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Private Passenger and Commercial Auto Overview: *Frequency & Severity on the Rise*

Insurance Information Institute

July 12, 2016

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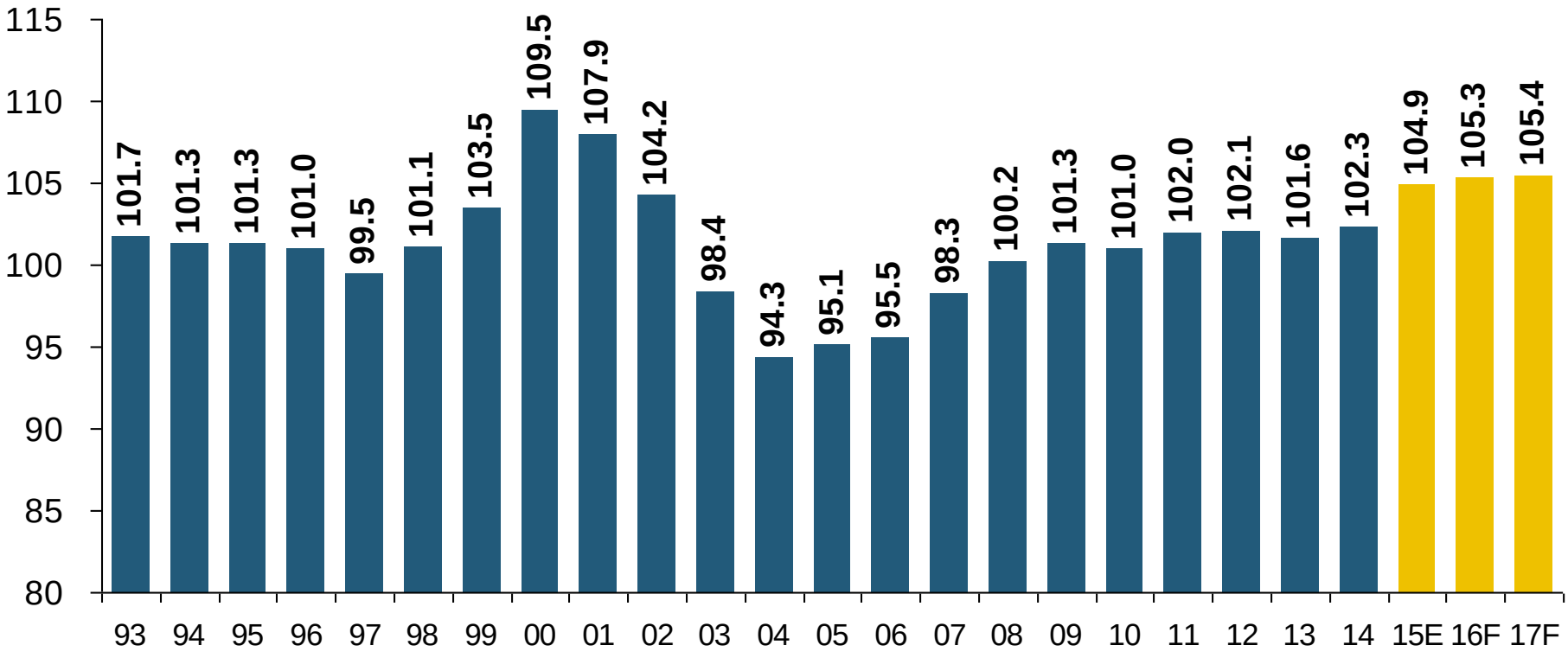
Personal & Commercial Auto Underwriting Performance

Auto Has Been Under Some Underwriting Pressure Recently as Frequency and Severity Trends Deteriorate

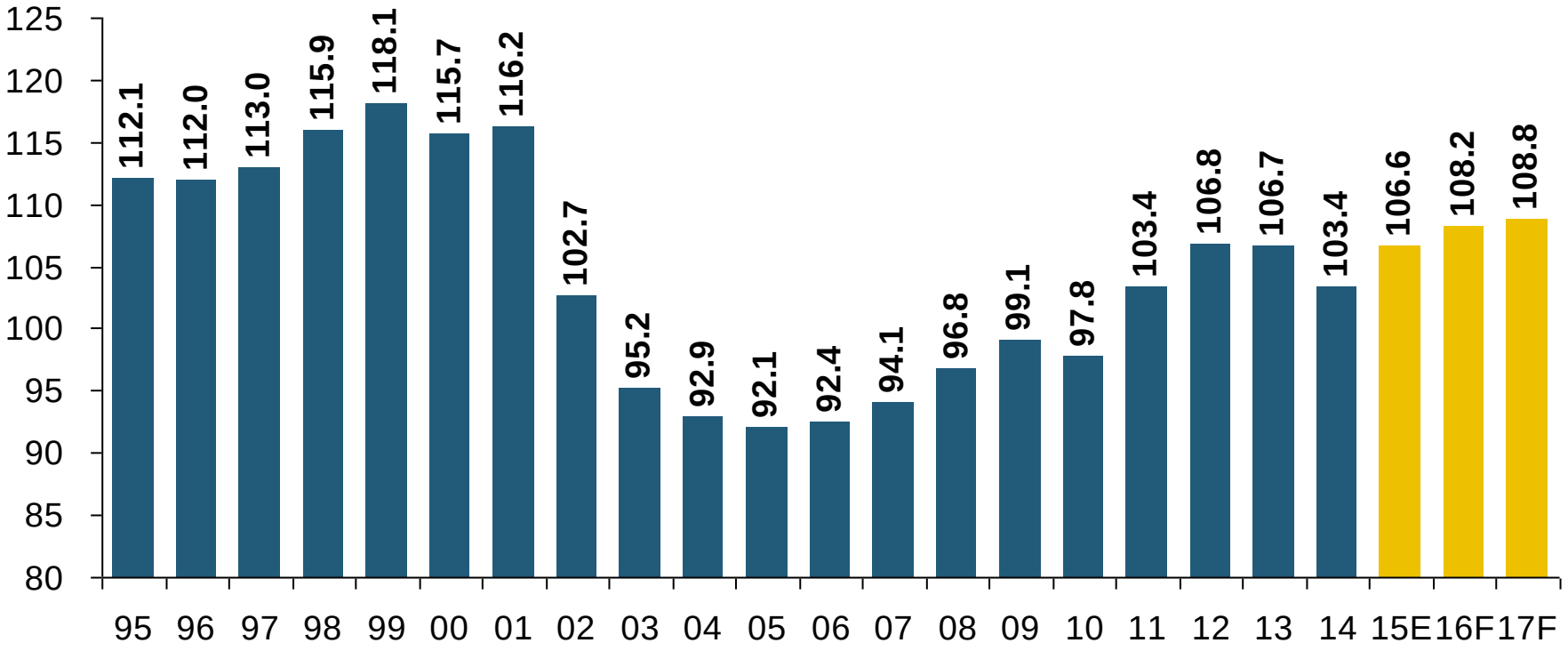
Private Passenger Auto Combined Ratio: 1993–2017F



Private Passenger Auto Underwriting Performance Is Showing the Strains of Rising Frequency (and Severity) Trends in Many States

Sources: A.M. Best (1990-2014); Conning (2015E-17F); Insurance Information Institute.

Commercial Auto Combined Ratio: 1993–2017F



Commercial Auto Results Are Challenged as Rate Gains Barely Have Yet to Offset Adverse Frequency and Severity Trends

Sources: A.M. Best (1990-2014);Conning (2015E-2017F); Insurance Information Institute.

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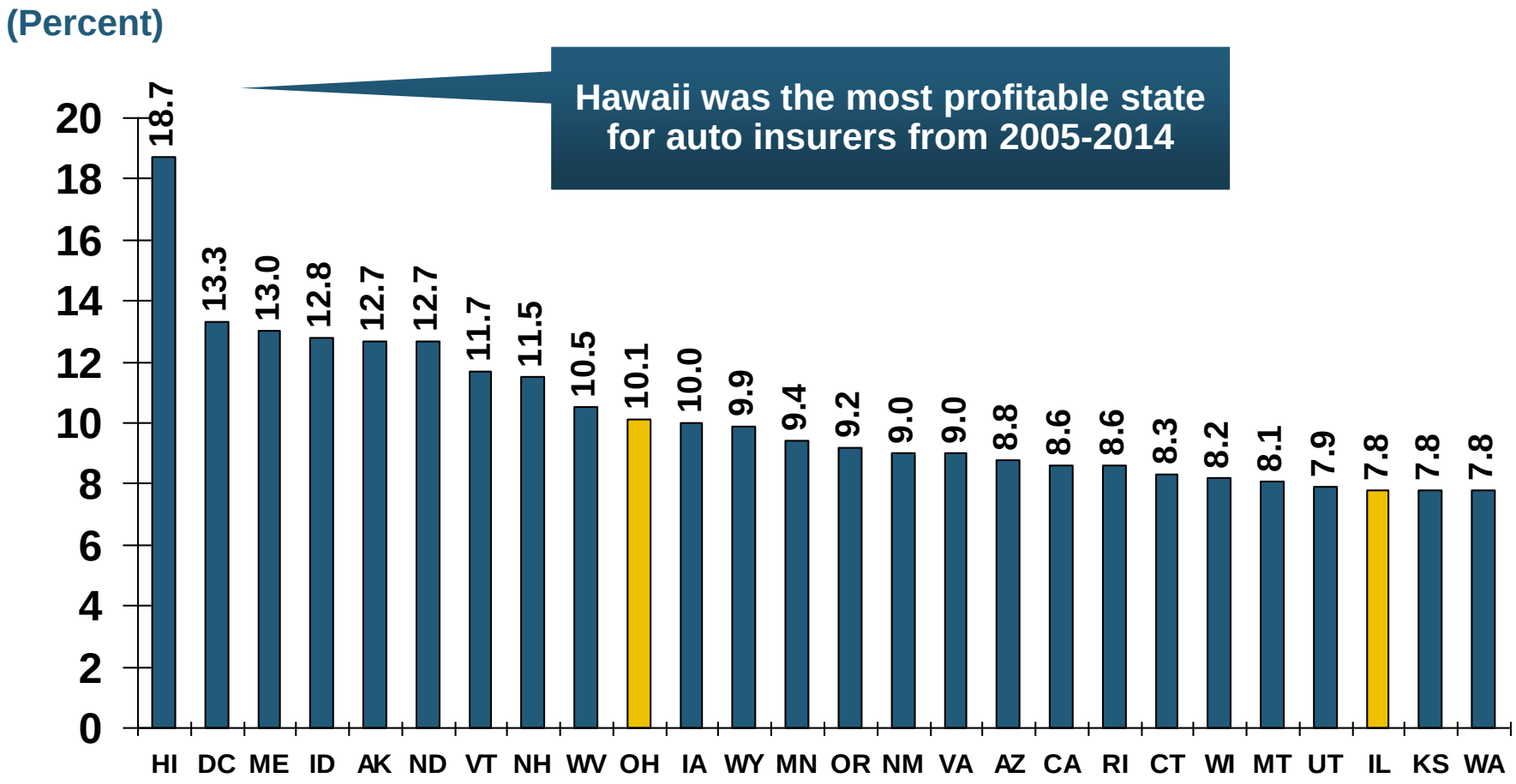
Profitability and Growth in Personal and Commercial Auto Insurance Markets

Analysis by Selected States and United States Totals

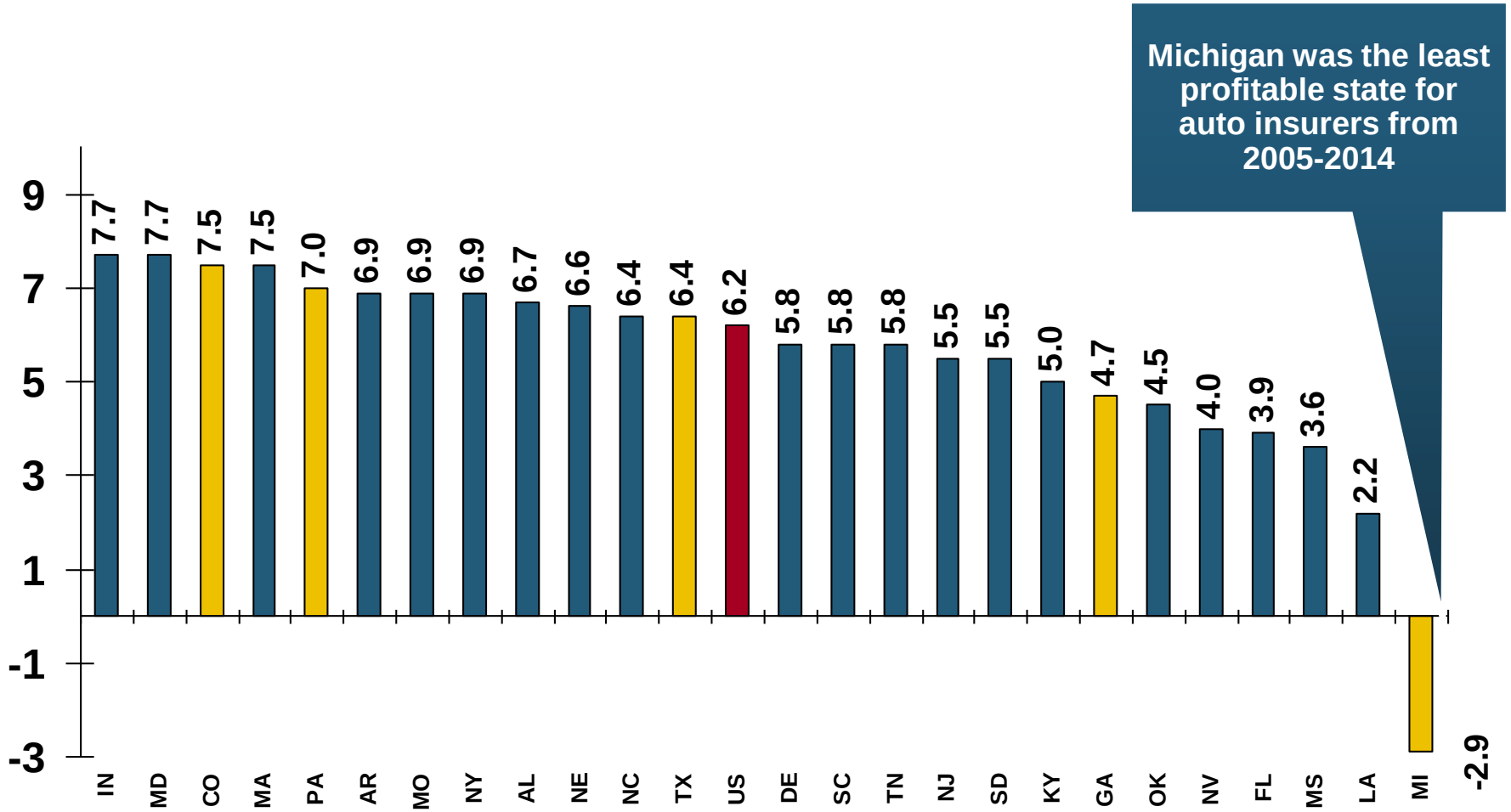
RNW Pvt. Passenger Auto, 2005-2014 Average: Highest 25 States



Sources: NAIC; Insurance Information Institute

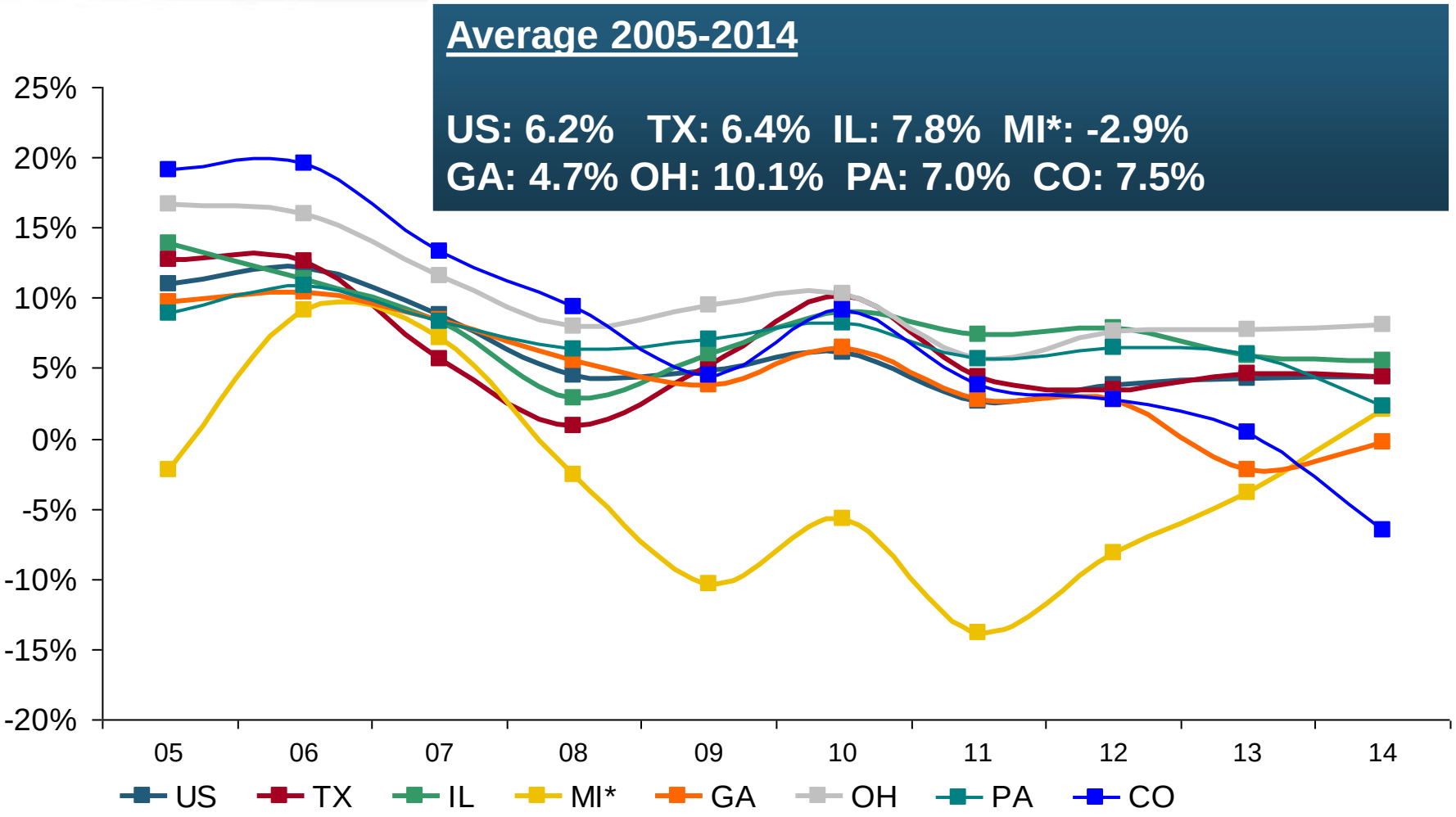
RNW Pvt. Passenger Auto, 2005-2014 Average: Lowest 25 States

(Percent)



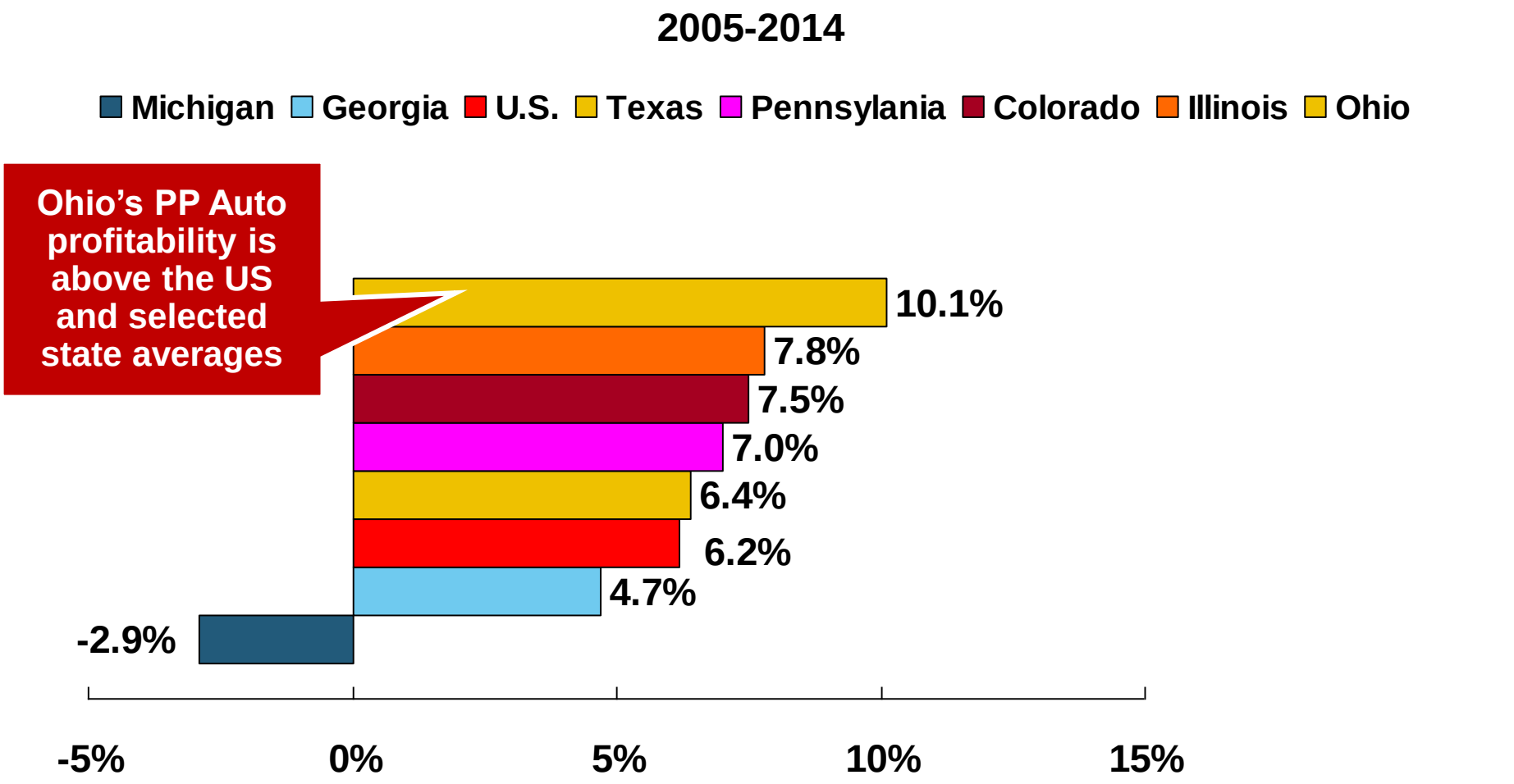
Sources: NAIC; Insurance Information Institute

RNW PP Auto: Selected States vs. U.S., 2005-2014



Source: NAIC.
*The profit reported for Michigan's passenger and commercial auto liability lines are not meaningful because of data reporting anomalies arising from the data related to the Michigan Catastrophic Claims Association.

PP Auto: 10-Year Average RNW Select States & The U.S.



Source: NAIC, Insurance Information Institute

Top Ten Most Expensive And Least Expensive States For Pvt. Pass. Auto Insurance, 2013 (1)

Rank	Most expensive states	Average expenditure	Rank	Least expensive states	Average expenditure
1	New Jersey	$1,254.10	1	Idaho	$553.38
2	D.C.	1,187.49	2	Iowa	572.14
3	New York	1,181.86	3	South Dakota	580.99
4	Louisiana	1,146.29	4	Maine	592.82
5	Florida	1,143.83	5	North Dakota	604.58
6	Michigan	1,131.40	6	Wisconsin	621.05
7	Delaware	1,101.12	7	Indiana	621.71
8	Rhode Island	1,066.25	8	North Carolina	624.76
9	Connecticut	1,011.27	9	Nebraska	638.74
10	Massachusetts	1,007.98	10	Wyoming	639.71

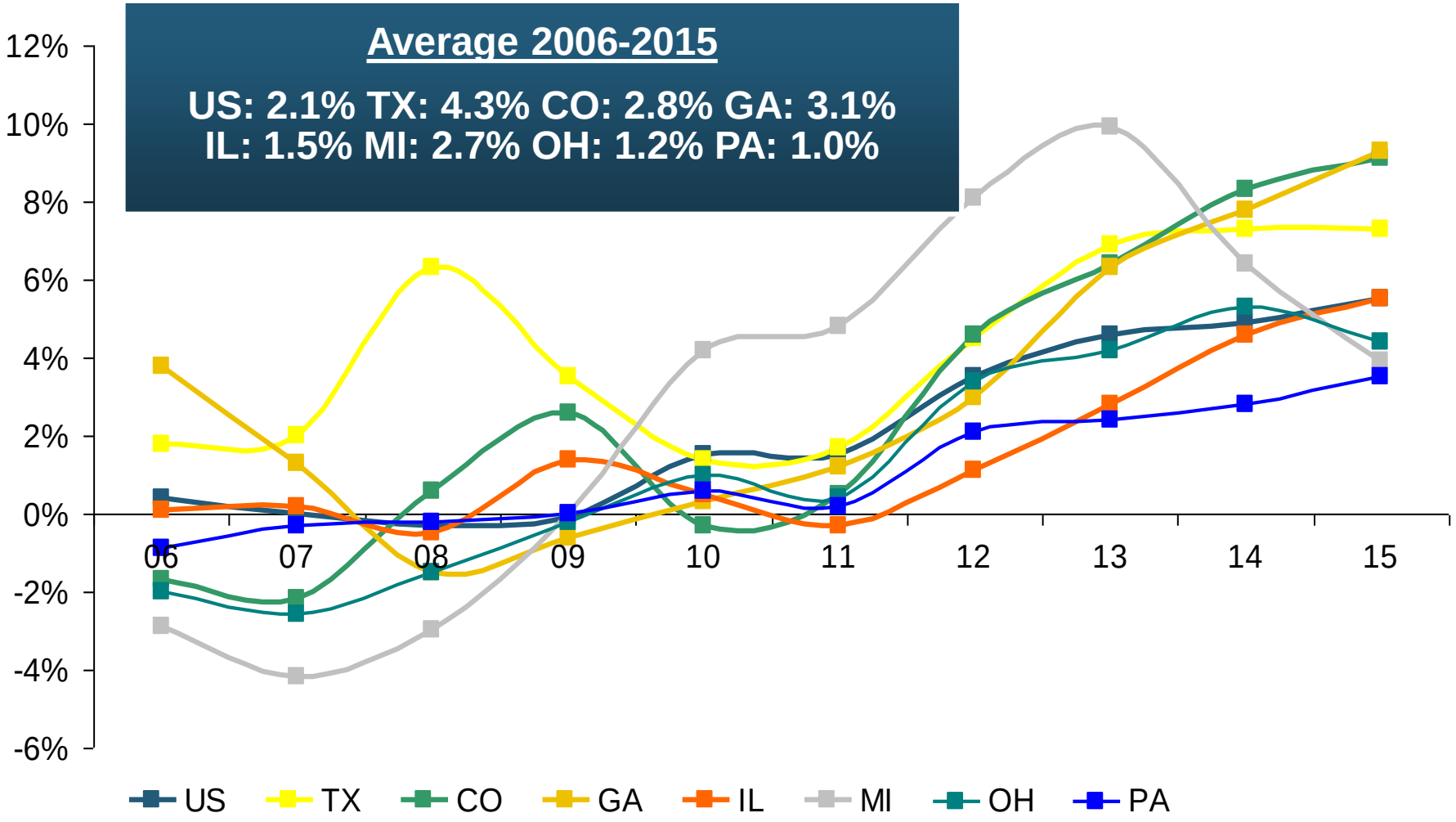
The US average expenditure for auto insurance in 2013 was $841.23.

(1) Based on average automobile insurance expenditures.

Source: © 2016 National Association of Insurance Commissioners.

PP Auto DPW Growth: Selected States vs. U.S., 2006-2015

(Percent)



Source: SNL Financial.

PP Auto Direct Incurred Loss Ratios Selected States vs. U.S., 2006-2015

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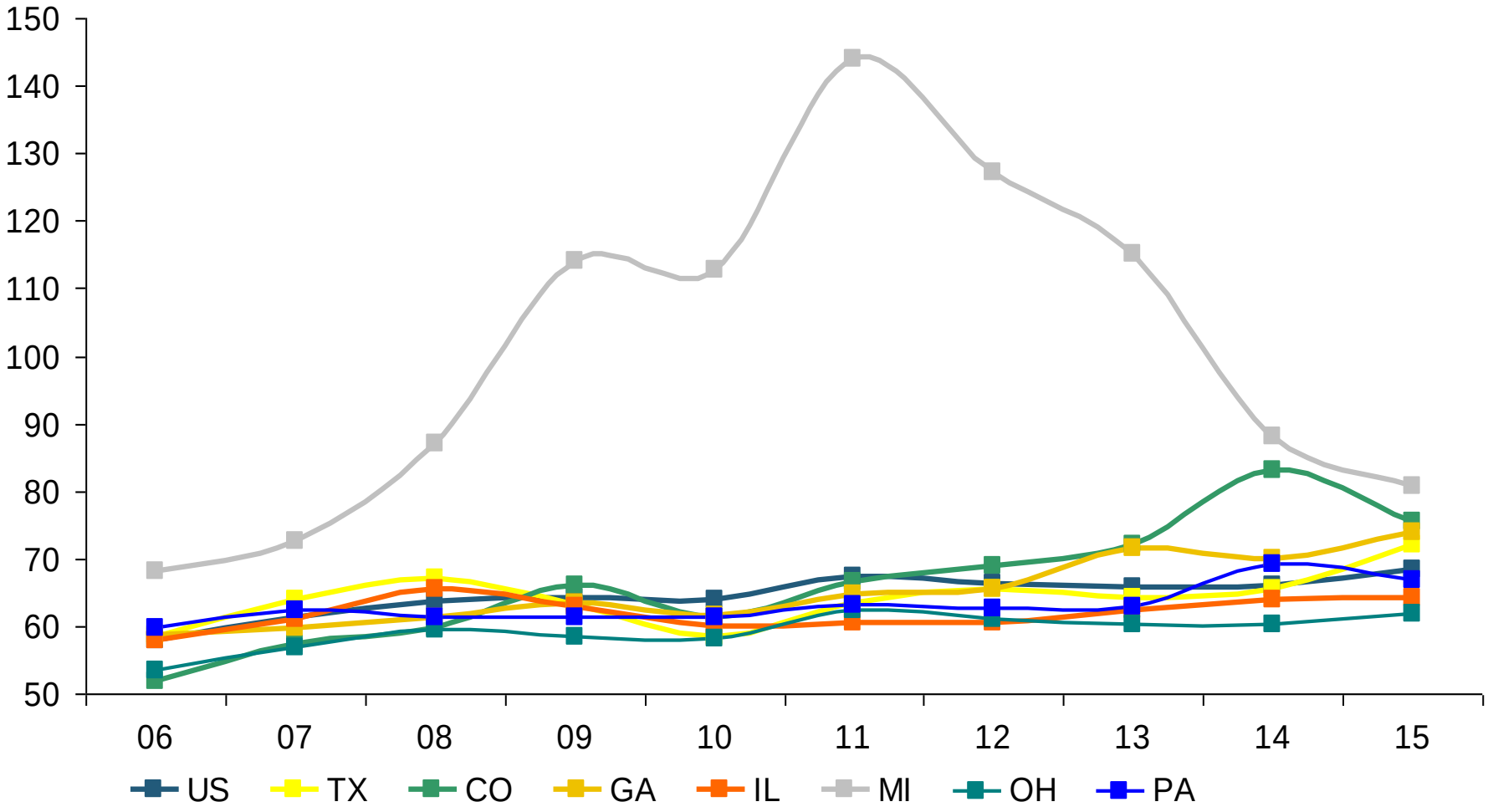
(Percent)



Source: SNL Financial.

