



The Economic State of the P/C Insurance Industry *Focus on Auto Insurance Markets*

**Insurance Auto Auctions
Industry Leadership Summit
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Download at www.iii.org/presentations

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Auto Insurance Growth Analysis

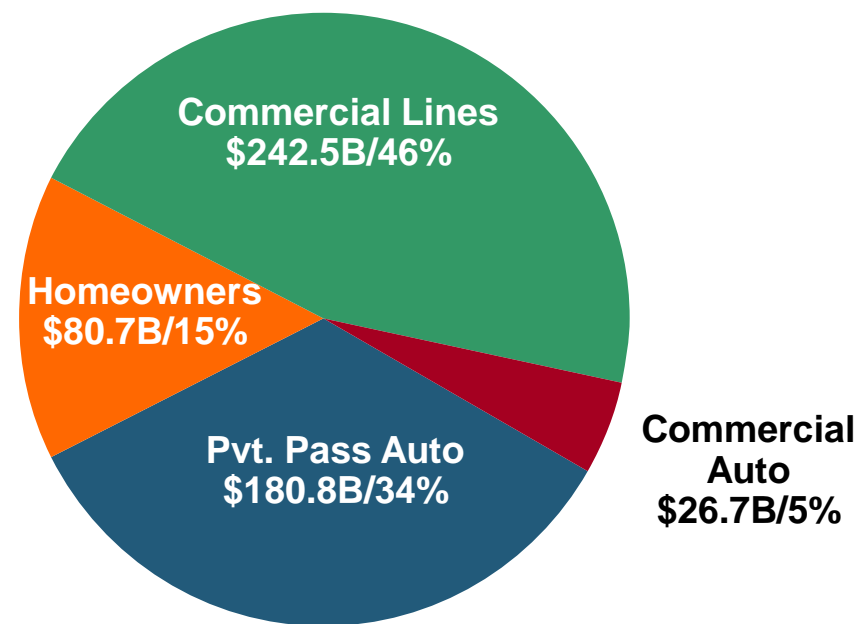
**Growth Trajectories Differ
Substantially by State and
Over Time**

Distribution of Direct Premiums Written by Segment/Line, 2013

Distribution Facts

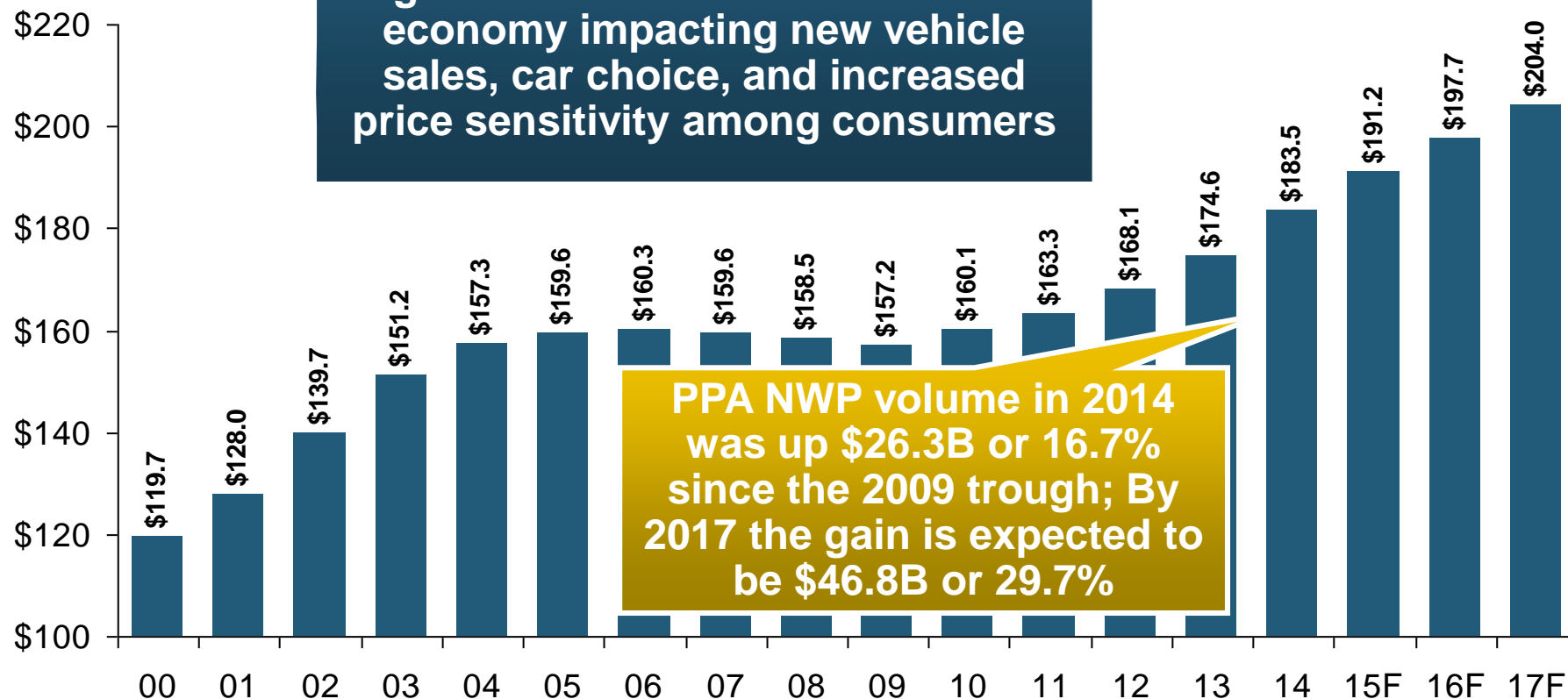
- Personal/Commercial lines split has been about 50/50 for many years
- Pvt. Passenger Auto is by far the largest line of insurance and is currently the most important source of industry profits
- Commercial Auto accounts for about 5% of overall industry premium vs. 34% for Pvt. Passenger Auto

2013



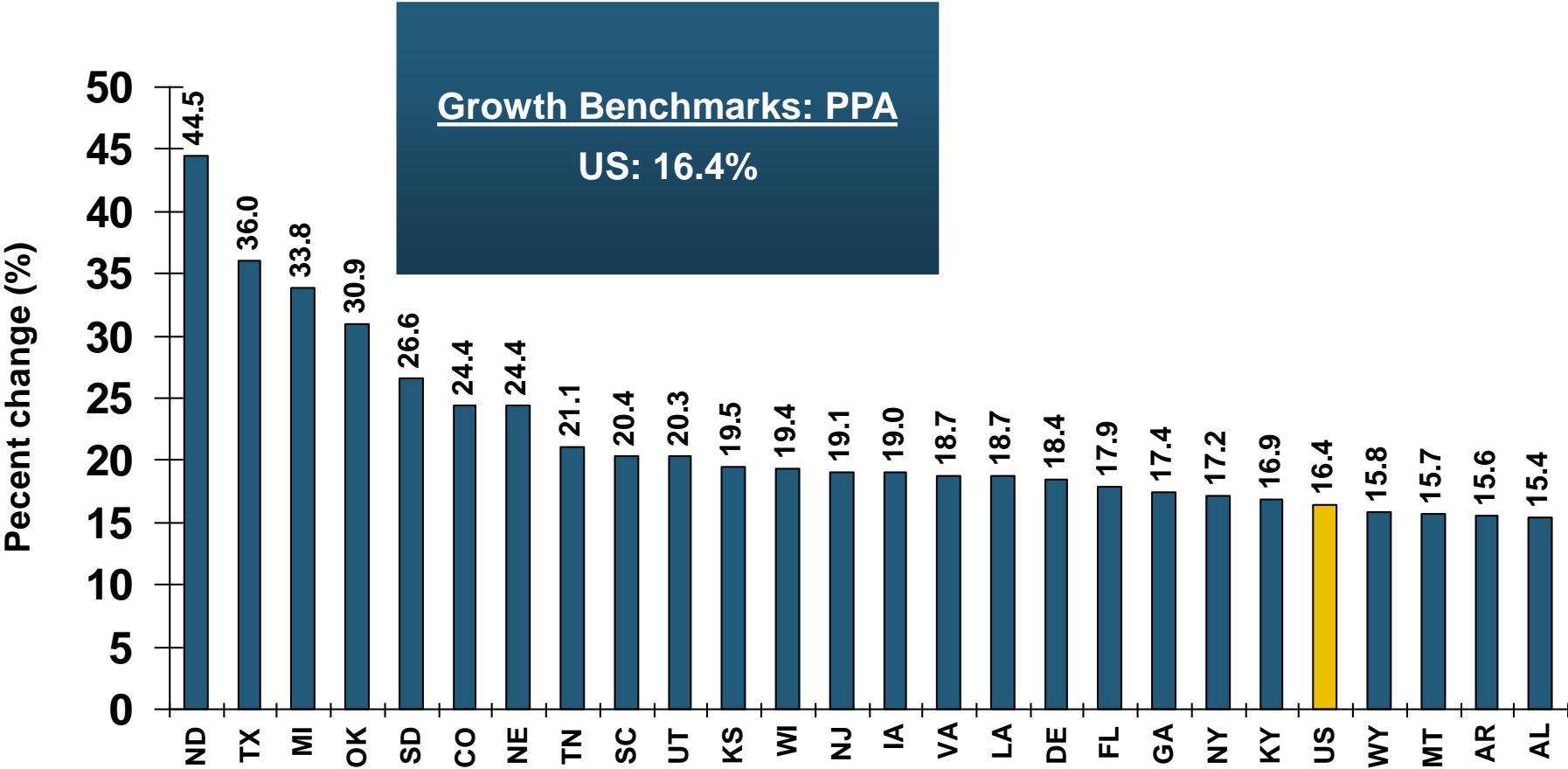
Private Passenger Auto Insurance Net Written Premium, 2000–2017F

\$ Billion



Direct Premiums Written: PP Auto Percent Change by State, 2007-2014

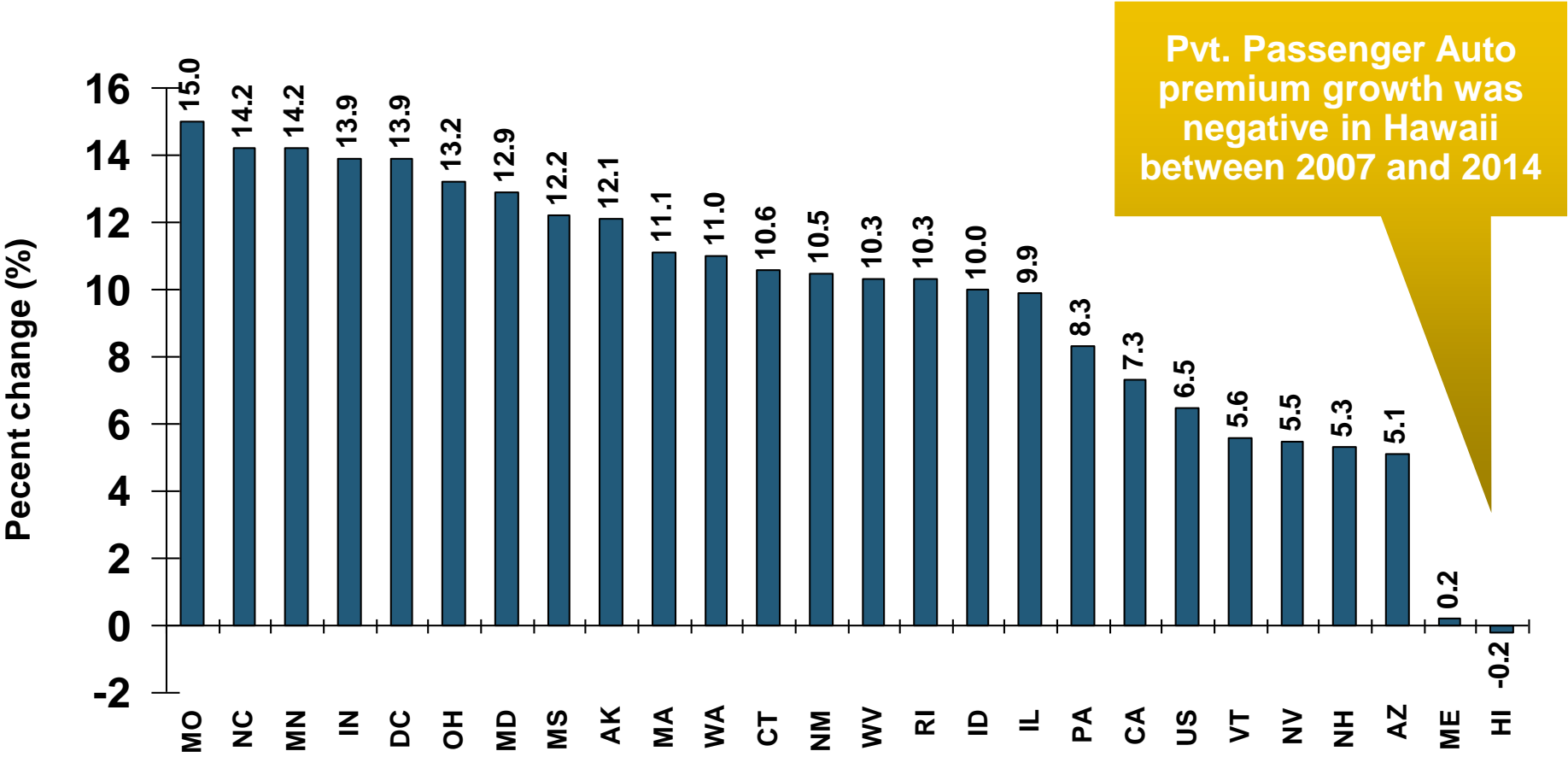
Top 25 States



Sources: SNL Financial LC.; Insurance Information Institute.

Direct Premiums Written: PP Auto Percent Change by State, 2007-2014

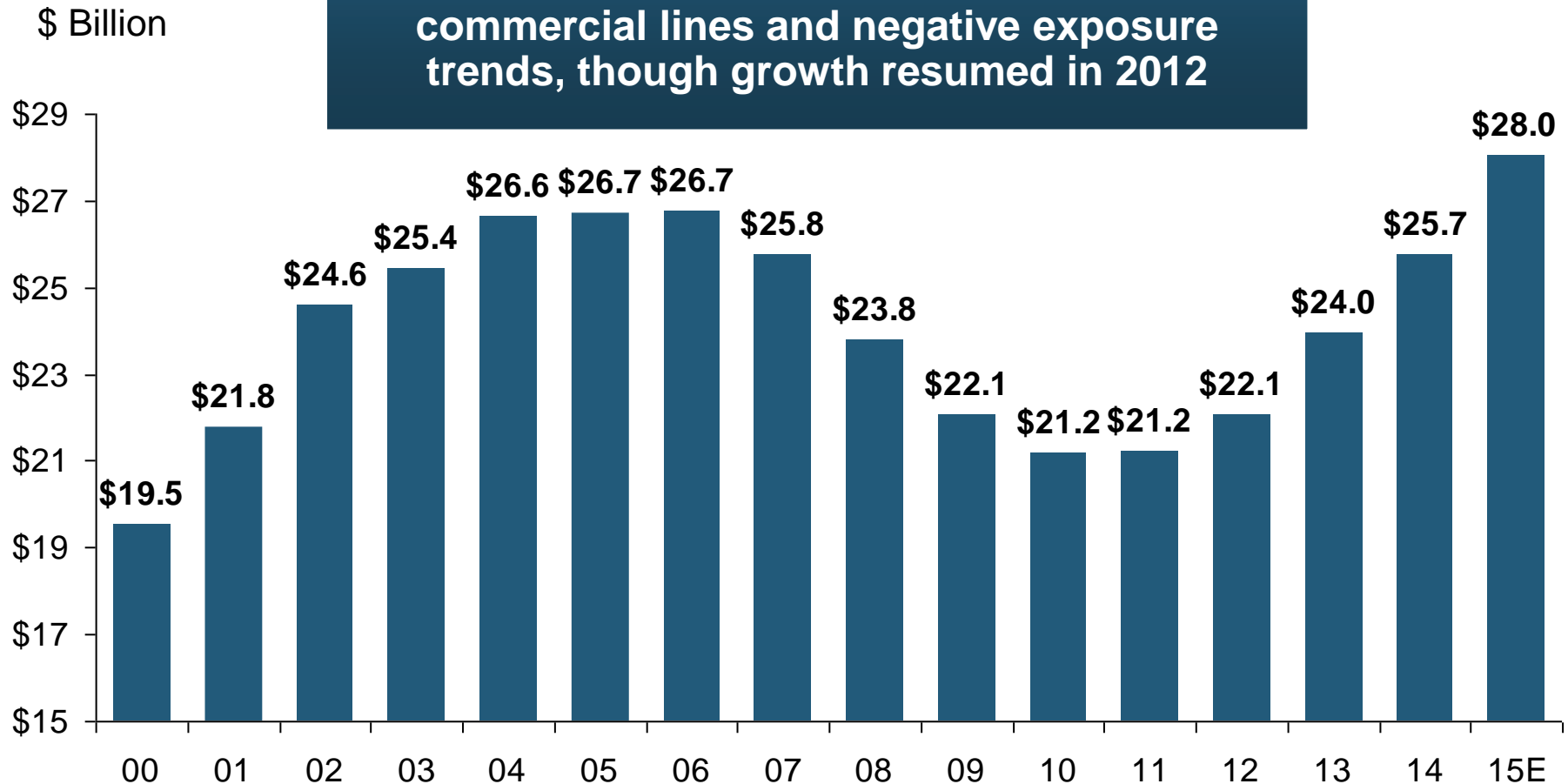
Bottom 25 States



Sources: SNL Financial LC.; Insurance Information Institute.

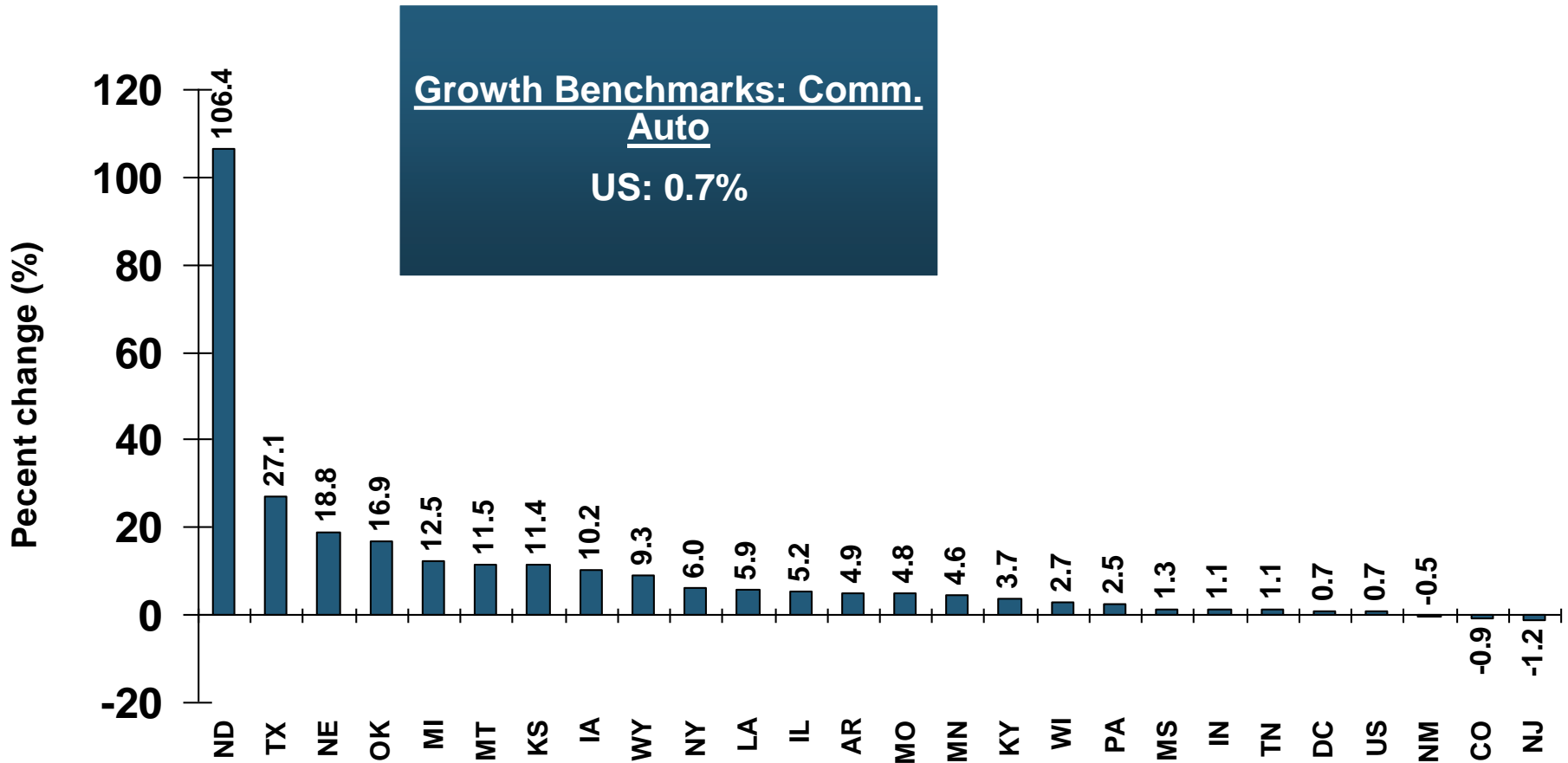
Commercial Auto Insurance Net Written Premium, 2000–2015F

In contrast to positive PP Auto NPW growth, Commercial Auto premiums fell 21.3% between 2005 and 2011 due to soft market conditions in commercial lines and negative exposure trends, though growth resumed in 2012



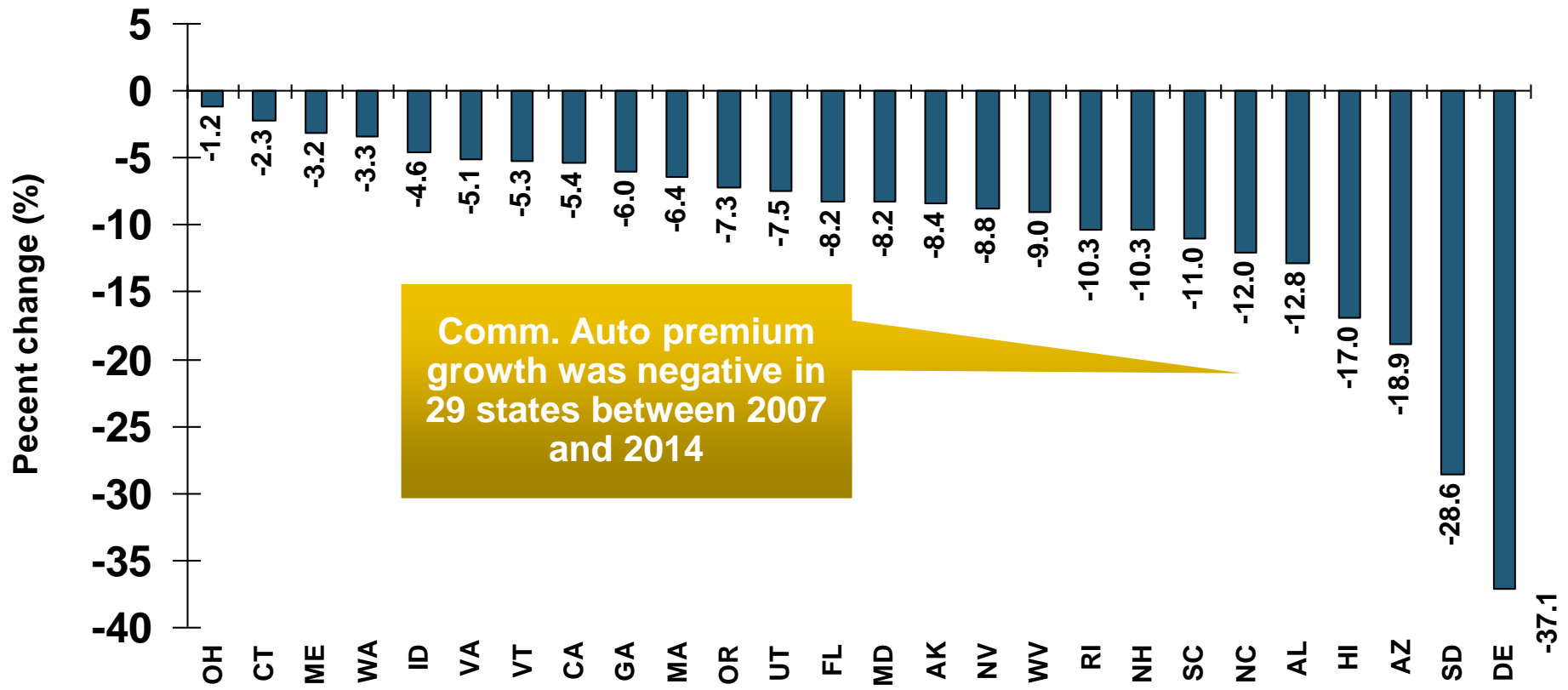
Direct Premiums Written: Comm. Auto Percent Change by State, 2007-2014

Top 25 States



Direct Premiums Written: Comm. Auto Percent Change by State, 2007-2014

Bottom 25 States



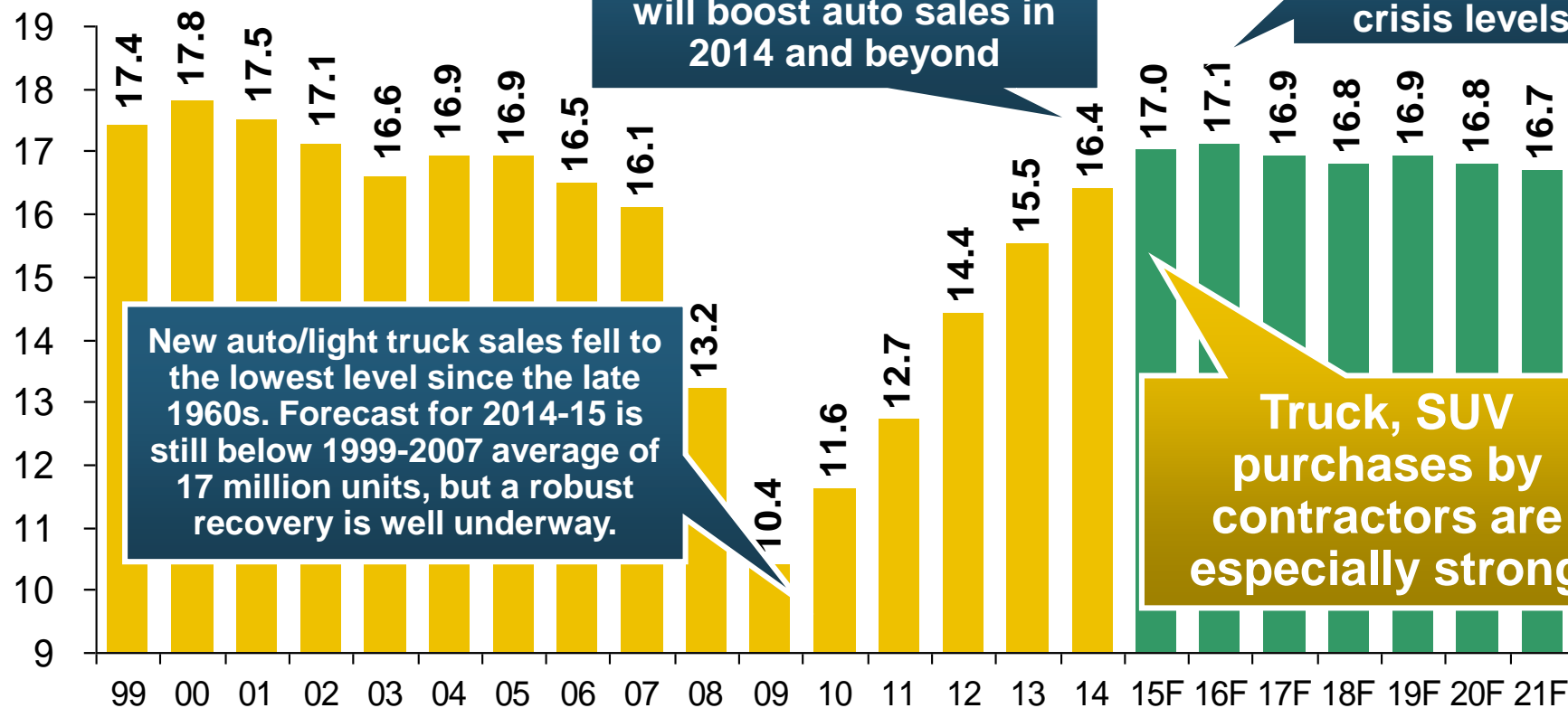


Vehicle and Driver Exposure Influences

Have We, Will We Hit “Peak Auto”?

