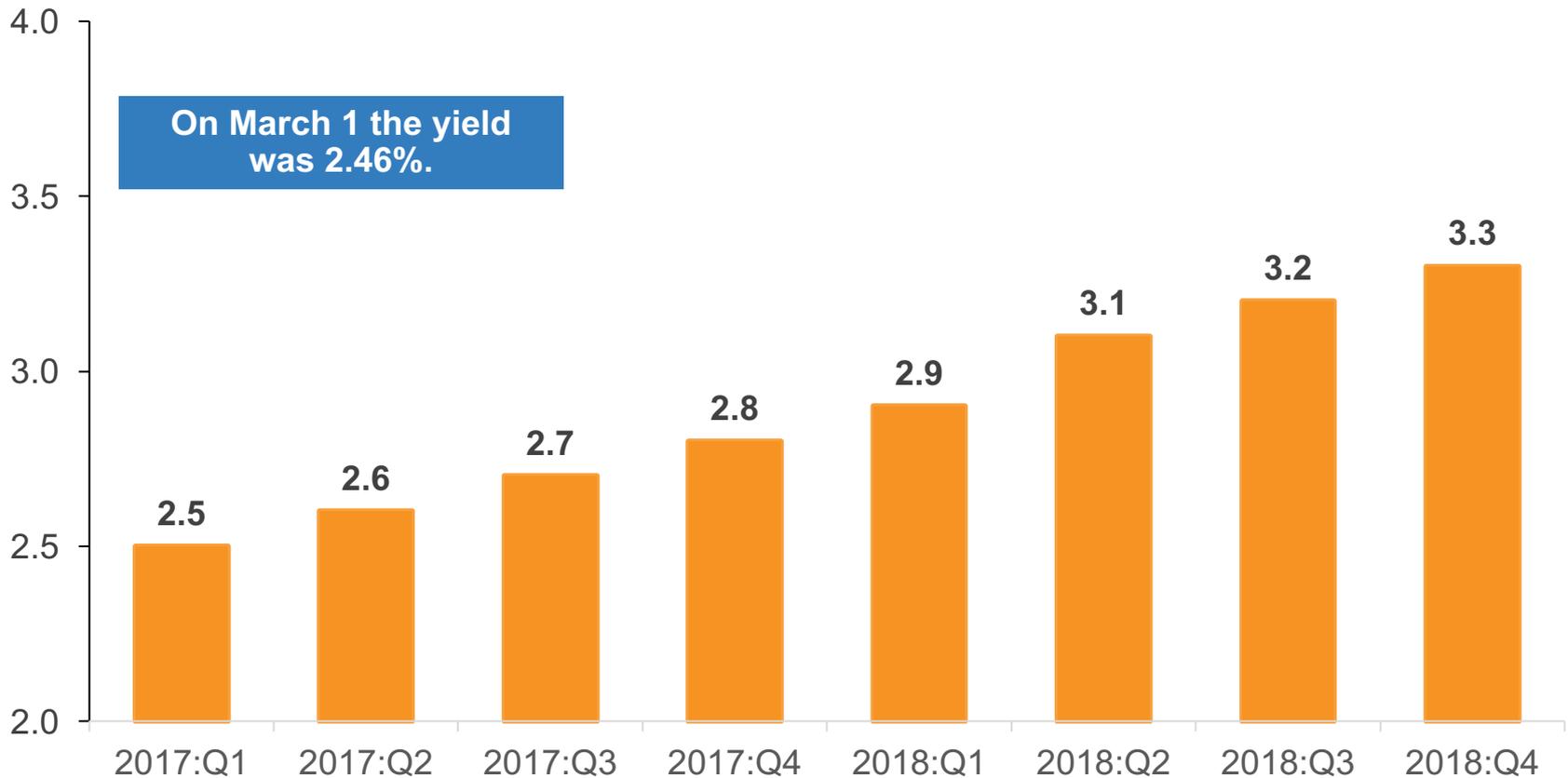
P/C Carrier Yields Have Been Falling for Over a Decade, Reflecting the Long Downtrend in Prevailing Interest Rates.



Sources: NAIC data, sourced from S&P Global Market Intelligence; ISO, a Verisk Analytics company; Insurance Information Institute.

10-Year Treasury Forecast

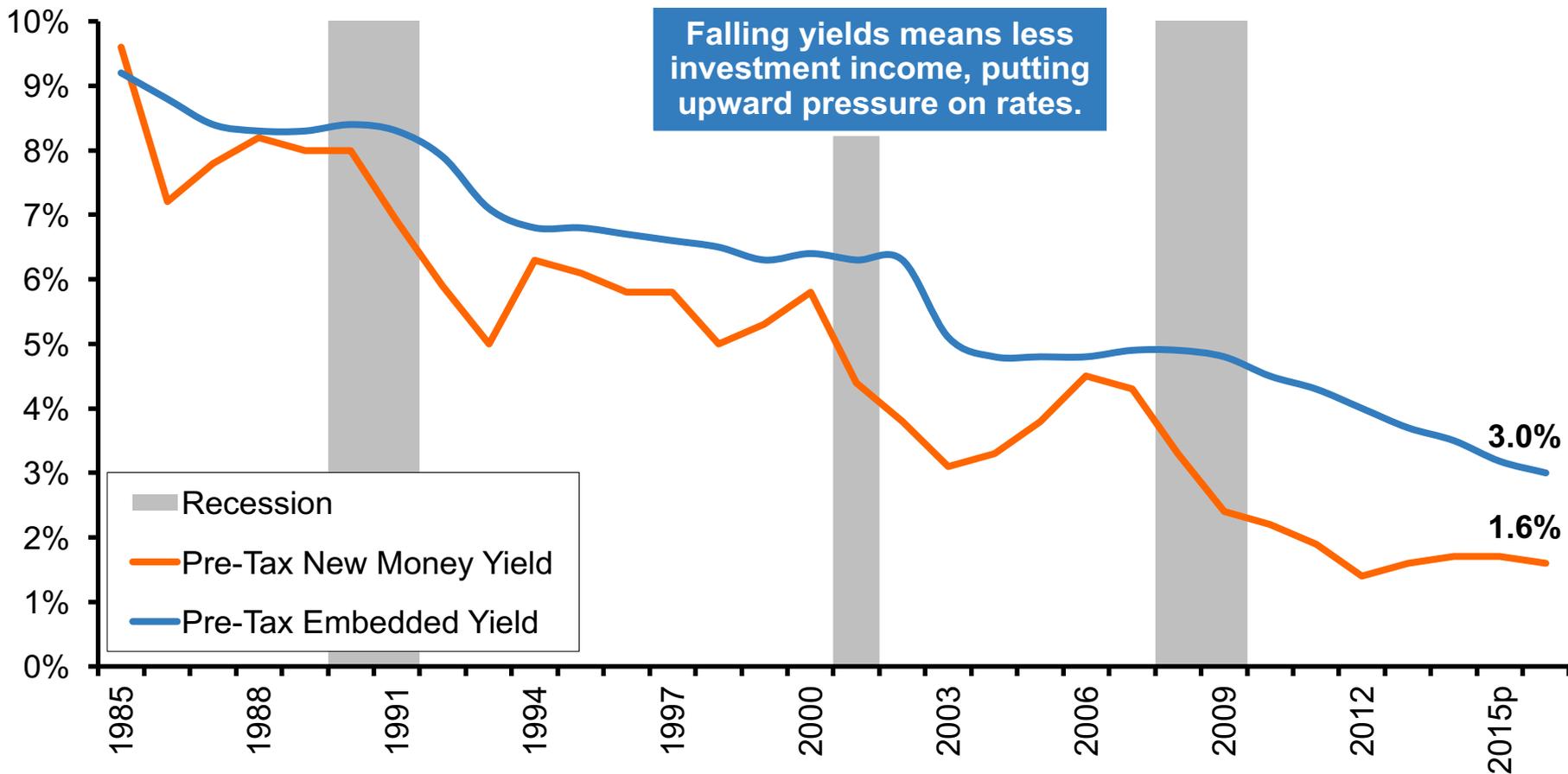
Yield (%)



Virtually all of the 53 forecasts in the Blue Chip survey expect continual increases in the yield of long-term bonds in 2017-18.



New Money vs. Embedded Yields, U.S. Insurers, 1985-2015



As long as new money rates are below the rates of maturing bonds, the portfolio yield will continue to sink.

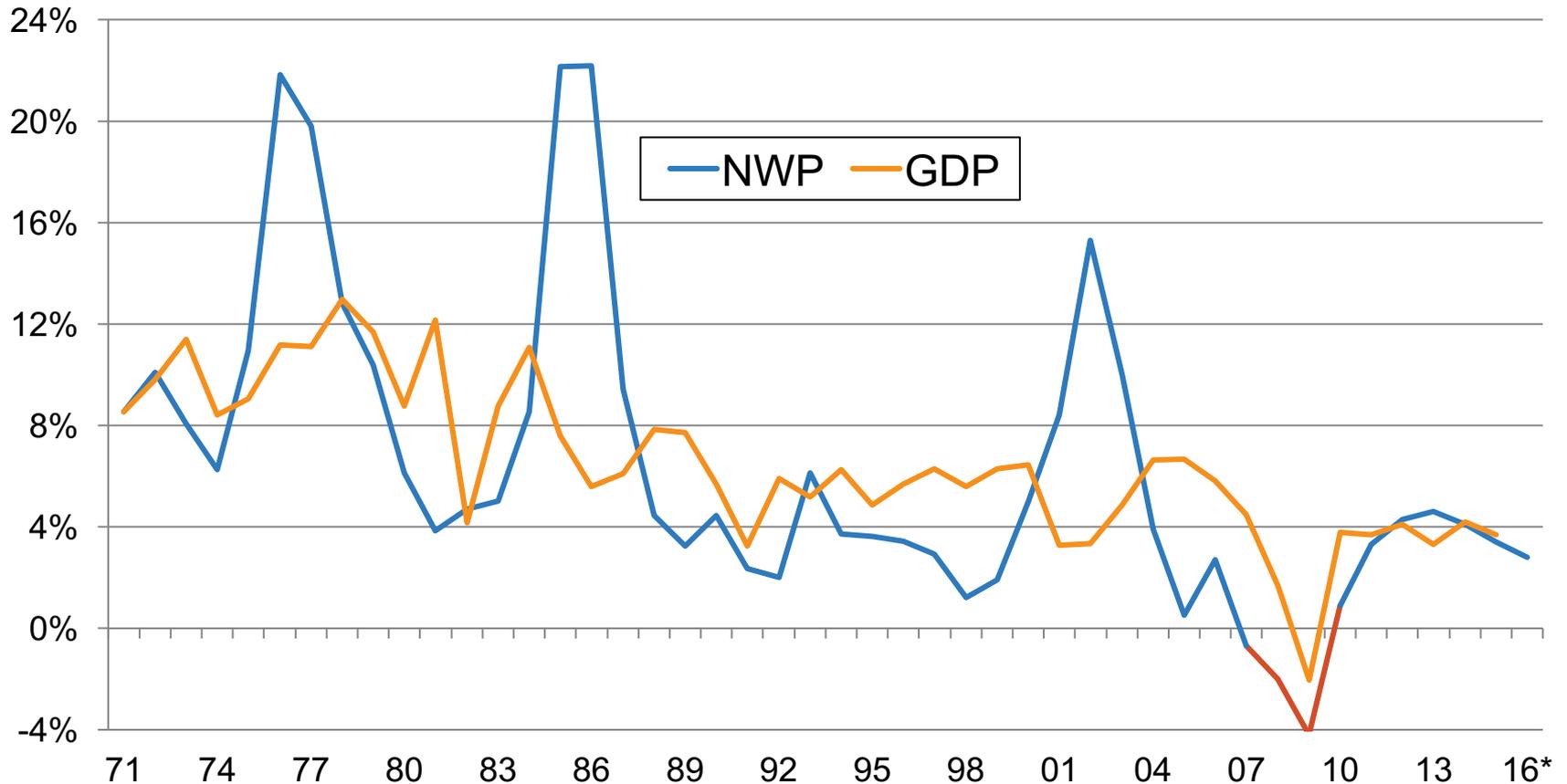
p: Preliminary

Sources: NCCI, ISO, a Verisk Analytics company, U.S. Treasury (5-year note as proxy for new money yield); Insurance Information Institute.