PP Auto Direct Incurred Loss Ratios Selected States vs. U.S., 2006-2015

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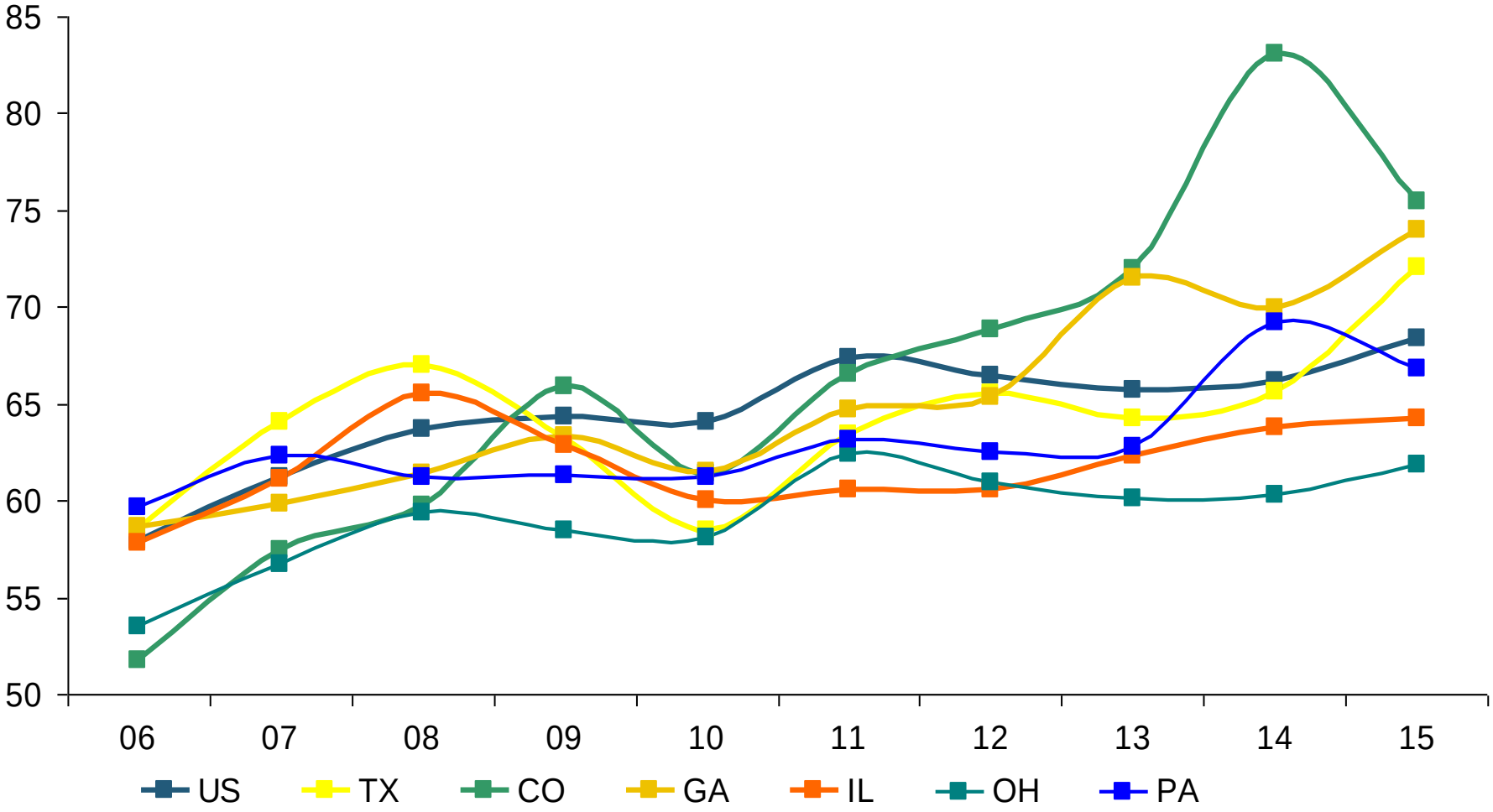


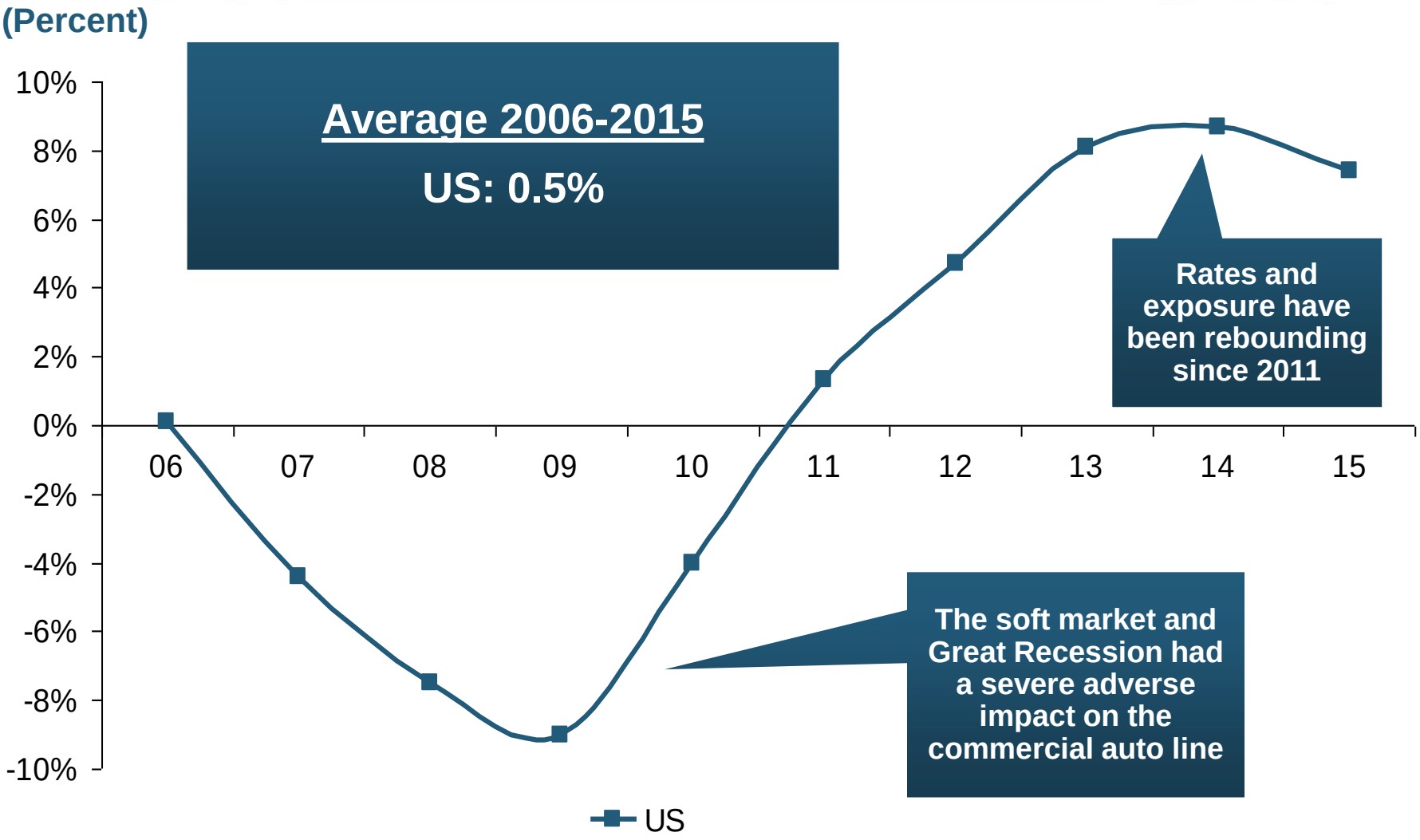
Source: SNL Financial.

Facts About Commercial Auto Insurance

- **Incurred Loss Ratio:** **65.9% in 2015, highest since the 66.3% reached in 2002 and up from 64.1% in 2014**
  - **Reserve deficiencies/strengthening could further pressure loss ratios**
- **Direct Written Premium Growth:** **+7.35% in 2015 to a record $31.08B, a modest deceleration from +8.66% in 2014**
  - **2015 was the 5th consecutive year of growth and the 4th consecutive year of strong growth**
  - **Growth is being driven primarily by rate increases in response to rising claim costs and secondarily by exposure growth**
- **Market Share:** **Progressive became the #1 commercial auto carrier in the US in 2015 (7.0% market share), displacing Travelers (6.4% market share), which had been #1 for decades**
  - **The top 10 commercial auto insurers accounted for 43.1% of the market in 2015**

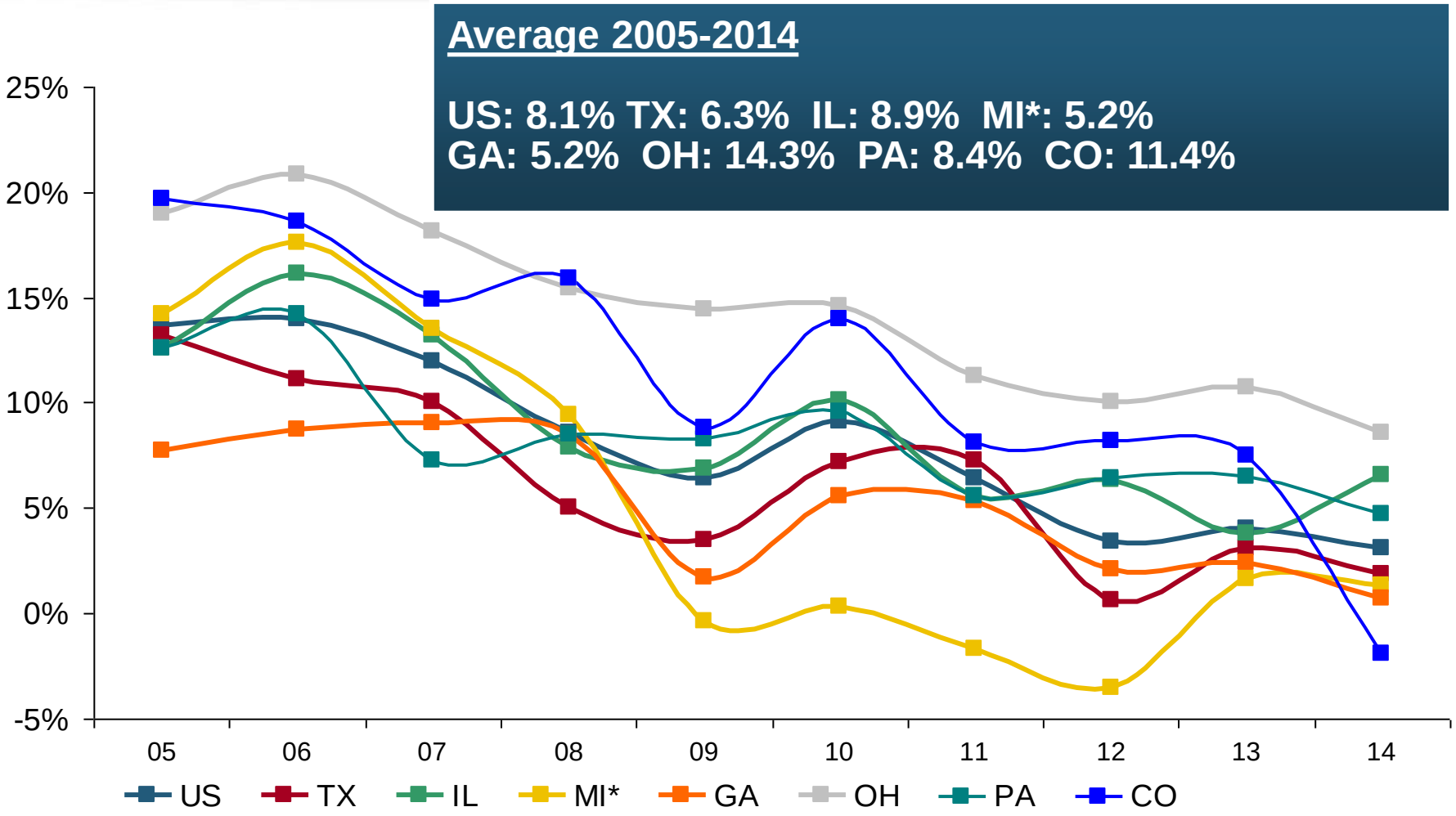
Source: *Auto insurance Report*, June 13, 2016; Conning.

Commercial Auto DPW Growth: Selected States vs. U.S., 2006-2015



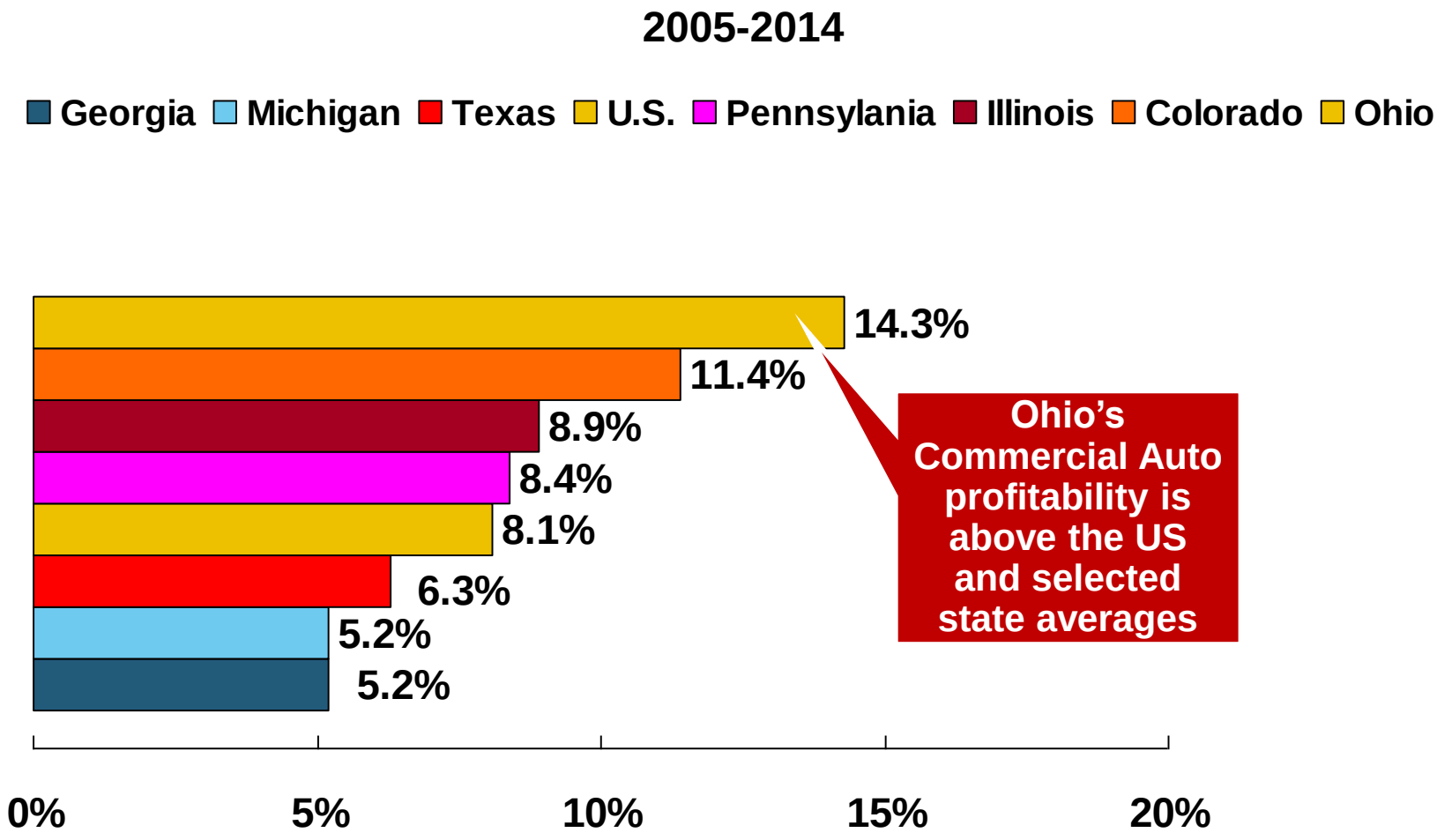
Source: SNL Financial; Insurance Information Institute.

RNW Commercial Auto: Selected States vs. U.S., 2005-2014



Source: NAIC.
*The profit reported for Michigan's passenger and commercial auto liability lines are not meaningful because of data reporting anomalies arising from the data related to the Michigan Catastrophic Claims Association.

Commercial Auto: 10-Year Average RNW Select States & The U.S.



Source: NAIC, Insurance Information Institute

Commercial Auto DPW Growth: Selected States vs. U.S., 2006-2015

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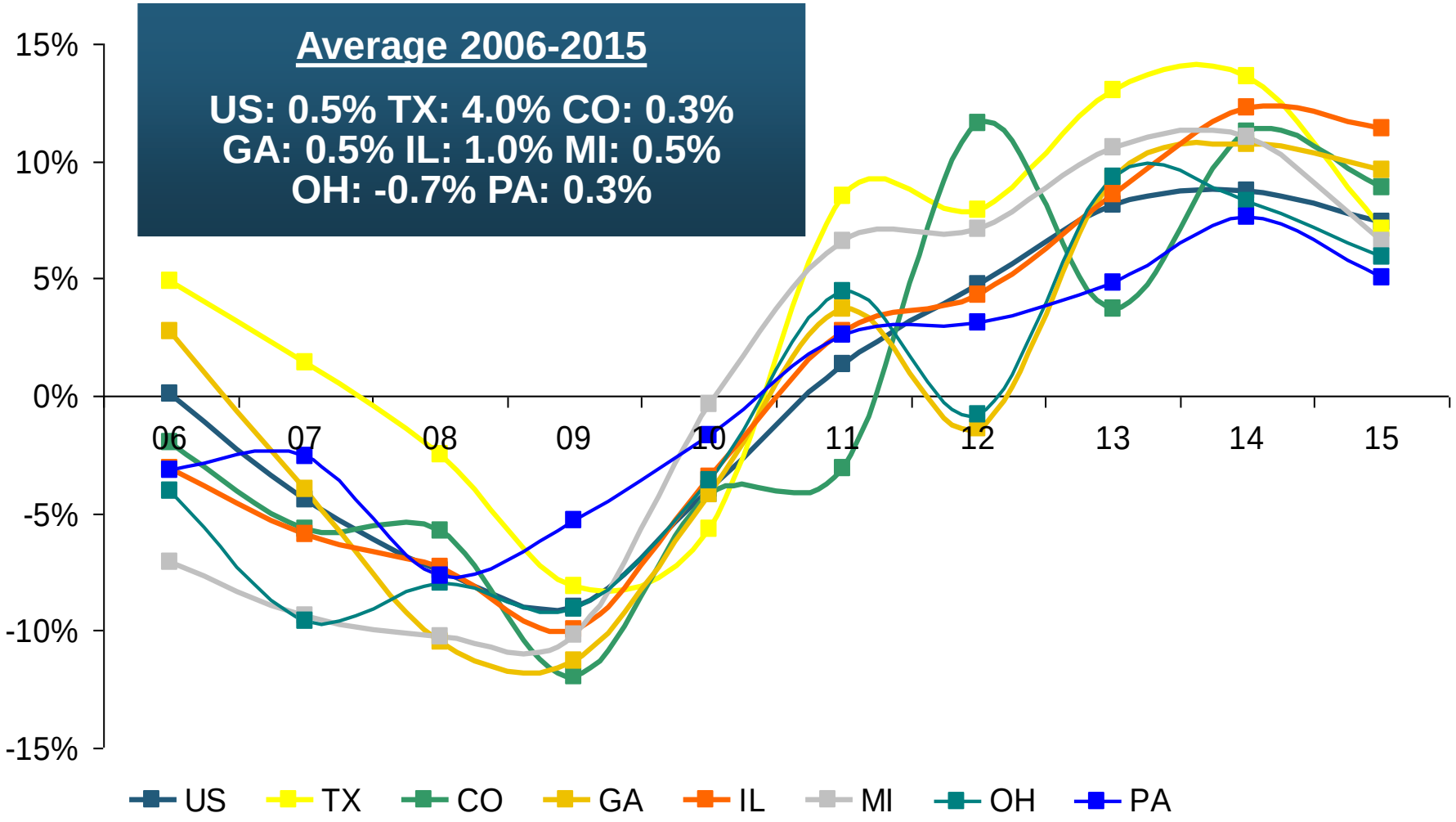
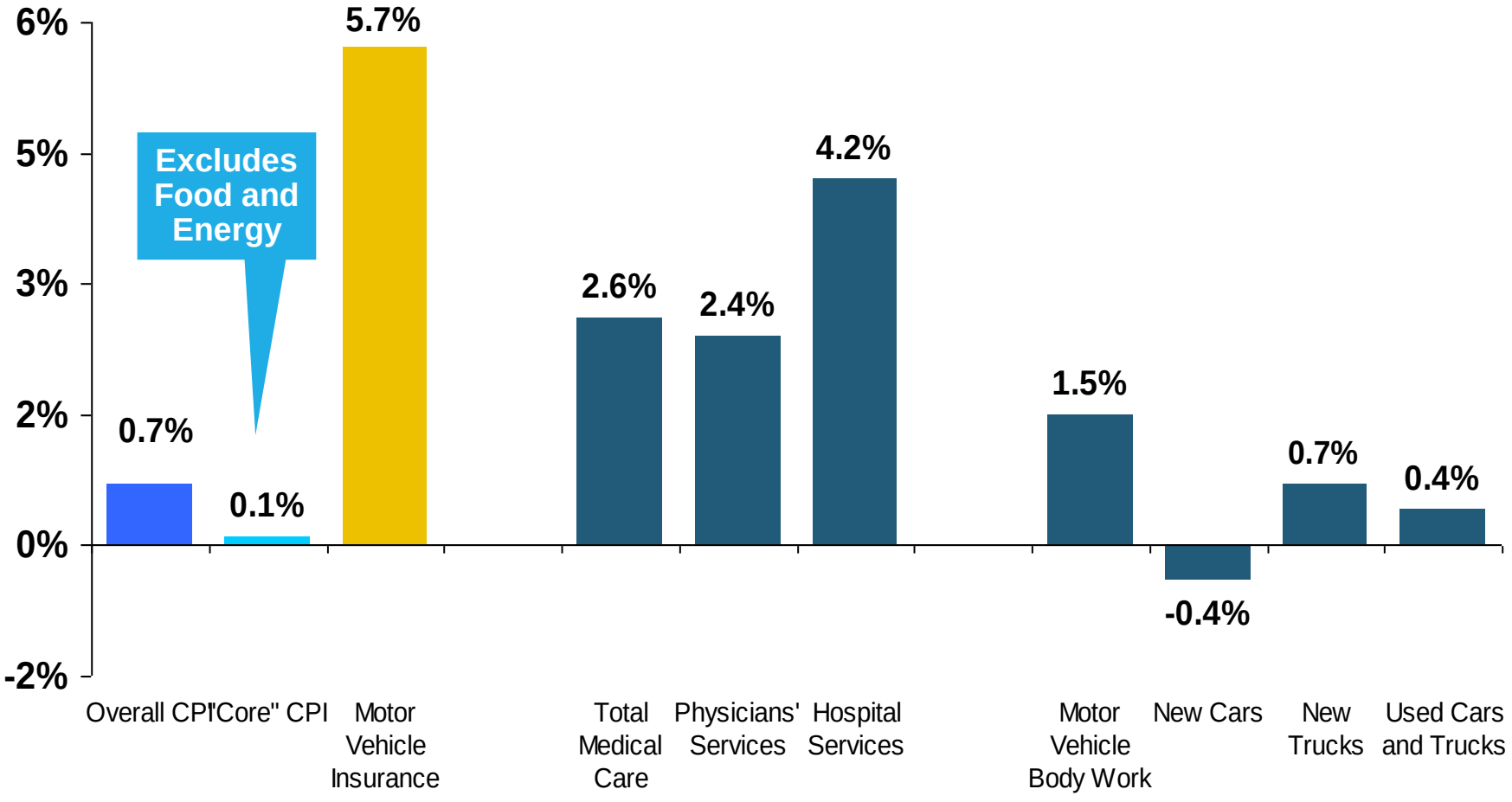
(Percent)



Source: SNL Financial.

Auto Insurance Claim Cost Drivers Continue to Grow Faster than CPI

Price Level Change: December 2015 vs. December 2014



Healthcare costs are a major cost driver and are expected to accelerate in the years ahead

Sources: Bureau of Labor Statistics; Insurance Information Institute.

Defense Costs and Cost Containment Expenses as a Percent of Incurred Losses, 2011 – 2013*

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($ooo)

	2011		2012		2013	
	Amount	As a percent of incurred losses	Amount	As a percent of incurred losses	Amount	As a percent of incurred losses
Products liability	$1,140,230	72.0%	$873,860	114.7%	$1,166,236	75.1%
Medical malpractice	1,793,296	57.5	1,686,009	45.7	1,656,049	53.3
Commercial multiple peril (2)	1,896,935	37.6	2,022,739	46.0	2,096,543	37.7
Other liability	4,464,140	25.0	4,959,838	24.8	4,914,106	25.4
Workers compensation	3,087,836	12.6	3,071,093	12.3	3,012,719	12.3
Commercial auto liability	960,961	10.3	1,091,434	10.4	1,207,596	10.7
Private passenger auto liability	3,960,967	6.2	4,353,427	6.7	4,600,395	6.8
All liability lines	**$17,304,365**	**13.8%**	**$18,058,400**	**13.9%**	**$18,653,644**	**14.0%**

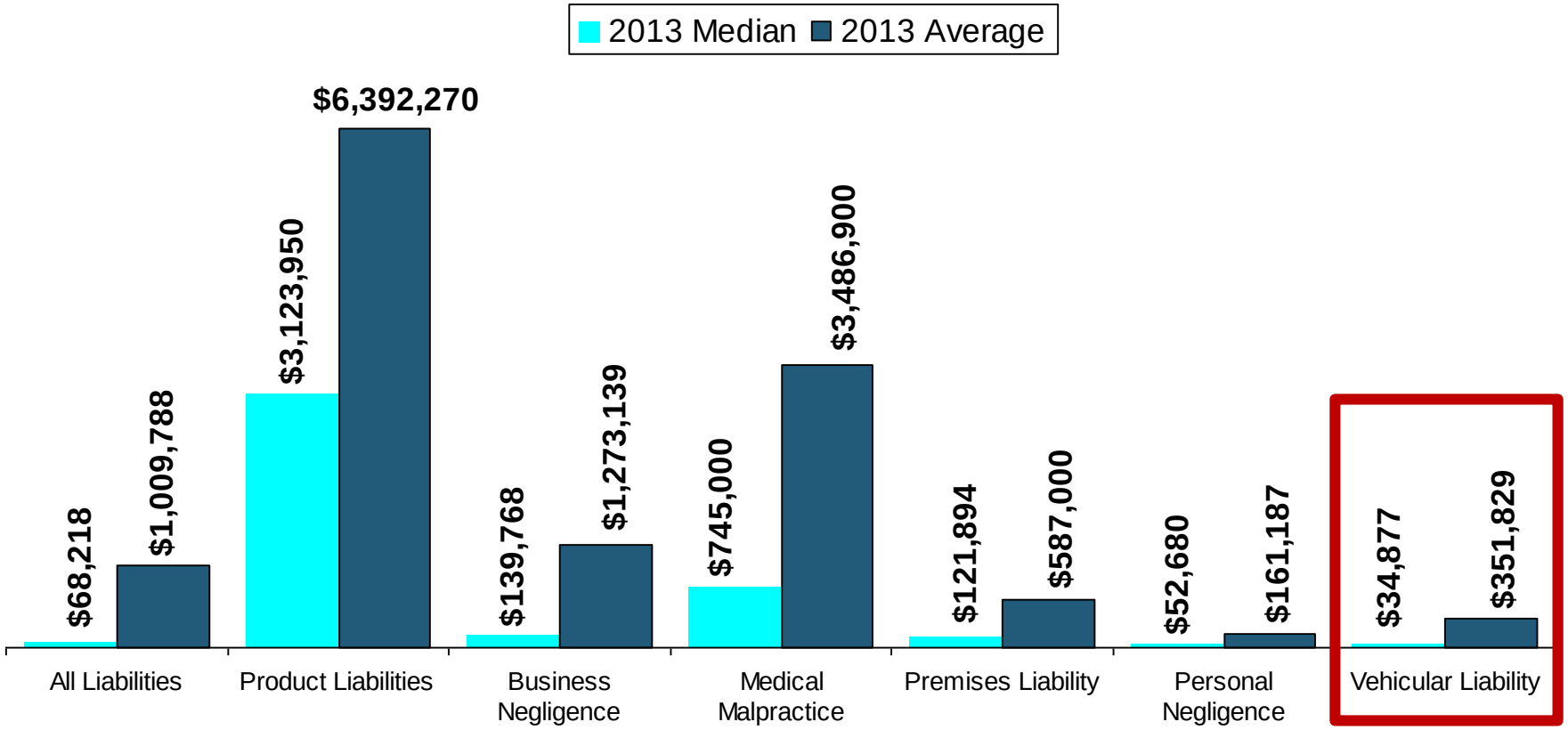
(1) Net of reinsurance, excludes state funds.
(2) Liability portion only.

Defense and Cost Containment expenses in Personal and Commercial Auto Liability have edged up slightly in recent years, from 6.2% of incurred losses to 6.8%

*Latest available.
Source: SNL Financial; Insurance Information Institute.

Median and Average Personal Injury Jury Award by Type of Liability, 2013

Porducts Liability and Medical Malpractice cases tend to have among the highest jury awards



Source: *Current Award Trends in Personal Injury,* 54th Edition; Insurance Information Institute.

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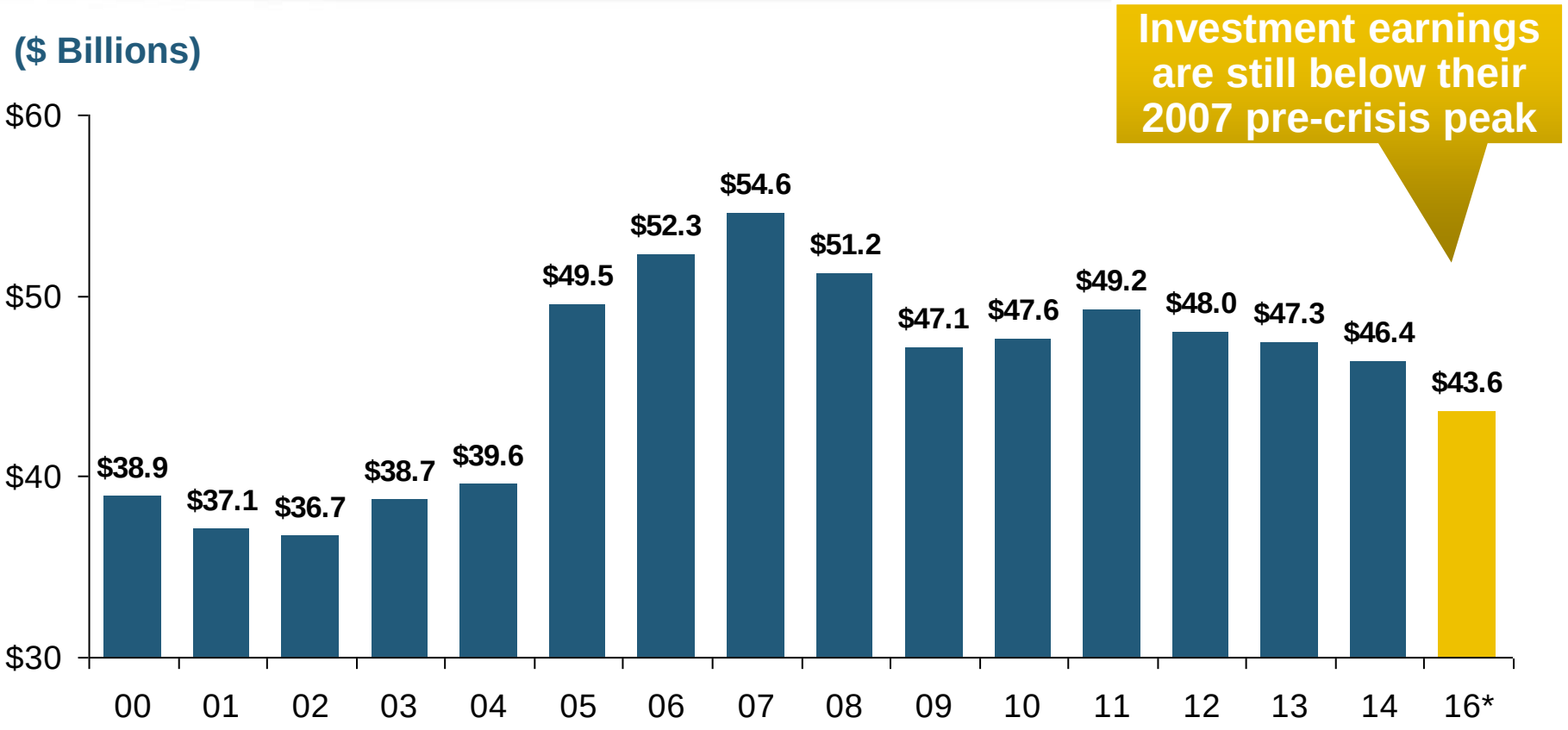
INVESTMENTS: THE NEW REALITY

Investment Performance is a Key Driver of Profitability

Depressed Yields Will Necessarily Influence Underwriting & Pricing

Property/Casualty Insurance Industry Investment Income: 2000–2016:Q1[1]

($ Billions)



Due to persistently low interest rates, investment income fell in 2012, 2013 and 2014 but showed a small (1.9%) increase in 2015—another drop in 2016 seems likely.

*Annualized figure based on actual Q1:2016 net investment income earned of $10.893B.

[1] Investment gains consist primarily of interest and stock dividends. Sources: ISO; Insurance Information Institute.

U.S. Treasury Security Yields: A Long Downward Trend, 1990–2016*

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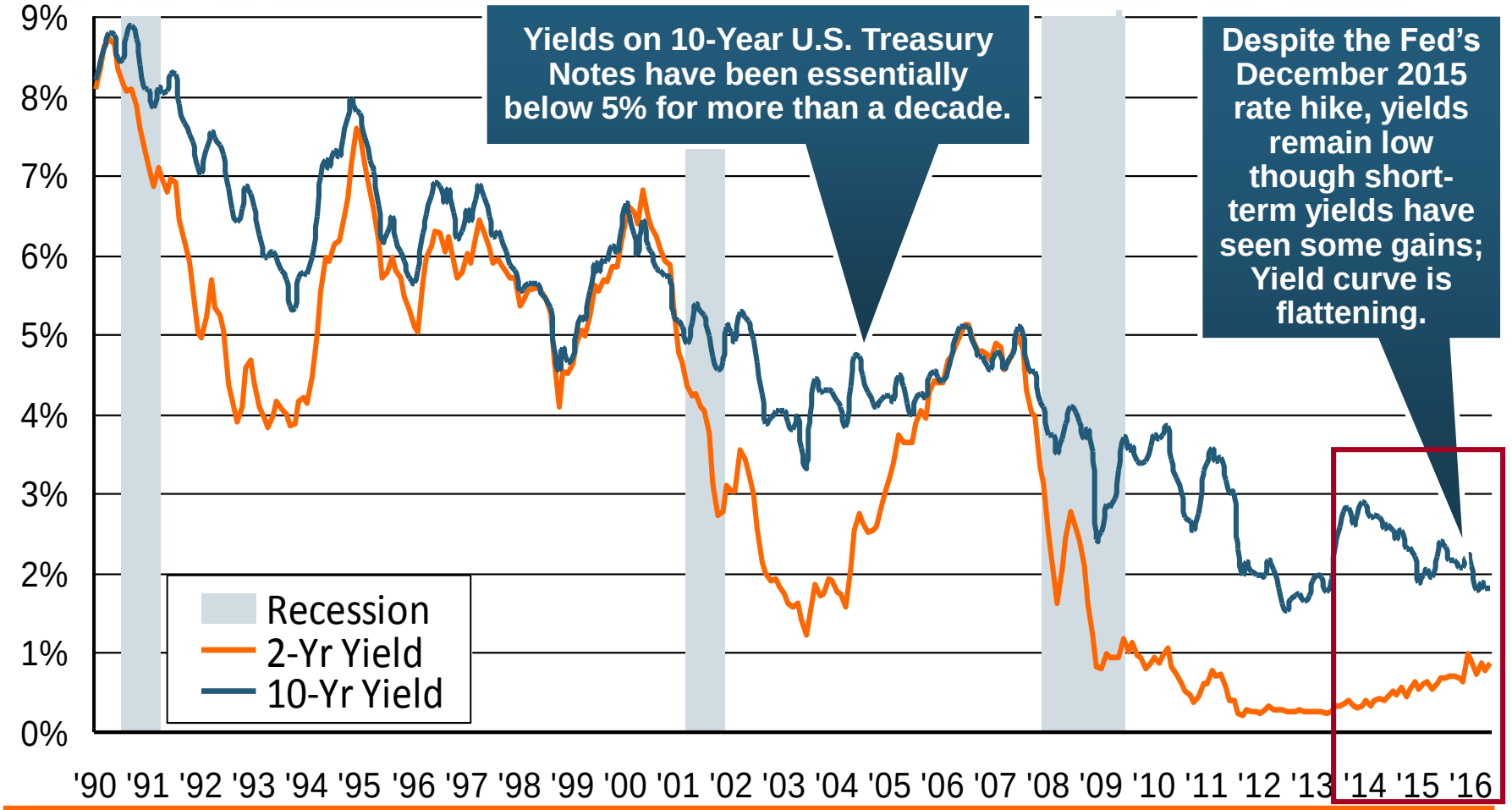

Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.

*Monthly, constant maturity, nominal rates, through May 20, 2016.

Sources: Federal Reserve Bank at http://www.federalreserve.gov/releases/h15/data.htm. National Bureau of Economic Research (recession dates); Insurance Information Institute.