Auto/Light Truck Sales, 1999-2021F

(Millions of Units)



Job growth and improved credit market conditions will boost auto sales in 2014 and beyond

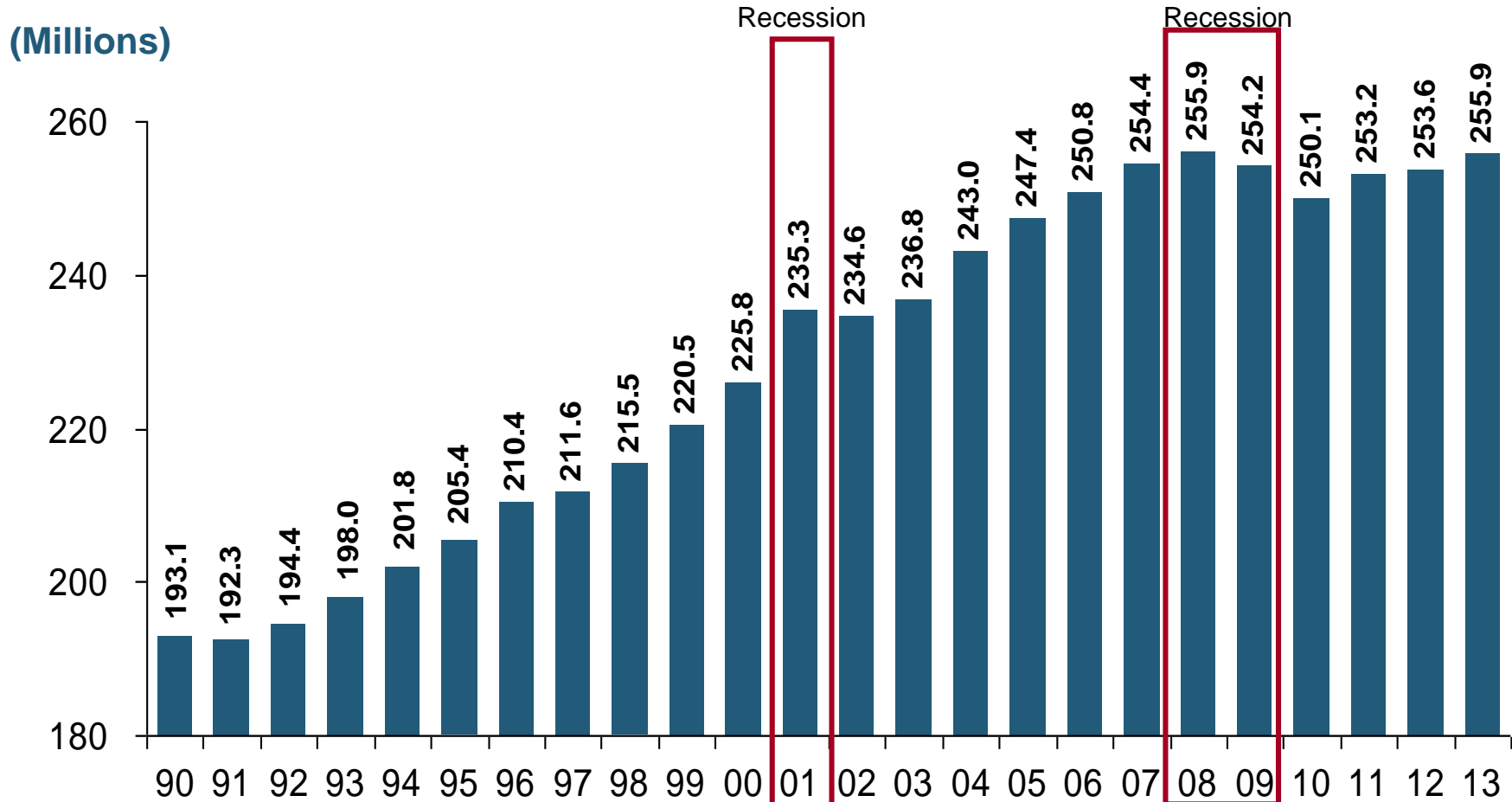
Sales have returned to pre-crisis levels

New auto/light truck sales fell to the lowest level since the late 1960s. Forecast for 2014-15 is still below 1999-2007 average of 17 million units, but a robust recovery is well underway.

Truck, SUV purchases by contractors are especially strong

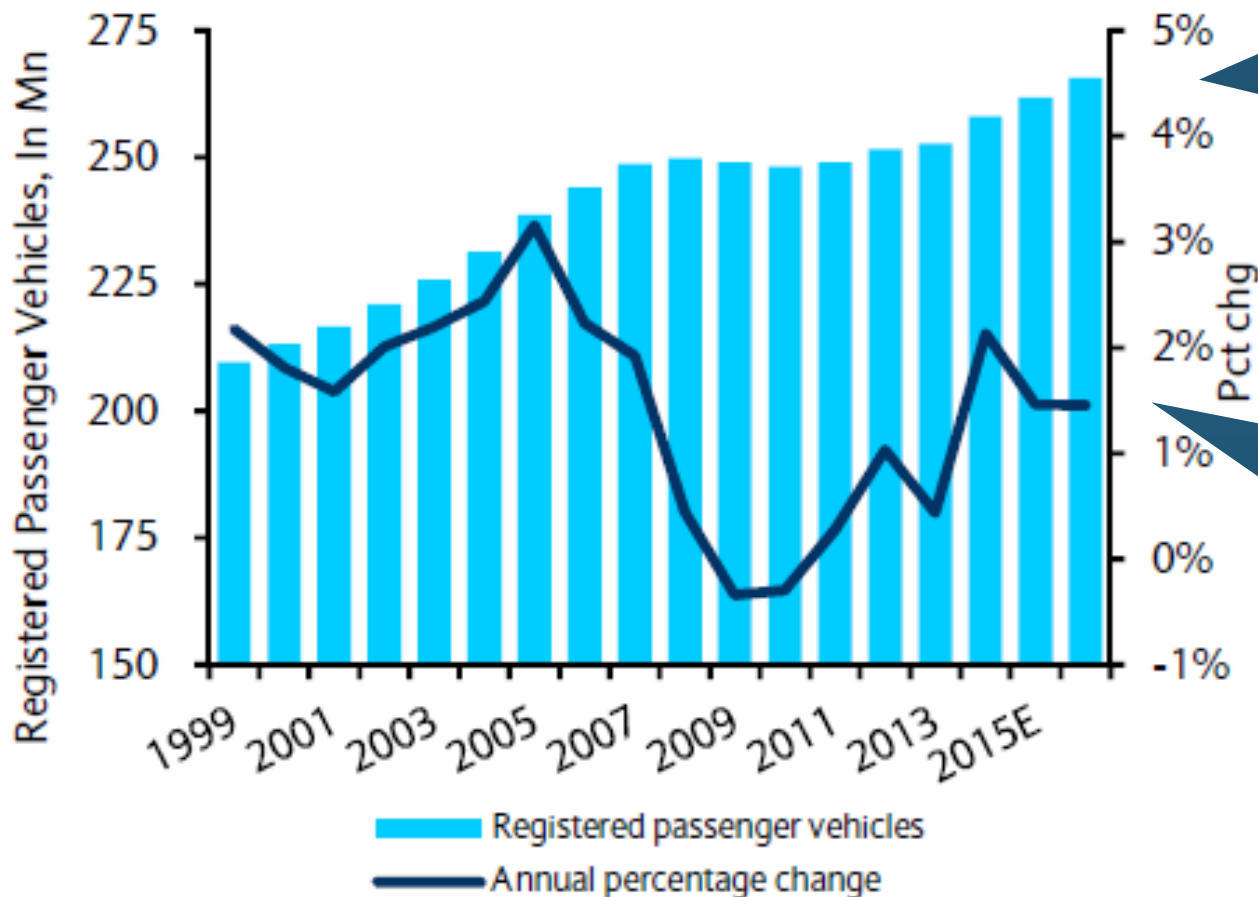
Yearly car/light truck sales will likely continue at current levels, in part replacing cars that were held onto in 2008-12. New vehicles will generate more physical damage insurance coverage but will be more expensive to repair. PP Auto premium might grow by 5% - 6%.

Registered Passenger Vehicles, 1990-2013



The number of registered vehicles grew consistently (except following recessions) from 1990-2007. It has been flat (through 2013) since then.

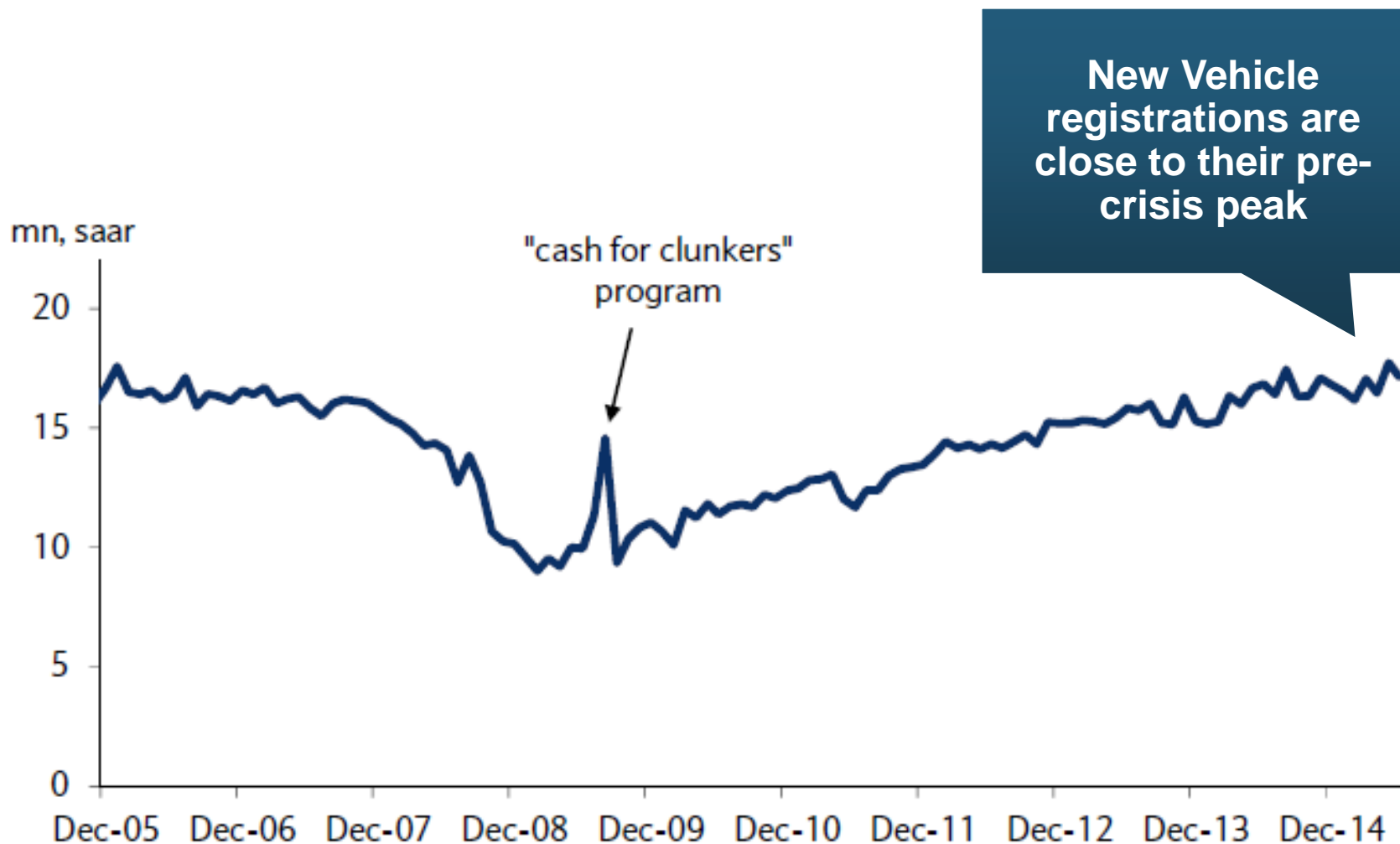
Number of Registered Passenger Vehicles in US, 1999 – 2015E



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

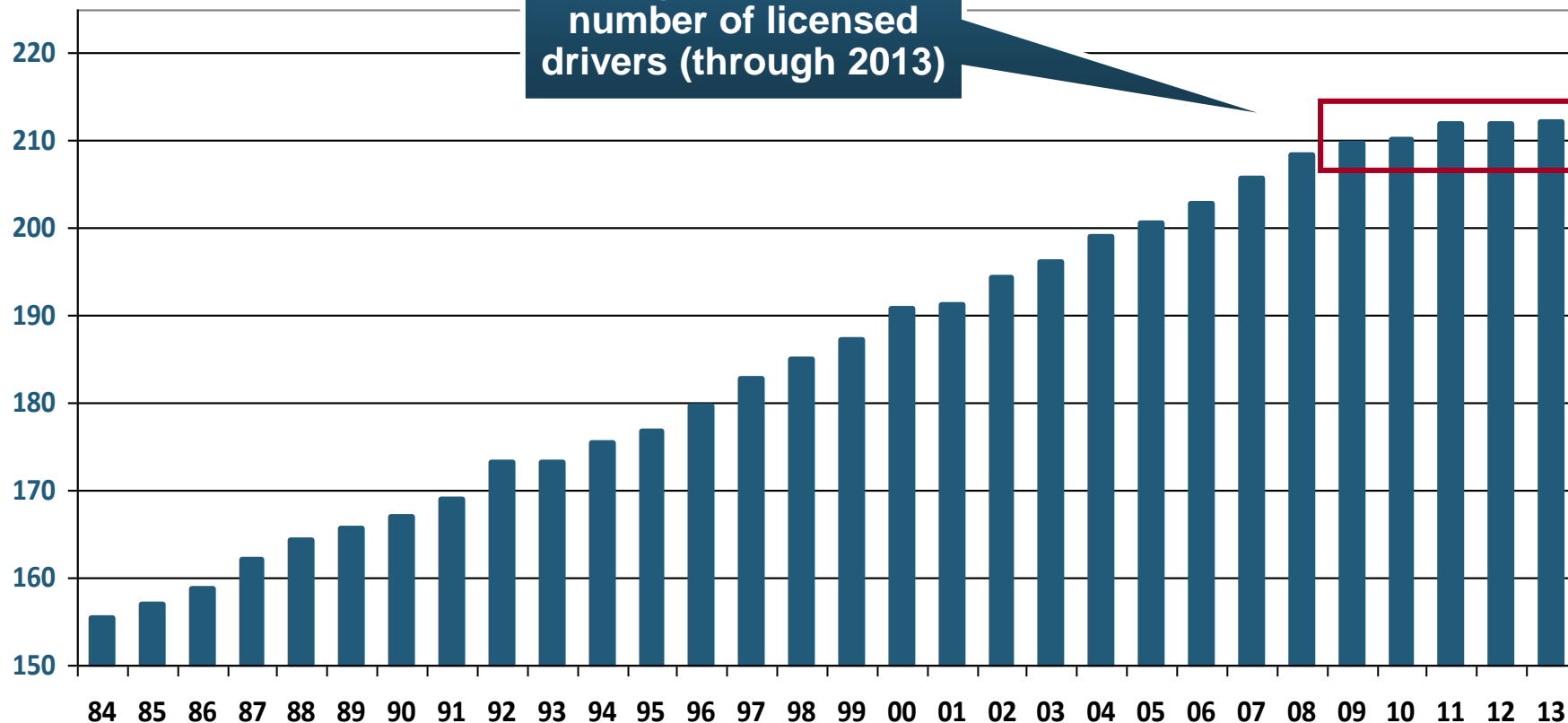
New Vehicle Registrations in the US, Dec. 2005 – Dec. 2014



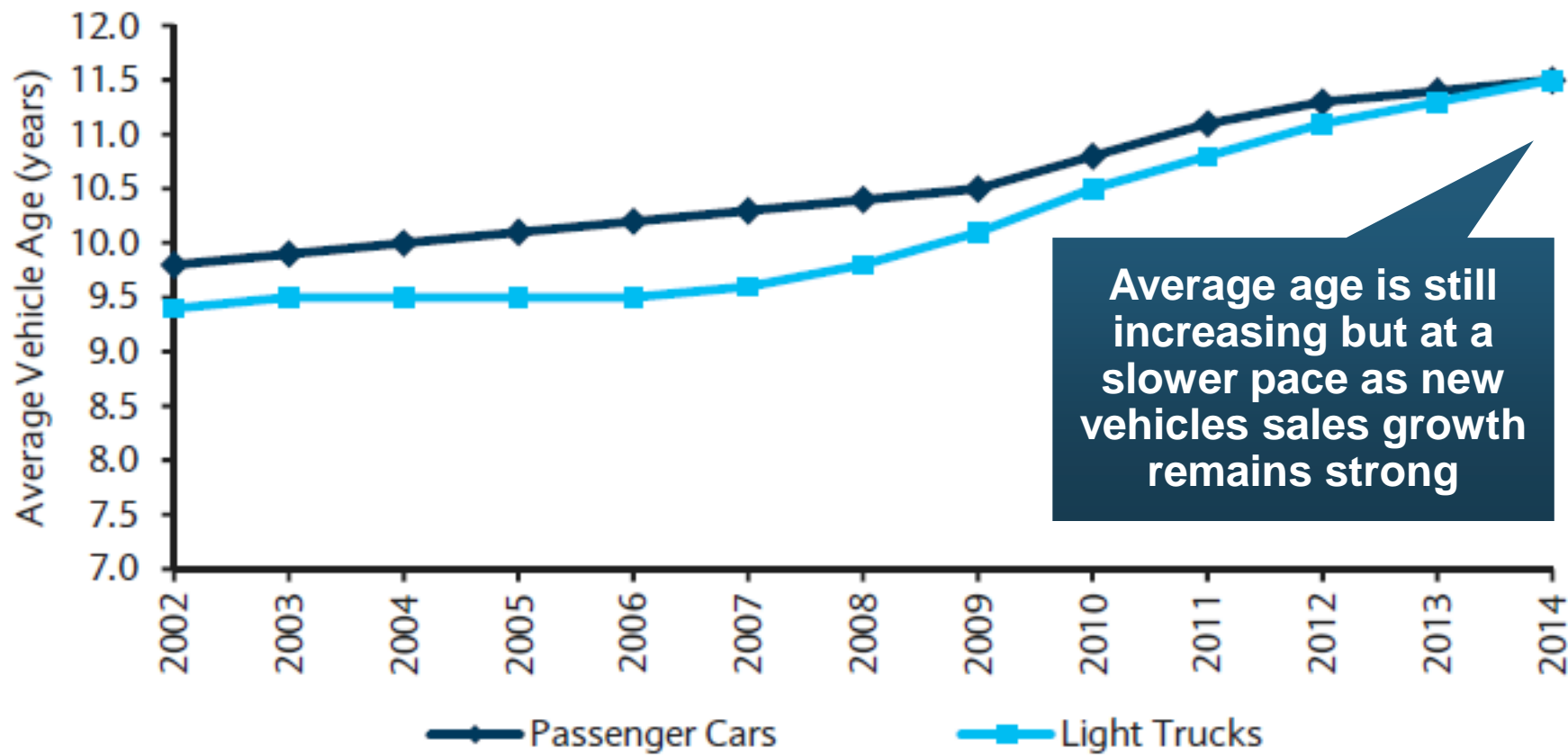
Number of Licensed Drivers, 1984-2013

of Licensed Drivers (millions)

Since 2009, virtually no growth in the number of licensed drivers (through 2013)

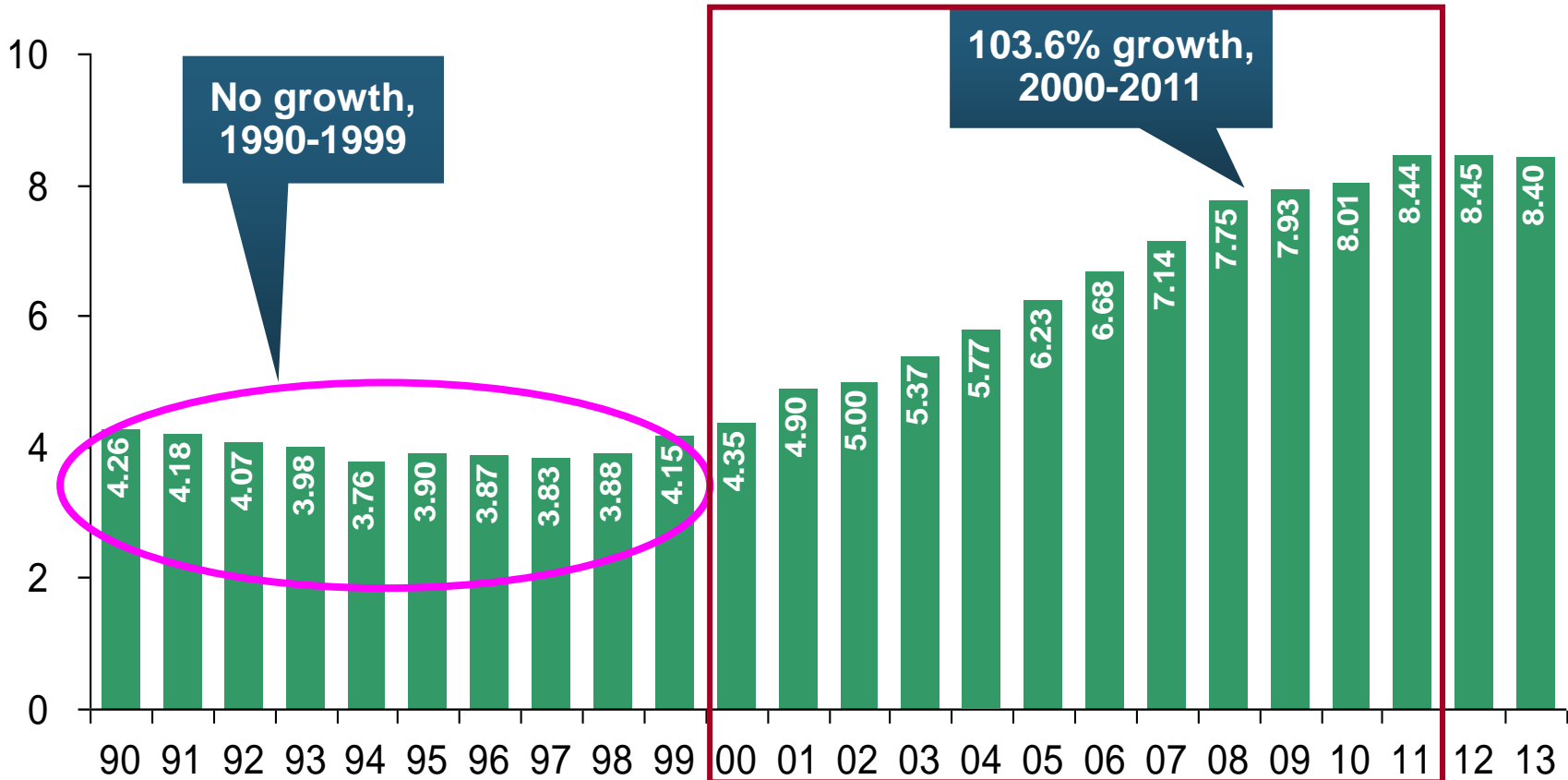


Average Vehicle Age, 2002 - 2014



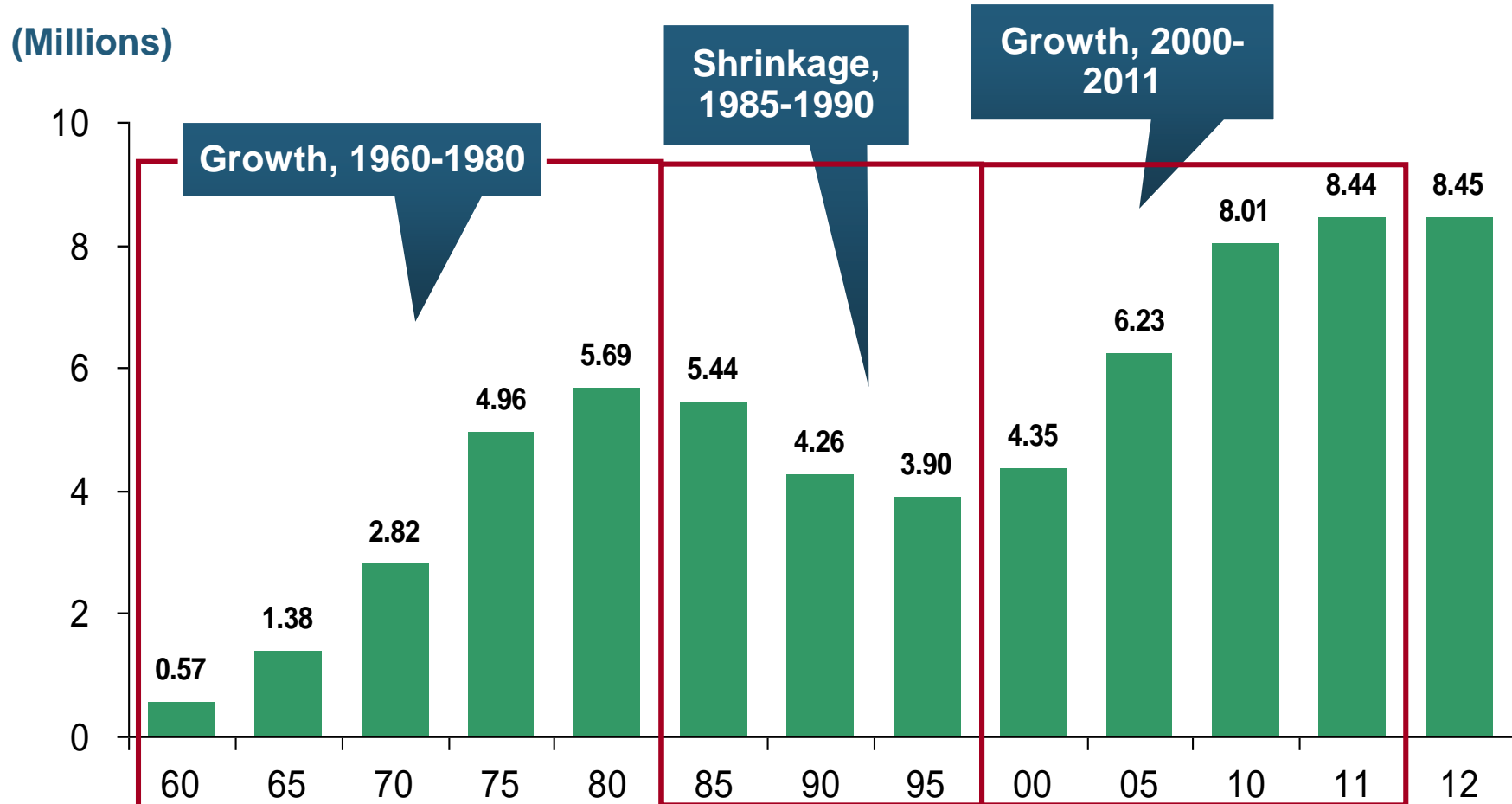
Registered Motorcycles, 1990-2013

(Millions)



The number of registered motorcycles grew dramatically in the first decade of the 21st century. Baby boomers? Millennials?