Underwriting Performance

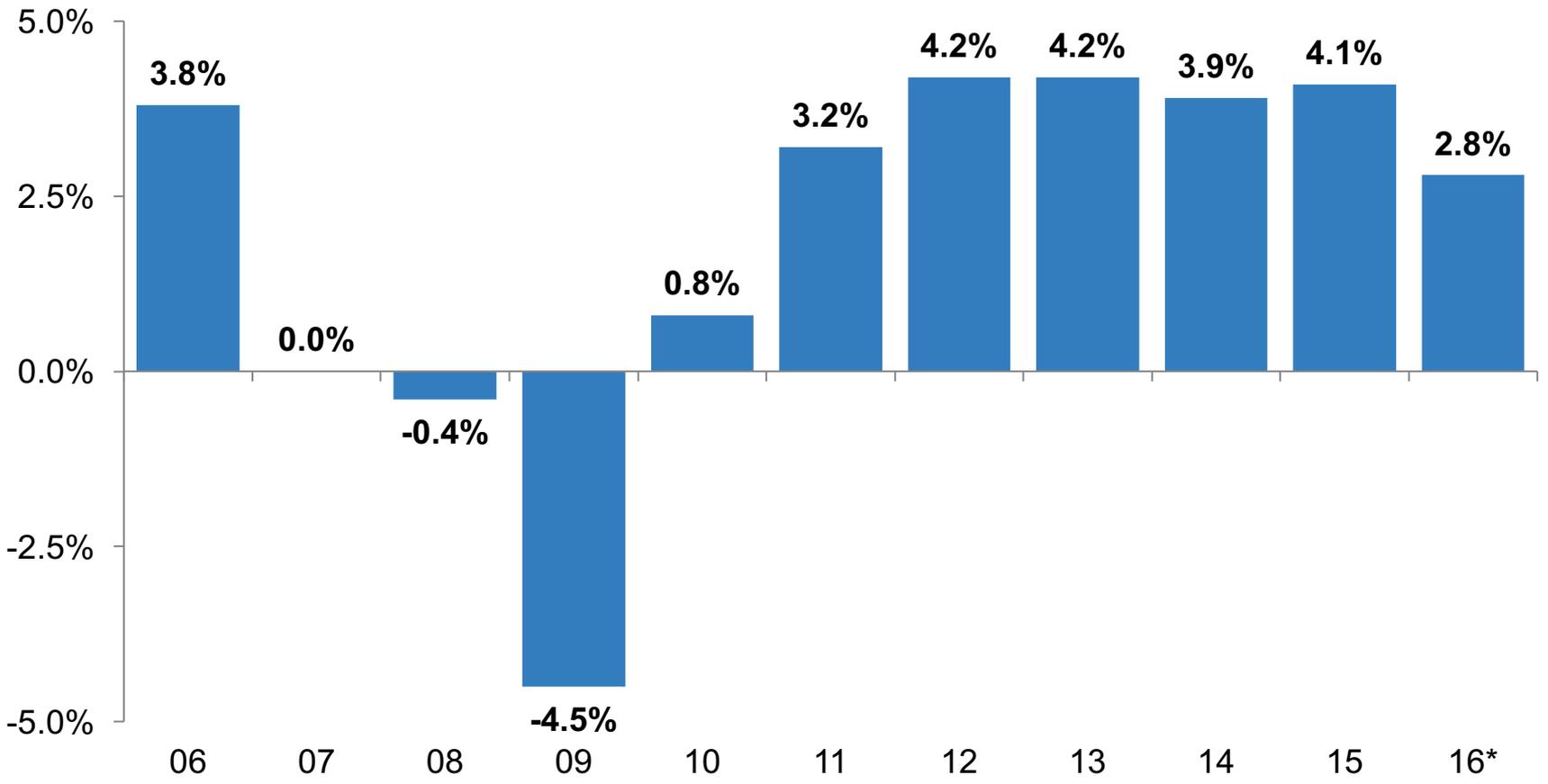
Net Premium Growth (All P/C Lines) vs. Nominal GDP: Annual Change, 1971-2016



Except for the three “hard markets” in this 45-year period, Net Written Premiums track Nominal GDP—not year by year but fairly well.



Net Written Premium Growth (All P/C Lines): First Three Quarters, 2006-2016

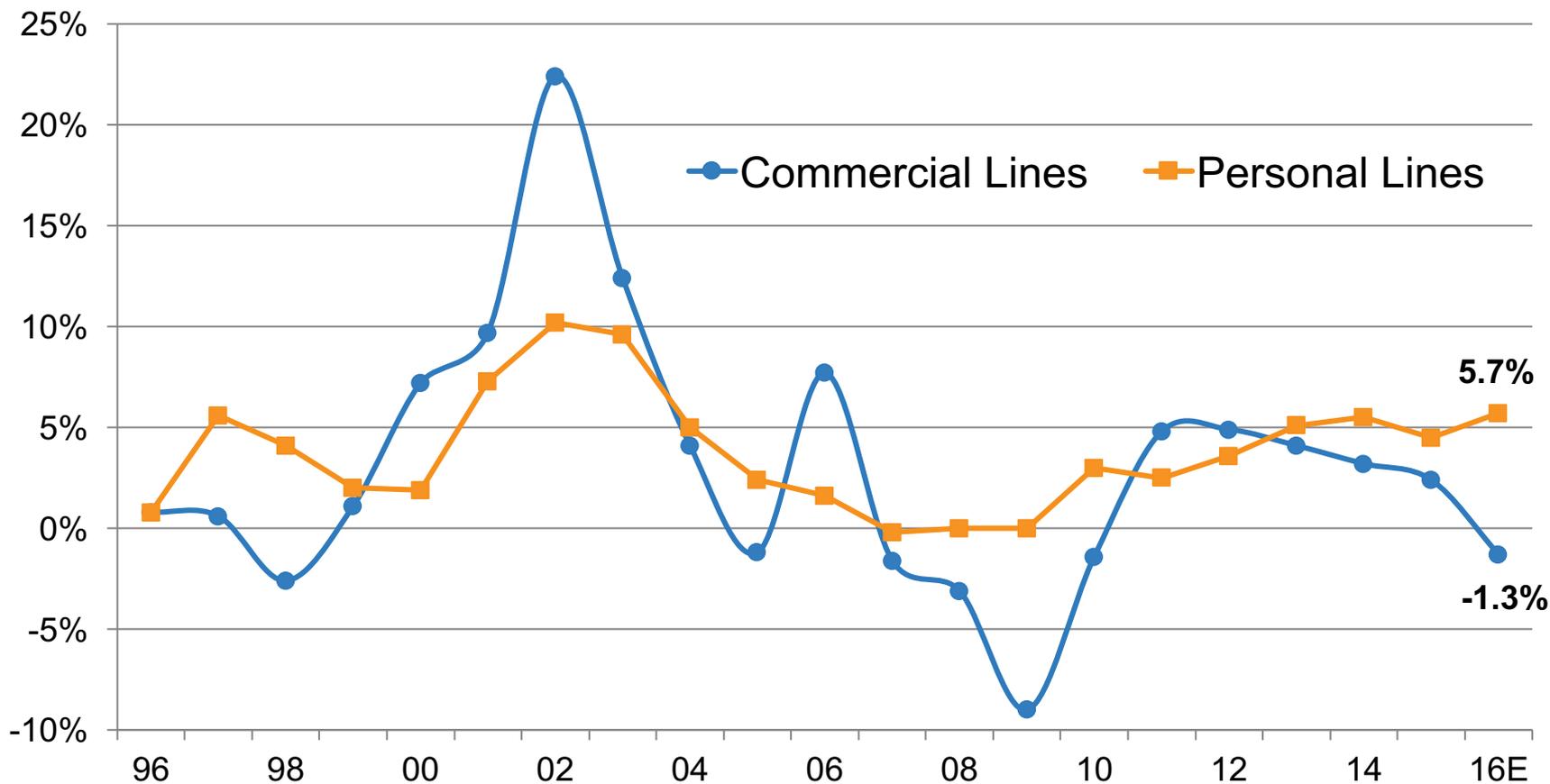


Total Net Written Premiums for the first nine months rose more slowly in 2016 than in any year since 2010.



Sources: A.M. Best (1971-2013), ISO (2014-16).

Commercial & Personal Lines NPW Growth: 1996-2016E

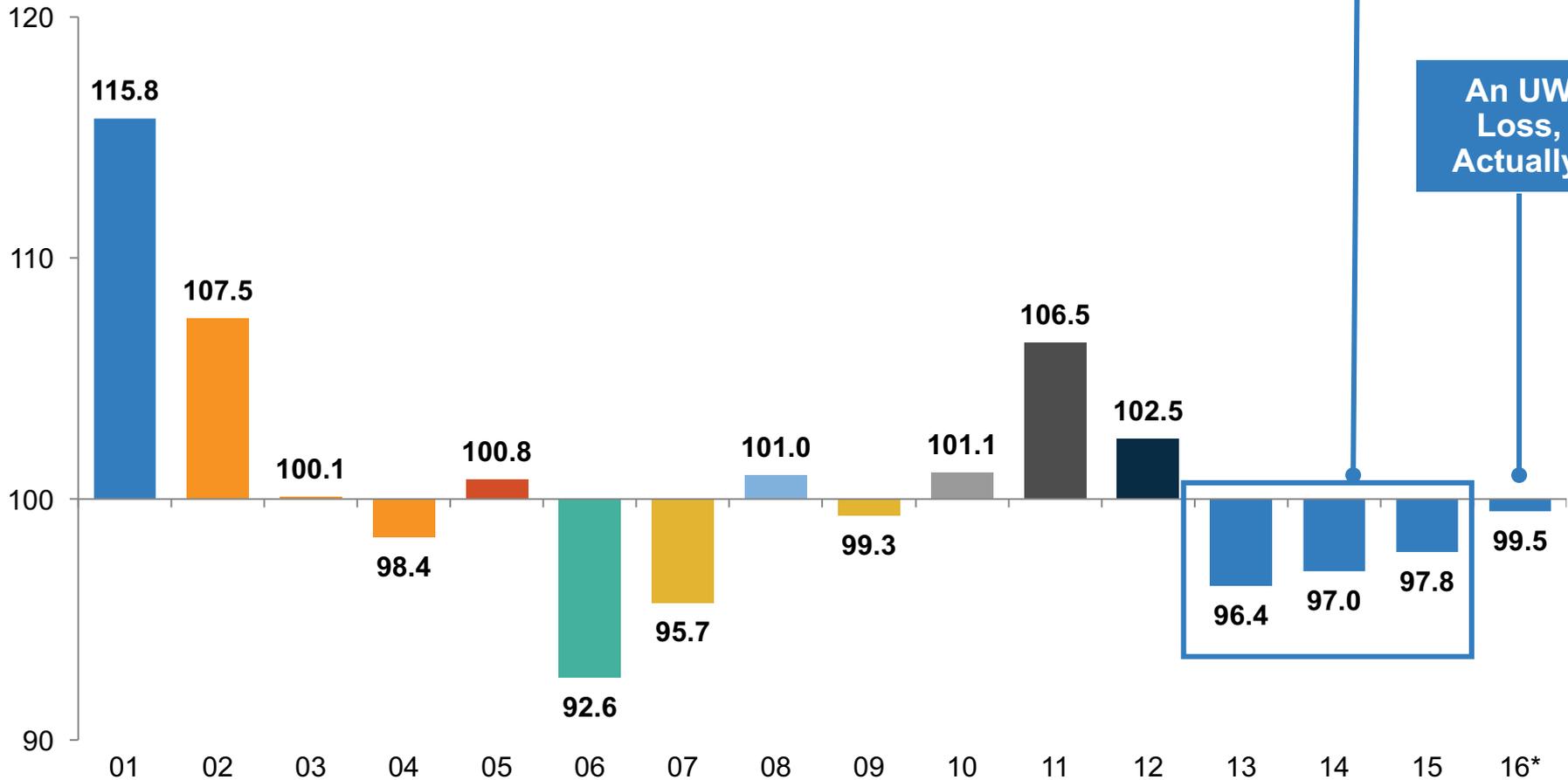


Commercial Lines is Prone to Much More Cyclical Volatility Than Personal Lines.



Note: Data include state funds beginning in 1998. 16E is first three quarters.
Sources: A.M. Best; Insurance Information Institute.

P/C Insurance Industry Combined Ratio, 2001-2016*

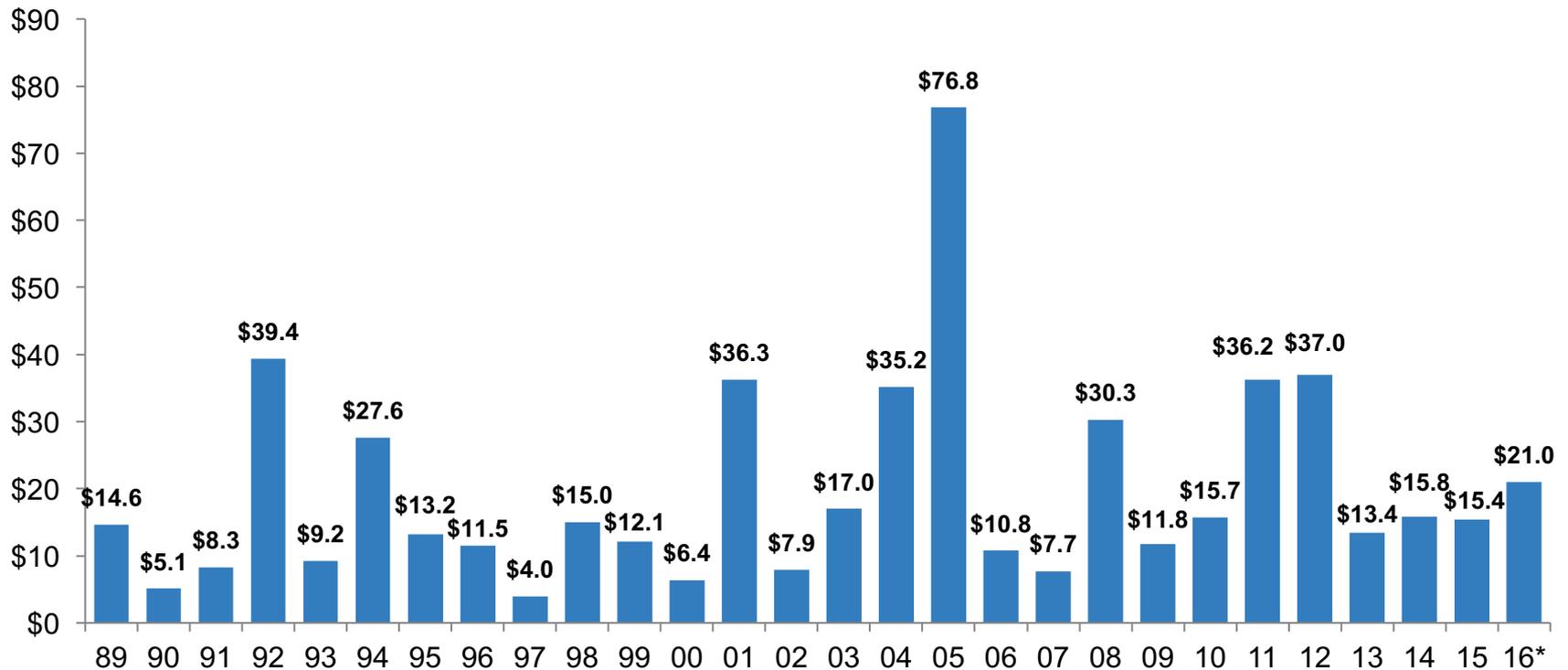


*Excludes Mortgage & Financial Guaranty insurers 2008-2014. 2016 is first nine months including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012:=103.2; 2013: = 96.1; 2014: = 97.0. Sources: A.M. Best; ISO, a Verisk Analytics company; 2010-2015E is from A.M. Best P&C Review and Preview, February 16, 2016.



