



# Property & Casualty Insurance Market Update

## *Trends, Challenges & Opportunities for 2016 and Beyond*

**Casualty Actuarial Society Annual Meeting**  
**Philadelphia, PA**  
**November 16, 2015**

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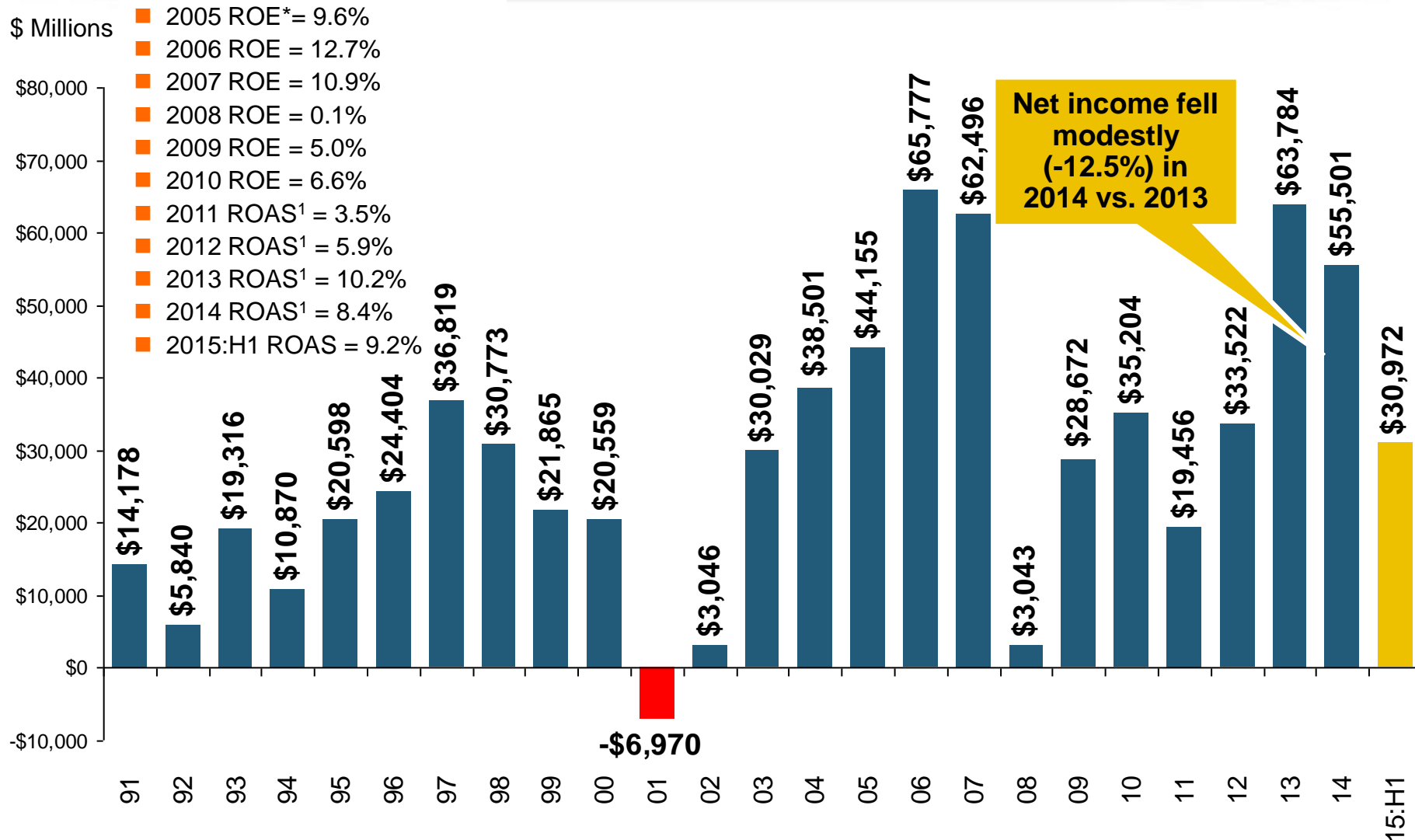
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# Insurance Industry Financial Performance

***2014 Was a Reasonably Good Year***  
**2015: A Repeat of 2014?**

# P/C Industry Net Income After Taxes 1991–2015:H1

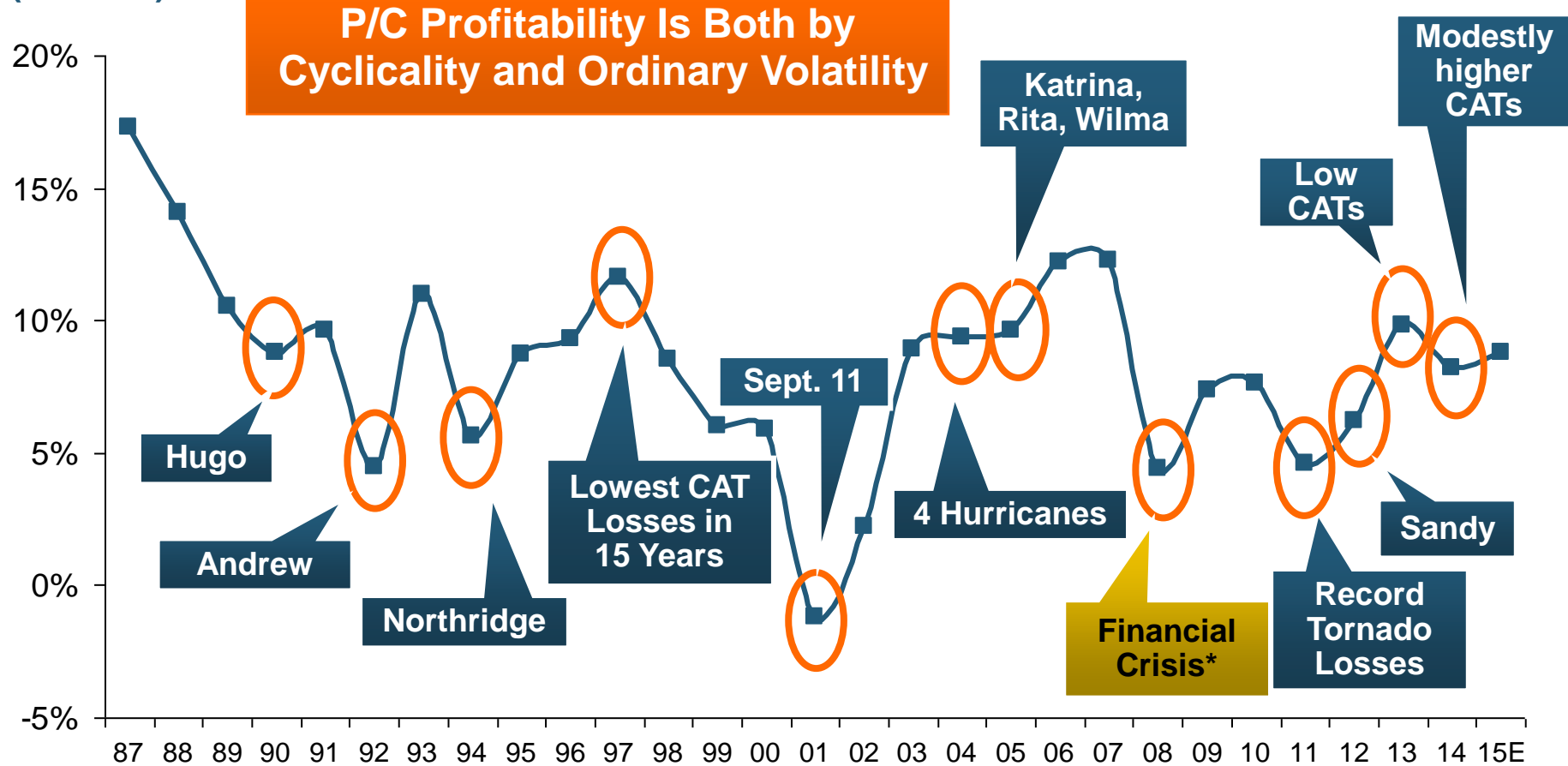


\*ROE figures are GAAP; <sup>1</sup>Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 8.2% ROAS in 2014, 9.8% ROAS in 2013, 6.2% ROAS in 2012, 4.7% ROAS for 2011, 7.6% for 2010 and 7.4% for 2009.

Sources: A.M. Best, ISO; Insurance Information Institute

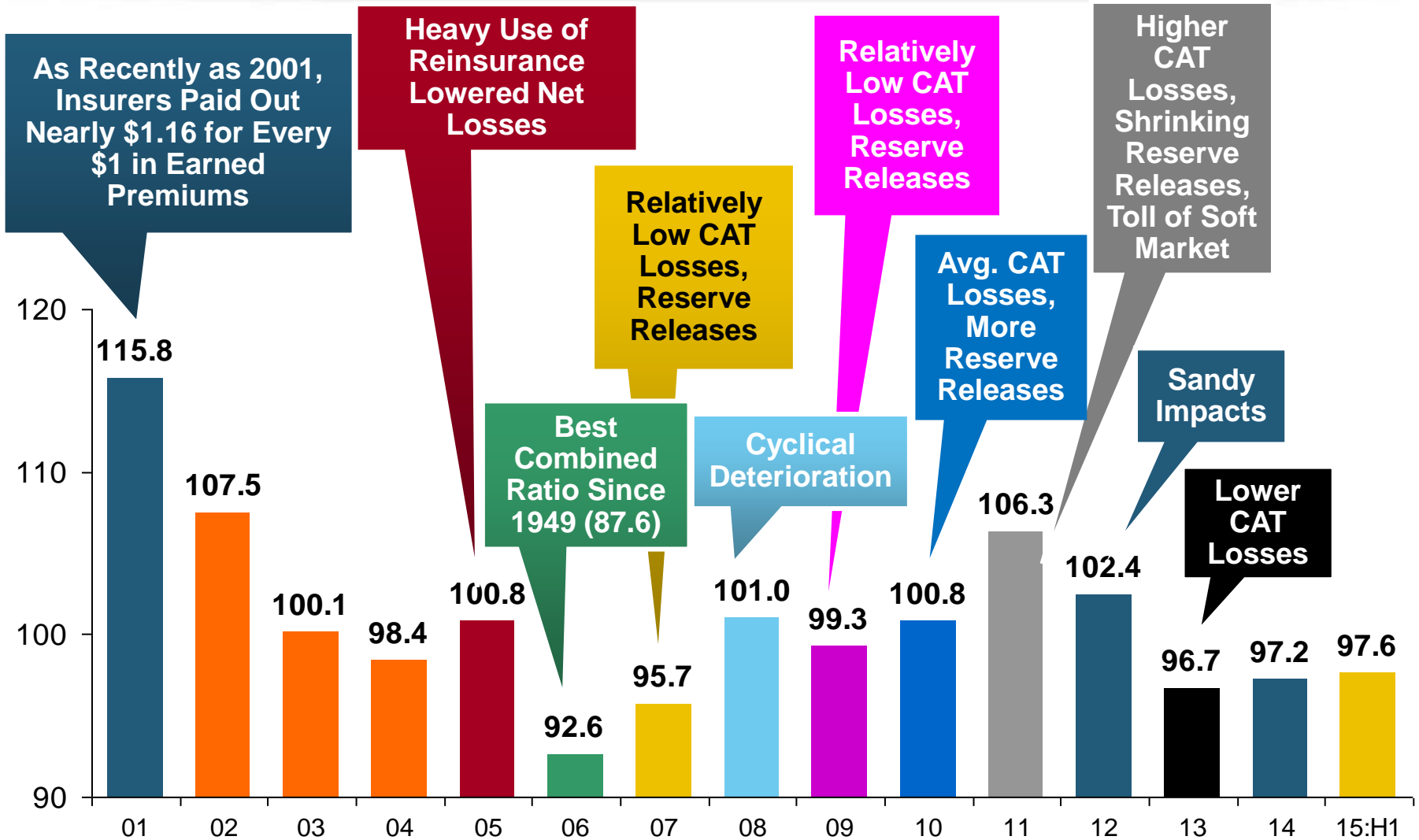
# ROE: Property/Casualty Insurance by Major Event, 1987–2015E

(Percent)



\* Excludes Mortgage & Financial Guarantee in 2008 – 2014.  
Sources: ISO, *Fortune*; Insurance Information Institute.

# P/C Insurance Industry Combined Ratio, 2001–2015:H1\*

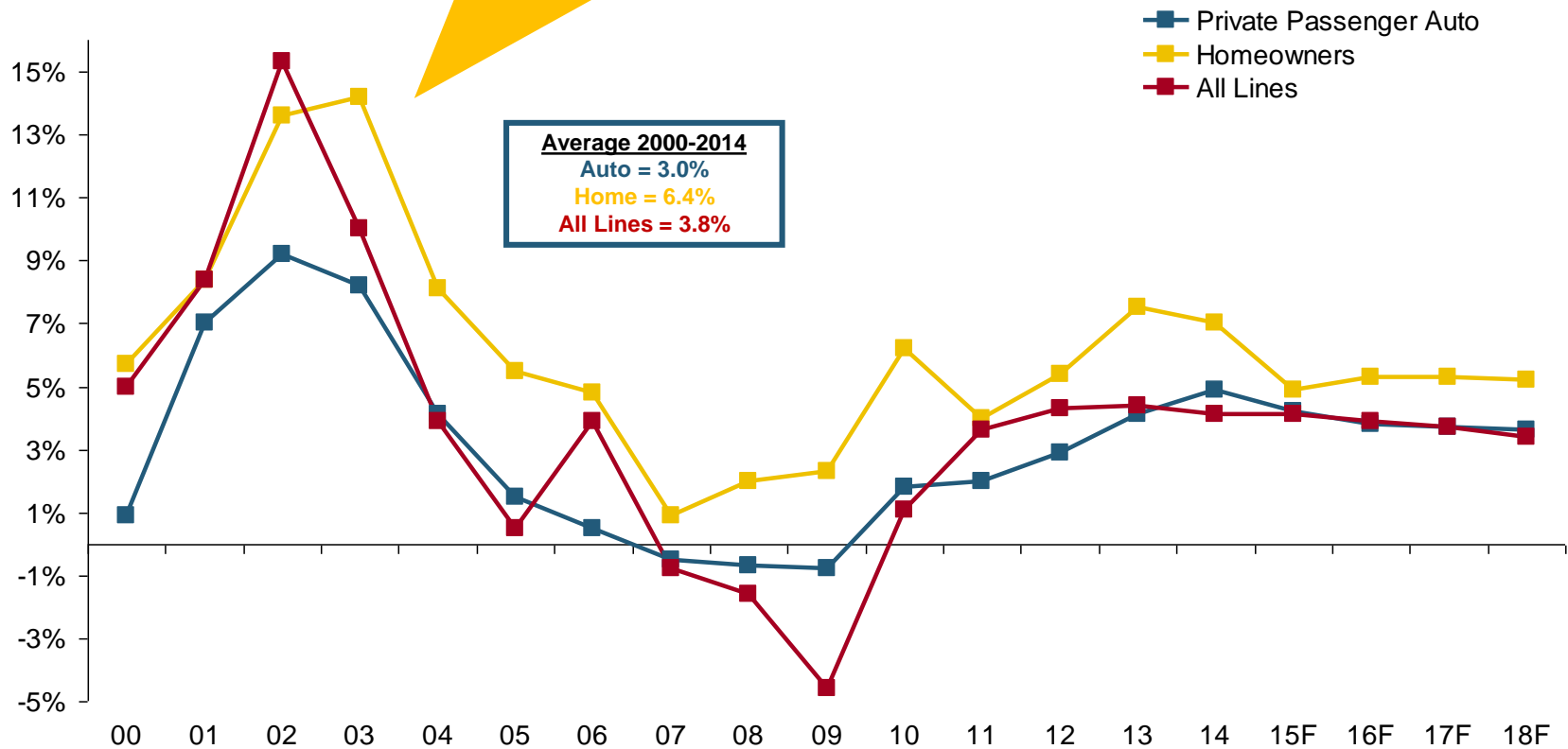


\* Excludes Mortgage & Financial Guaranty insurers 2008--2014. Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012:=103.2; 2013: = 96.1; 2014: = 97.0.

Sources: A.M. Best, ISO.

# Auto & Home vs. All Lines, Net Written Premium Growth, 2000–2018F

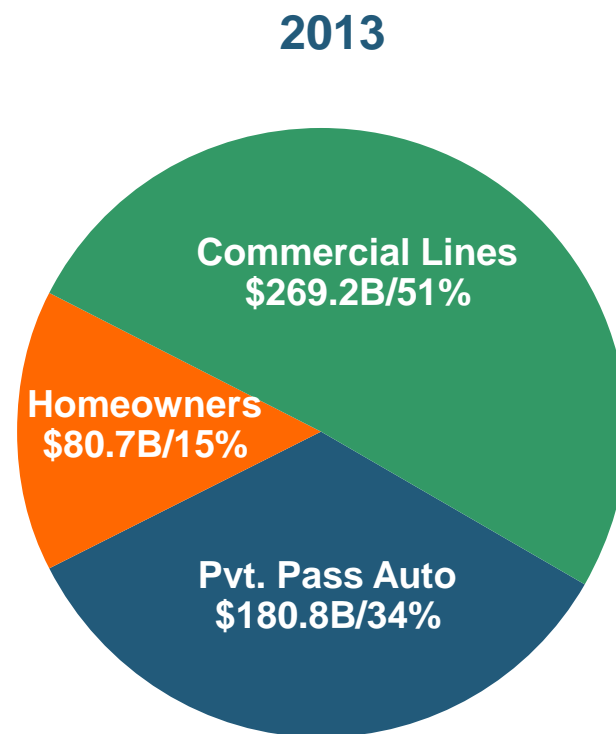
While homeowners insurance has grown faster than auto for many years, auto is generally more profitable, though not recently



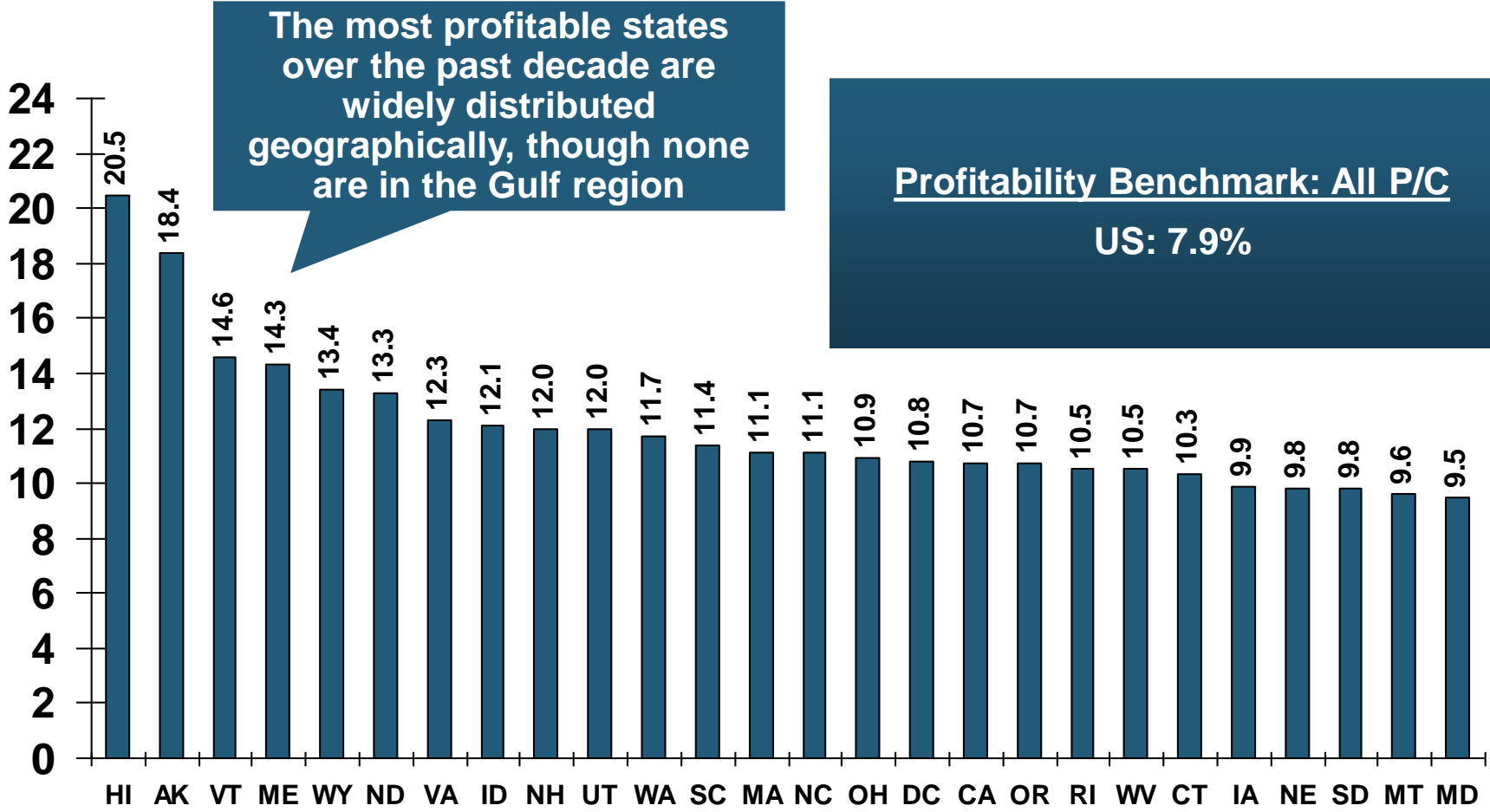
# Distribution of Direct Premiums Written by Segment/Line, 2013

## 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
- Billions of additional dollars in homeowners insurance premiums are written by state-run residual market plans



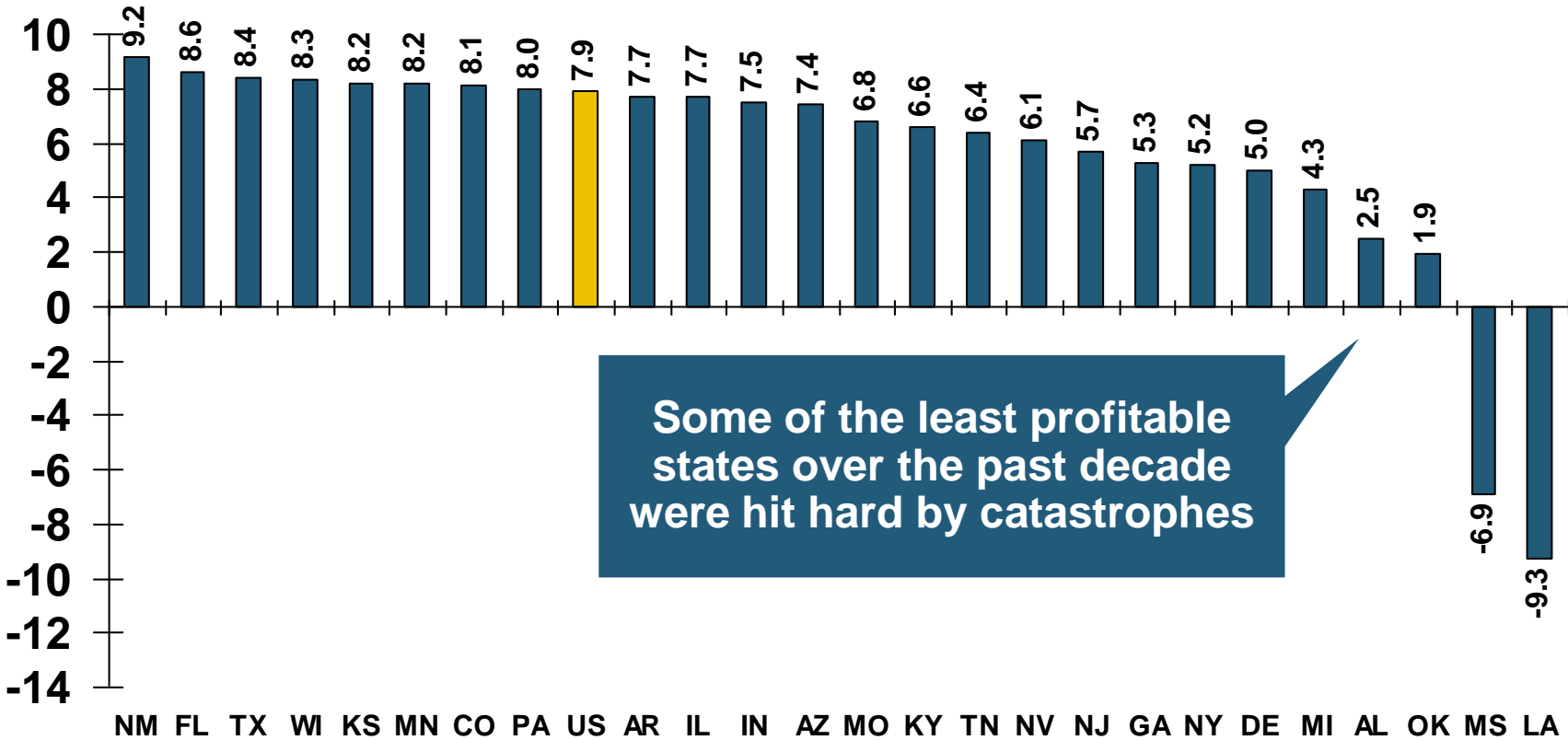
# RNW All Lines by State, 2004-2013 Average: Highest 25 States



Source: NAIC; Insurance Information Institute.



# RNW All Lines by State, 2004-2013 Average: Lowest 25 States

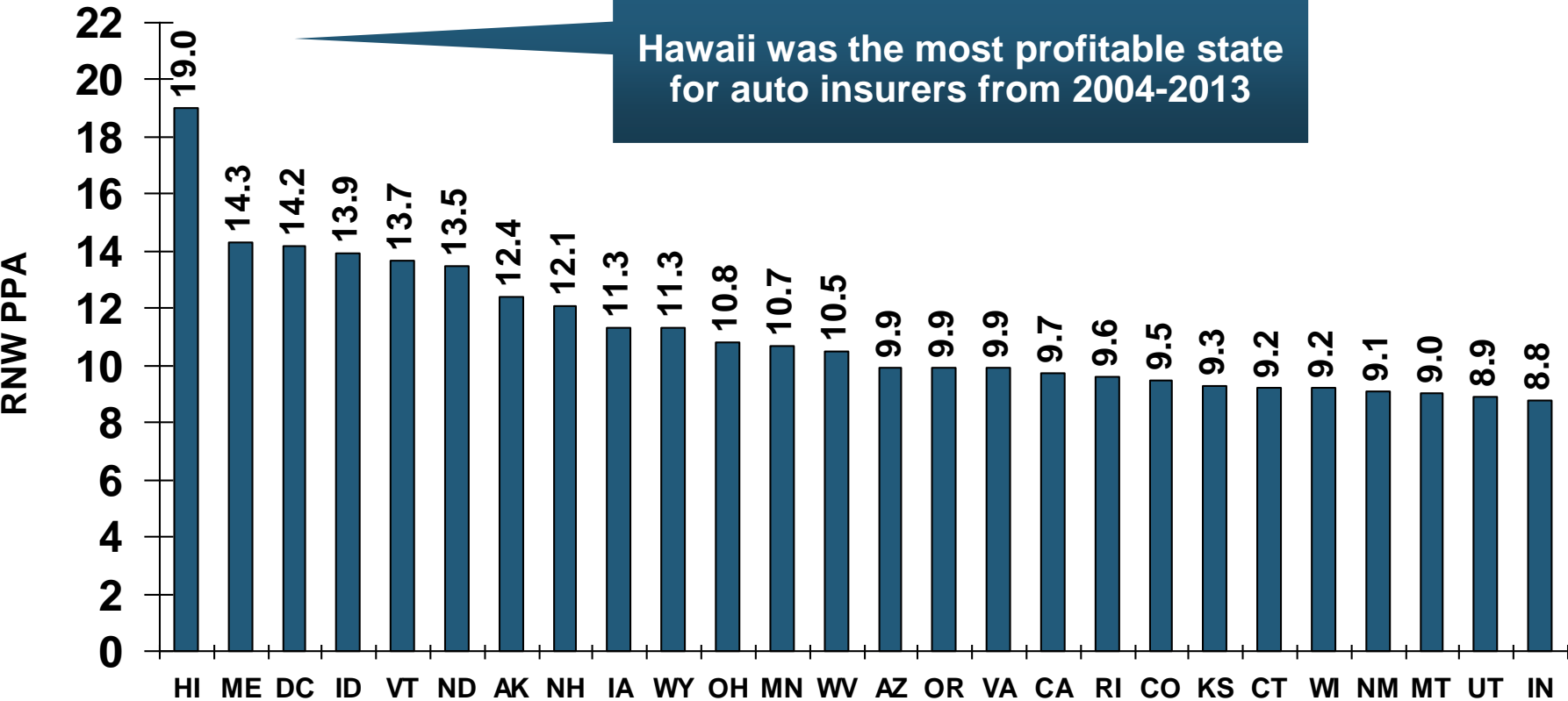


Source: NAIC; Insurance Information Institute.

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

## Top 25 States

(Percent)



\*Latest available.

Sources: NAIC.

# Top Ten Most Expensive And Least Expensive States For Automobile Insurance, 2012 (1)

Rank	Most expensive states	Average expenditure	Rank	Least expensive states	Average expenditure
1	New Jersey	\$1,219.93	1	Idaho	\$534.56
2	D.C.	1,154.91	2	South Dakota	556.51
3	New York	1,152.45	3	Iowa	561.26
4	Florida	1,127.93	4	North Dakota	576.08
5	Louisiana	1,112.53	5	Maine	582.43
6	Delaware	1,065.37	6	Wisconsin	598.84
7	Michigan	1,048.87	7	North Carolina	611.48
8	Rhode Island	1,034.50	8	Nebraska	616.78
9	Connecticut	986.73	9	Wyoming	618.81
10	Massachusetts	976.65	10	Kansas	632.07

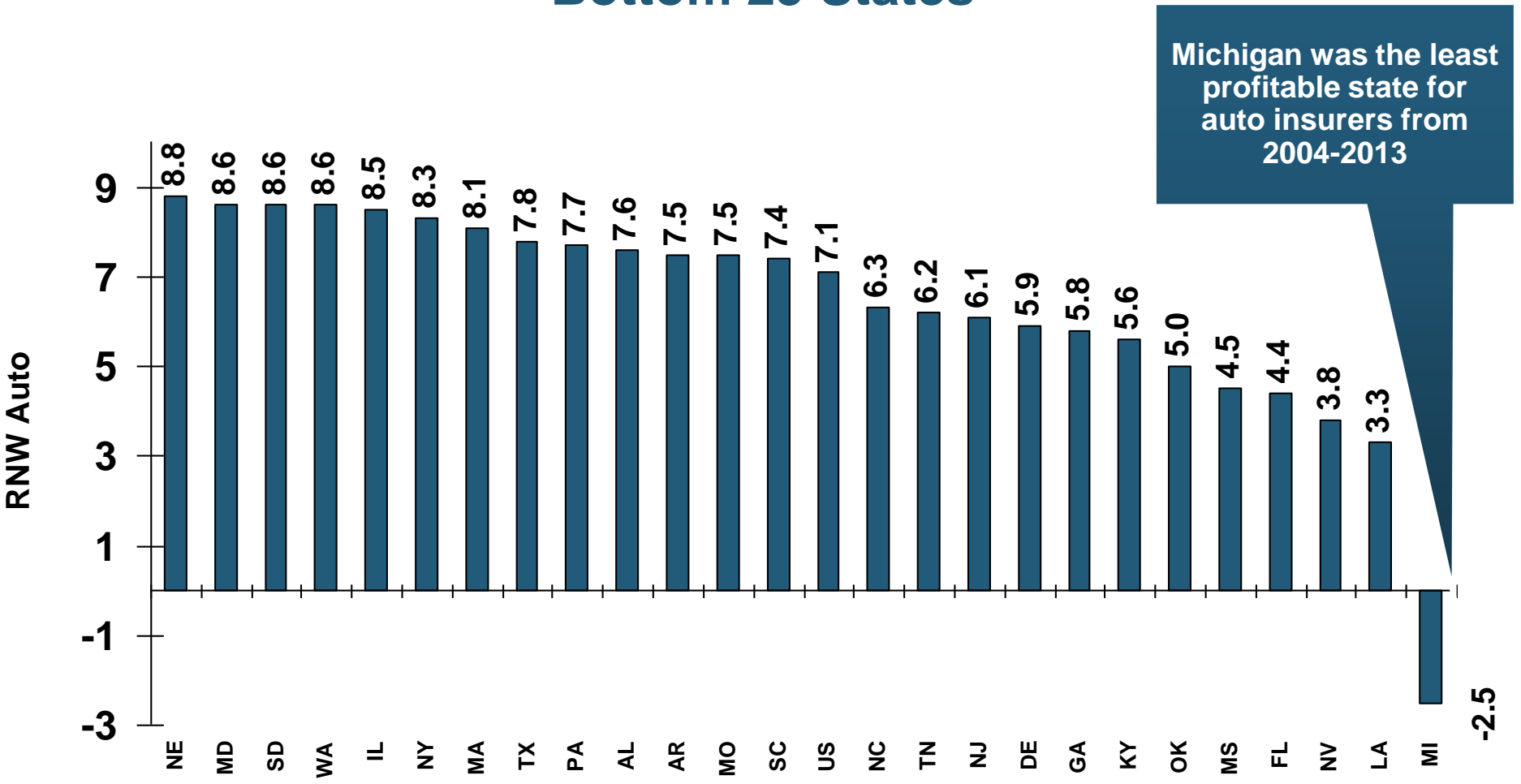
**Florida ranked 4th as the most expensive state in 2012, with an average expenditure for auto insurance of \$1,127.93.**

(1) Based on average automobile insurance expenditures.