Registered Motorcycles, 1960-2012: A Changing Exposure Base



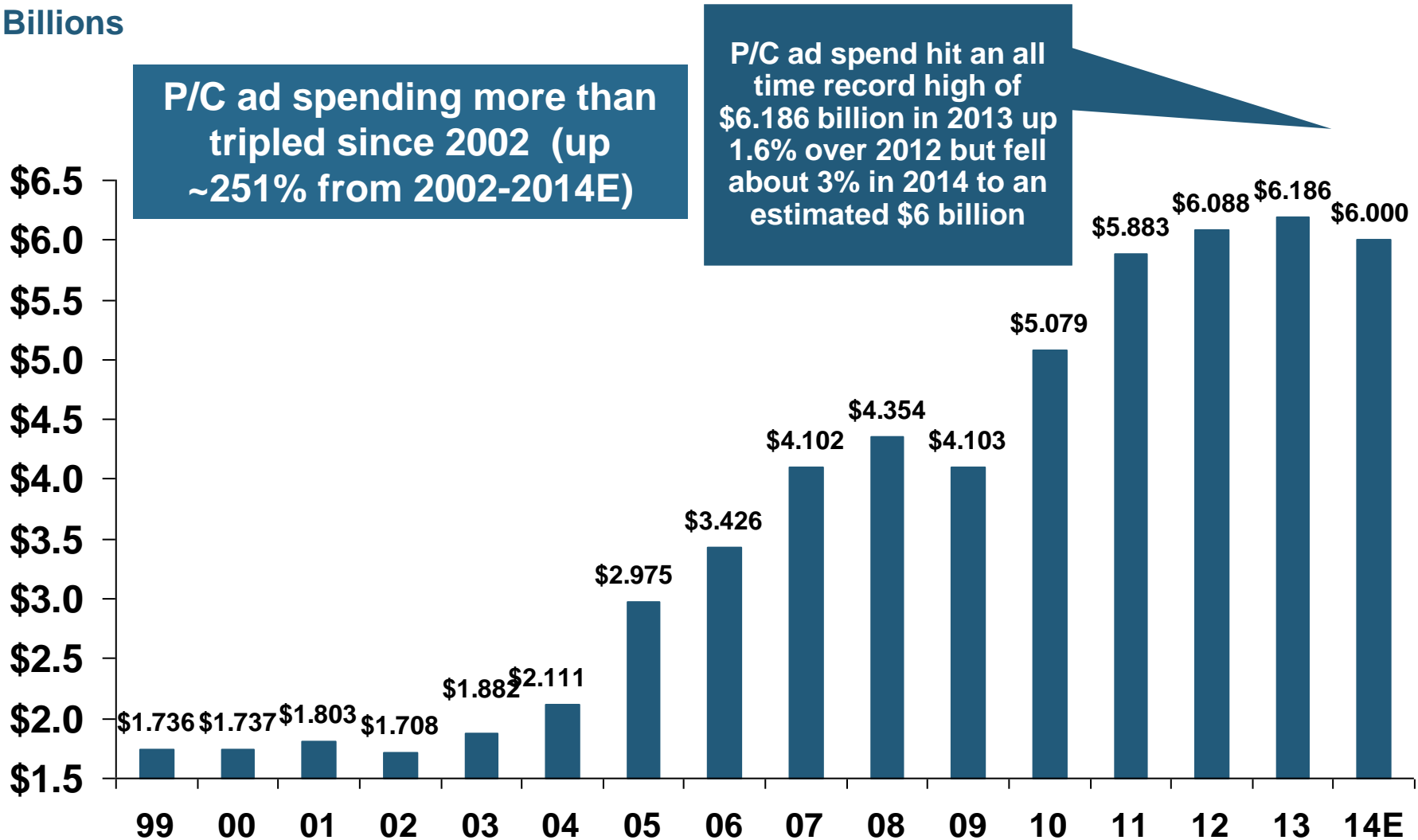
The number of registered motorcycles grew dramatically in the first decade of the 21st century. Baby boomers? Millennials?

Personal Auto Ad Spend Trends

**Growth in Ad Spend Remains
Robust Among Many Top
Auto Insurers**

Advertising Expenditures by P/C Insurance Industry, 1999-2014E

\$ Billions





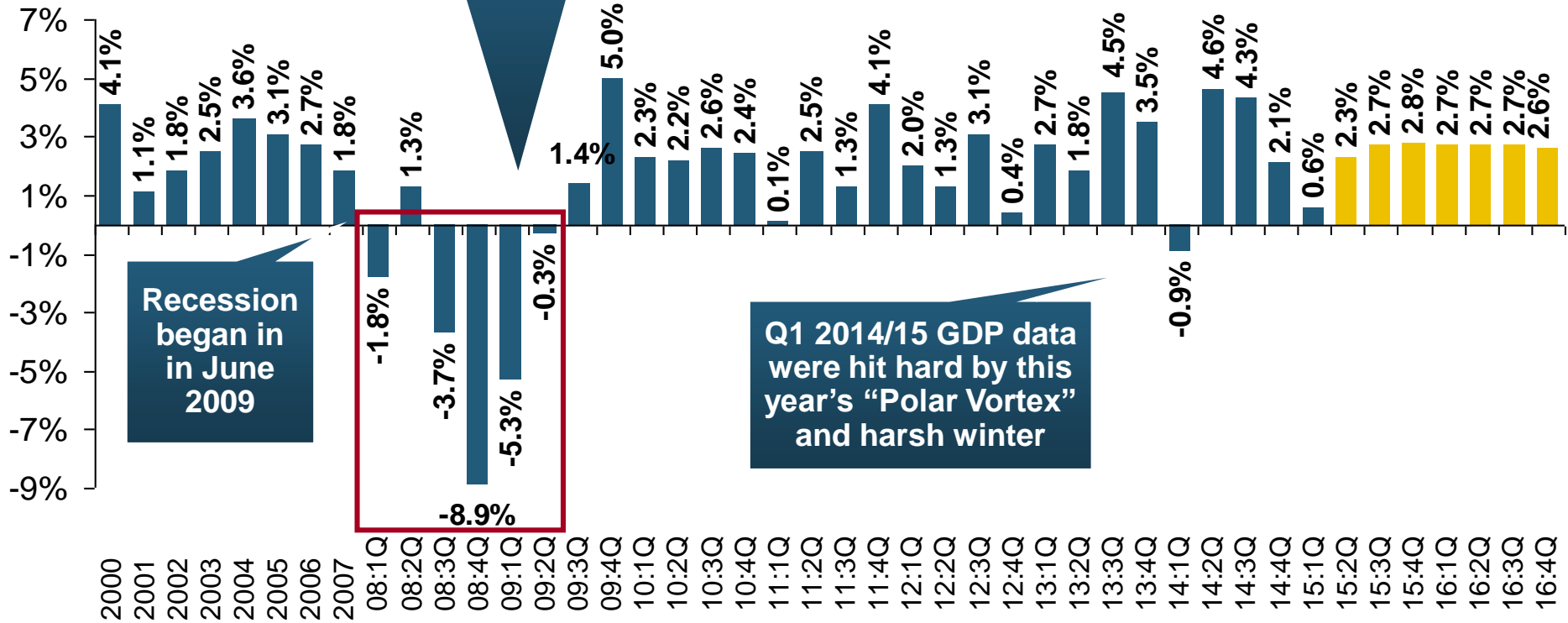
Auto Insurance Macro Growth Drivers: *The Economy Is Supporting Growth in Personal and Commercial Auto*

The Economy and Consumer Sentiment Remain Sufficient to Propel Auto Sales into 2016

US Real GDP Growth*

Real GDP Growth (%)

The Q4:2008 decline was the steepest since the Q1:1982 drop of 6.8%



Recession began in June 2009

Q1 2014/15 GDP data were hit hard by this year's "Polar Vortex" and harsh winter

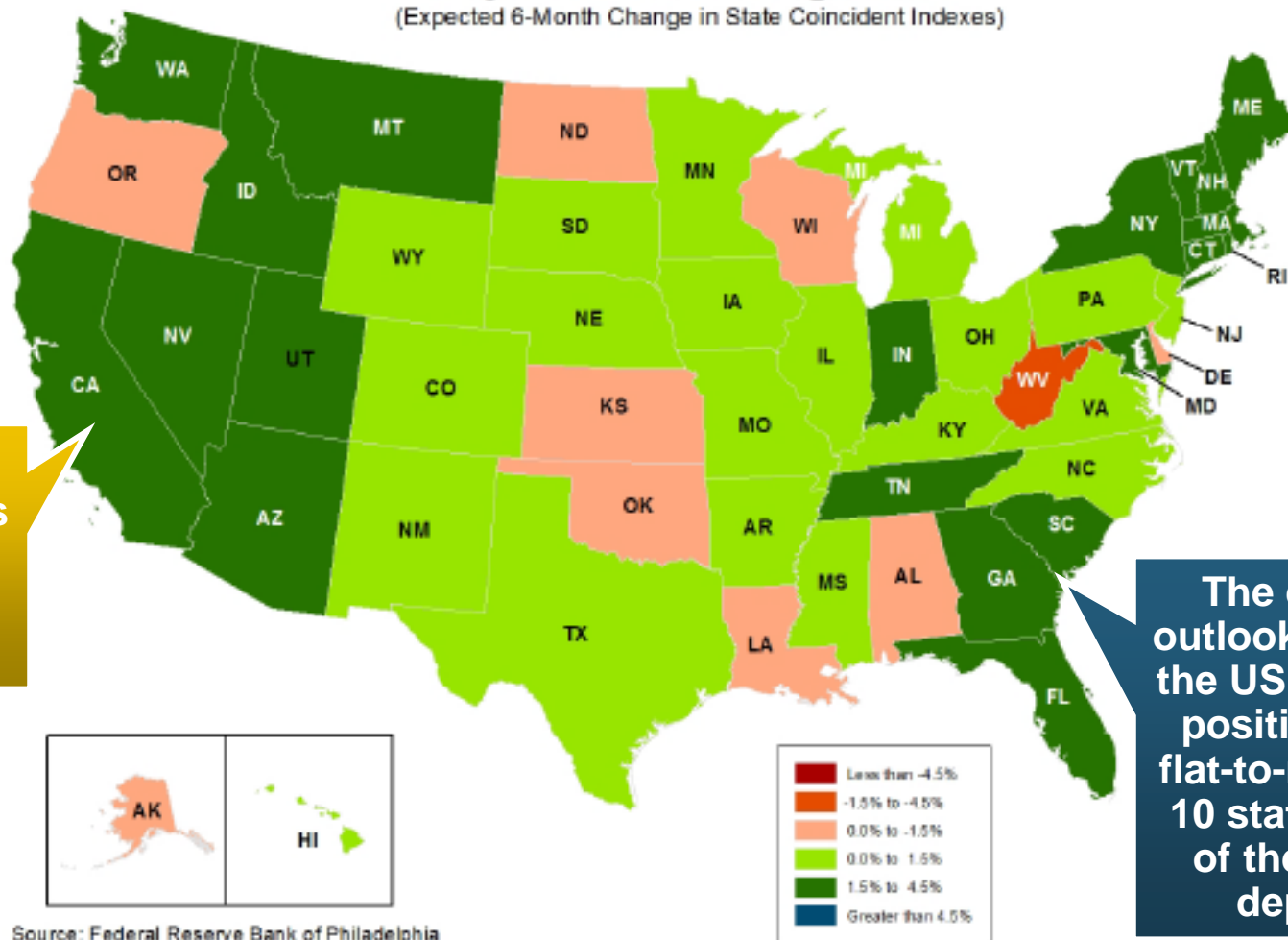
Demand for Insurance Should Increase in 2015 as GDP Growth Accelerates Modestly and Gradually Benefits the Economy Broadly

* Estimates/Forecasts from Blue Chip Economic Indicators.

Source: US Department of Commerce, Blue Economic Indicators 8/15; Insurance Information Institute.

State Leading Economic Indicators through November 2015

May 2015 State Leading Indexes
(Expected 6-Month Change in State Coincident Indexes)

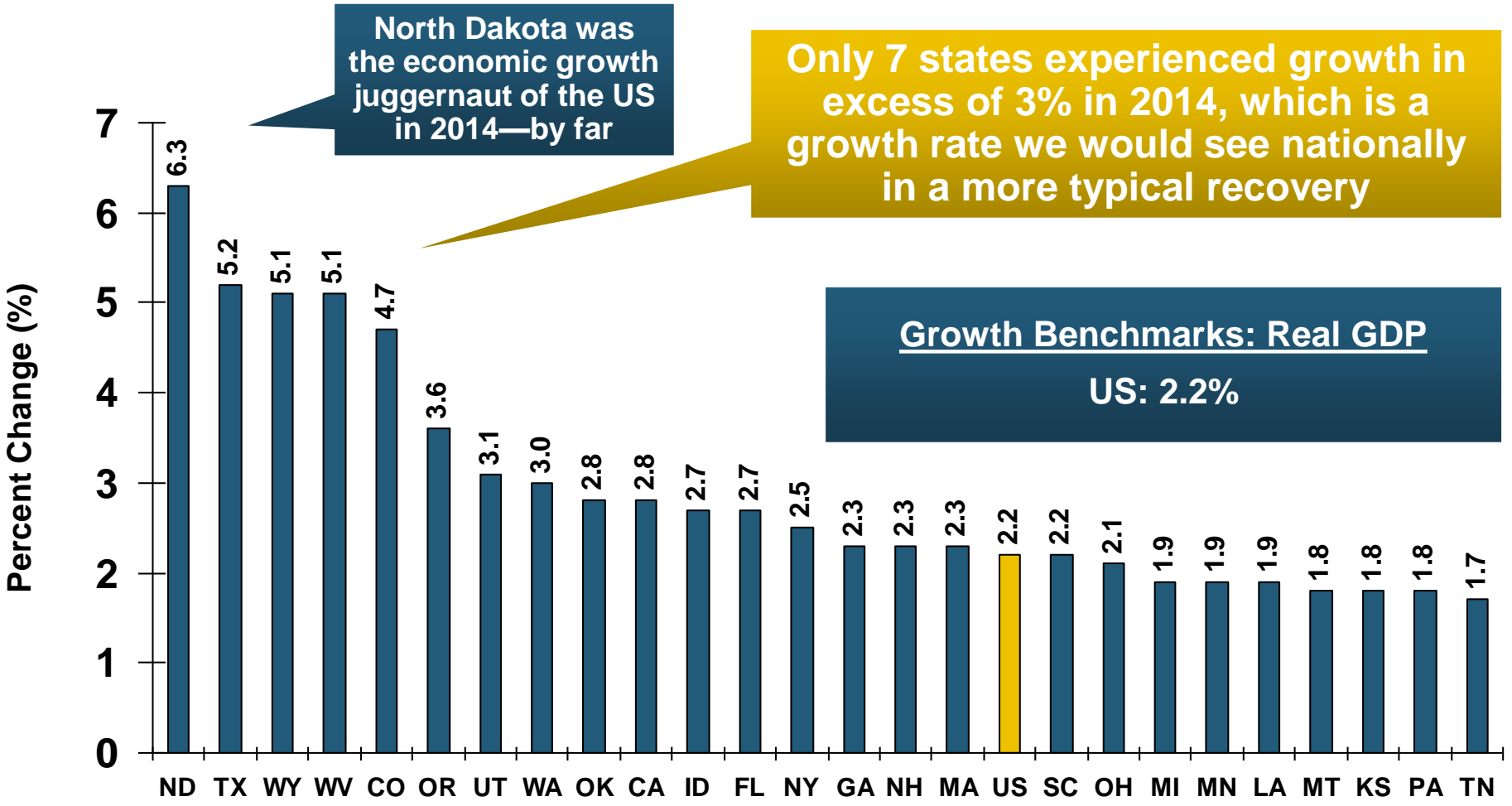


Growth in the West is finally beginning to pick up

The economic outlook for most of the US is generally positive, though flat-to-negative for 10 states, several of them energy dependent

Source: Federal Reserve Bank of Philadelphia

Real GDP by State Percent Change, 2014*: Highest 25 States



North Dakota was the economic growth juggernaut of the US in 2014—by far

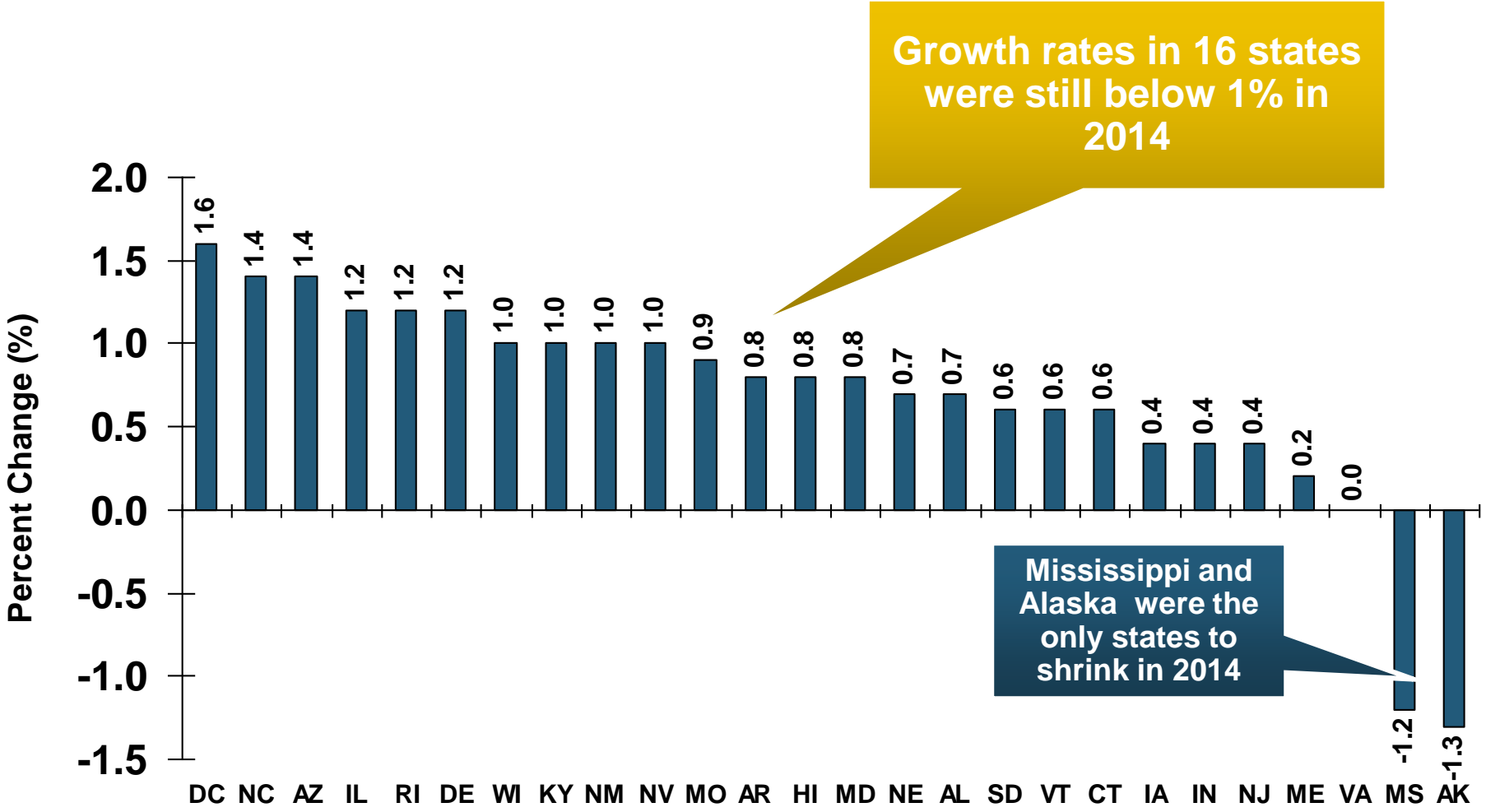
Only 7 states experienced growth in excess of 3% in 2014, which is a growth rate we would see nationally in a more typical recovery

Growth Benchmarks: Real GDP
US: 2.2%

*Advance statistics

Sources: [U.S. Bureau of Economic Analysis](#); Insurance Information Institute.

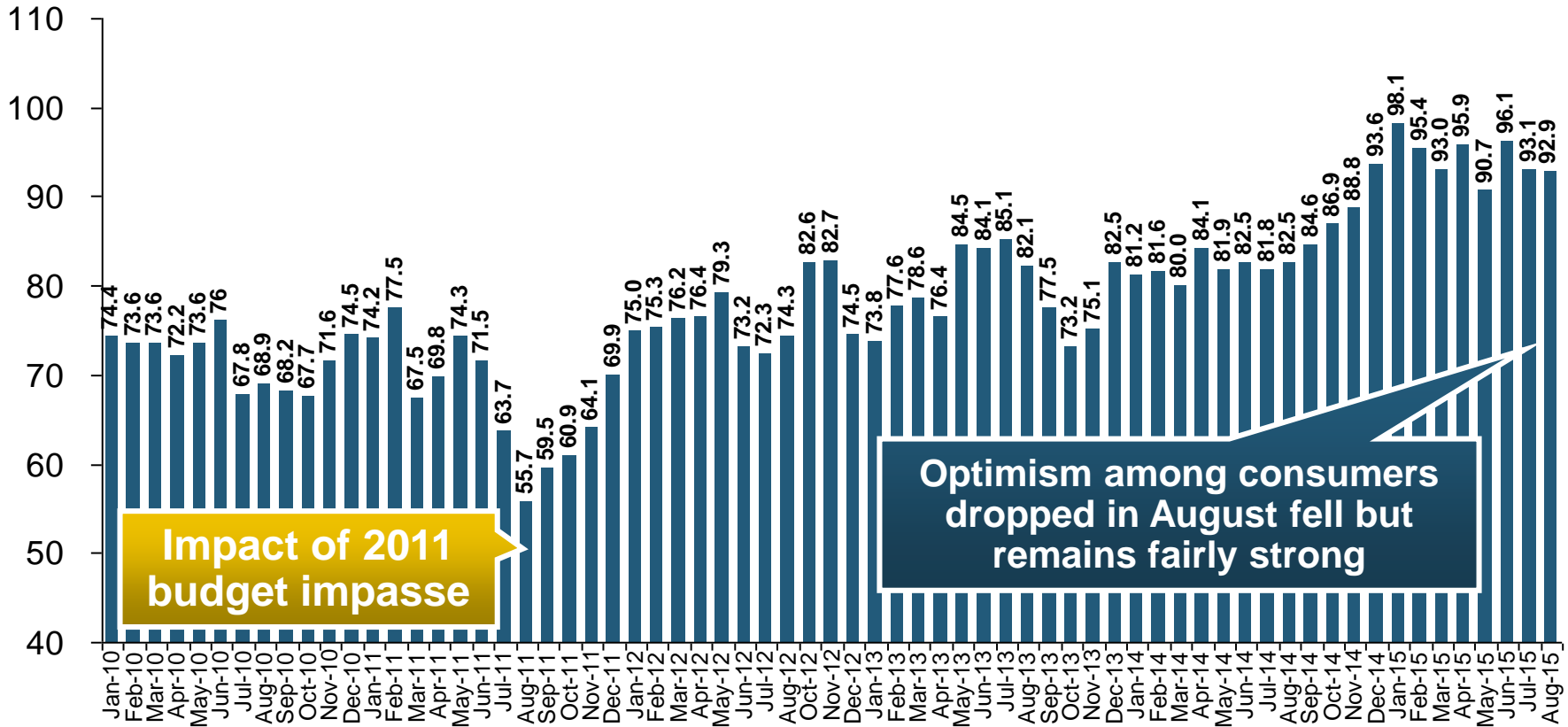
Real GDP by State Percent Change, 2014*: Lowest 25 States



*Advance statistics
Sources: [US Bureau of Economic Analysis](#); Insurance Information Institute.

Consumer Sentiment Survey (1966 = 100)

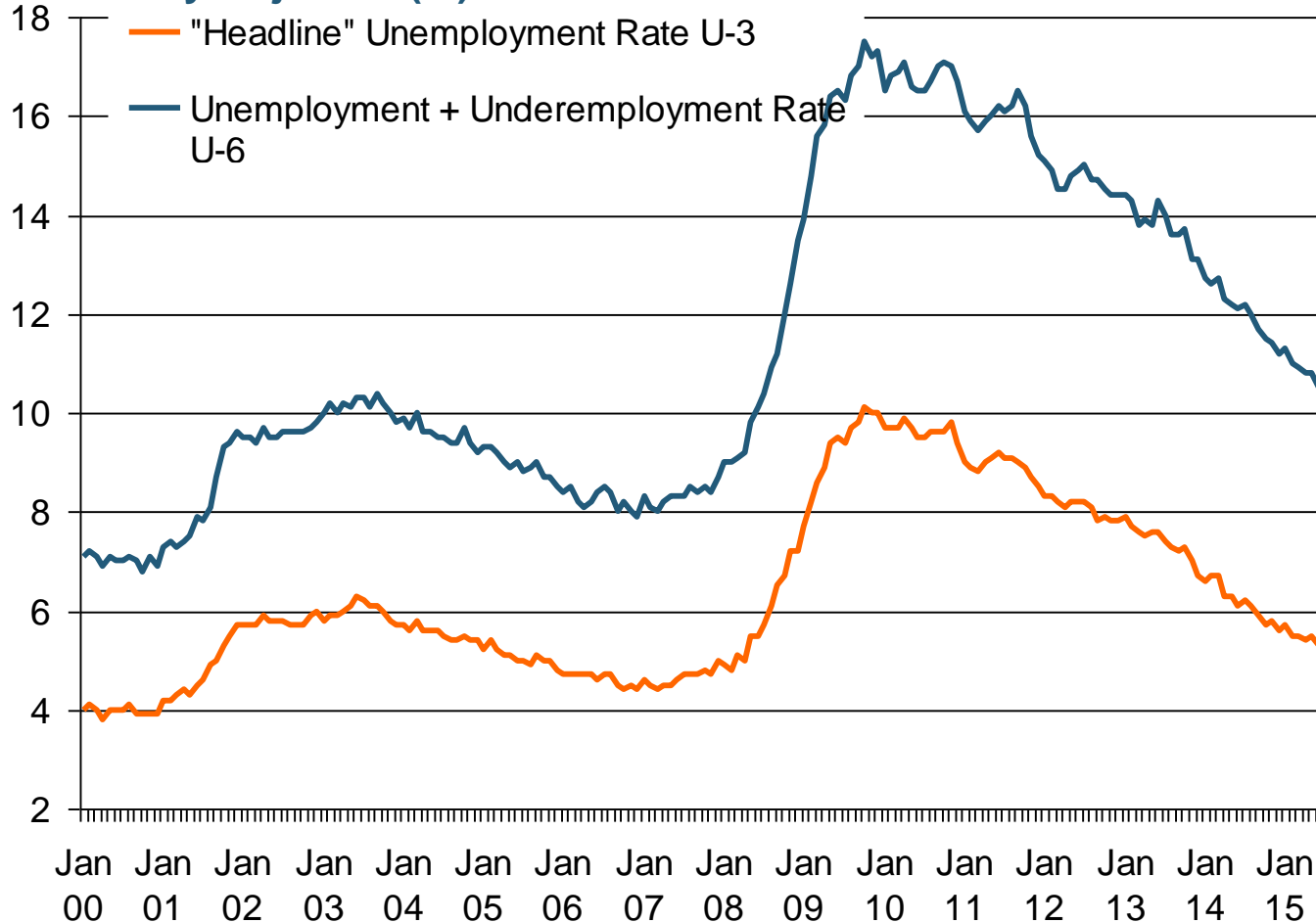
January 2010 through August 2015



Consumer confidence has experienced a substantial recovery from its crisis and post-crisis lows, substantially contributing to increased demand for vehicles and homes.

Unemployment and Underemployment Rates: Still Too High, But Falling

January 2000 through July 2015,
Seasonally Adjusted (%)



U-6 soared from 8.0% in March 2007 to 17.5% in October 2009; Stood at 10.4% in June 2015. 8% to 10% is "normal."

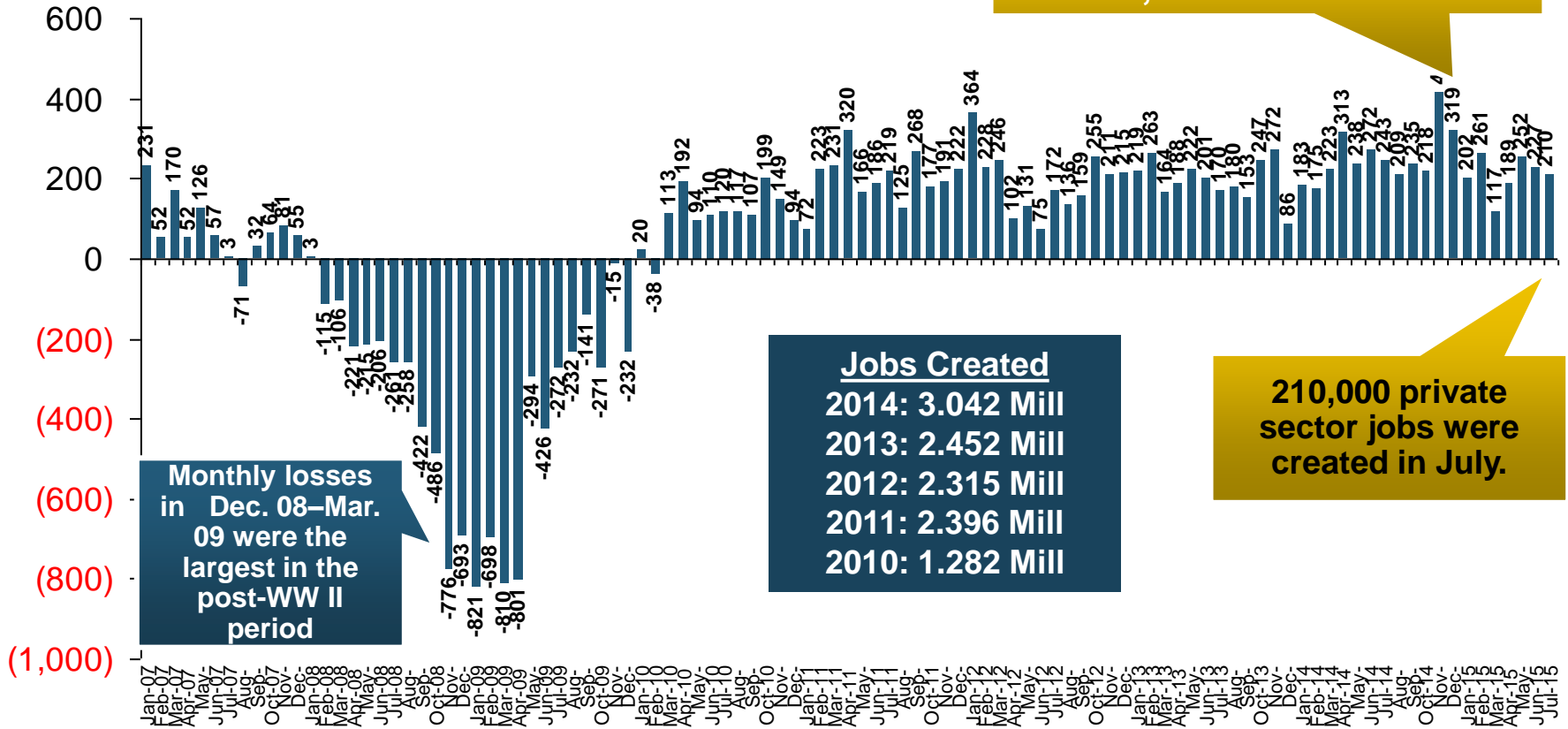
"Headline" unemployment was 5.3% in July 2015. 4.5% to 5.5% is "normal."