U.S. Insured Catastrophe Losses, 1989-2016

(\$ billions, 2016 dollars)



2013/14/15 Were Welcome Respite from 2011/12, Which Were Among the Costliest Years for Insured Disaster Losses in U.S. History. Longer-term Trend is for More – Not Fewer – Costly Events.

*2016 estimate is subject to change

Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01 (\$25.9B 2011 dollars). Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B (\$15.6B in 2011 dollars).

Sources: Property Claims Service, a Verisk Analytics business; Insurance Information Institute.



P/C Direct Written Premium by Line

(Billions of Dollars)

LOB	2015	2016	% Chg From Year Earlier
Personal Auto Liab	89.5	95.8	7.0%
Homeowners	70.5	72.4	2.6%
Auto PhysDam*	65.8	70.9	7.8%
GL (incl Products)	47.8	49.6	3.6%
WC	42.5	43.6	2.4%
Fire & Allied Lines	30.7	30.1	-2.2%
CMP	29.9	30.1	0.5%
Comm Auto Liab	18.0	19.0	5.2%
Other	47.5	50.3	5.9%
Total	442.4	461.7	4.4%

Commercial/
Personal
Premiums
Are Rising . . .

* Personal (~90+) and Commercial (~10%) combined.

Data through Q3.

Sources: NAIC Data, sourced from S&P Global Market Intelligence, Insurance Information Institute.



P/C Direct Incurred LR by Line

(Billions of Dollars)

LOB	2015	2016	Pt Chg From Year Earlier
Personal Auto Liab	69%	73%	4
Homeowners	53%	55%	2
Auto PhysDam*	63%	68%	5
GL (incl Products)	52%	53%	1
WC	58%	55%	(3)
Fire & Allied Lines	57%	64%	7
CMP	47%	50%	3
Comm Auto Liab	65%	67%	2
Other	42%	45%	3
Total	57%	60%	3

But Not Fast Enough...

* Personal (~90+) and Commercial (~10%) combined.

Data through Q3.

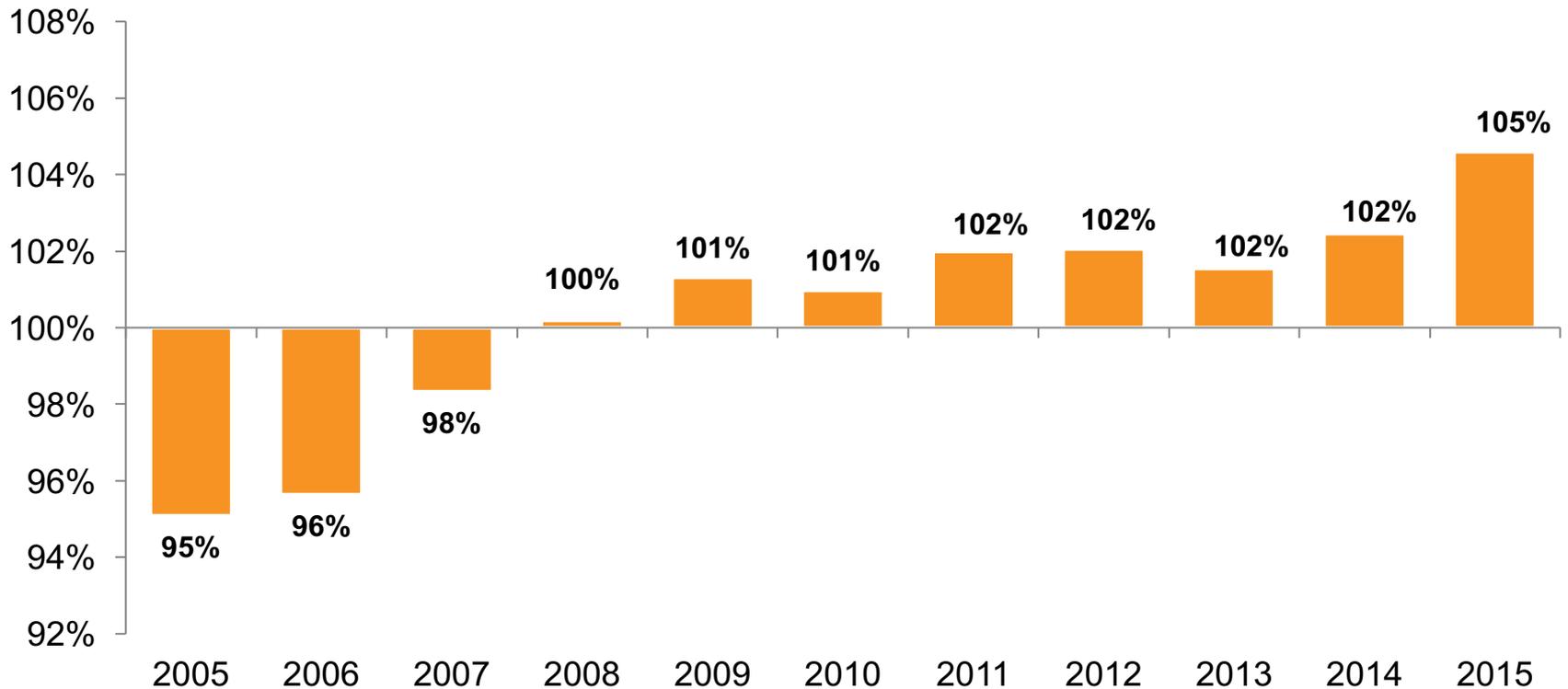
Sources: NAIC Data, sourced from S&P Global Market Intelligence, Insurance Information Institute.



Personal Auto

Rising Frequency, Severity Pinching
the Largest P/C Line

Personal Auto Net Combined Ratio, 2005-2015



**Loss Ratios Have Been Rising for a Decade.
2015 Return on Net Worth is Likely Close to Zero or Negative.**



Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

Rising Personal Auto Costs

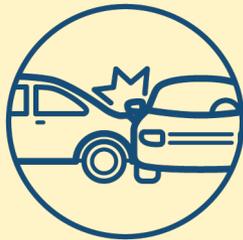
Auto Insurance

Increase in Loss Costs, 2014:Q3–2016:Q3



Bodily Injury

11.7%



Property
Damage

15.1%



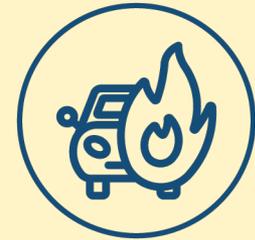
Personal Injury
Protection

15.1%



Collision

13.6%



Comprehensive

21.0%

From 2014 to 2016, the cost of accidents has risen dramatically. By contrast, consumer prices overall rose 1.7 percent during 2014 and 2015.

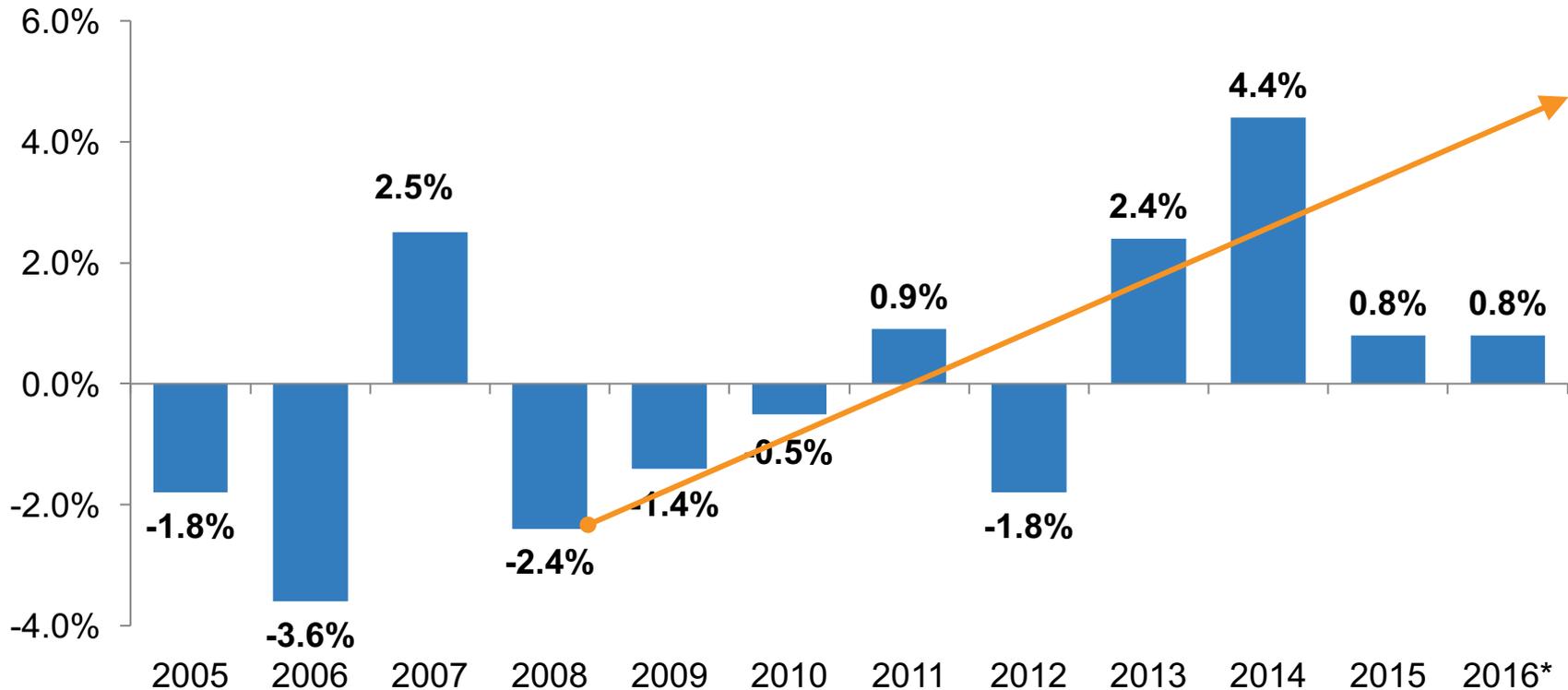


Claim Trends by Coverage

Focus on Collision

Collision Claims: Frequency Trending Higher in 2010s

Annual Change, 2005 through 2016



For a Long Time, Claim Frequency Was Falling, But Since 2010 This Trend Seems to Have Reversed.

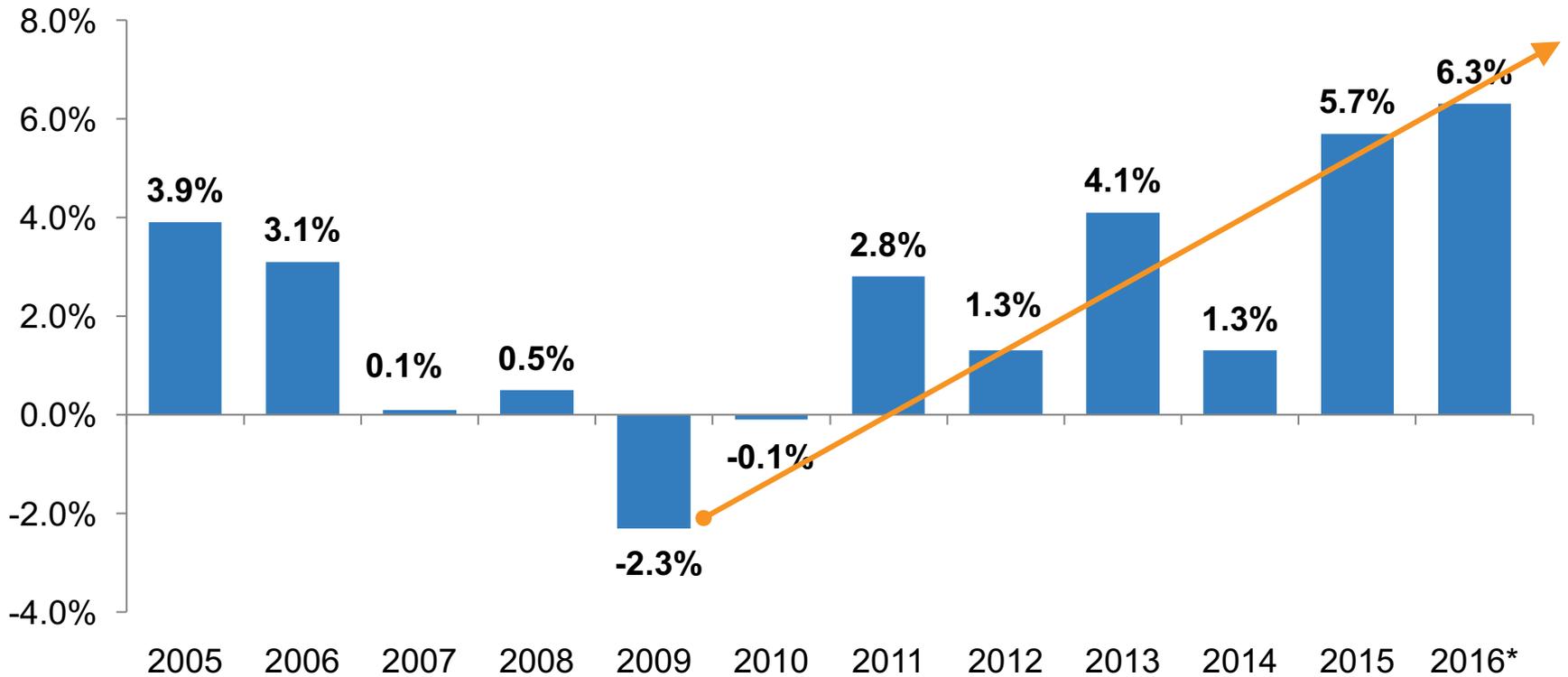


*Four Quarters Ending in September.