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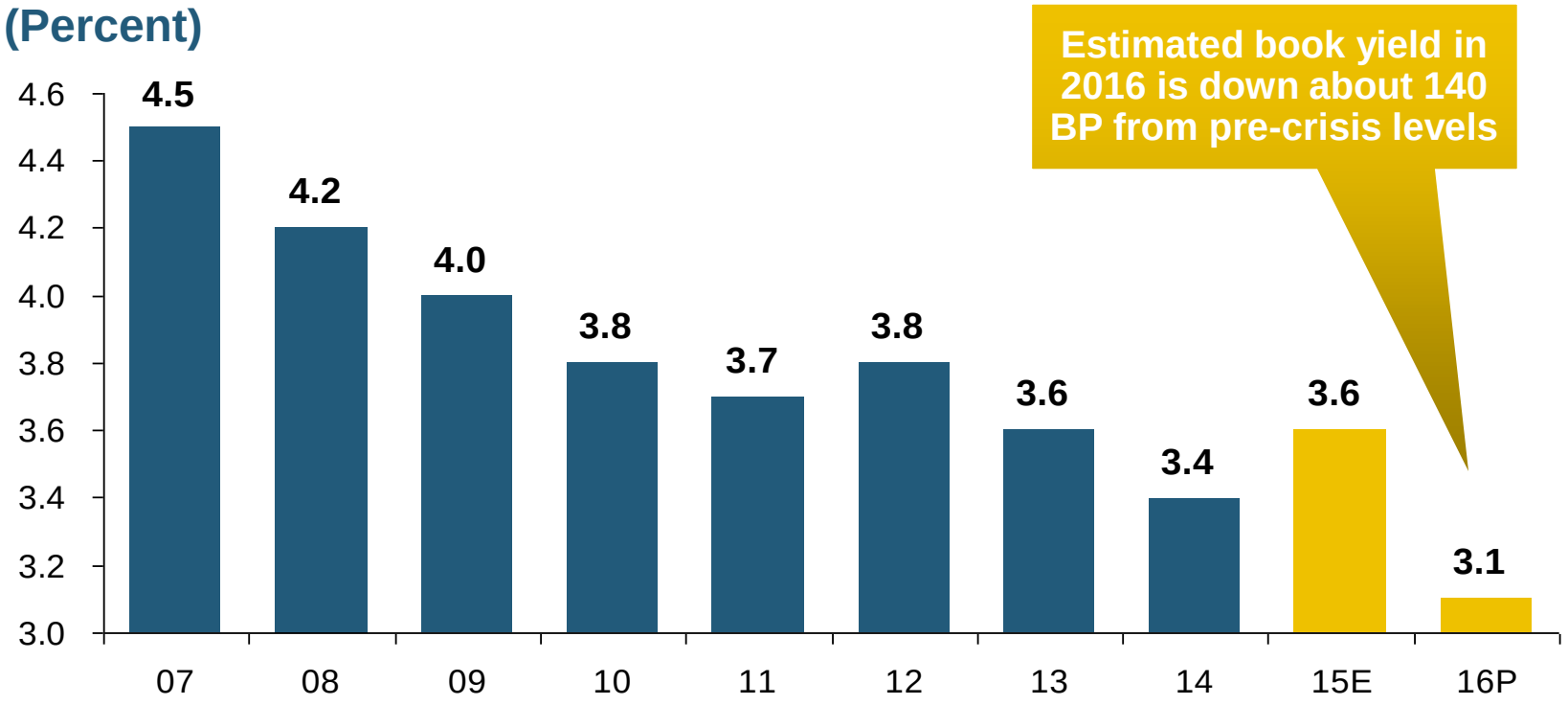
Claim Trends in Private Passenger Auto Insurance

Rising Frequencies and Severities in Many Coverages

Will that Pattern Be Sustained?

Net Investment Yield on Property/ Casualty Insurance Invested Assets, 2007–2016P*

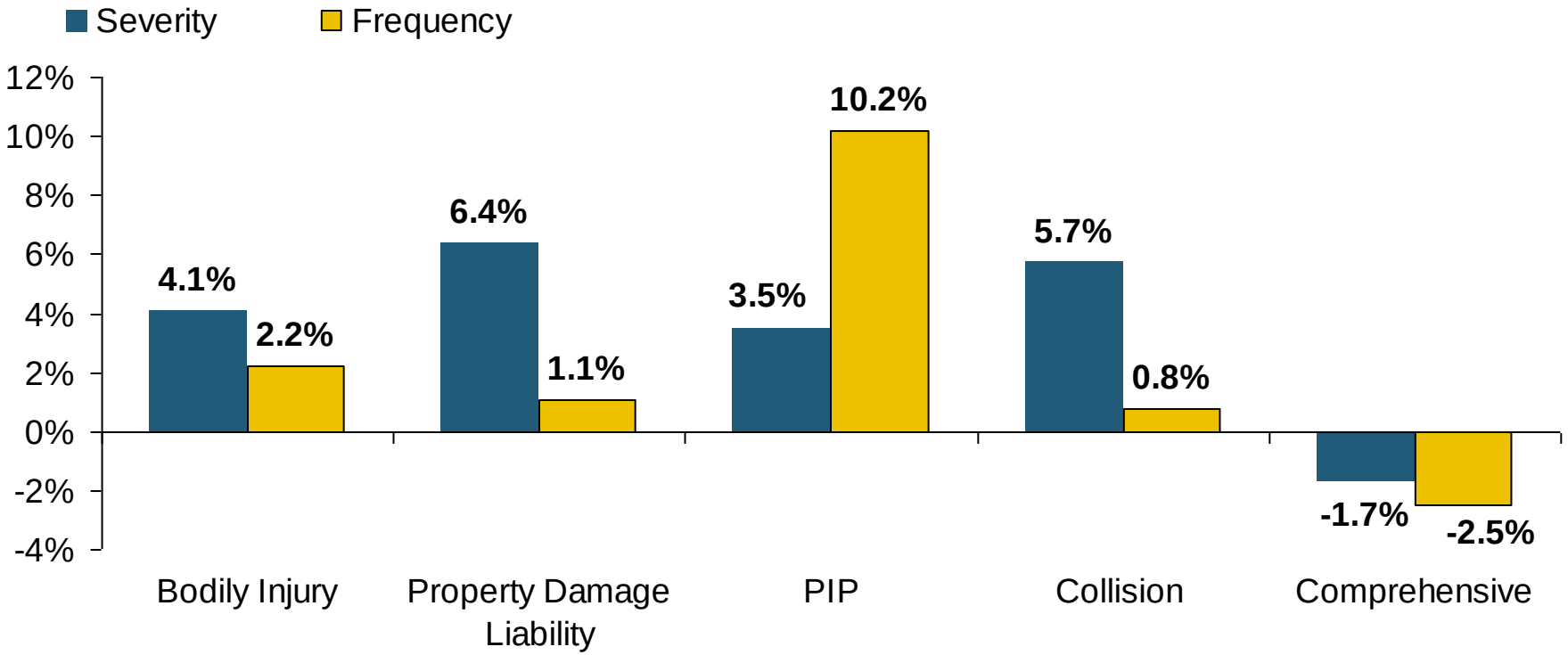


The yield on invested assets remains low relative to pre-crisis yields. The Fed's plan to raise interest rates in late 2015 has pushed up some yields, albeit quite modestly.

Sources: A.M. Best; 2015E-2016P figures from A.M. Best P/C Review and Preview, Feb. 2016; Insurance Information Institute

Auto Severity & Frequency by Coverage: Trending Up in 2015

Annual Change, 2015 Over 2014



Frequency and Severity Were Up Across Most Coverage Types in 2015; A Trend Likely to Continue in 2016

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Collision Coverage: Severity & Frequency Trends Are Both Higher in 2015

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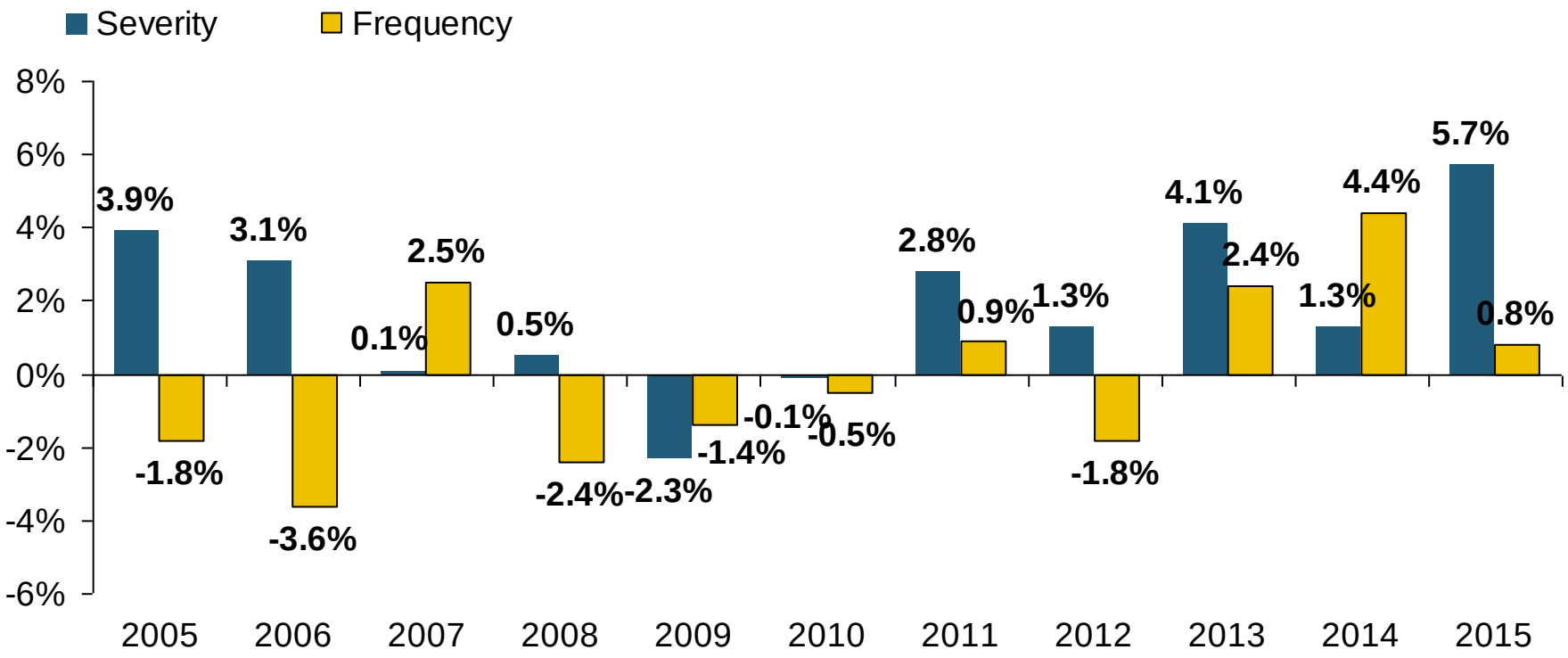
Annual Change, 2005 through 2015



The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Has Clearly Reversed, Consistent with Experience from Past Recoveries

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Collision Claims: Frequency Trending Higher in 2015

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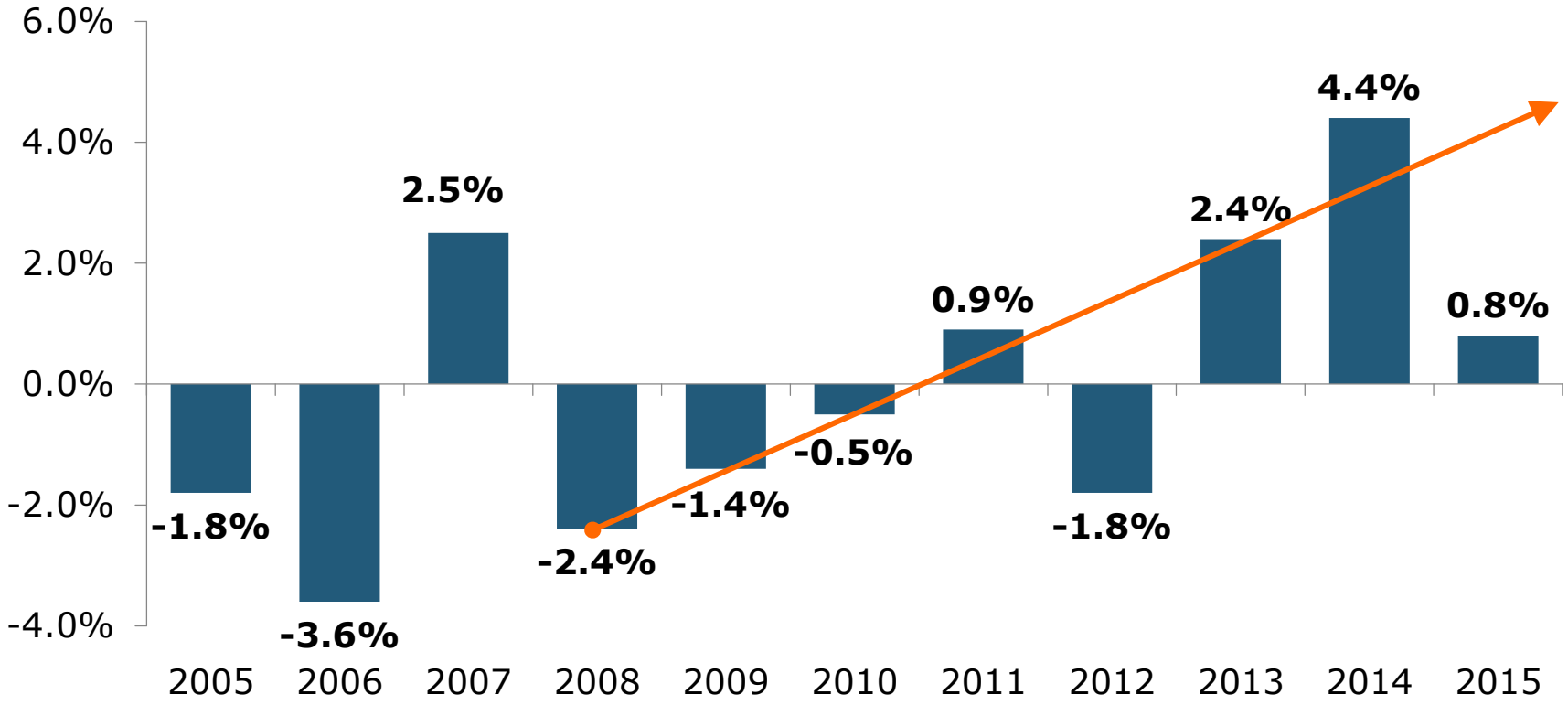
Annual Change, 2005 through 2015

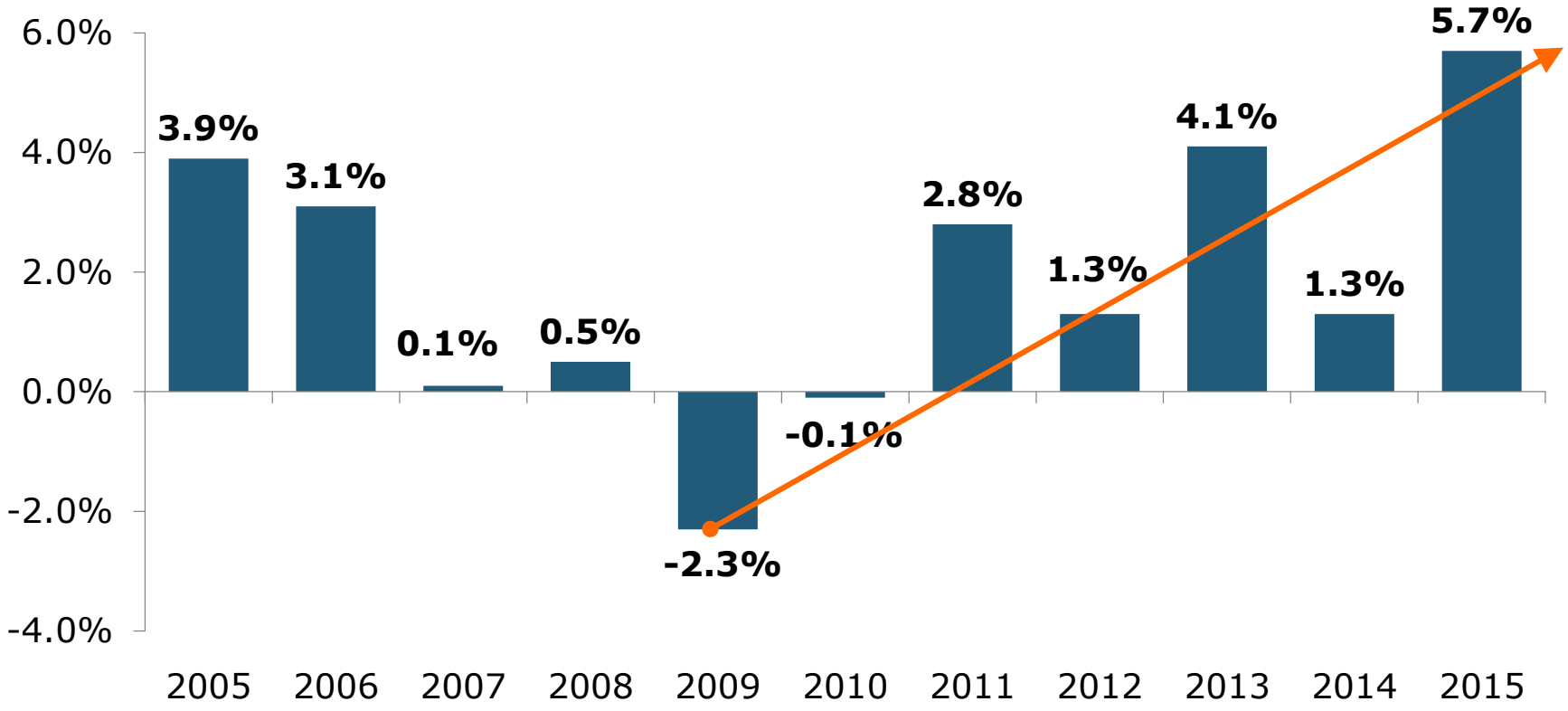


For a Long Time, Claim Frequency Has Been Falling, But Since 2009 This Trend Seems to Have Reversed

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

Collision Claims: Severity Trending Higher in 2009-2015

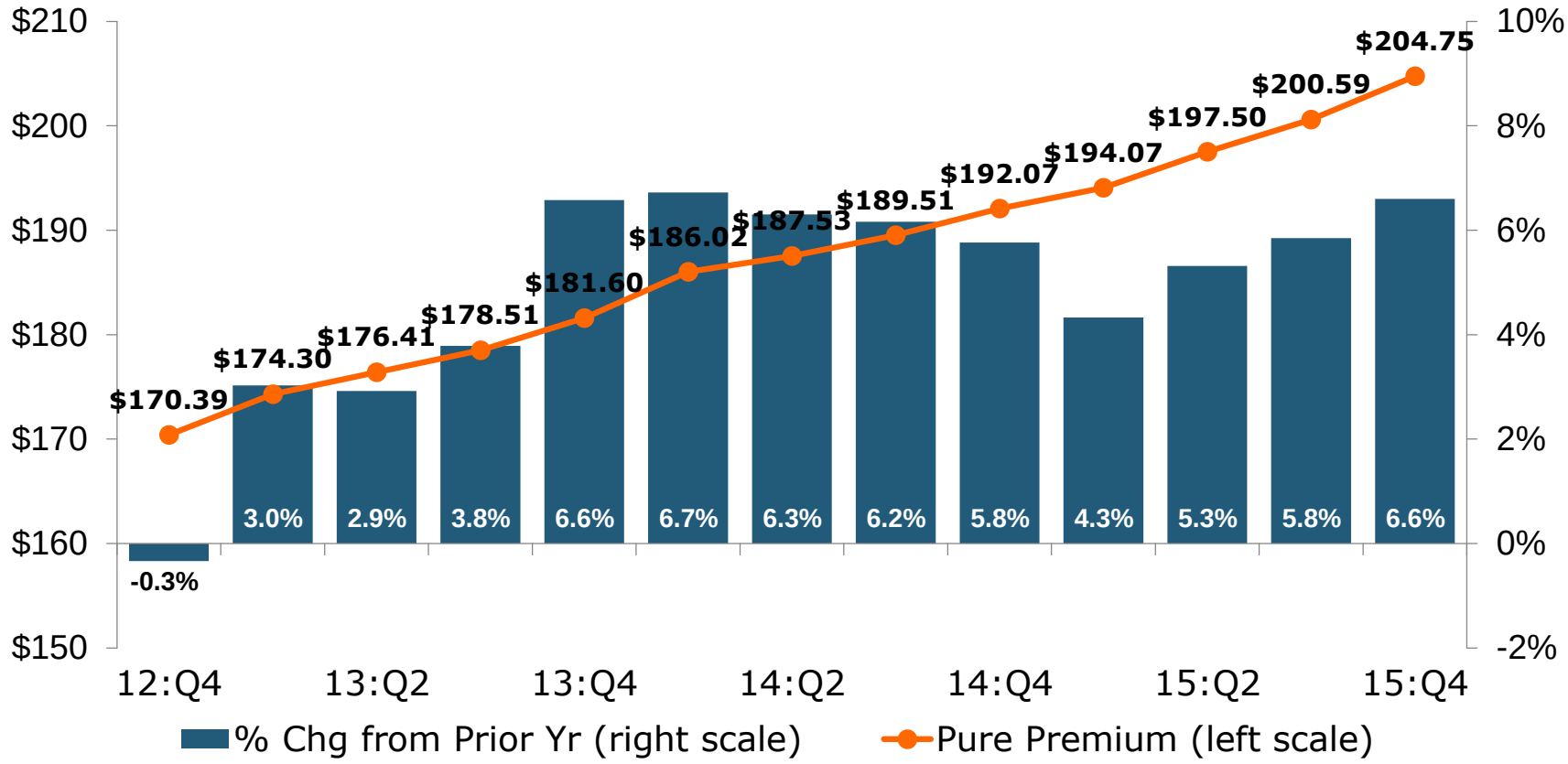
Annual Change, 2005 through 2015



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

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

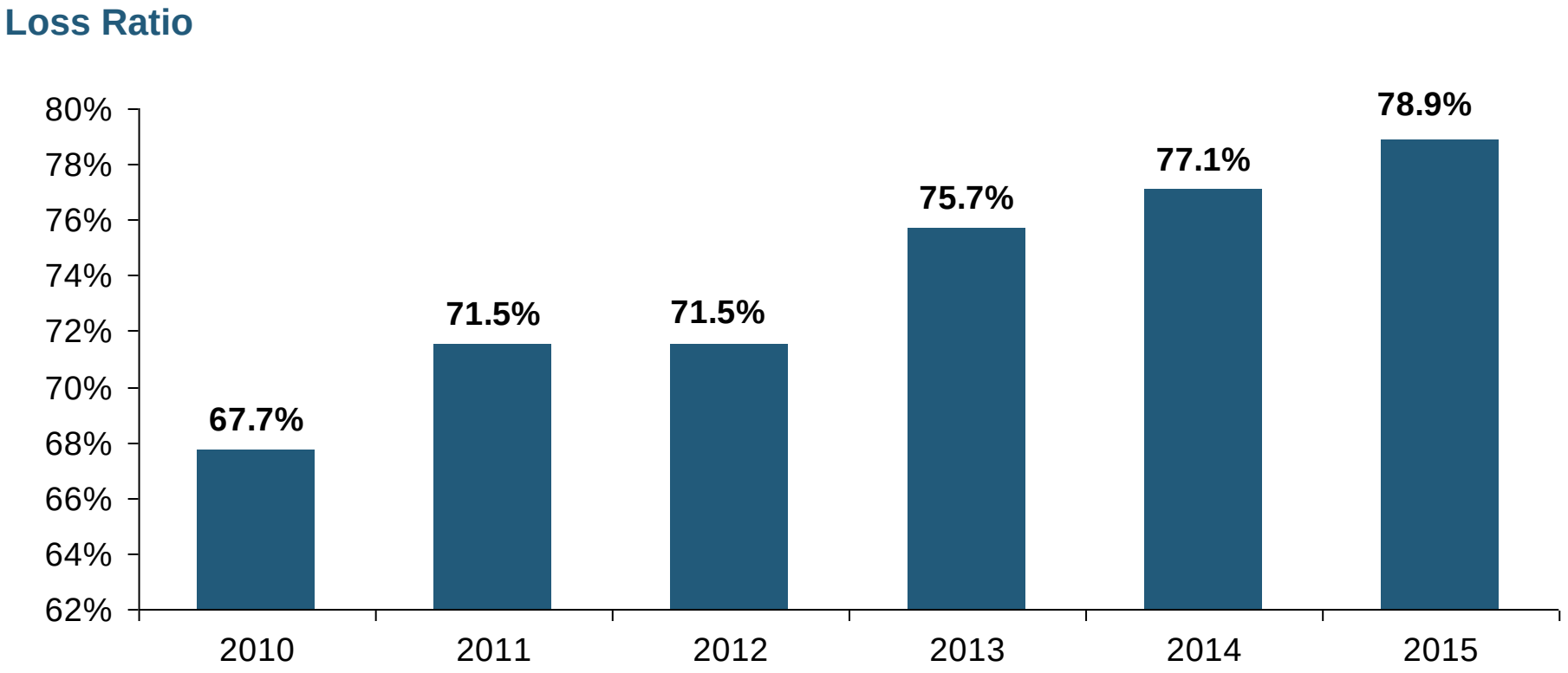
Collision Claims: Pure Premium (Losses per Insured Unit), 2011:Q4–2015:Q4



Over the Latest Four Years, the Collision Pure Premium Rose by 19.75%

Note: Number of claims is for four quarters ending in quarter shown.
Source: ISO/PCI *Fast Track* data; Insurance Information Institute.

Collision Loss Ratio Trending Upward: Private Passenger Auto, 2010 – 2015



Collision Loss Ratios are Trending Steadily Upward

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Bodily Injury: Severity Trend Is Up, Frequency Decline Has Ended—Rising?

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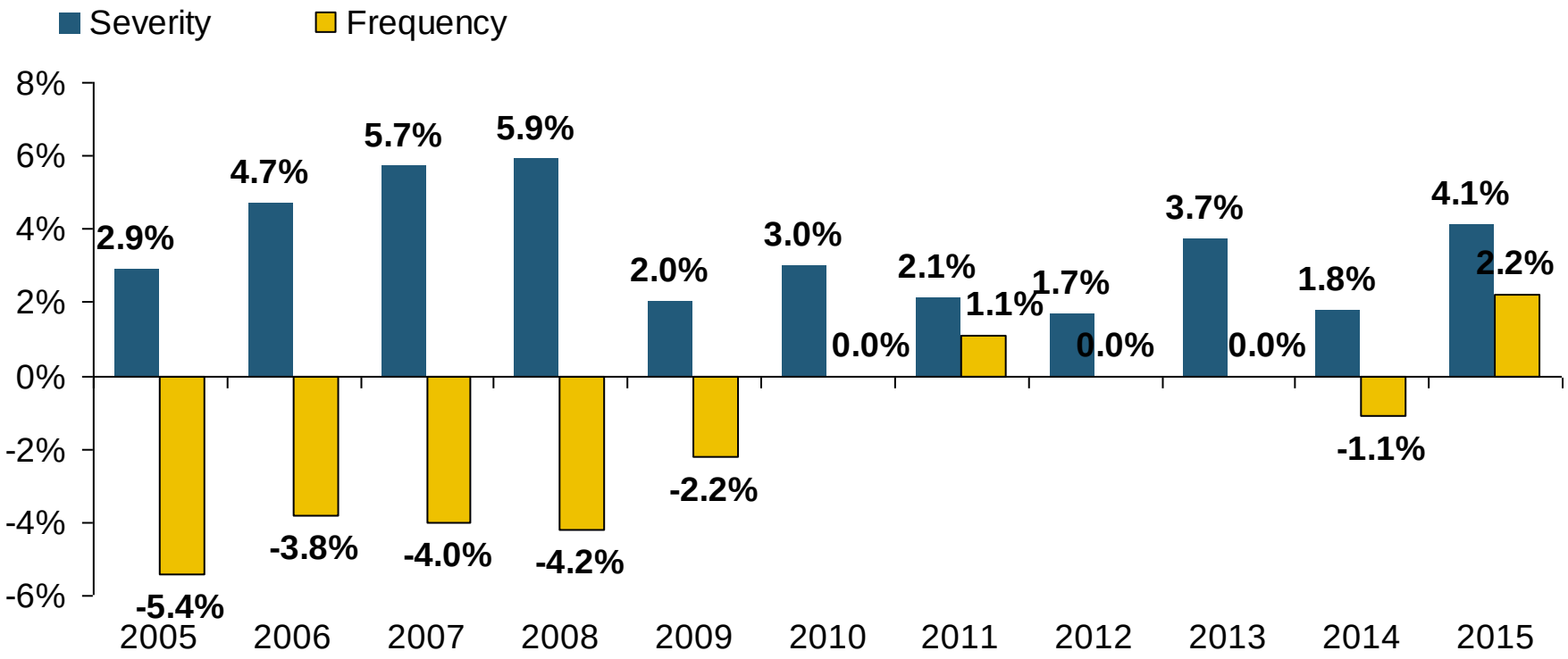
Annual Change, 2005 through 2015

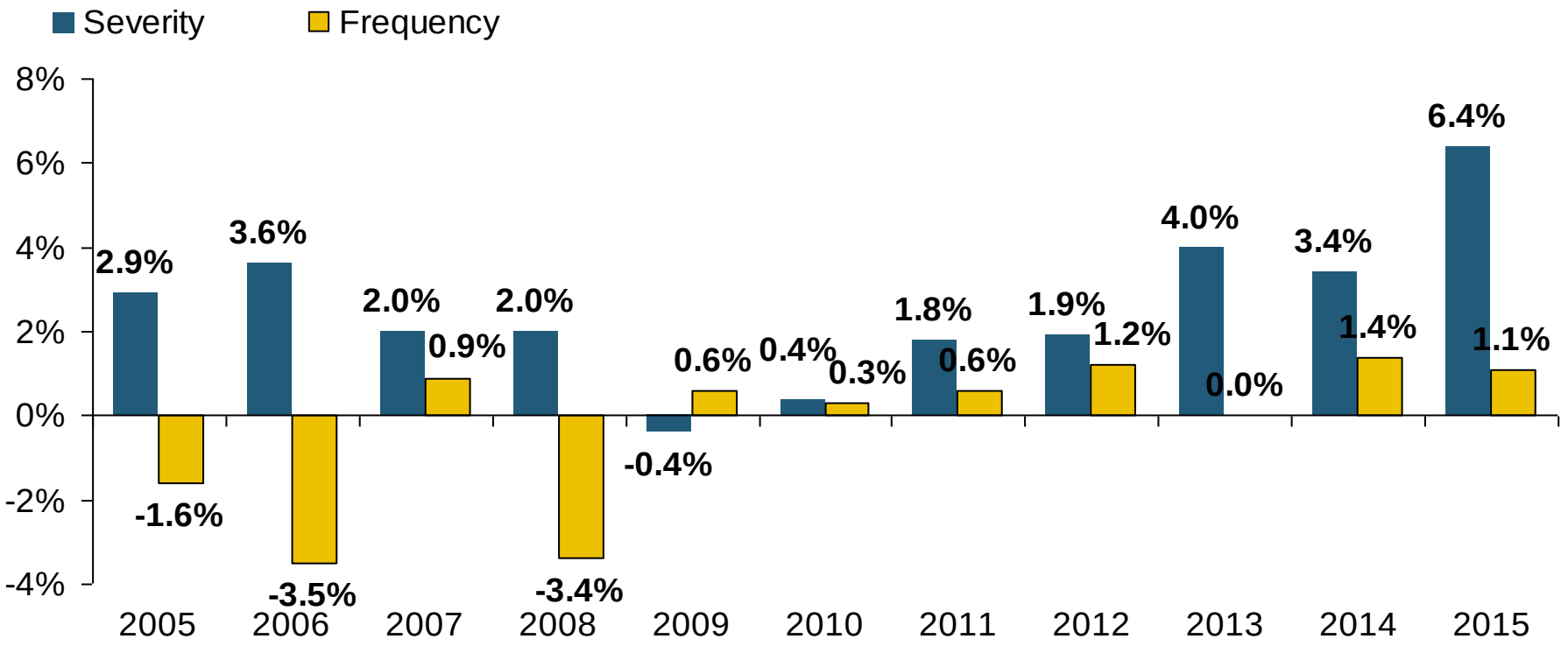


Cost Pressures Will Increase if BI Frequency and Severity Trends Persist

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Property Damage Liability: Severity and Frequency Are Up

Annual Change, 2005 through 2015



Severity/Frequency Trends Have Been Volatile, But Rising Severity since 2011 Is a Concern

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Auto Insurance: Claim Frequency Impacts of Energy Crisis of 1973/4

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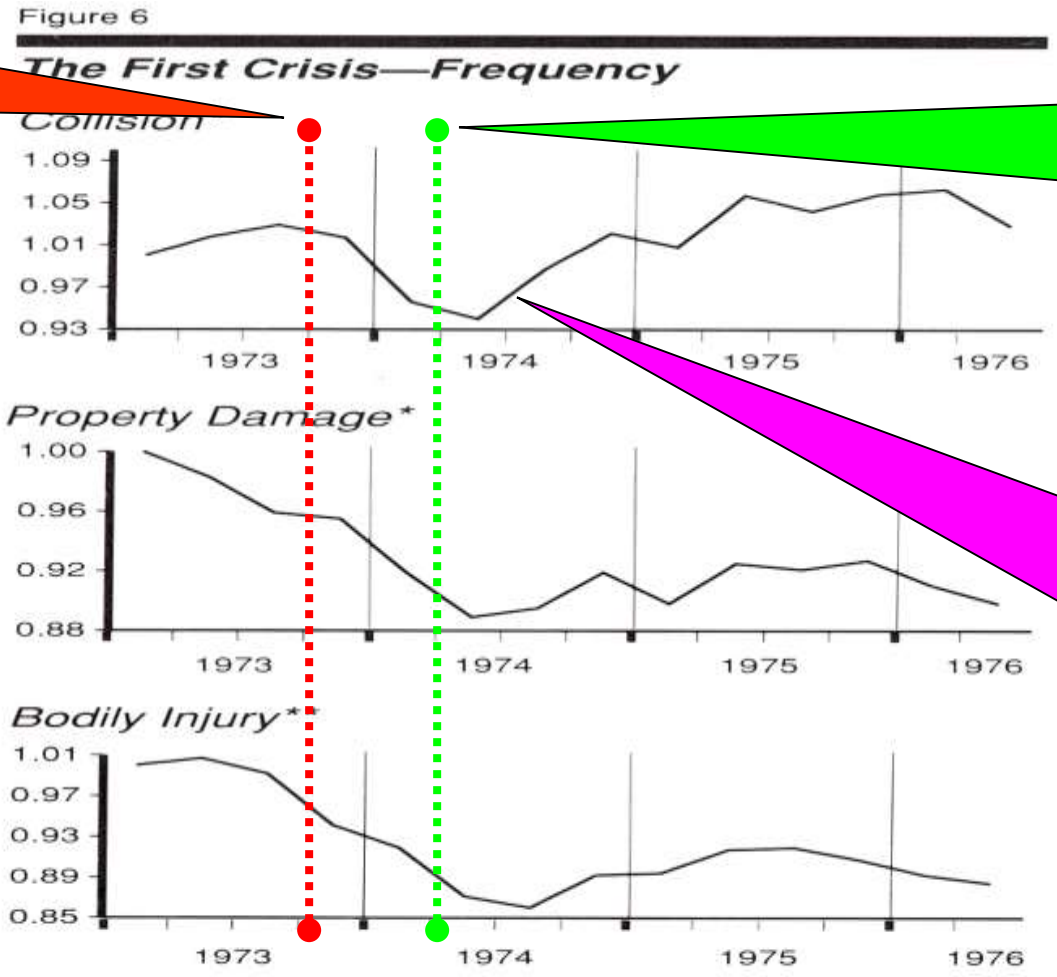
Oct. 17, 1973: Arab oil embargo begins

March 17, 1974: Arab oil states announce end to embargo

Frequency began to rebound almost immediately after the embargo ended

Frequency Impacts
Collision: -7.7%
PD: -9.5%
BI: -13.3%

Driving Stats
- **Gas prices rose 35-40%**
- **Miles driven fell 6.7% in 1974**



Source: ISO, US DOT.