Stubbornly high unemployment and underemployment constrain overall economic growth, but the job market is continuing to improve.

Monthly Change in Private Employment

January 2007 through July 2015 (000s, Seasonally Adj.)

3,042,000 jobs were created in 2014, the most since 1997

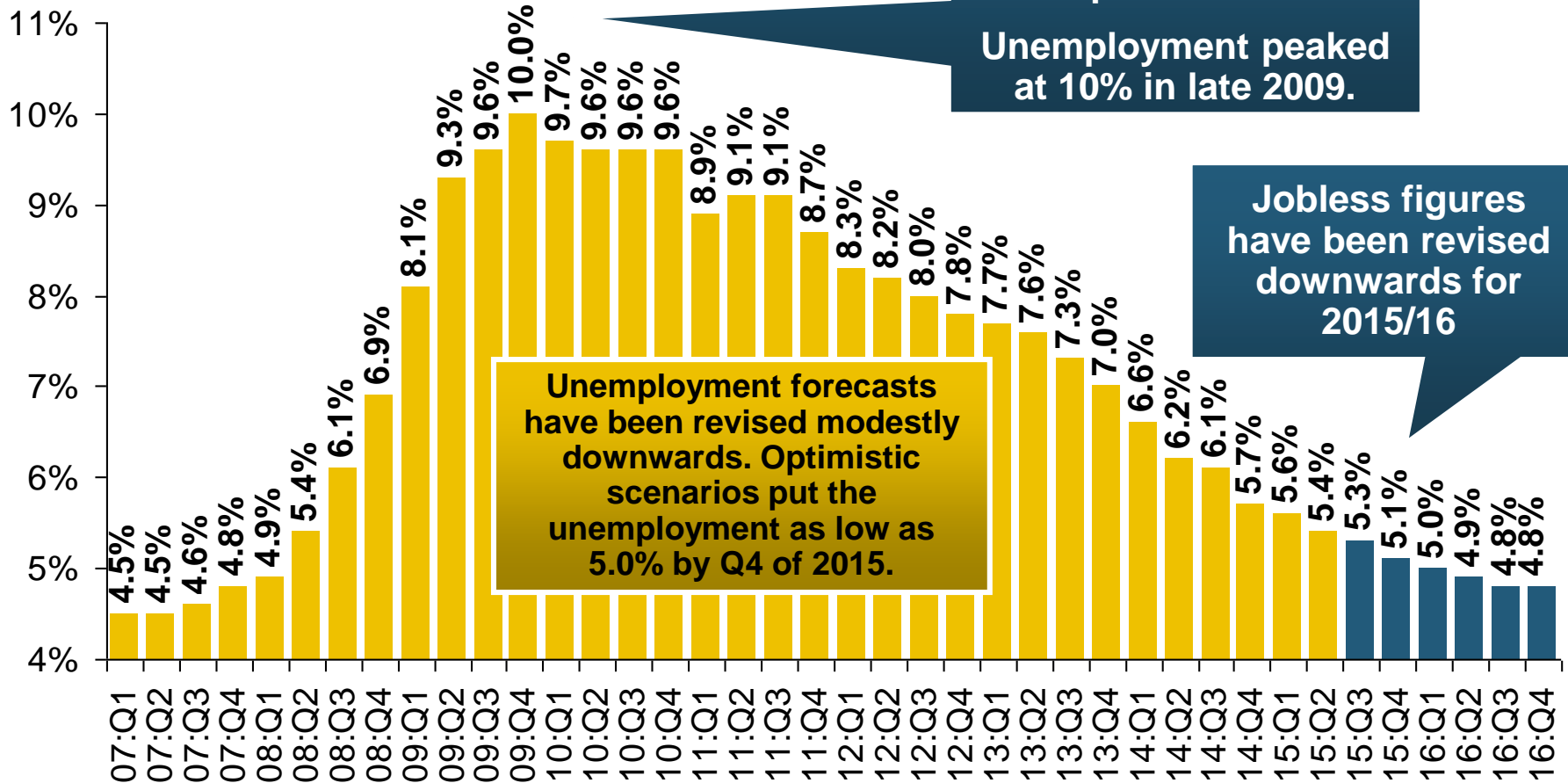


210,000 private sector jobs were created in July.

Private Employers Added 12.84 Million Jobs Since Jan. 2010 After Having Shed 5.01 Million Jobs in 2009 and 3.76 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

US Unemployment Rate Forecast

2007:Q1 to 2016:Q4F*



Rising unemployment eroded payrolls and WC's exposure base.
Unemployment peaked at 10% in late 2009.

Jobless figures have been revised downwards for 2015/16

Unemployment forecasts have been revised modestly downwards. Optimistic scenarios put the unemployment as low as 5.0% by Q4 of 2015.

* = actual; = forecasts

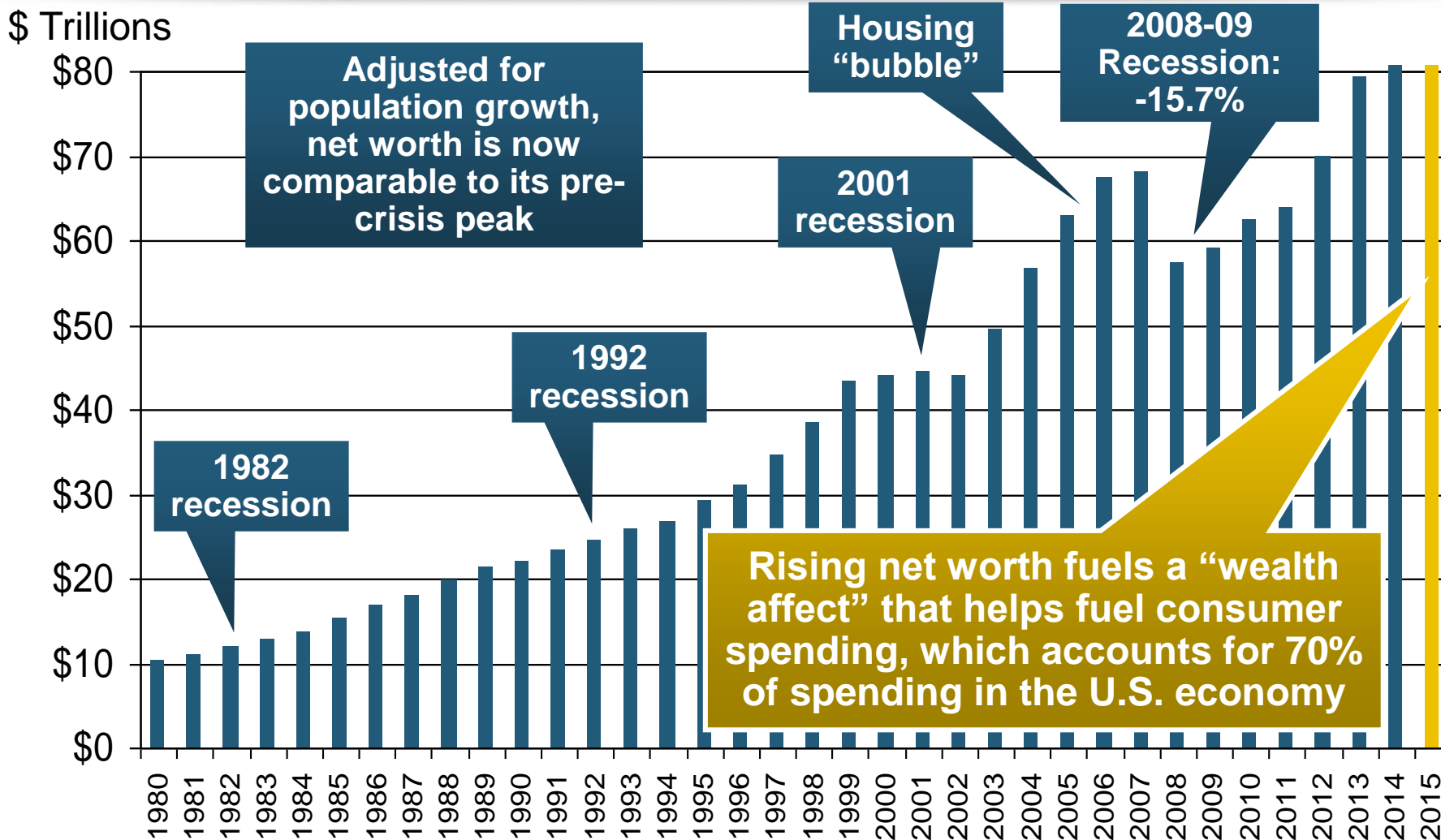
Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (8/15 edition); Insurance Information Institute.



Household Balance Sheets Are Relatively Strong

Auto Loan Market is Strong:
Default Rates Remain Low

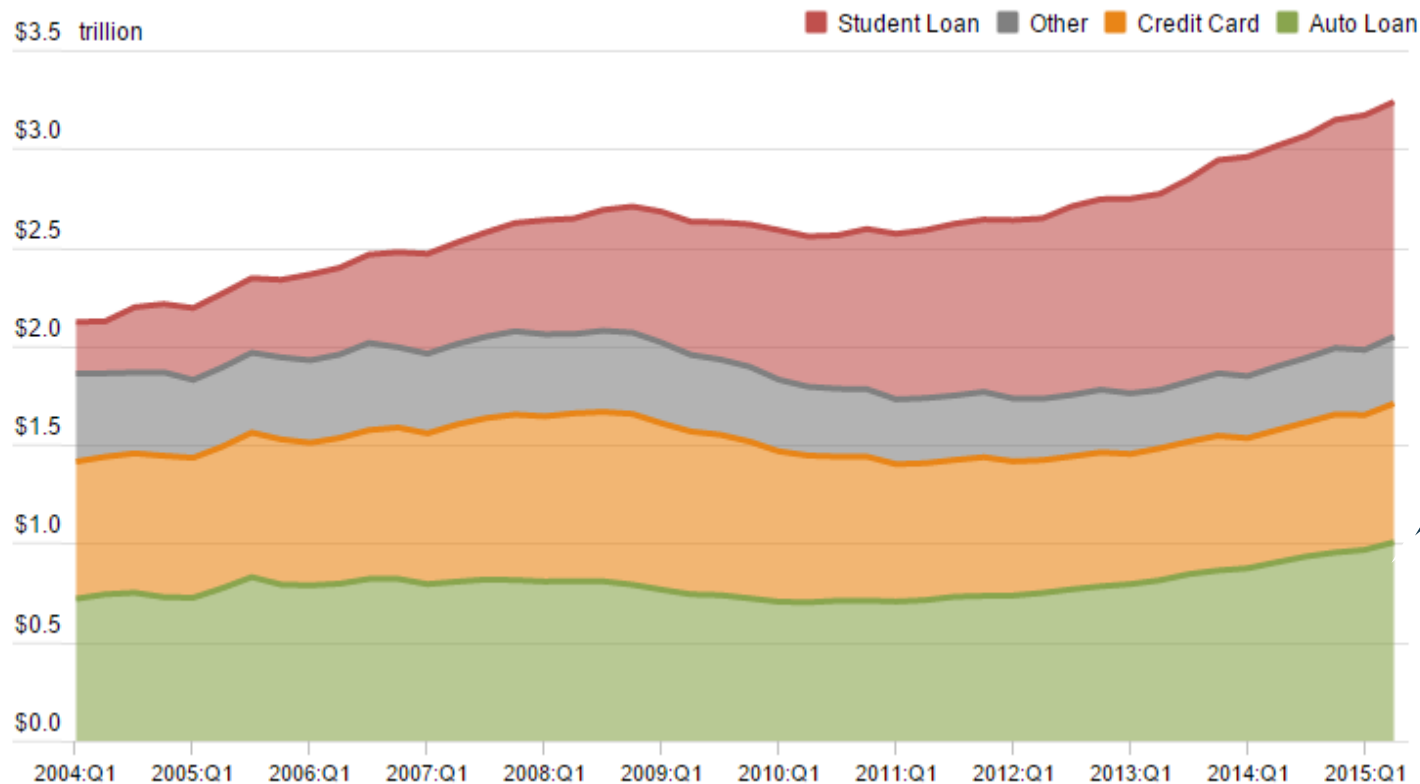
Net Worth of Households* Recently Hit A Historic High



*and nonprofit organizations. Data are as of year-end, except in 2015:Q1 (data posted on June 11, 2015. Data not seasonally adjusted or inflation-adjusted; <http://www.federalreserve.gov/releases/z1/Current/z1r-5.pdf>
Source: Federal Reserve Board at <http://www.federalreserve.gov/releases/z1/Current/z1r-5.pdf>

Auto Loans and Other Non-Housing Debt, 2004 – 2015:Q1

Non-Housing Debt Balance

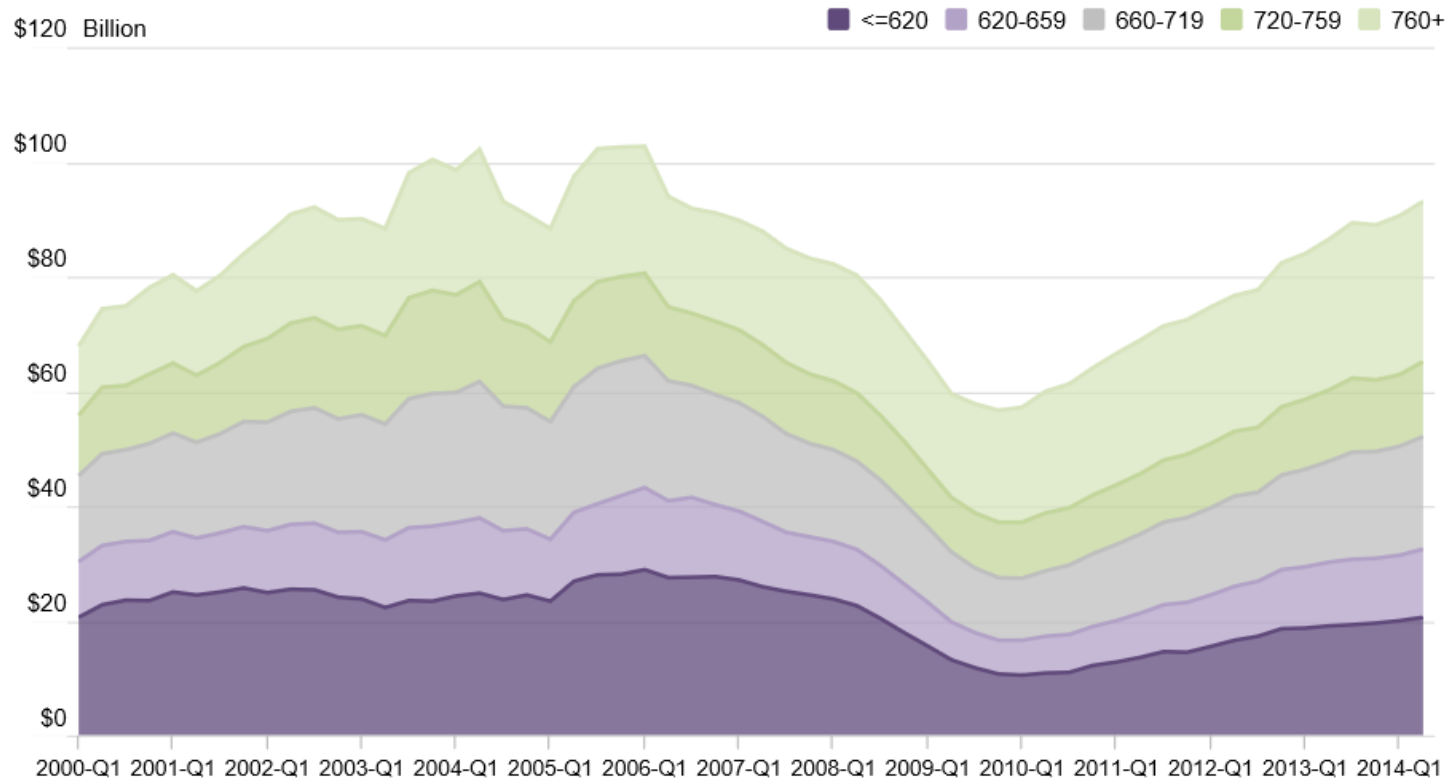


Auto loan debt outstanding reached \$1T for the first time ever in Q1 2015

Banks are becoming increasingly aggressive in marketing auto loans

Lenders are Issuing a Rising Number of New Auto Loans, Even for People with Poor Credit Scores

Auto Loan Originations by Credit Score



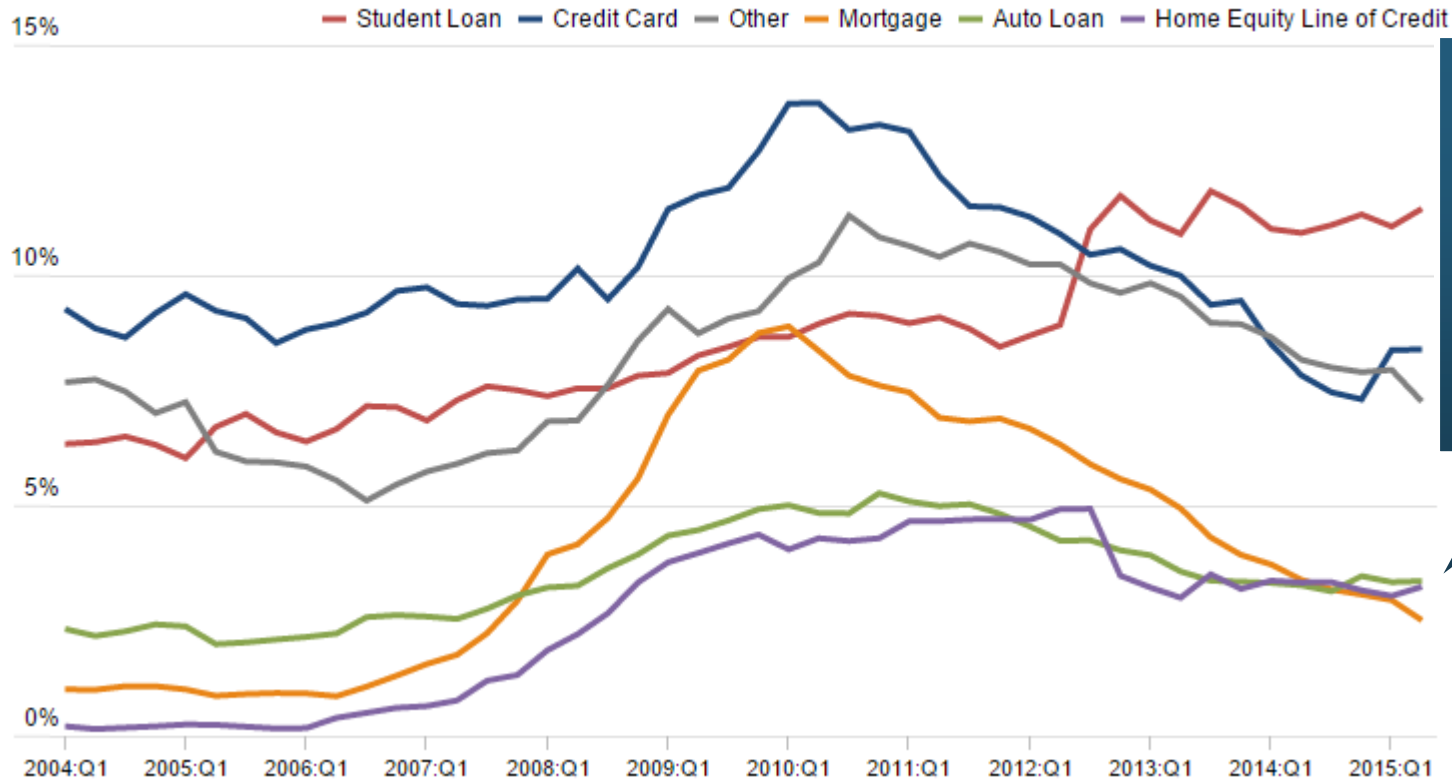
Source: FRBNY Consumer Credit Panel/Equifax

Auto loan originations reached a 10-year high in 2015:Q2

For the past several years, auto loans in nonaccrual status remained at roughly 0.25% of outstanding loans.

Auto Loan and Other Non-Housing Delinquencies, 2004 – 2015:Q1

Percent of Balance 90+ Days Delinquent



Auto loan delinquencies have improved dramatically since their crisis peak but remain above pre-crisis levels

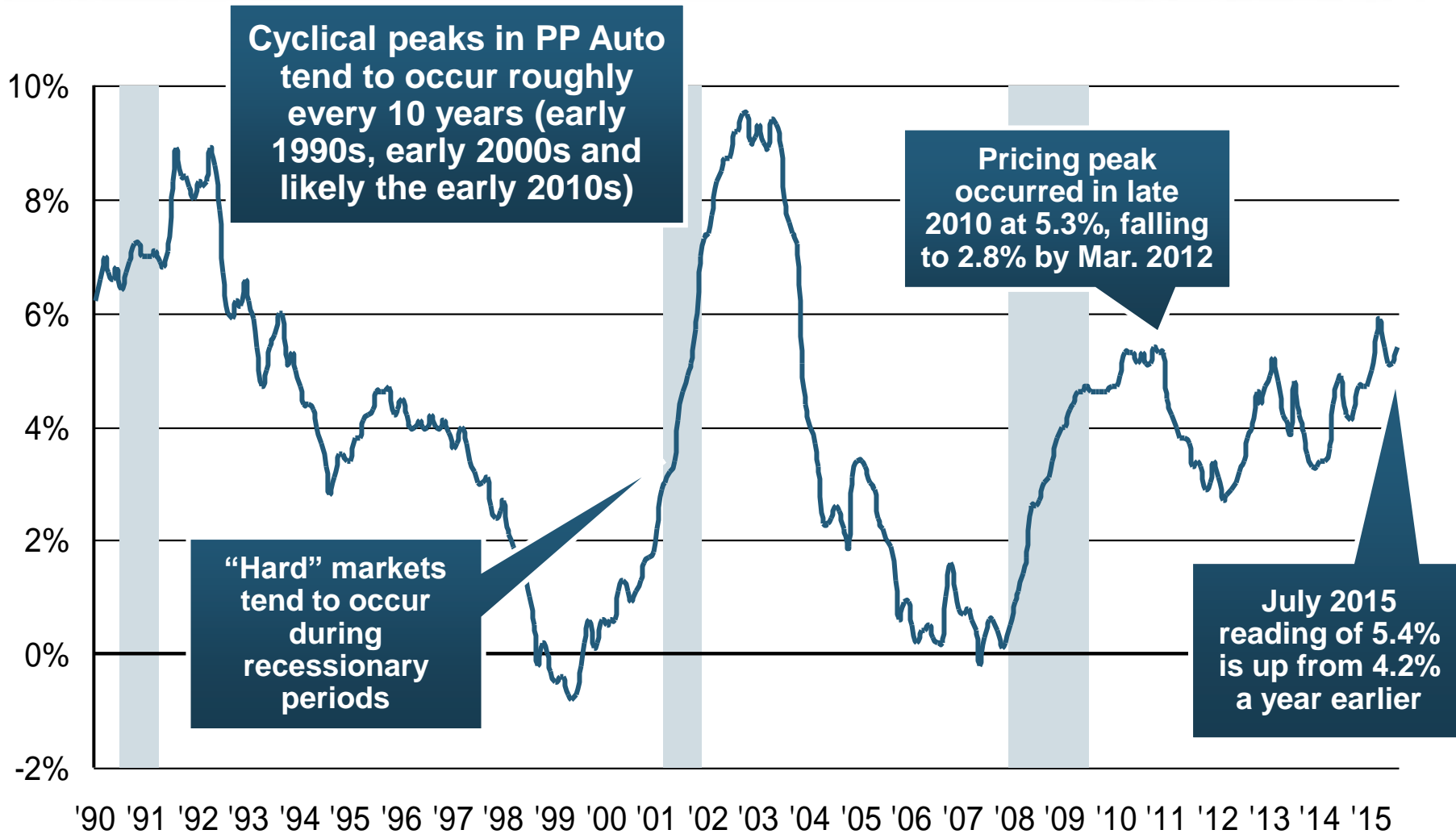
So far, increasingly aggressive marketing of auto loans has not resulting in a surge in loan delinquencies and defaults



Rate and Exposure Trends for Private Passenger Auto

**Rate and Exposure Are Both
Important Drivers of Growth**

Monthly Change in Auto Insurance Prices, 1991–2015*



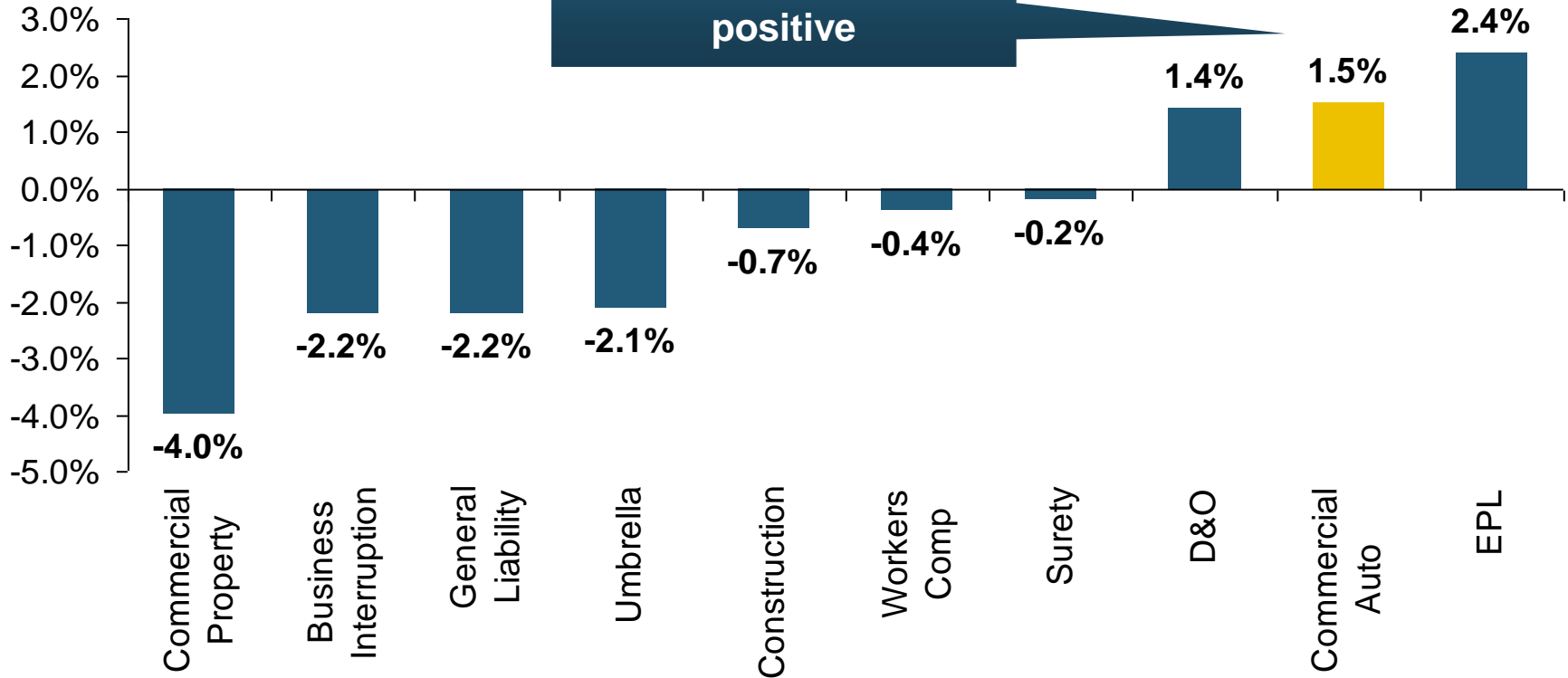
*Percentage change from same month in prior year; through July 2015; seasonally adjusted

Note: Recessions indicated by gray shaded columns.