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

(Percent)

## Bottom 25 States

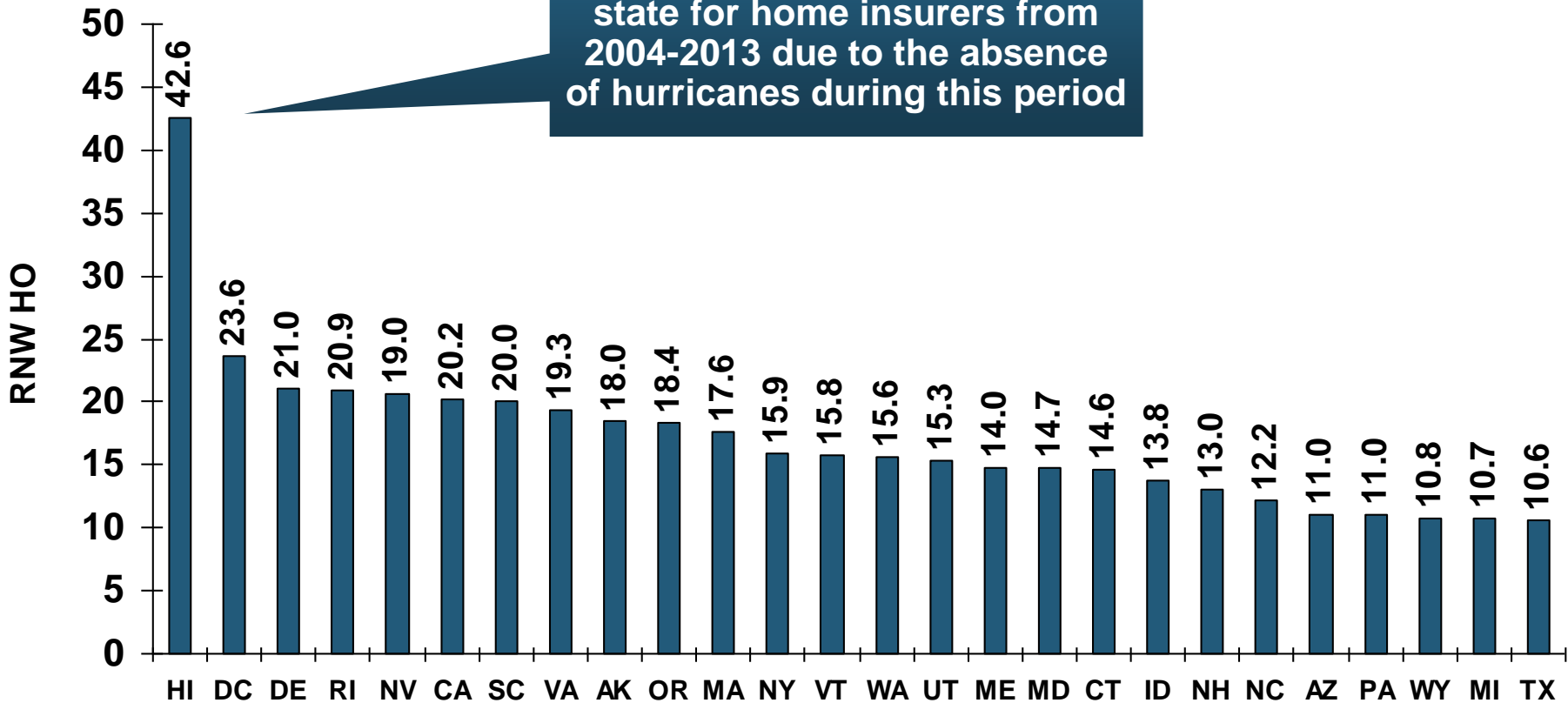


\*Latest available.  
Sources: NAIC

# Return on Net Worth: Homeowners Insurance, 10-Year Average (2004-2013\*)

## Top 25 States

(Percent)



Hawaii was the most profitable state for home insurers from 2004-2013 due to the absence of hurricanes during this period

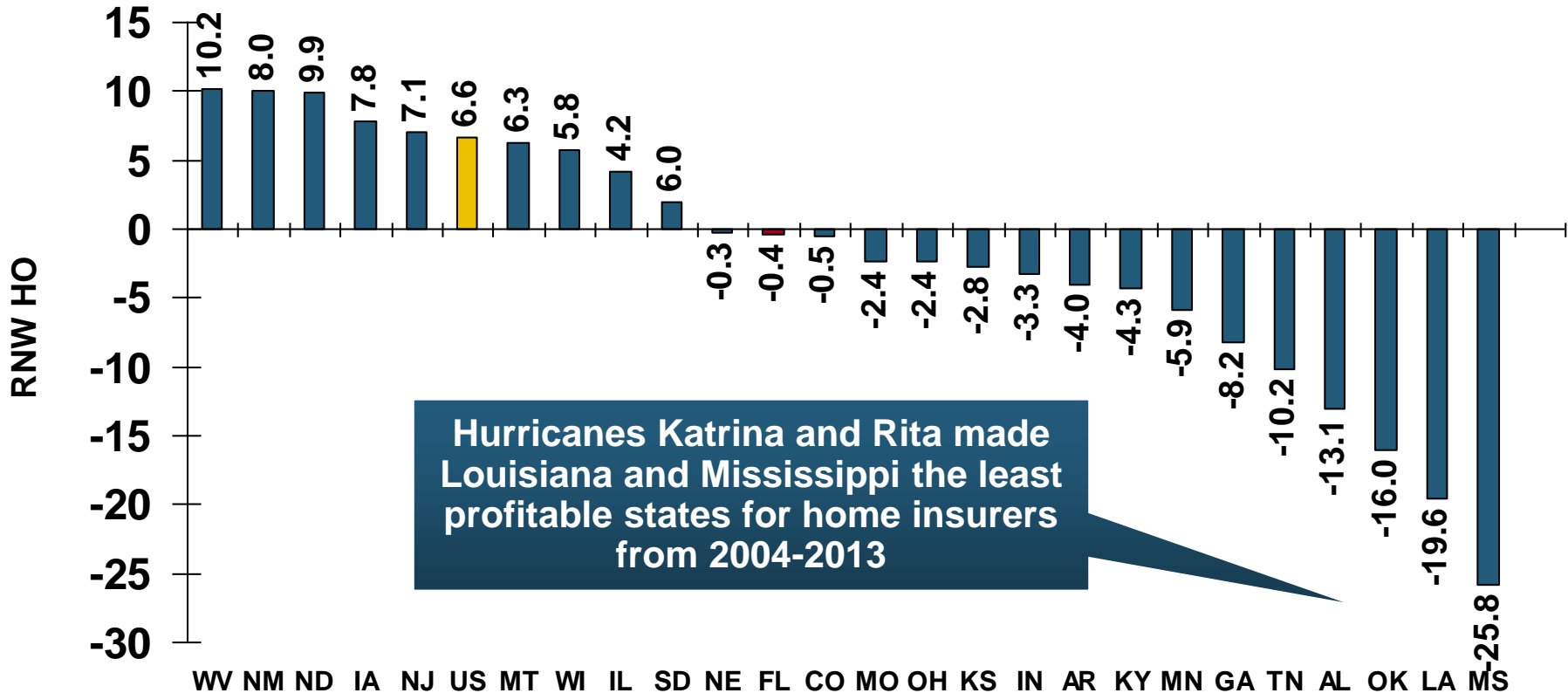
\*Latest available.

Sources: NAIC.

# Return on Net Worth: Homeowners Insurance, 10-Year Average (2004-2013\*)

## Bottom 25 States

(Percent)



\*Latest available.  
Sources: NAIC

# Top Ten Most Expensive And Least Expensive States For Homeowners Insurance, 2012 (1)

**Florida ranked as the most expensive state for homeowners insurance in 2012, with an average expenditure of \$2,084.**

Rank	Most expensive states	HO average premium	Rank	Least expensive states	HO average premium
1	<b>Florida</b>	<b>\$2,084</b>	1	Idaho	\$538
2	Louisiana	1,742	2	Oregon	567
3	Texas	1,661	3	Utah	580
4	Oklahoma	1,501	4	Wisconsin	631
5	Mississippi	1,314	5	Washington	648
6	Alabama	1,248	6	Nevada	674
7	Rhode Island	1,233	7	Delaware	678
8	Kansas	1,213	8	Arizona	691
9	Connecticut	1,160	9	Ohio	721
10	New York	1,158	10	Maine	741

- (1) Includes policies written by Citizens Property Insurance Corp. (Florida) and Citizens Property Insurance Corp. (Louisiana), Alabama Insurance Underwriting Association, Mississippi Windstorm Underwriting Association, North Carolina Joint Underwriting Association and South Carolina Wind and Hail Underwriting Association. Other southeastern states have wind pools in operation and their data may not be included in this chart. Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides “all risks” coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.
- (2) The Texas Department of Insurance developed home insurance policy forms that are similar but not identical to the standard forms. In addition, due to the Texas Windstorm Association (which writes wind-only policies) classifying HO-1, 2 and 5 premiums as HO-3, the average premium for homeowners insurance is artificially high.

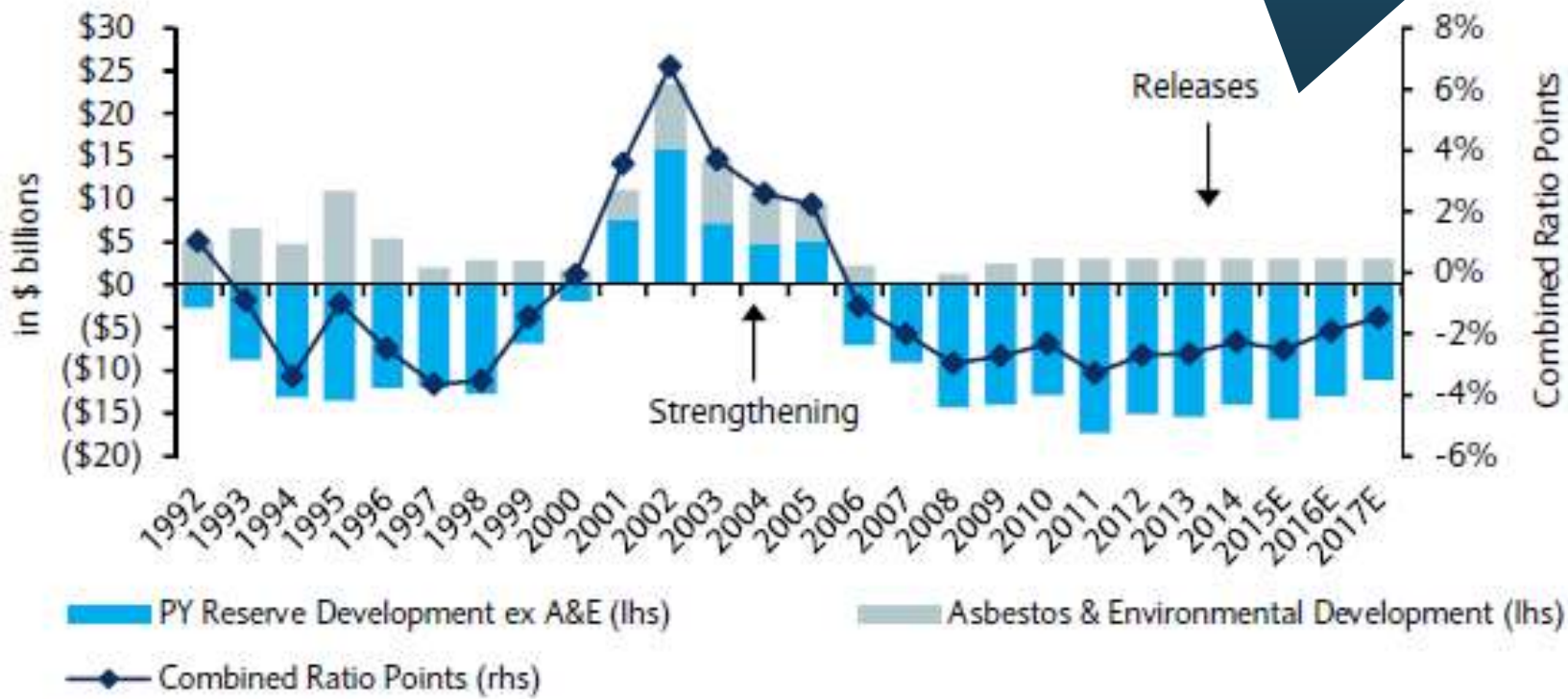
Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days of insured coverage for a single dwelling. The NAIC does not rank state average expenditures and does not endorse any conclusions drawn from this data.

Source: ©2014 National Association of Insurance Commissioners (NAIC). Reprinted with permission. Further reprint or distribution strictly prohibited without written permission of NAIC.

# P/C Insurance Loss Reserve Development, 1992 – 2017E\*

Reserve releases are expected to gradually taper off slowly, but will continue to benefit the bottom line and combined ratio through at least 2017

## Reserve Change



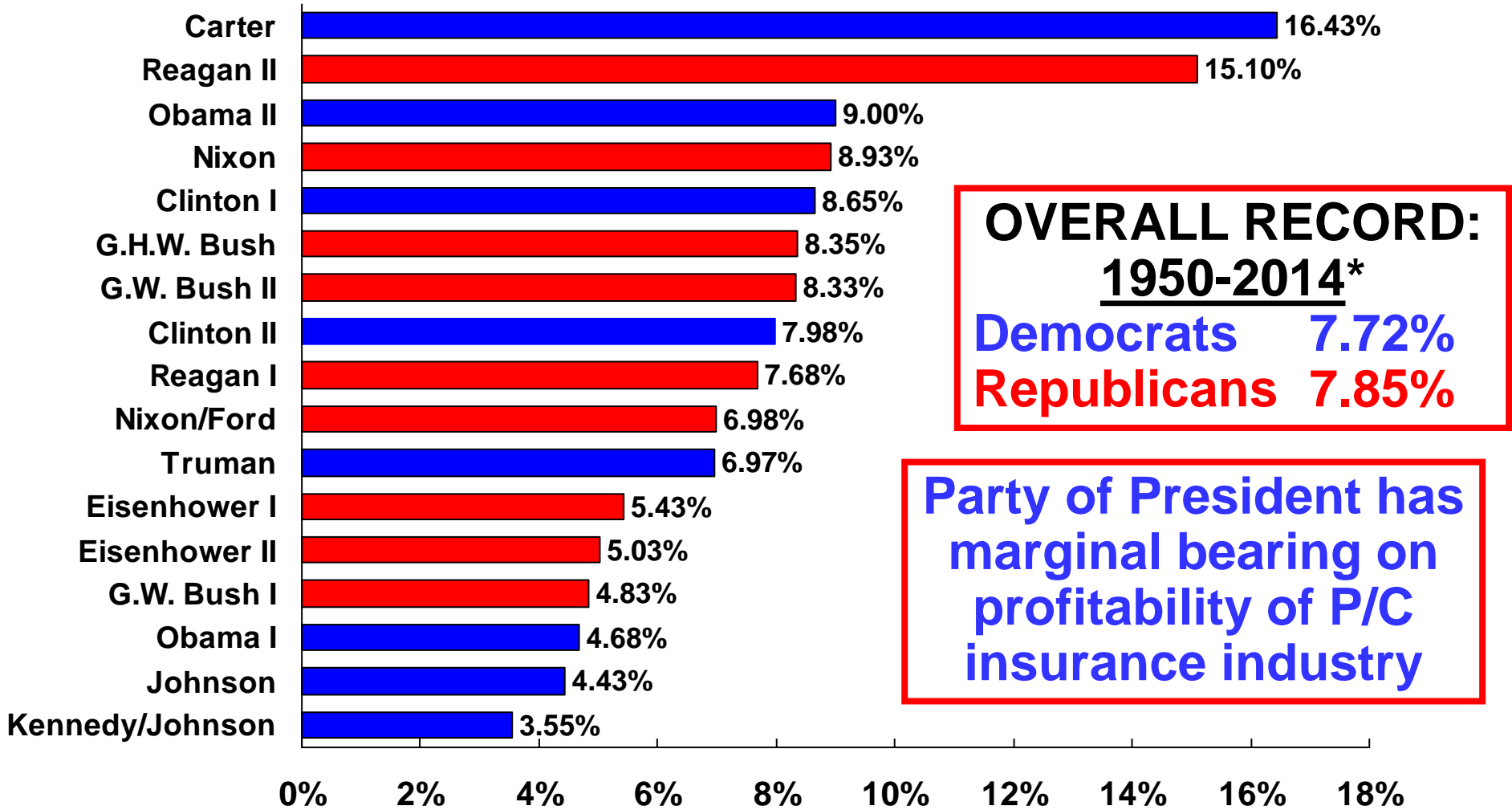
Source: A.M. Best; Barclays research for estimates.



# Profitability & Politics

***How Is Profitability Affected by  
the President's Political Party?***

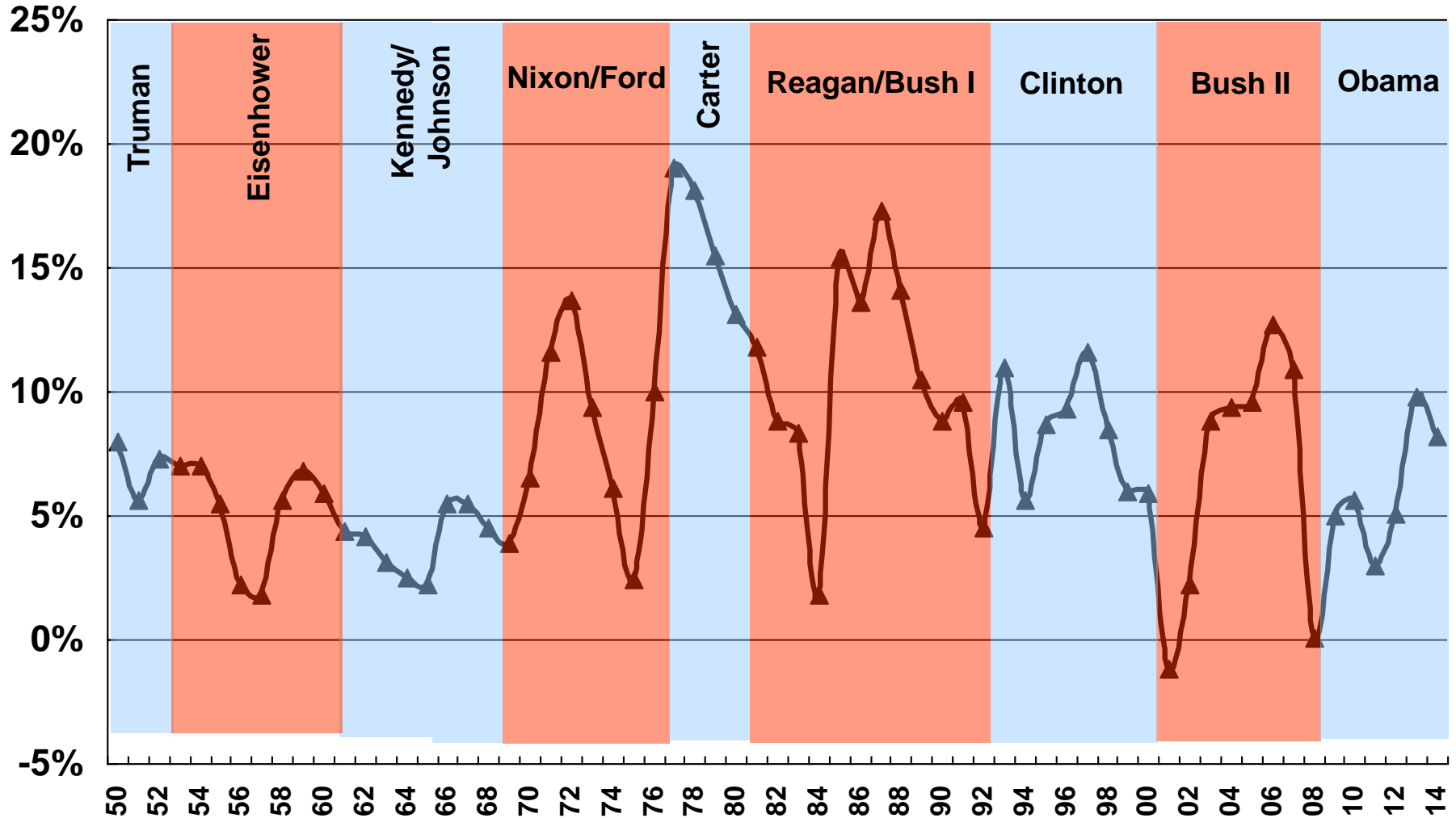
# P/C Insurance Industry ROE by Presidential Administration, 1950-2014\*



\*Truman administration ROE of 6.97% based on 3 years only, 1950-52;. Source: Insurance Information Institute

# P/C insurance Industry ROE by Presidential Party Affiliation, 1950- 2014

**BLUE** = Democratic President      **RED** = Republican President



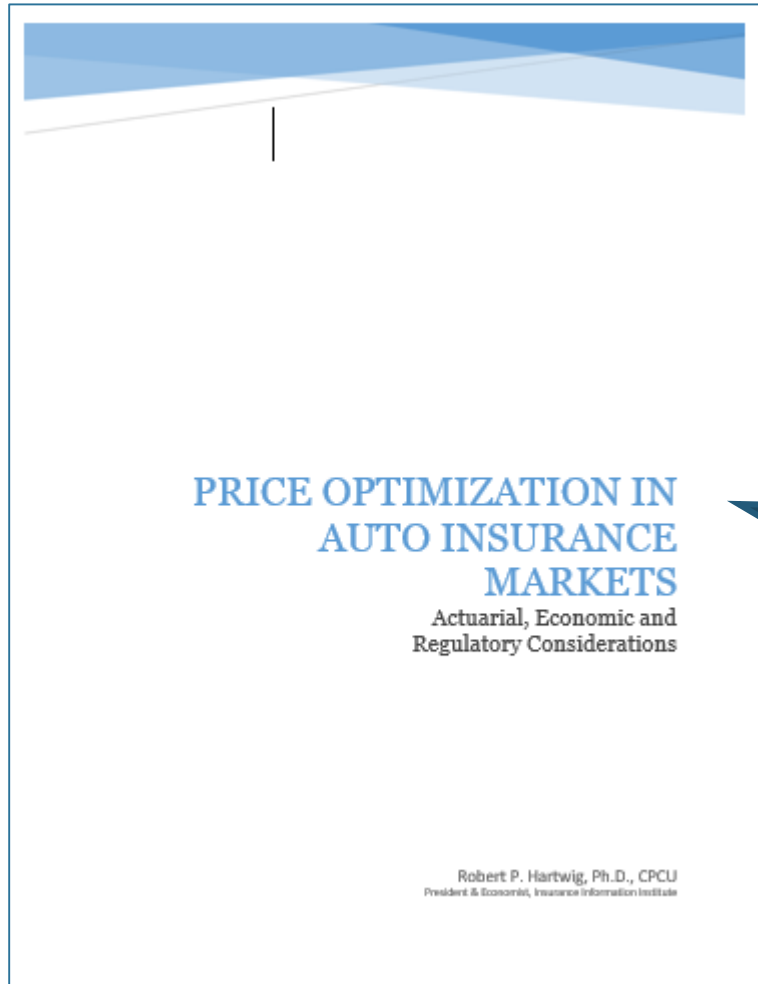


# CURRENT ISSUES IN AUTO INSURANCE

## Price Optimization Attacks on Underwriting Criteria

# Price Optimization: The Latest

- **Significant Discussion of Price Optimization Issue in Recent Months**
- **Several States Have Issued Bulletins Addressing Its Use**
  - ◆ Requests for information in several other states
- **Each State Defines Price Optimization Differently**
  - ◆ At least 10 definitions from states; NAIC, vendors and others
- **States' Concerns Come Despite Absence of Any Discernable or Detectable Market Disruptions**
  - ◆ Competition in auto insurance markets is intense, healthy and vigorous
  - ◆ More than 99% of drivers are insured through the voluntary market
  - ◆ Absence of consumer complaints
  - ◆ High degree of consumer satisfaction with auto insurers
  - ◆ Empowered Consumers: Have more tools available today than ever before to help them shop, collect and compare prices
  - ◆ *Rates are not inadequate, excessive or unfairly discriminatory*



**Testified as industry's witness at July 17 National Conference of Insurance Legislators' hearing on Price Optimization;**

**Worked very closely with PCI, AIA, NAMIC and independent companies.**



September Consumer Reports,  
Released July 30.

- CR's complaint
  - ◆ Analyzed 2 billion quotes
  - ◆ Price-setting is “shrouded in secrecy and rife with inequities”
    - Credit Scoring
    - Price Optimization
  - ◆ “Little transparency and not enough fairness”



CBS NEWS / July 30, 2015, 5:05 PM

## Insurance Information Institute responds to Consumer Reports car insurance article

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Auto insurance companies claim they can save you money, but in "[The Truth About Car Insurance](#)," Consumer Reports says otherwise. The magazine conducted research for two years in which they analyzed more than two billion car insurance price quotes from more than 700 companies.

In a statement, James Lynch, the Insurance Information Institute's chief actuary and director of information services said:

"The practices highlighted in the Consumer Reports article have been

## ■ Non-Driving Factors Proved Effective, Have Been Used for Decades

- Gender
- Territory
- Age
- Grades

## ■ Hundreds of Class Plan Filings Annually Reconfirm Their Value

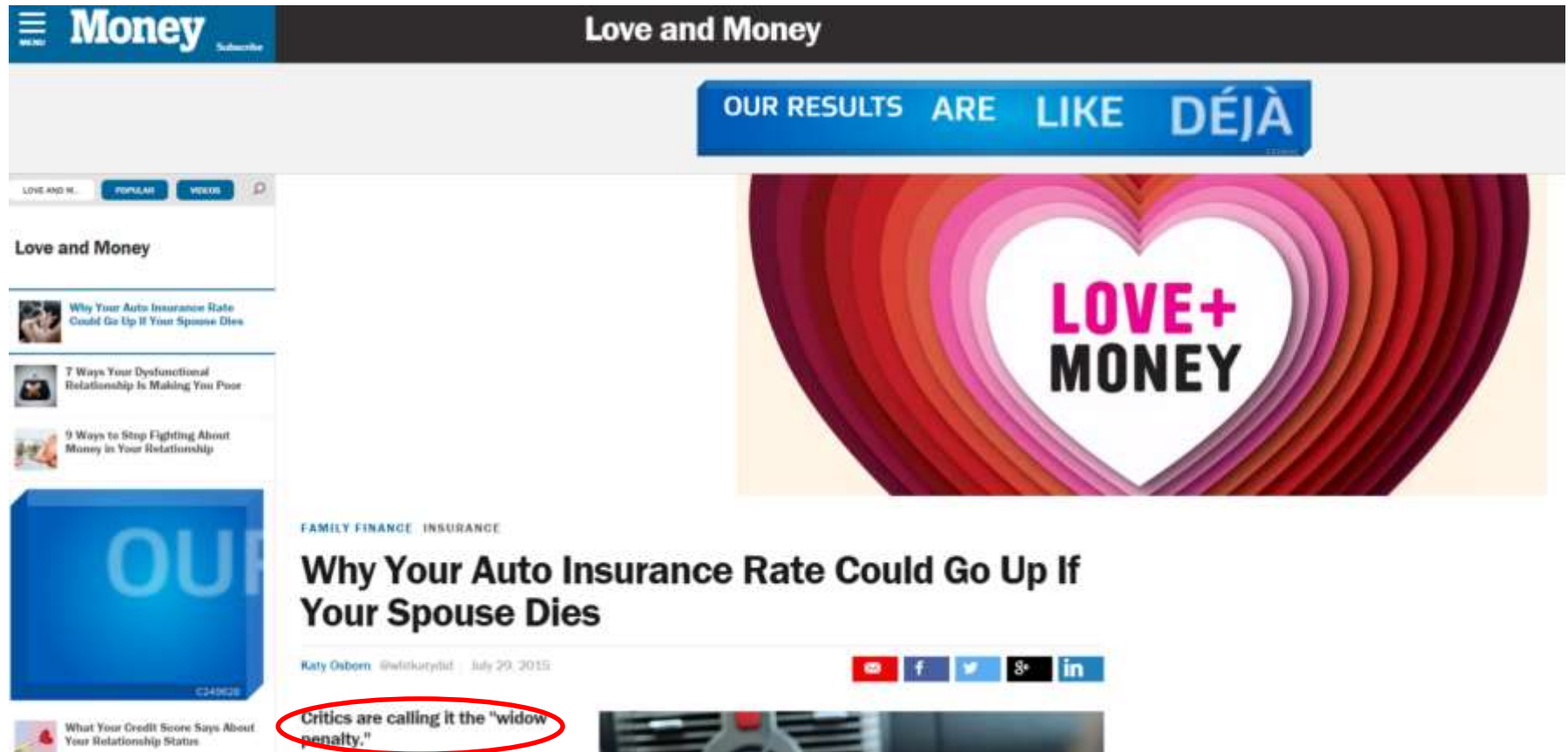




# Recent Attacks on the Insurance Industry

## Why Are Critics Suddenly More Aggressive?

# CFA's Conclusion: The 'Widow Penalty'



The screenshot shows a Money.com article page. At the top, there's a navigation bar with 'Money' and 'Love and Money'. Below that, a blue banner reads 'OUR RESULTS ARE LIKE DÉJÀ'. A large graphic of a heart with 'LOVE+ MONEY' inside is prominent. The article title is 'Why Your Auto Insurance Rate Could Go Up If Your Spouse Dies' by Katy Osborn, dated July 29, 2015. A red circle highlights the text 'Critics are calling it the "widow penalty."' in the article's sub-headline.

“a change in marital status from married to unmarried (through divorce or the death of a spouse) can cause a woman’s auto insurance premiums to rise as much as 226%—suggesting a ‘widow penalty’ that CFA director of insurance Bob Hunter said in a press teleconference Monday with executive director Stephen Brobeck is ***immoral and should be stopped at once.***”

# What's Driving Attacks on the Insurance Industry?

- **Recent Surge in Attacks is Associated with Income Inequality Debate in the United States**
  - ◆ Attacks not confined to auto insurance (e.g., Workers Comp, Health)
  - ◆ Not confined to insurance (banks, lending in general, student loans)
- **Politics, Economics, Regulation & Demographics Are Principal Drivers**
  - ◆ CFA/CR and others (ProPublica) emboldened in current environment
  - ◆ Dodd-Frank Act stuffed with income inequality mandates and studies
  - ◆ FIO now studying auto insurance affordability; Wants to create index.
  - ◆ Definition of “fairness” is shifting
- **CFA Has Been Able to Attack Certain Rating Factors Based on New Perception of Fairness (which is independent of actual risk)**

◆ Education	Occupation	Marital Status	Gender
◆ Age	Credit Profile	Location	<i>“Price Optimization”</i>
- **All of These Are Vulnerable to Attack in the Current Environment**
- **Infinite Number of Quotes Online→CFA Uses to Highlight Perceived Inequities**

# Handout for Government Affairs Staff Attending NAIC Meeting

## The Truth about Auto Insurance? Driving records alone offer an incomplete picture

Rating factors used by auto insurers to price policies have come under attack in recent months. Consumer Reports (CR) and the Consumer Federation of America (CFA) have made headlines by purporting to demonstrate U.S. auto insurers use certain rating factors unfairly, including a driver's credit-based insurance score, gender and marital status. They have also criticized the practice of "price optimization," a term defined

by the Casualty Actuarial Society (CAS) as "the supplementation of traditional actuarial loss cost models to include quantitative customer demand models for use in determining customer prices."

The CR and CFA analyses were misleading and overlooked the ways in which competition in auto insurance markets is enhanced and consumers benefit when a wide variety of rating factors beyond a person's driving record are used to determine risk.

### Key factors include:



#### Credit

- Regulators in 47 U.S. states allow the use of credit-based insurance scores.
- "Credit scores are effective predictors of risk under automobile policies." (2007 Federal Trade Commission report)
- 76 percent of consumers exhibit good or fair credit management behavior. (FICO)



#### Gender

- Women drivers tend to get into fewer and less serious accidents than men.
- Men were behind the wheel in nearly three of every four fatal crashes nationwide (2003-2012). (U.S. Department of Transportation's National Highway Safety Administration)



#### Marital Status

- Married drivers tend to get into fewer and less serious accidents than unmarried drivers, based on the claims experience U.S. auto insurers have compiled over a period of decades.



#### Price Optimization

- Price Optimization allows insurers to rely on "more objective, quantitative information about the judgmental aspects of the rate-setting process instead of reliance primarily on anecdotal evidence."
- Consumers benefit because, "Price optimization may improve rate stability and lower an insurer's long-term cost for providing coverage and limit policyholder disruption. If consumers realize more stability through price optimization, policyholder discounts for longevity may increase over time."

(National Association of Insurance Commissioners' Casualty Actuarial and Statistical Task Force draft white paper)

Consumers who believe they are being overcharged or underserved by their insurance company can—and should—shop around for a better deal. The U.S. auto insurance industry is highly competitive, precisely because different insurers give different weights to a variety of underwriting criteria.