Source: ISO, a Verisk Analytics company; Insurance Information Institute.

Collision Claims: Severity Trending Higher in 2009-2016

Annual Change, 2005 through 2016



The Great Recession and High Fuel Prices Helped to Temper Claim Severity, But These forces Have Clearly Reversed, Consistent with Experience from Past Recoveries.



*Four Quarters Ended in September.

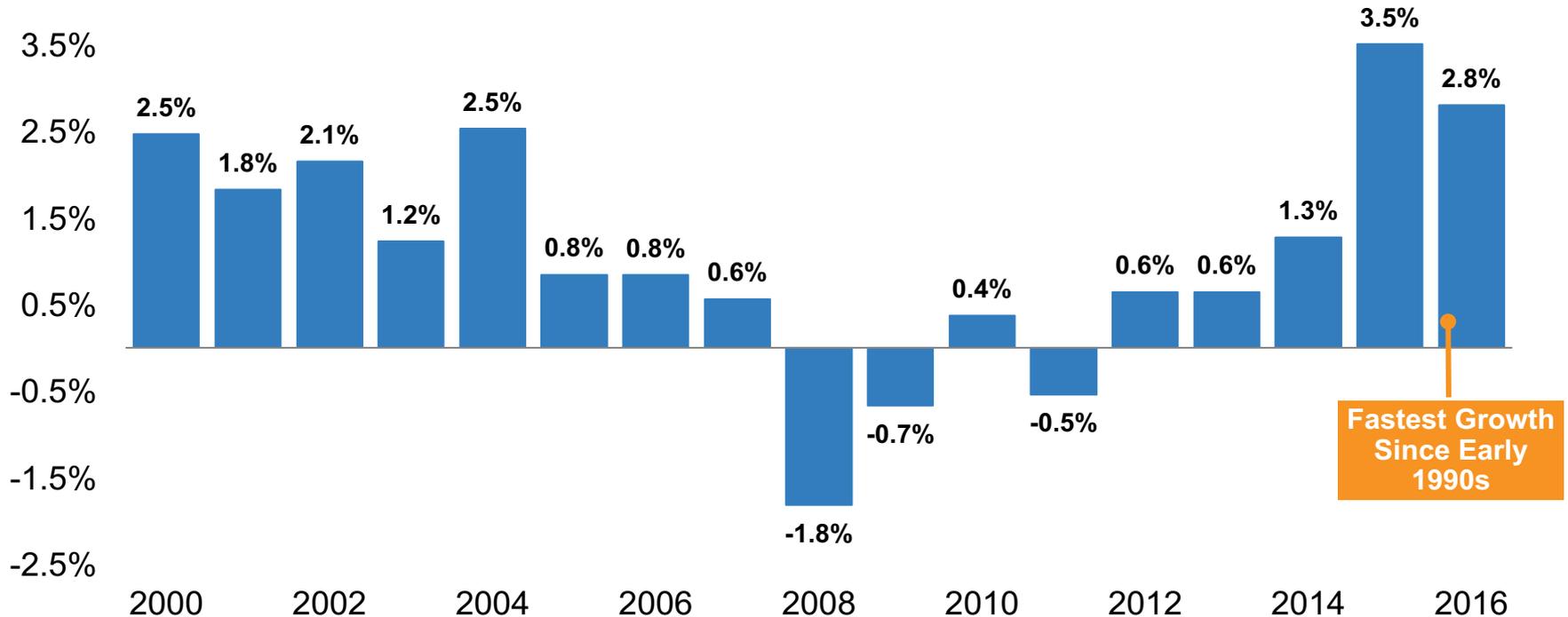
Source: ISO, a Verisk Analytics company; Insurance Information Institute.

What's Driving These Trends?

Frequency; Severity; Distraction?

America is Driving More Again: 2000-2016

Percent Change, Miles Driven*



Tremendous Growth In Miles Driven. The More People Drive, The More Frequently They Get Into Accidents.



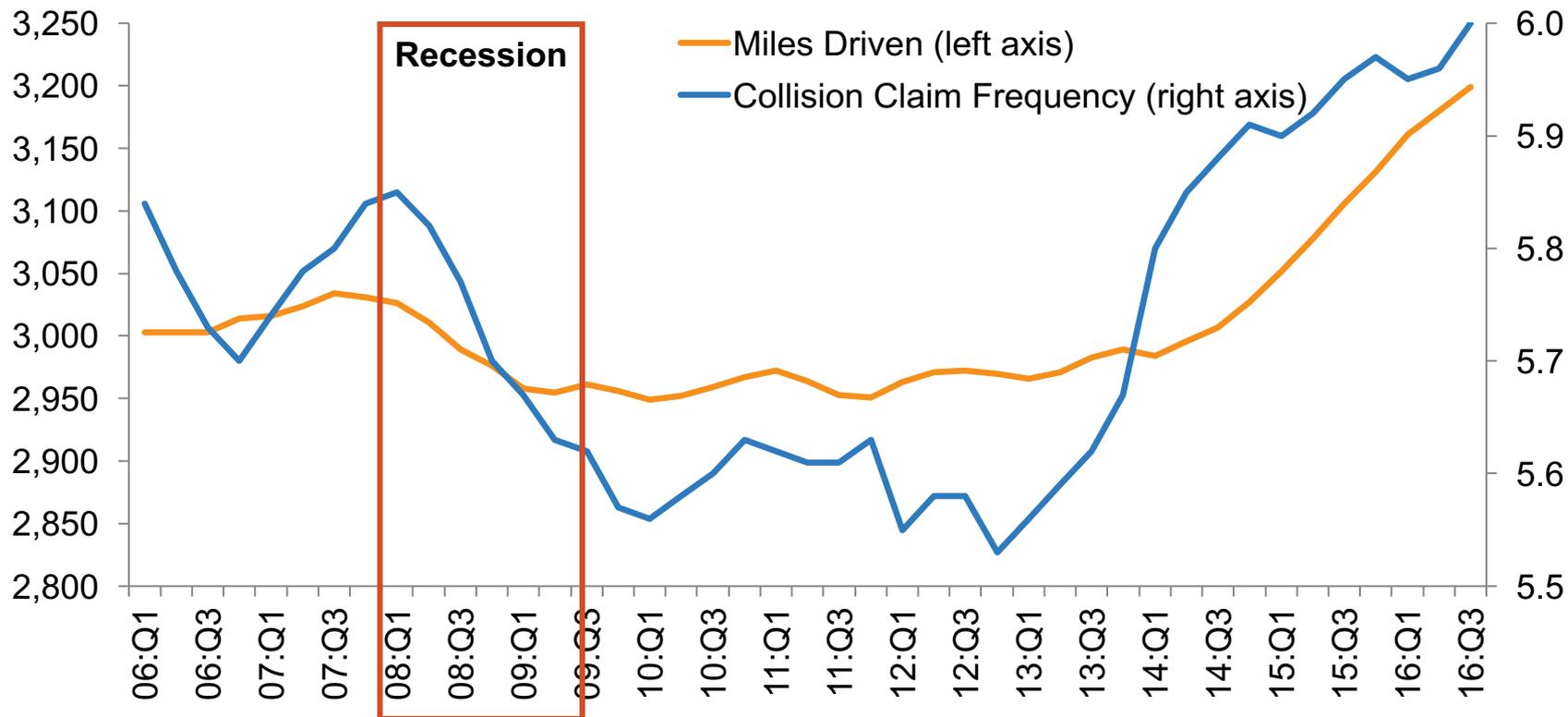
*Moving 12-month total vs. prior year.

Sources: [Federal Highway Administration](#); Insurance Information Institute.

More Miles Driven => More Collisions, 2006-2016

Billions of Miles Driven in Prior Year

Overall Collision Claims Per 100 Insured Vehicles



The More Miles People Drive, the More Likely They are to Get in an Accident, Helping Drive Claim Frequency Higher.

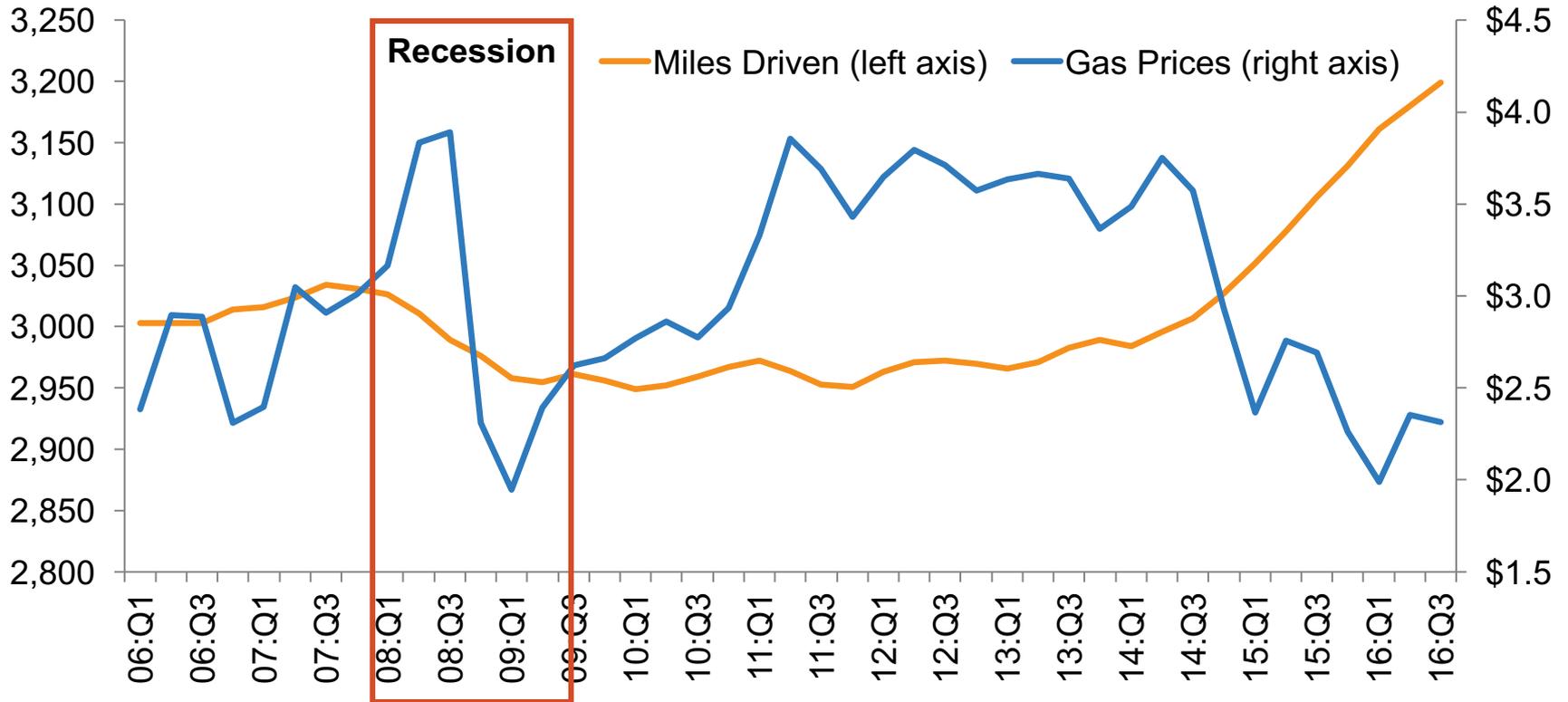


Sources: [Federal Highway Administration](#); Rolling four-quarter average frequency from ISO, a Verisk Analytics company; Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Cheap Gas?

Billions of Miles Driven in Prior Year

Average Price Per Gallon



Gas Prices Don't Seem Correlated With Miles Driven.

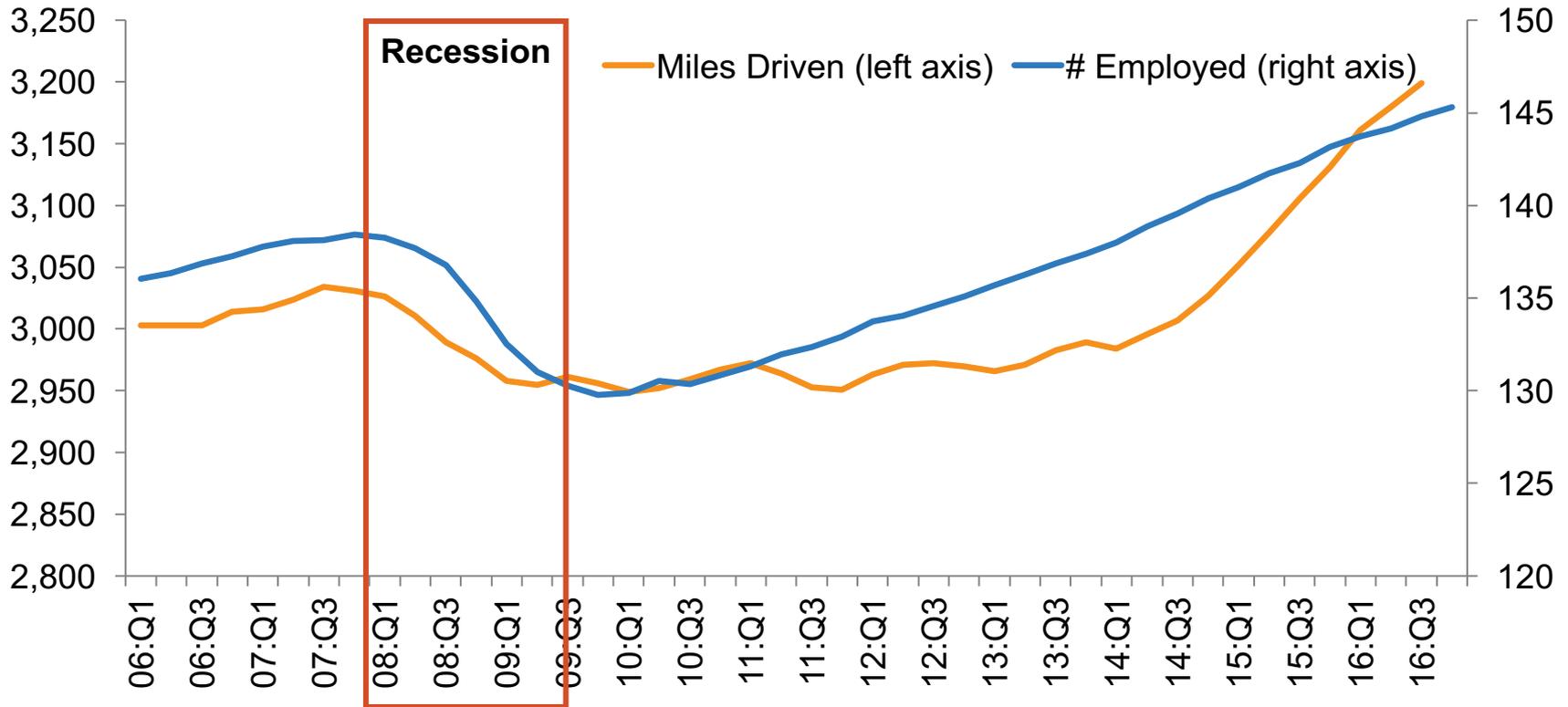


Sources: [Federal Highway Administration](#); [Energy Information Administration](#) (All Grades All Formulations Retail Gas Prices); Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Jobs?