Sources: US Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institutes.

Change in Commercial Rate Renewals, by Line: 2015:Q1

Percentage Change (%)

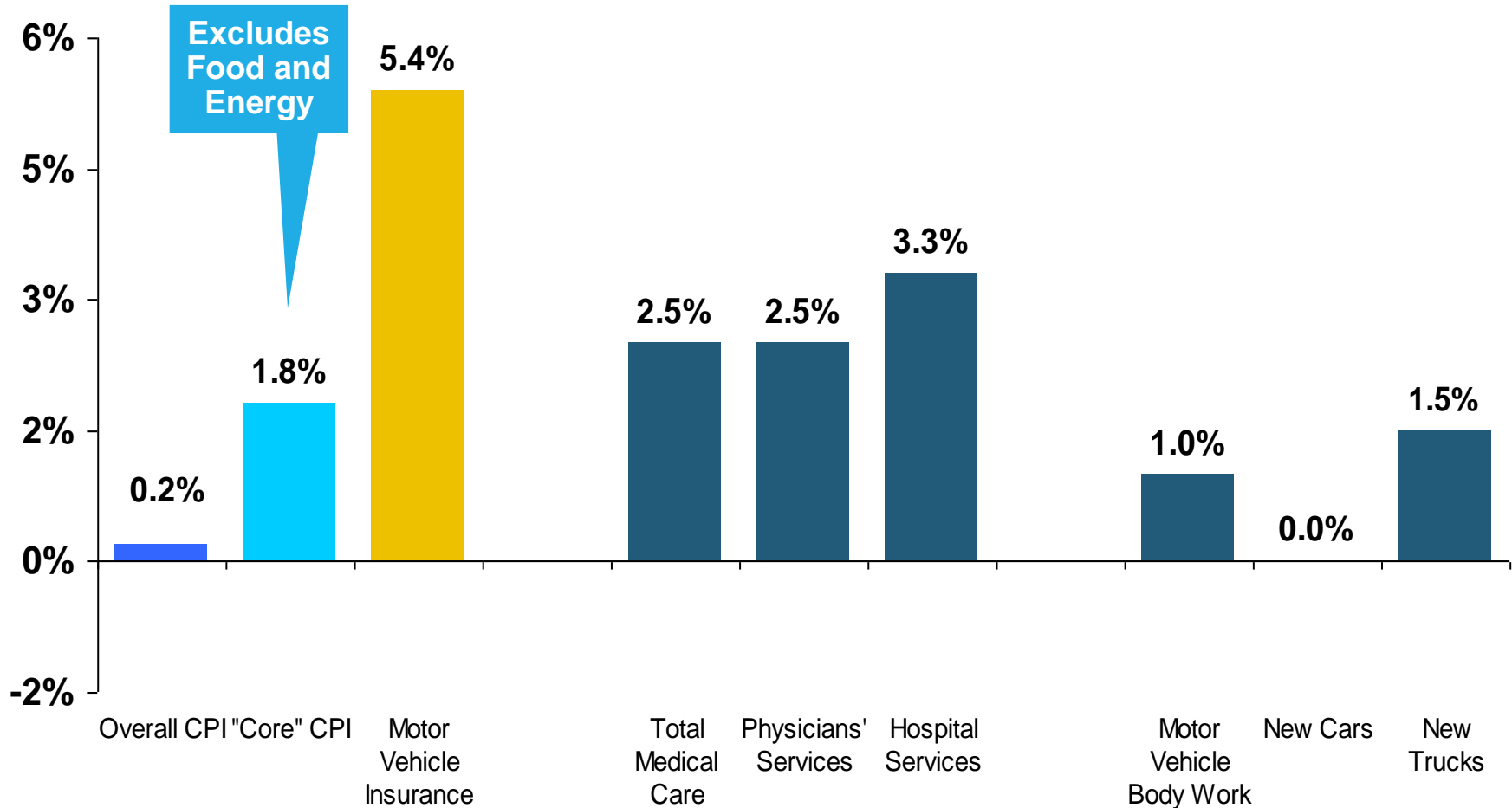


Major Commercial Lines Renewals Were Mixed to Flat in Q1:2015; EPL and Commercial Auto Led the Way

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.

Auto Insurance Claim Cost Drivers Continue to Grow Faster than CPI

Price Level Change: July 2015 vs. July 2014

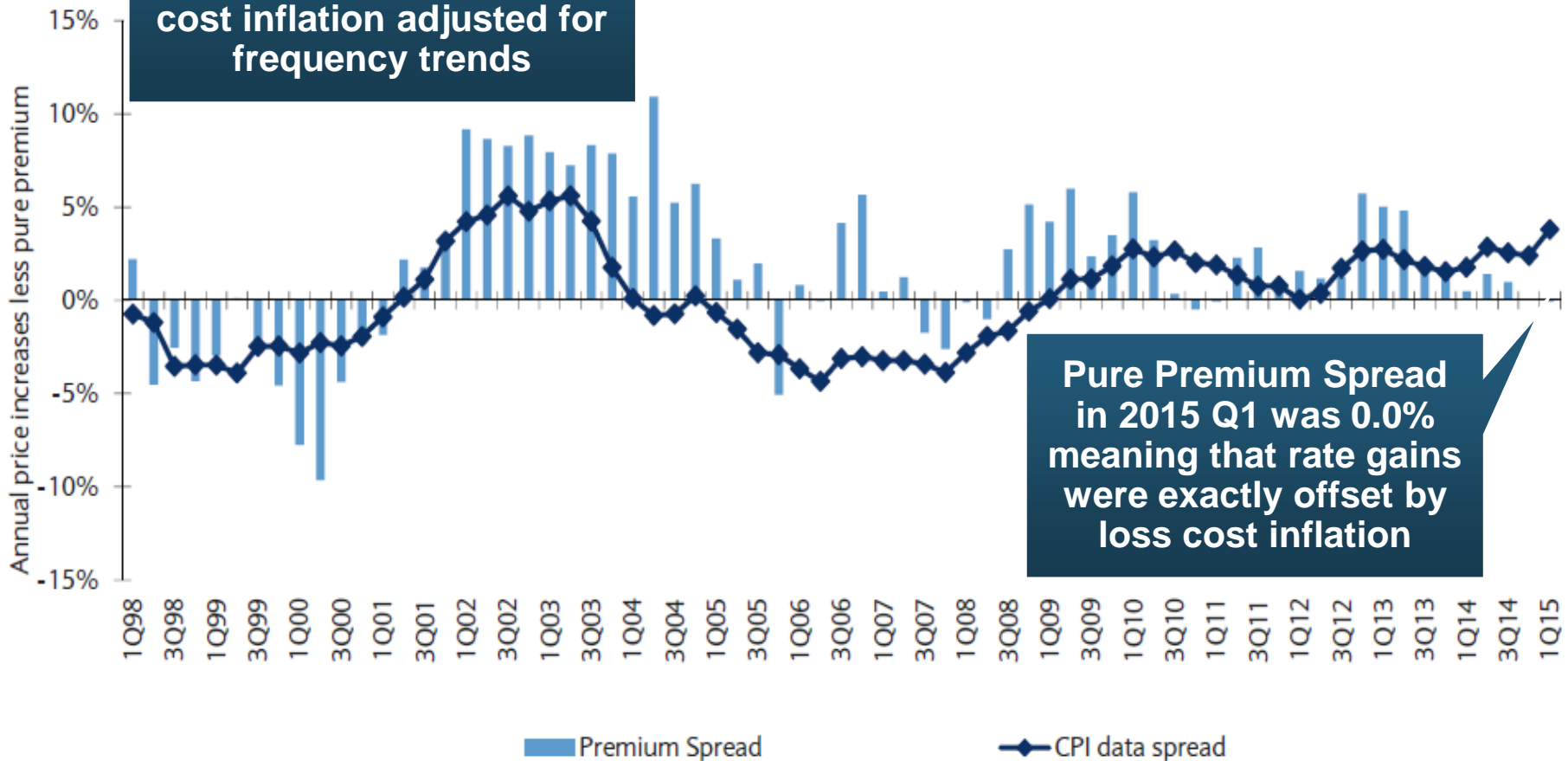


Healthcare costs are a major cost driver and are expected to accelerate in the years ahead

Sources: Bureau of Labor Statistics; Insurance Information Institute.

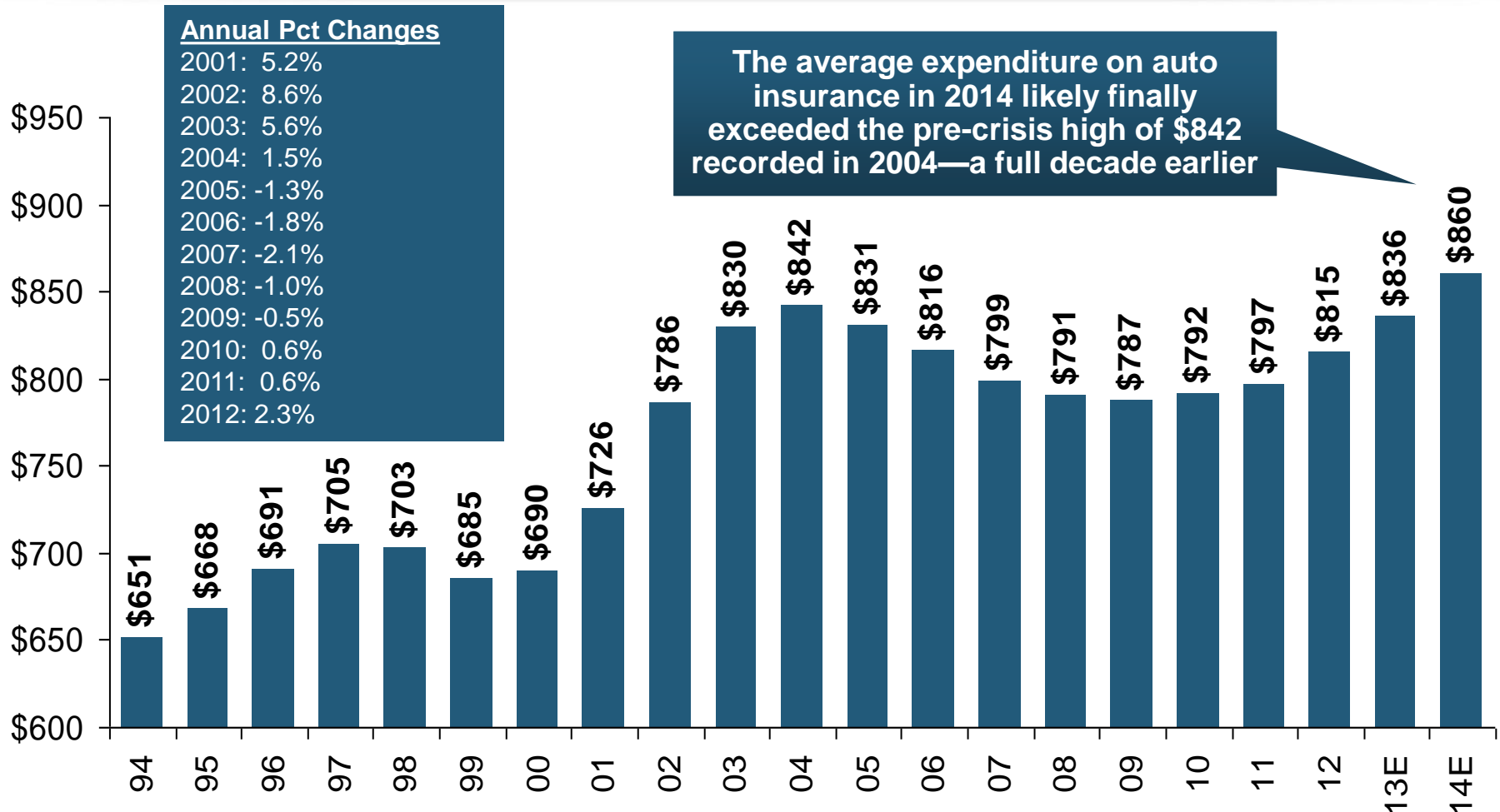
Private Passenger Auto: Premium Growth vs. Loss Cost Spread

The *Pure Premium Spread* is the difference between price increases and loss cost inflation adjusted for frequency trends



Pure Premium Spread in 2015 Q1 was 0.0% meaning that rate gains were exactly offset by loss cost inflation

Average Expenditures* on Auto Insurance, 1994-2014E



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 and 2.3% in 2012. I.I.I. estimate for 2013 is +2.6% and +2.9 in 2014%.

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

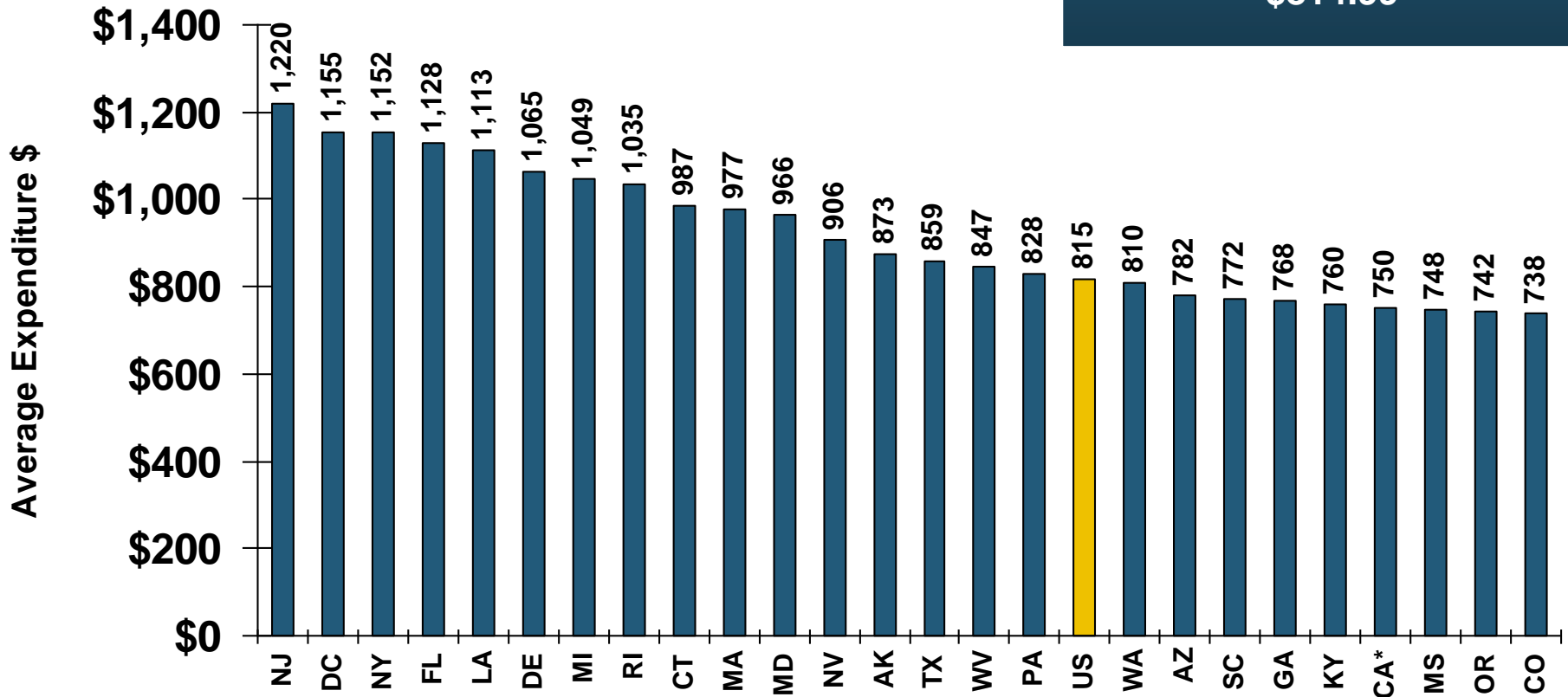
Sources: NAIC for 1994-2012; Insurance Information Institute estimates for 2013-2014 based on CPI and other data.

Average Expenditures for Auto Insurance By State, 2012*

Top 25 States

US Average:

\$814.99



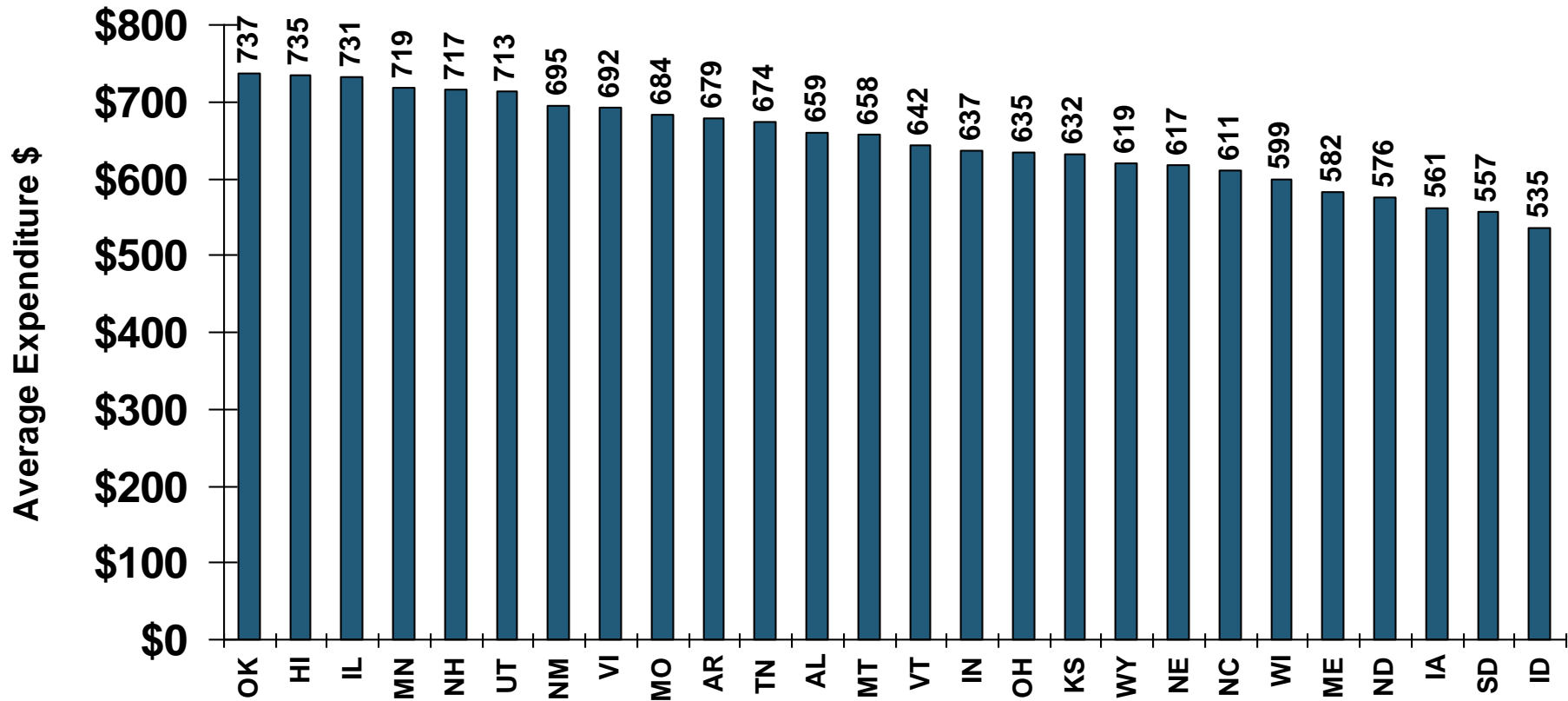
*Latest available.

Sources: NAIC; Insurance Information Institute.

Note: * California's figure is preliminary

Average Expenditures for Auto Insurance By State, 2012*

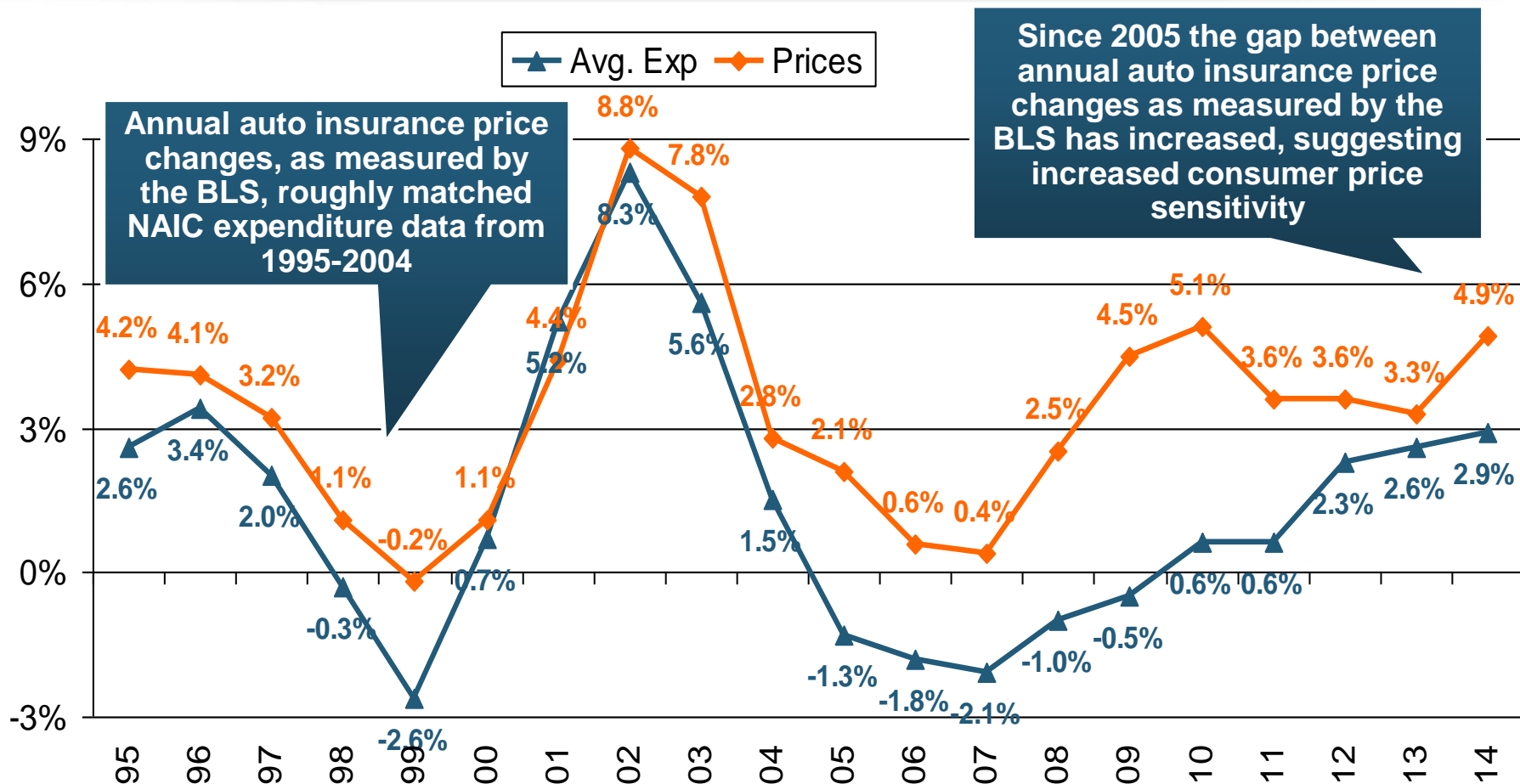
Bottom 25 States



*Latest available.

Sources: NAIC; Insurance Information Institute.

Annual Pct. Change in Avg. Expenditures on Auto Insurance, vs. Auto Insurance Prices, 1995-2015E

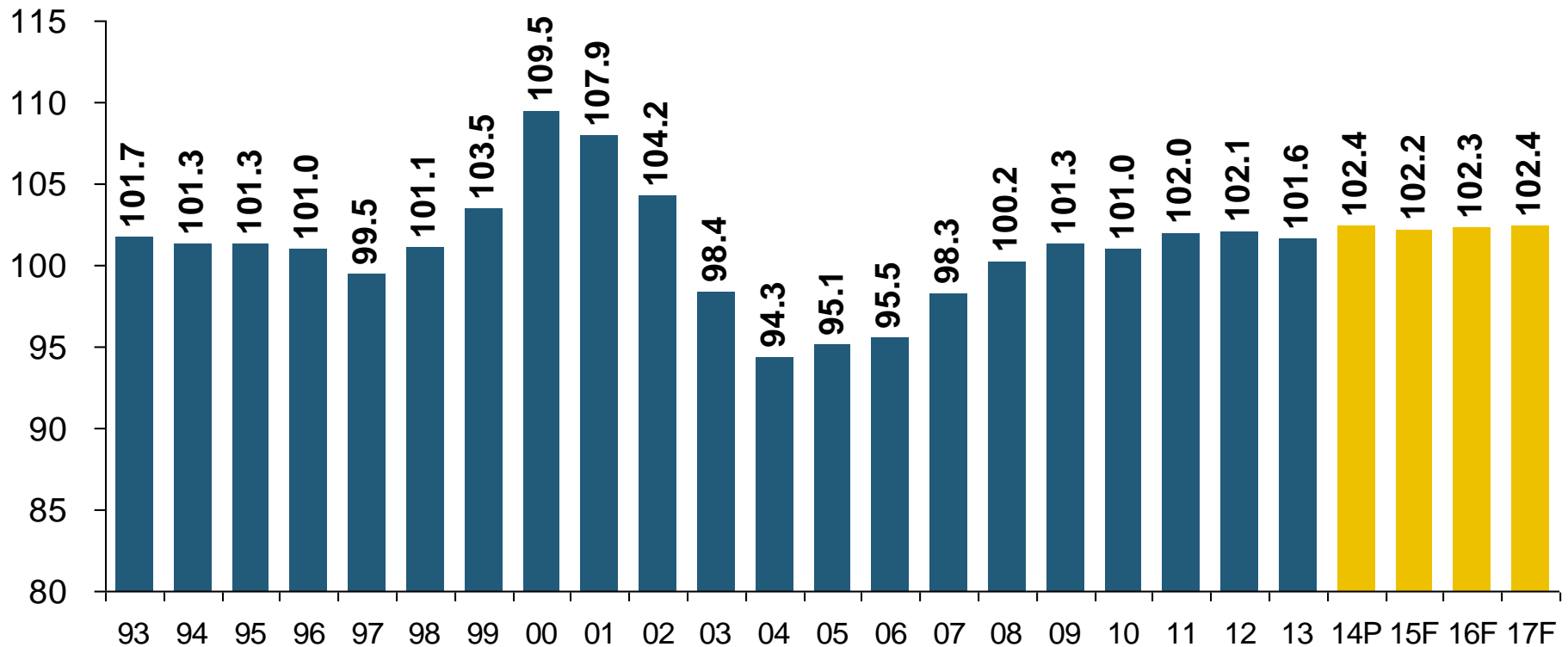


The gap since 2005 between price changes and expenditures on auto insurance might be due to buyers increasing deductibles, obtaining discounts, and other premium-reducing behavior.