### Resources

#### III. consumer education articles

- What Determines the Price of My Auto Insurance Policy? [www.iii.org/article/what-determines-price-my-auto-insurance-policy](http://www.iii.org/article/what-determines-price-my-auto-insurance-policy)
- How Can I Save Money on Auto Insurance? [www.iii.org/article/how-can-i-save-money-auto-insurance](http://www.iii.org/article/how-can-i-save-money-auto-insurance)

#### III. presentations and research

- Price Optimization in Auto Insurance Markets: Actuarial, Economic and Regulatory Considerations: [www.iii.org/presentation/price-optimization-in-auto-insurance-markets-actuarial-economic-and-regulatory-considerations-071715](http://www.iii.org/presentation/price-optimization-in-auto-insurance-markets-actuarial-economic-and-regulatory-considerations-071715)
- Facts & Statistics: Auto Insurance: [www.iii.org/fact-statistic/auto-insurance](http://www.iii.org/fact-statistic/auto-insurance)
- Issues Update: Credit Scoring and Insurance: [www.iii.org/issue-update/credit-scoring](http://www.iii.org/issue-update/credit-scoring)

#### III. video

The It's on Insurance—Auto Coverage: You're in the Driver's Seat: [www.iii.org/Video/the-its-on-insurance-auto-coverage-youre-in-the-drivers-seat](http://www.iii.org/Video/the-its-on-insurance-auto-coverage-youre-in-the-drivers-seat)

#### III. subject matter experts

- Dr. Robert Hartwig, president & economist: [bobh@iii.org](mailto:bobh@iii.org)
- James Lynch, FCAS MAAA, chief actuary and director of Information Services: [jamesl@iii.org](mailto:jamesl@iii.org)

#### III. media contact:

- Michael Barry, vice president, Media Relations: [michaelb@iii.org](mailto:michaelb@iii.org)

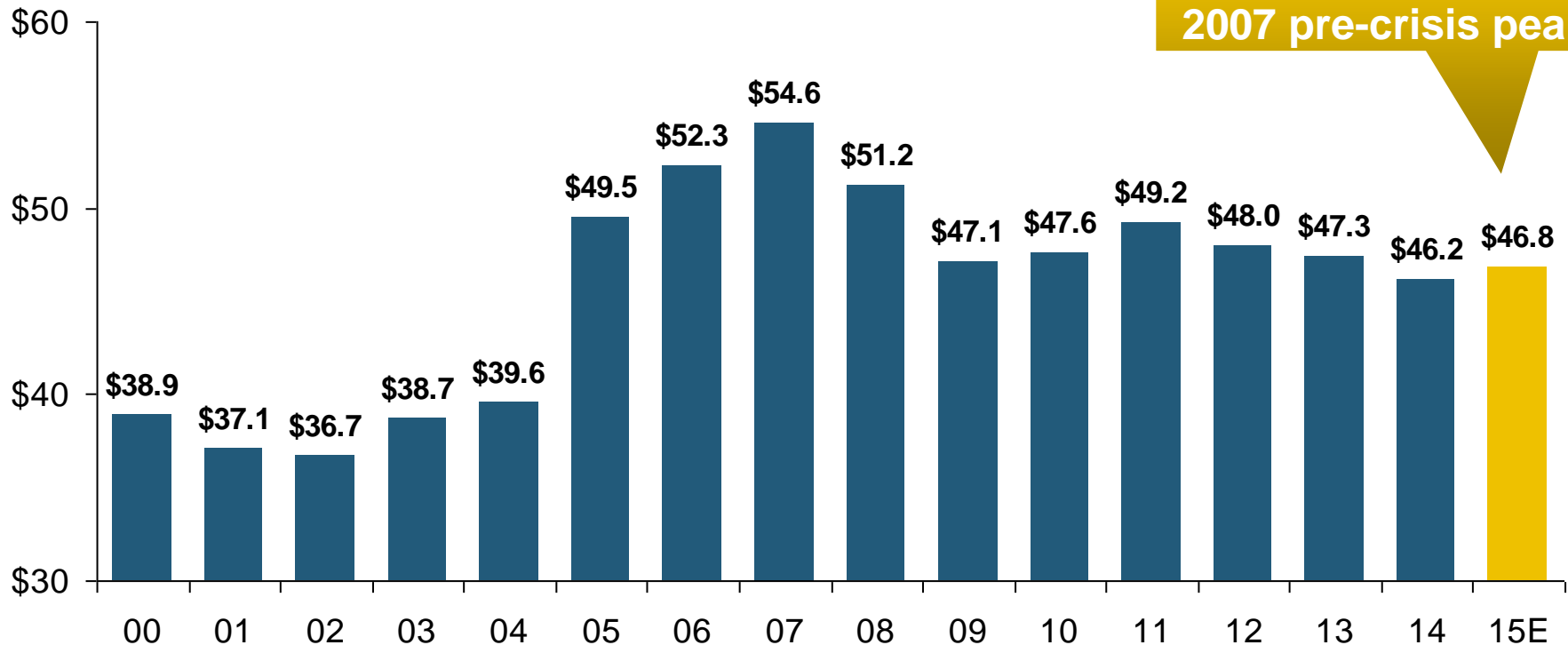
# **INVESTMENTS: THE NEW REALITY**

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

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

# Property/Casualty Insurance Industry Investment Income: 2000–2015E<sup>1</sup>

(\$ Billions)



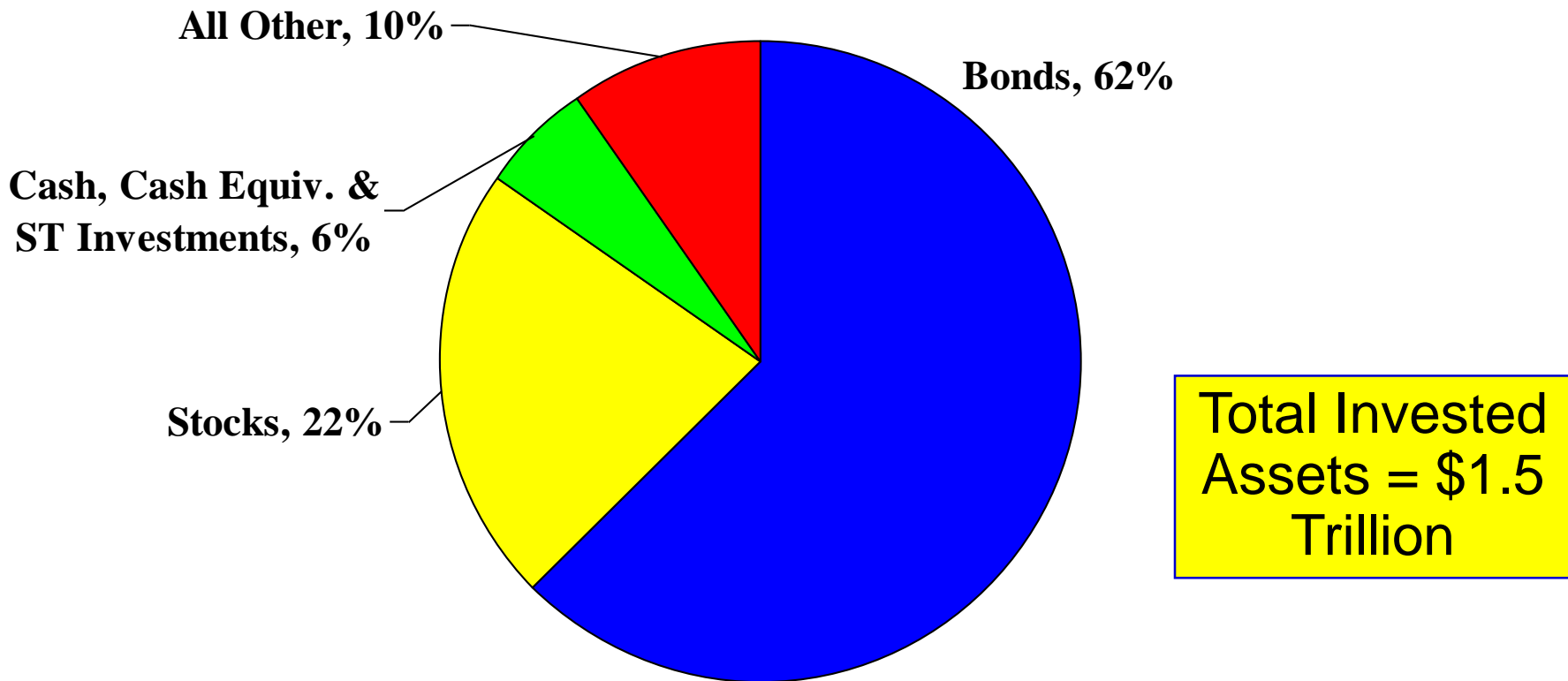
**Due to persistently low interest rates,  
investment income fell in 2012, 2013 and 2014.**

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

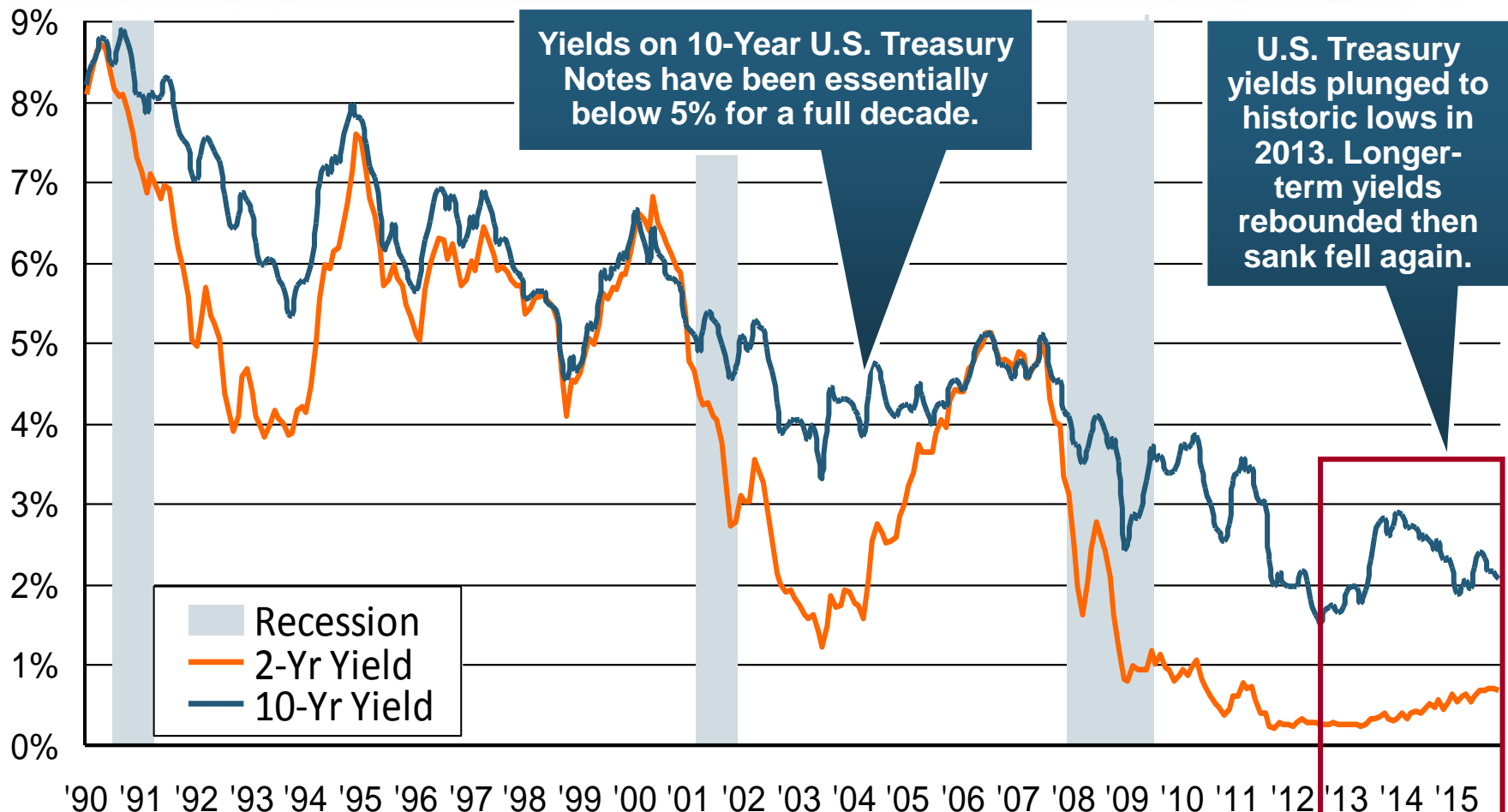
\*2015 figure is estimated based on annualized data through Q2.

# Distribution of Invested Assets: P/C Insurance Industry, 2013

**\$ Billions**



# U.S. Treasury Security Yields: A Long Downward Trend, 1990–2015\*



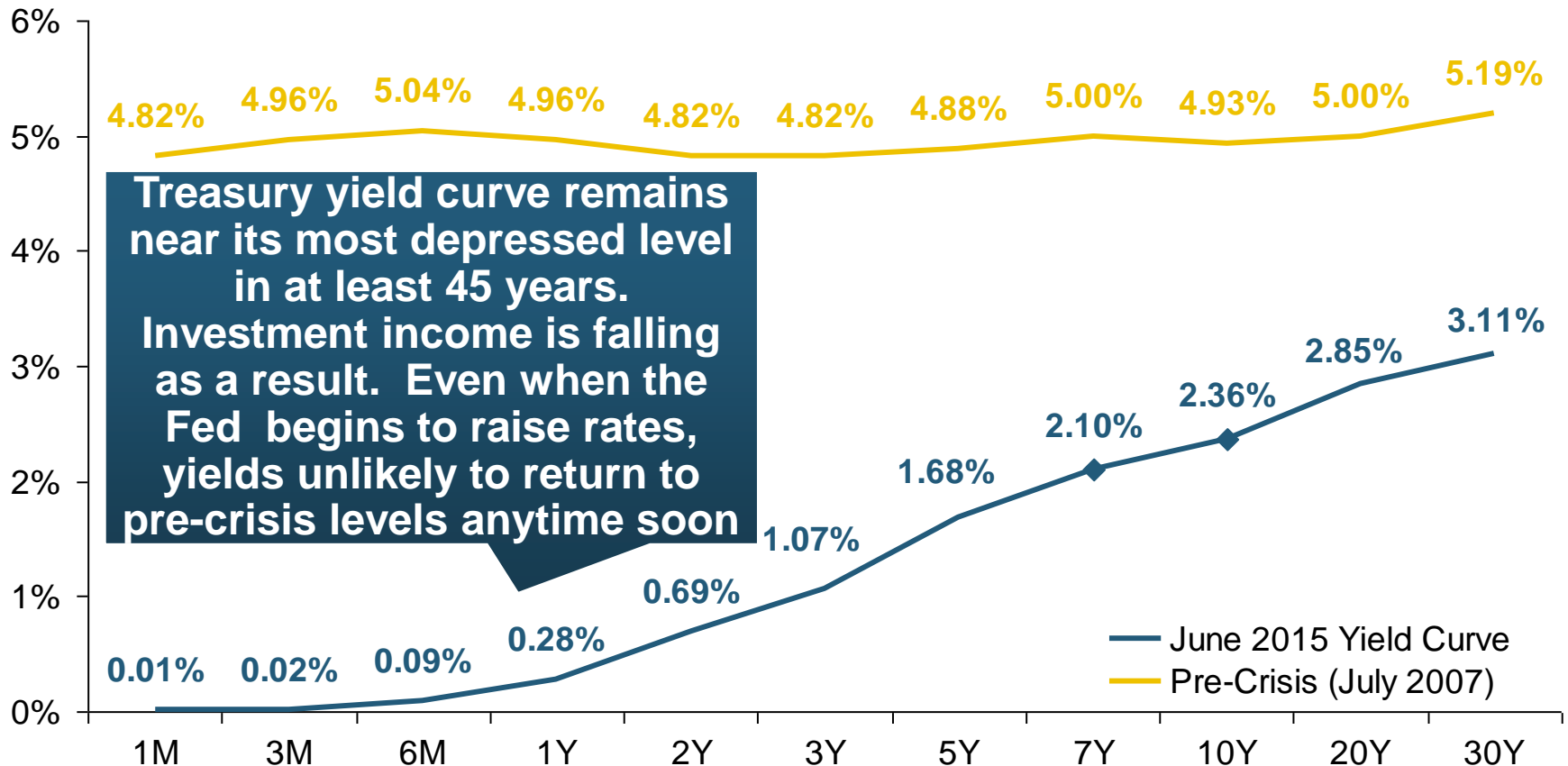
**Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.**

\*Monthly, constant maturity, nominal rates, through October 2015.

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



# Treasury Yield Curves: Pre-Crisis (July 2007) vs. June 2015

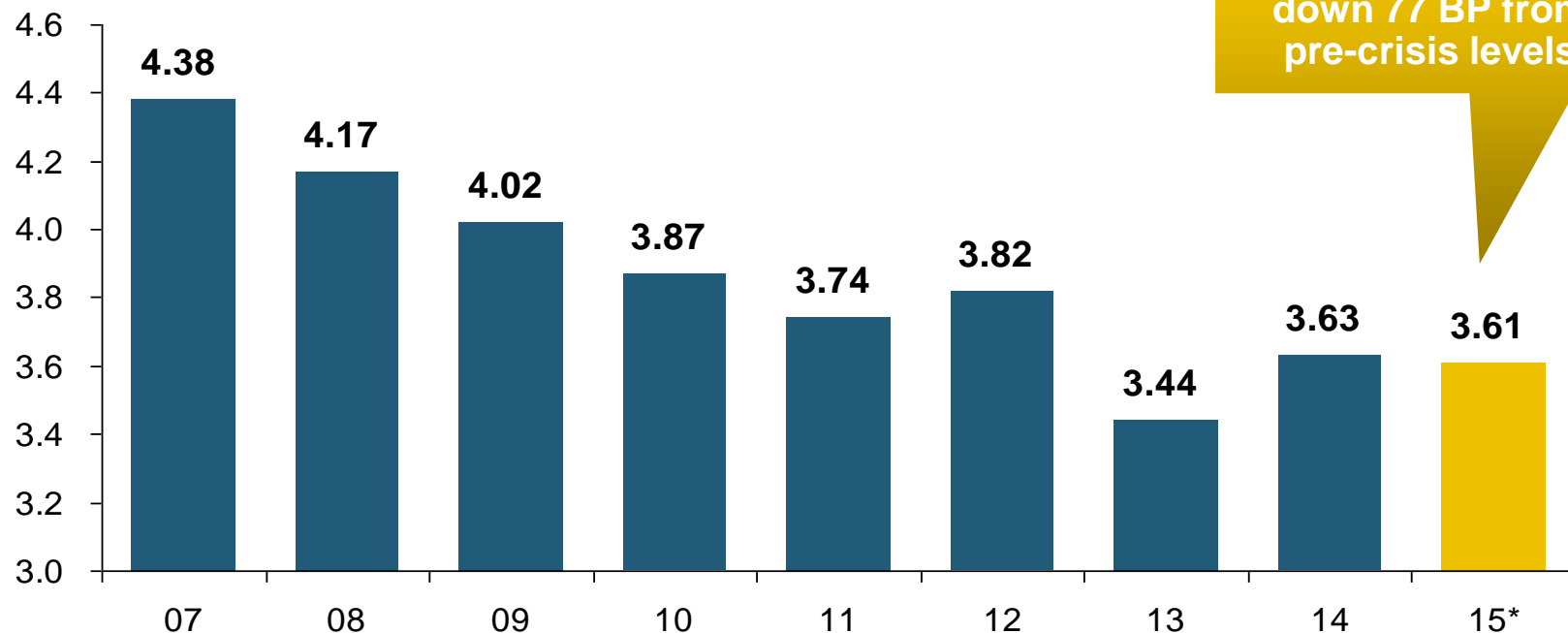


Treasury yield curve remains near its most depressed level in at least 45 years. Investment income is falling as a result. Even when the Fed begins to raise rates, yields unlikely to return to pre-crisis levels anytime soon

The Fed Is Actively Signaling that it Is Likely to Begin Raising Rates Later in 2015 but Only Very Gradually

# Net Yield on Property/Casualty Insurance Invested Assets, 2007–2015\*

(Percent)



Book yield in 2015 is down 77 BP from pre-crisis levels

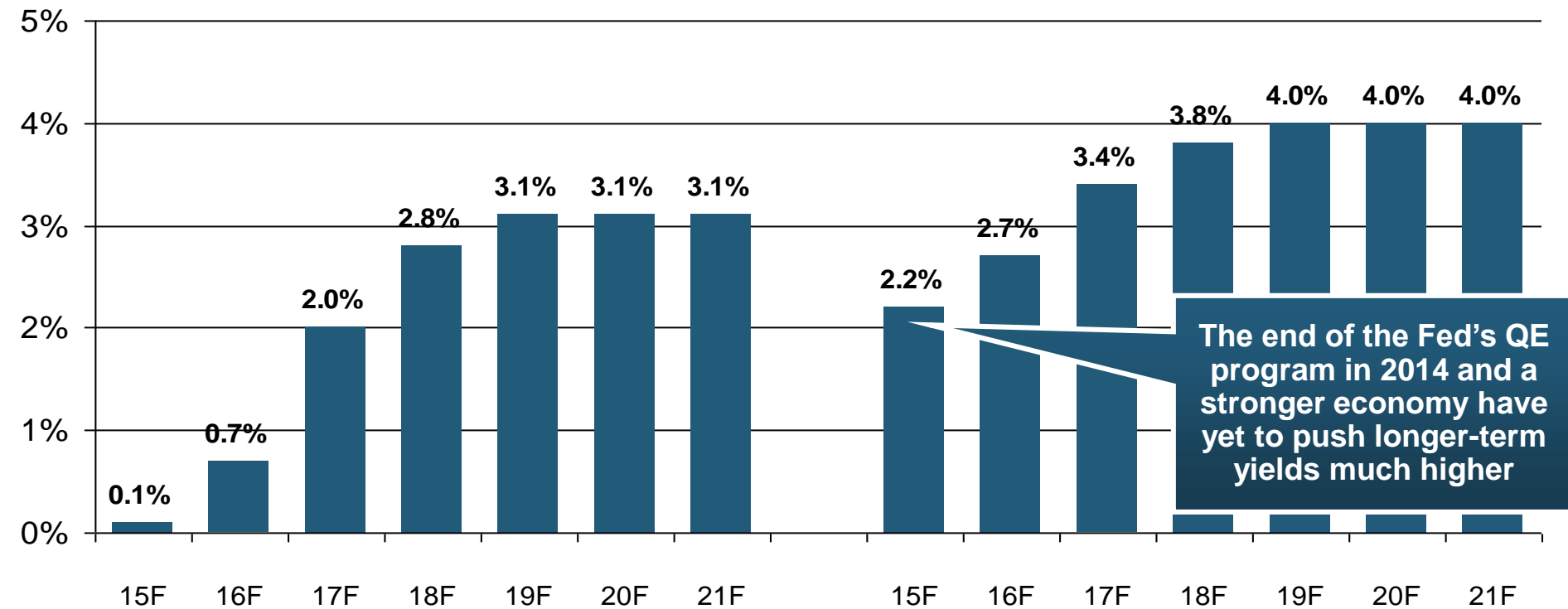
The yield on invested assets remains low relative to pre-crisis yields. The Fed's plan to raise interest rates in late 2015 has already pushed up some yields, albeit quite modestly.

# Interest Rate Forecasts: 2015 – 2021

Yield (%)

## 3-Month Treasury

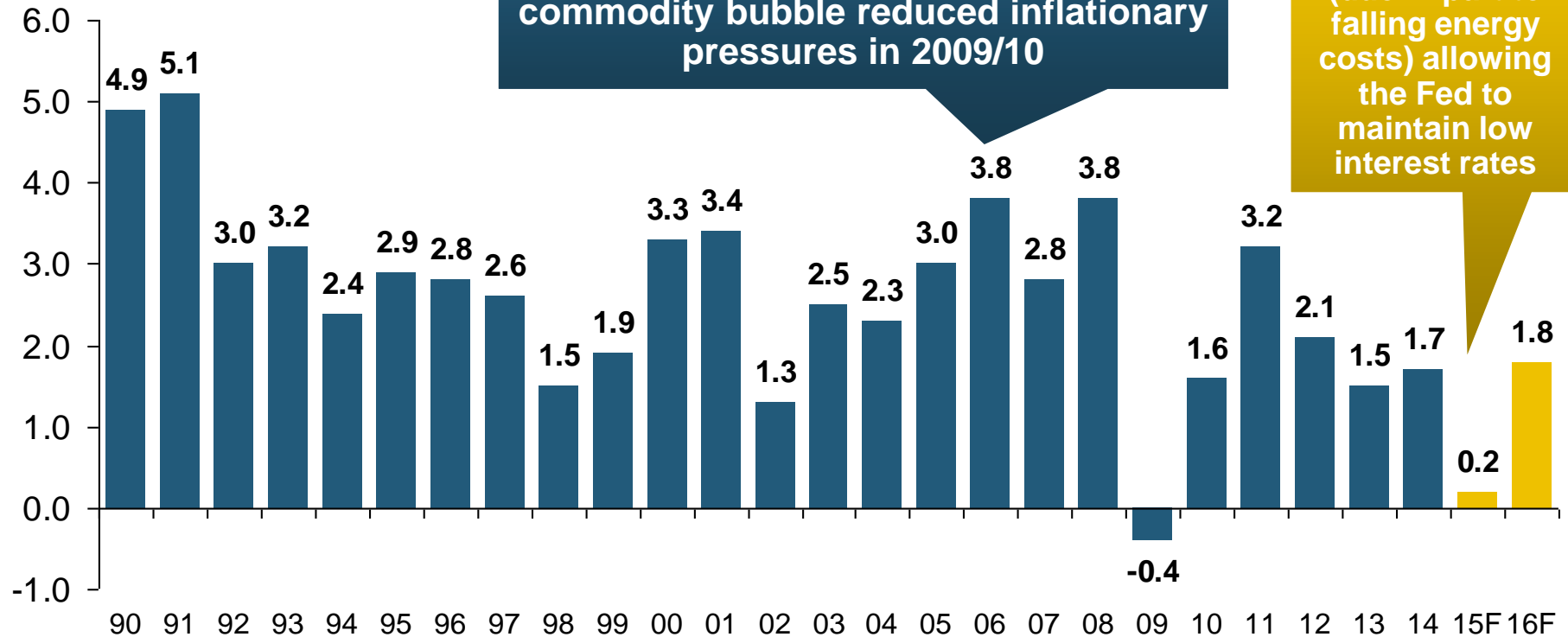
## 10-Year Treasury



**A full normalization of interest rates is unlikely until the 2020s, more than a decade after the onset of the financial crisis.**

# Annual Inflation Rates, (CPI-U, %), 1990–2016F

Annual Inflation Rates (%)



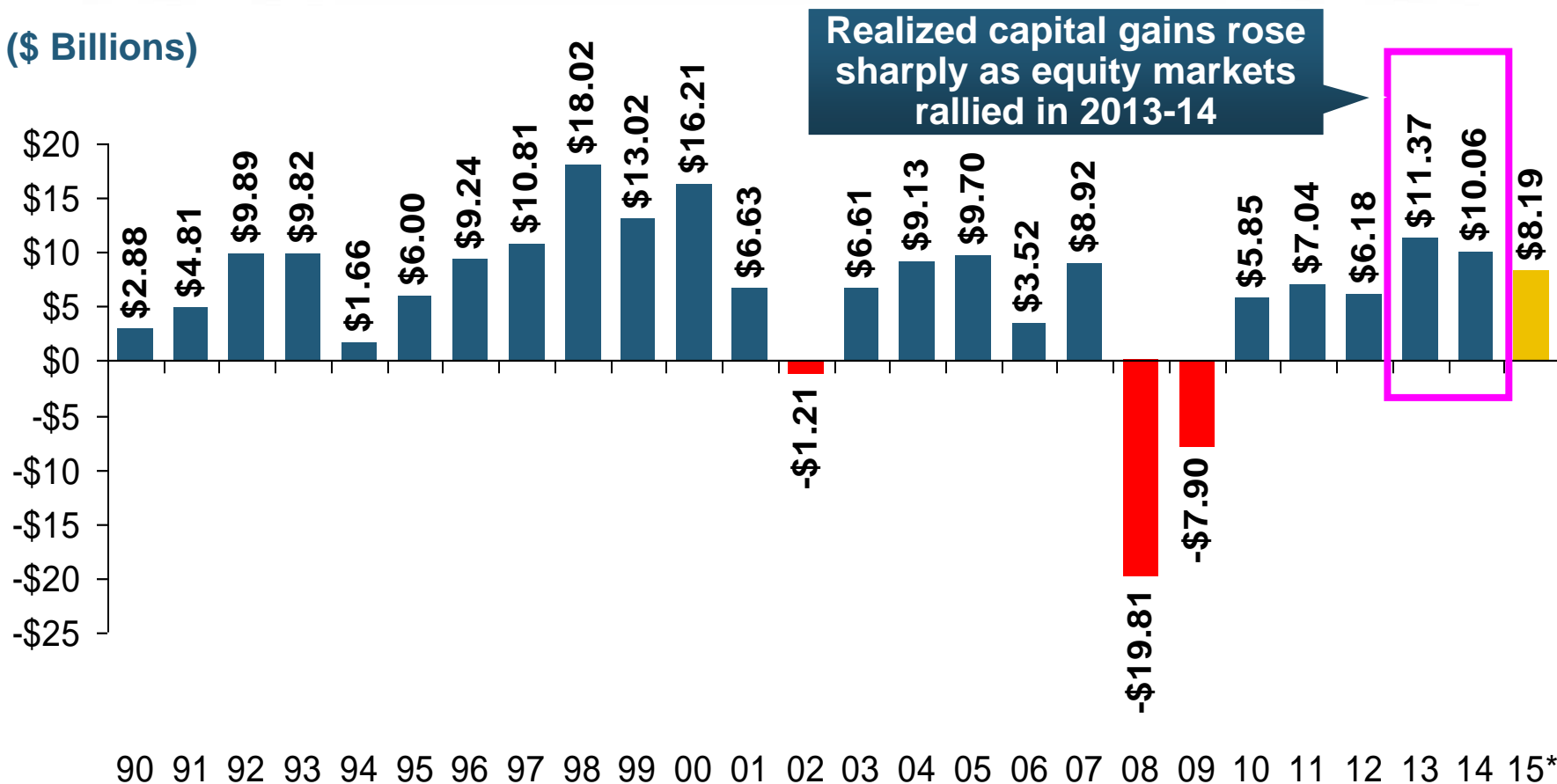
Inflation peaked at 5.6% in August 2008 on high energy and commodity crisis. The recession and the collapse of the commodity bubble reduced inflationary pressures in 2009/10

Inflationary expectations have slipped (due in part to falling energy costs) allowing the Fed to maintain low interest rates

Slack in the U.S. economy and falling energy prices suggests that inflationary pressures should remain subdued for an extended period of times

# P/C Insurer Net Realized Capital Gains/Losses, 1990-2015:Q2

(\$ Billions)



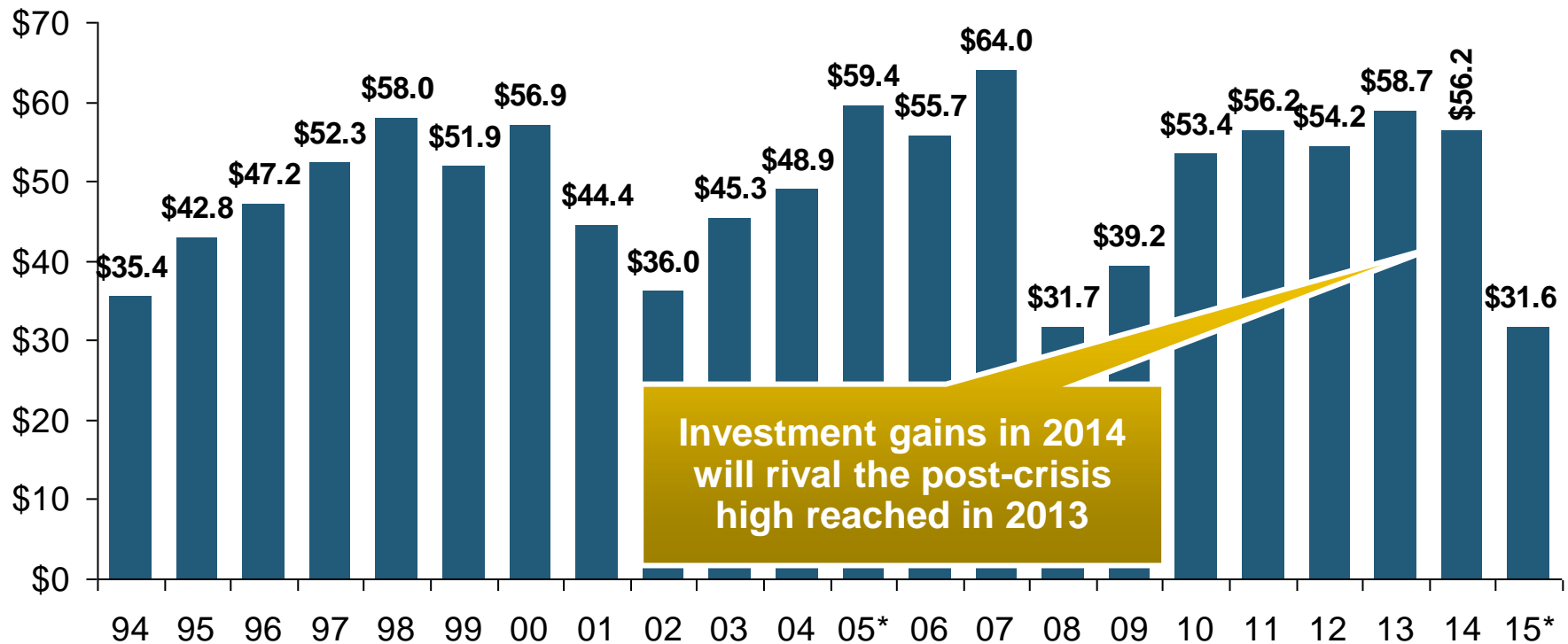
**Insurers Posted Net Realized Capital Gains in 2010 - 2014 Following Two Years of Realized Losses During the Financial Crisis. Realized Capital Losses Were a Primary Cause of 2008/2009's Large Drop in Profits and ROE.**

\*Through Q2 2015.

Sources: A.M. Best, ISO, SNL, Insurance Information Institute.