Auto Insurance: Claim Severity Impacts of Energy Crisis of 1973/4

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Oct. 17, 1973: Arab oil embargo begins

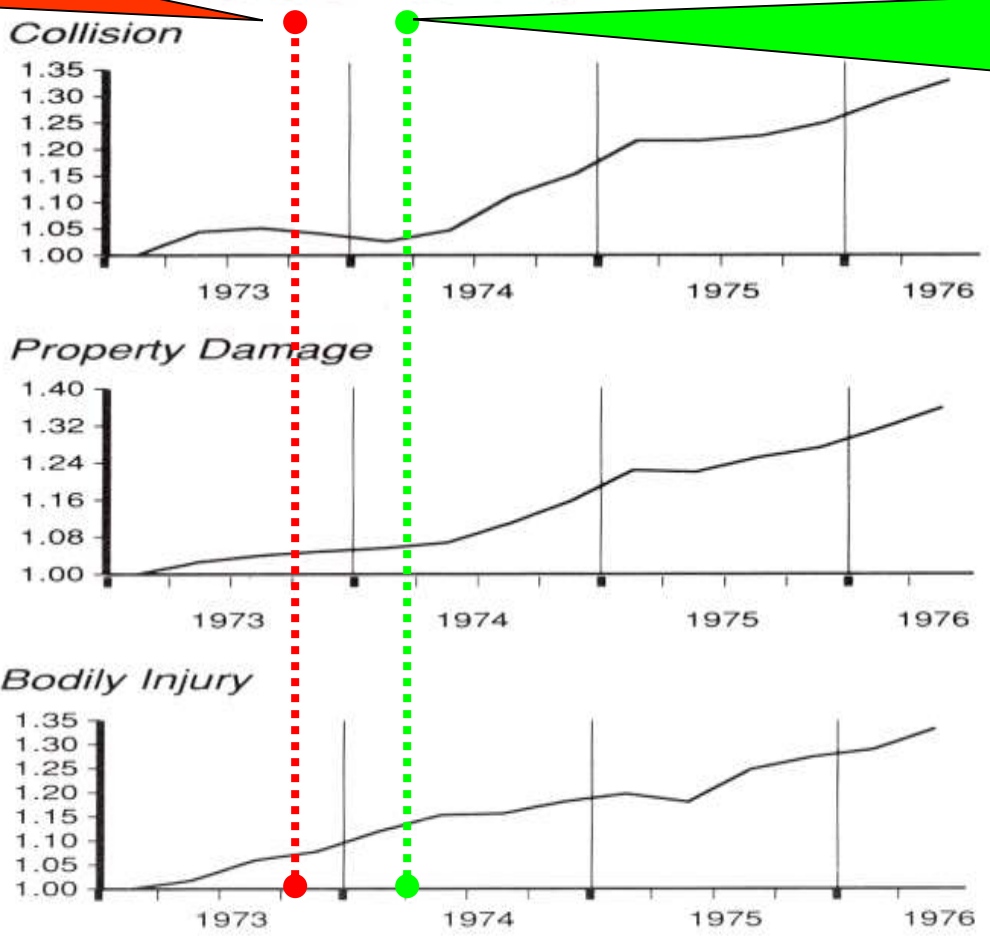
March 17, 1974: Arab oil states announce end to embargo

Severity Impacts
Collision: -7.5%
PD: +15.9%
BI: N/A*

Driving Stats
- **Gas prices rose 35-40%**
- **Miles driven fell 6.7% in 1974**

Figure 7

*...e First Crisis—Severity**



*Seasonally Adjusted, Quarterly Paid Fast Track data indexed to First Quarter 1973.

Collision severity began to rebound almost immediately after the embargo ended; PD accelerated as inflation rose; No discernable

Source: ISO.

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WEATHER CLAIMS & AUTO INSURANCE

Impact of Weather of Auto Claims Is Underappreciated by Consumers and Regulators

Comprehensive Coverage: Frequency and Severity Trends Are Volatile

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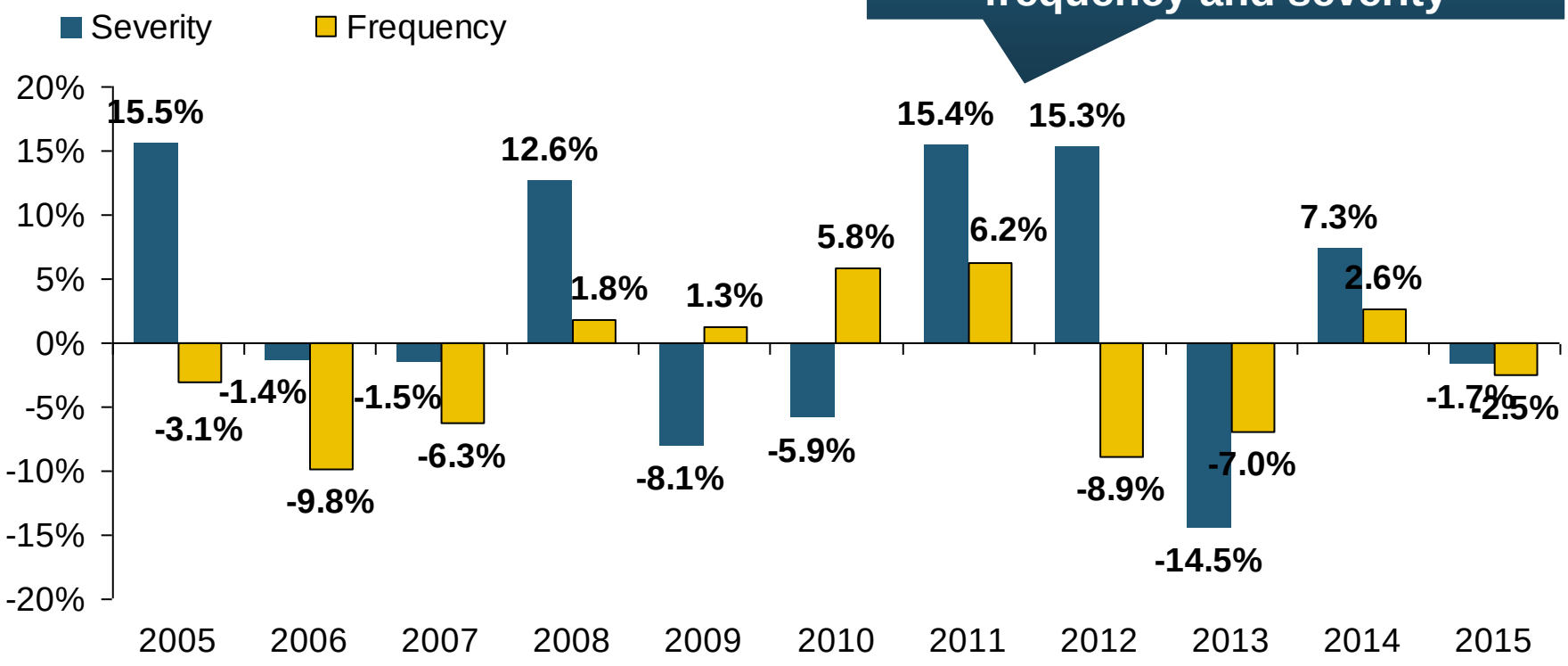
Annual Change, 2005 through 2015

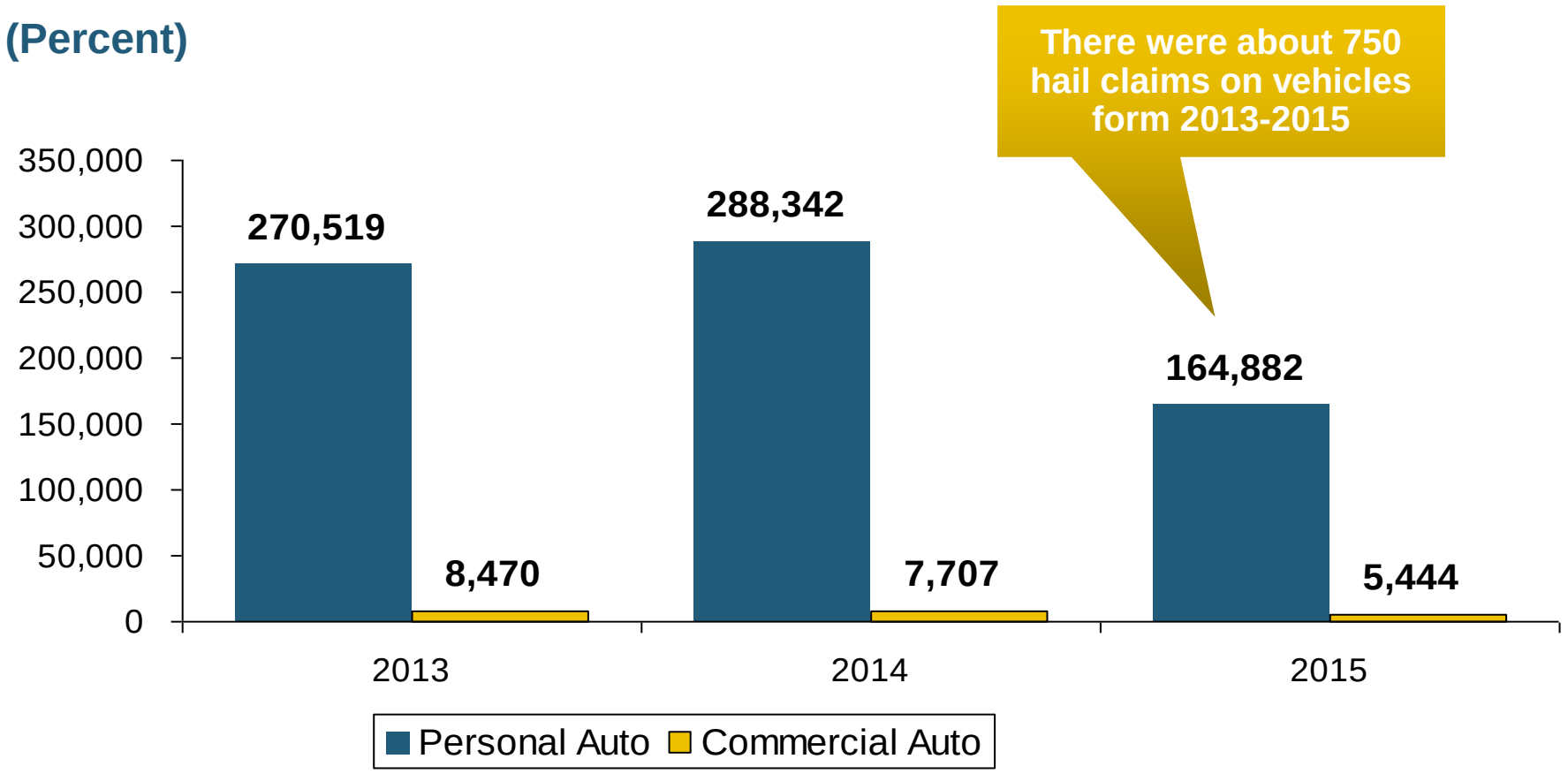
Severe weather is a principal cause of the spikes in both frequency and severity



Weather Creates Volatility for Comprehensive Coverage

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

What the Hail? Hail Loss Claims in Auto Insurance, 2013-2015



Hail loss claims on vehicles account for about 35% of all hail claims across all policy types

Sources: NICB Forecast Report, May 2, 2016; Insurance Information Institute

Convective Loss Events in the US
Overall and insured losses, 1980 – 2015

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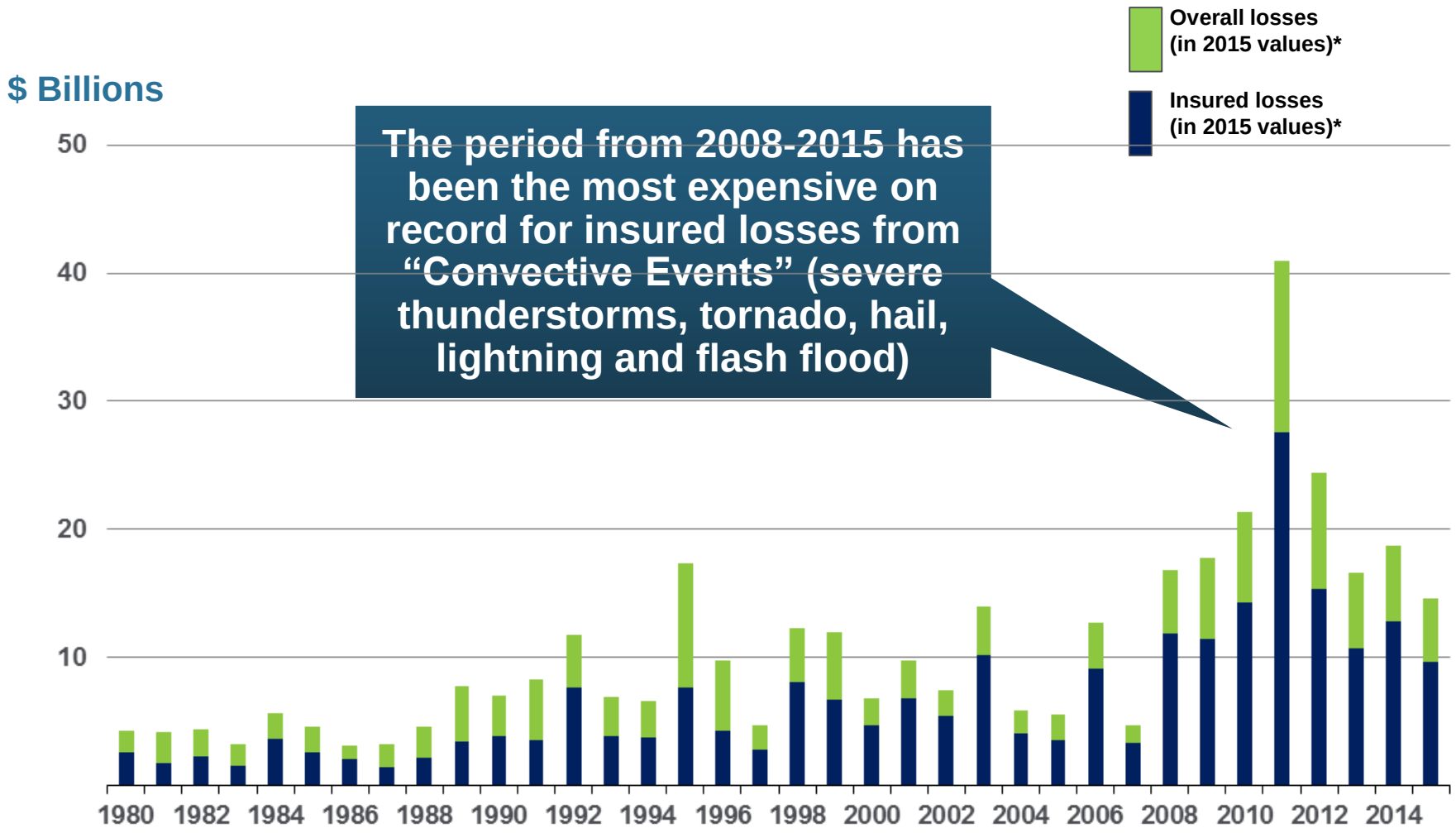

*Losses adjusted to inflation based on CPI

Source: Geo Risks Research, NatCatSERVICE

Analysis contains:
severe storm, tornado, hail, flash flood and lightning

Winter Storm Losses in the US 1980 – 2015 (Overall and Insured Losses)*

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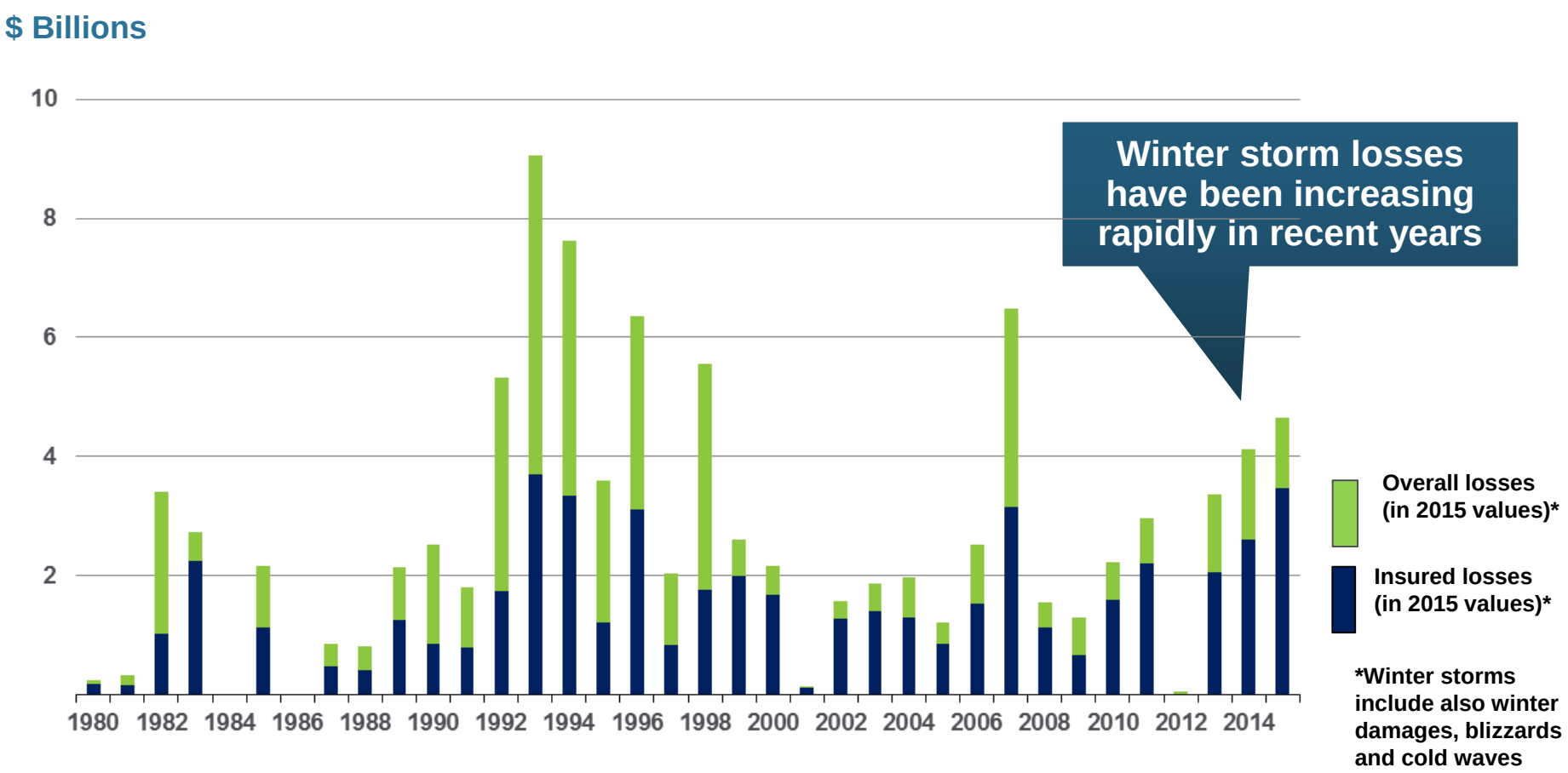

Source: Property Claim Services, MR NatCatSERVICE.

*Losses adjusted to inflation based on CPI.

U.S. Insured Catastrophe Losses

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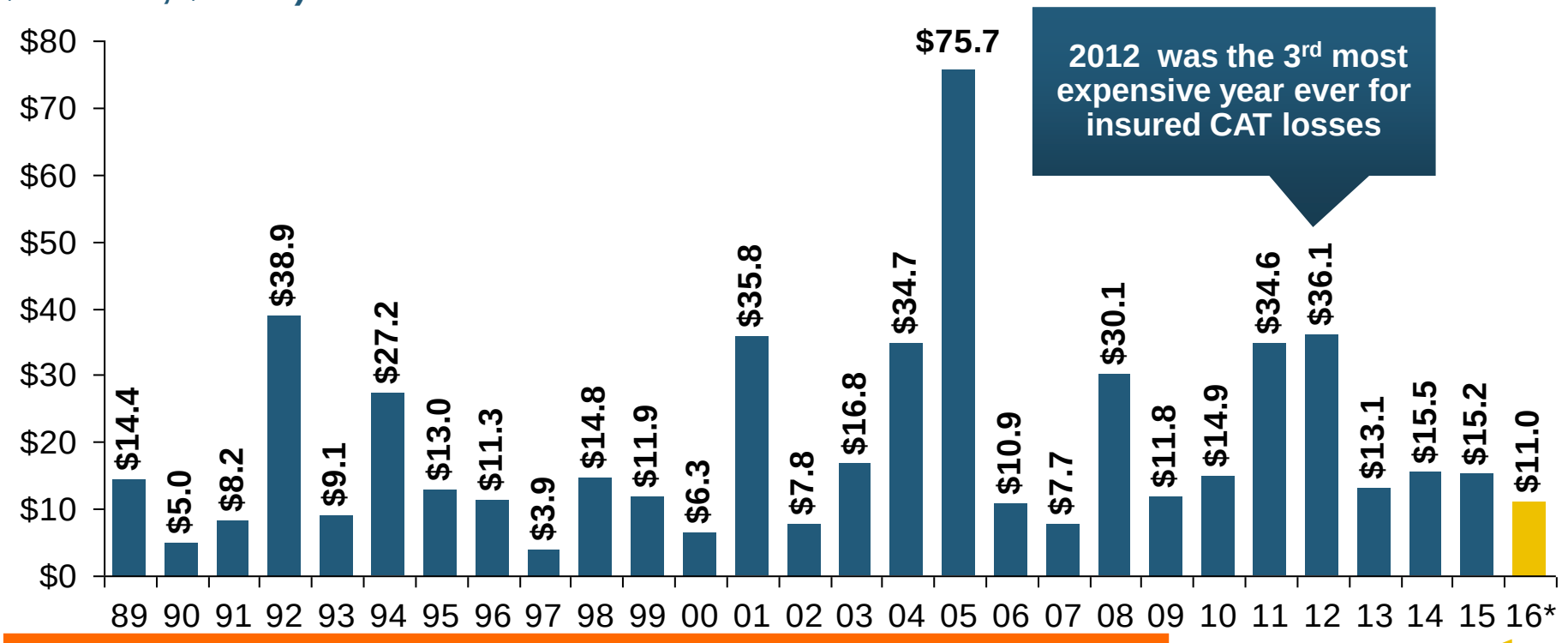
($ Billions, $ 2015)



2013/14/15 Were Welcome Respites from 2011/12, among the Costliest Years for Insured Disaster Losses in US History. 2016 Is Off to a Costlier Start.

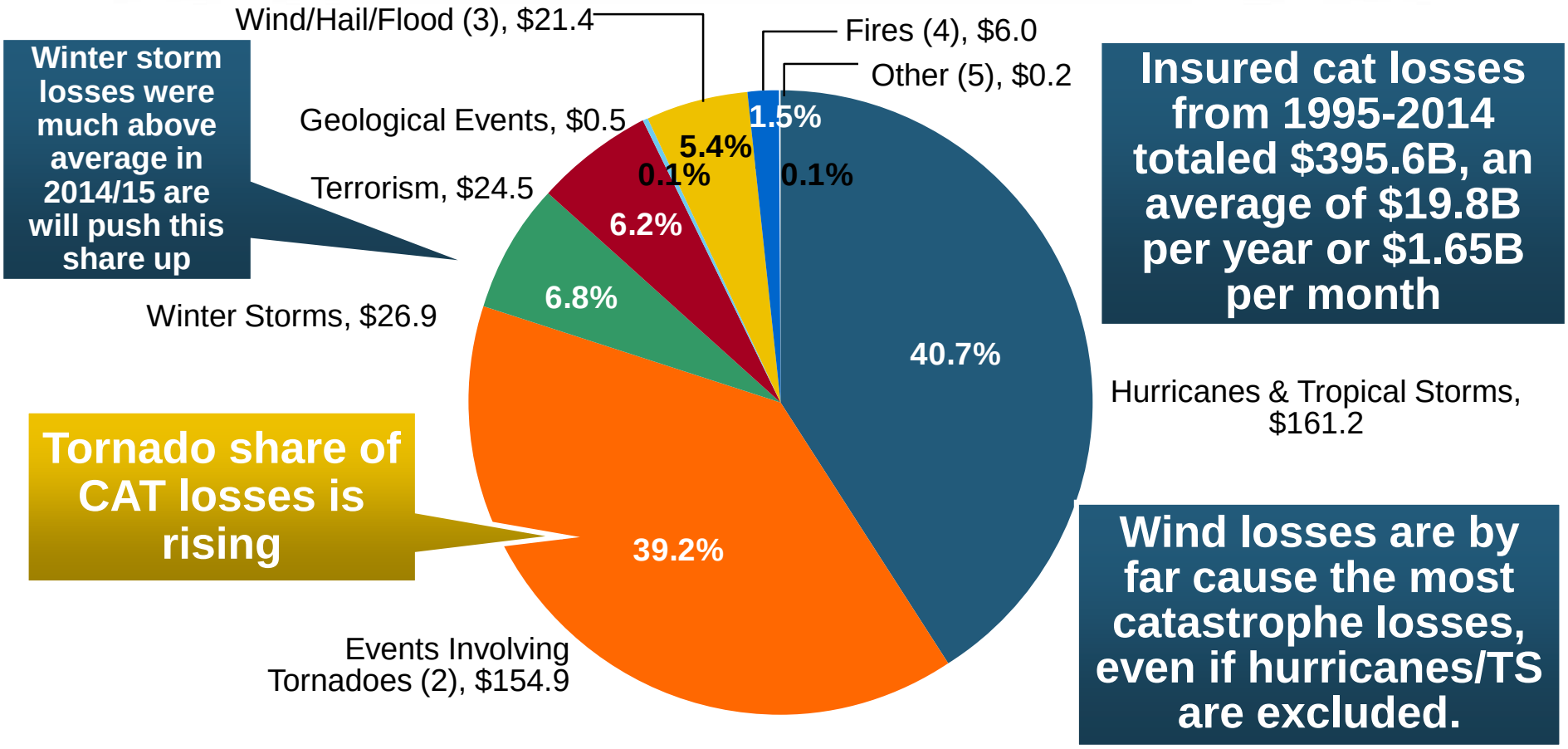
$11.0B in insured CAT losses though 6/30/16

*Through 6/30/16. 2016 figure stated in 2016 dollars.

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/ISO; Insurance Information Institute.

Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1995–2014[1]



1. Catastrophes are defined as events causing direct insured losses to property of $25 million or more in 2014 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses
4. Includes wildland fires
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO's Property Claim Services Unit.

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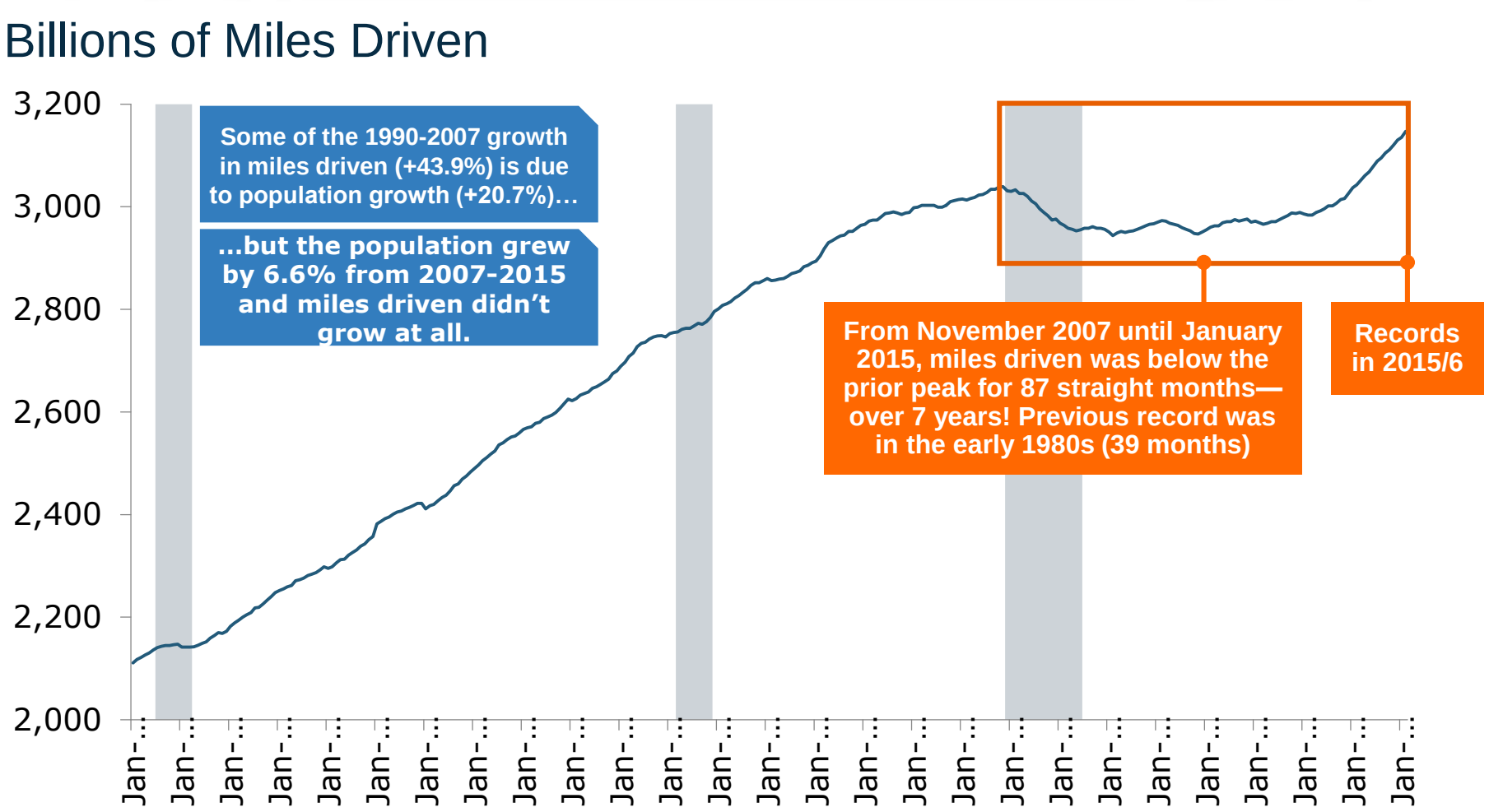
A Few Factors Driving Adverse Private Passenger Auto Loss Trends

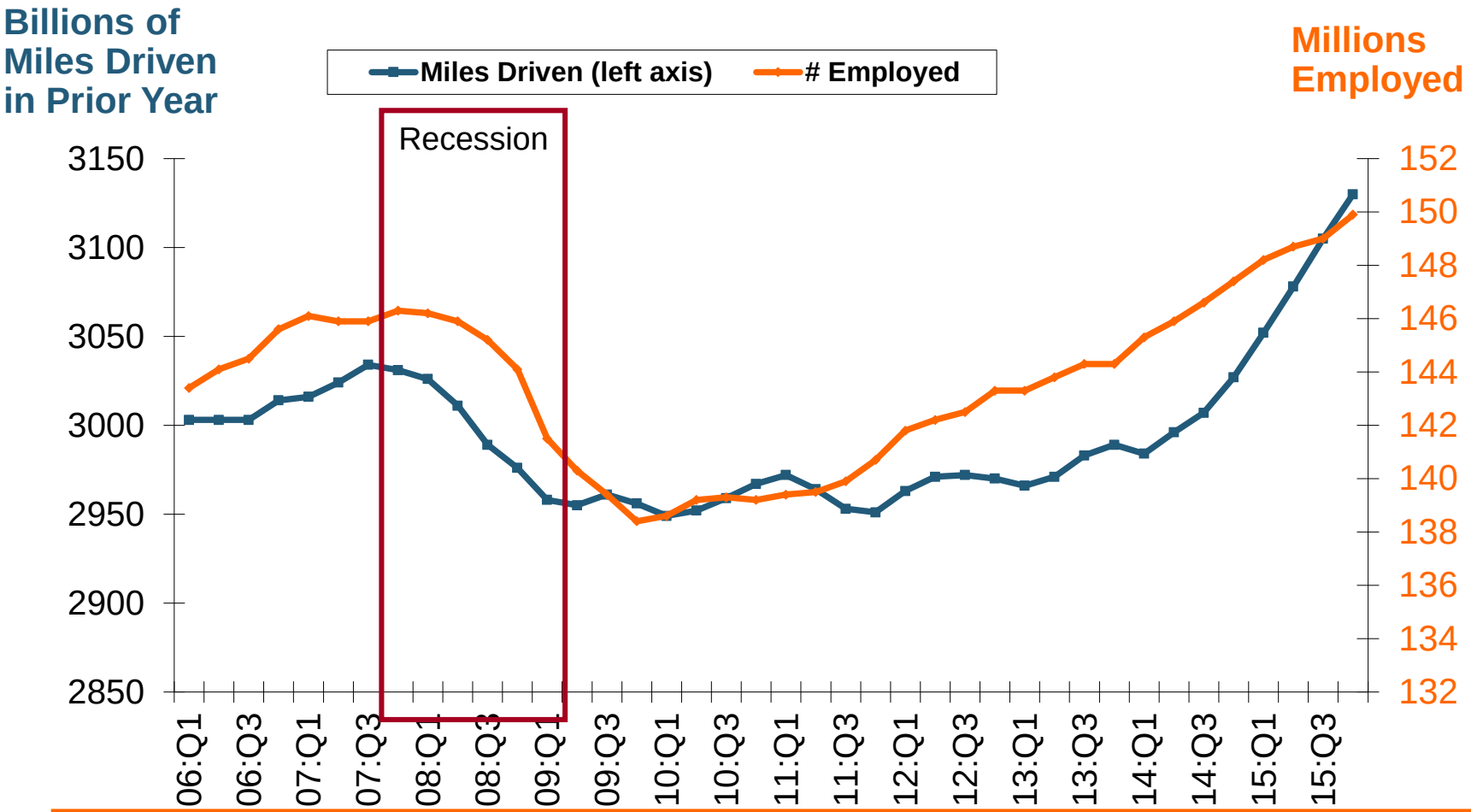
More People Driving, Lower Gas Prices, Higher Speed Limits…

America is Driving More Again: Total Miles Driven*, 1990–2016



*Moving 12-month total. Data through February 2016, the latest available.
Note: Recessions indicated by shaded columns.
Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); National Bureau of Economic Research (recession dates); Insurance Information Institute.