Billions of Miles Driven in Prior Year

Millions Employed



**People Drive to and from Work and Drive to Entertainment.
Out of Work, They Curtail Their Movement.**

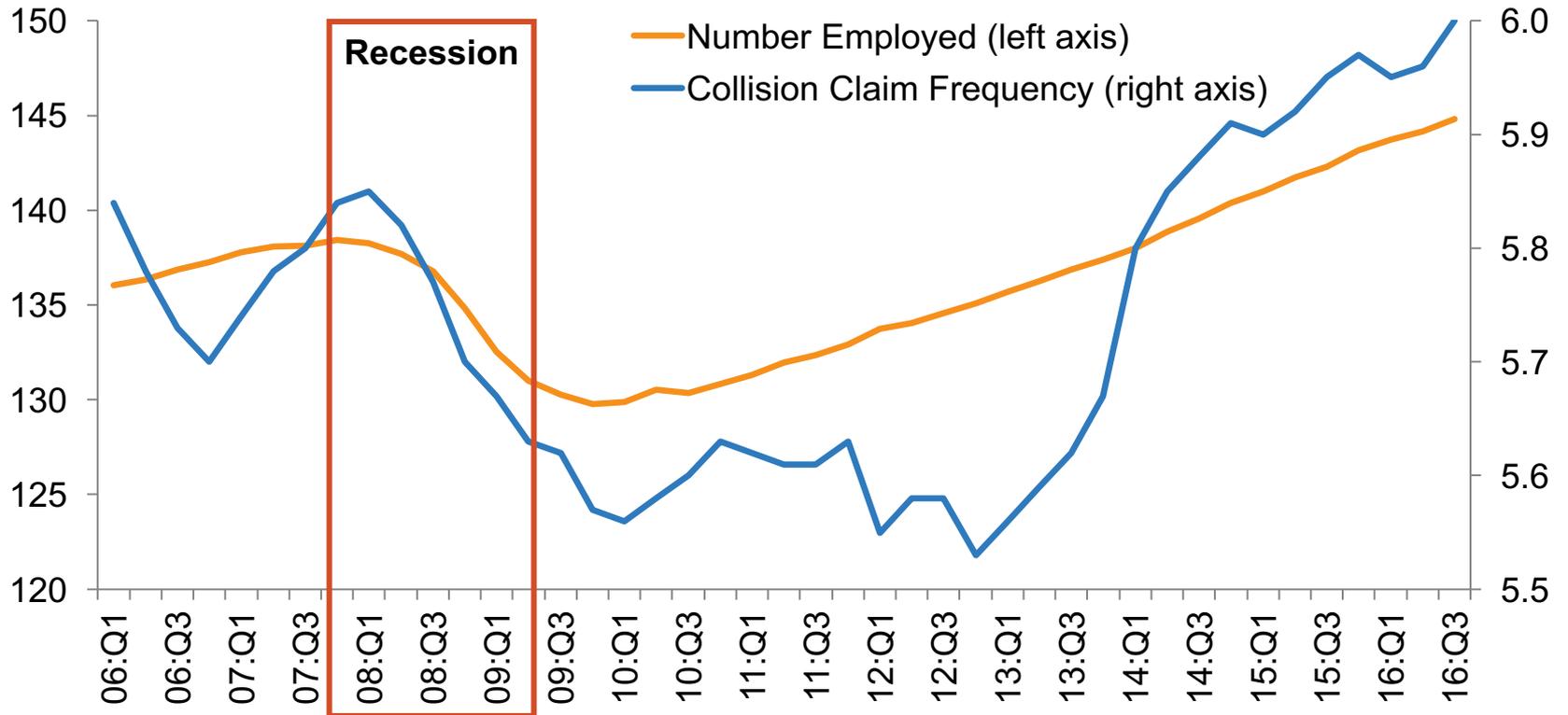


Sources: [Federal Highway Administration](#); Seasonally Adjusted Employed from Bureau of Labor Statistics via [FRED](#); Insurance Institute for Highway Safety; Insurance Information Institute.

More People Working and Driving => More Collisions, 2006-2016

Number Employed, Millions

Overall Collision Claims Per 100 Insured Vehicles



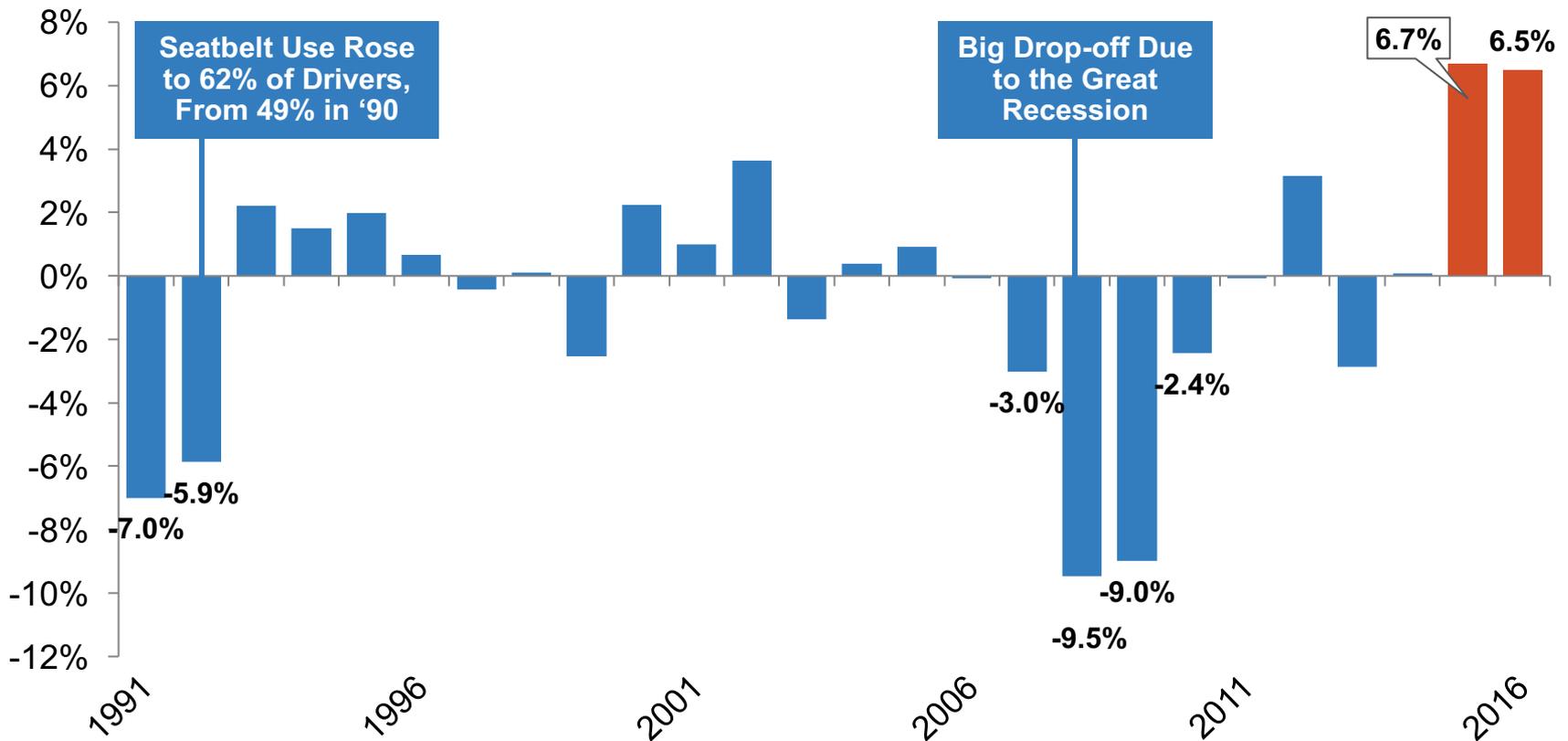
When People are Out of Work, They Drive Less. When They Get Jobs, They Drive to Work, Helping Drive Claim Frequency Higher.



Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Rolling four-quarter average frequency from ISO, a Verisk Analytics company; Insurance Information Institute.

Severity: Driving Fatalities are Rising

Annual Change in Motor Vehicle Deaths



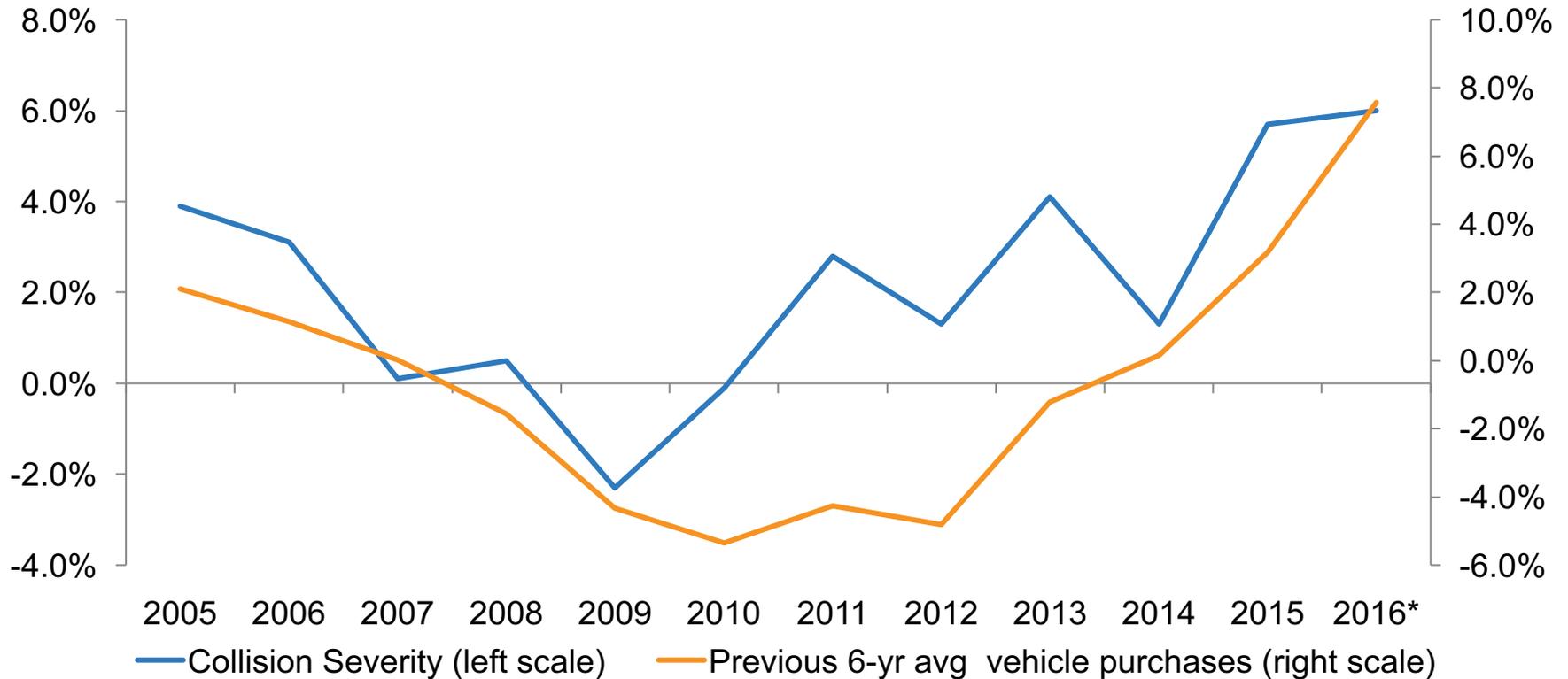
Driving Has Been Getting Safer for Decades, But Recent Trend is Discouraging—38,300 Deaths in 2015.



Sources: National Safety Council, Insurance Information Institute.

Does Spending on Vehicles Affect Claim Severity?

Annual Change, 2005 through 2016



As the Economy Has Gotten Better, People Are Spending More on Vehicles – When Those Cars Wreck, Severity Increases.

* Claim Frequency Through Third Quarter.