# Property/Casualty Insurance Industry Investment Gain: 1994–2015:Q2<sup>1</sup>

(\$ Billions)



Investment gains in 2014 will rival the post-crisis high reached in 2013

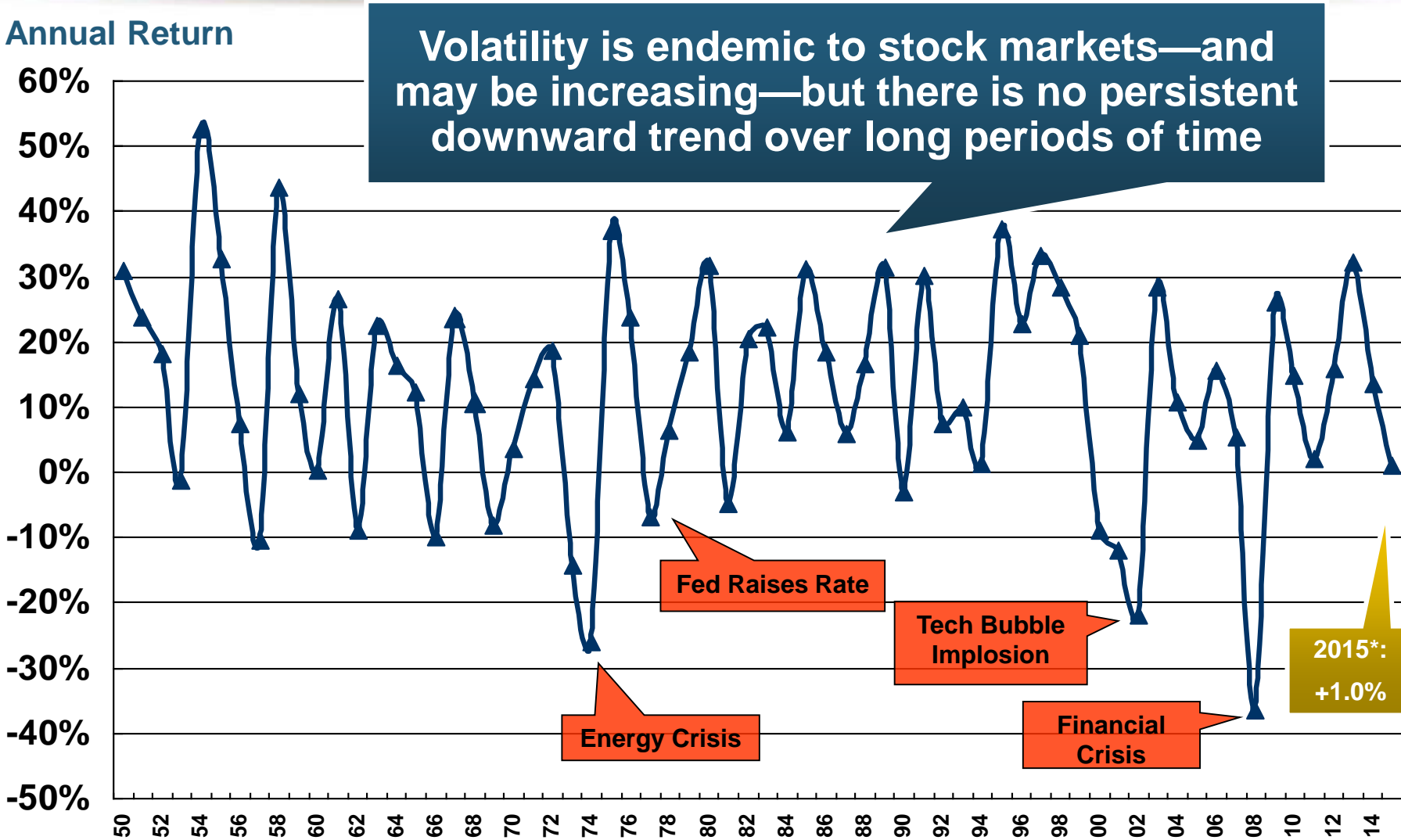
**Total Investment Gains Were Down Slightly in 2014 as Low Interest Rates Pressured Investment Income but Realized Capital Gains Remained Robust**

<sup>1</sup> Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.

\* 2005 figure includes special one-time dividend of \$3.2B; 2015 figure is through Q2 2015.

Sources: ISO, SNL; Insurance Information Institute.

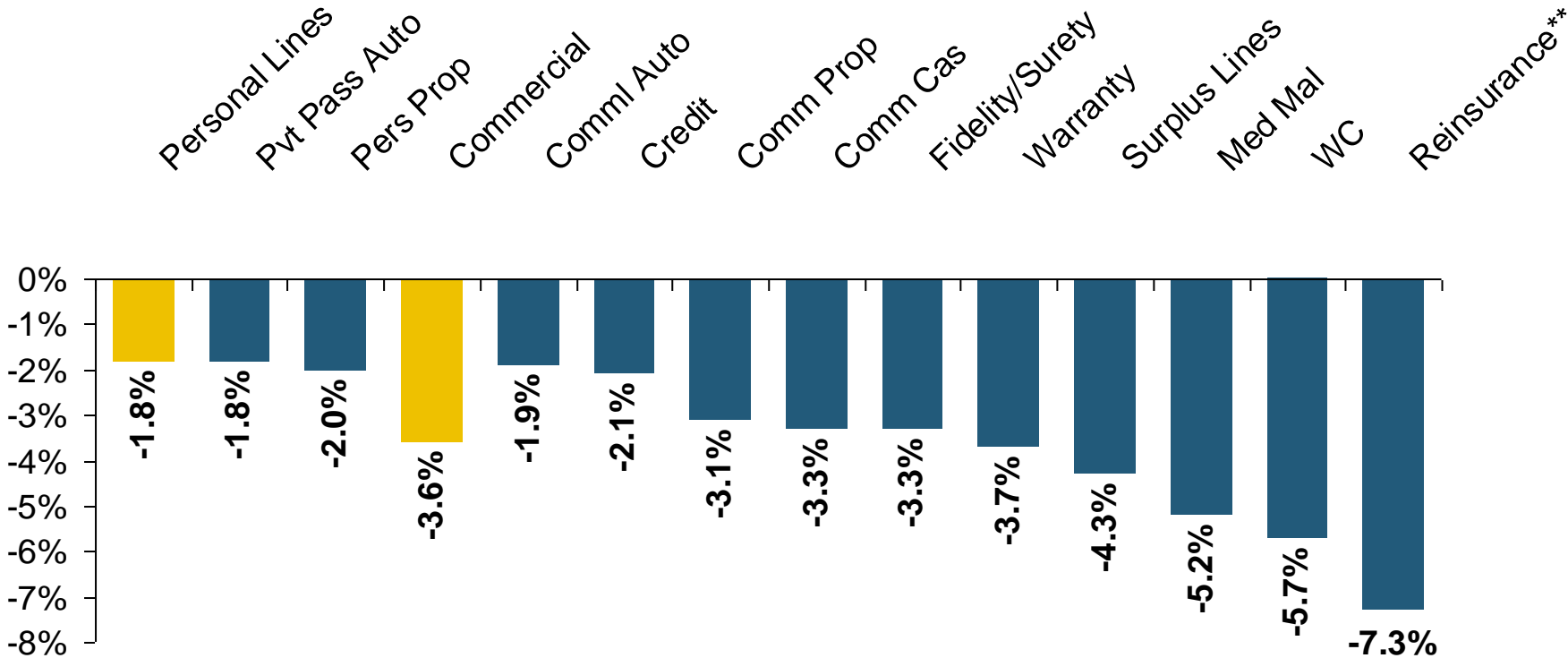
# S&P 500 Index Returns, 1950 – 2015\*



\*Through Nov. 9, 2015.

Source: NYU Stern School of Business: [http://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/histretSP.html](http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html) Ins. Info. Inst.

# Reduction in Combined Ratio Necessary to Offset 1% Decline in Investment Yield to Maintain Constant ROE, by Line\*



**Lower Investment Earnings Place a Greater Burden on Underwriting and Pricing Discipline**

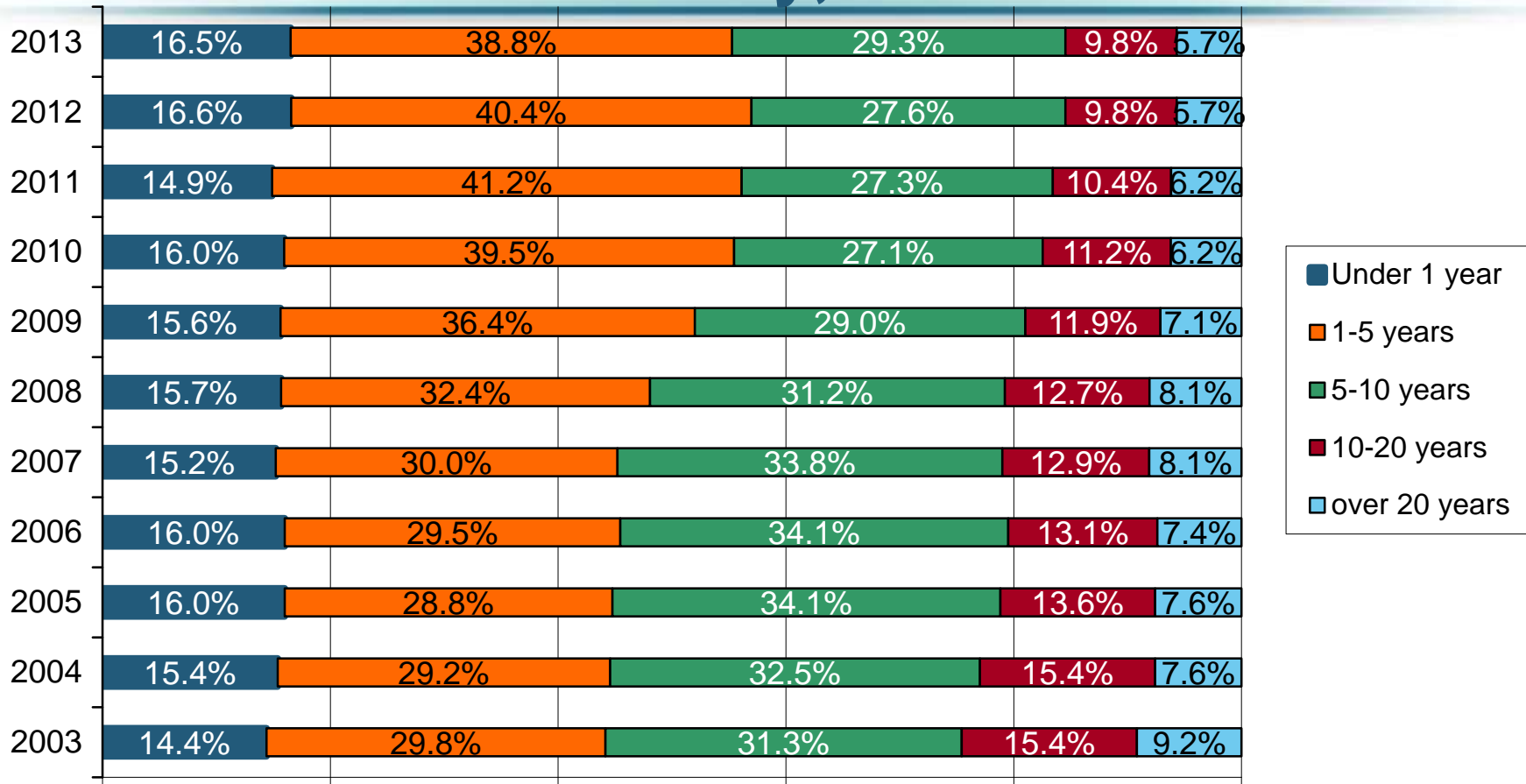
\*Based on 2008 Invested Assets and Earned Premiums

\*\*US domestic reinsurance only

Source: A.M. Best; Insurance Information Institute.



# Distribution of Bond Maturities, P/C Insurance Industry, 2003-2013



The main shift over these years has been from bonds with longer maturities to bonds with shorter maturities. The industry first trimmed its holdings of over-10-year bonds (from 24.6% in 2003 to 15.5% in 2012) and then trimmed bonds in the 5-10-year category (from 31.3% in 2003 to 27.6% in 2012). Falling average maturity of the P/C industry's bond portfolio is contributing to a drop in investment income along with lower yields.

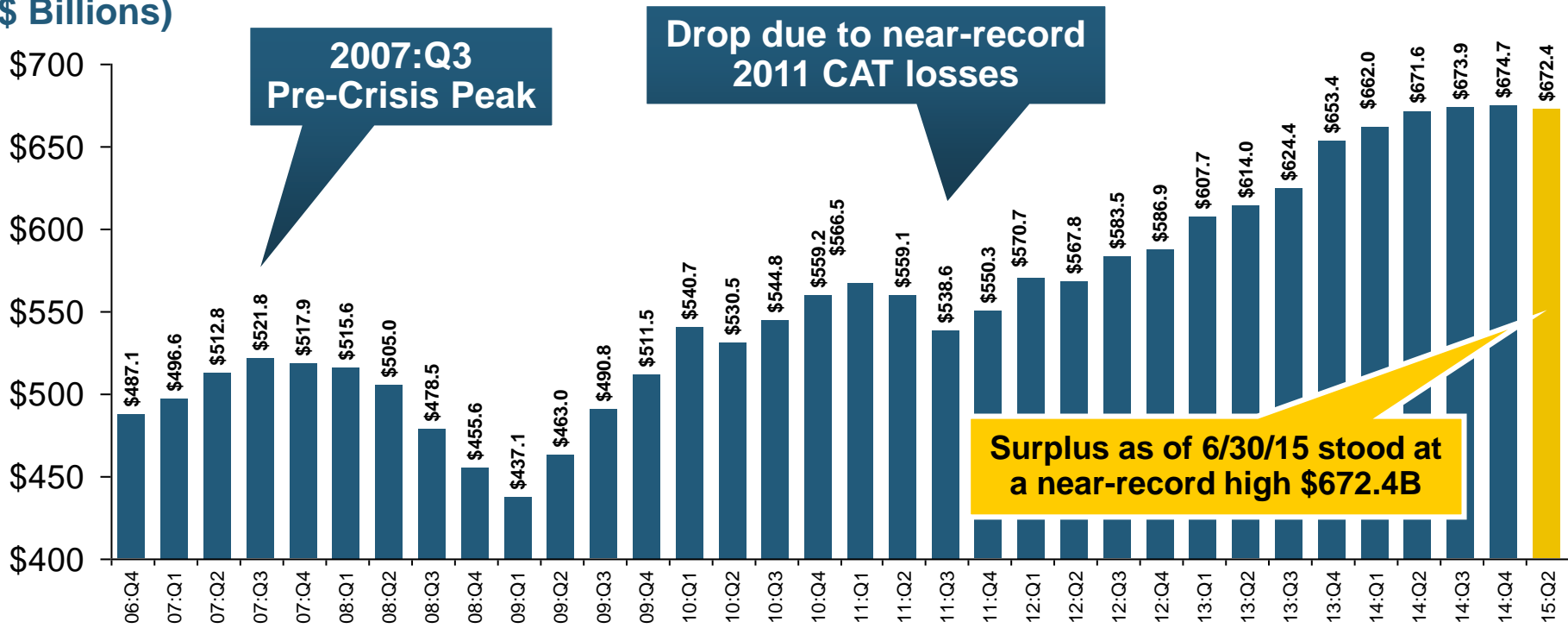
# CAPITAL/CAPACITY

**Capital Accumulation Has  
Multiple Impacts**

***Alternative Capital Impacts?***

# Policyholder Surplus, 2006:Q4–2015:Q2

(\$ Billions)



**The industry now has \$1 of surplus for every \$0.73 of NPW, close to the strongest claims-paying status in its history.**

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

**The P/C insurance industry entered 2015 in very strong financial condition.**

Sources: ISO, A.M .Best.

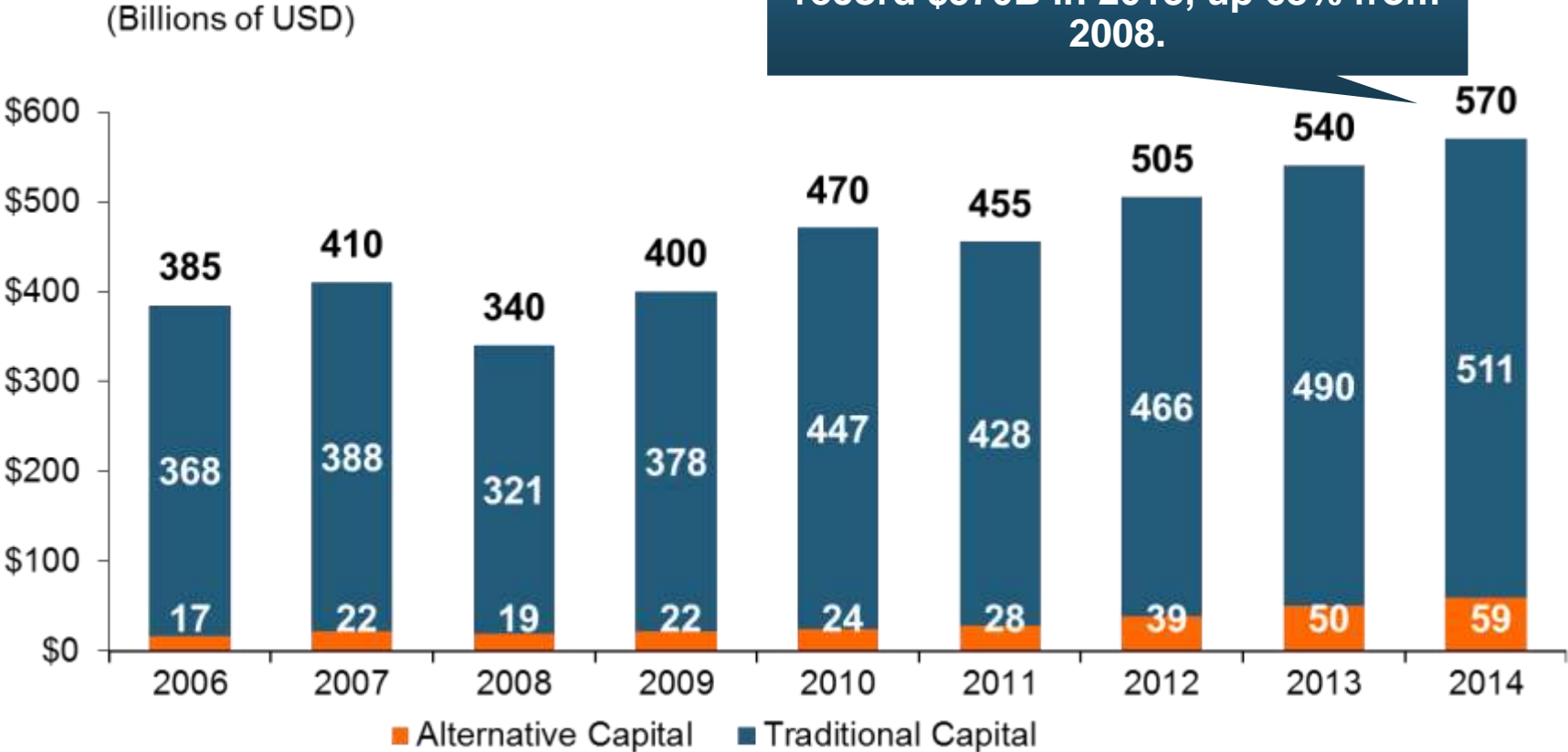
# Alternative Capital

**New Investors Continue to Change  
the Reinsurance Landscape**

***First I.I.I. White Paper on Issue Was  
Released in March 2015***

# Global Reinsurance Capital (Traditional and Alternative), 2006 - 2014

Total reinsurance capital reached a record \$570B in 2013, up 68% from 2008.

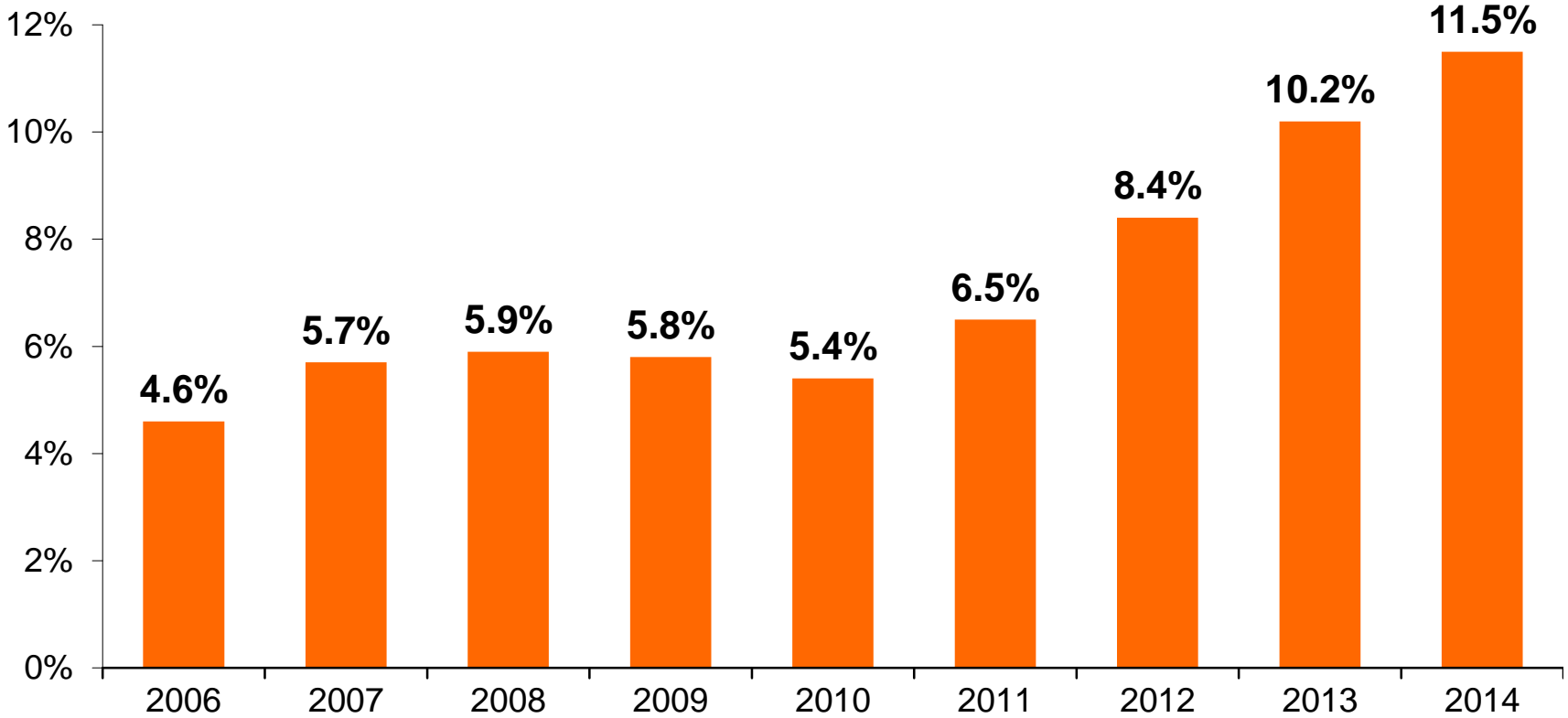


**But alternative capacity has grown 210% since 2008, to \$50B. It has more than doubled in the past three years.**

2014 data is as of June 30, 2014.

Source: Aon Benfield Analytics; Insurance Information Institute.

# Alternative Capital as a Percentage of Traditional Global Reinsurance Capital



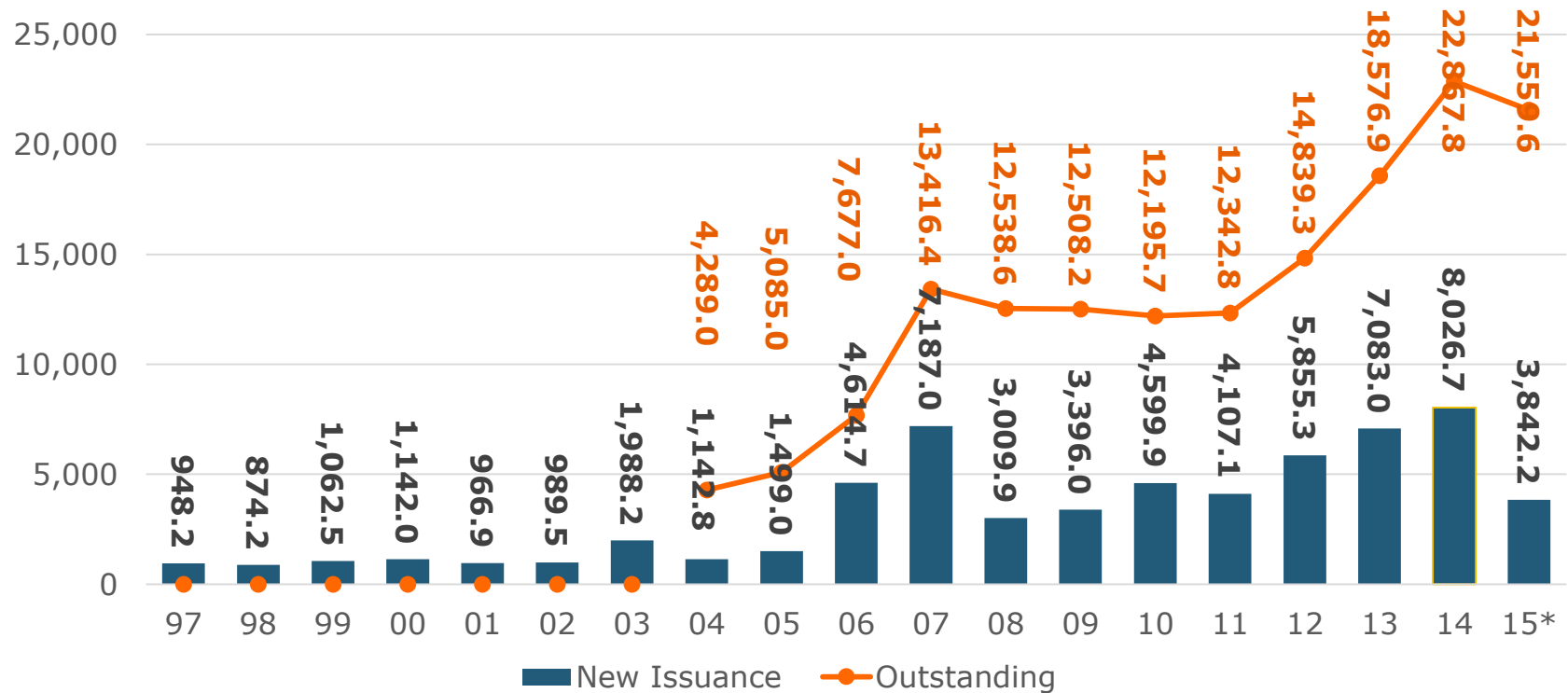
**Alternative Capital's Share of Global Reinsurance Capital Has More Than Doubled Since 2010.**

2014 data is as of June 30, 2014.

Source: Aon Benfield Analytics; Insurance Information Institute.

# Catastrophe Bond Issuance and Outstanding: 1997-2015:Q2

Risk Capital Amount (\$ Millions)



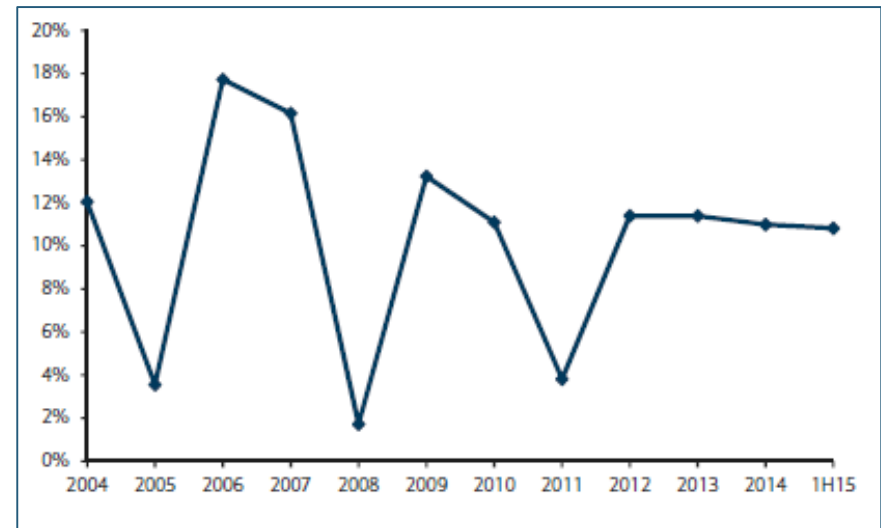
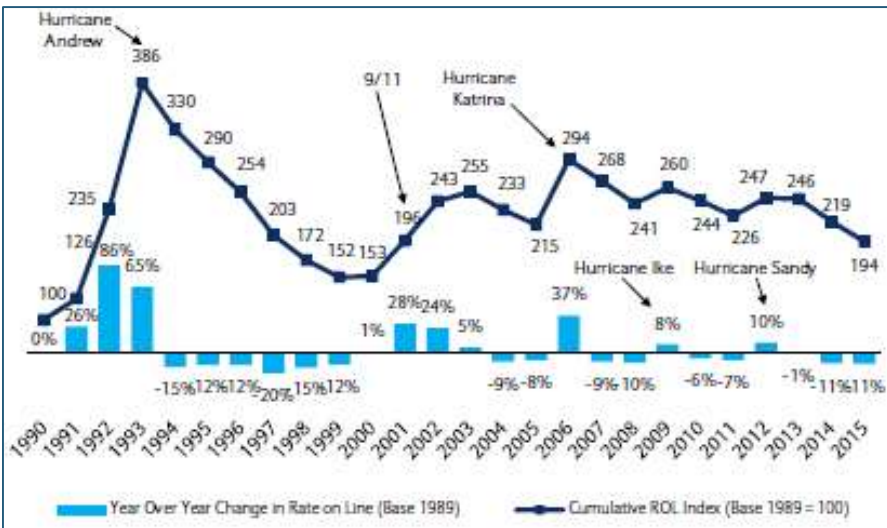
**Cat Bond Issuance Appears to Be Slowing Down in 2015 from 2014's Record Pace. Lower Yields on Bonds Explain Some of the Contraction.**

Source: Guy Carpenter.

# US Property CAT Rate on Line Index & Global Reinsurance ROE

## US Property CAT ROL

## Global Reinsurance ROE



**Record traditional capacity, alternative capital and low CAT activity have pressured reinsurance prices; ROEs are now only very modestly**

Source: Barclays PLC from Guy Carpenter; Insurance Information Institute.