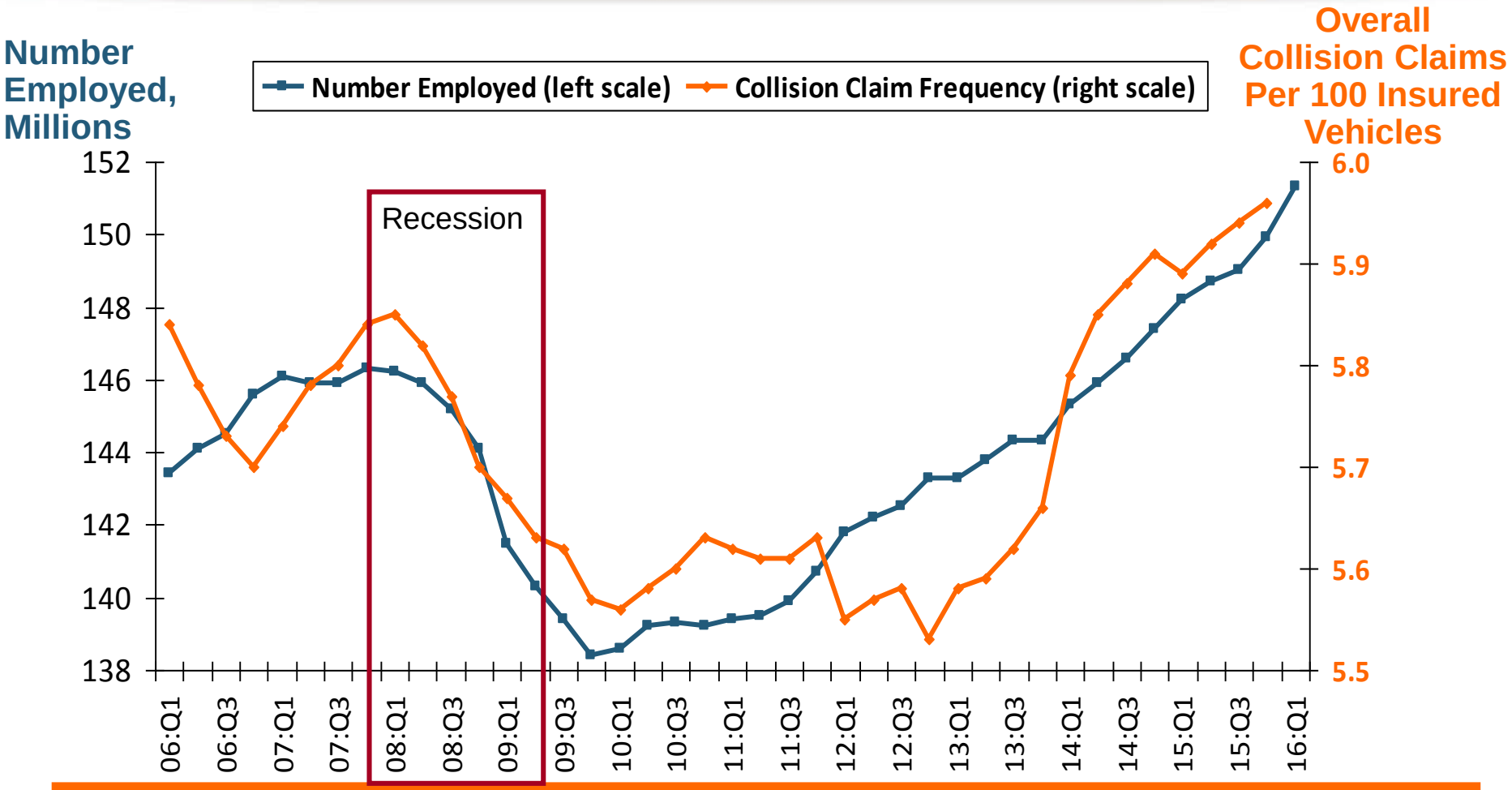
Why Are People Driving More Miles? Jobs?



People Drive To and From Work and Drive to Entertainment. Out of Work, They Curtail Their Movement.

Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); Seasonally Adjusted Employed from Bureau of Labor Statistics; Insurance Institute for Highway Safety; Insurance Information Institute.

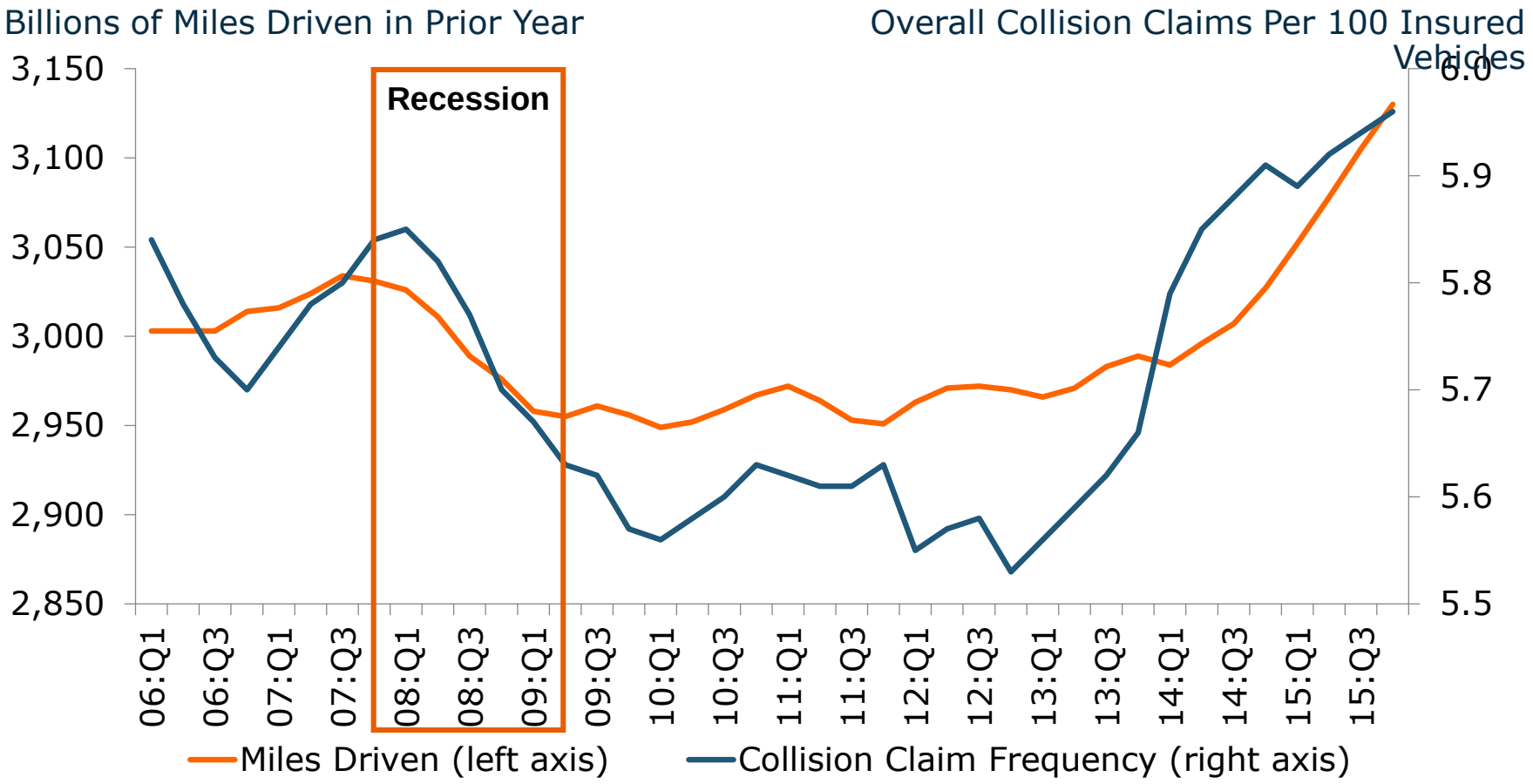
More People Working and Driving => More Collisions, 2006-2016



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-Qtr Avg. Frequency from Insurance Services Office; Insurance Information Institute.

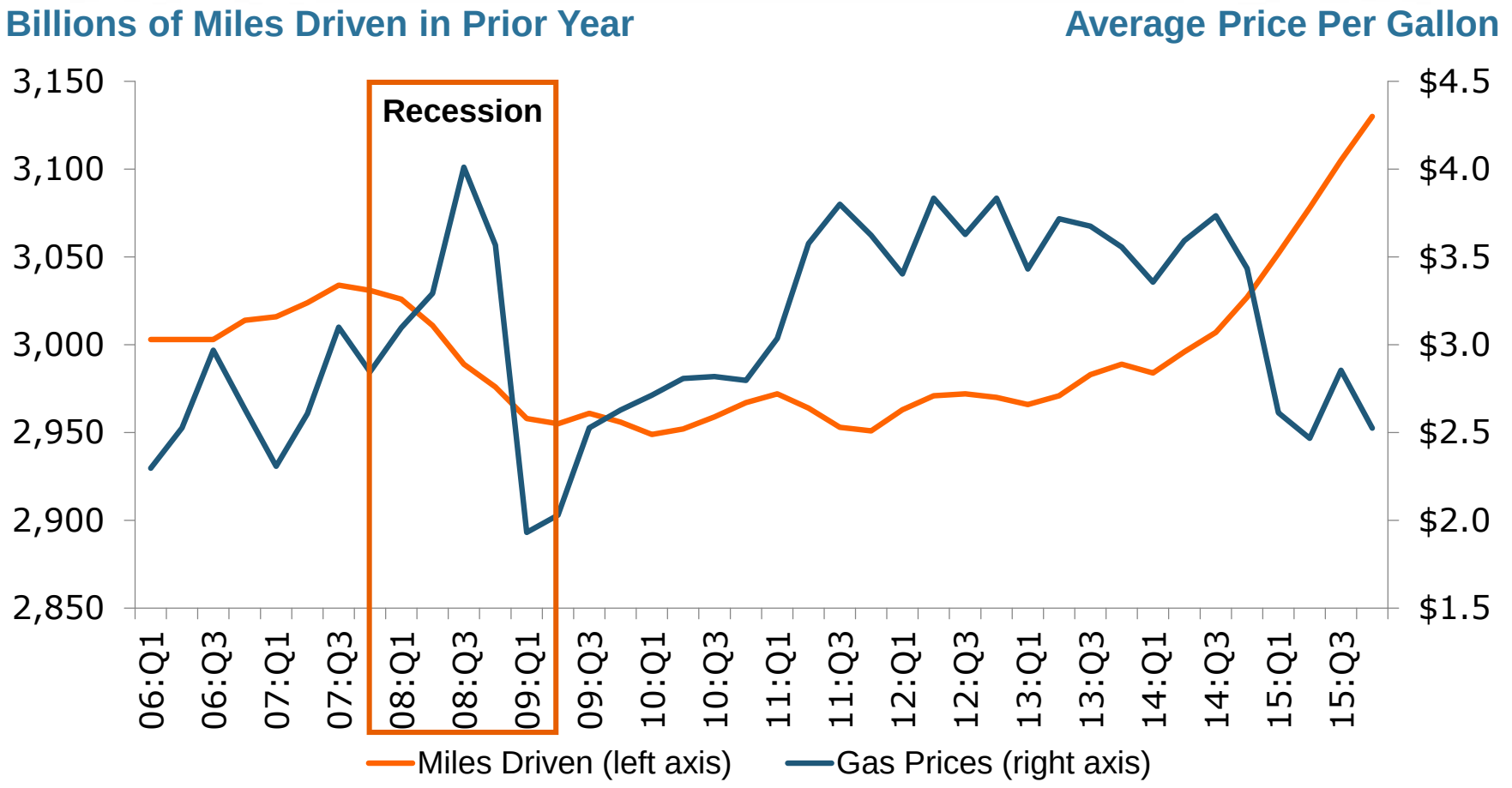
More Miles Driven => More Collisions, 2006–2015



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

Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); Rolling Four-Qtr Avg. Frequency from Insurance Services Office; Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Cheap Gas?



Gas Prices Don't Seem Correlated With Miles Driven

Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); Energy Information Administration; Insurance Institute for Highway Safety; Insurance Information Institute.

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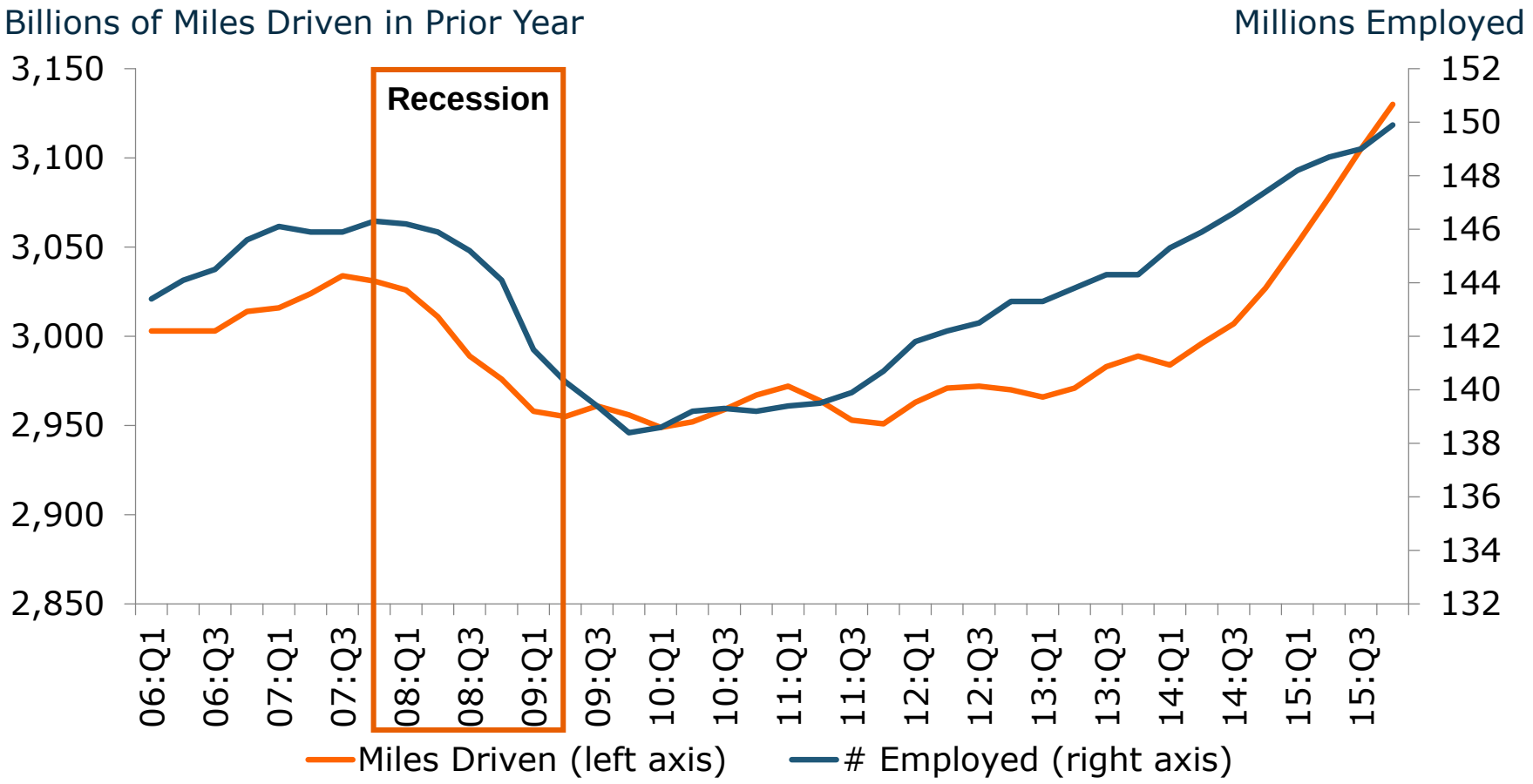

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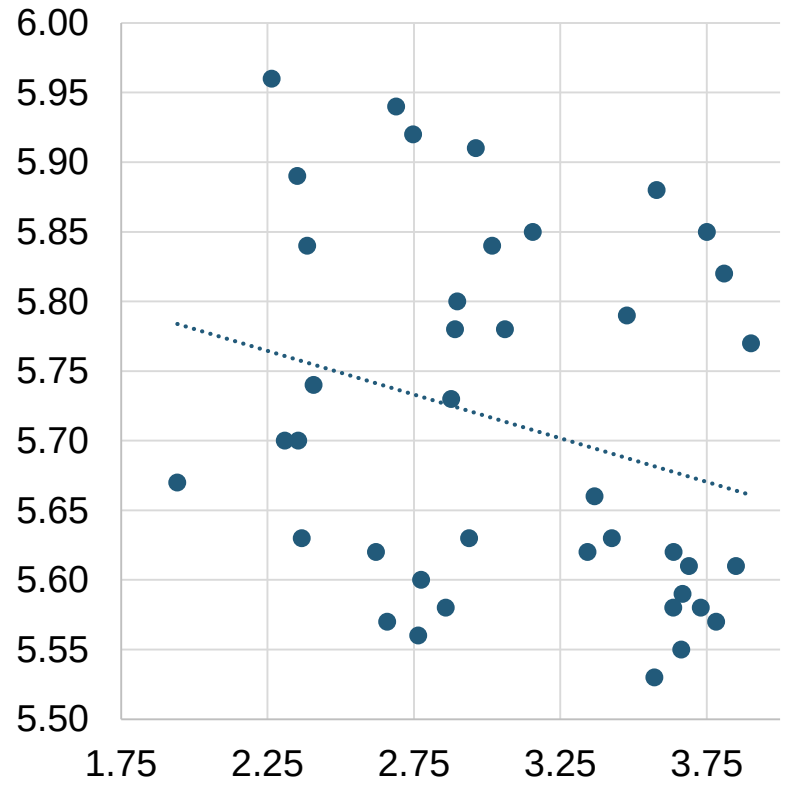
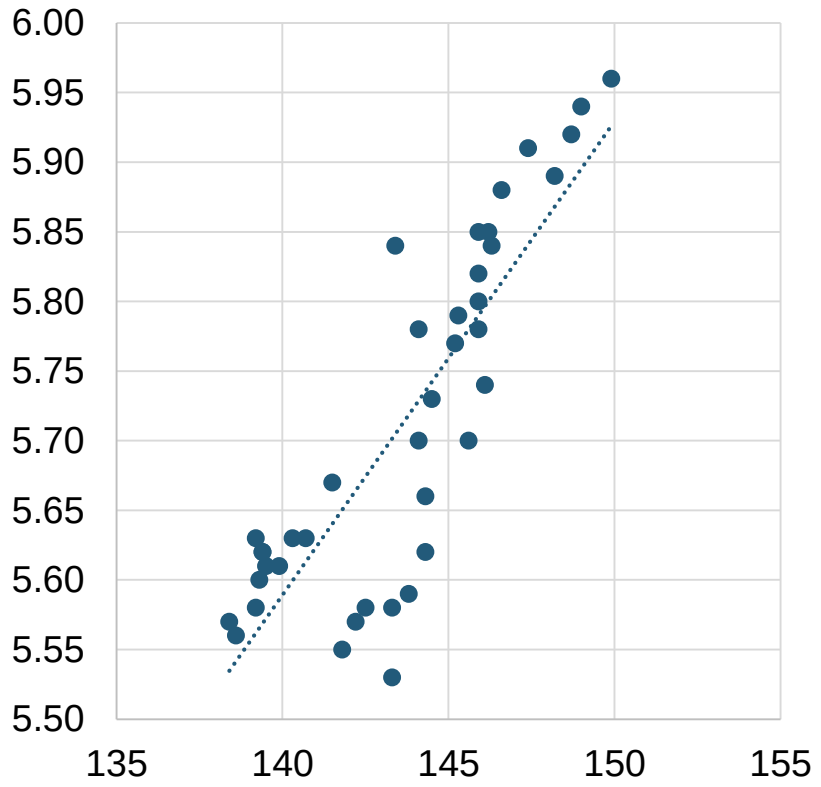
Comparing Gas Prices, Employment on Collision Frequency

INSURANCE INFORMATION INSTITUTE

Gas Price vs. Collision Frequency



Number Employed vs. Collision Frequency



Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Energy Information Administration; Rolling Four-Qtr Avg. Frequency from Insurance Services Office; Insurance Information Institute.

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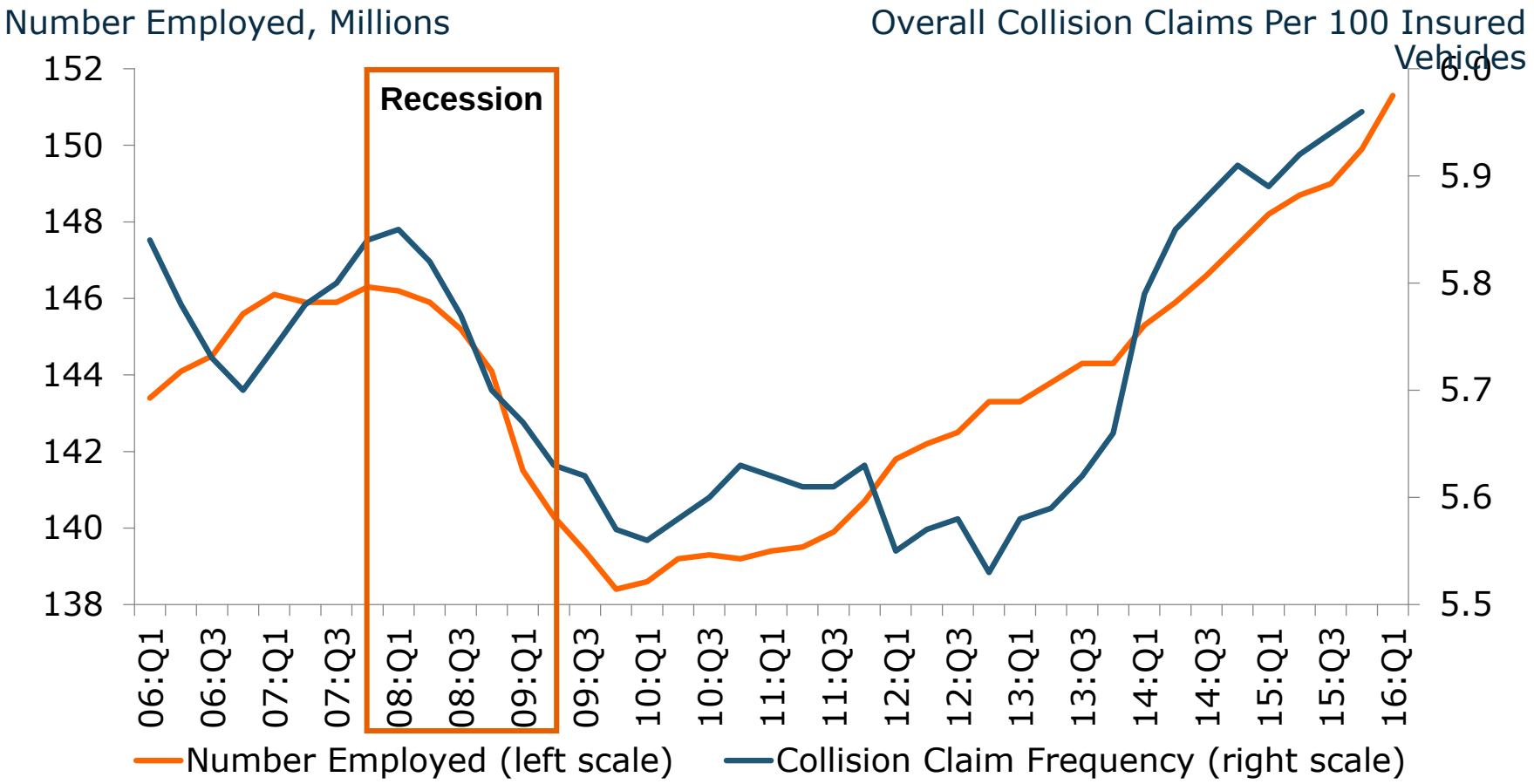

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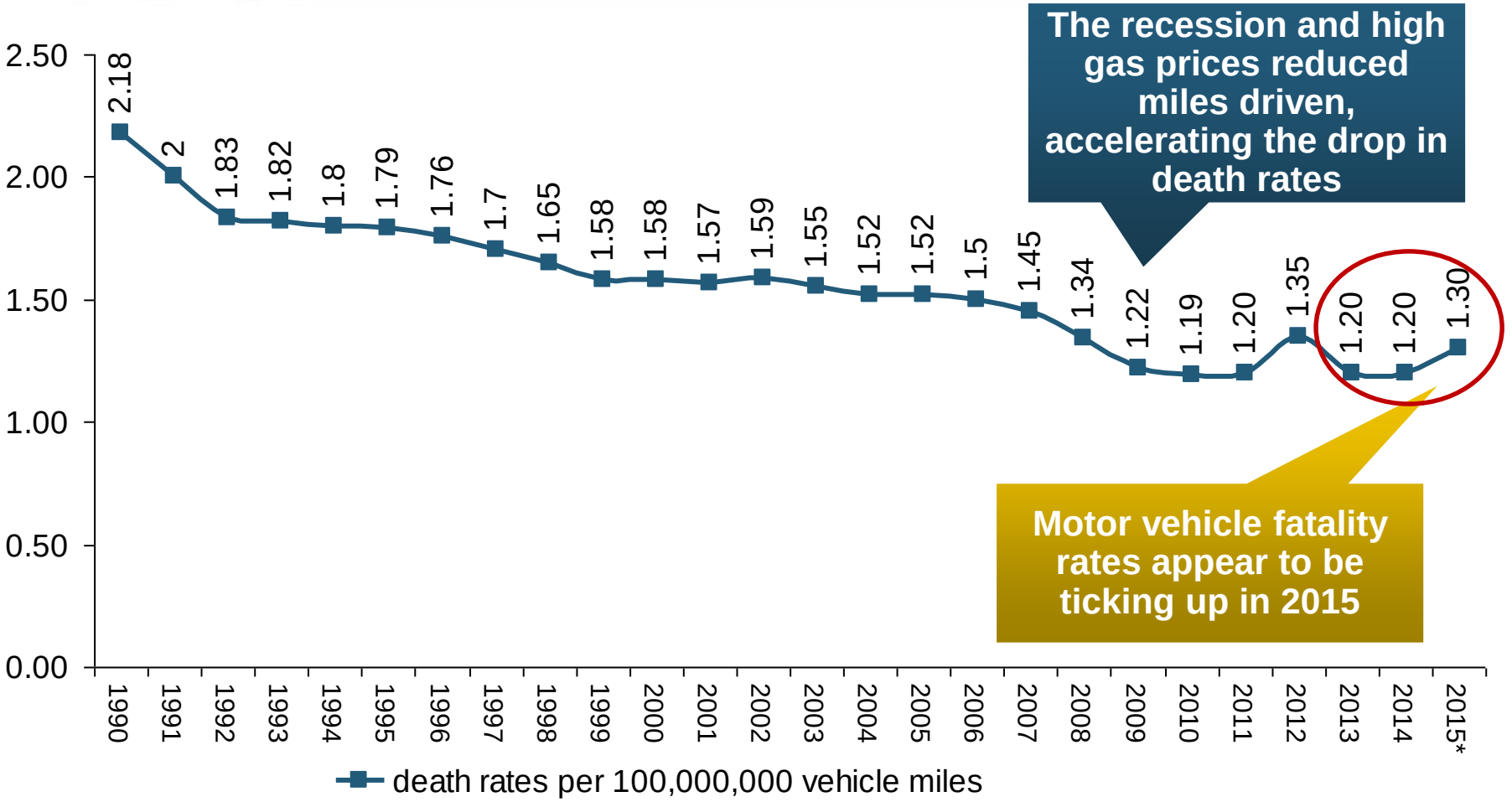
Death Rates per 100,000,000 Vehicle miles, 1990-2015*

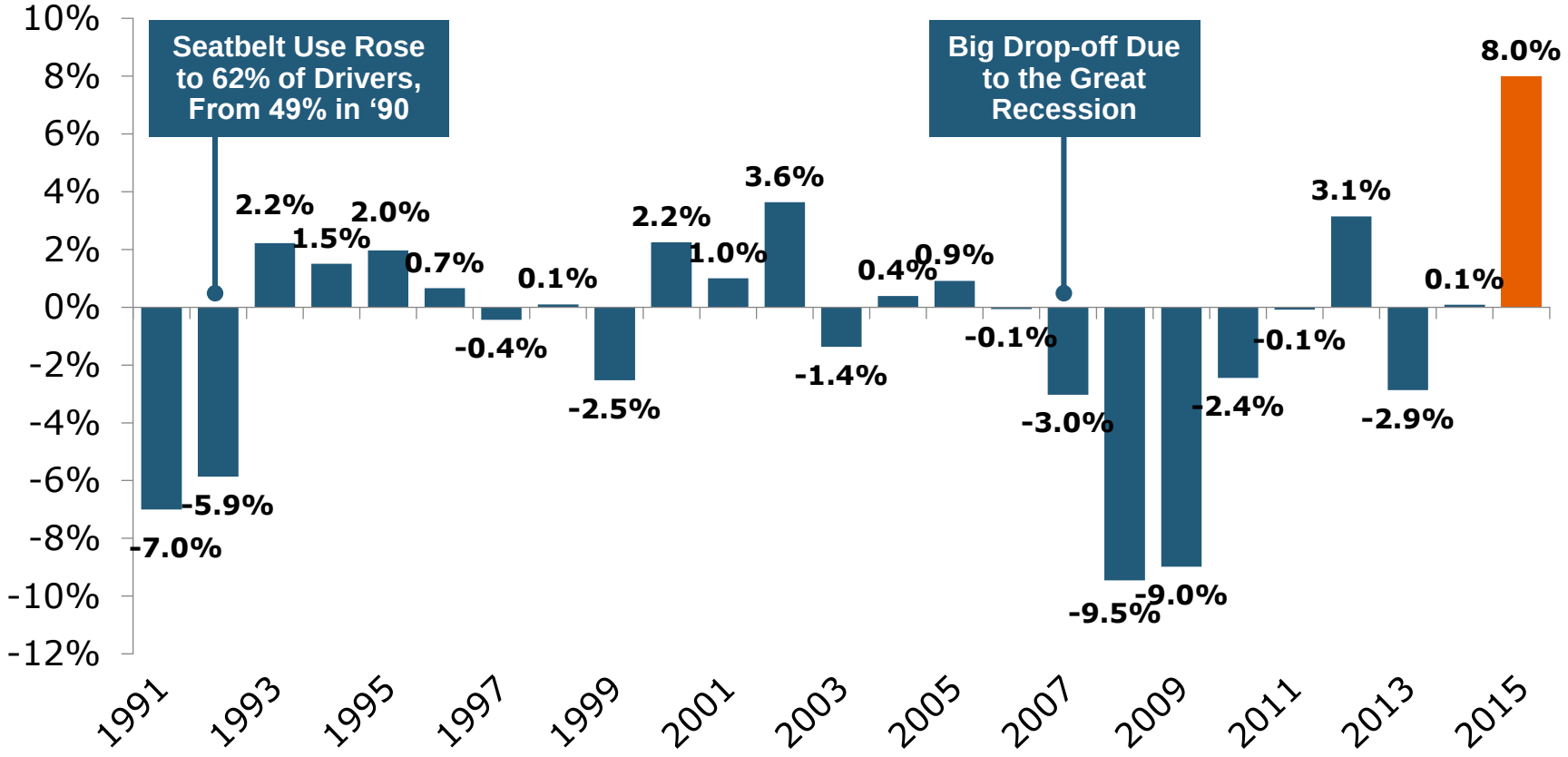


Vehicle death rates fell by nearly half between 1990 and 2010

*Projected rate for 2015 based on date through June 2015.
Source: National Safety Council; Insurance Information Institute.

Severity: Driving Fatalities are Rising

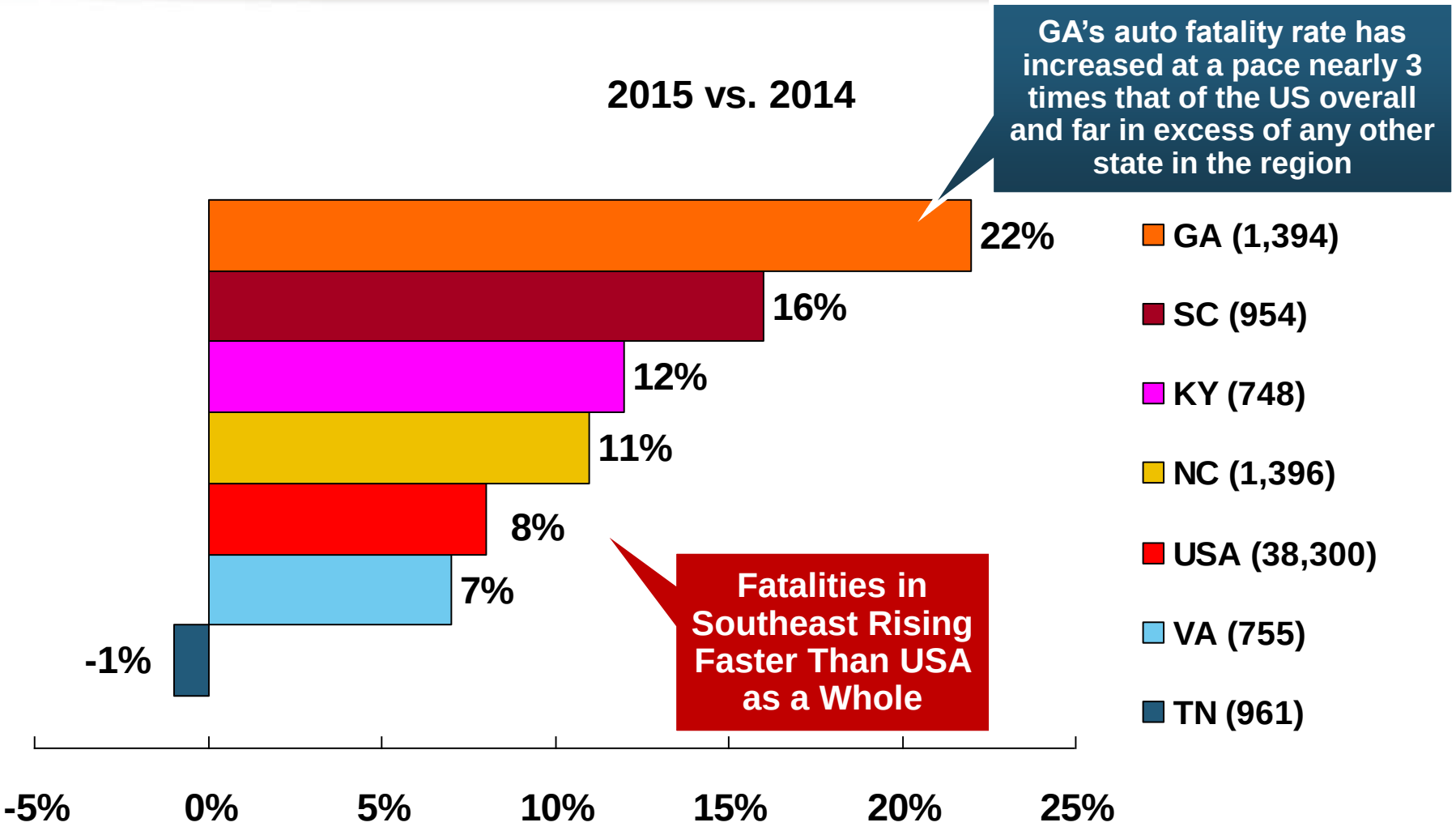
Annual Change in Motor Vehicle Deaths



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

Sources: National Safety Council, Insurance Information Institute.