Underwriting and Profitability Performance in Auto Insurance

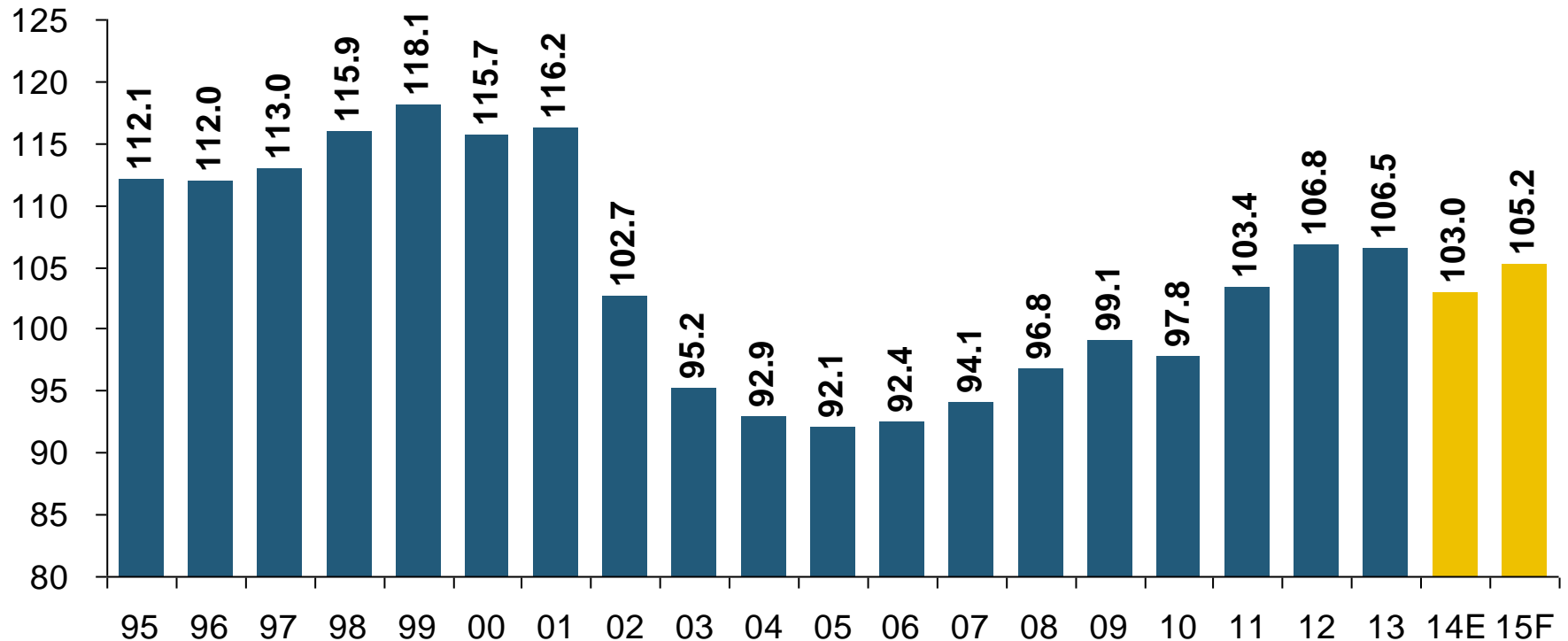
**Significant Variability and
Volatility Over Time and
Across States**

Private Passenger Auto Combined Ratio: 1993–2017F



Private Passenger Auto Underwriting Performance Is Exhibiting Remarkable Stability

Commercial Auto Combined Ratio: 1993–2015F

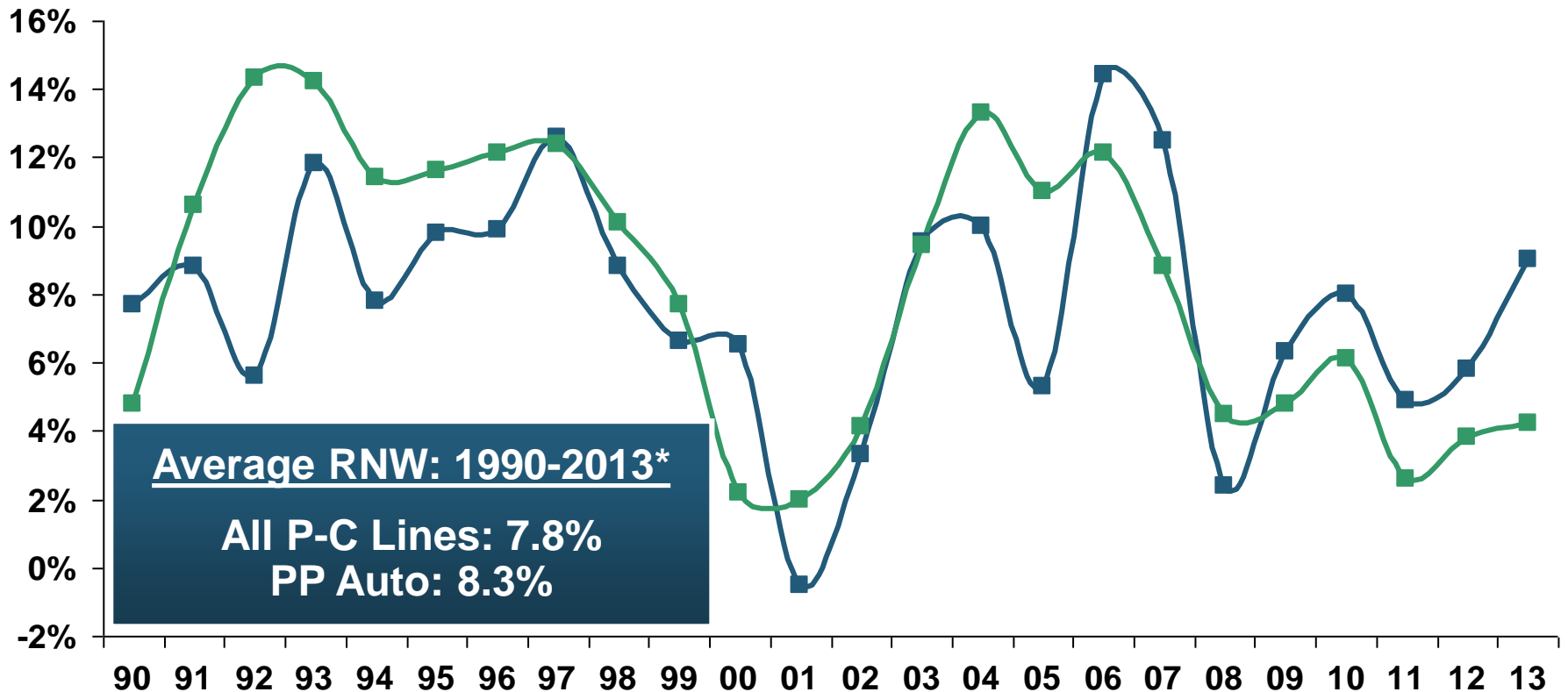


Commercial Auto is Expected to Improve Only Slowly as Rate Gains Barely Offset Adverse Frequency and Severity Trends

Return on Net Worth: All P-C Lines vs. Pvt. Pass. Auto, 1990-2013*

(Percent)

■ US All Lines ■ US PP Auto



Average RNW: 1990-2013*
All P-C Lines: 7.8%
PP Auto: 8.3%

Pvt.Pass. Auto Profitability Has Exceeded the P-C Industry as a Whole in 13 of the 24 Years from 1990-2013 (Inclusive)

*Latest available.
 Sources: NAIC.

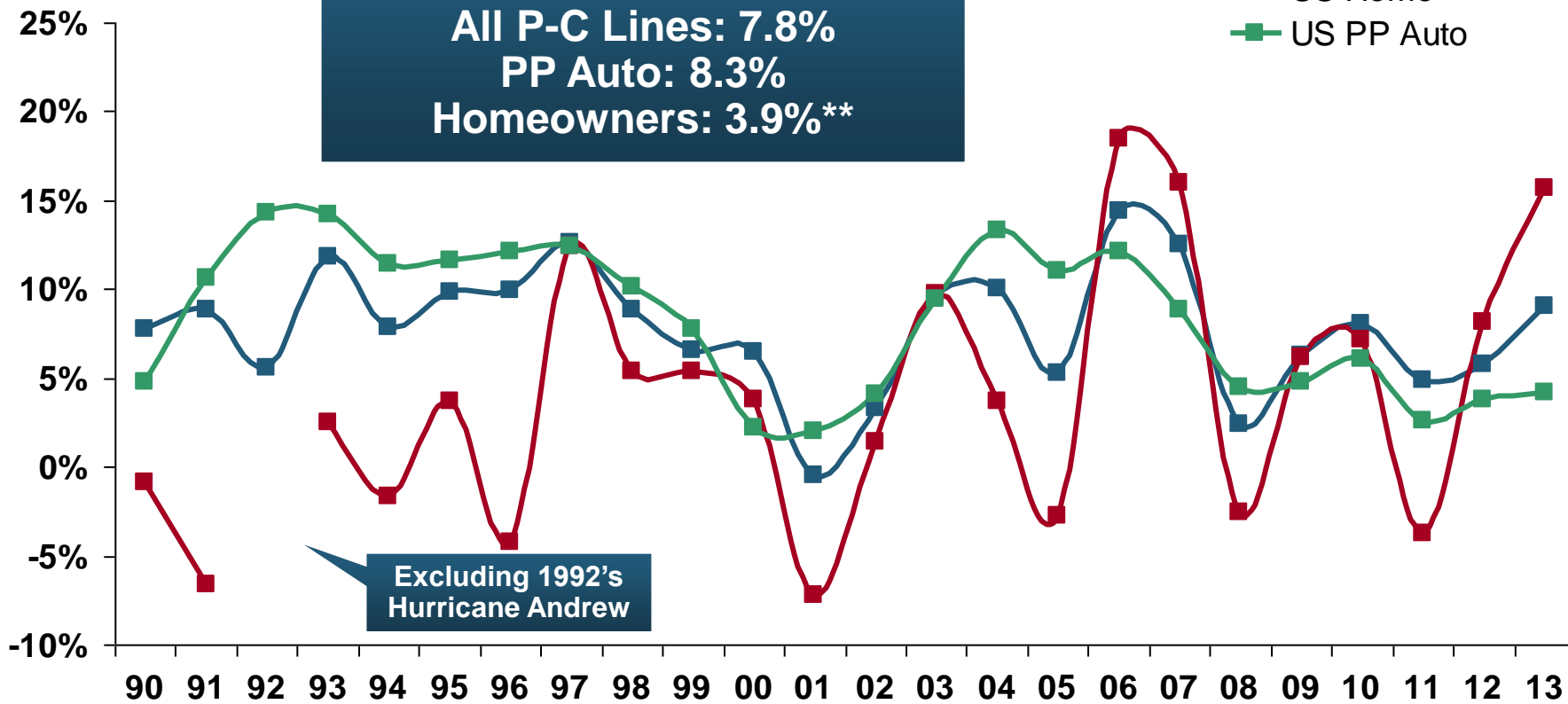
Return on Net Worth: All P-C Lines vs. Homeowners & Pvt. Pass. Auto, 1990-2013*

(Percent)

Average RNW: 1990-2013*
All P-C Lines: 7.8%
PP Auto: 8.3%
Homeowners: 3.9%**

- US All Lines
- US Home
- US PP Auto

Excluding 1992's Hurricane Andrew



Pvt.Pass. Auto Has Consistently Outperformed the P-C Industry as a Whole. Homeowners Volatility is Associated Primarily With Coastal Exposure Issues

*Latest available.

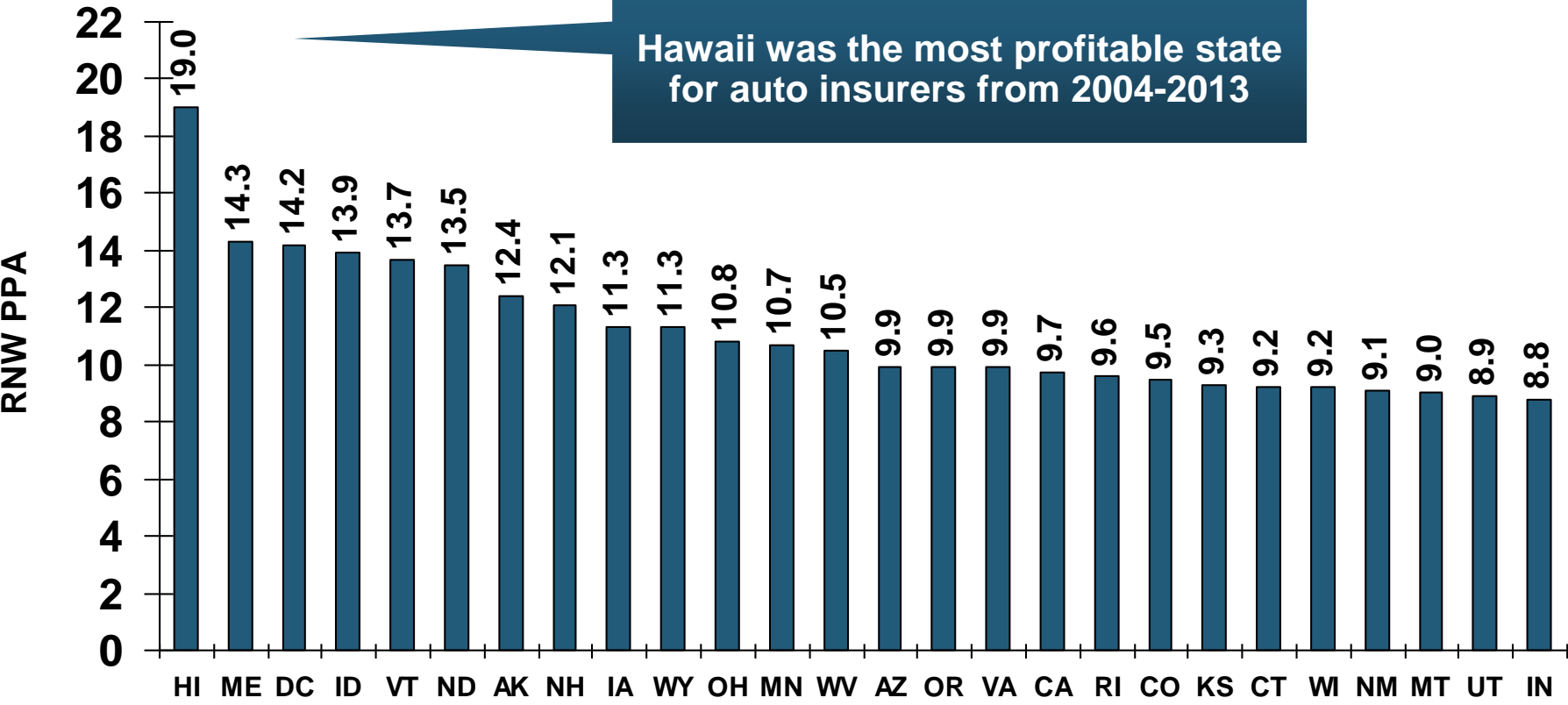
**Excludes 1992, the year of Hurricane Andrew. If 1992 is included the resulting homeowners RNW is 1.5%

Sources: NAIC; Insurance Information Institute.

Return on Net Worth: Pvt. Passenger Auto, 10-Year Average (2004-2013*)

Top 25 States

(Percent)



*Latest available.

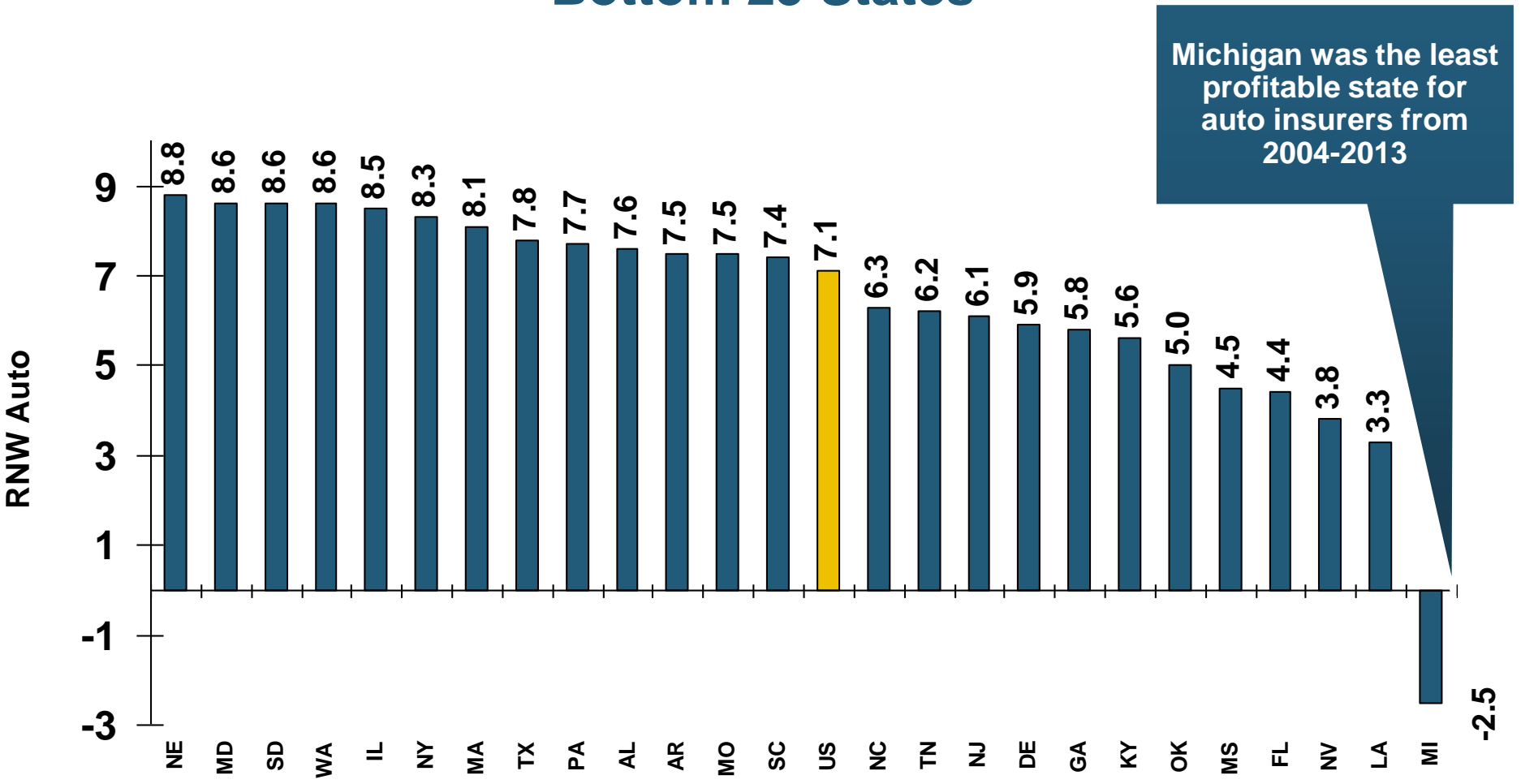
Sources: NAIC.

Return on Net Worth: Pvt. Passenger Auto, 10-Year Average (2004-2013*)



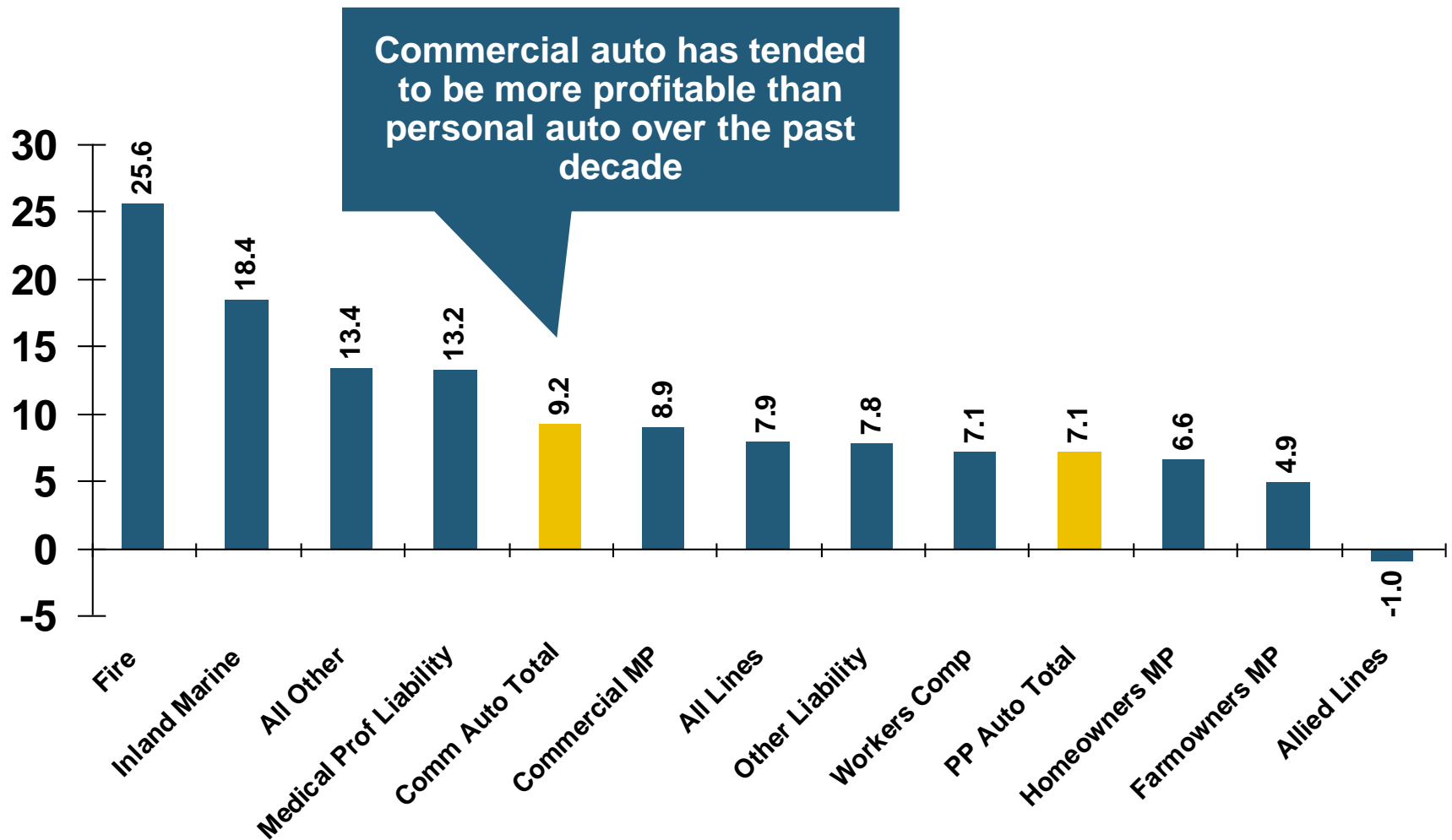
(Percent)

Bottom 25 States



*Latest available.
Sources: NAIC

Return on Net Worth (RNW) All Lines: 2004-2013 Average



Source: NAIC; Insurance Information Institute.

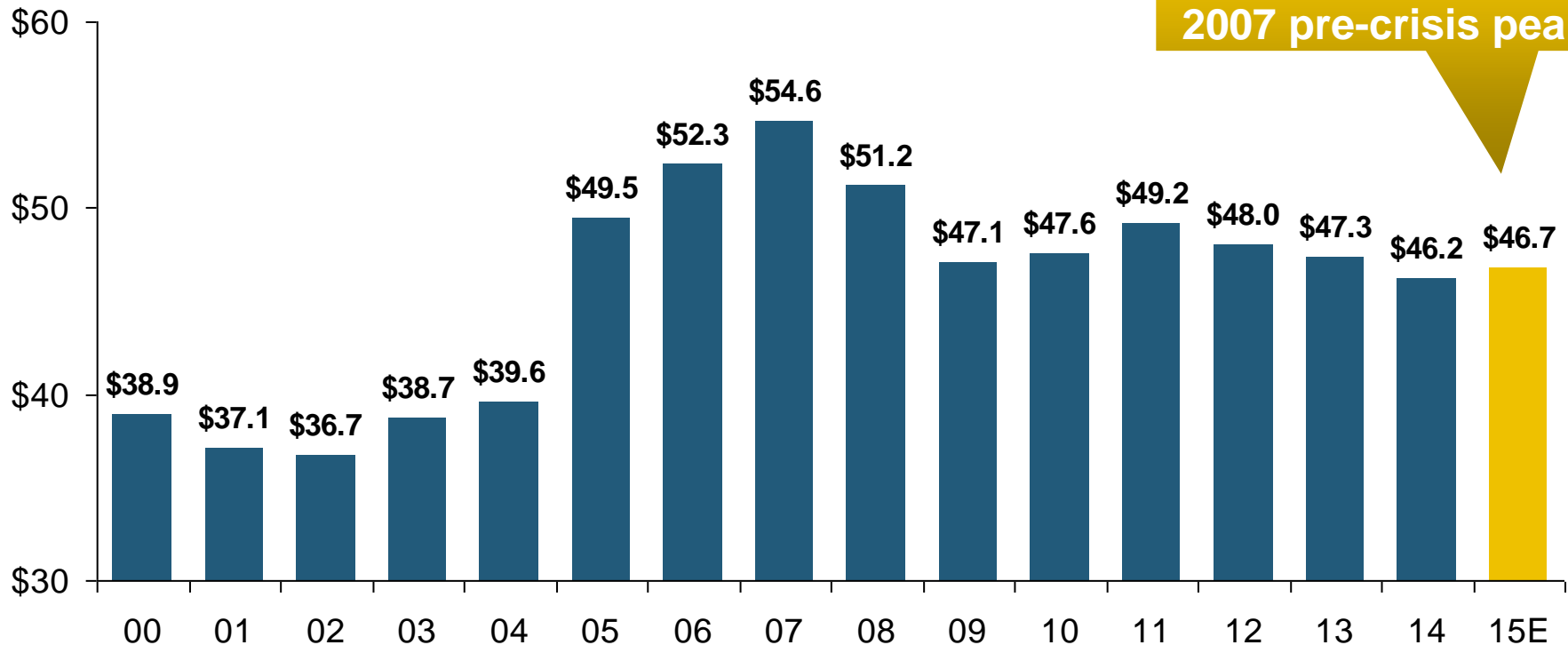
**INVESTMENTS: LOW YIELDS
EXERT RATE PRESSURE**

**Investment Performance is a Key
Driver of Profitability**

***Depressed Yields Will Necessarily
Influence Underwriting & Pricing***

Property/Casualty Insurance Industry Investment Income: 2000–2015E¹

(\$ Billions)



**Due to persistently low interest rates,
investment income fell in 2012, 2013 and 2014.**

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

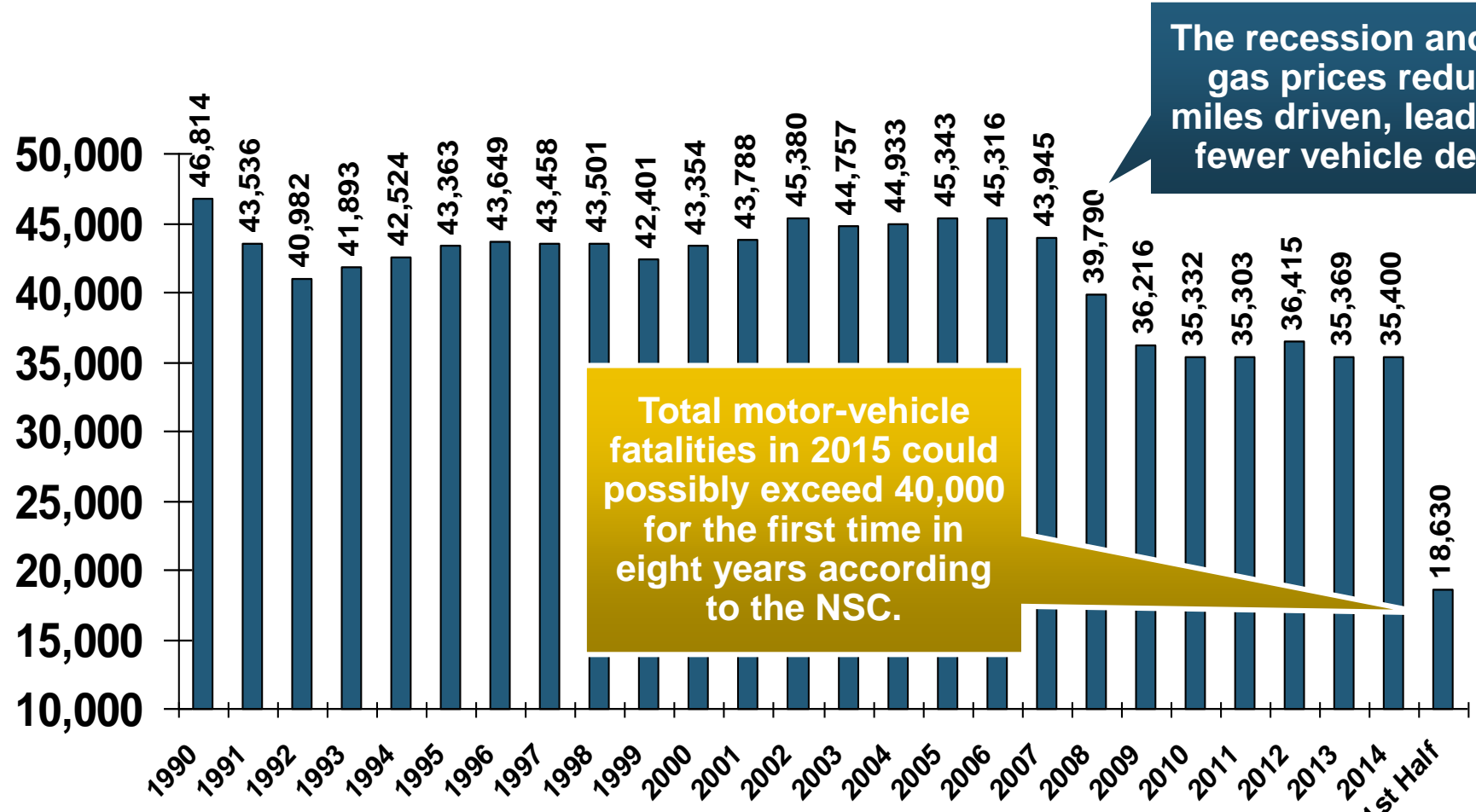
*2015 figure is estimated based on annualized data through Q1.