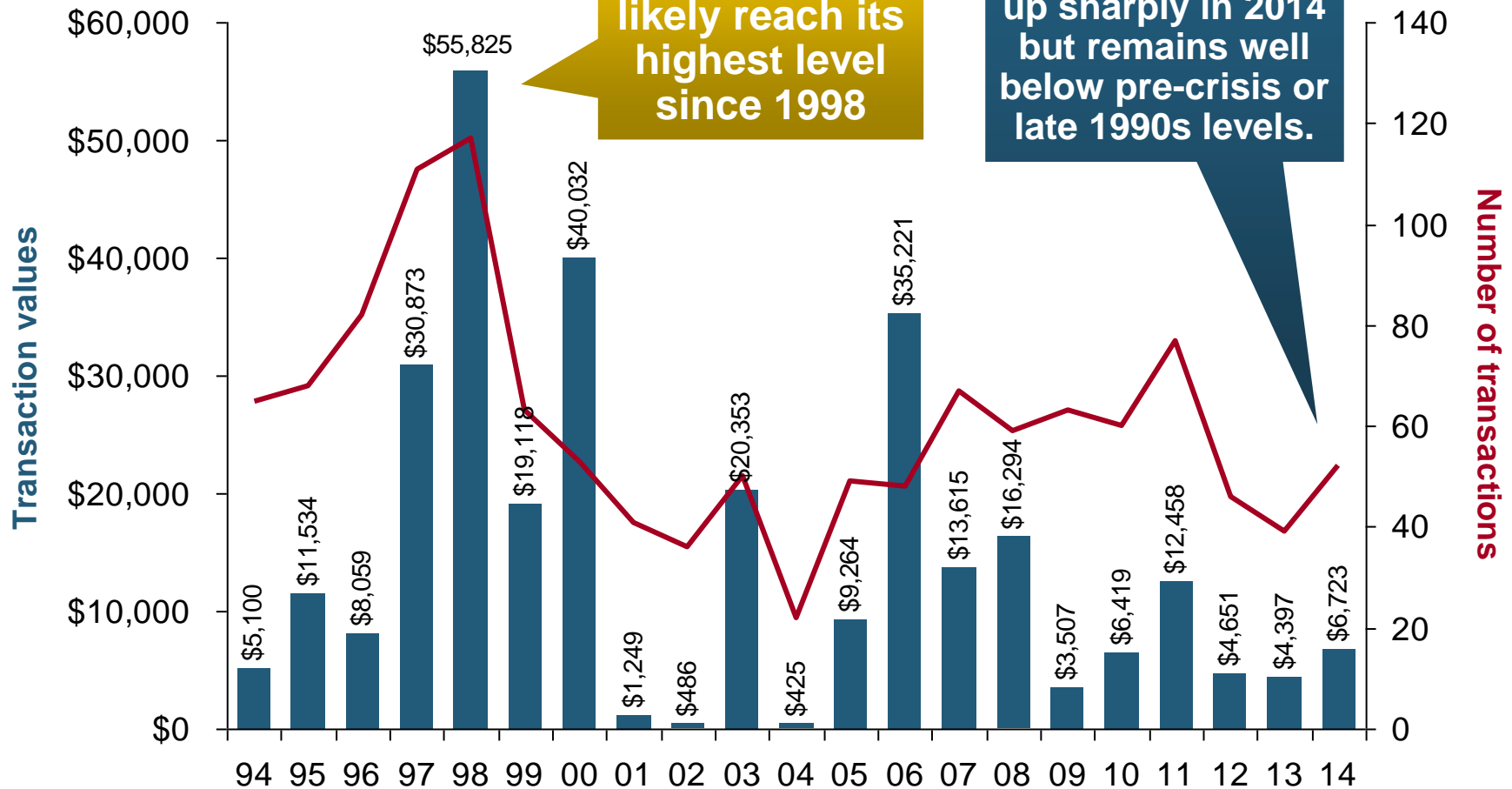


**M&A UPDATE:  
*A PATH TO GROWTH?***

**Are Capital Accumulation, Drive  
for Growth and Scale Stimulating  
M&A Activity?**

# U.S. INSURANCE MERGERS AND ACQUISITIONS, P/C SECTOR, 1994-2014 (1)

(\$ Millions)



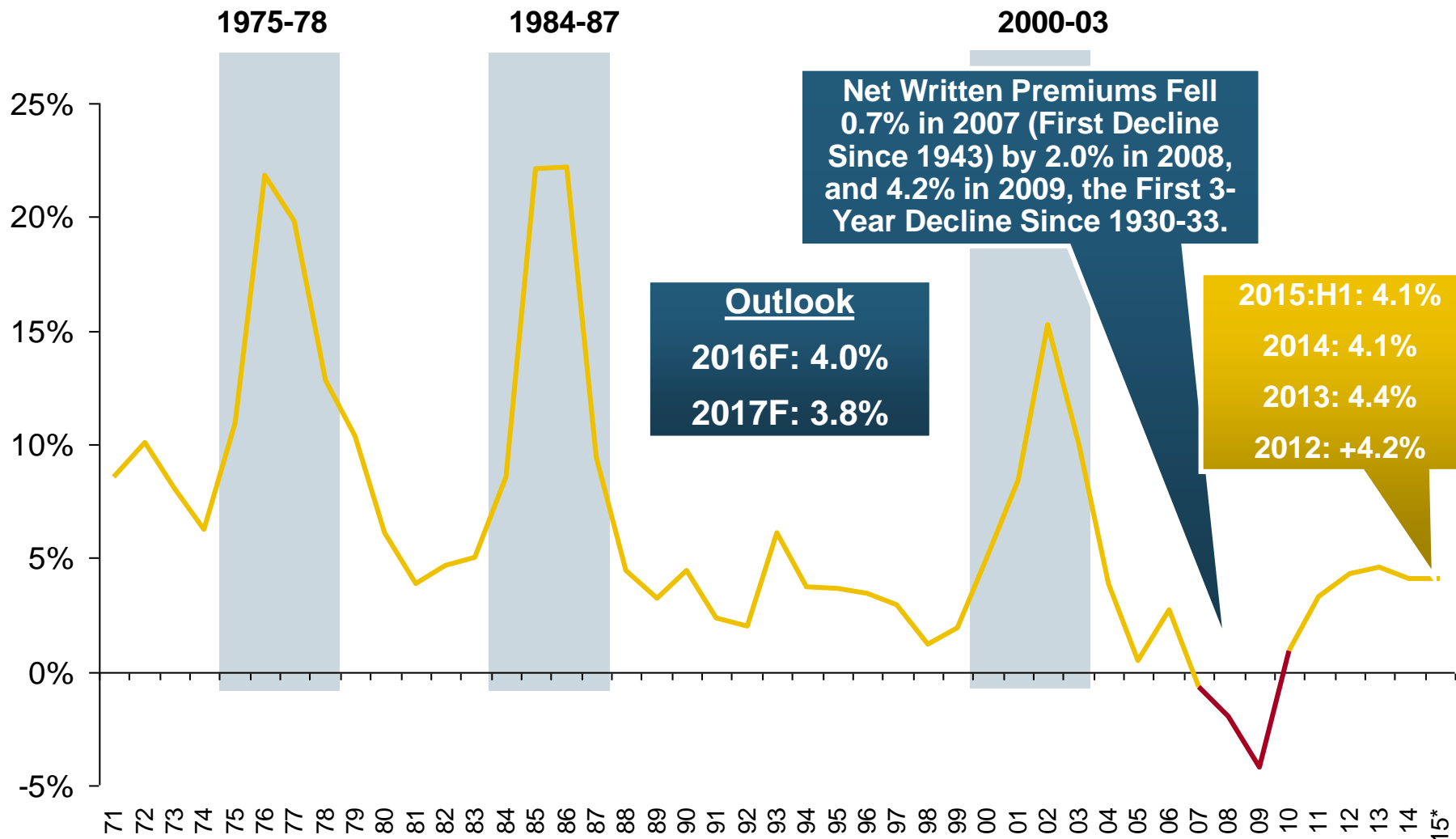
(1) Includes transactions where a U.S. company was the acquirer and/or the target.

# Growth

**Premium Growth Rates Vary  
Tremendously by State and  
Over Time, But...**

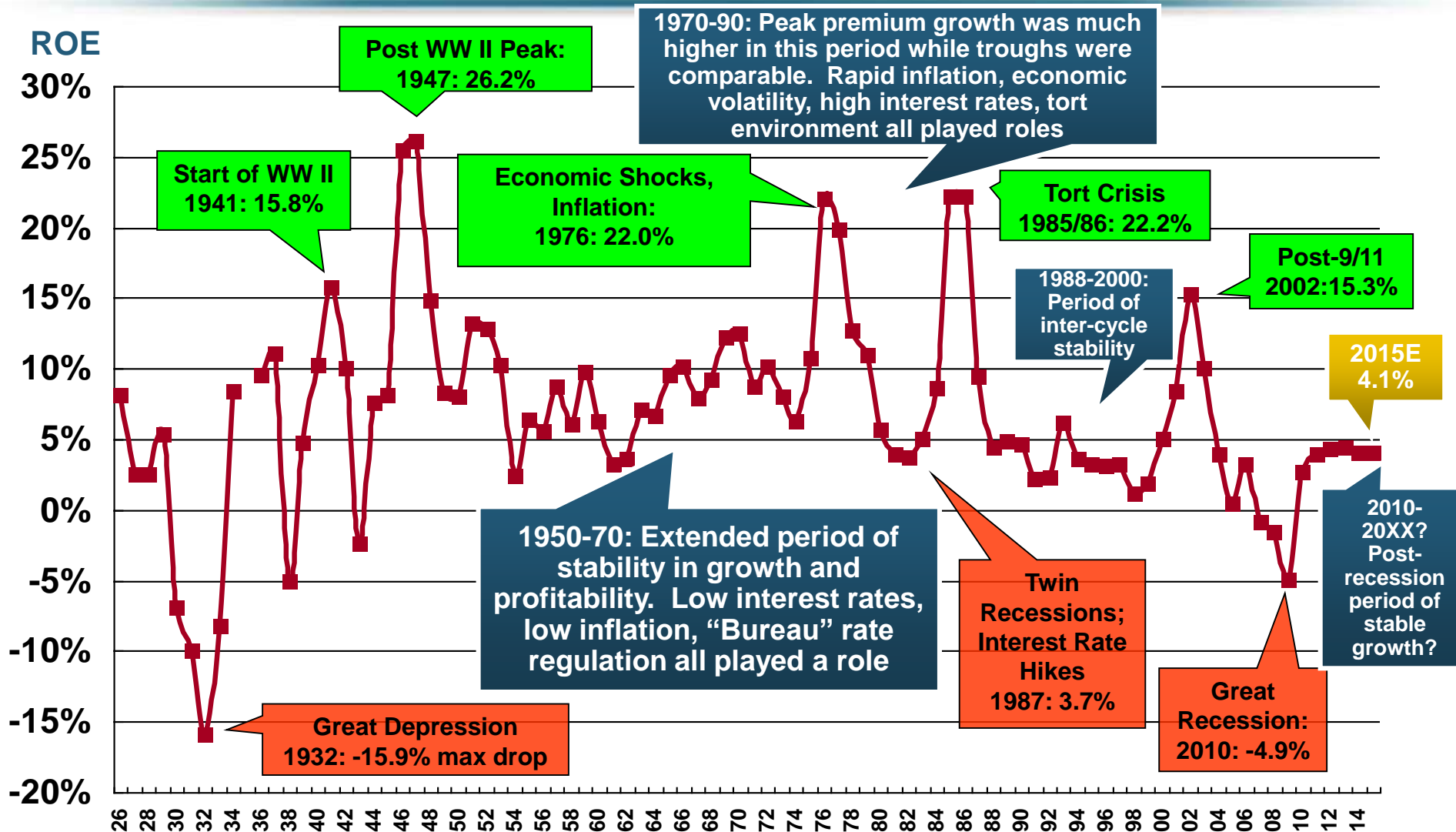
# Net Premium Growth (All P/C Lines): Annual Change, 1971—2015:H1

(Percent)



Shaded areas denote "hard market" periods  
Sources: A.M. Best (1971-2013), ISO (2014-15).

# NPW Premium Growth: Peaks & Troughs in the P/C Insurance Industry, 1926 – 2015E

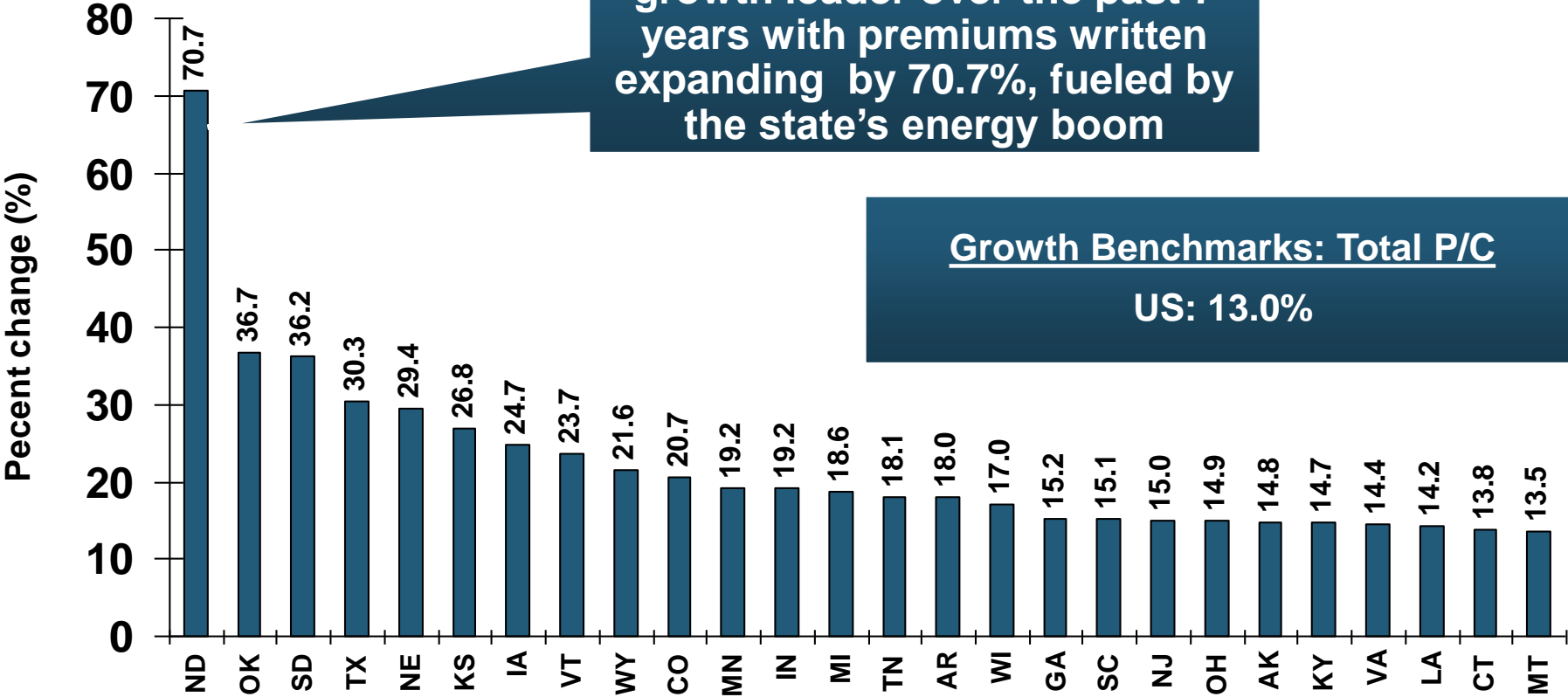


Note: Data through 1934 are based on stock companies only. Data include state funds beginning in 1998.  
 Source: A.M. Best; Insurance Information Institute.

# Direct Premiums Written: Total P/C Percent Change by State, 2007-2014

## Top 25 States

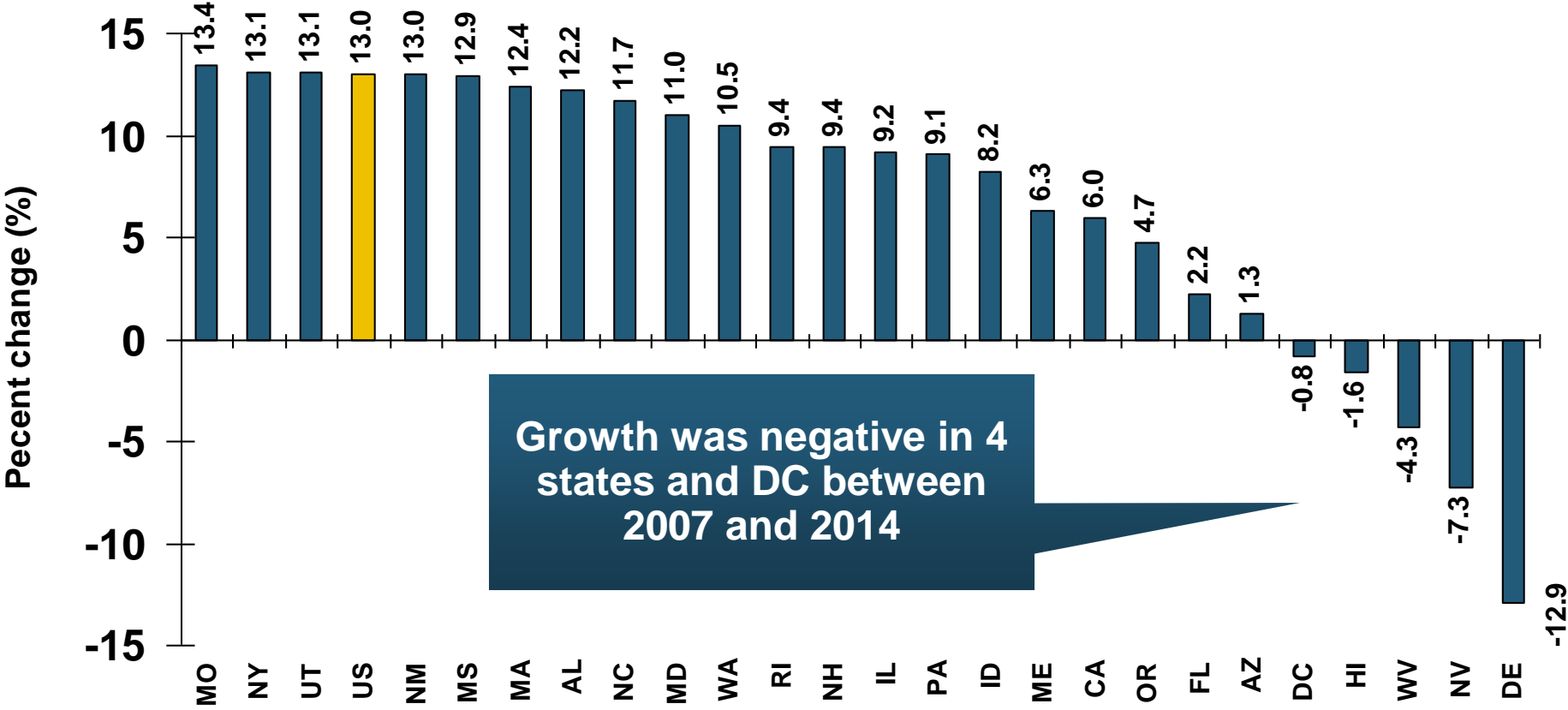
North Dakota was the country's growth leader over the past 7 years with premiums written expanding by 70.7%, fueled by the state's energy boom



Sources: SNL Financial LC.; Insurance Information Institute.

# Direct Premiums Written: Total P/C Percent Change by State, 2007-2014

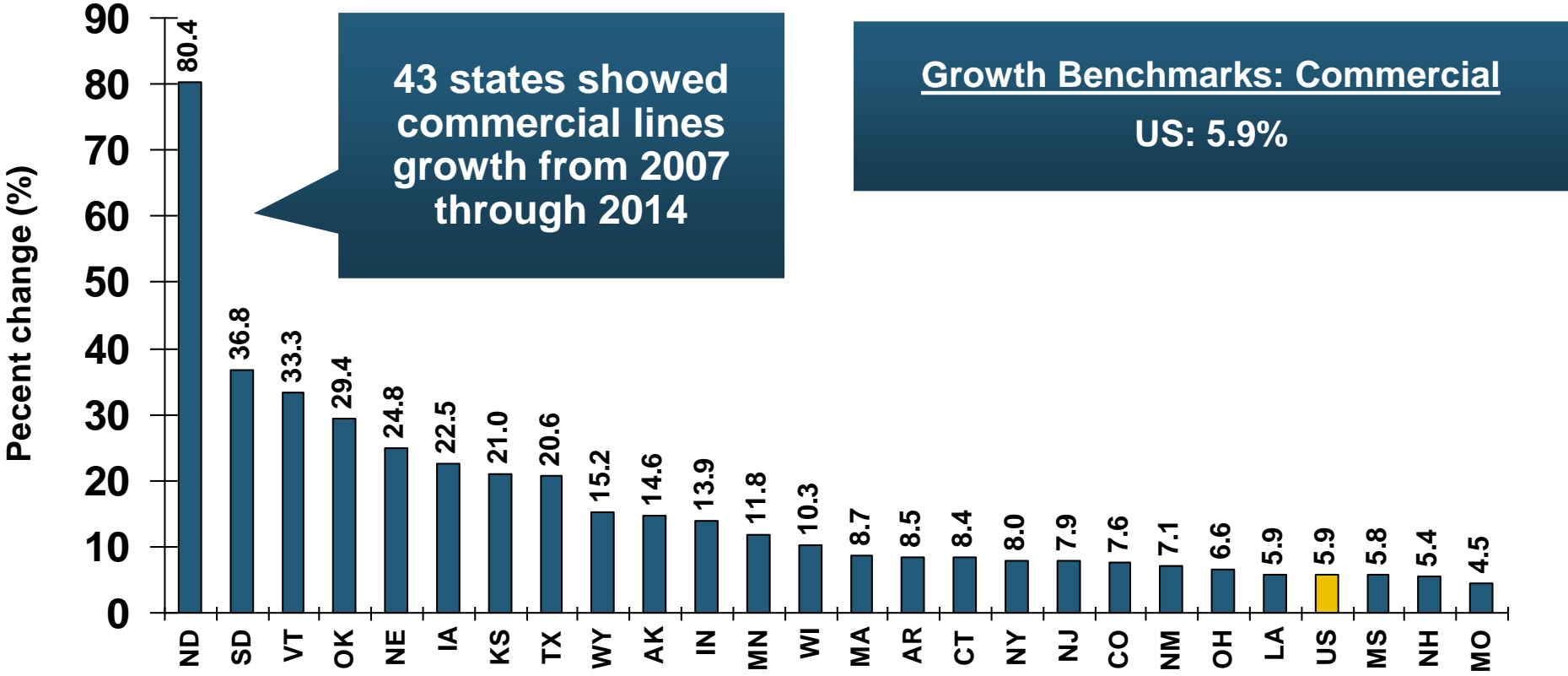
## Bottom 25 States



Sources: SNL Financial LC.; Insurance Information Institute.

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

## Top 25 States



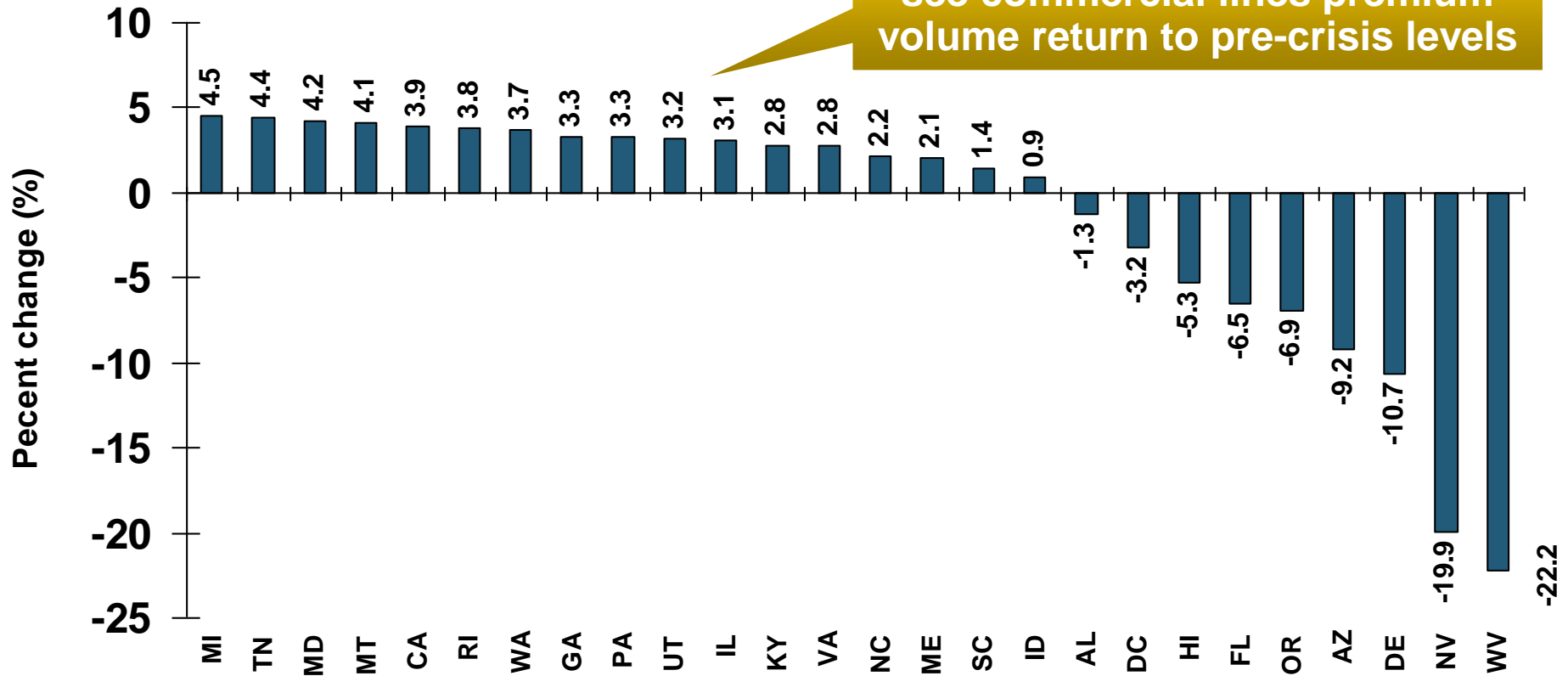
Sources: SNL Financial LLC.; Insurance Information Institute.



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

## Bottom 25 States

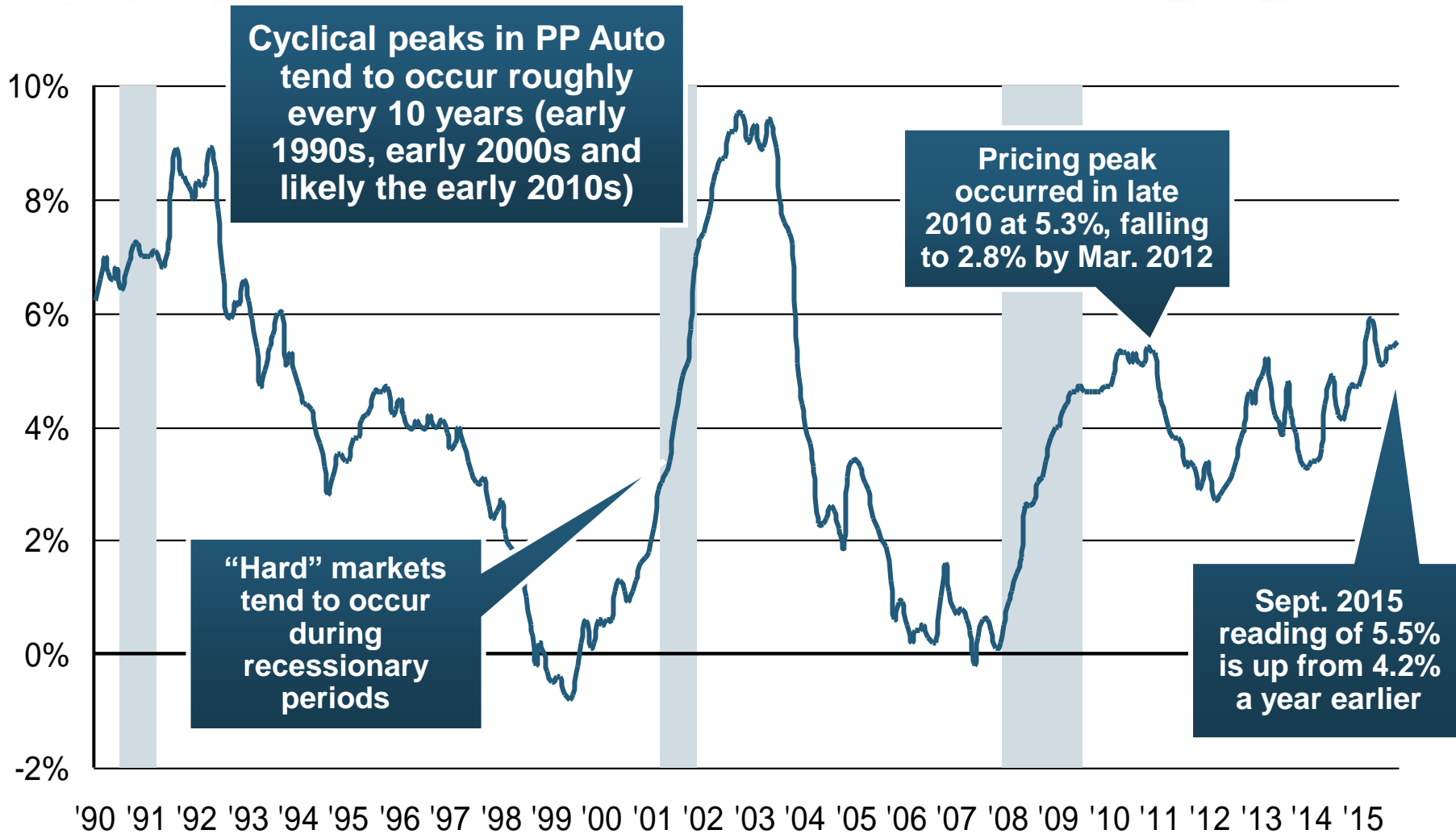
Nearly half the states have yet to see commercial lines premium volume return to pre-crisis levels



# Pricing Trends

**Personal Lines Pricing Is Up  
Survey Results Suggest  
Commercial Pricing Has  
Flattened Out**

# Monthly Change in Auto Insurance Prices, 1991–2015\*

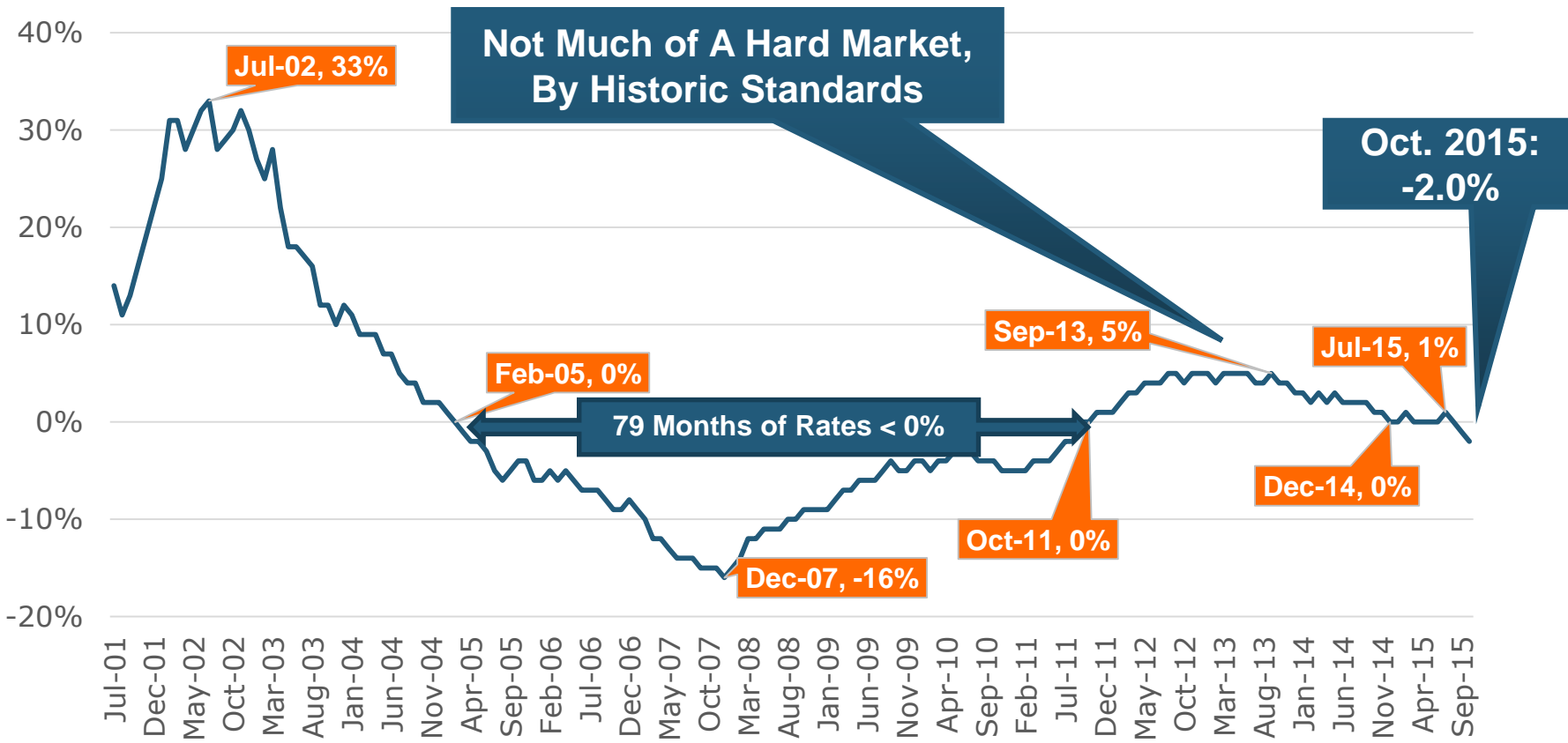


\*Percentage change from same month in prior year; through Sept. 2015; seasonally adjusted

Note: Recessions indicated by gray shaded columns.

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

# Commercial Lines Rate Change by Month (vs. Year Earlier), July 2001 – Oct. 2015

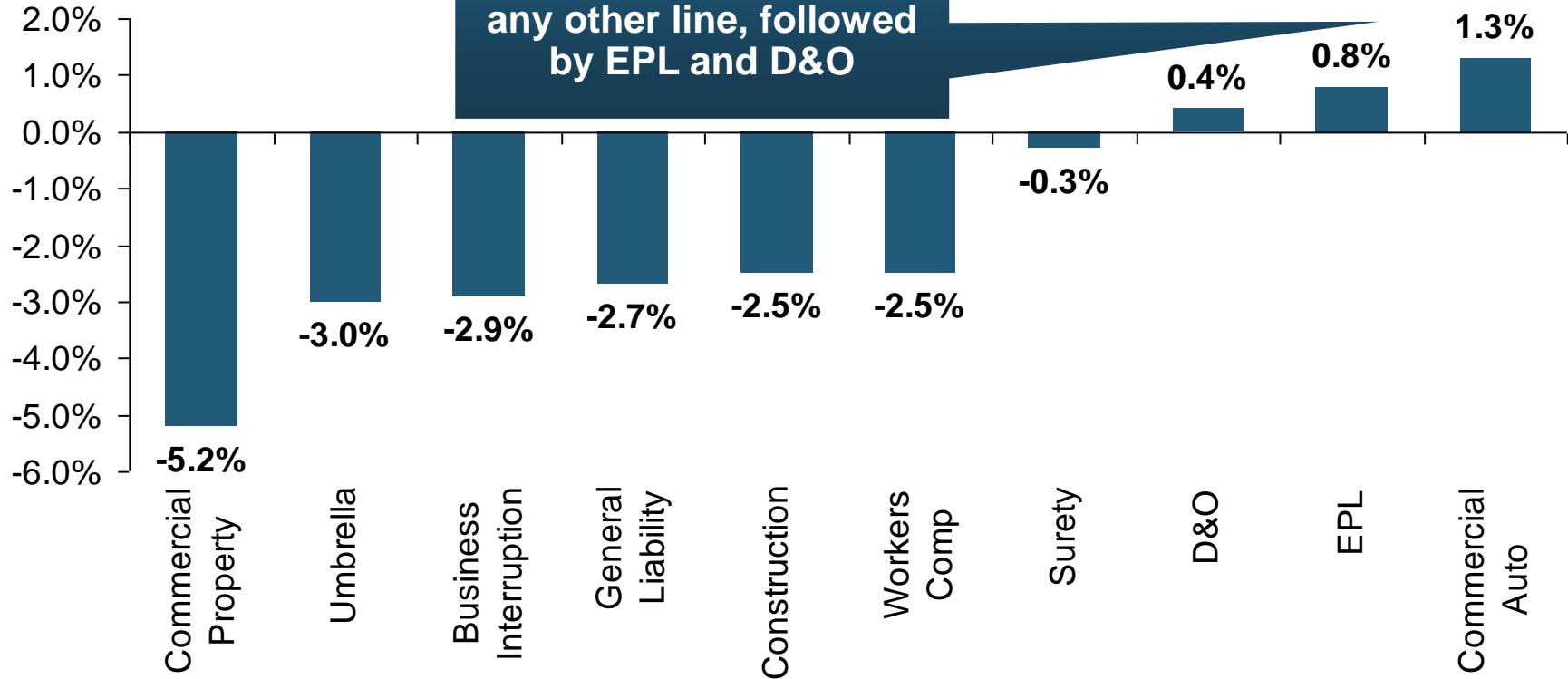


**Commercial Insurance Rate Changes Are Flat to Slightly Down**

SOURCE: MarketScout, Insurance Information Institute.