Change in Auto Fatalities by State: Especially Severe in Georgia



SOURCE: Estimates from National Safety Council.

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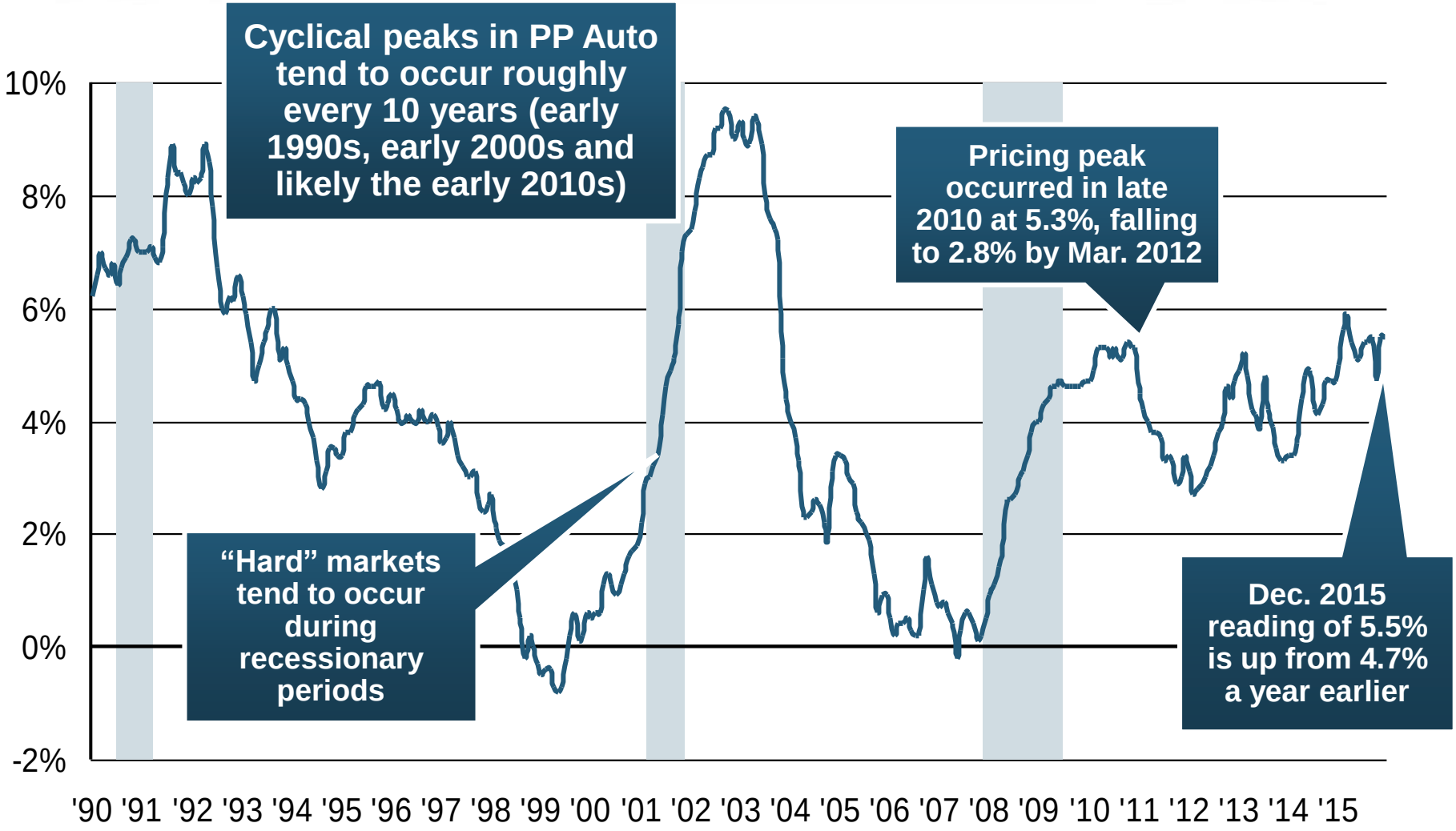
Personal & Commercial Auto Growth Drivers

Rate and Exposure are Both Presently Important Growth Drivers

Monthly Change in Auto Insurance Prices, 1991–2015*



*Percentage change from same month in prior year; through Dec. 2015; seasonally adjusted
Note: Recessions indicated by gray shaded columns.
Sources: US Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institutes.

CIAB: Average Commercial Rate Change, All Lines, (1Q:2004–1Q:2016)

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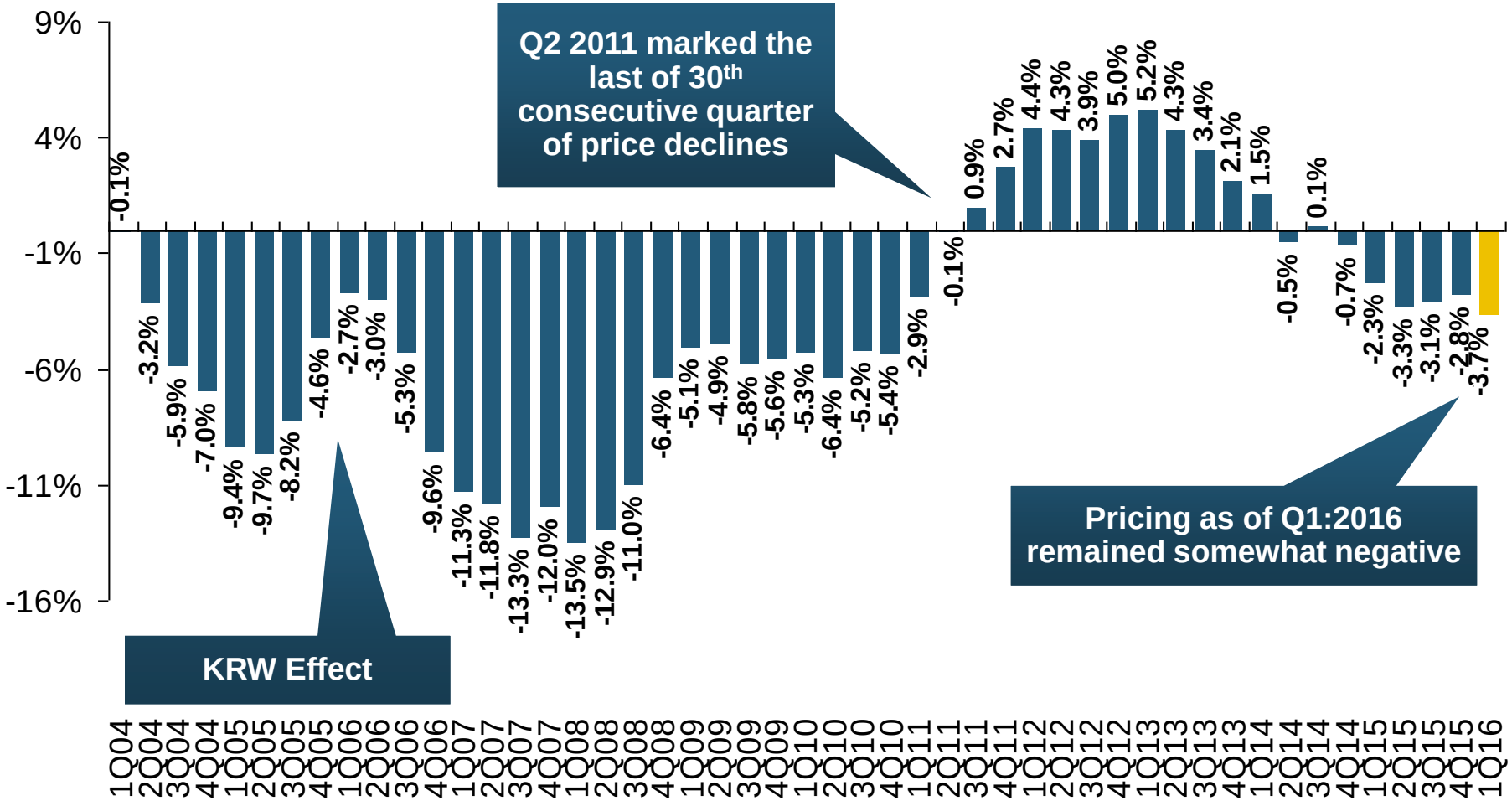
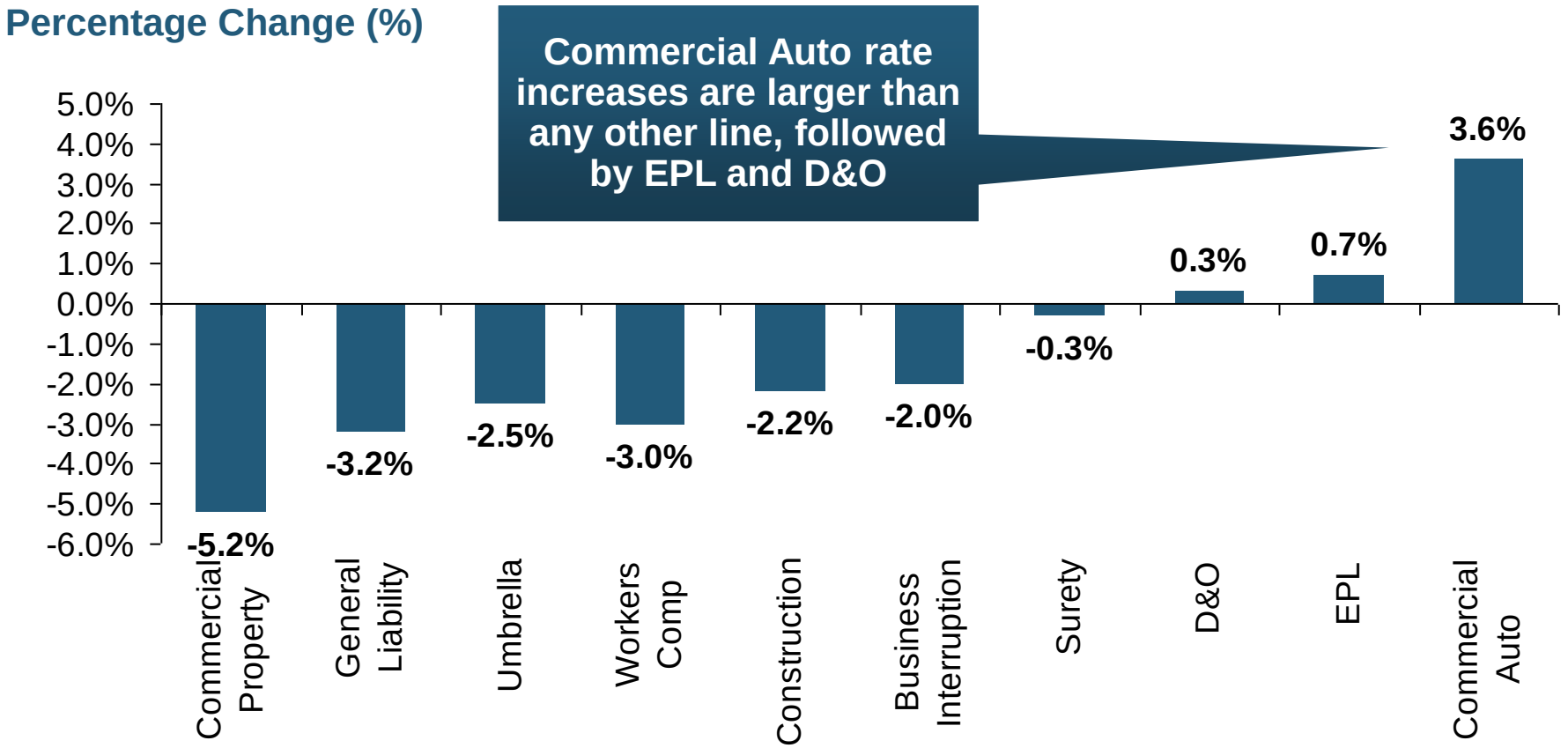
(Percent)



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; Insurance Information Institute

Change in Commercial Rate Renewals, by Line: 2016:Q1

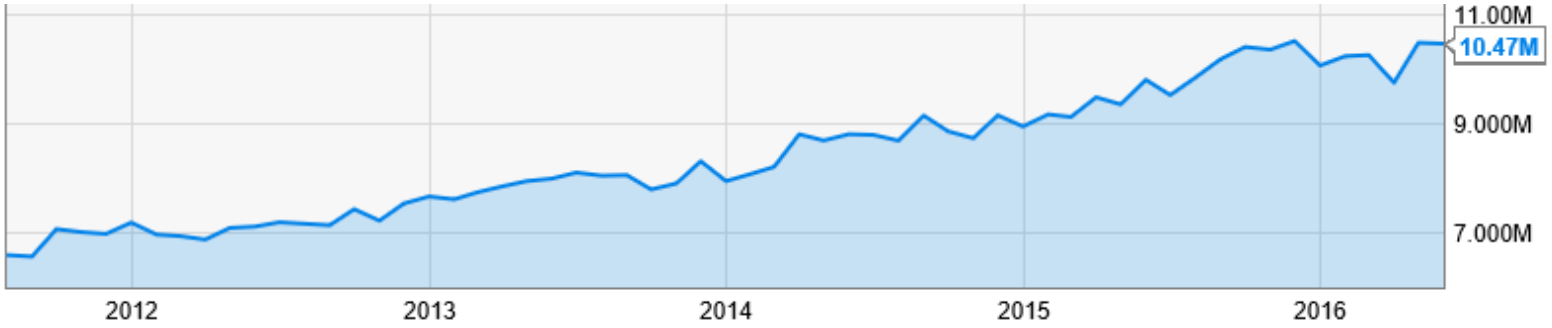


Major Commercial Lines Renewals Were Mixed to Down in Q1:2016; EPL, D&O and Commercial Auto Saw Gains

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; Insurance Information Institute.

Light Truck Sales Remain Near Record Highs→Bodes Well for Comm. Auto

US Light truck sales in May 2016 were up 6.75% to 10.47M units vs. a year ago

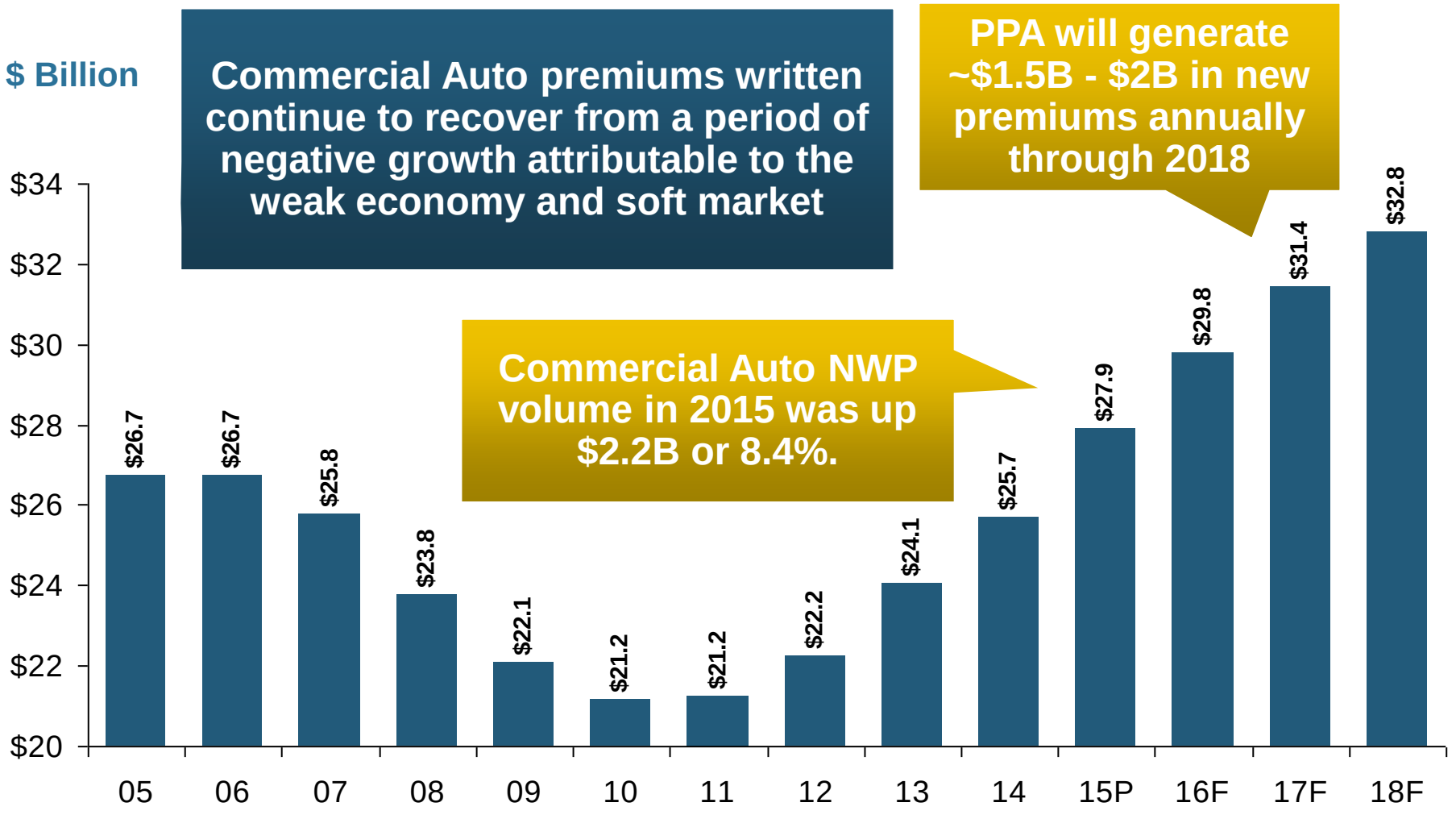


Additional Commercial Auto Exposure Considerations

- US heavy truck sales are up ~8% in 2016
- Truck tonnage was up 5.7% in May 2016 Y-o-Y (ATA)
- Employment in Transport & Warehousing up ~3% in 2016

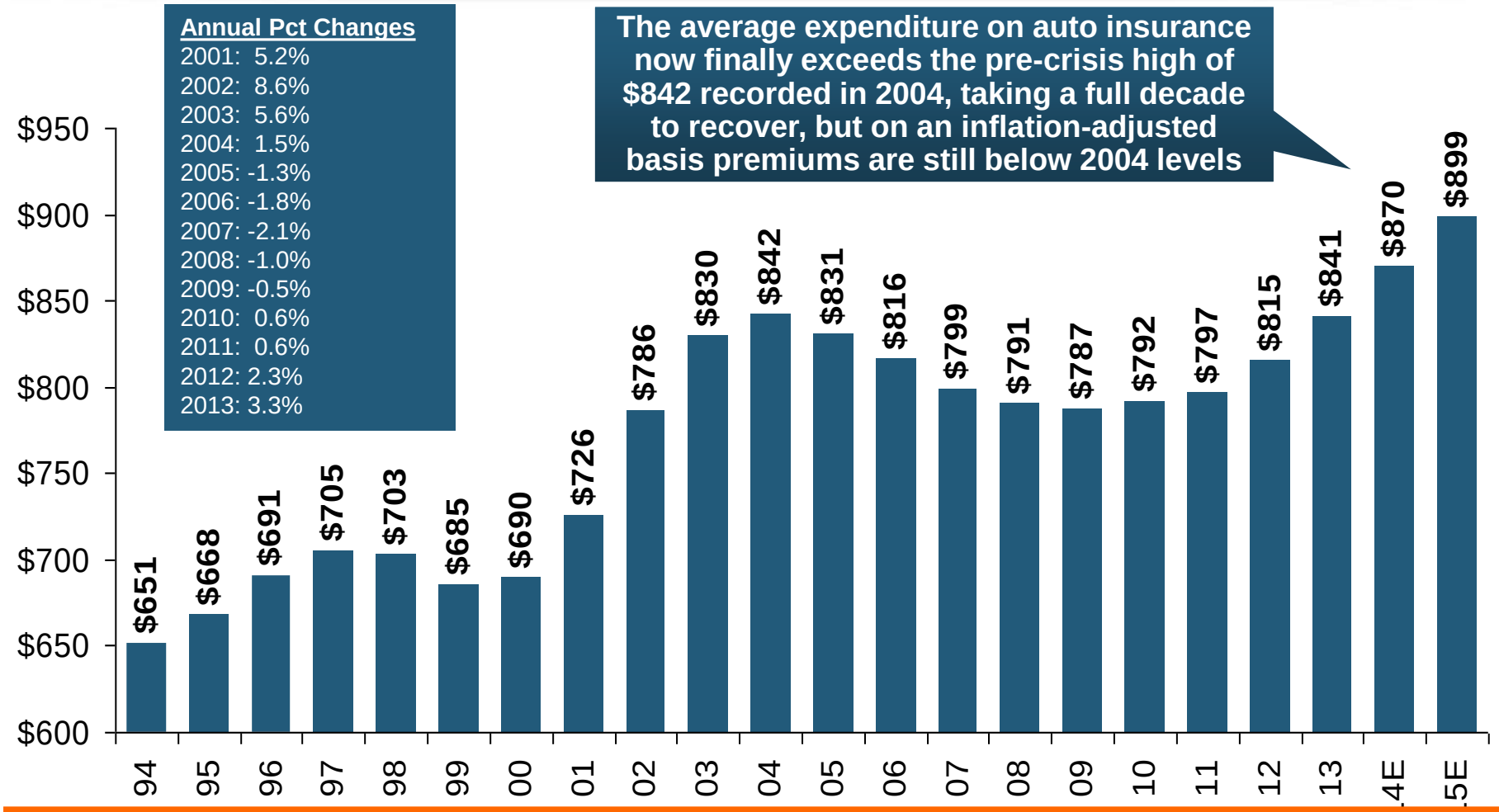
Source: US Bureau of Economic Analysis accessed 7/12/16 from ycharts.com at https://ycharts.com/indicators/us_retail_sales_of_light_trucks_saar ; Insurance Information Institute.

Commercial Auto Insurance Net Written Premium, 2005–2018F



Sources: A.M. Best (1990-2014); Conning (2015-18F); Insurance Information Institute.

Average Expenditures* on Auto Insurance, 1994-2015E

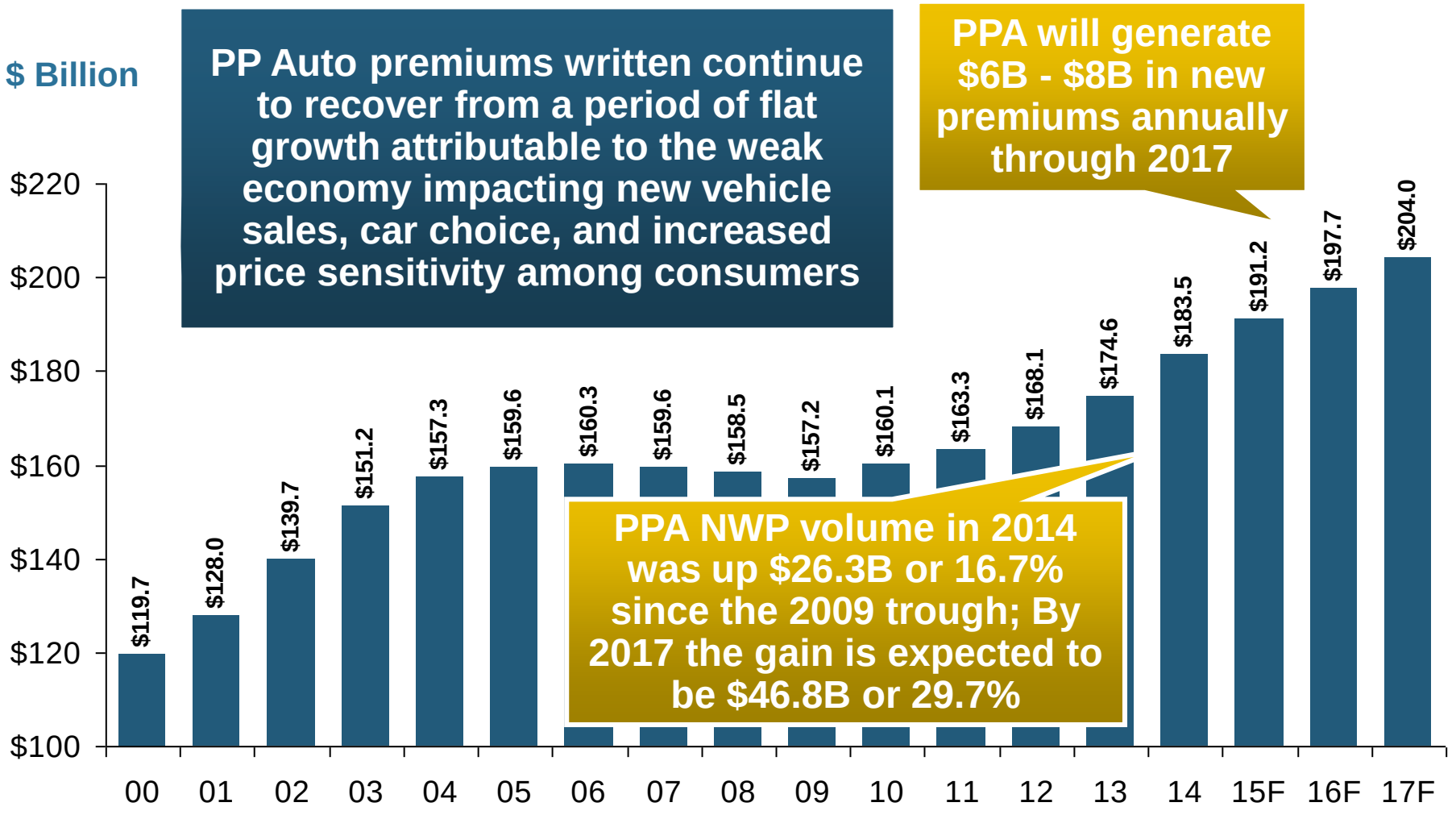


Across the U.S., auto insurance expenditures fell by 0.8% in 2008 and 0.5% in 2009 but rose 0.5% in 2010, 0.8% in 2011, 2.3% in 2012 and 3.3% in 2013; I.I.I. estimate is for +3.4% in 2014 and 2015.

* The NAIC data are per-vehicle (actually, per insured car-year)

Sources: NAIC for 1994-2013; Insurance Information Institute estimates for 2014-2015 based on CPI and other data.

Private Passenger Auto Insurance Net Written Premium, 2000–2017F



Sources: A.M. Best (1990-2014); Conning (2015-17F); Insurance Information Institute.

CIAB: Average Commercial Rate Change, All Lines, (1Q:2004–1Q:2016)

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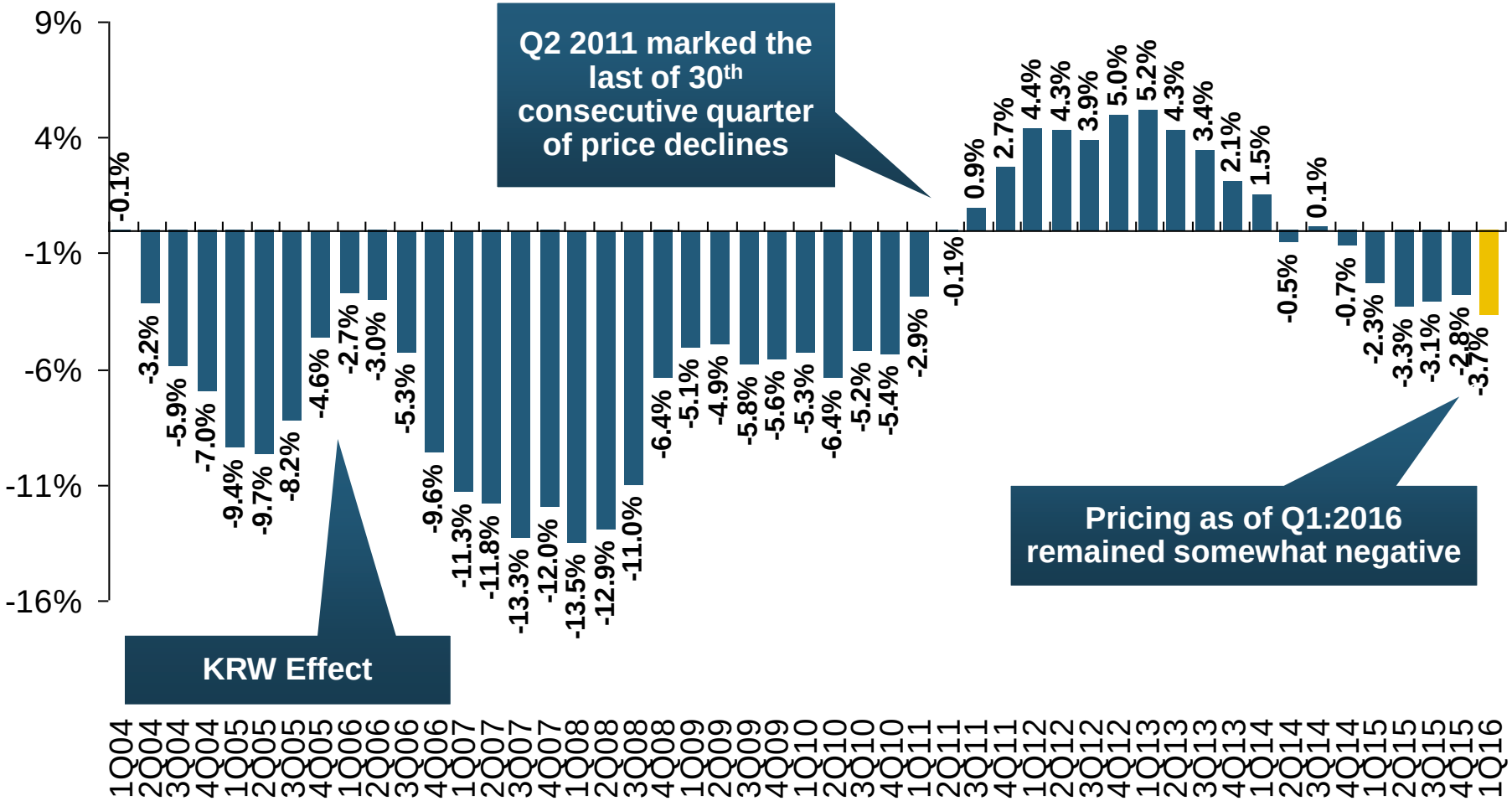
(Percent)



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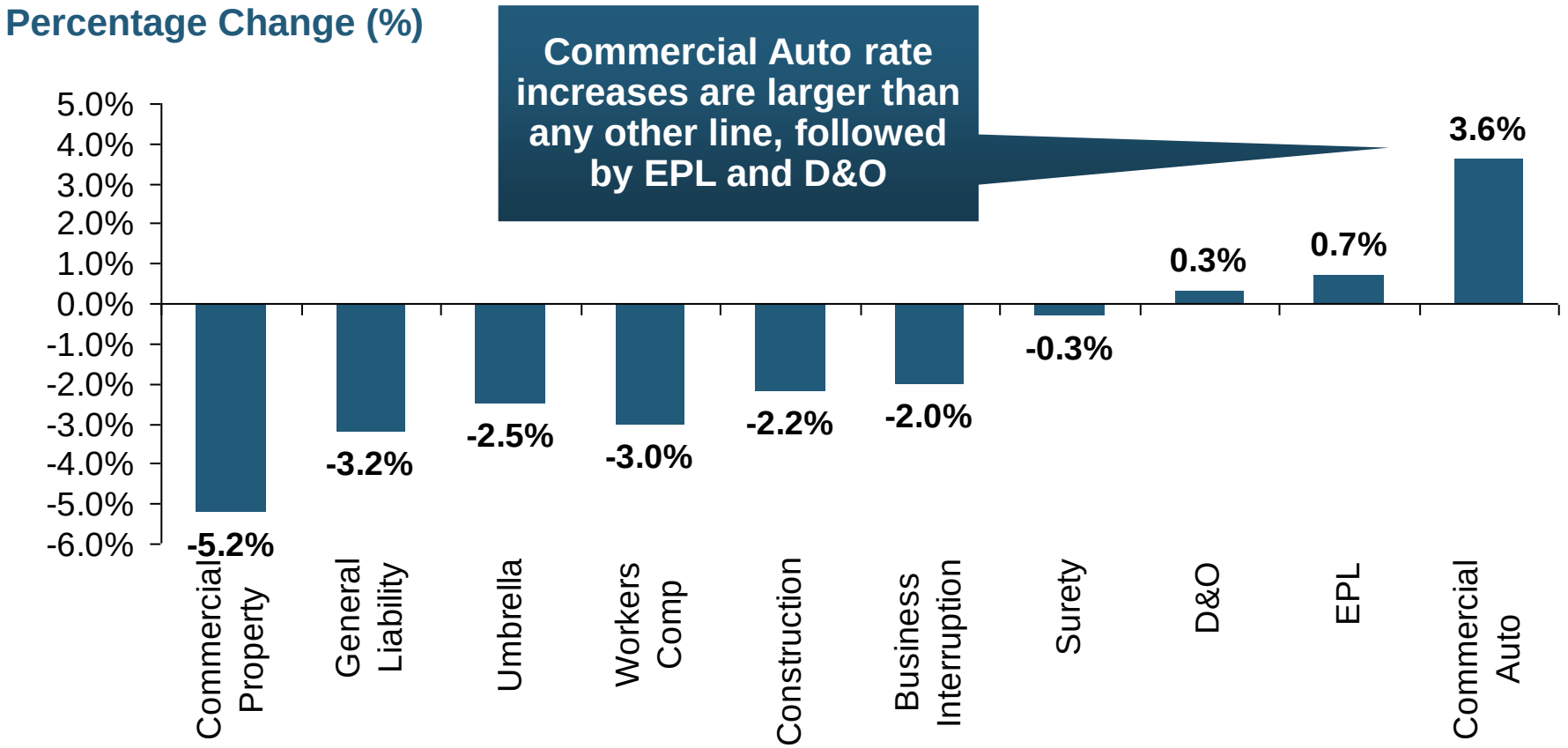