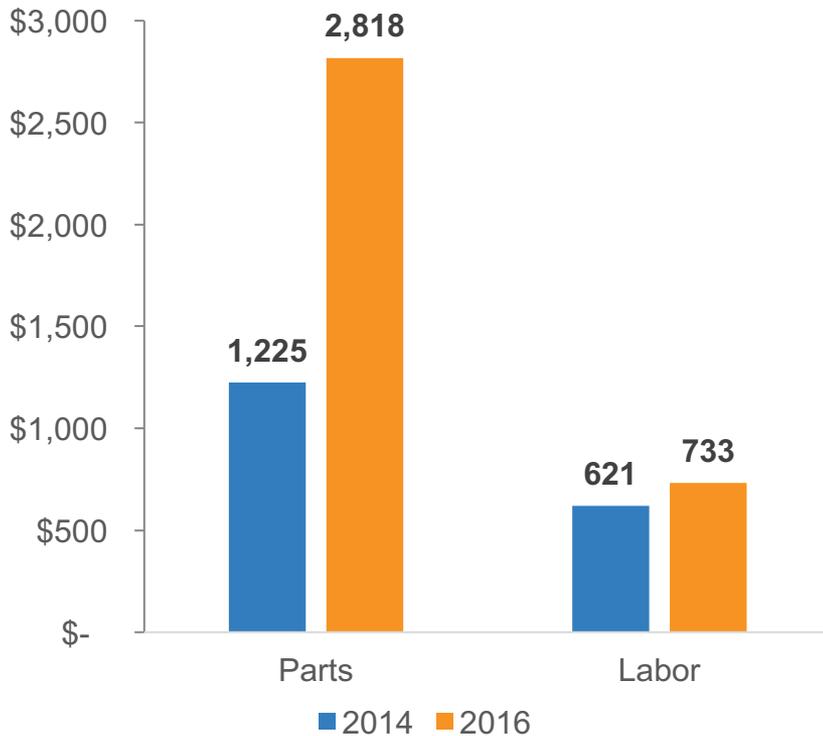
Source: ISO, a Verisk Analytics company; Bureau of Labor Statistics Consumer Expenditure Survey (vehicle purchases – net outlay) Insurance Information Institute.



Fixing a Bumper

... On an Entry-Level Luxury Car (~\$35K)

2014 Cost vs. 2016 Cost



What Has Changed?

	2014	2016
Grille: Distance Sensor	\$0	\$2,818
Headlamp Assembly	394	918
Mechanical Labor	0	108

Fewer Accidents, Higher Costs

- ▲ Parts: 130% Higher
- ▲ Labor: 18% Higher
- ▲ Total cost: \$1,705 higher



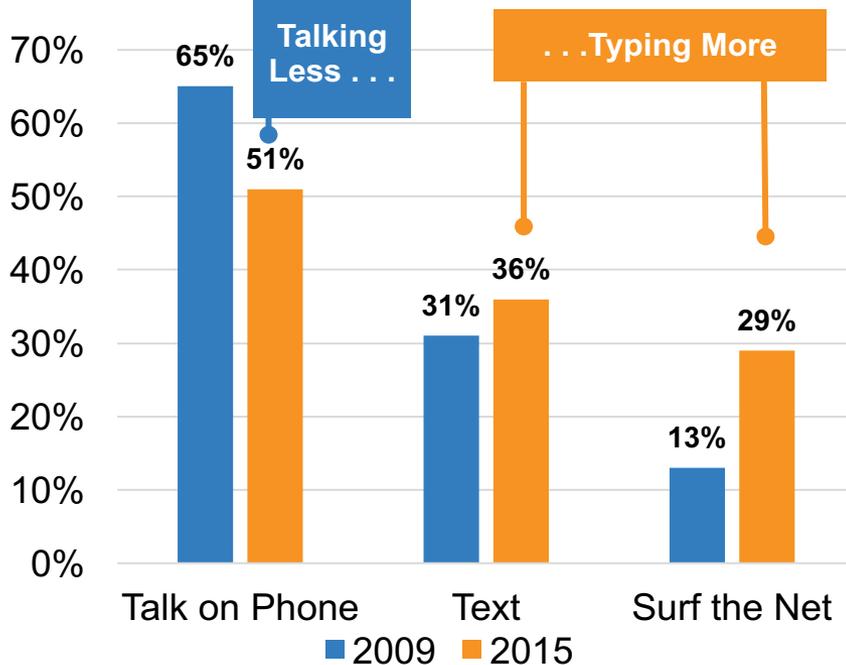
2016 vehicle has LED headlights and adaptive cruise control.
SOURCE: Liberty Mutual Insurance.

What About Distractions?

It's A Problem. Is It Growing?

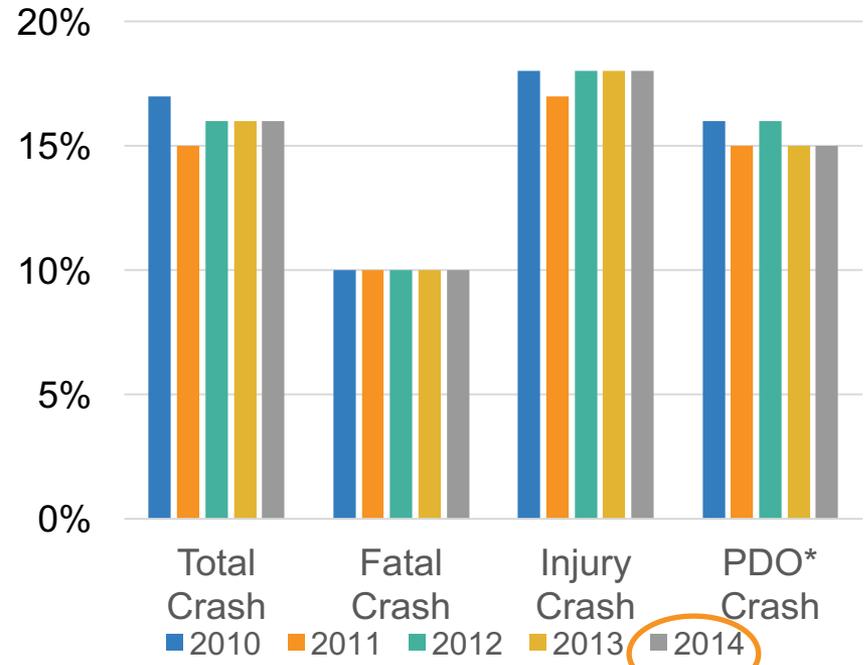
What We Do Behind The Wheel

Percentage of Drivers Who . . .



But Impact Is Not Clear

Percentage of Crashes Involving Distraction



Most Recent Year



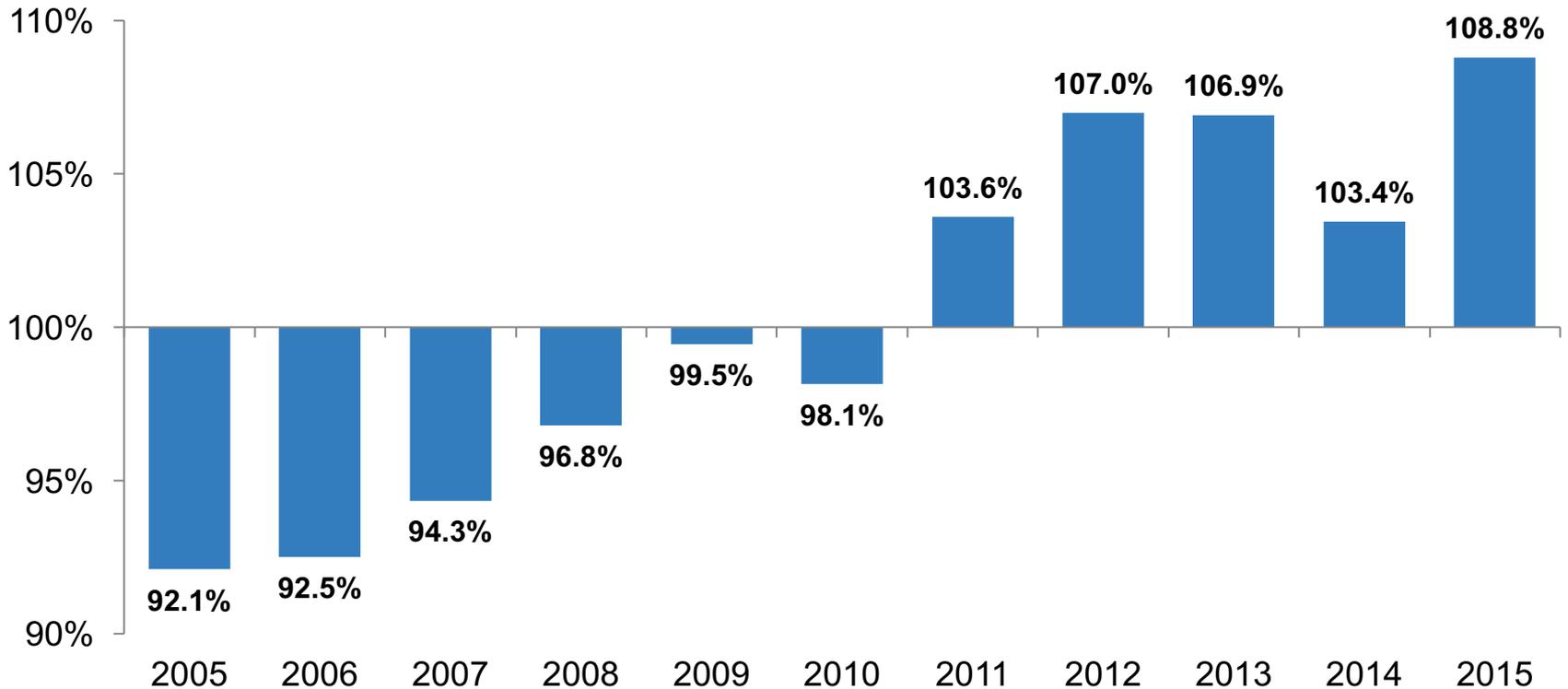
* Property Damage Only.

SOURCES: State Farm, National Highway Transportation Safety Administration (distraction.gov)