Claim Trends in Private Passenger Auto Insurance

**Rising Frequencies and Severities
in Many Coverages**

Will that Pattern Be Sustained?

Number of Motor Vehicle Deaths, 1990- First Half 2015



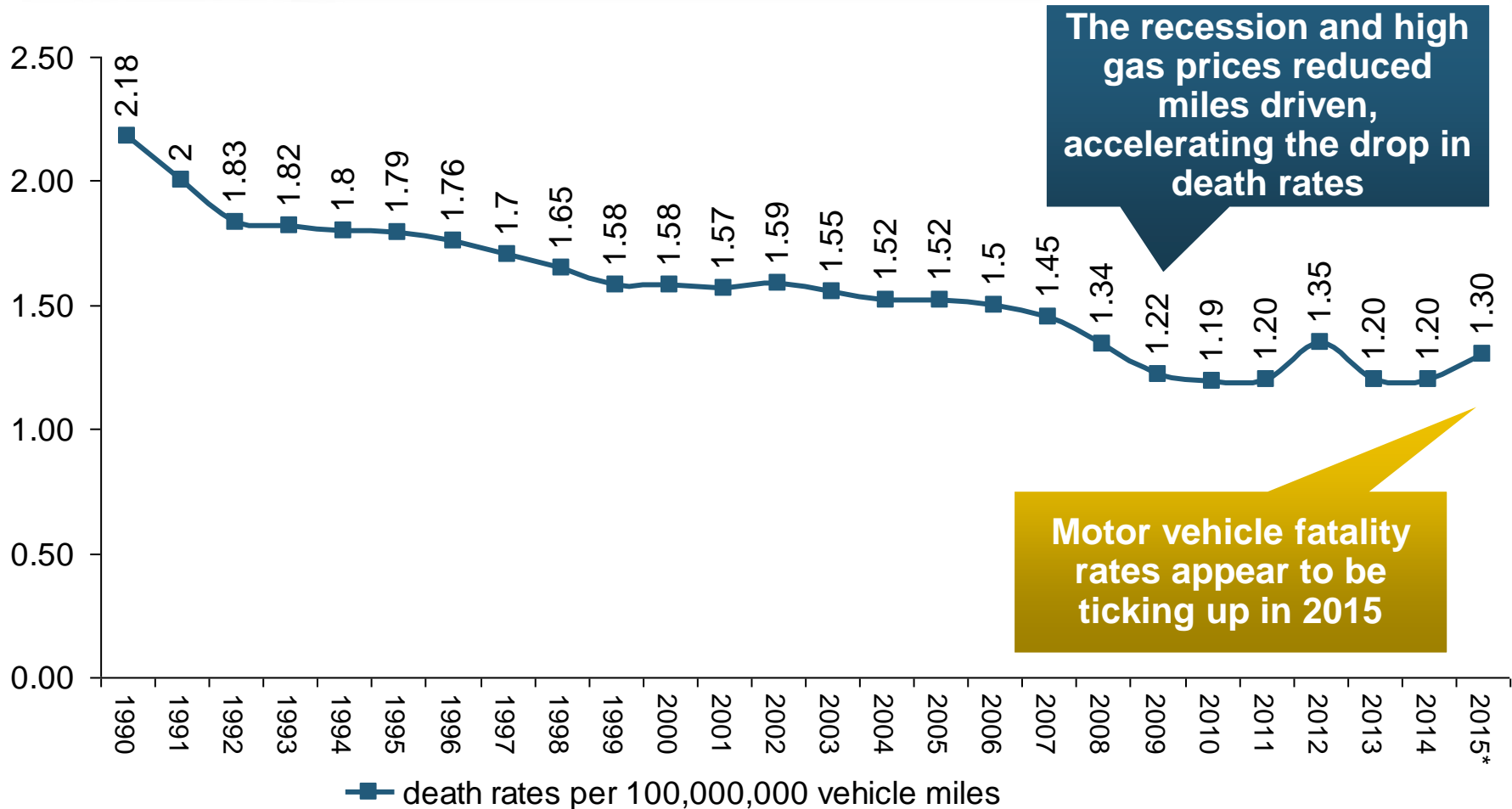
The recession and high gas prices reduced miles driven, leading to fewer vehicle deaths

Total motor-vehicle fatalities in 2015 could possibly exceed 40,000 for the first time in eight years according to the NSC.

NSC counts both traffic and nontraffic deaths that occur within a year of the accident.

Source: National Safety Council; Insurance Information Institute.

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

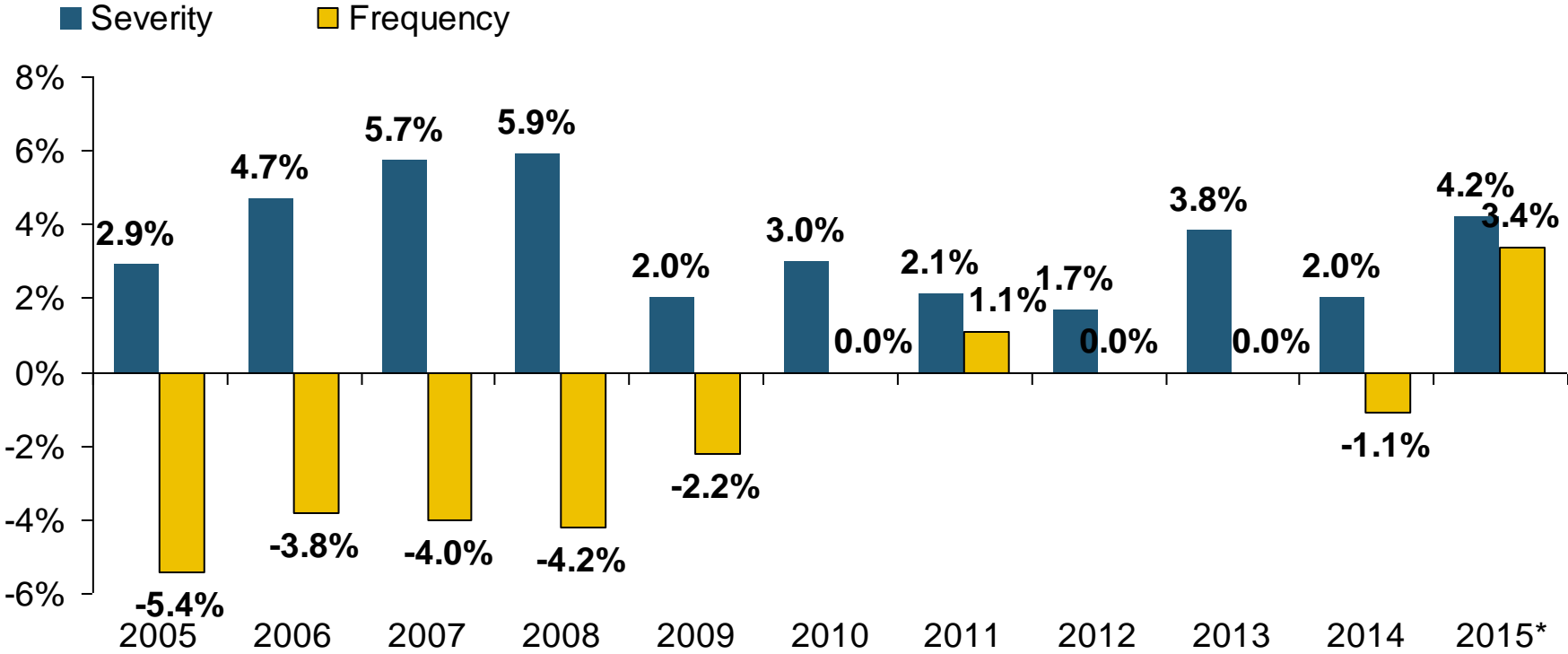


Vehicle death rates fell by nearly half between 1990 and 2010

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

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

Annual Change, 2005 through 2015:Q1*

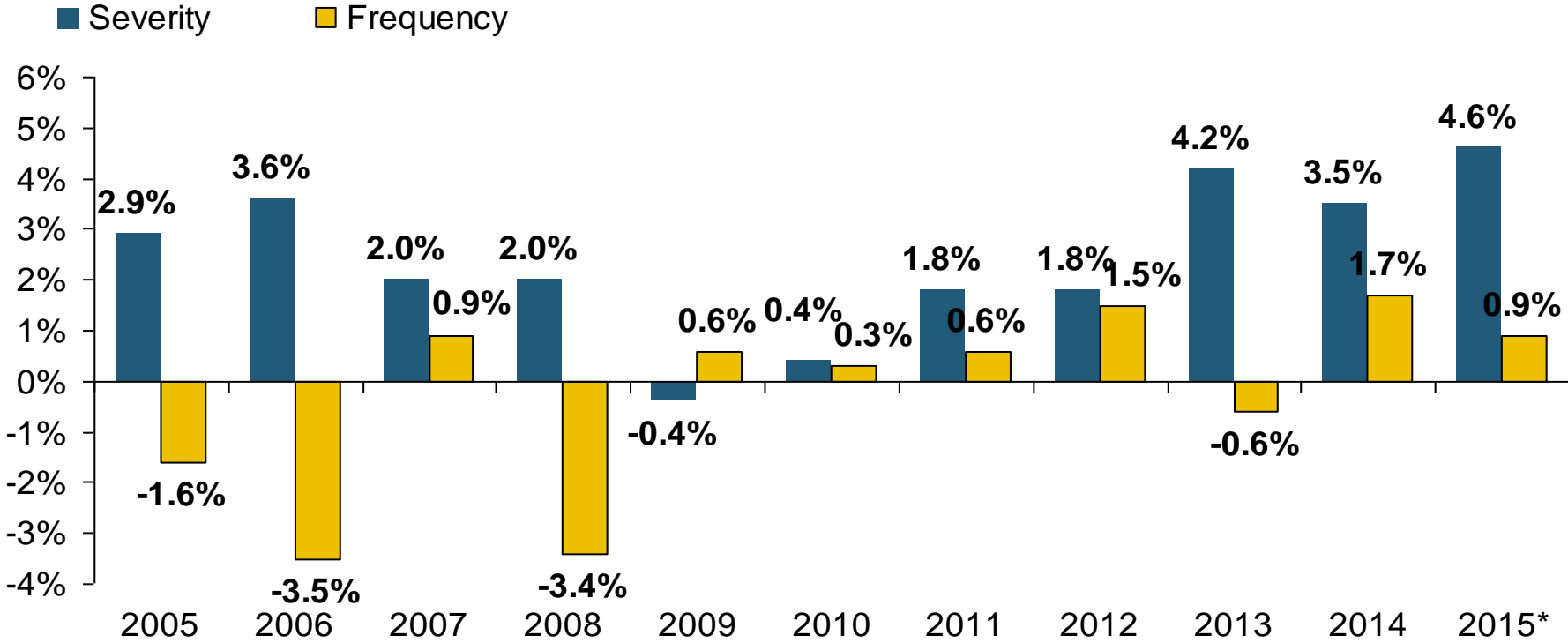


Cost Pressures Will Increase if BI Frequency and Severity Trends Persist

*2015 figure is for Q1 2015 over Q1 2014.
 Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Property Damage Liability: Severity and Frequency Are Up

Annual Change, 2005 through 2015*

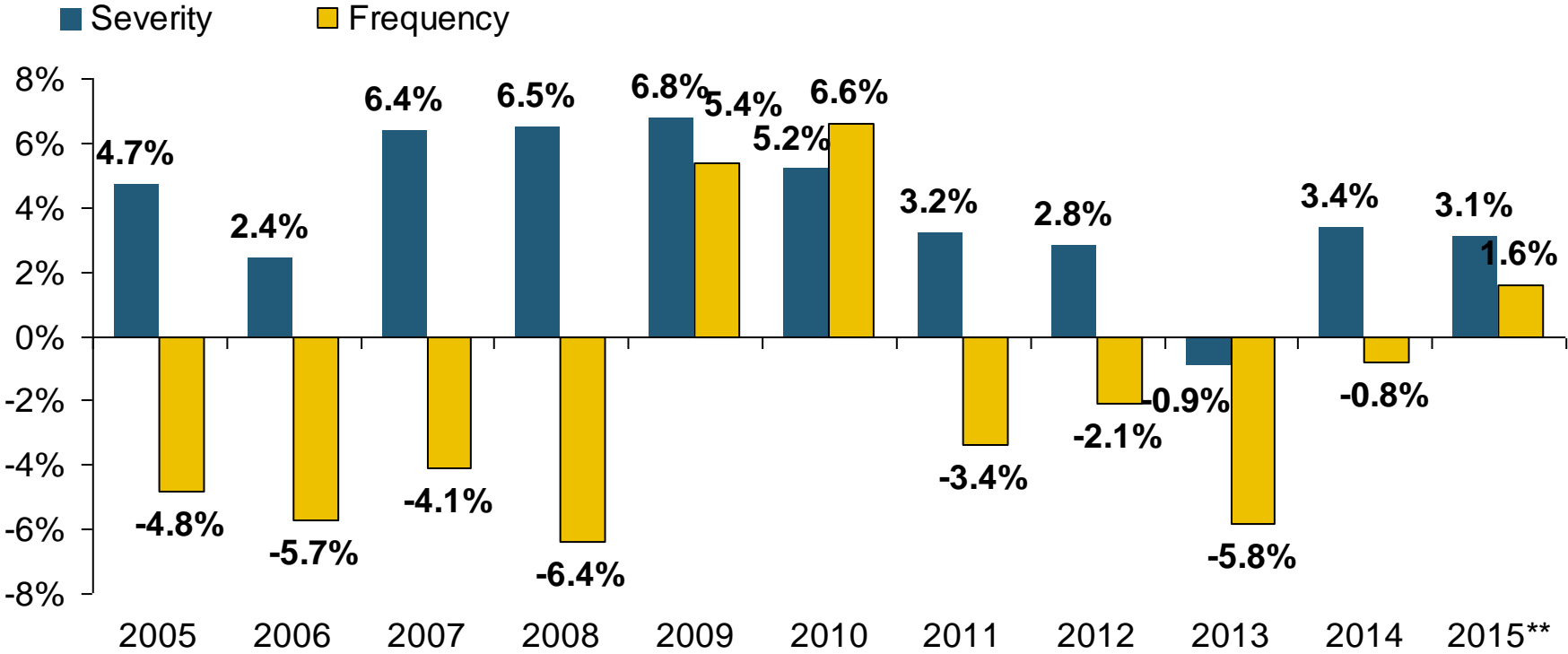


Severity/Frequency Trends Have Been Volatile, But Rising Severity since 2011 Is a Concern

*2015 figure is for the four quarters ending in 2015:Q1.
 Source: ISO/PCI *Fast Track* data; Insurance Information Institute

No-Fault (PIP) Liability: Severity is Up, Frequency Relatively Flat*

Annual Change, 2005 through 2015**



No-Fault Systems Are Less Problematic in Some States but Still of Concern in Some, Such as MI

*No-fault states included are: FL, HI, KS, KY, MA, MI, MN, NY, ND and UT.

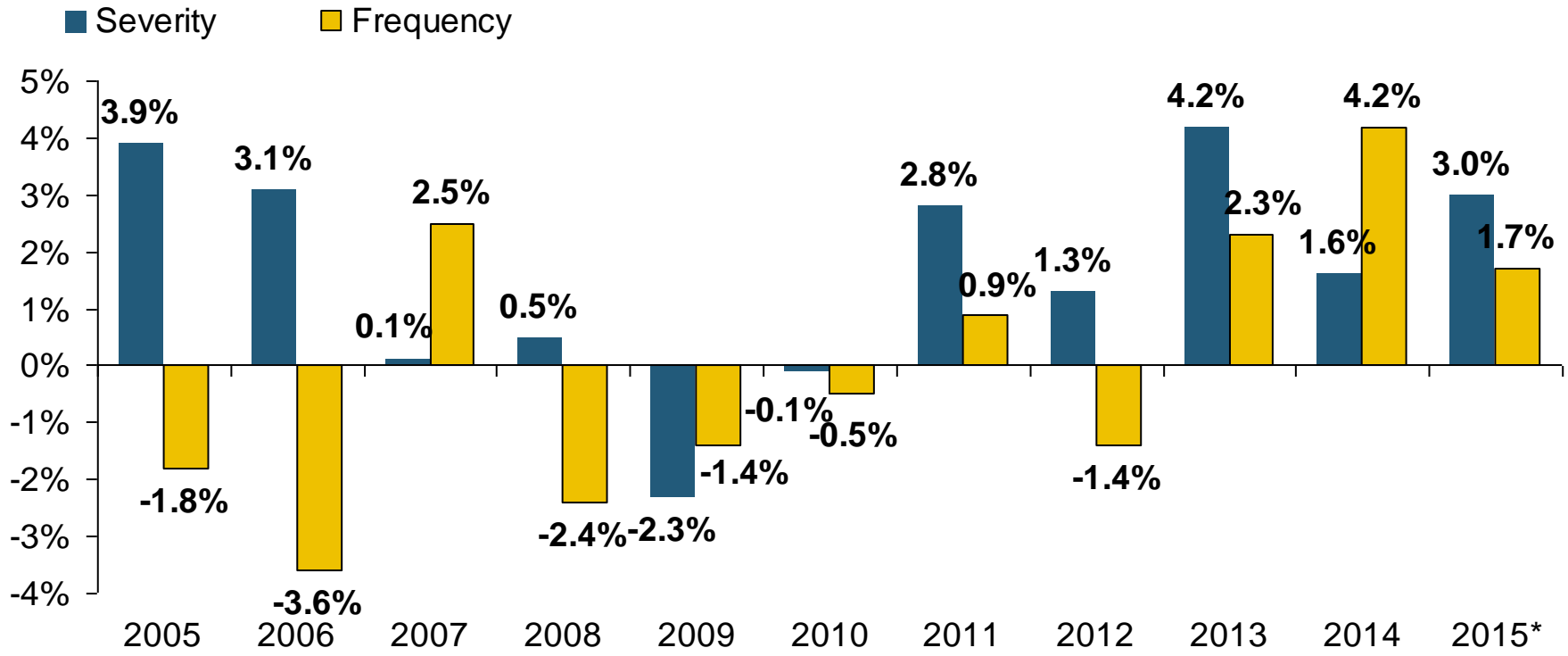
**2015 figure is for the 4 quarters ending in 2015:Q1.

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

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



Annual Change, 2005 through 2015*



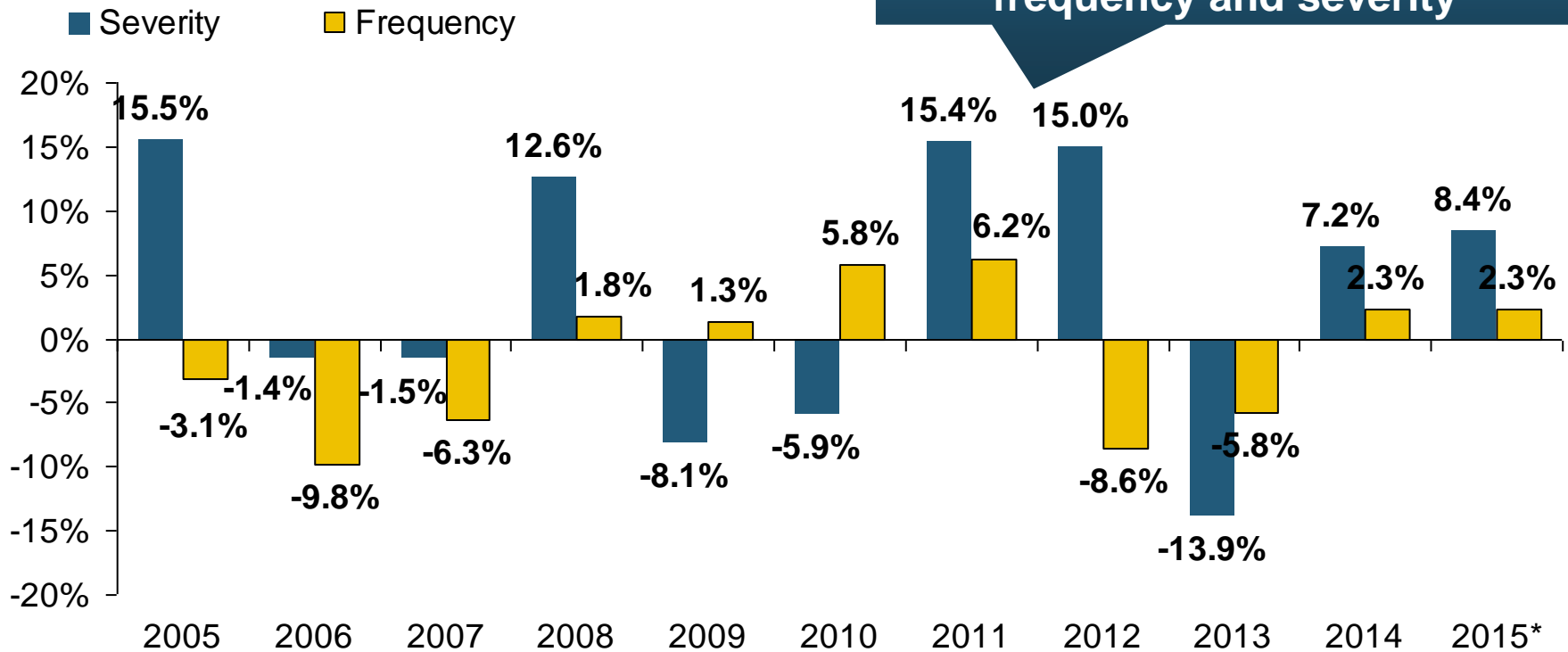
The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Will Likely Be Reversed Based on Evidence from Past Recoveries

*2015 figure is for the 4 quarters ending with 2015:Q1.

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

Comprehensive Coverage: Severity Trends Are Unfavorable

Annual Change, 2005 through 2015*



Weather Creates Volatility for Comprehensive Coverage

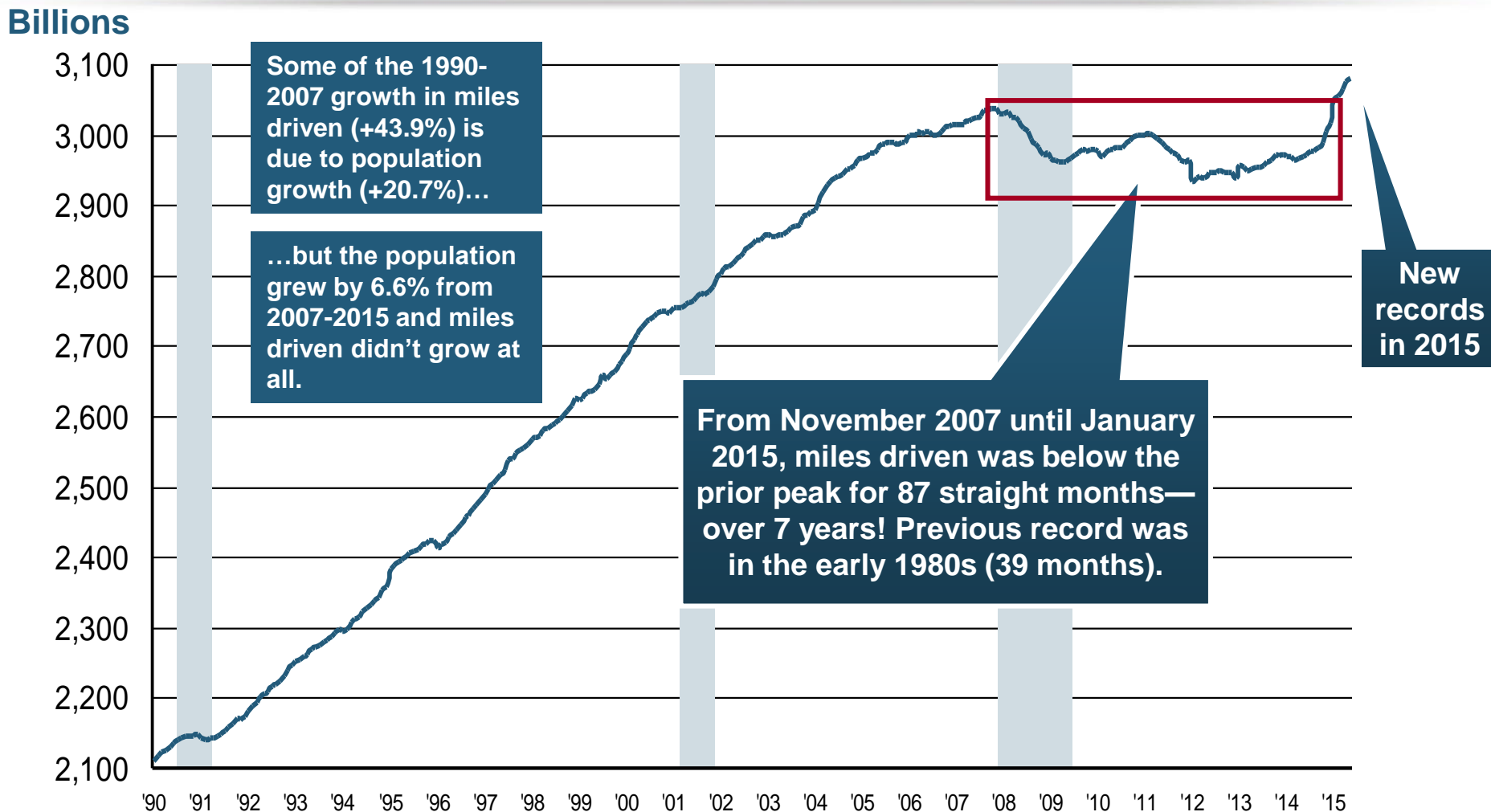
*2015 figure is for the 4 quarters ending with 2015:Q1.

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

Driving Trends, Gas Prices

**America's Love Affair with
their Cars Is Far from Over**

America is Driving More Again: Total Miles Driven*, 1990–2015



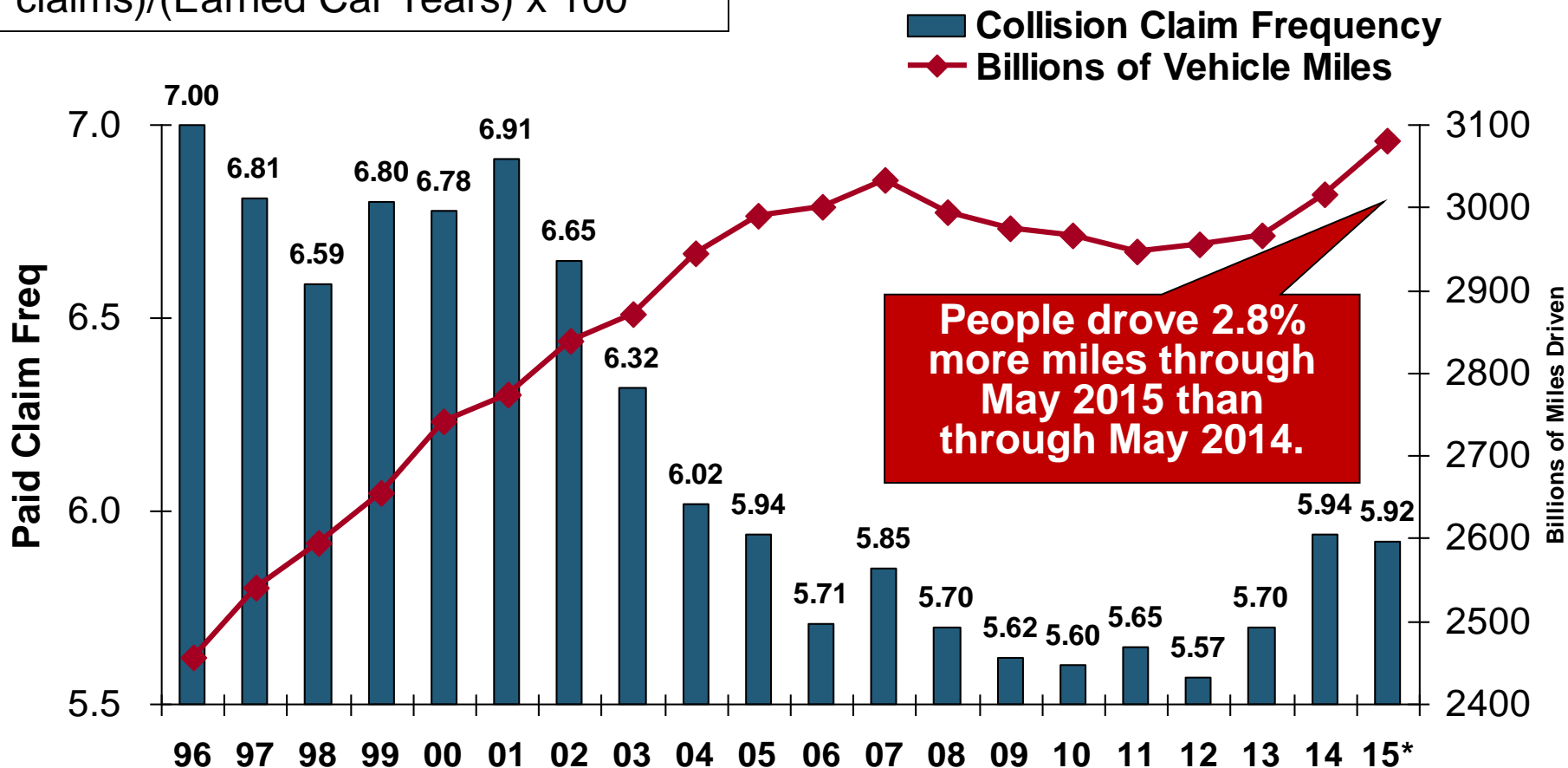
*Moving 12-month total. The 2015 data are through May 2015, the latest available.