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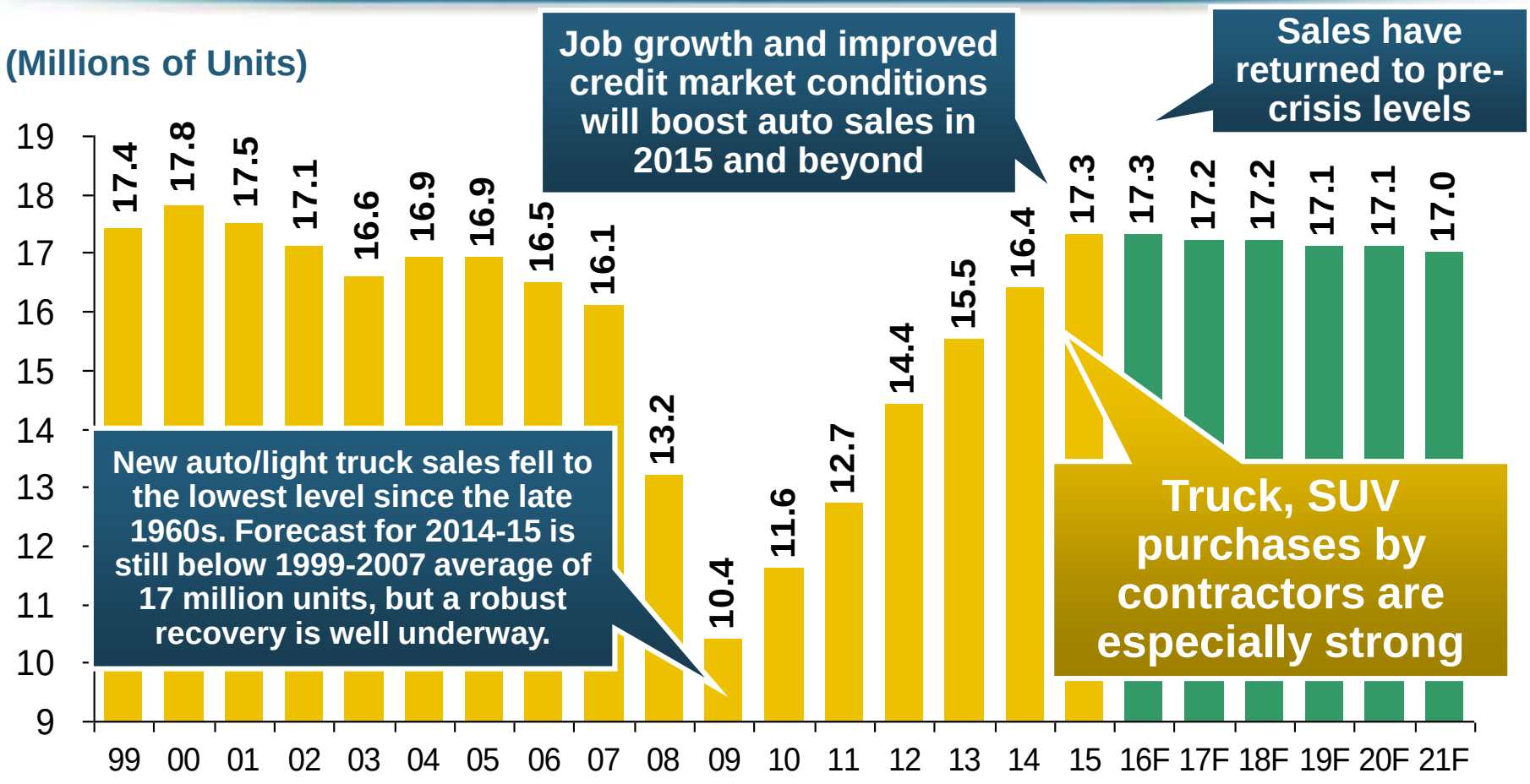
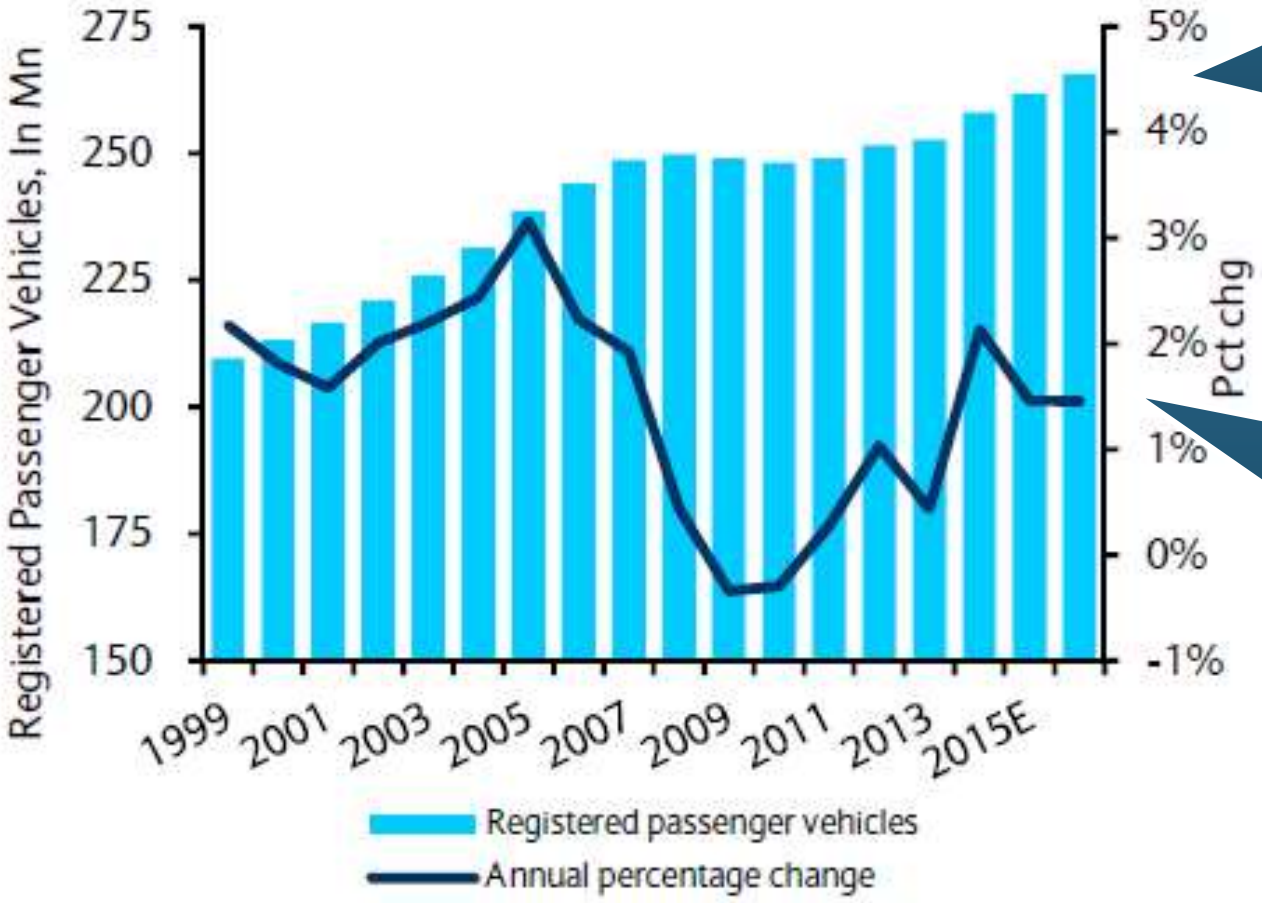
Auto/Light Truck Sales, 1999-2021F



Yearly car/light truck sales will likely continue at current levels, in part replacing cars that were held onto in 2008-12. PP Auto premium might grow by 3.5% - 5%.

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (5/16 for 2016-17; 3/16 for 2018-21F; Insurance Information Institute.

Number of Registered Passenger Vehicles in US, 1999 – 2015E

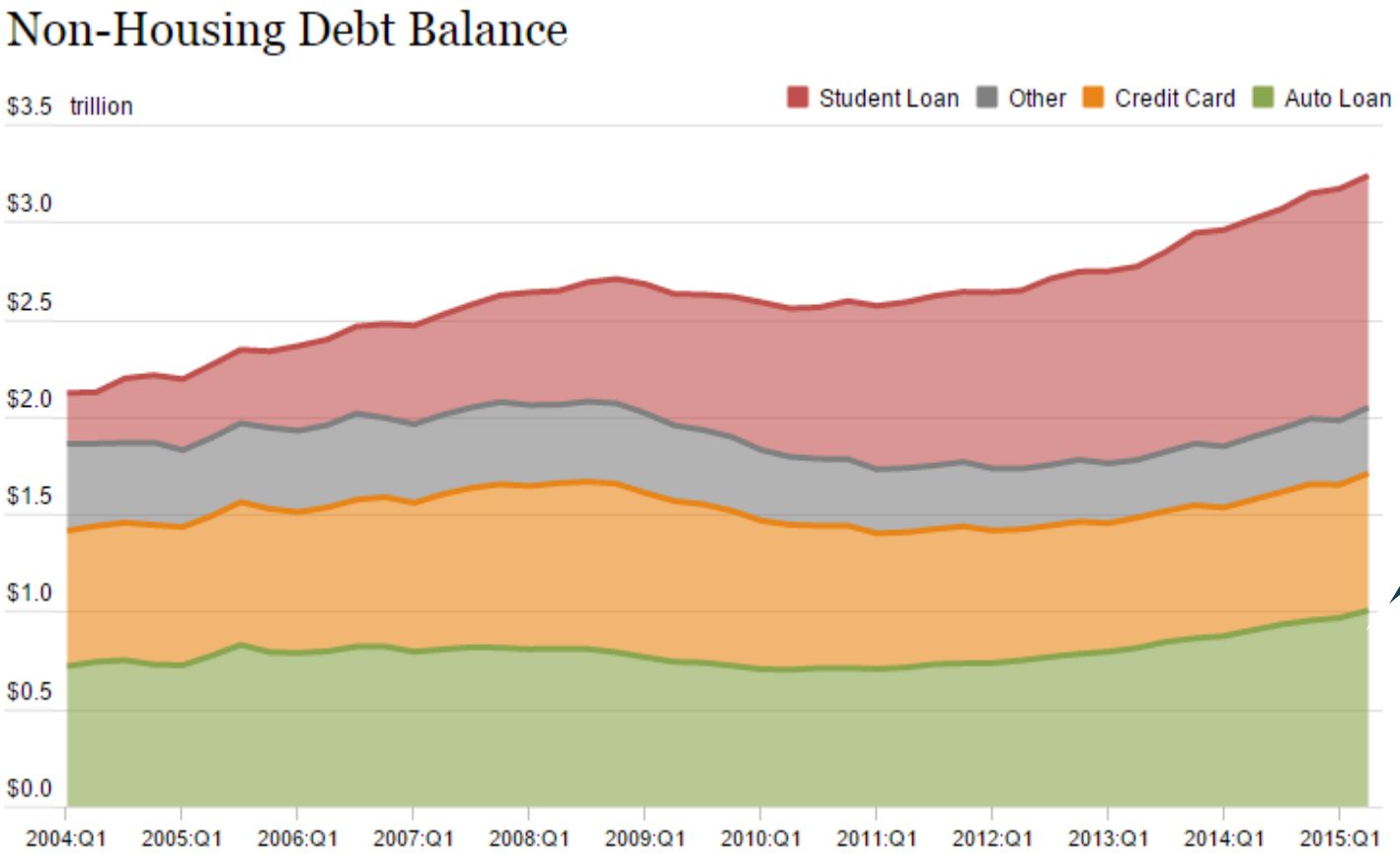


Vehicle registrations are growing once again and now finally exceed pre-crisis peak

Vehicle registrations are expected to increase at an annual rate of about 1.5% per year in 2015 and 2016

Sources: Bureau of Transportation Statistics; Barclays Capital estimates, August 2015.

Auto Loans and Other Non-Housing Debt, 2004 – 2015*



Auto loan debt outstanding reached $1T for the first time ever in Q1 2015

Banks are becoming increasingly aggressive in marketing auto loans

*As of Q1 2015.
Source: Federal Reserve Bank of NY Consumer Credit Panel/Equifax; I. I.I.

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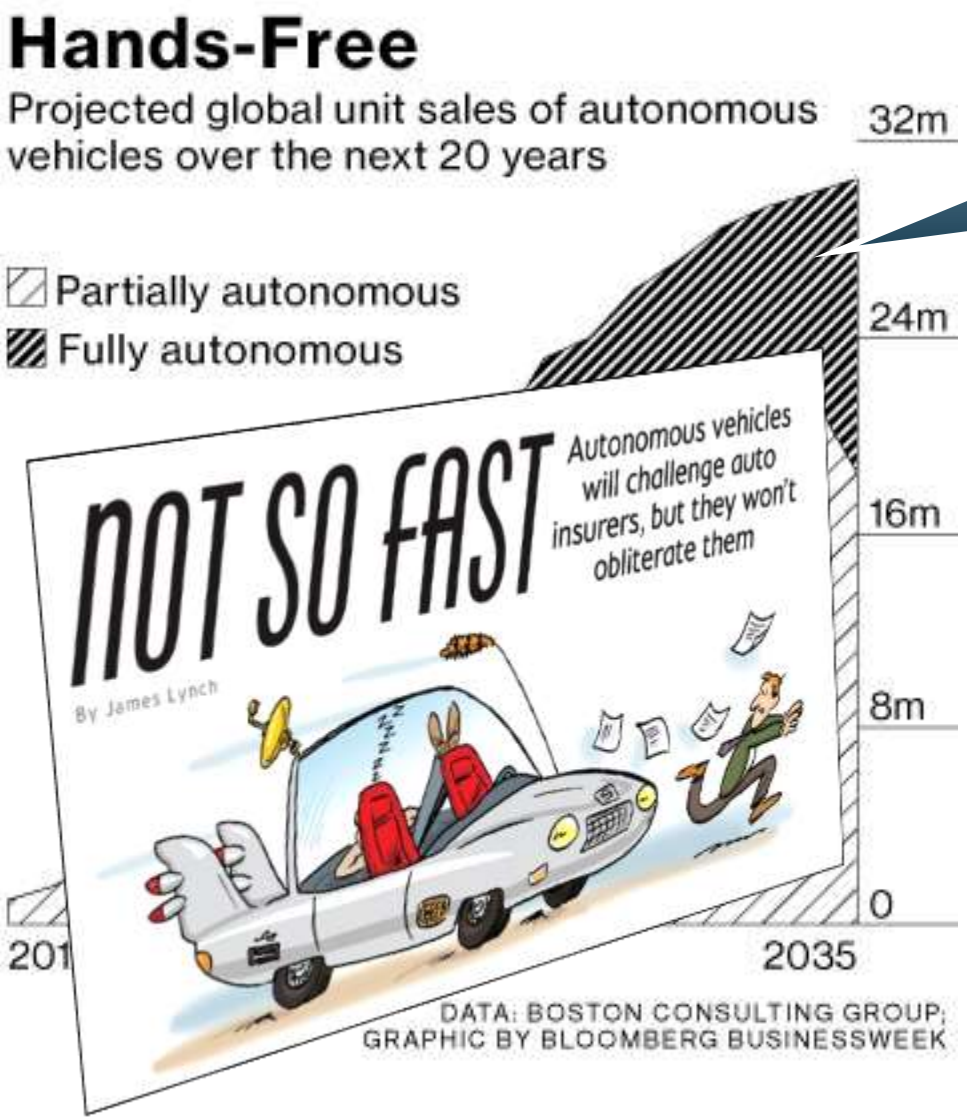
AUTO TECHNOLOGY & THE FUTURE OF AUTO INSURANCE

The Road to Fully Autonomous Vehicles: Long, Dark and Full of Potholes

Tales of the Death of Auto Insurance Are Greatly Exaggerated

Media is Obsessed with Driverless Vehicles: Often Predicting the Demise of Auto Insurance



By 2035, it is estimated that 25% of new vehicle sales could be fully autonomous models

Questions

- **Are auto insurers monitoring these trends?**
- **How are they reacting?**
- **Will Google take over the industry?**
- **Will the number of auto insurers shrink?**
- **How will liability shift?**

Source: Boston Consulting Group.

Media is Obsessed with Driverless Vehicles: Often Predicting the Demise of Auto Insurance

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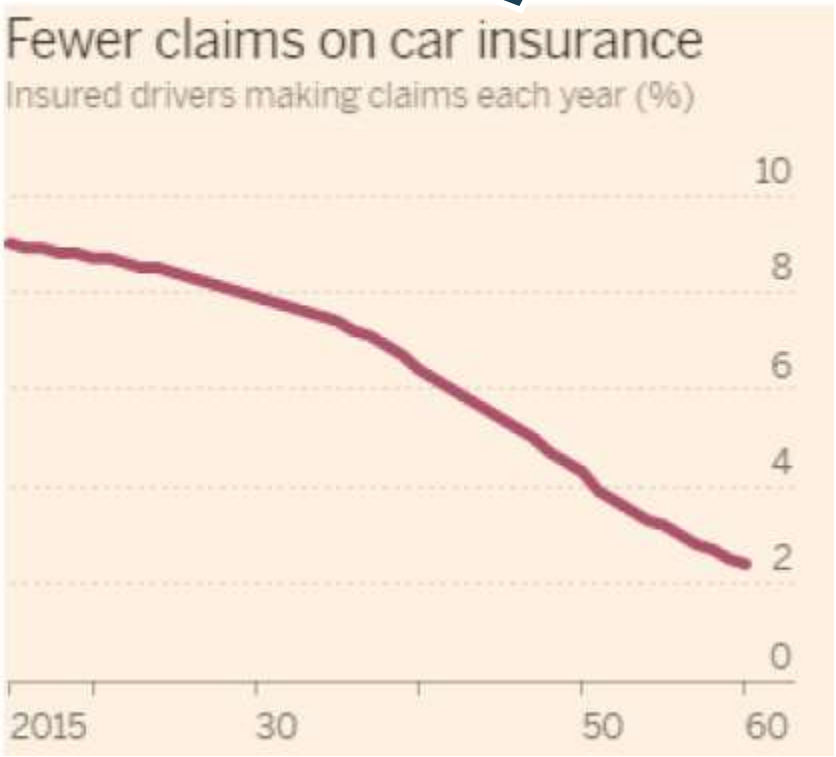
Some are predicting that the rise of autonomous vehicles will reduce claim frequency by 75% or more…



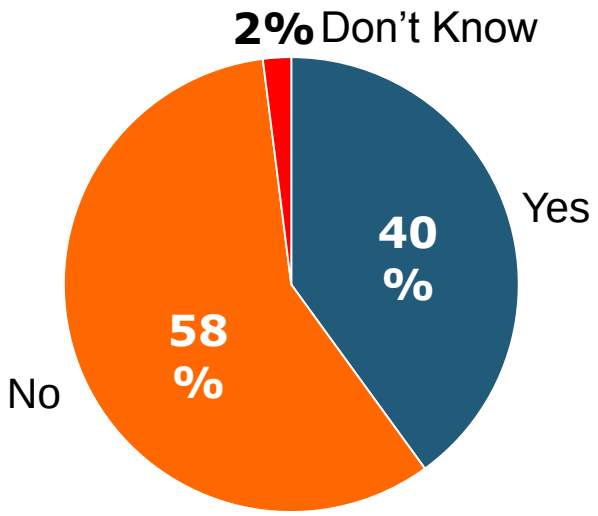
,,,and that this technology will cause average auto insurance premiums to plunge

Source: Autonomous Consulting as cited in the Financial Times: "Cost of Car Insurance to Plunge With Rise of Driverless Vehicles, June 28, 2016.

I.I.I. Poll: Auto Insurance

Q. Would you be willing to ride in a driverless car?

May 2015



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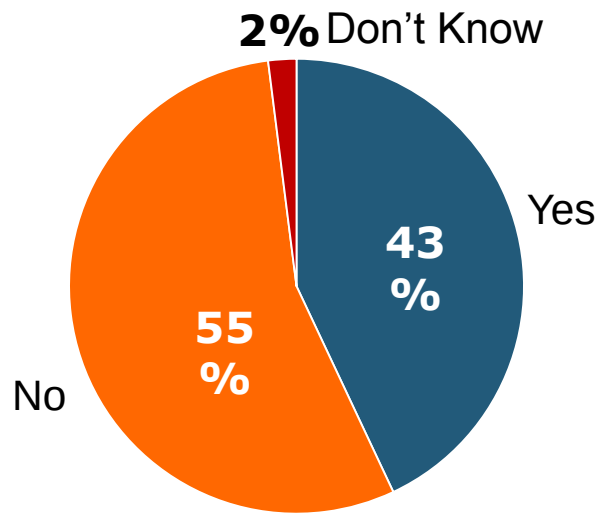

The Percentage Willing to Ride in a Driverless Car Rose Slightly; 71% of People Over 64 Were Unwilling to Ride.

Source: Insurance Information Institute Annual *Pulse* Survey.

I.I.I. Poll: Driverless Cars

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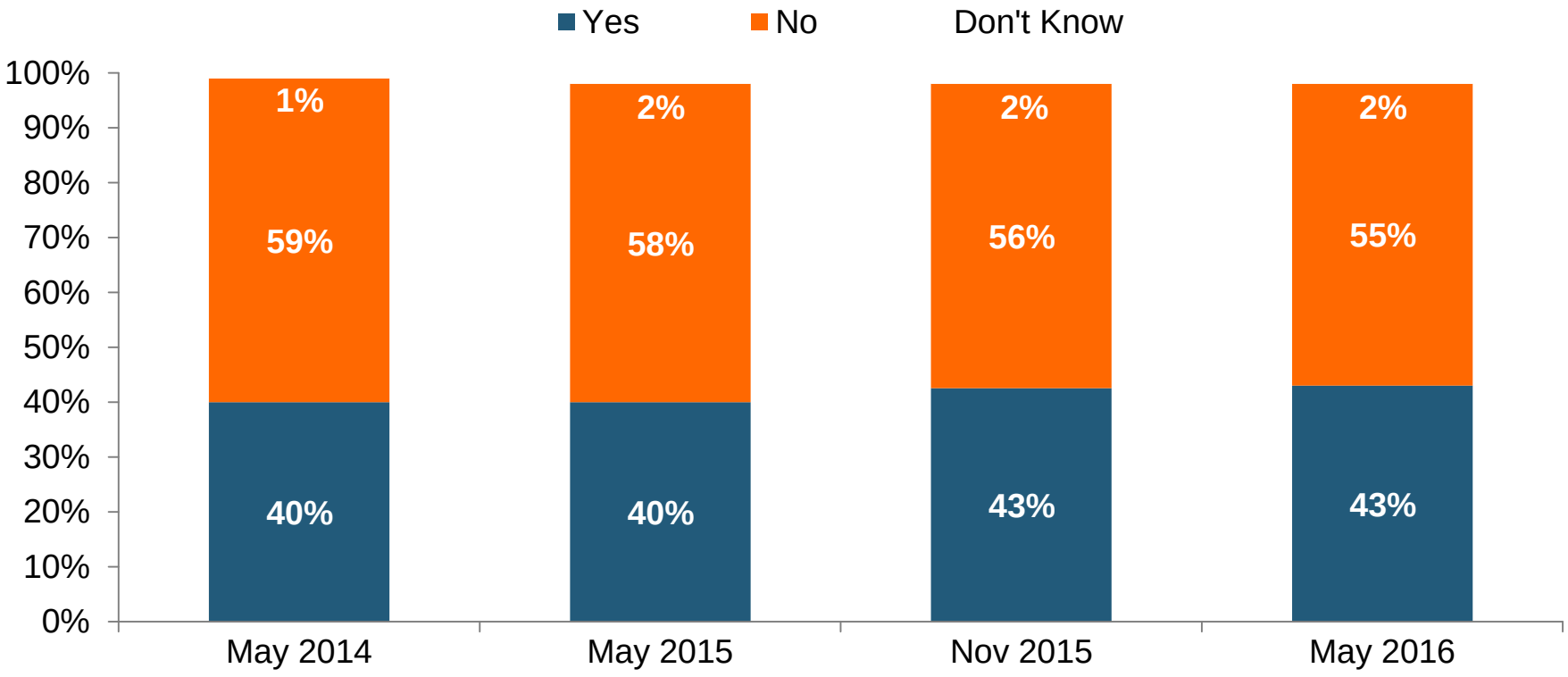

The Percentage Willing to Ride in a Driverless Car Remains at 43%; 71% of People Over 64 Were Unwilling to Ride.

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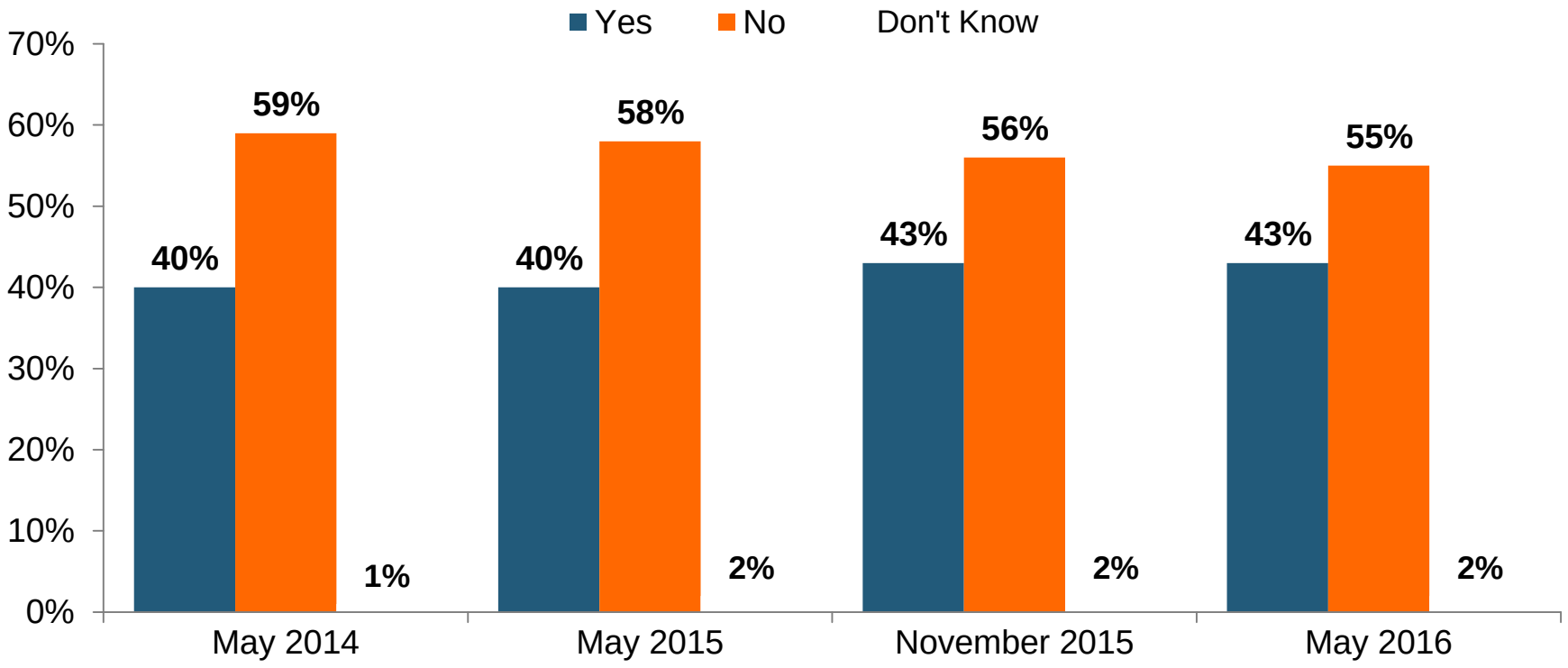

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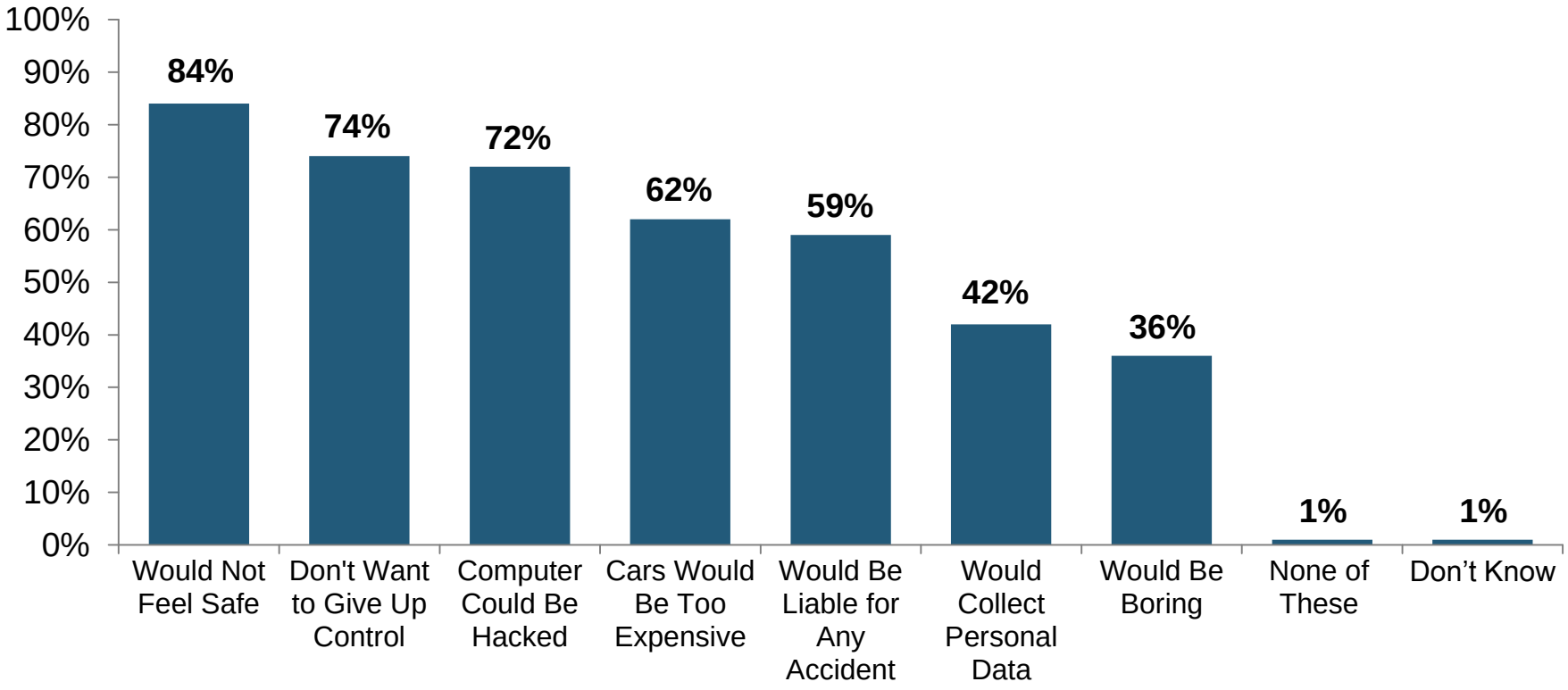
I.I.I. Poll: Driverless Cars

Why Americans Would Not Want to Ride in a Driverless Car, May 2016[1]

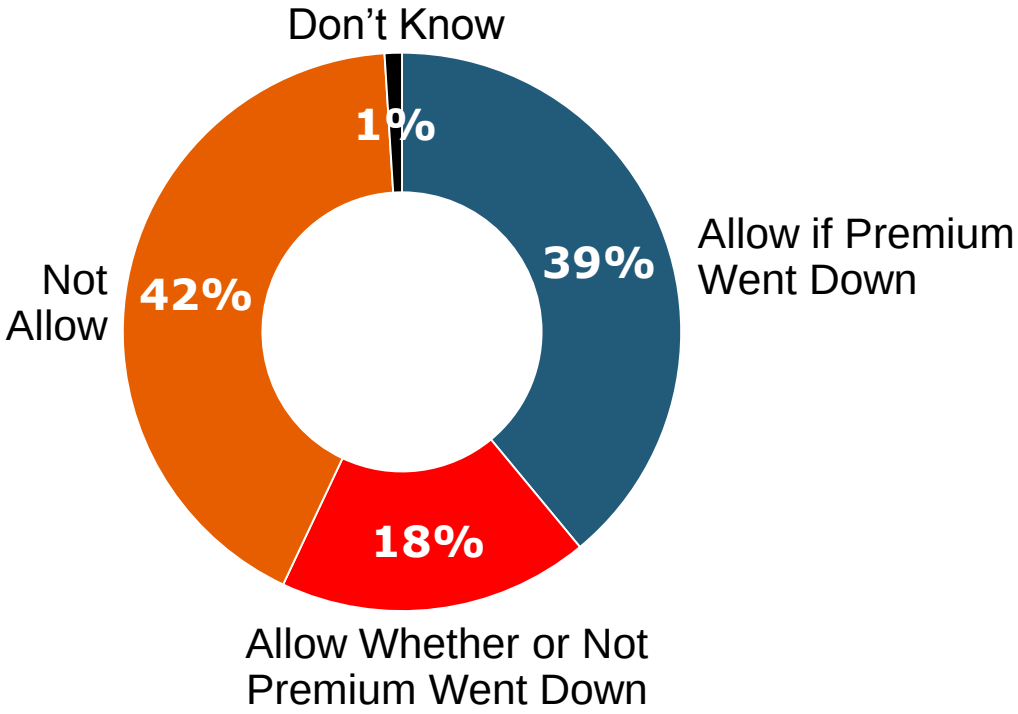


Safety Concerns Are Paramount Among Those Who Would Avoid Driverless Cars.

[1] Based on those who would not ride in a driverless car. Respondents could give more than one answer.
Source: Insurance Information Institute Annual *Pulse* Survey.

I.I.I. Poll: Telematics— Consumers Still Hesitant

Q **Would you allow your auto insurer to collect information about how and when you drive in order to set your auto insurance premium?**



More Than Half of Auto Policyholders Would Allow Their Insurer to Collect Their Driving Information in Order to Set Premiums.

[1]Asked of those who have auto insurance.
Source: Insurance Information Institute Annual *Pulse* Survey.

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The Sharing Economy

The On-Demand Economy Will Transform the American Workforce and the P/C Insurance Industry Too

On-Demand/Sharing/Peer-to-Peer Economy Impacts Many Lines of Insurance

- **The "On-Demand" Economy is or will impact many segments of the economy important to P/C insurers**
  - ***Auto (personal and commercial)***
  - **Homeowners/Renters**
  - **Many Liability Coverages**
  - **Professional Liability**
  - **Workers Comp**
- **Many unanswered insurance questions**
- **Insurance solutions are increasingly available to fill the many insurance gaps that arise**

TNC Ridesharing Arrangements: Insurance Applicability

Phase	TNC Coverage
1. Driver logged into TNC App but not "matched" with a passenger	Contingent liability coverage IF personal auto coverage declined/not available ($50/100/25)*
2. A "match" is made but passenger is not in the driver's car	Primary liability, UM/UIM coverage at a higher limit ($1M)* Contingent comp/collision coverage
3. A passenger is in the driver's car	Same as Phase 2

The concern was that TNCs were seeking to offload risk on to personal auto insurers. An increasing number of personal auto insurers have developed solutions to ensure that coverage gaps are minimized

*From publically available sources as of June 2, 2015.
Source: ISO/Verisk.