Commercial Auto

The Long Burn

Comm Auto Net Combined Ratio, 2005-2015

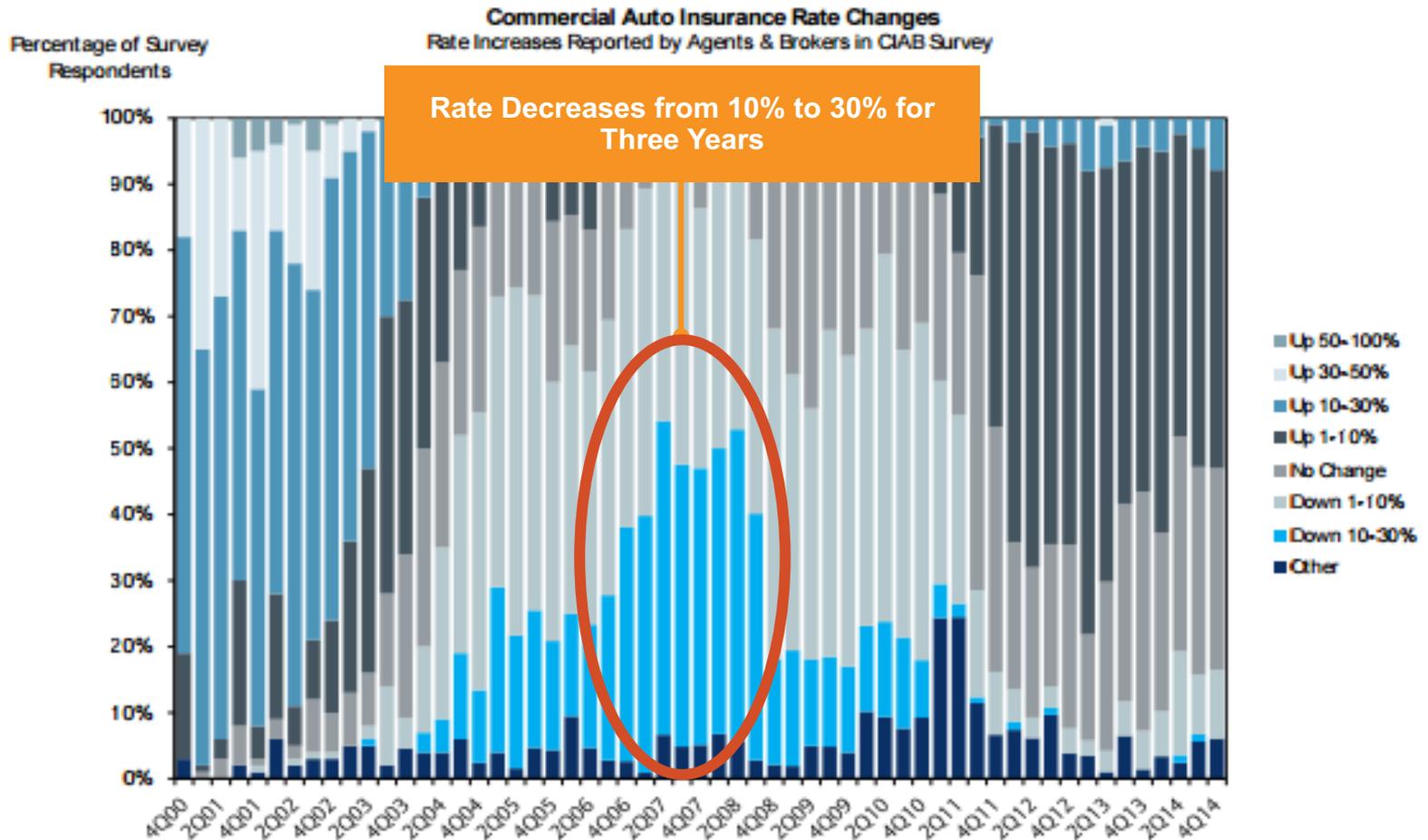


**Loss Ratios Have Been Rising for a Decade.
2015 Return on Net Worth is Likely Close to Zero or Negative.**



Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

Soft Market: 2006 to 2008

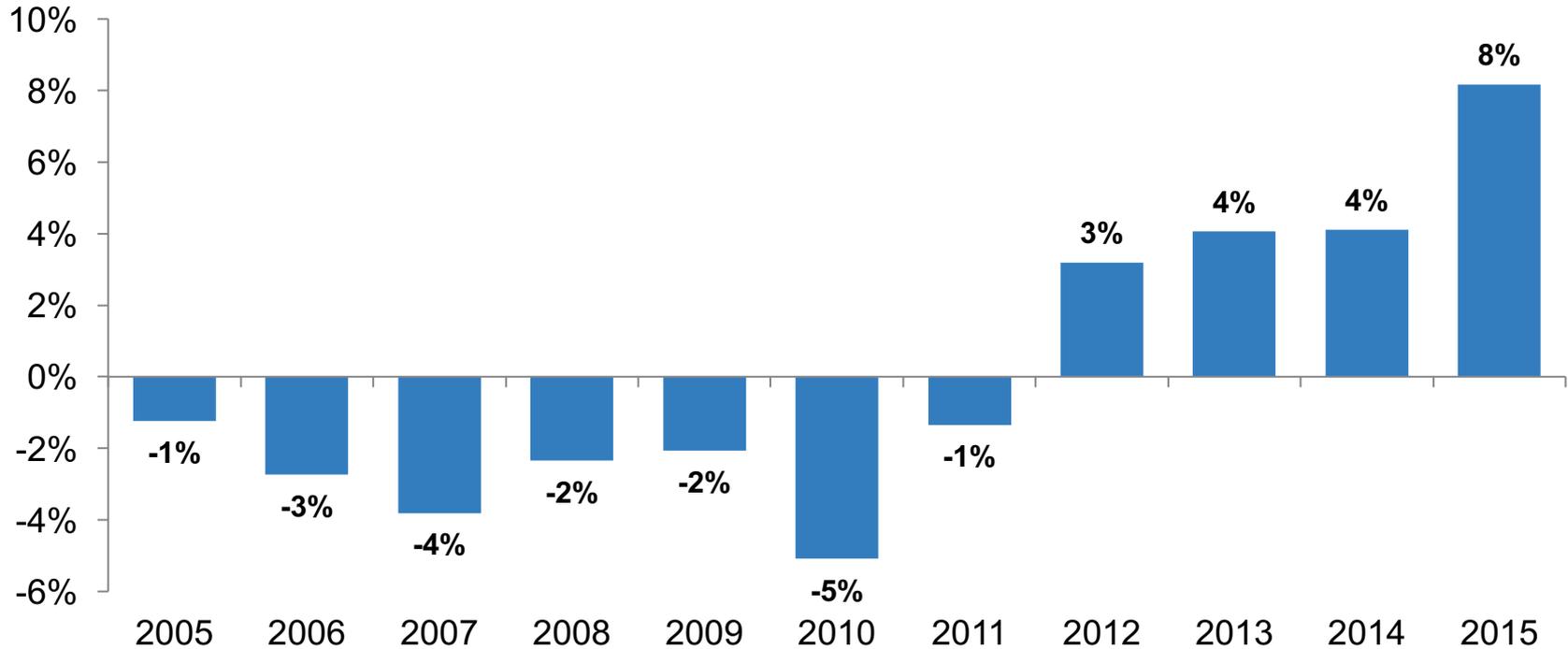


Source: The Council of Insurance Agents & Brokers. Chart prepared by Barclays Research.



Comm Auto Liab Development, 2005-2015

(Development on Prior as % of NEP)



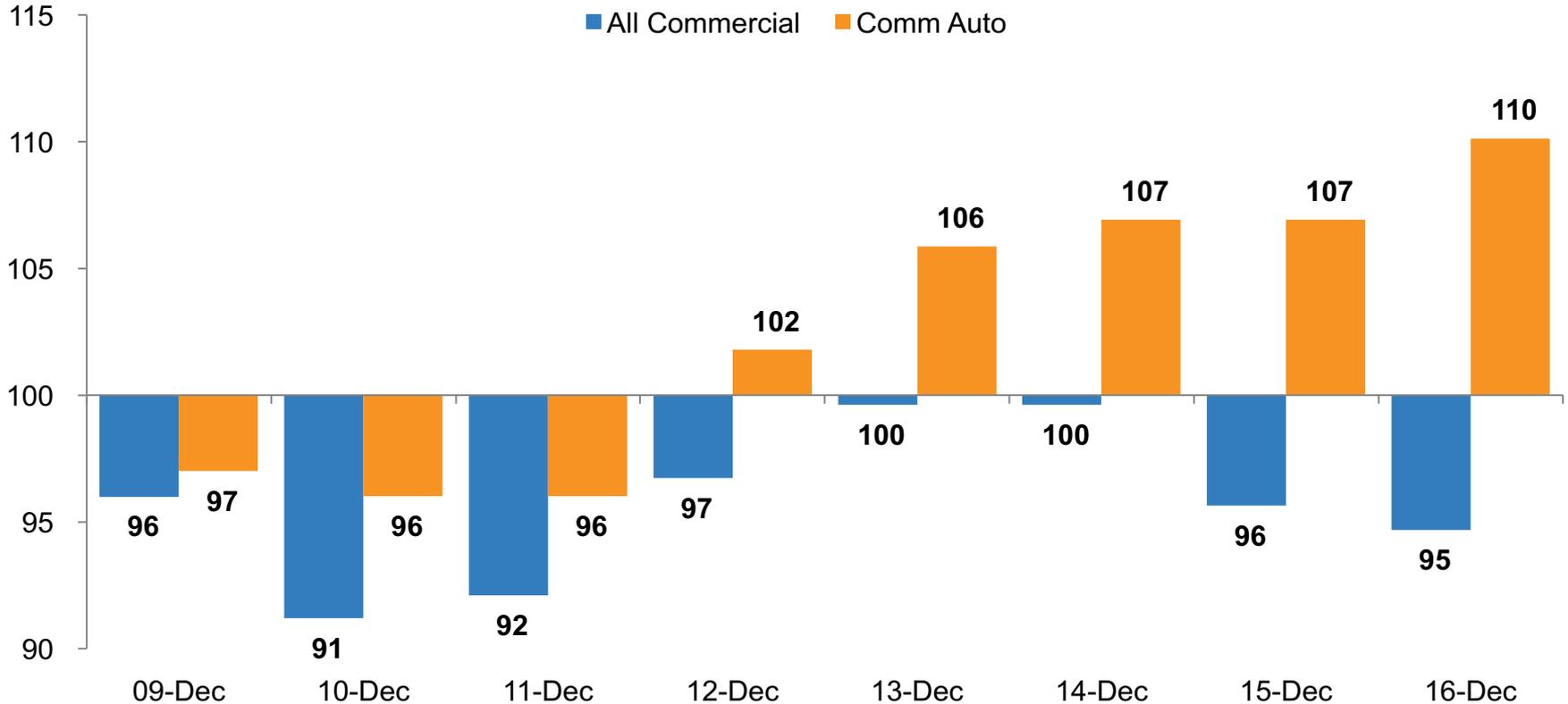
Insurers Have Struggled to Estimate Loss Reserves.



Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

Commercial Auto Rates Since Late 2008

(Rate Index: December 2008 = 100)



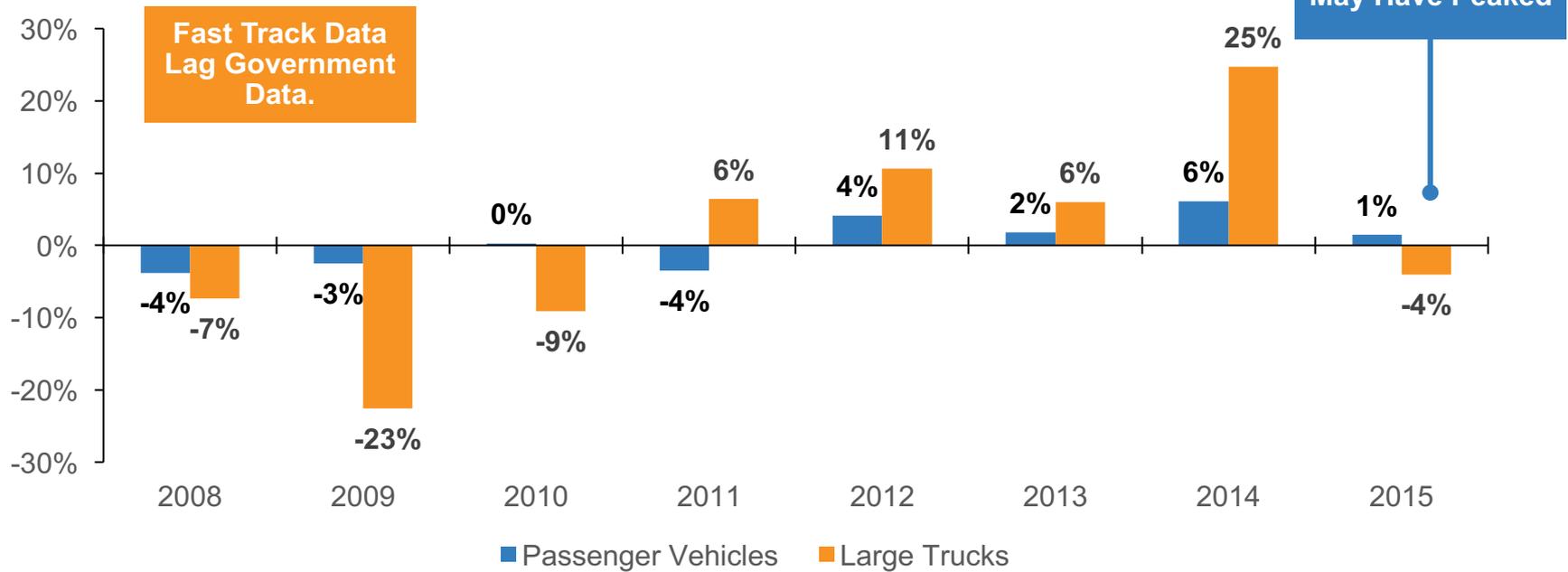
Commercial Auto Rates Fell Less in Soft Cycle and Have Risen More Than Overall Property/Casualty Market.



Sources: MarketScout, Insurance Information Institute.

Vehicles in Crashes Per 100 Registered Vehicles (Government Data)

(% Change From Year Earlier)



Commercial Auto Claim Frequency Began Growing Before Personal Auto.

Trucking Trends

▲ Driver Shortage

- ◆ Laid-off Drivers Aren't Returning
- ◆ Older, Inexperienced Drivers Entering Force
- ◆ High Turnover Exacerbates Problem

▲ 'Super Lawyers'

- ◆ "Insured Indifference to Safety"
- ◆ Lots of Data
- ◆ Cases Settle Faster



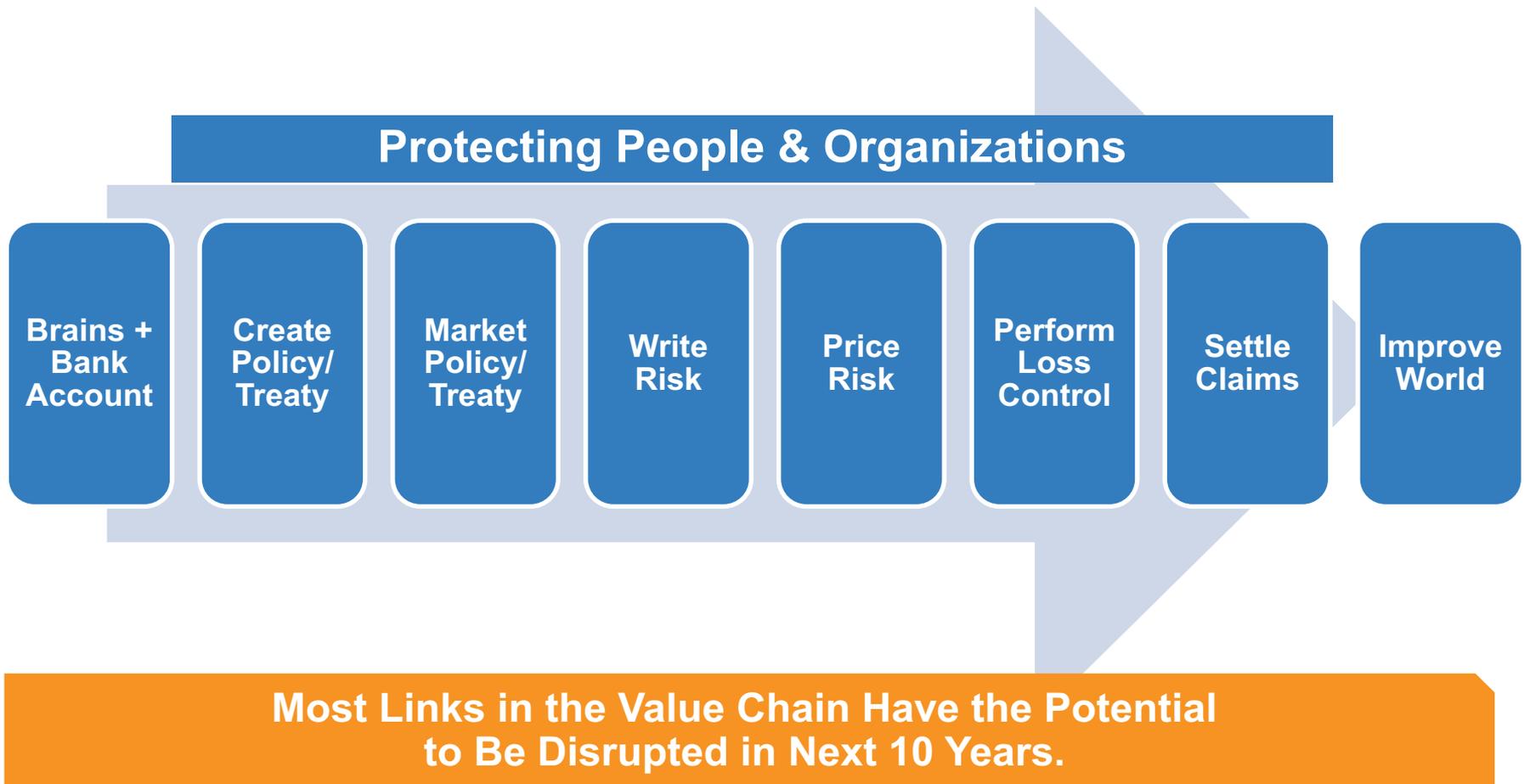
The screenshot shows the mobile interface of The Wall Street Journal. At the top, there's a navigation bar with the site's name and a search icon. Below that, a market data bar displays various indices like DJIA Futures, Stoxx 600, U.S. 10 Yr, Crude Oil, and Euro. The main content area features a headline: "‘Nuclear’ Verdicts Have Insurers Running From Trucks". The sub-headline reads: "Zurich Insurance, AIG dropped coverage of most for-hire fleets earlier this year". Below the text is a photograph of a white semi-truck driving on a multi-lane highway. To the left of the article, there are social media sharing icons for Facebook, Twitter, Email, Star, and a menu icon.