# Change in Commercial Rate Renewals, by Line: 2015:Q3

Percentage Change (%)

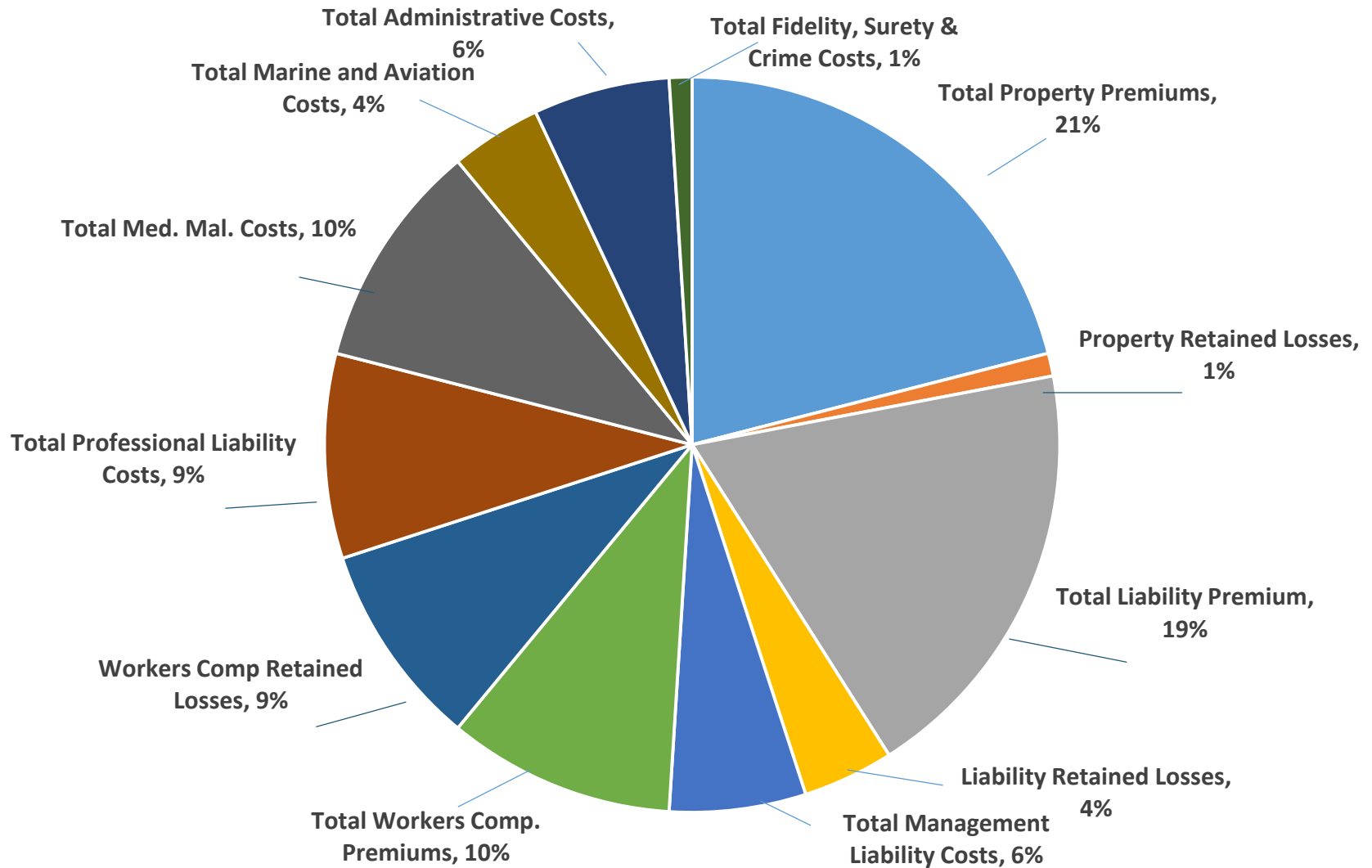


**Major Commercial Lines Renewals Were Mixed to Down in Q3:2015; EPL, D&O and Commercial Saw Gains**

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.

# How the Risk Dollar is Spent

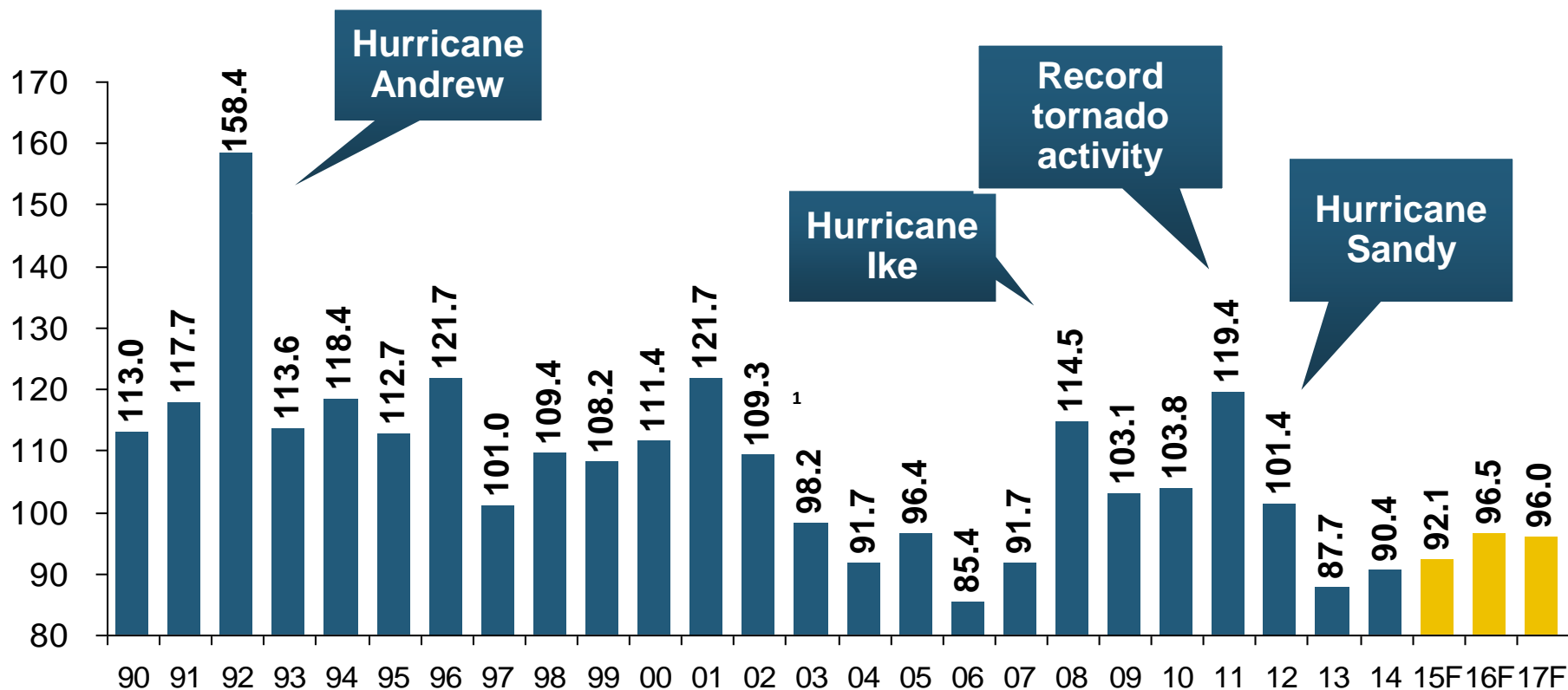
*(U.S. Firms with Revenues Under \$1 Bill)*





# Underwriting Performance

# Homeowners Insurance Combined Ratio: 1990–2017F



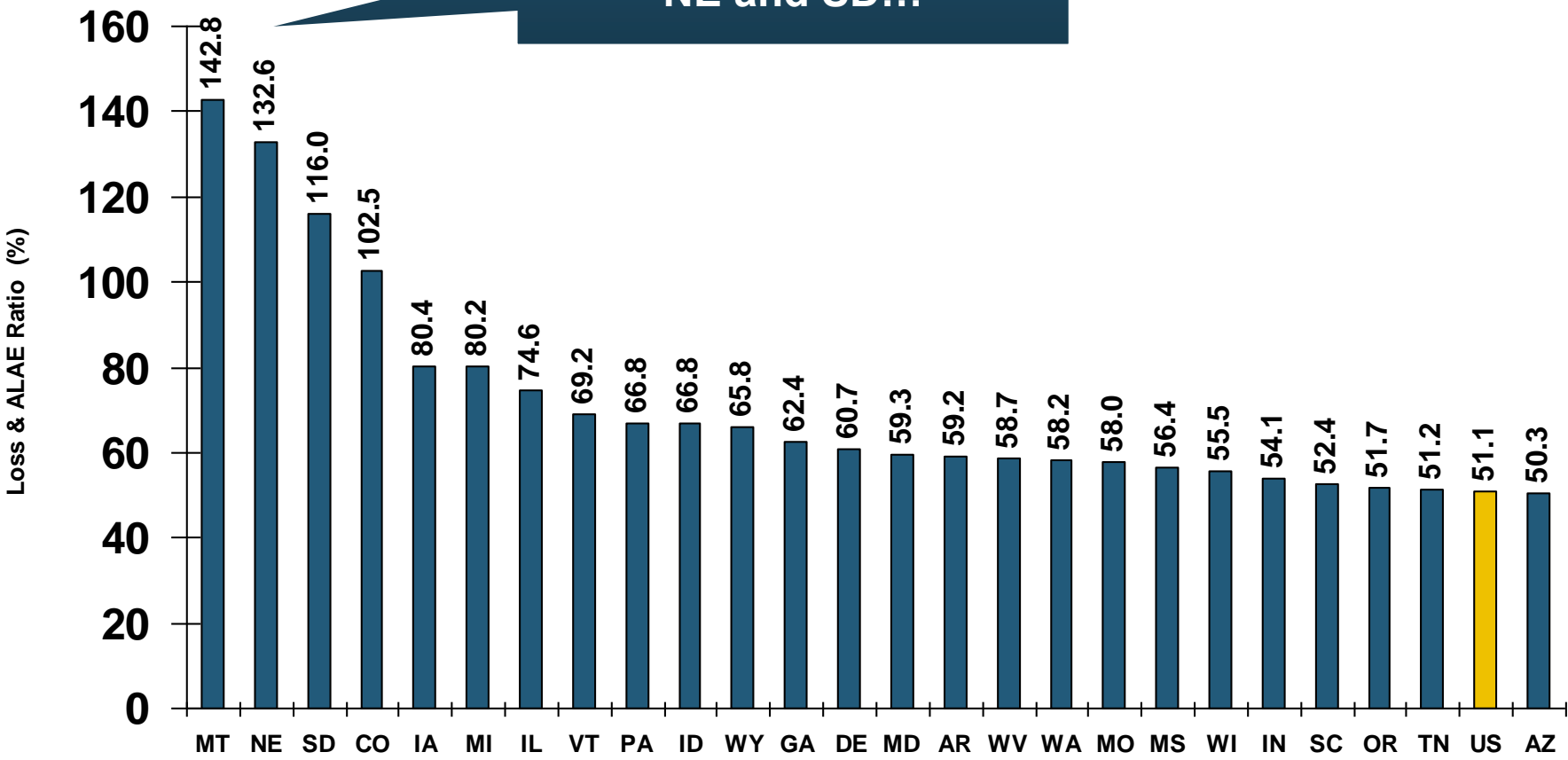
**Homeowners Performance in 2011/12 Impacted by Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity**



# Homeowners Multi-Peril Loss & ALAE Ratio, 2014: Highest 25 States



MT had the worst loss ratio in 2014, followed by NE and SD...

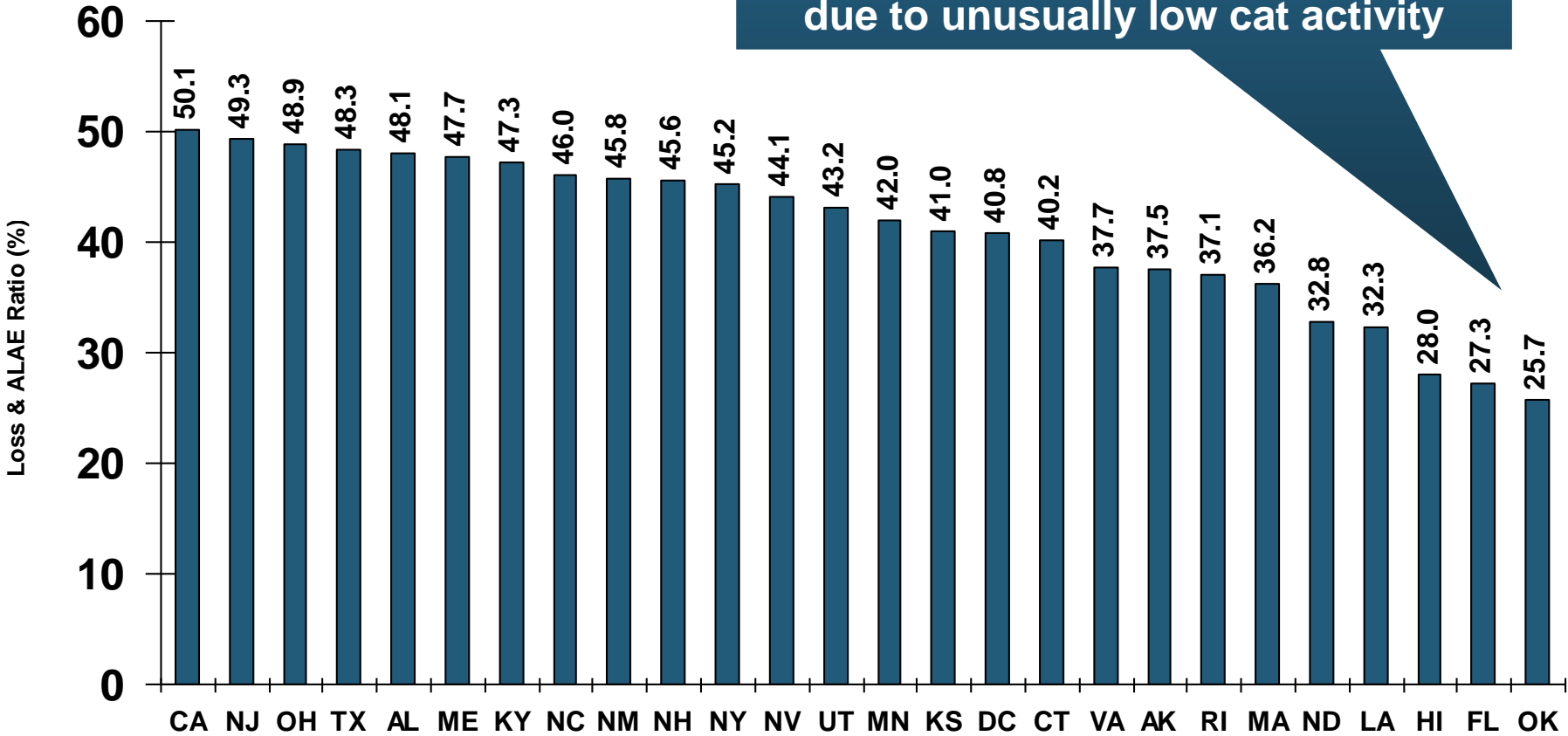


Sources: SNL Financial; Insurance Information Institute.

# Homeowners Multi-Peril Loss & ALAE Ratio, 2014: Lowest 25 States and DC

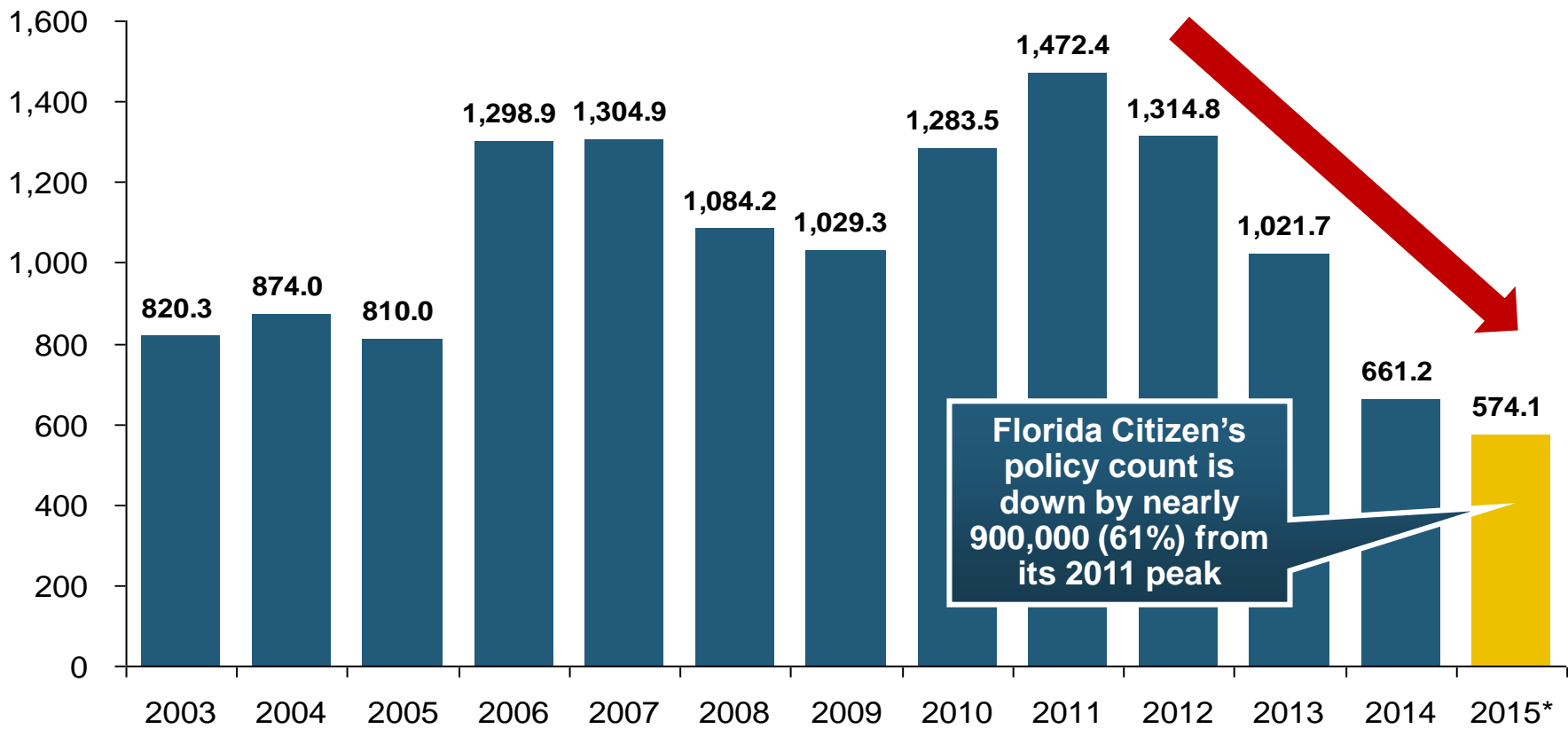


OK and FL had the best performances in 2014. Traditionally high cat-loss states did well last year due to unusually low cat activity



Sources: SNL Financial; Insurance Information Institute.

# Florida Citizens Policy Count, 2003 – 2015\* (Thousands)

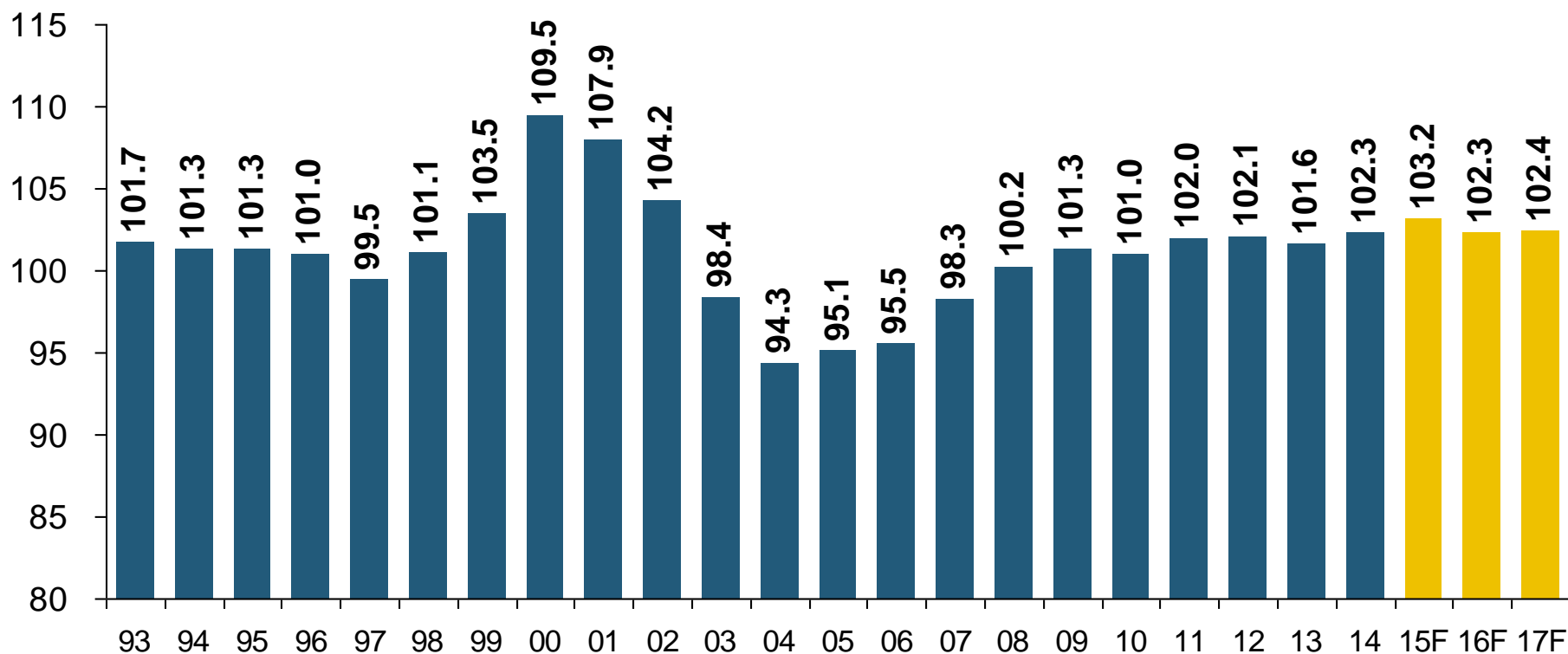


**A lack of major hurricanes, ample private sector/reinsurer capital and capital market interest—combined with structural changes to Citizens—have combined to take Citizens policy count and exposure to their lowest levels in many years**

\*As of October 6, 2015. All other figures are as of Dec. 31.

Source: Florida Citizens <https://www.citizensfla.com/about/bookofbusiness/>; Insurance Information Institute (I.I.I.).

# Private Passenger Auto Combined Ratio: 1993–2017F

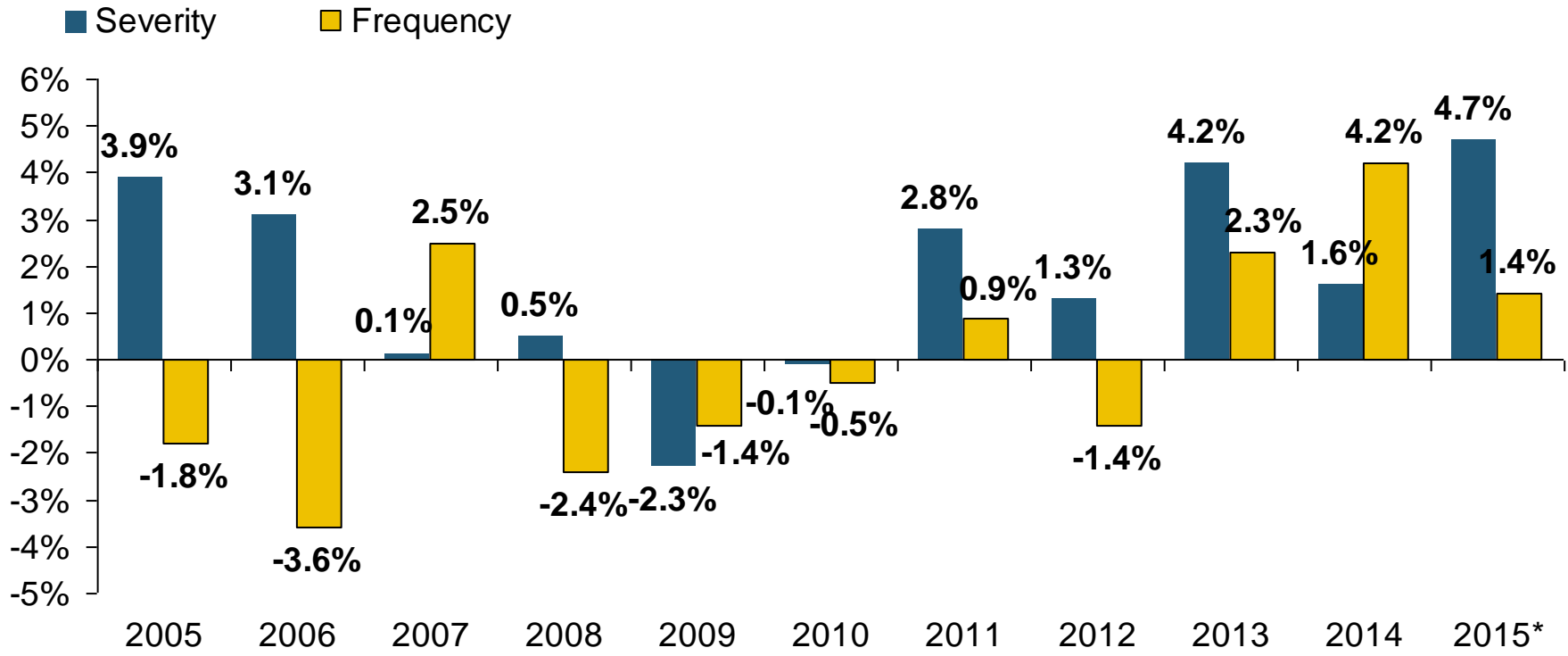


**Private Passenger Auto Underwriting Performance Is Exhibiting Remarkable Stability**

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



Annual Change, 2005 through 2015\*

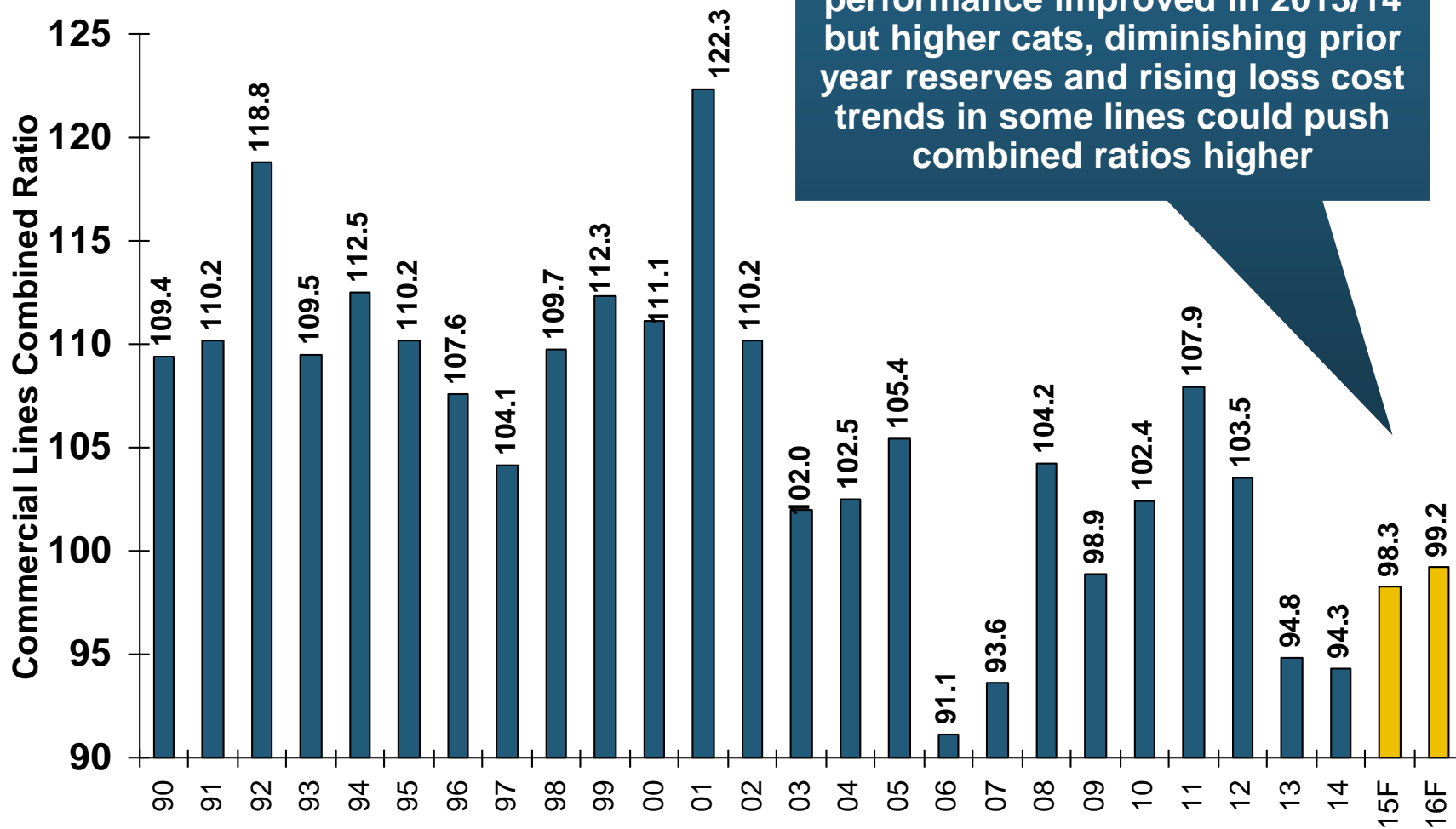


**The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Will Likely Be Reversed Based on Evidence from Past Recoveries**

\*2015 figure is for the 4 quarters ending with 2015:Q2.