Ridesharing Regulation/Legislation and Status of ISO Filings as of 9/30/15

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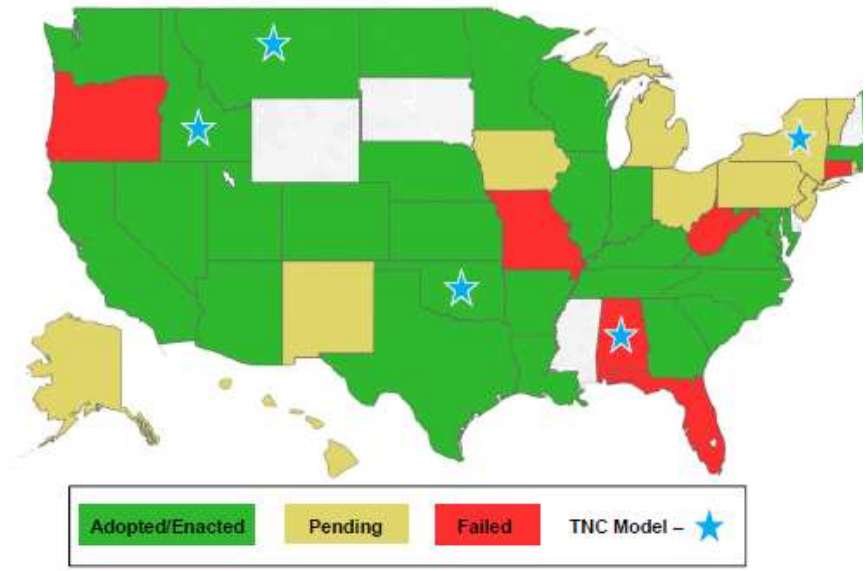
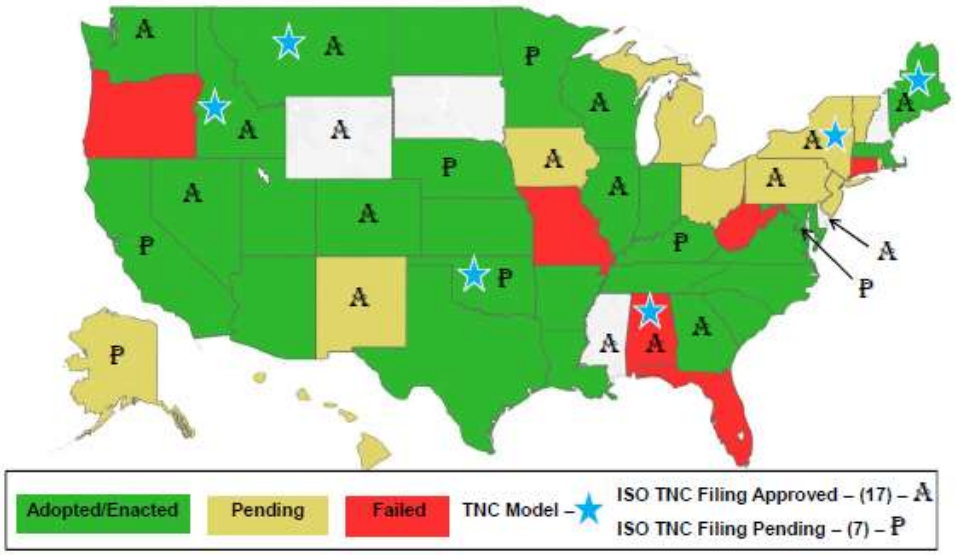
Status Ride Sharing Legislation/Regulation



Status of ISO Filings



Source: ISO.

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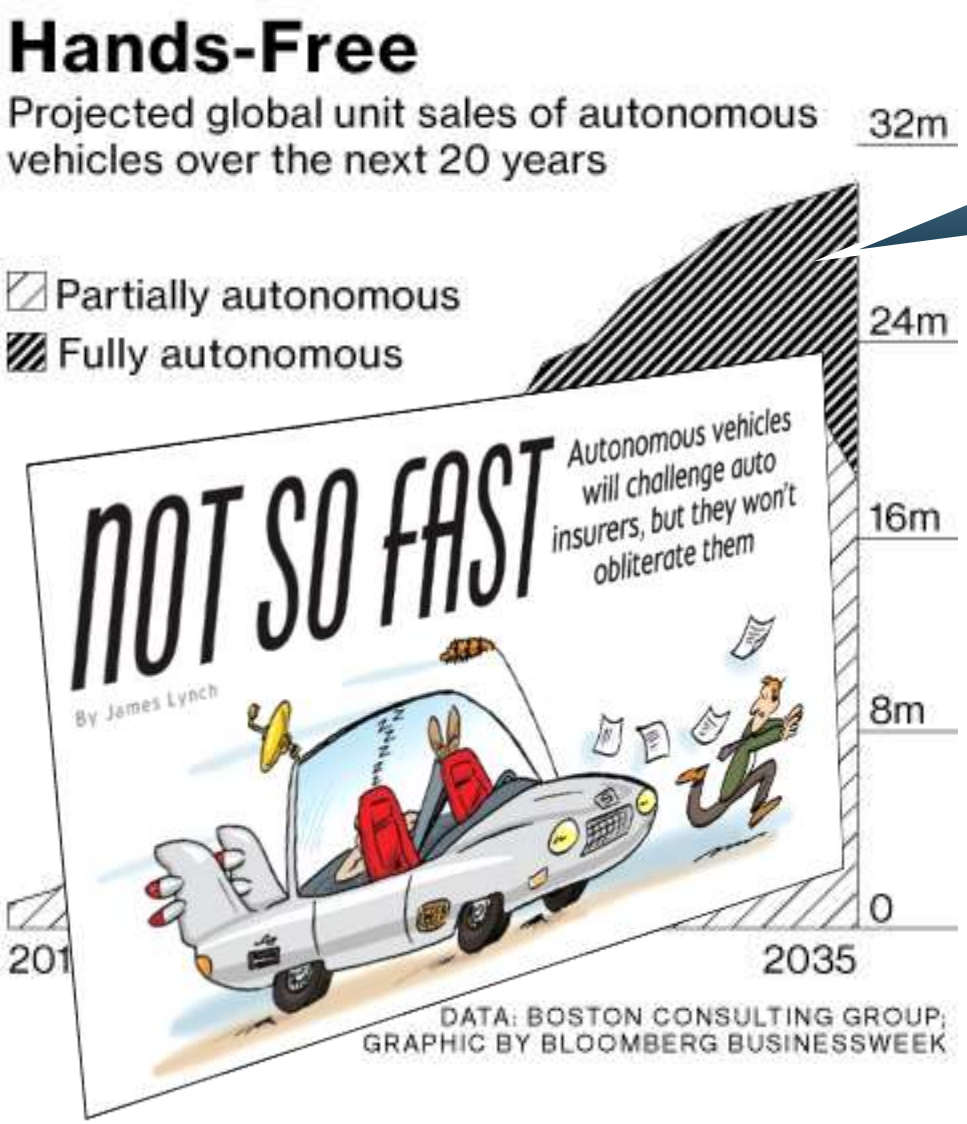
INDUSTRY DISRUPTORS

Technology, Society and the Economy Are All Changing at a Rapid Pace

Thoughts on the Future of Auto Insurance

Media is Obsessed with Driverless Vehicles: Often Predicting the Demise of Auto Insurance



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Source: Boston Consulting Group.

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The Sharing Economy

The On-Demand Economy Will Transform the Transportation Systems, Impacting the P/C Insurance Industry

The Sharing Economy Has Grown— And Attracted Political Scrutiny

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Political Skepticism About the 'Gig' Economy

"Many Americans are making extra money renting out a spare room, designing a website ... even driving their own car. This on demand or so called 'gig' economy is creating exciting opportunities and unleashing innovation, ***but it's also raising hard questions about workplace protections*** *and what a good job will look like in the future."*

--Hillary Clinton,
July 13, 2015

Regulatory Issues Abound as Well, With Implications for Insurance Coverages

REUTERS

In California, Uber Driver Is Employee, Not Contractor

*A driver for Uber is an **employee**, **not a contractor**, according to a California Ruling that eventually could push up costs 'for the smartphone-based ride hailing service and hurt the closely watched start-up's valuation.*

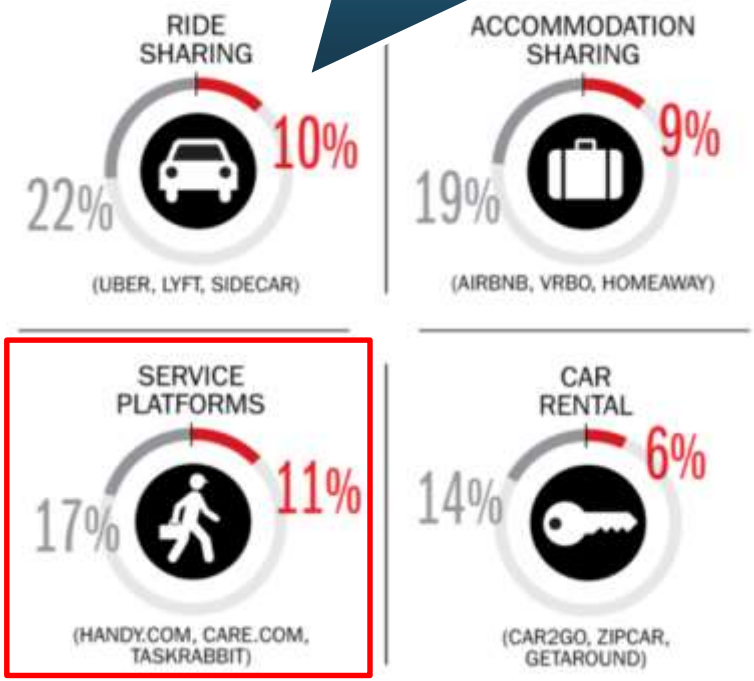
*The California Labor Commissioner's decision could ripple through the burgeoning industry of providing services via smartphones, with **potential implications for other "crowdsourced" services such as Uber rival Lyft, chore service TaskRabbit, and cleaning service Homejoy**.*

--Reuters, June 18, 2015

Percent of Americans Who Have Engaged in the "Gig/Sharing Economy" by Transaction

About 22% of Americans have offered services in the sharing economy.

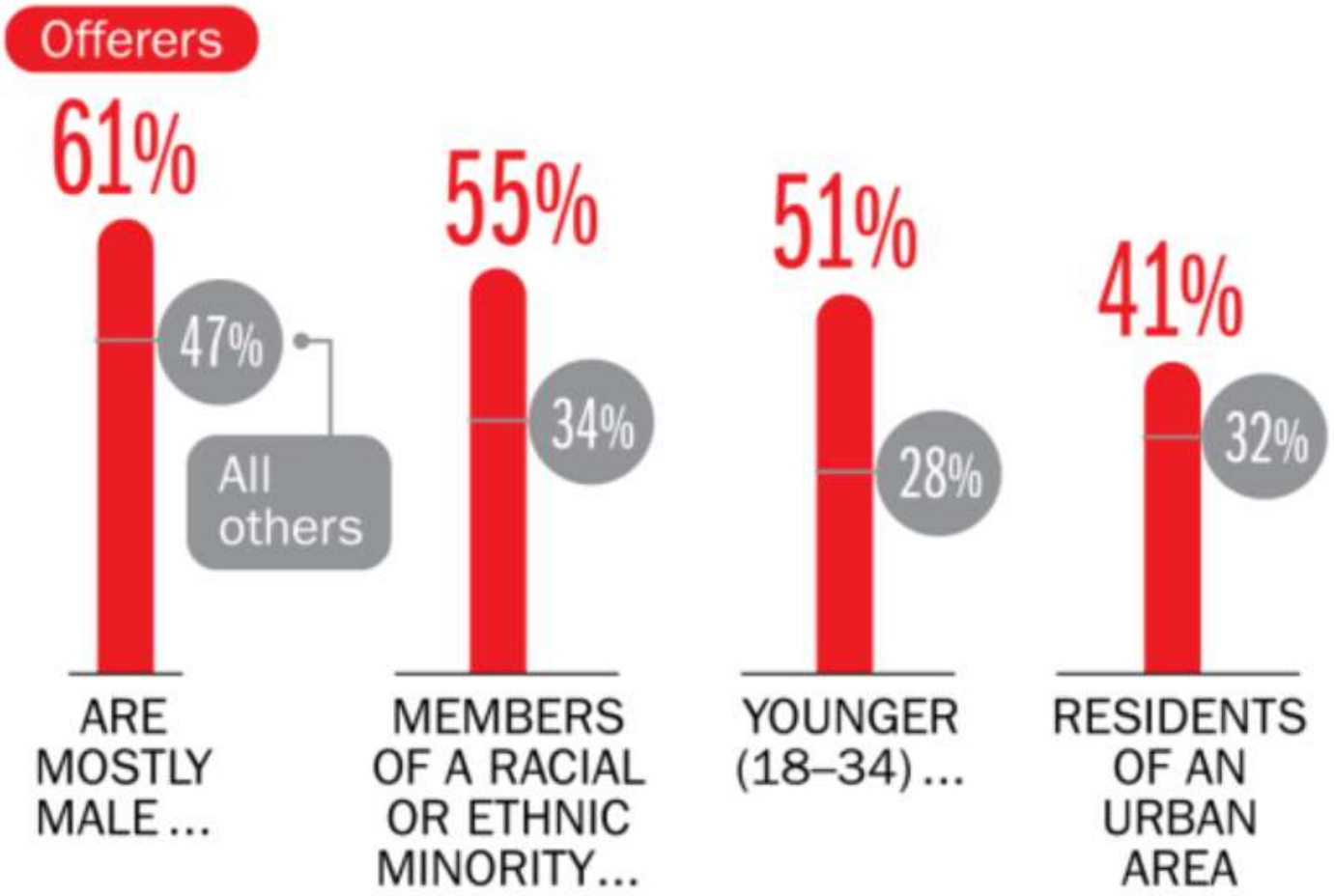
Drivers have significant WC exposures



Service platforms have the most direct link to WC; 11% of Americans have offered their services

Sources: The SelfEmployed.com accessed at https://www.theselfemployed.com/gig-economy/infographic-inside-the-new-economy/ based on a poll by Time magazine, Bursten-Marsteller and The Aspen Institute; Insurance Information Institute.

Americans Who Offer Services in the Sharing/Gig Economy Are Statistically More Prone to Workplace Injury



Young, urban minority males are the most likely to offer their services in the sharing economy.

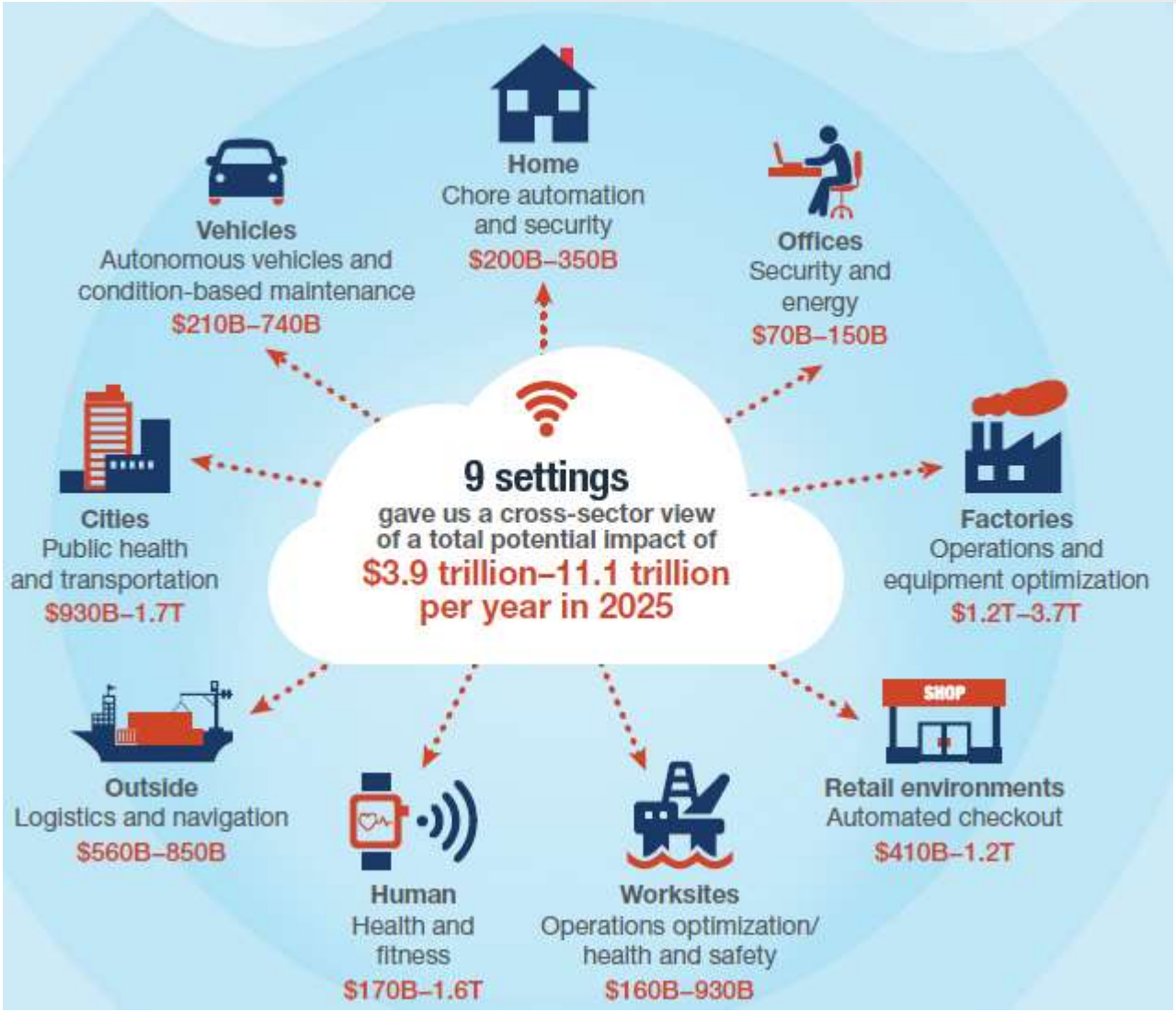
Sources: The SelfEmployed.com accessed at https://www.theselfemployed.com/gig-economy/infographic-inside-the-new-economy/ based on a poll by Time magazine, Bursten-Marsteller and The Aspen Institute; Insurance Information Institute.

INSURANCE INFORMATION INSTITUTE

THE ‘INTERNET OF THINGS’

Capturing Economic Value Amid a Shifting Insurer Value Chain

The Internet of Things and the Insurance Industry



- **The "Internet of Things" will create trillions in economic value throughout the global economy by 2025**
- **What opportunities, challenges will this create for insurers?**
- **What are the impact on the insurance industry "value chain"?**

Sources: McKinsey Global Institute, *The Internet of Things: Mapping the Value Beyond the Hype*, June 2015; Insurance Information Institute.

Wearables Show Significant Potential to Reduce Workplace Injury, Death

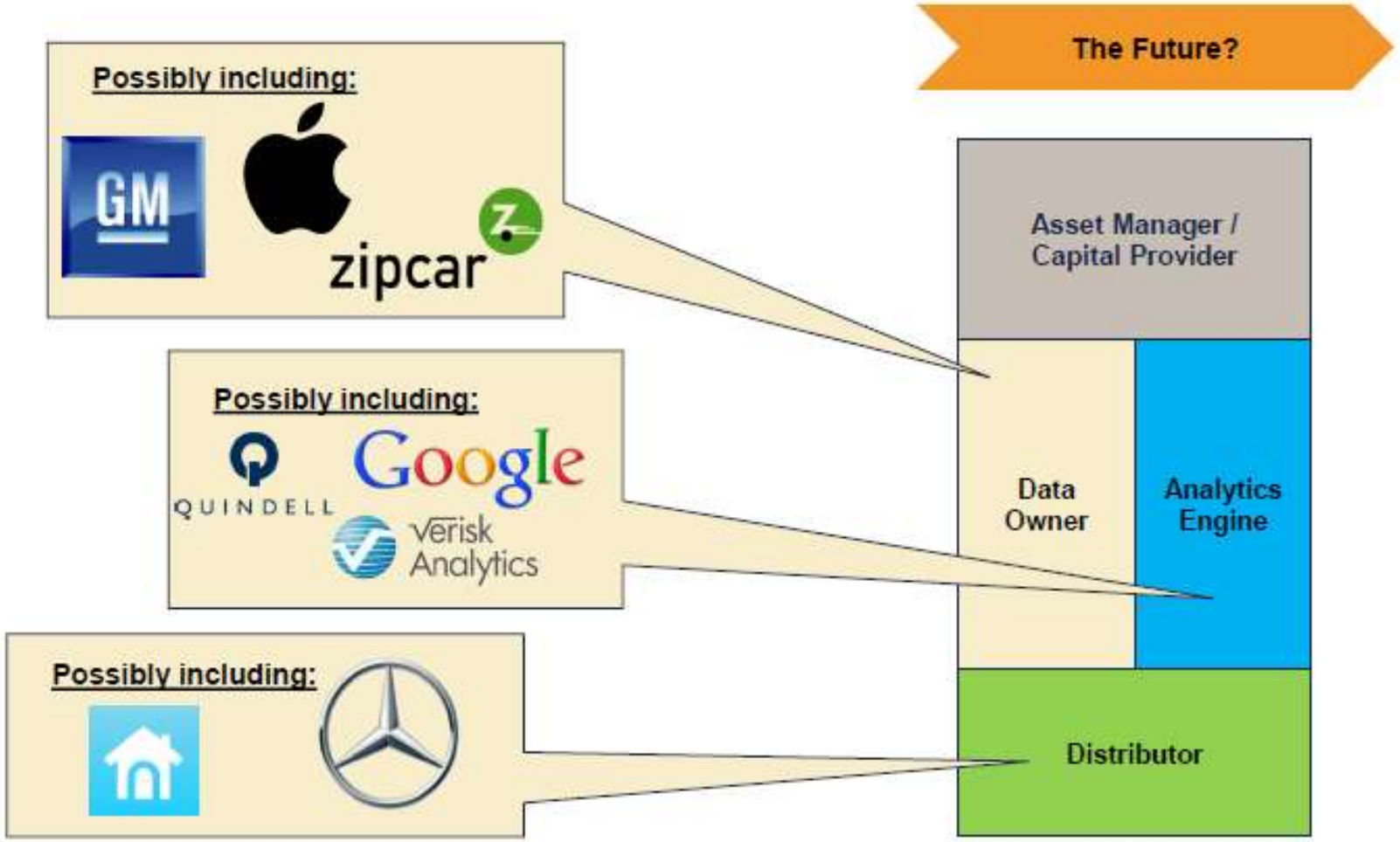
- **Wearables Today Can Monitor:**
  - Location
  - Heart rate
  - Temperature
  - Steps/Exertion
  - Sweat
  - Sleep

fitbit

- **In the Near Future Could Monitor:**
  - Glucose level
  - Oxygen levels
  - Pain
  - Nausea

iWatch

The Internet of Things and the Insurance Industry Value Chain



Who owns the data? Where does It flow? Who does the analytics? Who is the capital provider?

Source: Willis Capital Markets & Advisory; Insurance Information Institute.

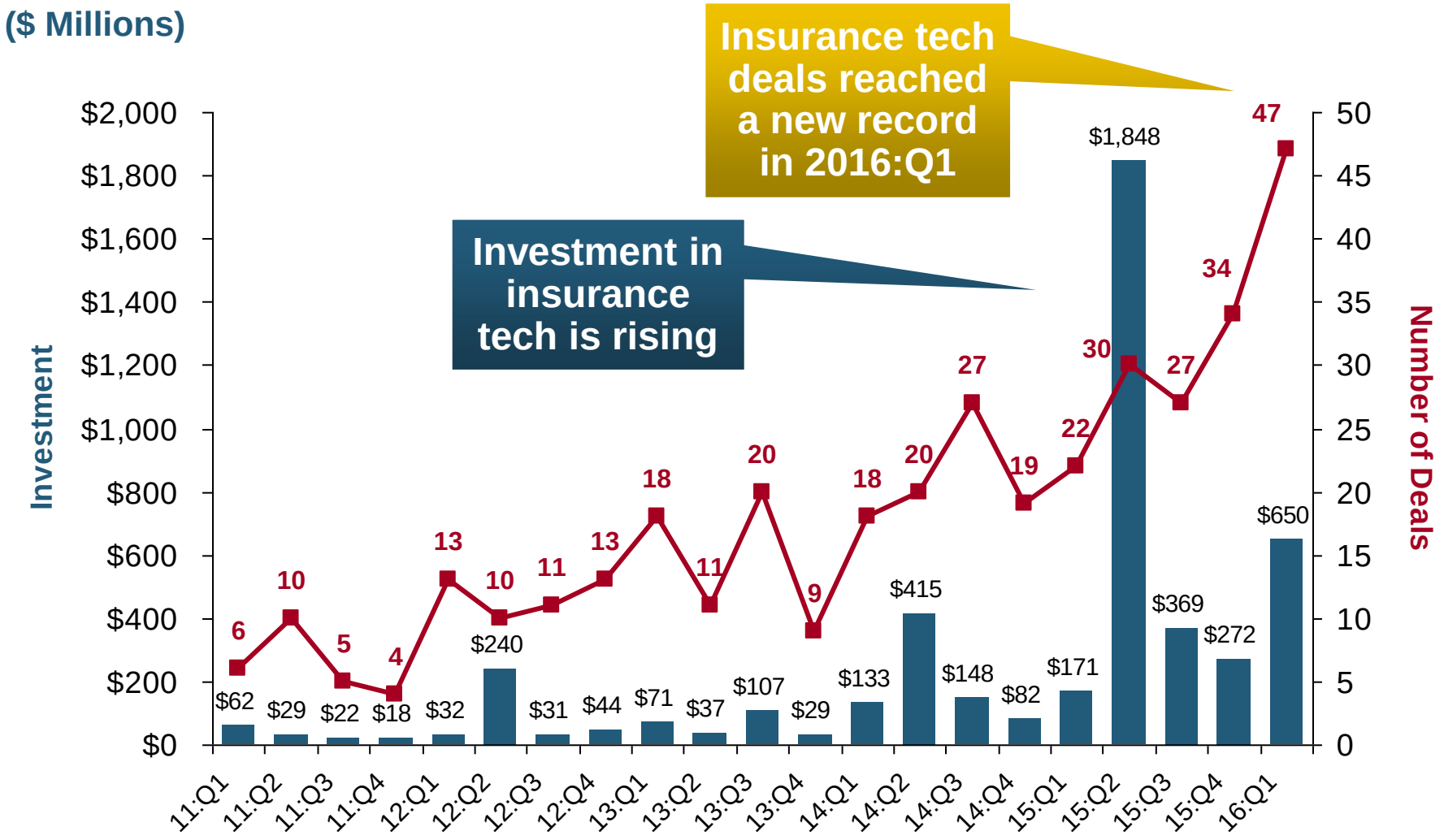
INSURANCE INFORMATION INSTITUTE

INSURANCE TECHNOLOGY: *FIN TECH ZEROES IN*

Number and Value of Deals Is Increasing

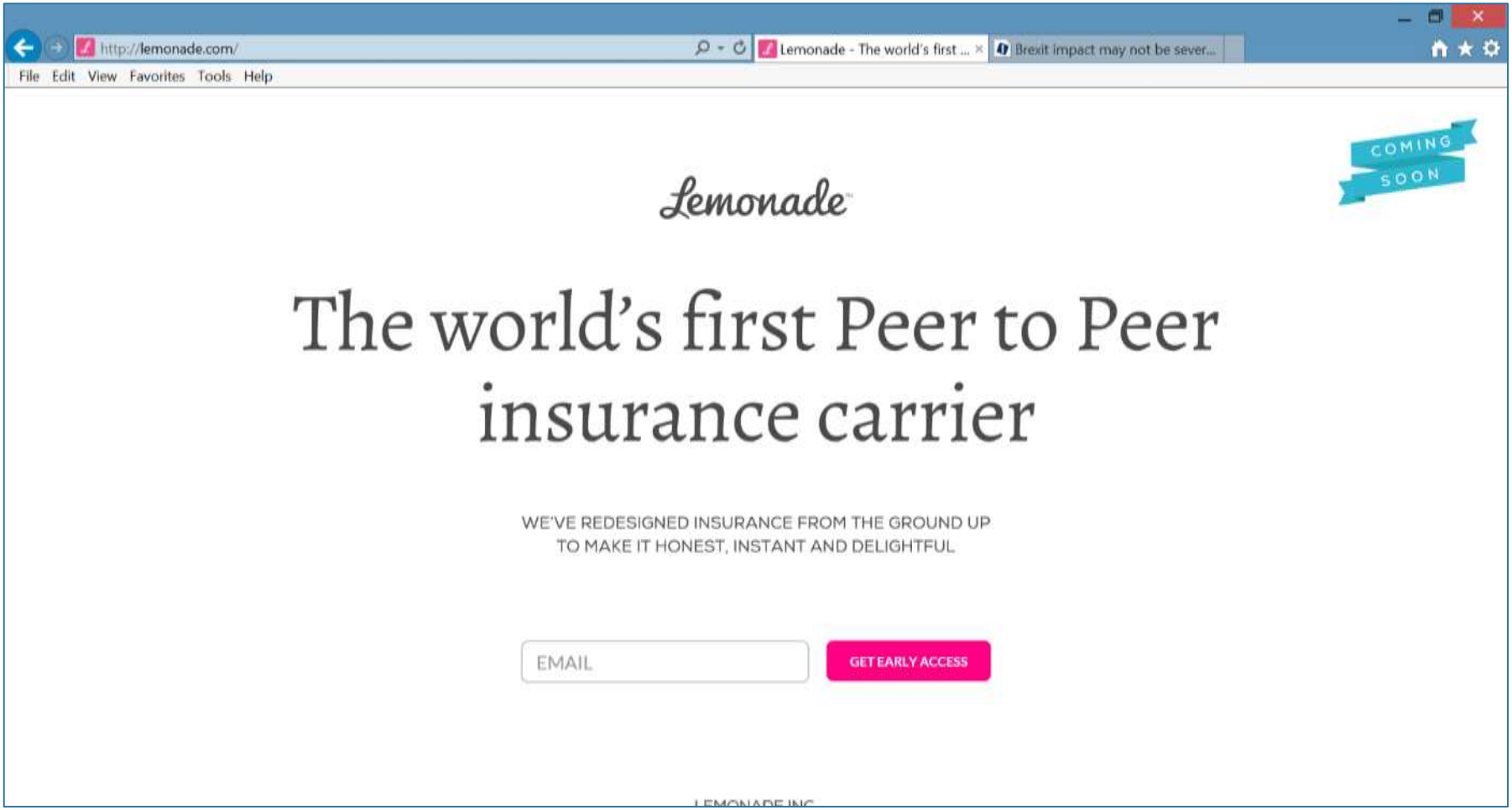
In Search of the Elusive Insurance 'Unicorn'

Insurance Technology Financing Trend: Change Is Coming



Source: CB Insights at https://www.cbinsights.com/blog/insurance-tech-overview-q1-2016/; Insurance Information Institute.

Lemonade: Peer-to-Peer (P2P) Insurance



Source: Lemonade.com accessed June 24, 2016.

Lemonade: Sour Words About Insurance

Daniel Schreiber here, with updates from Lemonade.

I'm thrilled to report that a few days ago, by unanimous vote of our board and shareholders, **Lemonade became a Public Benefit Corporation**, and was also **awarded provisional 'B-Corp' certification. Both are firsts for an insurance carrier**, and are points of tremendous pride for our team.

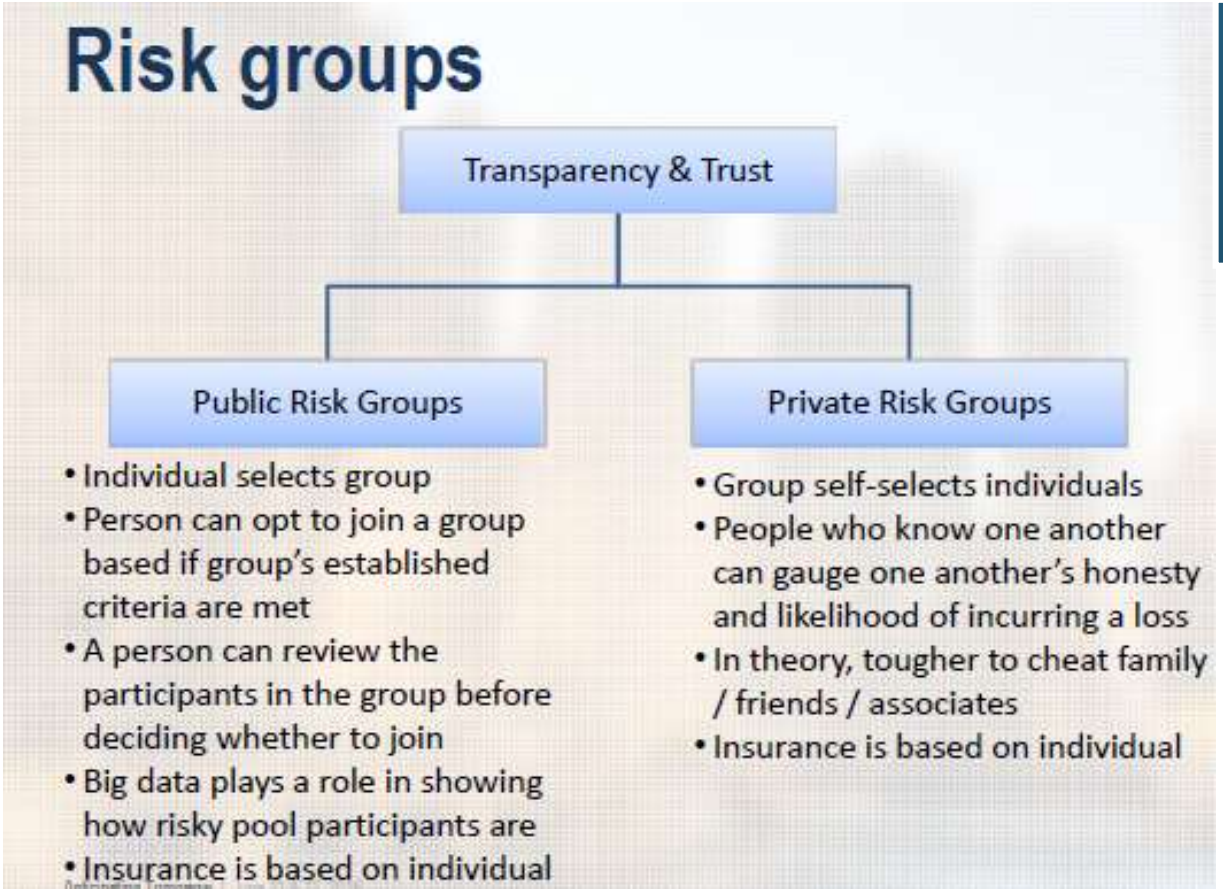
Rebuilding insurance as a social good, rather than a necessary evil, is now part of our legal mission. **Our Chief Behavioral Officer, Professor Dan Ariely, says that "If you tried to create a system to bring out the worst in humans, it would look a lot like the insurance of today."** Working in partnership with nonprofits, and baking giving-back into our business model, holds the promise of a better insurance experience, and a more valuable insurance company.

In other news, I'm happy to say that we're putting finishing touches on our product and will be ready to launch in New York within weeks. The final step is for us to get our license, and if all goes to plan, we'll have that shortly.
Be sure to follow us on Twitter, Facebook, and LinkedIn to stay in the know.

Until next time,
Daniel
@daschreiber

Source: Email from Lemonade CEO Danieal Schreibeir, May 17, 2016.

Risk Groups in P2P Structures



P2P model is predicated in part that view that individuals who know one another are less likely to commit fraud, etc.

Source: "UberX-ing Insurance : Is Peer-to-Peer Insurance Viable?", presentation by Jay Sarzen, Aite Group at DrinkerBiddle Insurance Conference, June 21, 2016.

Insurance Information Institute Online:

www.iii.org

Thank you for your time and your attention!

Twitter: twitter.com/bob_Hartwig