Note: Recessions indicated by gray 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.

Do Changes in Miles Driven Affect Auto Collision Claim Frequency?

Paid Claim Frequency = (No. of paid claims)/(Earned Car Years) x 100



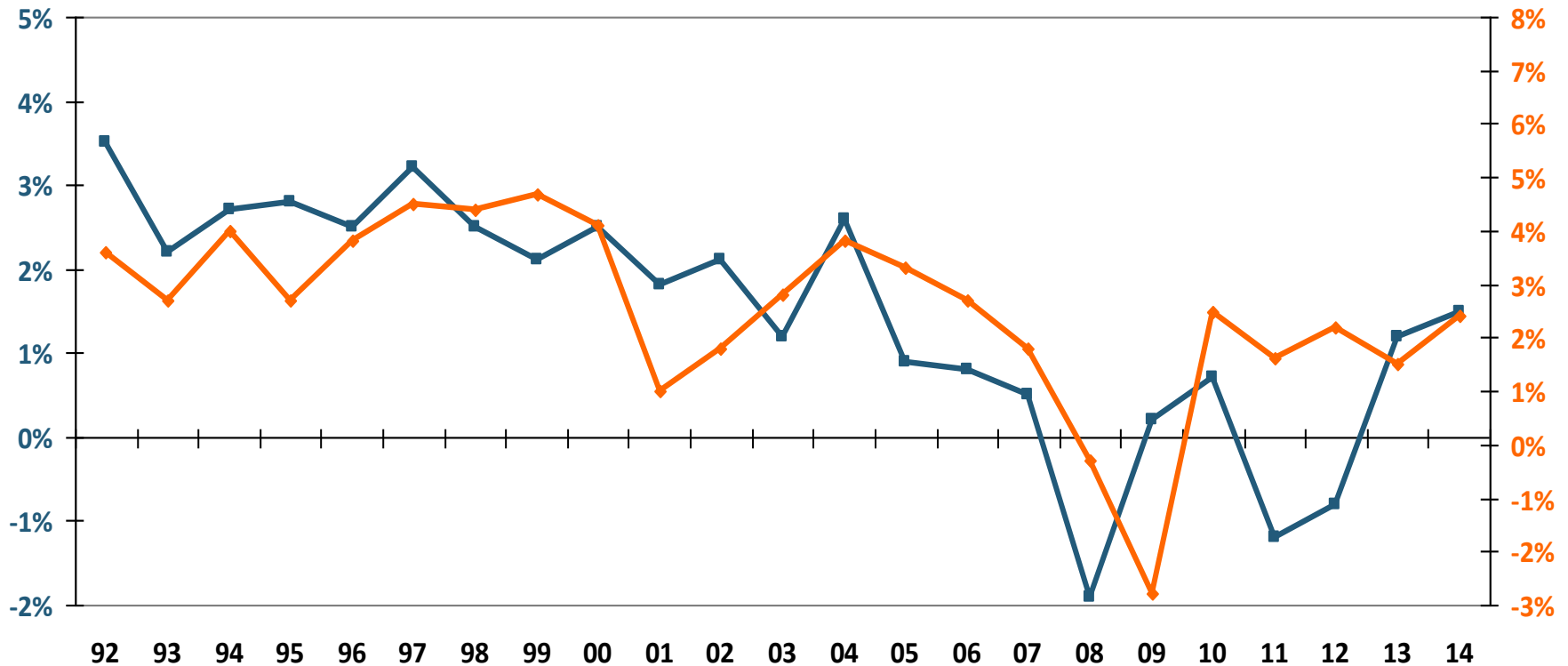
Sources: Federal Highway Administration (<http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm>); ISO Fast Track Monitoring System, *Private Passenger Automobile Fast Track Data*: 1st Qtr. 2015 and earlier reports. *2015 ISO figure is for 12 months ending 2015 Q1. FHA data for 2015 is 12-month moving average ending May 2015.

% Change in Real US GDP vs. % Change in Total Miles Driven

Percent Change in
Total Miles Driven

■ % change in total miles driven ◆ % change in real US GDP

% Change in
Real US GDP*



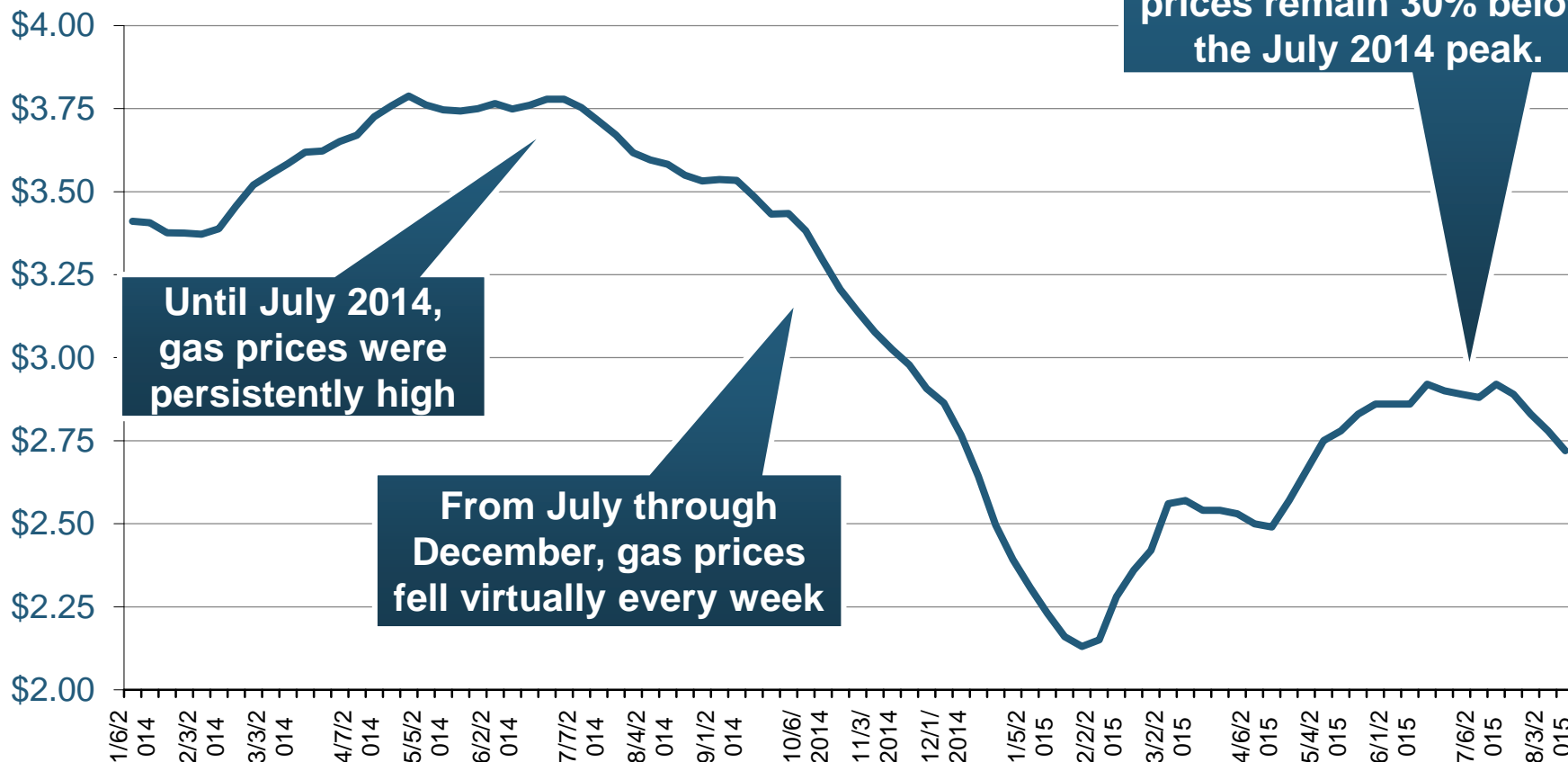
The percent change in miles driven tracked the growth of the national economy fairly well. If this holds, miles driven will continue to rise.

*Data are annual rates

Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); www.bea.gov (real GDP); I.I.I.

The Price of Gas, Weekly, 2014-2015

Avg. Price /Gallon

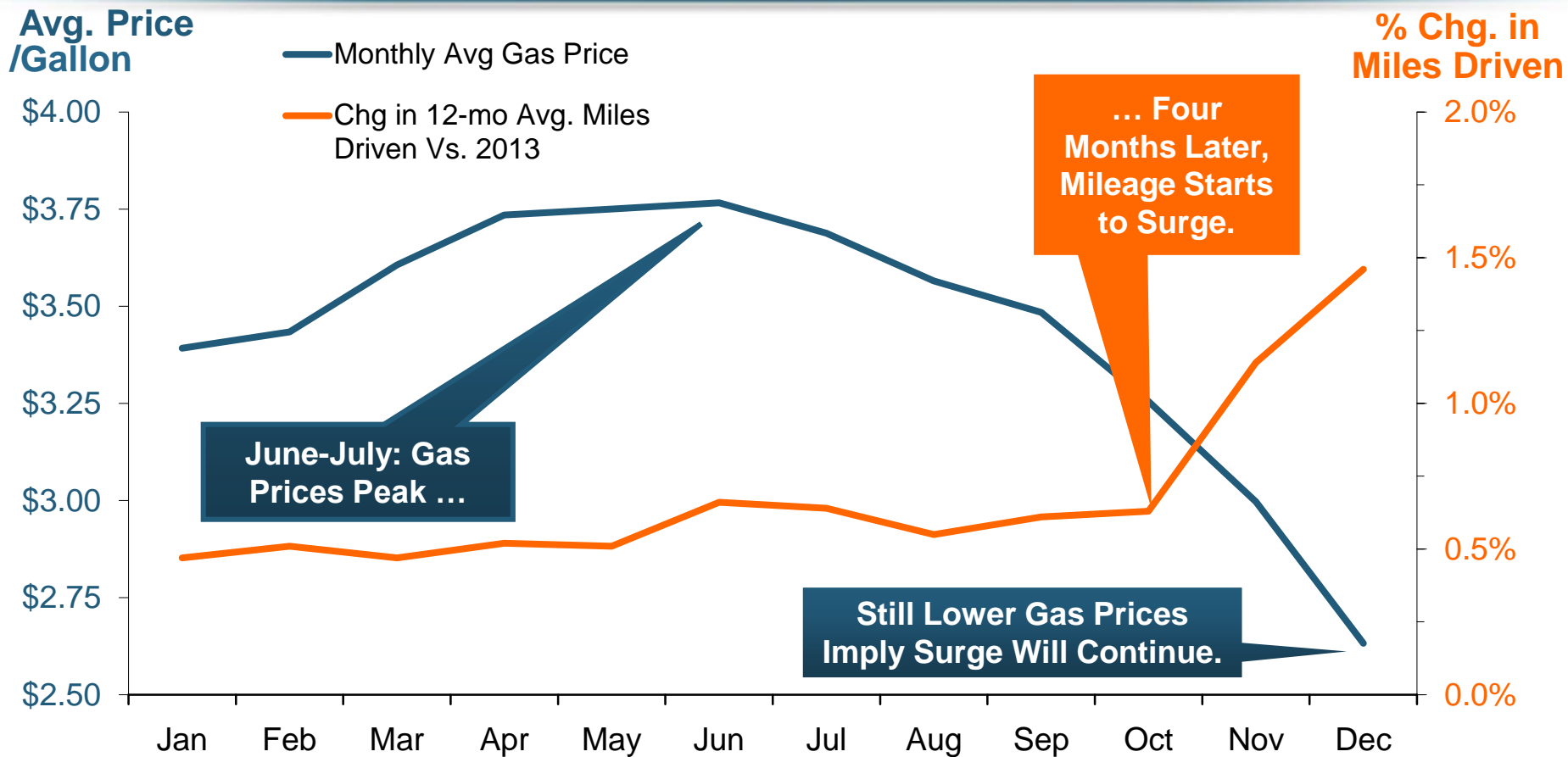


Gas Prices Fell 34% Over the Second Half of the 2014

Price is U.S. All Grades All Formulations Retail Gasoline Prices, through August 10, 2015

Sources: Federal Energy Administration (<http://www.eia.gov/petroleum/gasdiesel/>); I.I.I.

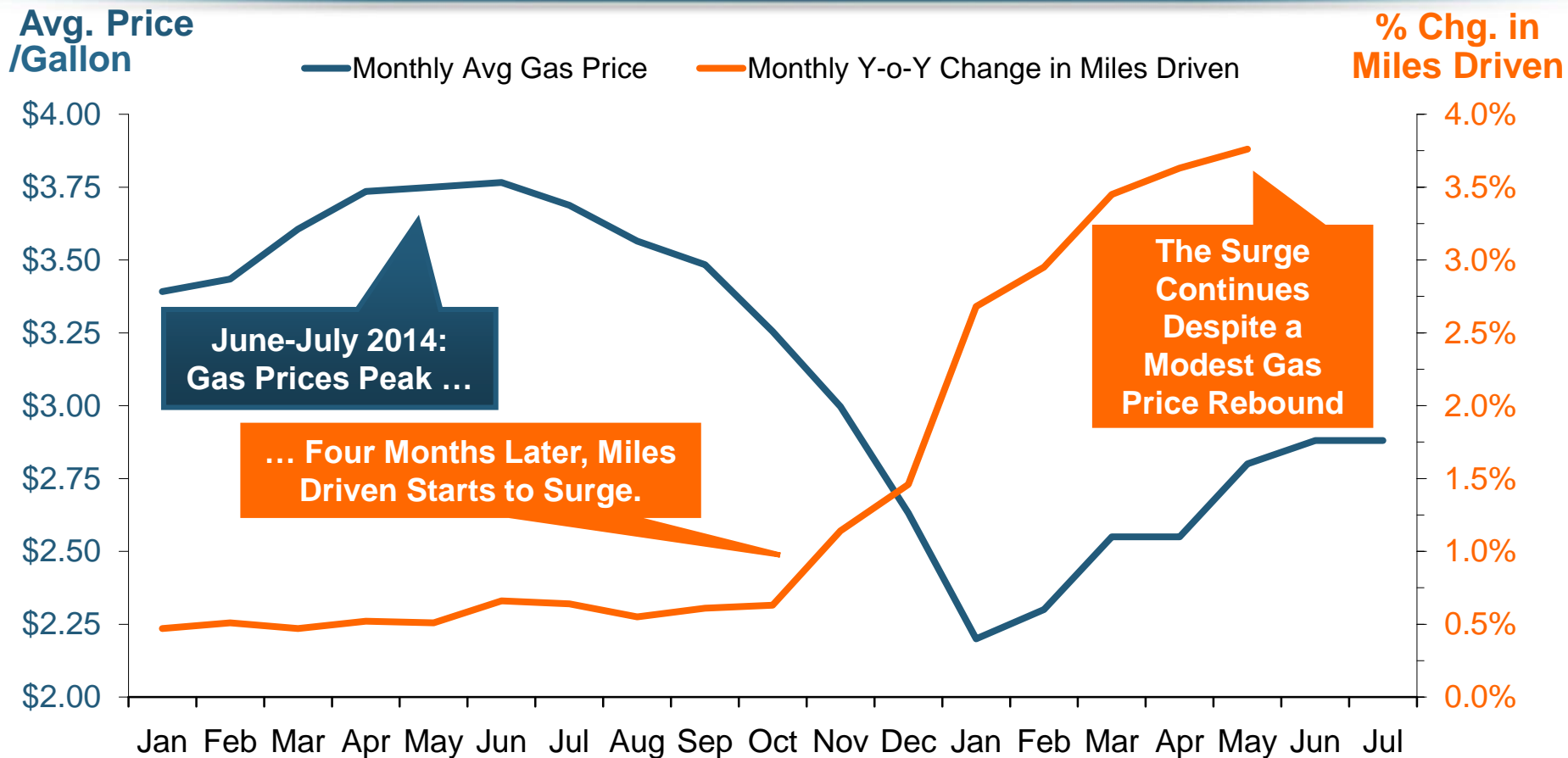
Did Changes in Gas Prices Affect Miles Driven? A Closer Look at 2014



Prior research on the relationship between gas prices and miles driven says that, in the short run, an increase in gas prices produces little change in miles driven. No recent research on the effect of price drops.

Sources: Federal Energy Administration (<http://www.eia.gov/petroleum/gasdiesel/>); *gas prices and miles driven through December
 Federal Highway Administration (<http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm>); I.I.I.

Do Changes in Gas Prices Affect Miles Driven? A Closer Look at 2014-15



Research on the relationship between gas prices and miles driven says that, in the short run, an increase in gas prices produces little change in miles driven. No recent research on the effect of price drops.

Sources: Federal Energy Administration (<http://www.eia.gov/petroleum/gasdiesel/>); *gas prices through July 2015
 Federal Highway Administration (<http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm>) miles driven through May 2015; I.I.I.

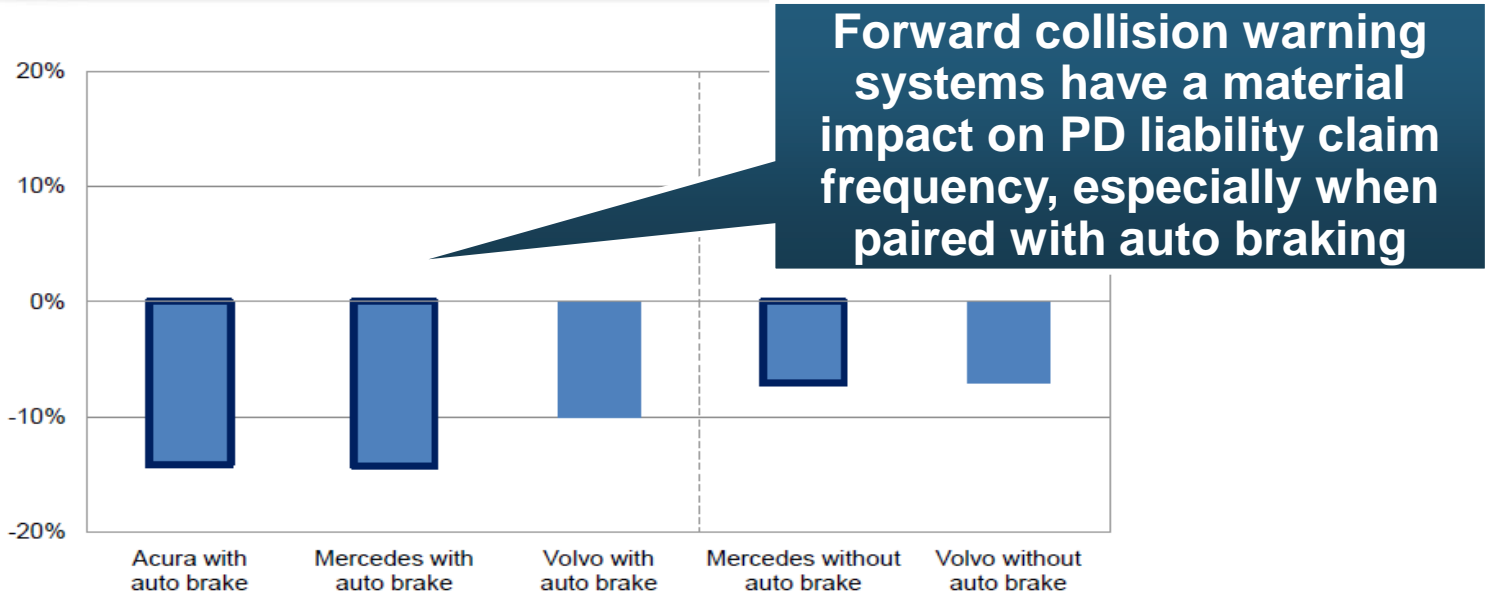
The Future of Auto Insurance?

**Some Analysts and Many in
Silicon Valley Are Predicting
Doom for Auto Insurers**

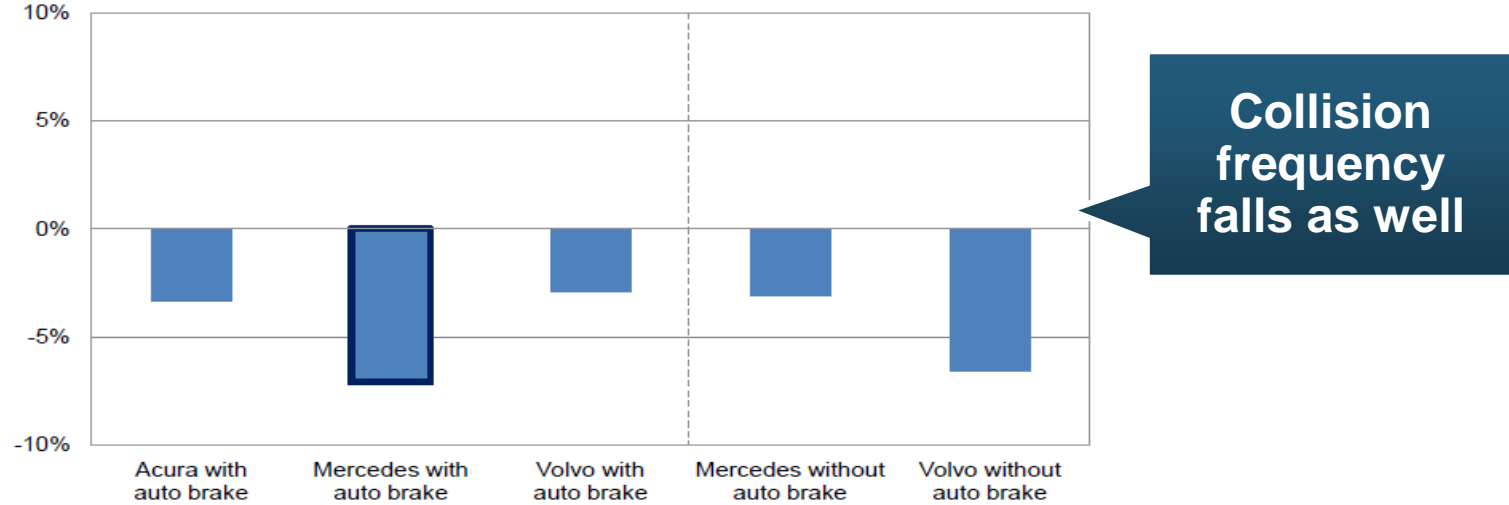
Not So Fast!

Impact of Forward Collision Warning With and Without Auto Brake

Property Damage Liability Claim Frequency by Manufacturer



Collision Claim Frequency by Manufacturer



Source: Highway Loss Data Institute and Insurance Institute for Highway Safety presentation by Matthew Moore, *Measuring Crash Avoidance System Effectiveness with Insurance Data*, January 30 2013; Insurance Information Institute.

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

Hands-Free

Projected global unit sales of autonomous vehicles over the next 20 years

32m

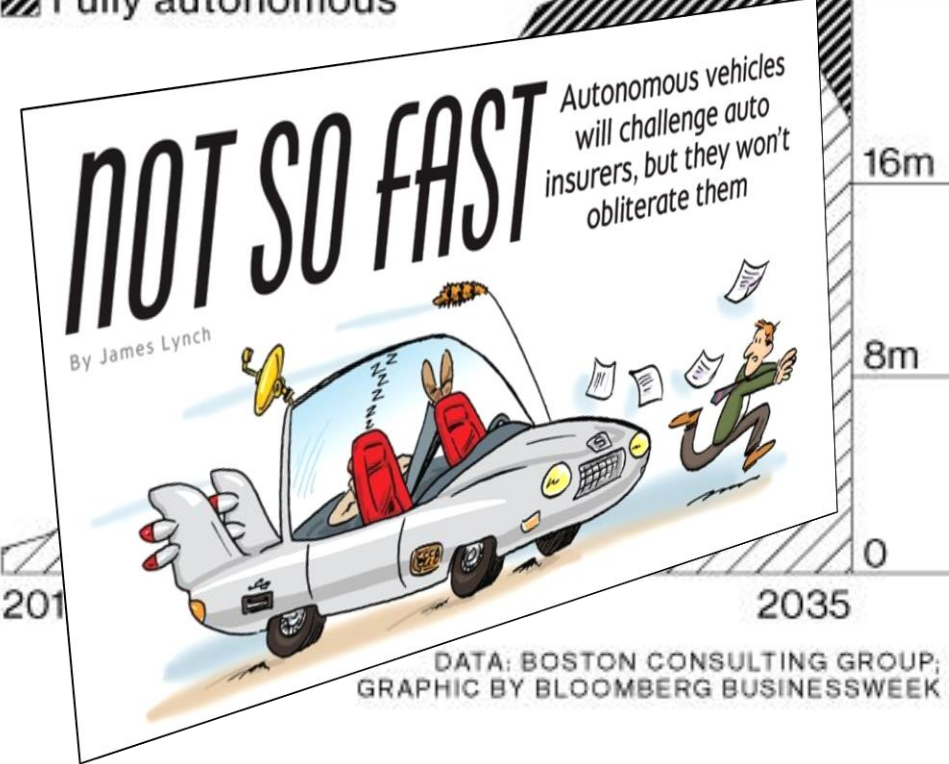
24m

16m

8m

0

- Partially autonomous
- Fully autonomous



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? (cars/sales)
 - Will the number of auto insurers shrink?
 - How will liability shift?

Source: Boston Consulting Group; Insurance Information Institute.

A Few Thoughts on the Future of Auto Insurance

- **Global auto insurance premiums written total about \$600B**
 - ◆ ~80% personal, 20% commercial
 - ◆ US accounts for more than 1/3 of this total (about \$210B in 2014)
- **Innovations in automobile safety will, over time, reduced claim frequency but severities could still rise as repair costs escalate**
 - ◆ Claim activity clearly not immune to economy
- **Frequency declines could lead price declines, aiding profitability**
- **More cars, not fewer will be on highways in the US, world**
 - ◆ Exposure (insured car years) grows even as frequency declines
- **Timeline for large numbers of mass produced autonomous vehicles on American highways is wildly optimistic**
 - ◆ Mid-2030s is more likely timeframe; Transition occurring through mid-century
 - ◆ Tech media is enamored with anything involving Google, Apple
- **Auto insurance will be the largest, most important of all P/C lines for many years to come**

Cyber Threats, Motor Vehicles and Auto Insurance

**Who Bears Liability for the
Costs of Fixing Defects,
Resulting Damage?**

***Auto Claims:
The Next Generation?***

Hackers' on the Highway: The 'Internet of Things' Now Includes Motor Vehicles

- An increasing number of passenger and commercial vehicles now have Internet connectivity
- In July 2015, researchers successfully took control of the engine and braking functions of a Jeep Cherokee
- Regulators request recall
- Chrysler recalls 1.4 Jeeps and similarly vulnerable vehicles
 - ◆ Fix is software driven
- In recall notice, **Chrysler asserts cyber risk is not a safety defect**
 - ◆ NHSTA disagrees with Chrysler disclaimer
- Debate is ongoing
 - ◆ “A cybersecurity vulnerability is a safety defect in the same way an exploding airbag or malfunction ignition is a safety defect.,,,Auto makers cannot ignore their responsibility to ensure the cars they sell are safe from hacking” [Sen. Edward Markey, D-MA]
 - ◆ Auto manufacturers disagree...

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*Thank you for your time
and your attention!*

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