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

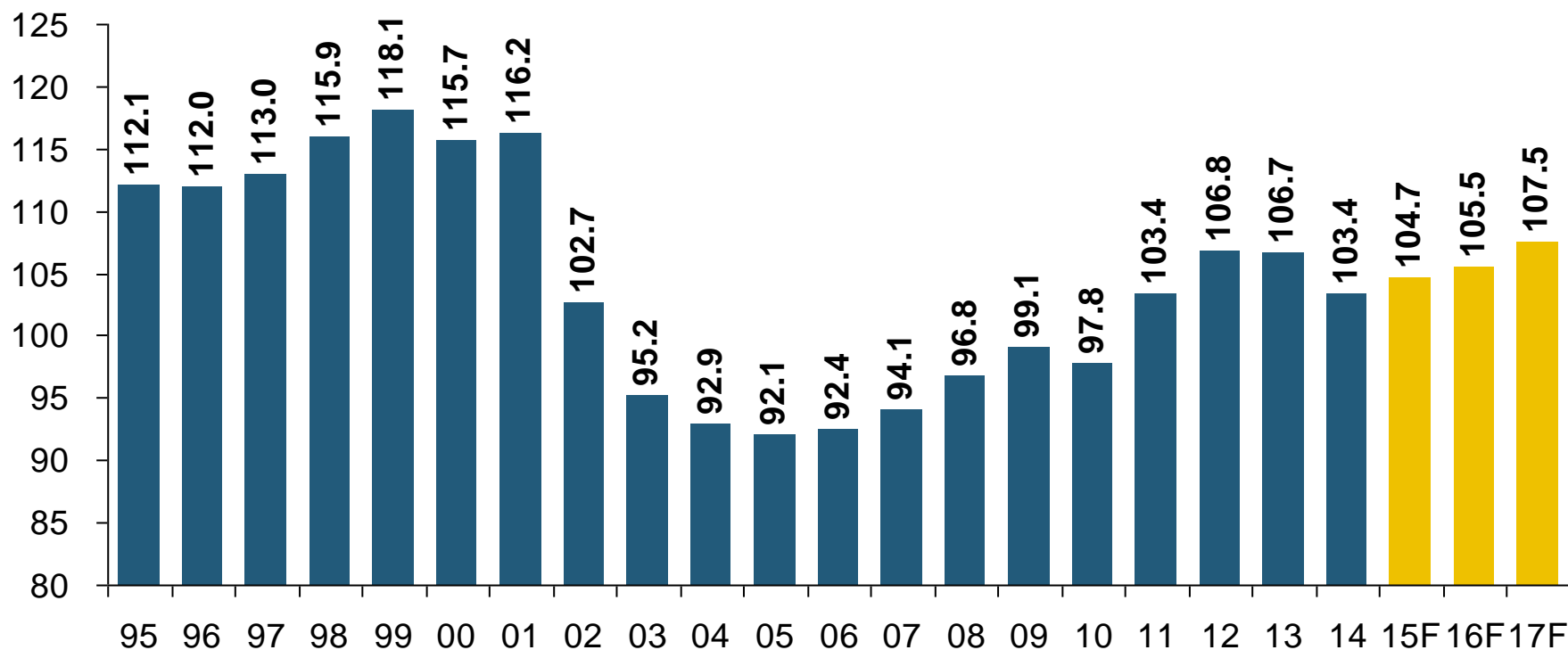
# Commercial Lines Combined Ratio, 1990-2016F\*



Commercial lines underwriting performance improved in 2013/14 but higher cats, diminishing prior year reserves and rising loss cost trends in some lines could push combined ratios higher

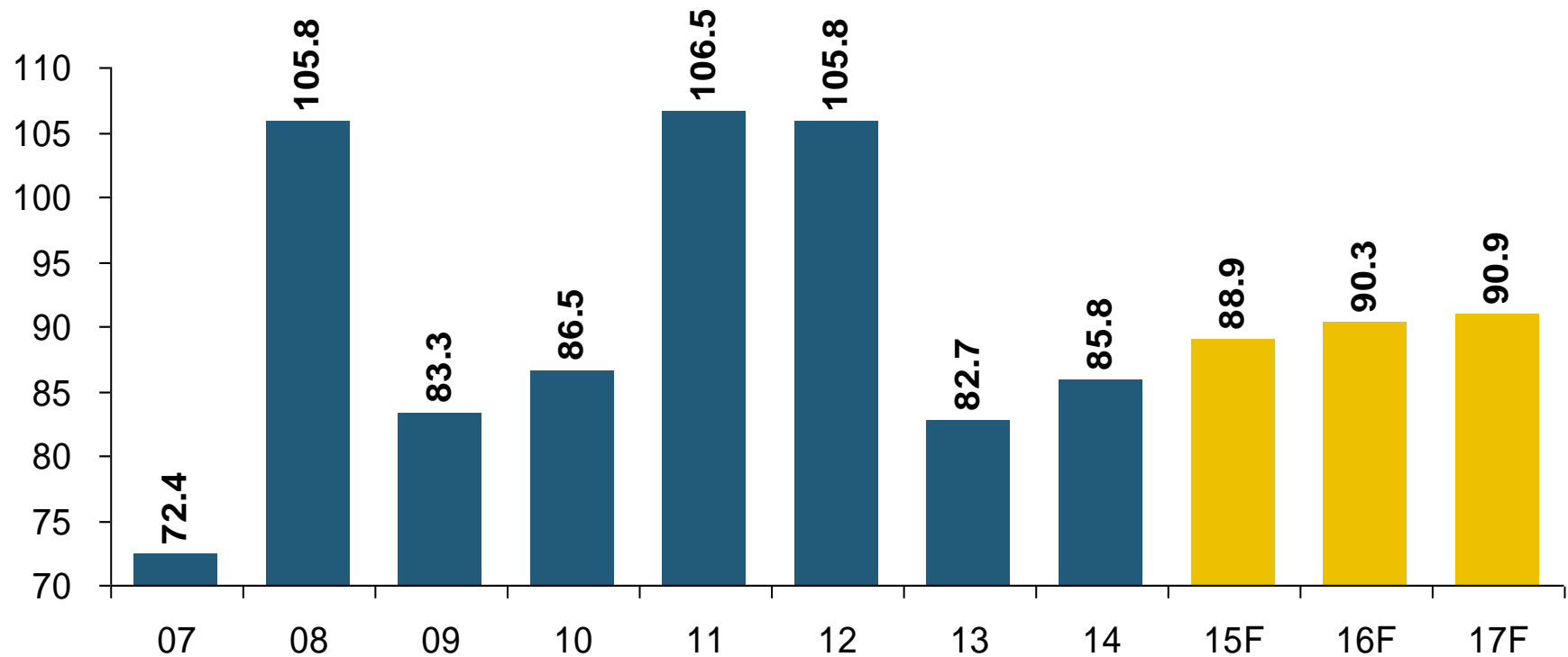
\*2007-2012 figures exclude mortgage and financial guaranty segments.  
 Source: A.M. Best (1990-2014); Conning (2015-16F) Insurance Information Institute.

# Commercial Auto Combined Ratio: 1993–2017F



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

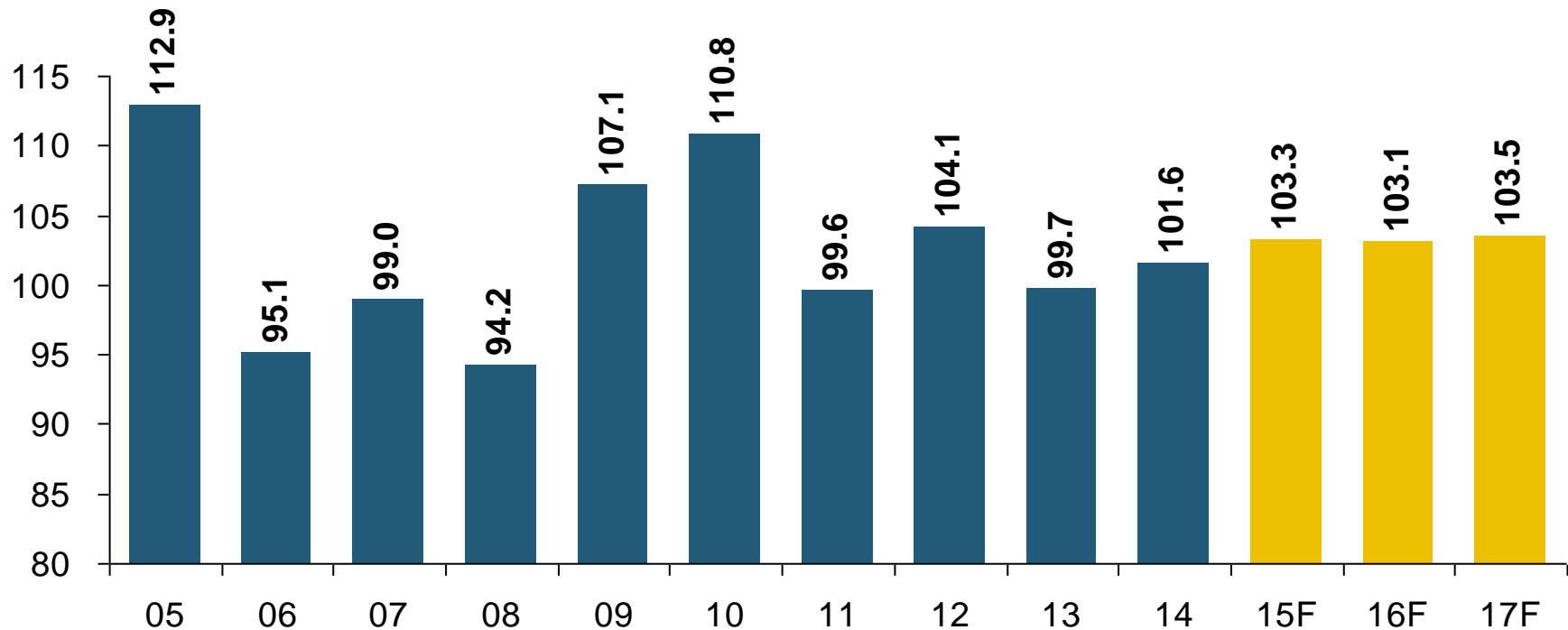
# Commercial Property Combined Ratio: 2007–2017F



**Commercial Property Underwriting Performance  
Has Been Volatile in Recent Years, Largely Due to  
Fluctuations in CAT Activity**

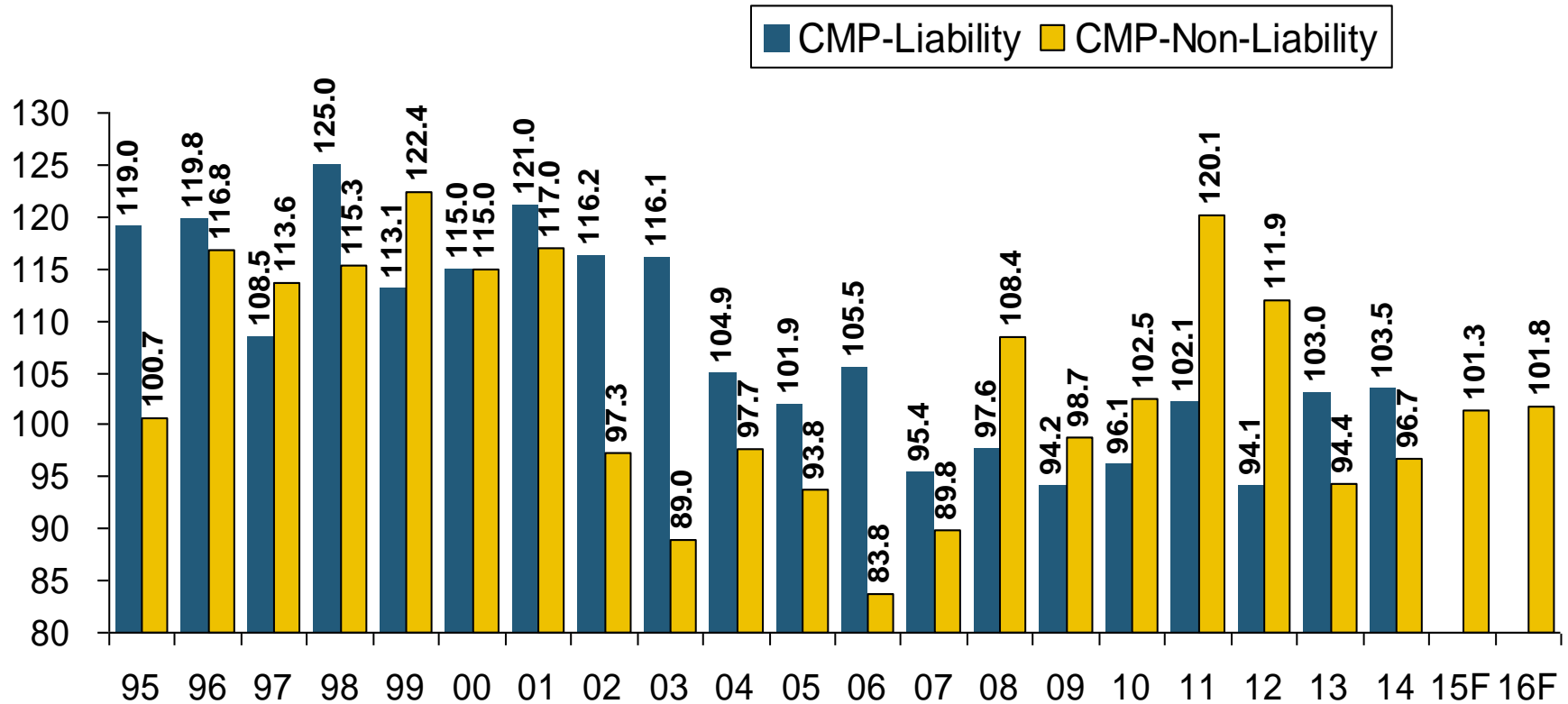


# General Liability Combined Ratio: 2005–2017F



**Commercial General Liability Underwriting  
Performance Has Been Volatile in Recent Years**

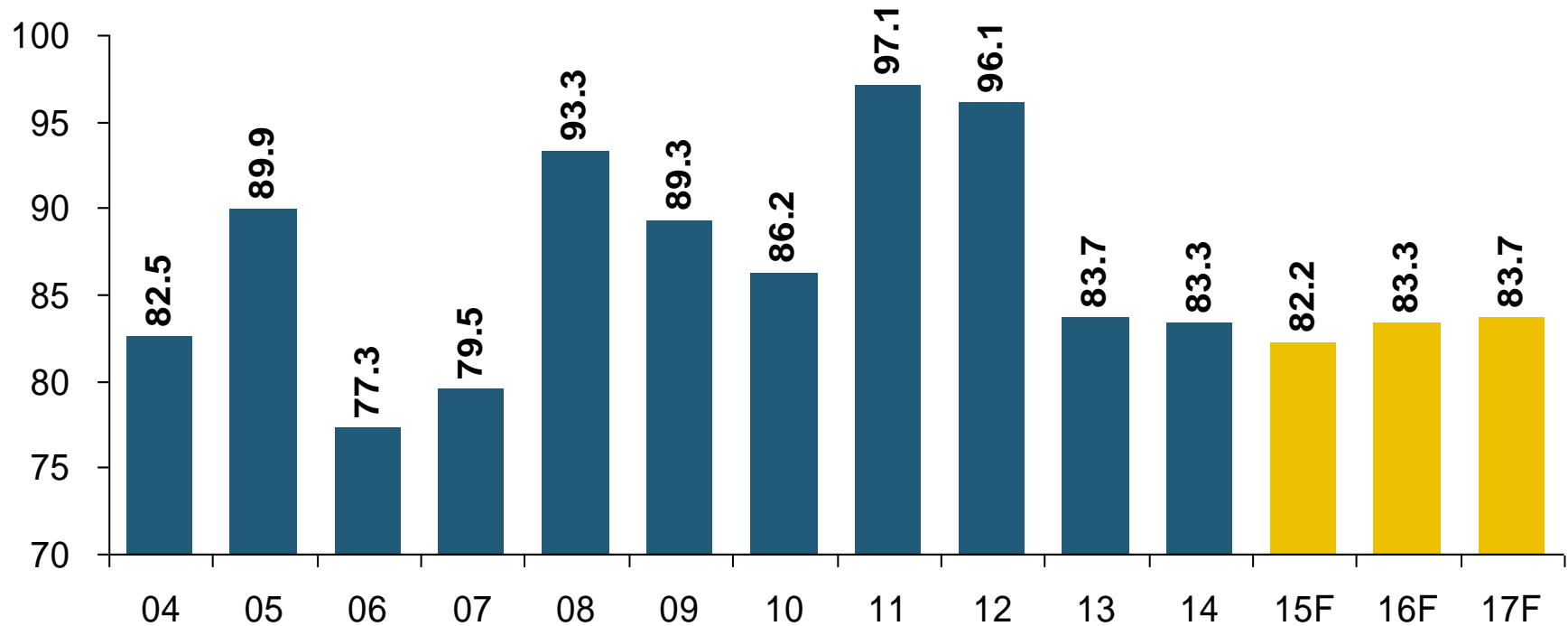
# Commercial Multi-Peril Combined Ratio: 1995–2016F



**Commercial Multi-Peril Underwriting Performance is Expected to Remains Stable in 2015 Assuming Normal Catastrophe Loss Activity**

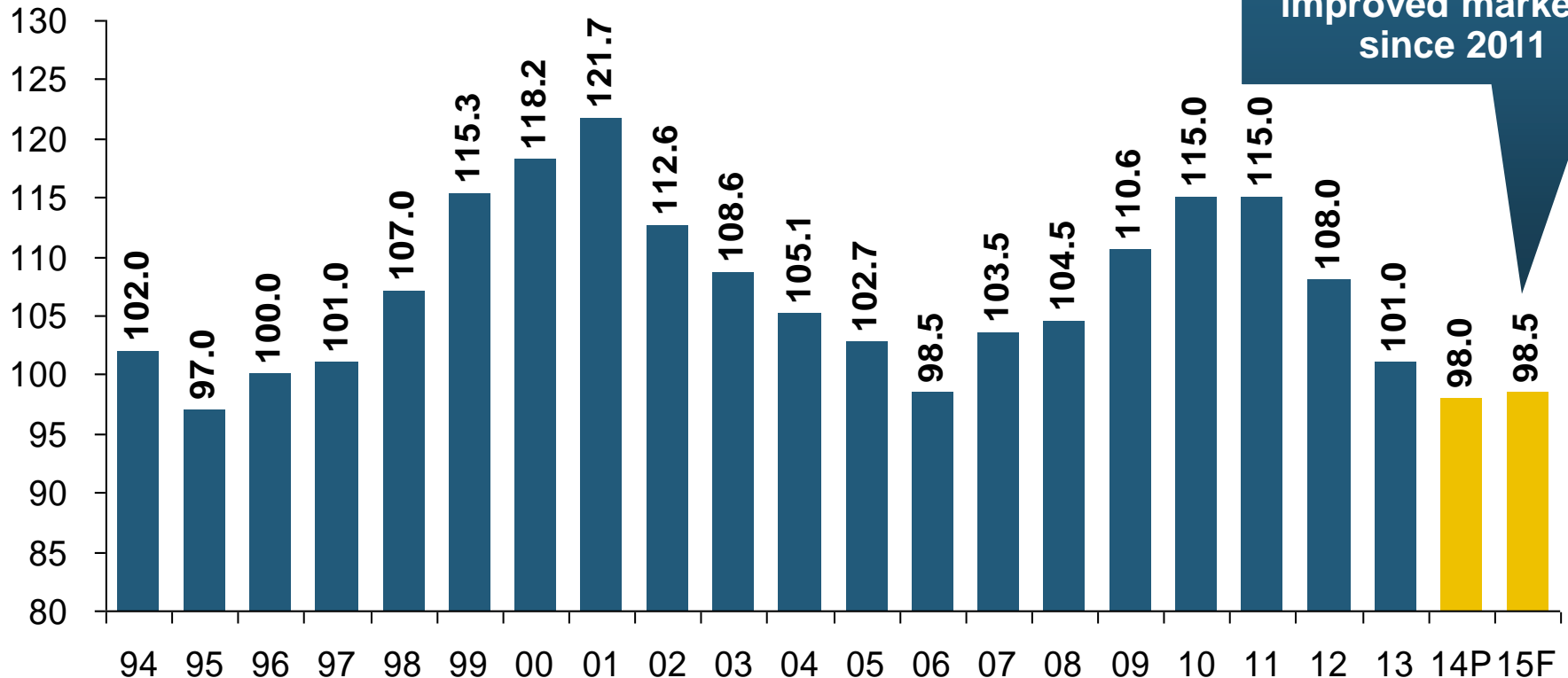
\*2015F-2016F figures are Conning figures for the combined liability and non-liability components.  
Sources: A.M. Best; Conning; Insurance Information Institute.

# Inland Marine Combined Ratio: 2004–2017F



**Inland Marine Underwriting Performance Has Been  
Consistently Strong for Many Years**

# Workers Compensation Combined Ratio: 1994–2015F



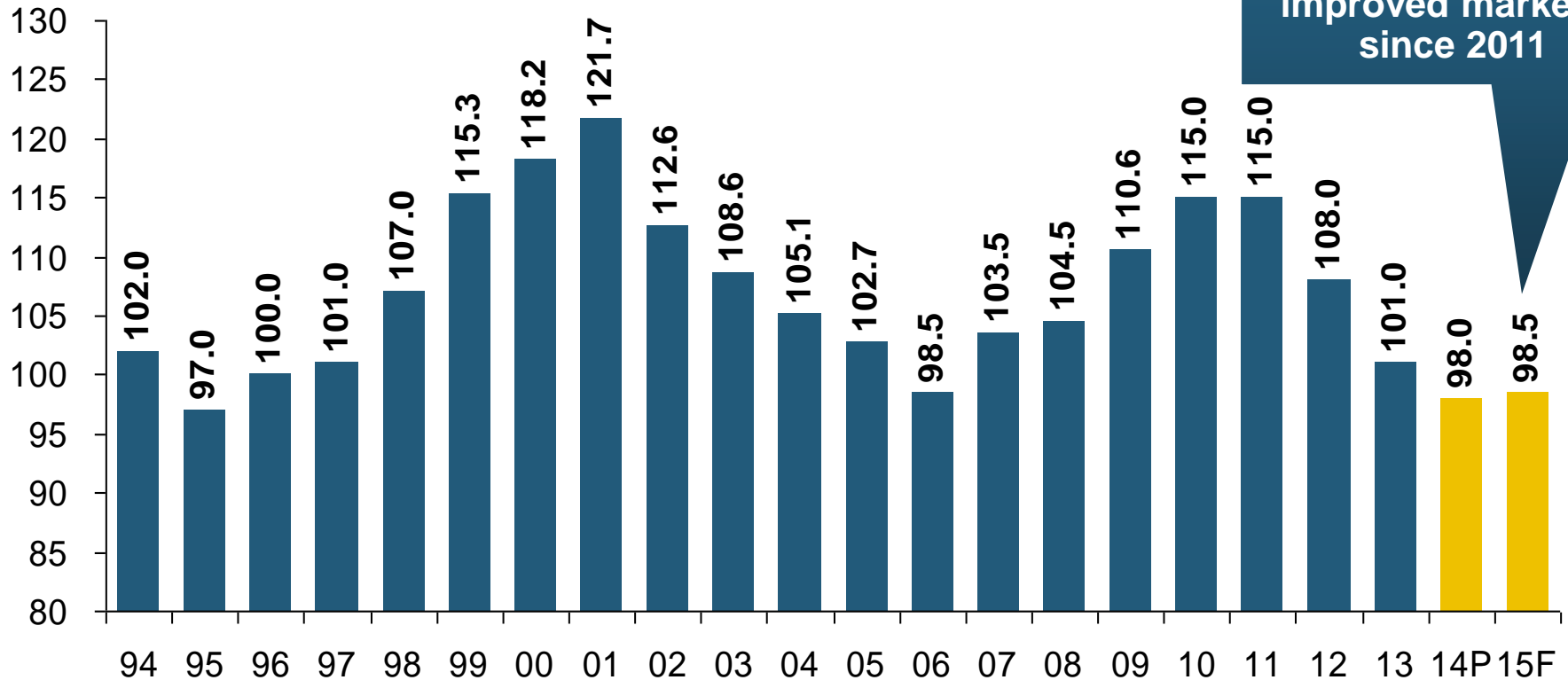
**Workers Comp Results Began to Improve in 2012. Underwriting Results Deteriorated Markedly from 2007-2010/11 and Were the Worst They Had Been in a Decade.**



# Workers Compensation Operating Environment

**Workers Comp Results Have Improved  
Substantially in Recent Years**

# Workers Compensation Combined Ratio: 1994–2015F



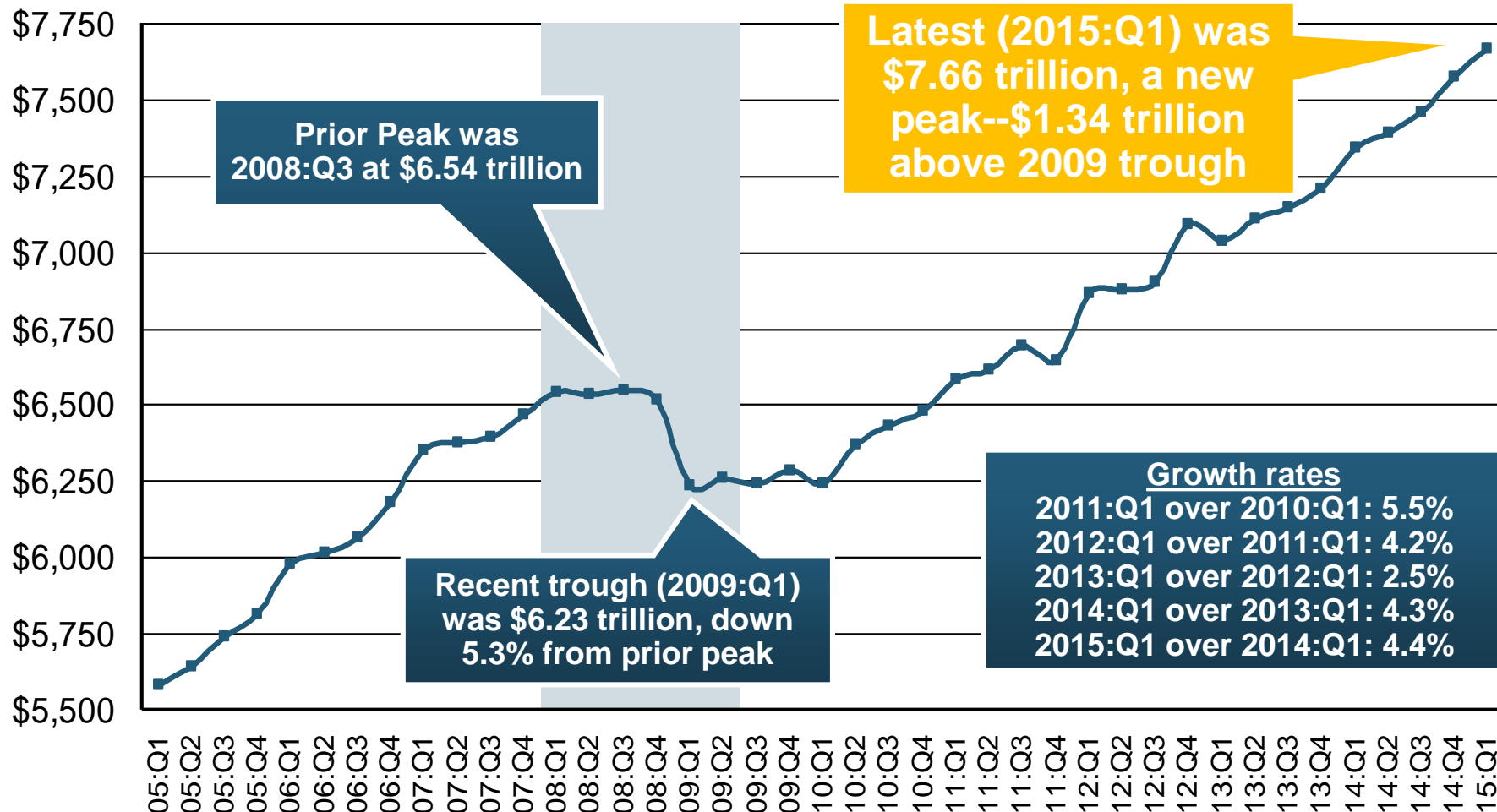
WC results have improved markedly since 2011

**Workers Comp Results Began to Improve in 2012. Underwriting Results Deteriorated Markedly from 2007-2010/11 and Were the Worst They Had Been in a Decade.**

Sources: A.M. Best (1994-2009); NCCI (2010-2014P) and are for private carriers only; Insurance Information Institute (2015F).

# Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2015:Q1

Billions



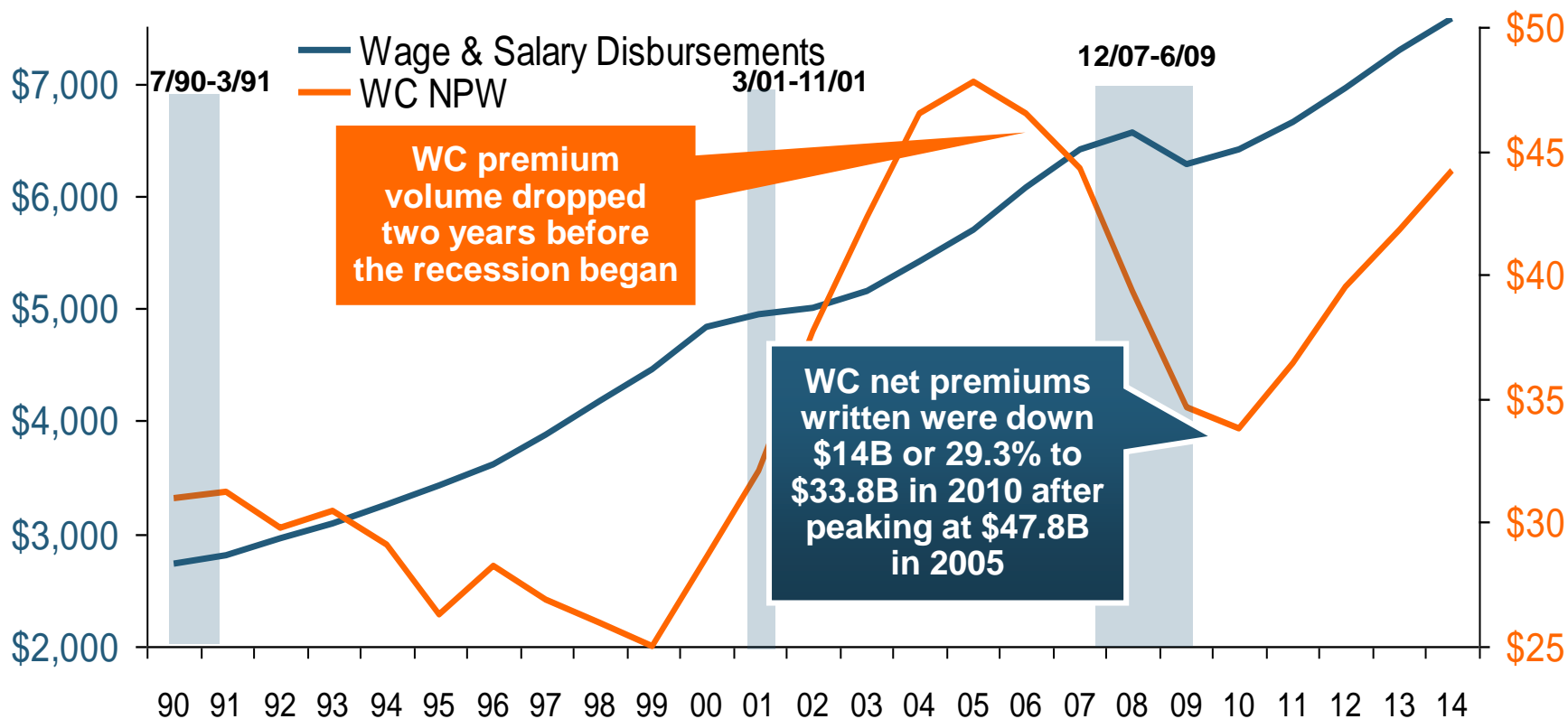
Note: Recession indicated by gray shaded column. Data are seasonally adjusted annual rates.

Sources: <http://research.stlouisfed.org/fred2/series/WASCUR>; National Bureau of Economic Research (recession dates); Insurance Information Institute.

# Payroll vs. Workers Comp Net Written Premiums, 1990-2014P

Payroll Base\*  
\$Billions

WC NWP  
\$Billions



**Continued Payroll Growth and Rate Gains Suggest WC NWP Will Grow Again in 2015**

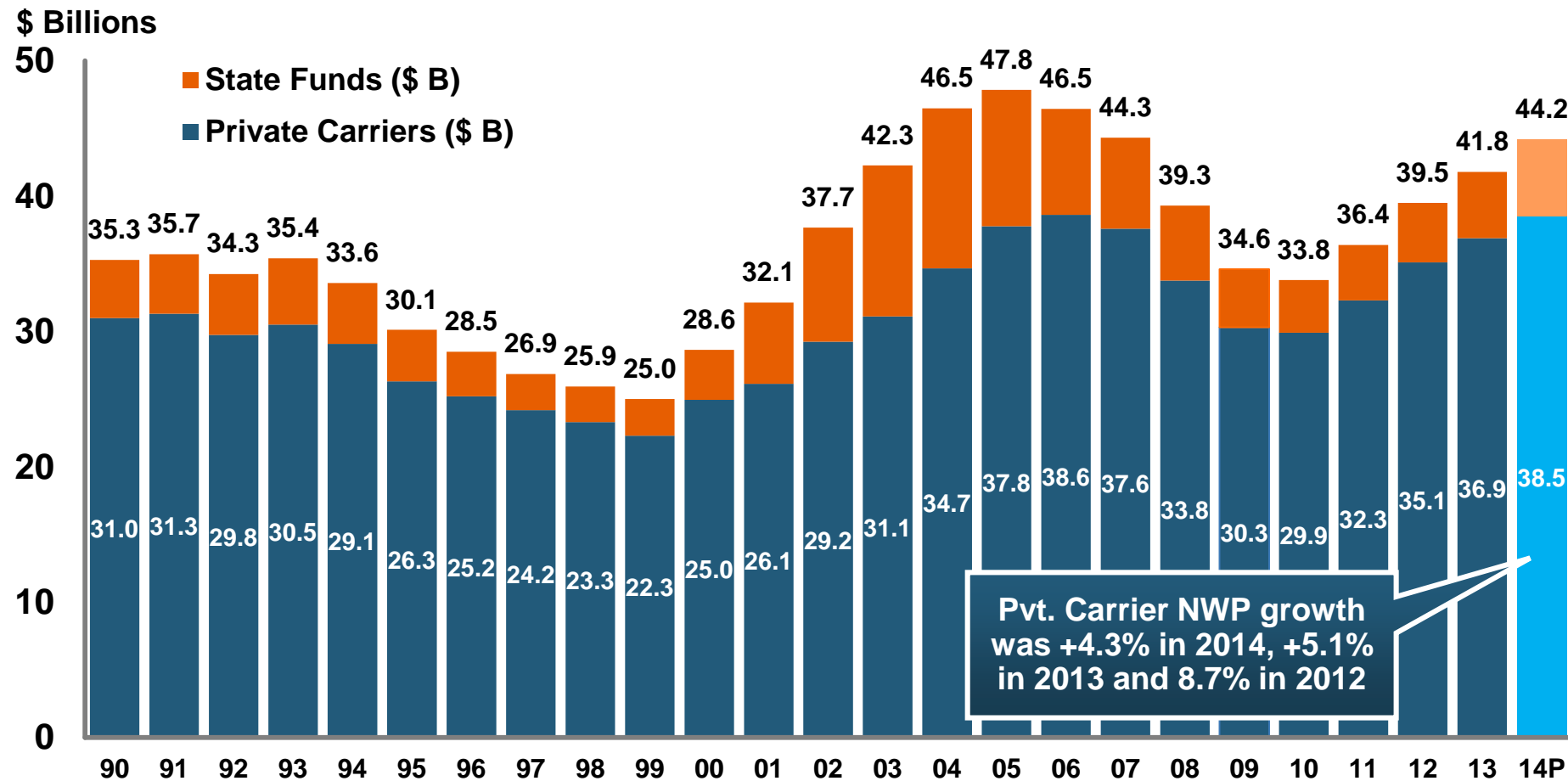
\*Private employment; Shaded areas indicate recessions. WC premiums for 2014 are from NCCI.