Disruption

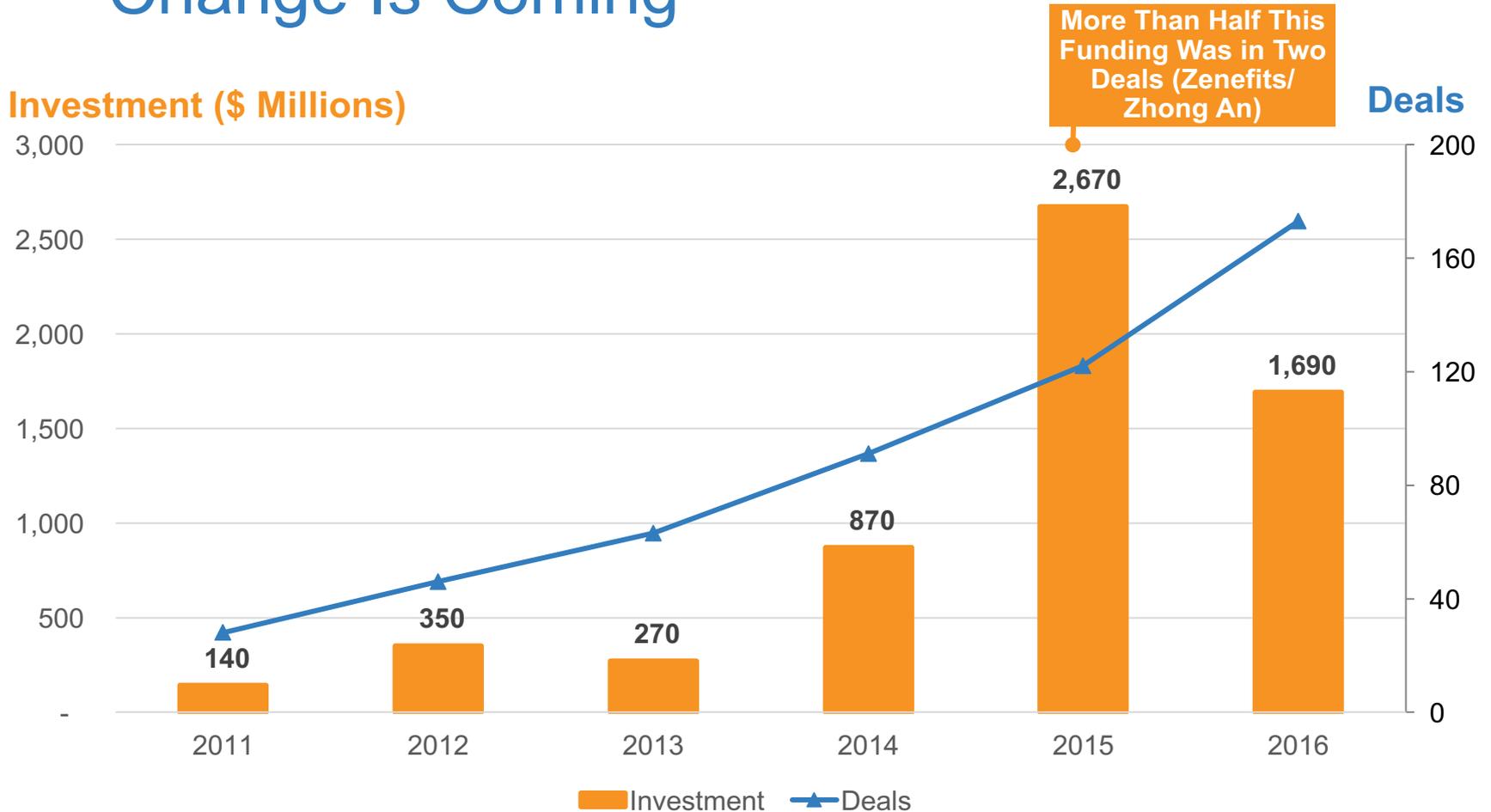
Challenges to the Value Chain

The (Re)Insurance Value Chain

Where Could Disruption Lie?



Insurance Technology Financing – Change Is Coming



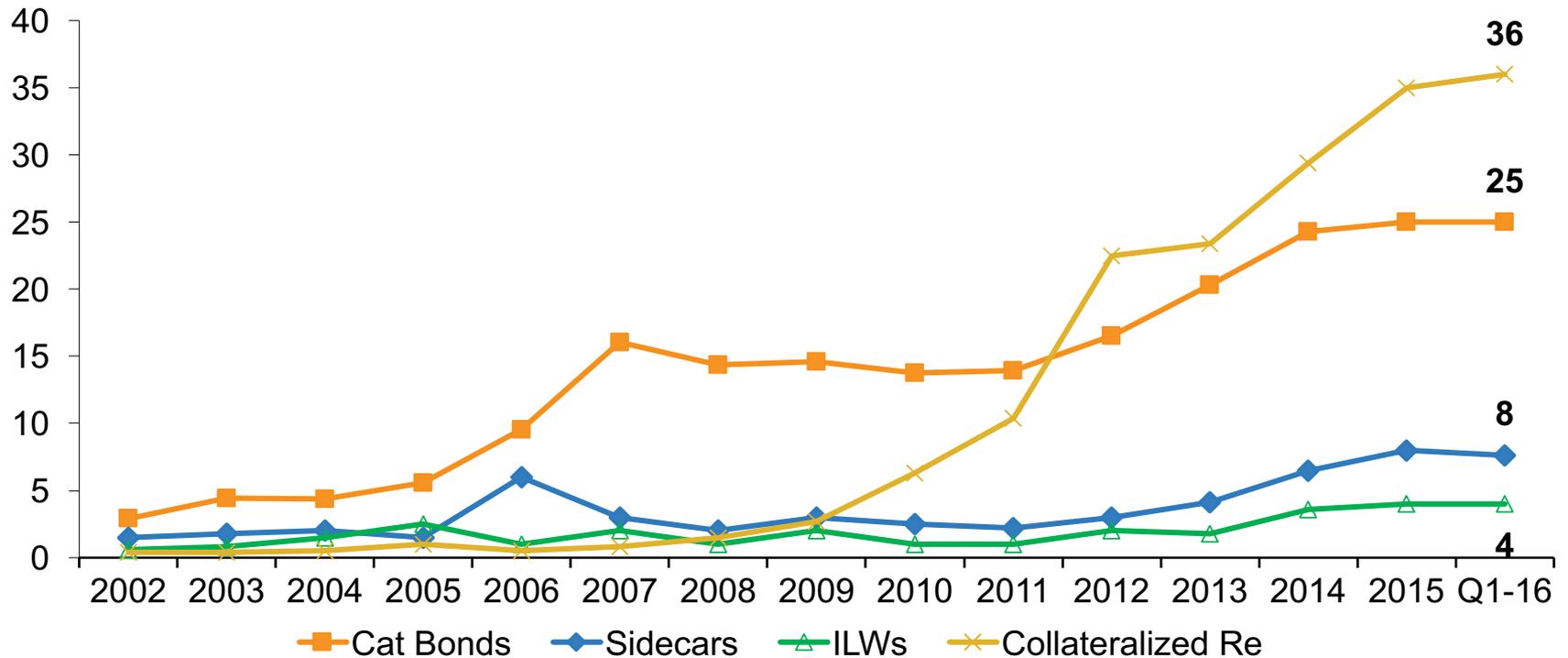
Investment In Insurance Tech Is Rising. Number of Deals Set A Record Last Year.



SOURCES: CB Insights, Insurance Information Institute.

Alternative Capital Potentially Disrupting the Bank Account

(Billions of USD)

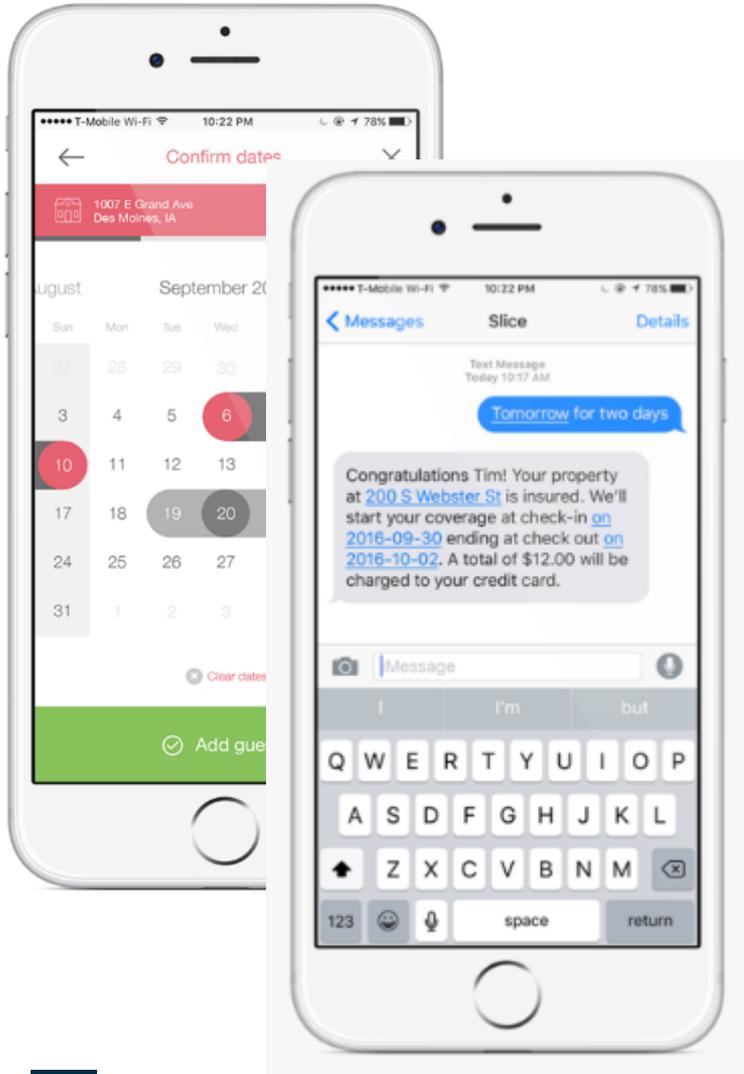


Collateralized Reinsurance and Catastrophe Bonds Currently Dominate the Alternative Capital Market.



Source: Aon Benfield Analytics; Insurance Information Institute.

Pricing Disruptor: The Fragmented Risk



UBER

metromile

airbnb

Slice



Loss Control Disruptor

The Internet of Things

Telematics Today



Telematics Tomorrow



fitbit®



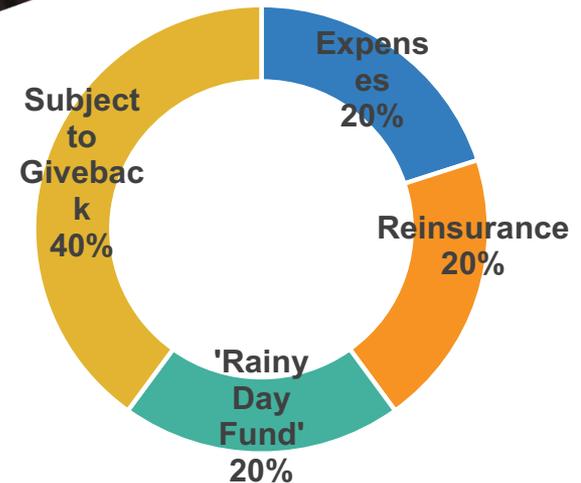
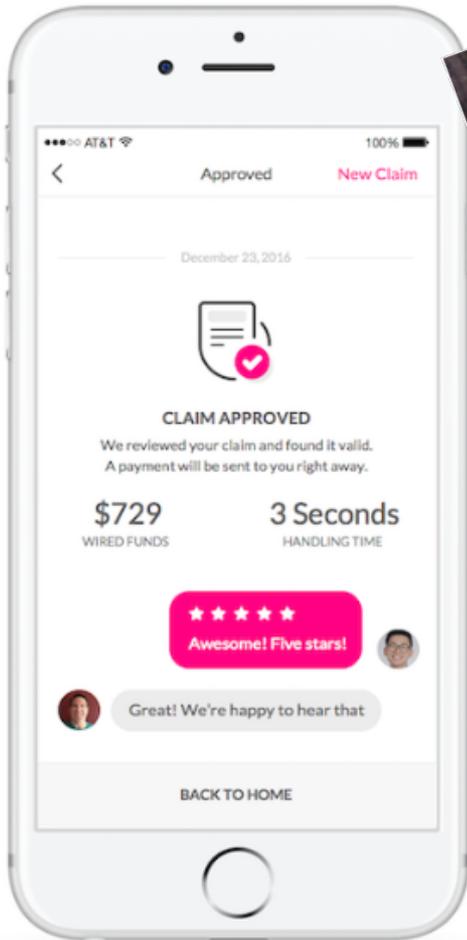
Apple iWatch



Claims Disruptor

Artificial Intelligence + Behavioral Economics

Lemonade



Summary

- ▲ The industry has posted a modest underwriting loss through Q3.
- ▲ Interest rates may be climbing a bit, but investment income will continue to lag prior years.
- ▲ Personal auto costs are rising (both frequency and severity), linked closely to the improving economy.
- ▲ Commercial auto results continue to vex the industry.
- ▲ Disruption provides opportunities and challenges throughout the value chain





**INSURANCE
INFORMATION**
INSTITUTE

Thank you for your time
and your attention!

Read our auto [White Paper](#) on Rising Personal Auto Costs at
www.iii.org