Sources: NBER (recessions); Federal Reserve Bank of St. Louis at <http://research.stlouisfed.org/fred2/series/WASCUR> ; NCCI; I.I.I.



# Workers Compensation Premium: Fourth Consecutive Year of Increase

## Net Written Premium



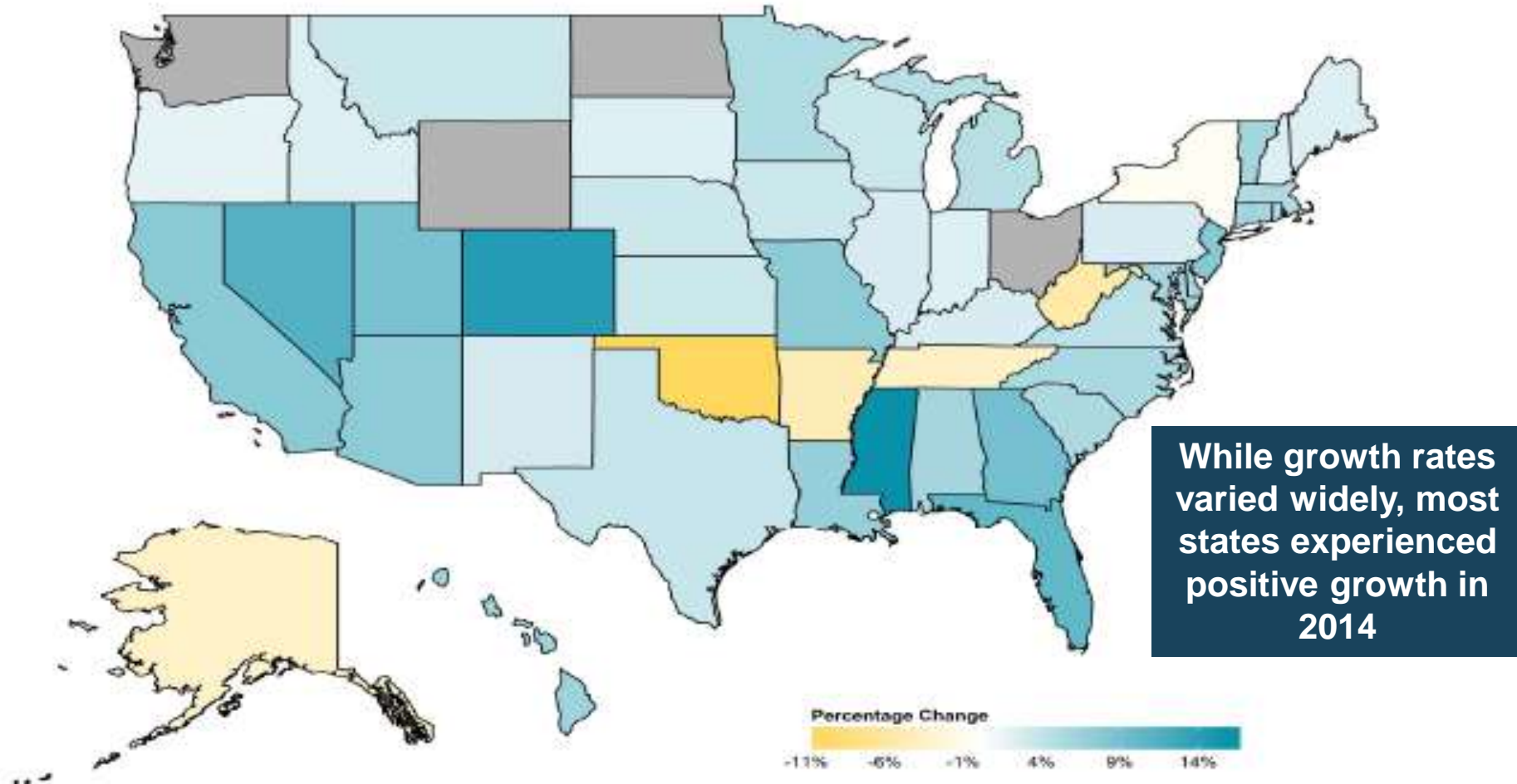
p Preliminary

Source: NCCI from Annual Statement Data.

Includes state insurance fund data for the following states: AZ, CA, CO, HI, ID, KY, LA, MD, MO, MT, NM, OK, OR, RI, TX, UT.  
Each calendar year total for State Funds includes all funds operating as a state fund that year.

# 2014 Workers Compensation Direct Written Premium Growth, by State\*

PRIVATE CARRIERS: Overall 2014 Growth = +4.6%



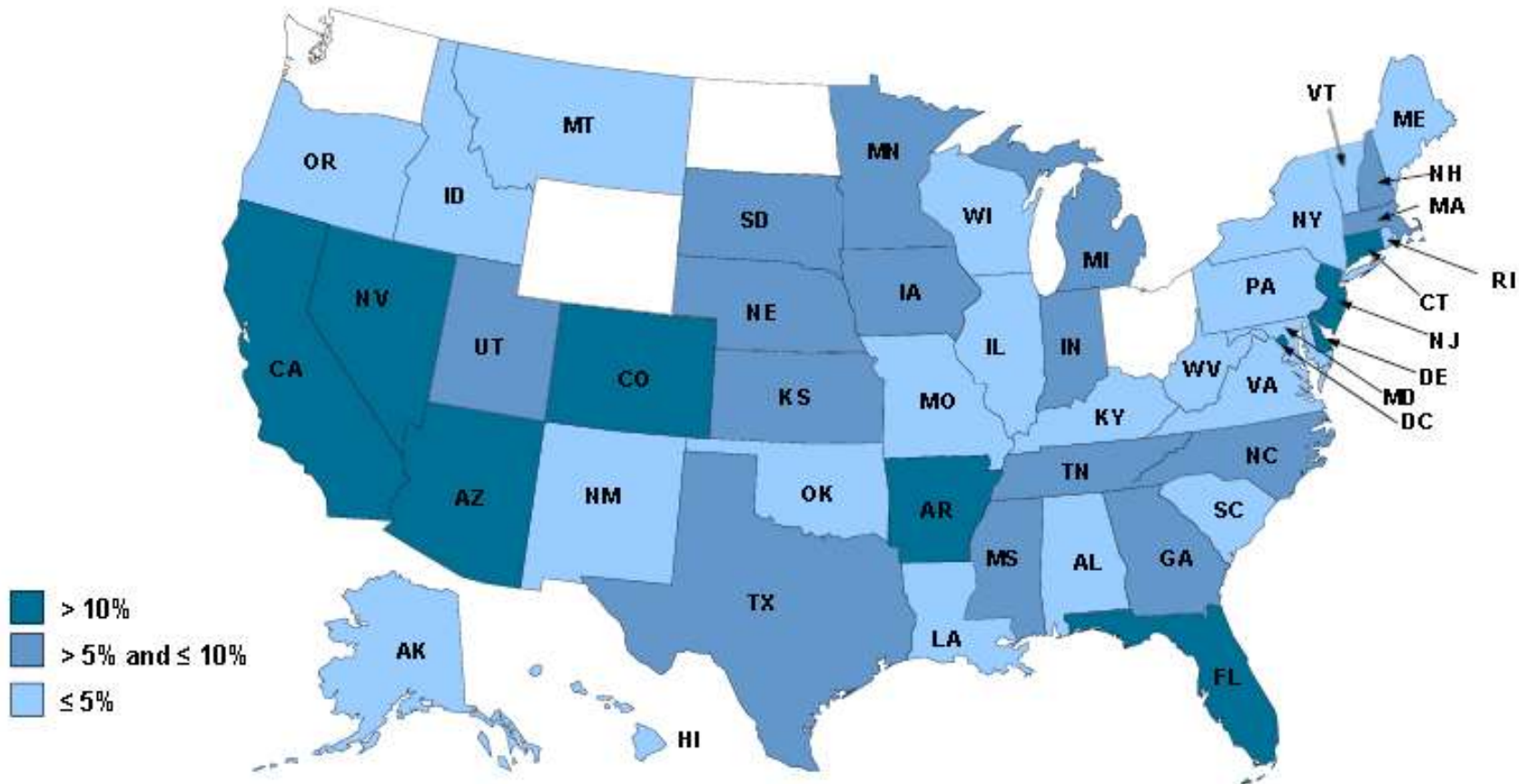
\*Excludes monopolistic fund states (in gray): OH, ND, WA and WY.

Source: NCCI.

# 2013 Workers Compensation Direct Written Premium Growth, by State\*

PRIVATE CARRIERS: Overall 2013 Growth = +5.4%

While growth rates varied widely, all states experienced positive growth in 2013



\*Excludes monopolistic fund states (in white): OH, ND, WA and WY.

Source: NCCI.

# Workers Compensation Components of Written Premium Change, 2013 to 2014

## Written Premium Change from 2013 to 2014

<b>Net Written Premium—Countrywide</b>	<b>+4.6%</b>
<b>Direct Written Premium—Countrywide</b>	<b>+4.6%</b>
<b>Direct Written Premium—NCCI States</b>	<b>+4.5%</b>
<b>Components of DWP Change for NCCI States</b>	
Change in Carrier Estimated Payroll	+4.7%
Change in Bureau Loss Costs and Mix	-1.4%
Change in Carrier Discounting	+0.4%
Change in Other Factors	+0.8%
<b>Combined Effect</b>	<b>+4.5%</b>

**Growth is now almost entirely payroll driven**

Sources: Countrywide: Annual Statement data.

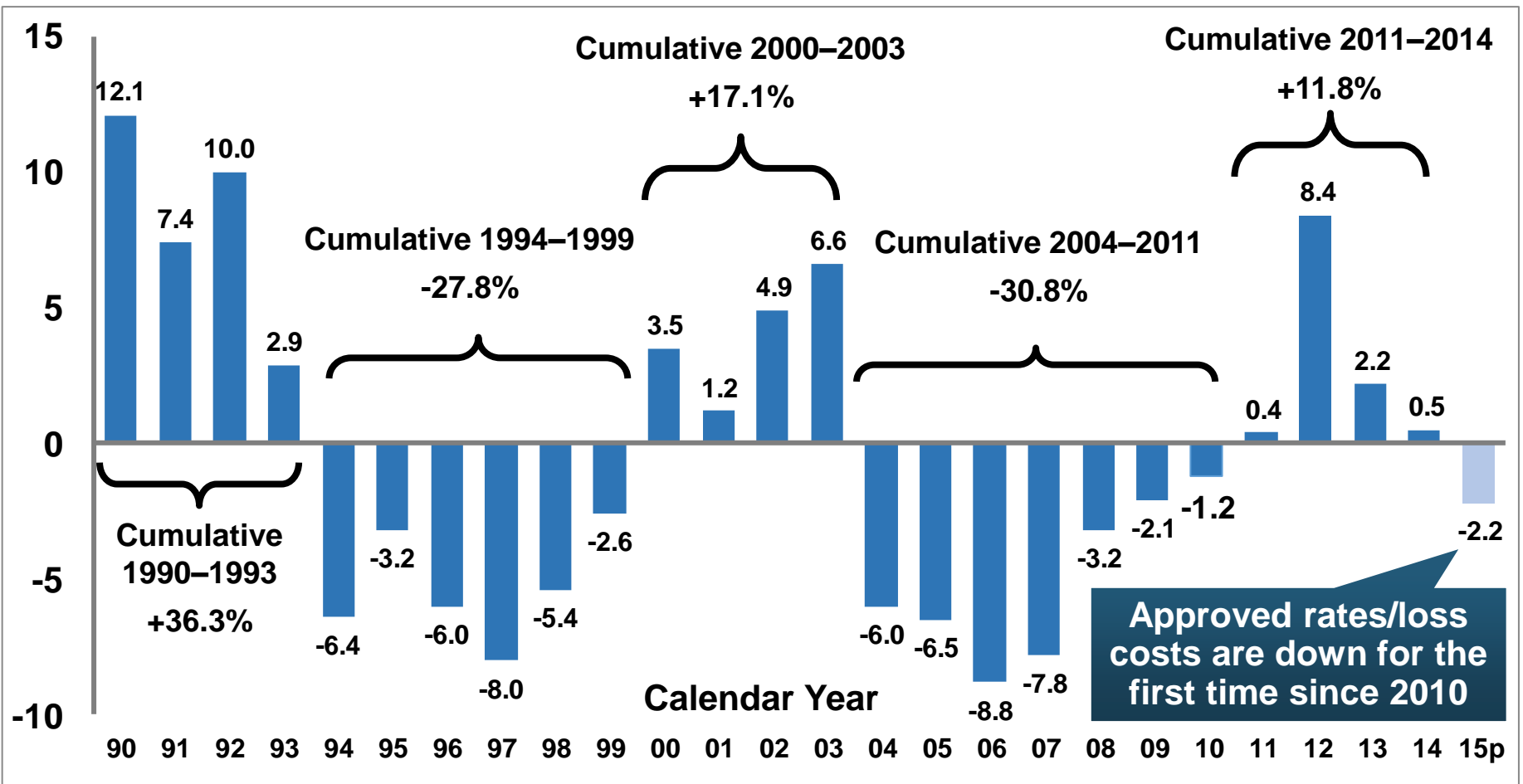
NCCI States: Annual Statement Statutory Page 14 for all states where NCCI provides ratemaking services.

Components: NCCI Policy data.

# WC Approved Changes in Bureau Premium Level (Rates/Loss Costs)

## By Effective Date for Total Market

Percent



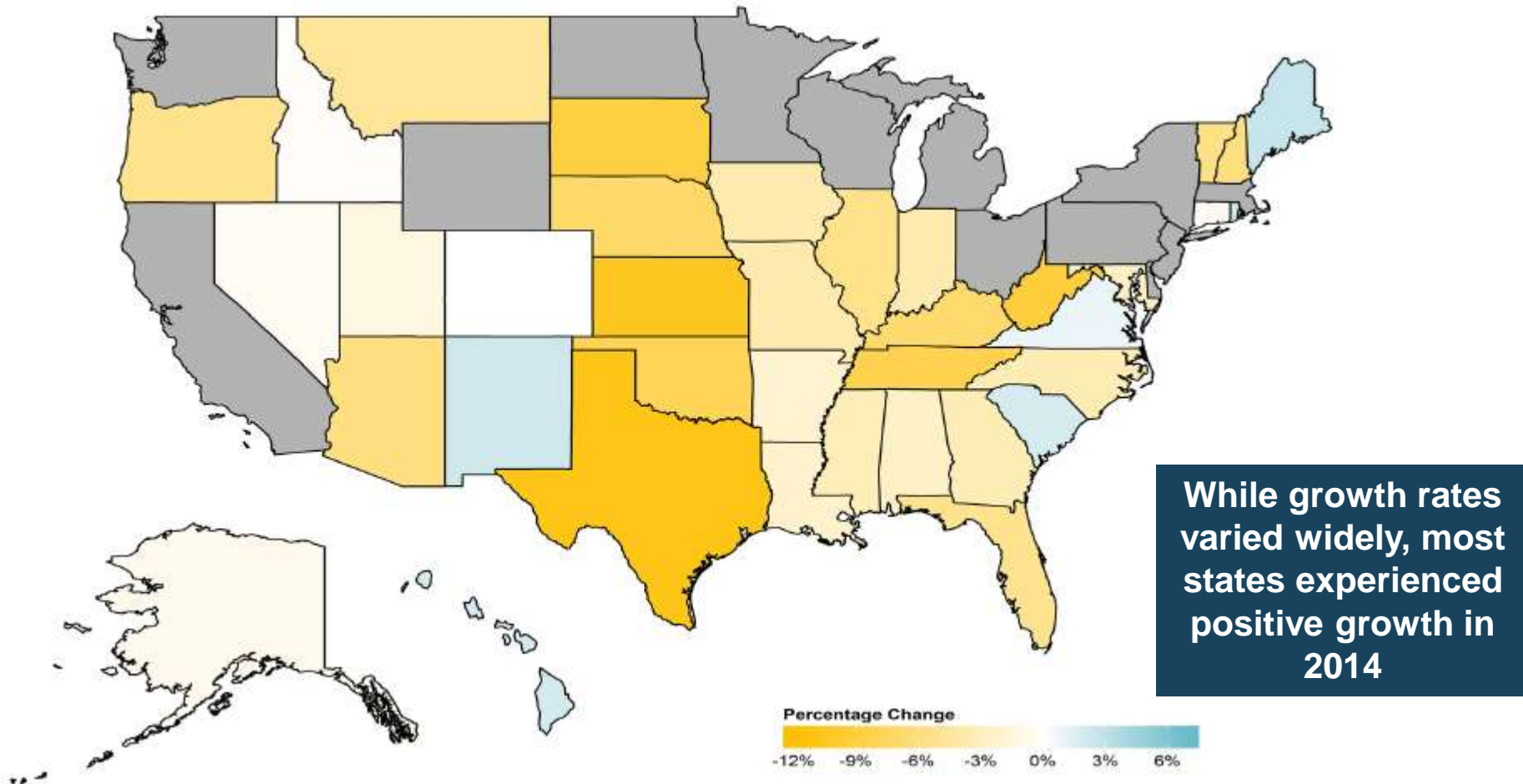
\*States approved through 4/24/15.

Note: Bureau premium level changes are countrywide approved changes in advisory rates, loss costs and assigned risk rates as filed by applicable rating organization, relative to those previously approved.

Source: NCCI.

# WC Approved or Filed and Pending Change in NCCI Premium Level by State

## Latest Change for Voluntary Market

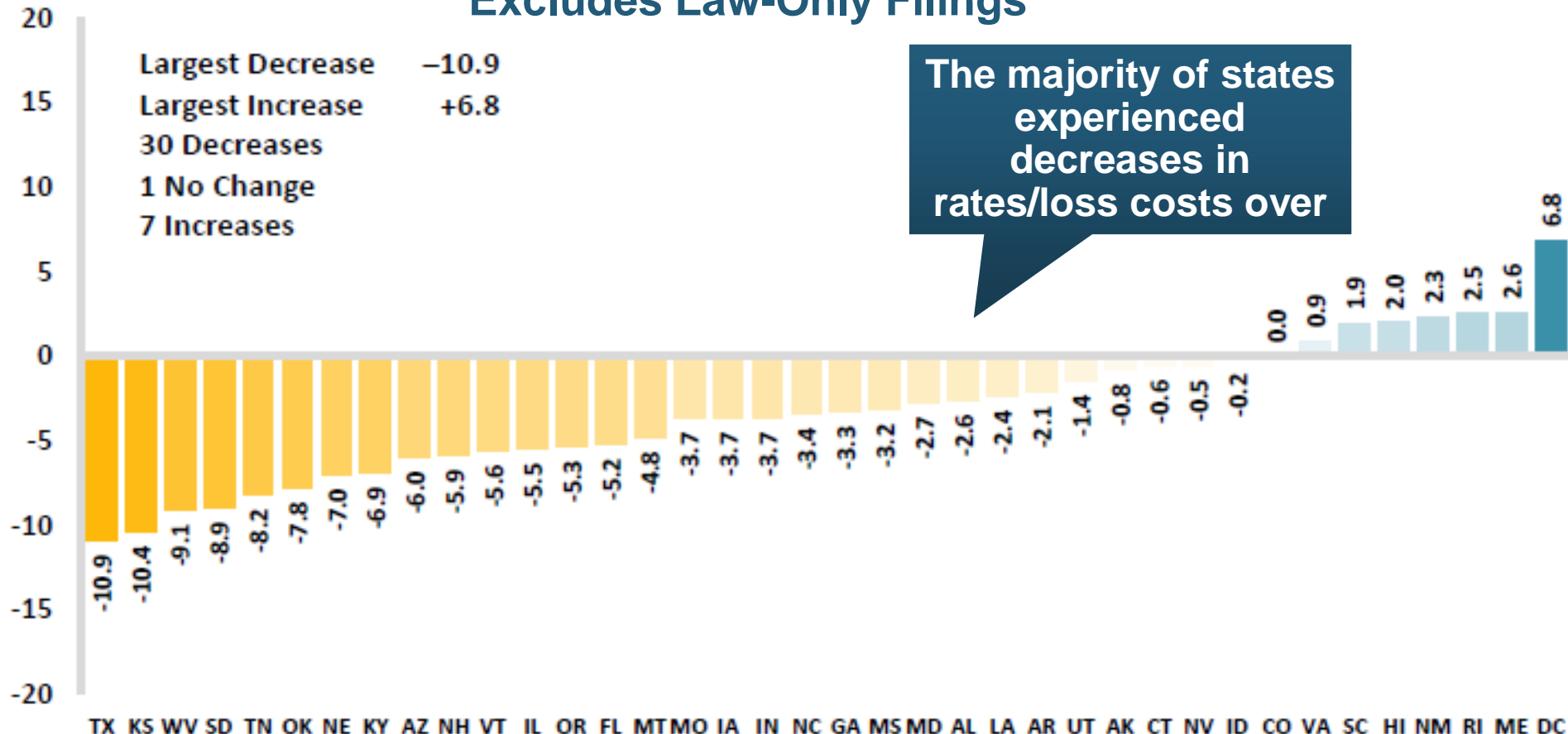


\*Excludes monopolistic fund states (in gray): OH, ND, WA and WY.

Source: NCCI.

# WC Approved or Filed and Pending Change in NCCI Premium Level by State

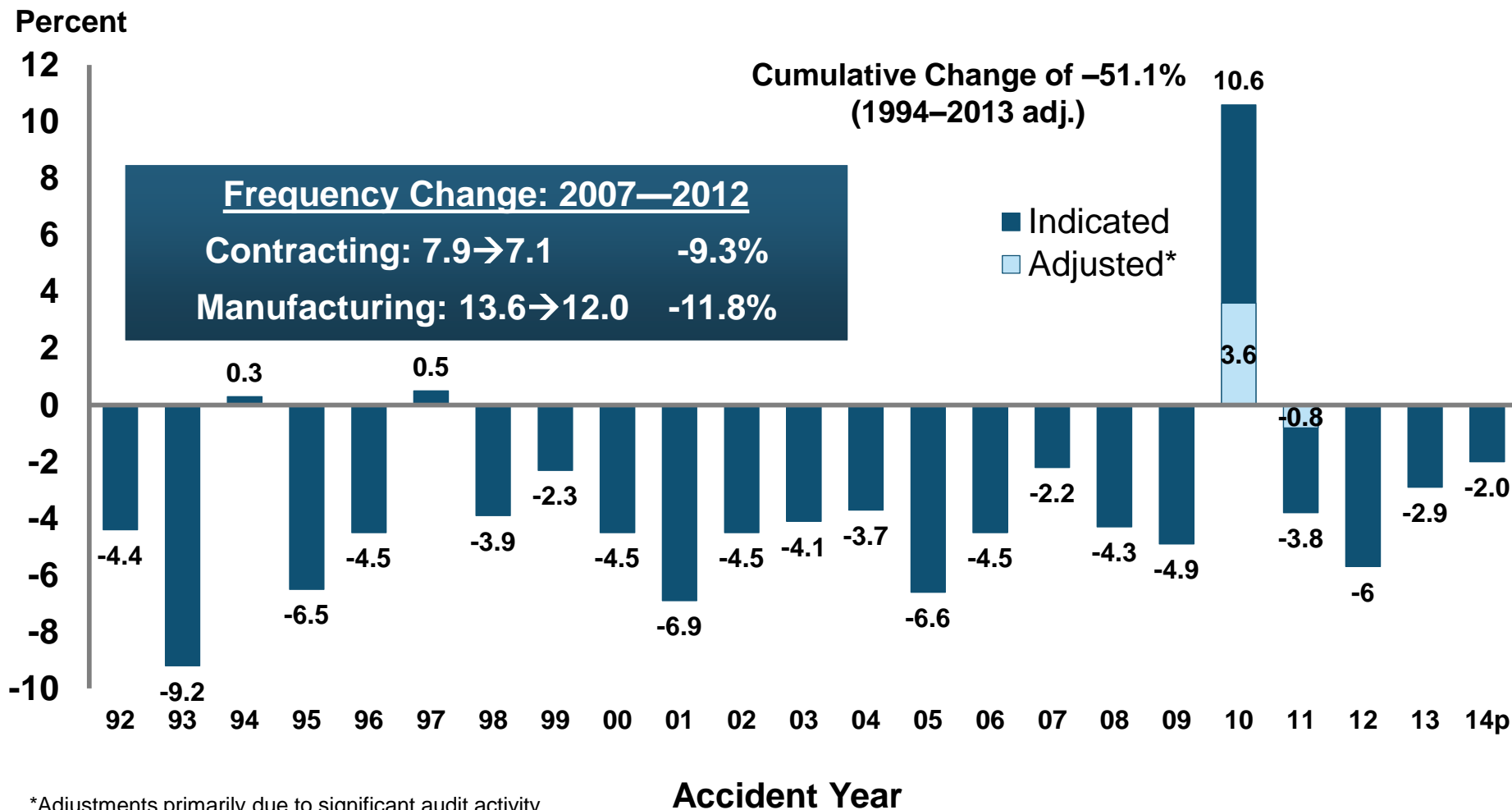
## Latest Change for Voluntary Market Excludes Law-Only Filings



Note: Premium level changes are approved changes are approved or filed and pending changes in advisory rates, loss costs and rating values as of 4/24/15 as filed by applicable rating organization, relative to those previously approved. SC is filed and pending. IN and NC are in cooperation with state rating bureaus.

Source: NCCI.

# Workers Compensation Lost-Time Claim Frequency Declined in 2014



\*Adjustments primarily due to significant audit activity.

2014p: Preliminary based on data valued as of 12/31/2014.

Source: NCCI Financial Call data, developed to ultimate and adjusted to current wage and voluntary loss cost level; Excludes high deductible policies; 1994-2013: Based on data through 12/31/13. Data for all states where NCCI provides ratemaking services, excluding WV.

Frequency is the number of lost-time claims per \$1M pure premium at current wage and voluntary loss cost level

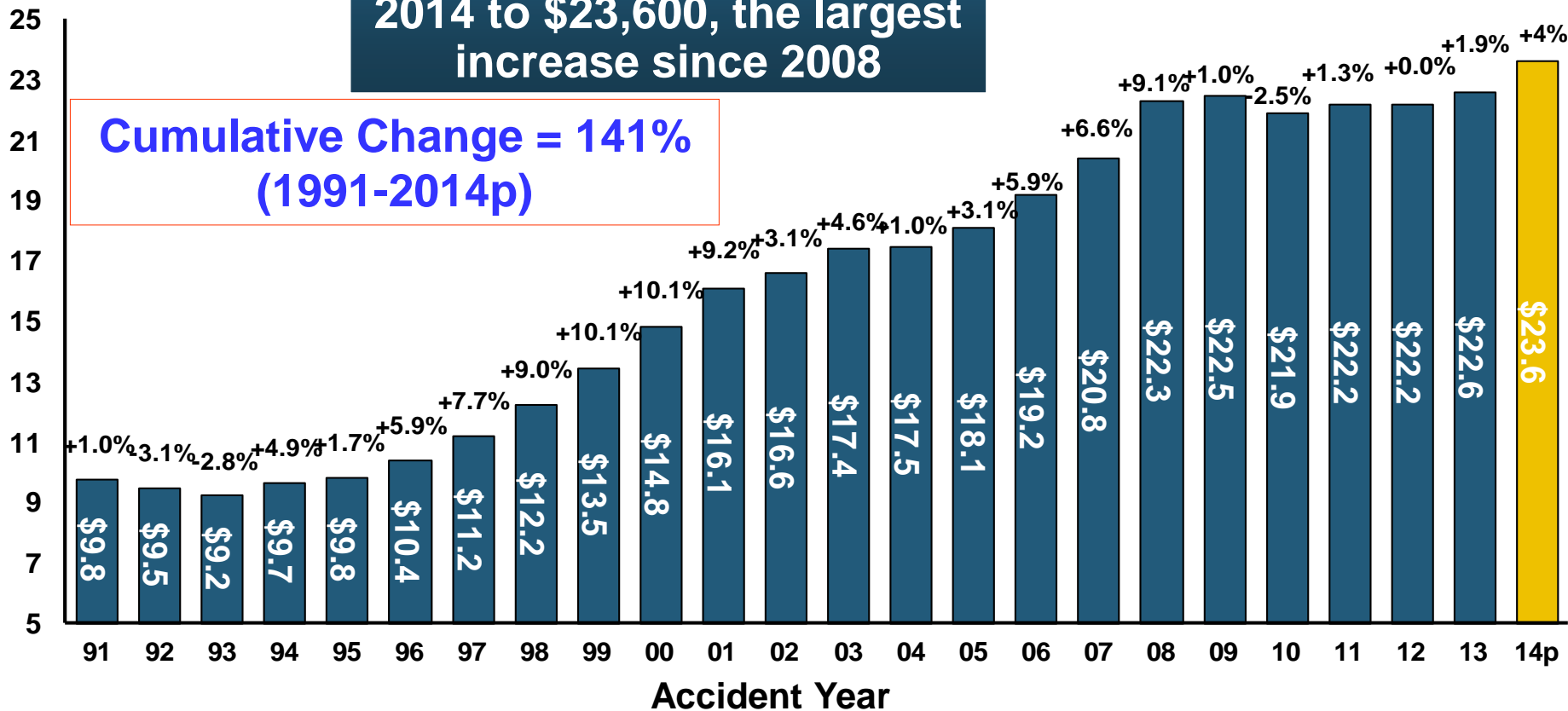


# Workers Comp Indemnity Claim Costs: Modest Increase in 2014

## Average Indemnity Cost per Lost-Time Claim

Average indemnity costs per claim were up 4% in 2014 to \$23,600, the largest increase since 2008

Cumulative Change = 141% (1991-2014p)

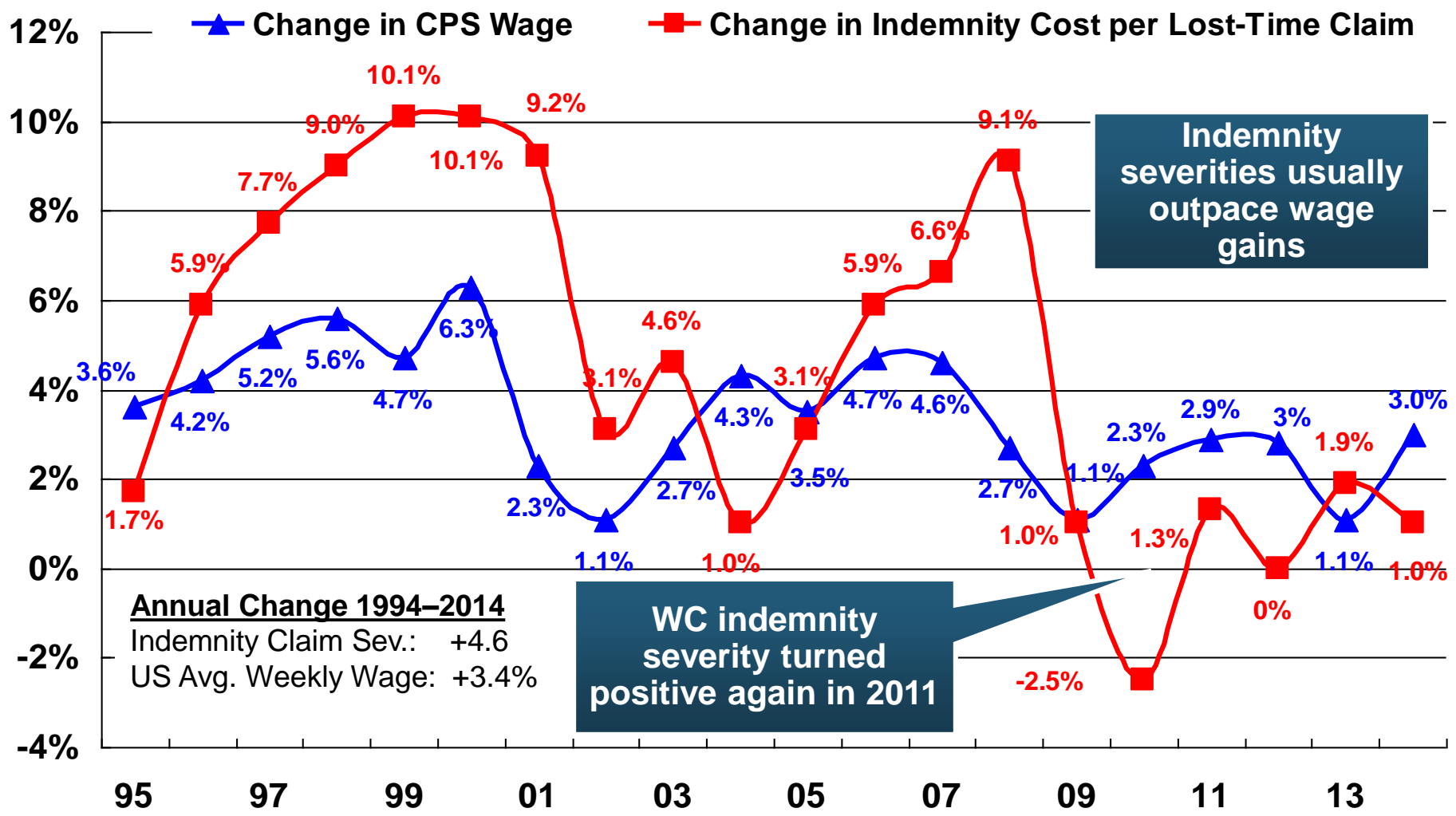


2014p: Preliminary based on data valued as of 12/31/2014.

1991-2013: Based on data through 12/31/2013, developed to ultimate

Based on the states where NCCI provides ratemaking services including state funds, excluding WV; Excludes high deductible policies.

# WC Indemnity Severity vs. Wage Inflation, 1995 -2014p



2014p: Preliminary based on data valued as of 12/31/2014; 1991-2010: Based on data through 12/31/2010, developed to ultimate. Based on the states where NCCI provides ratemaking services. Excludes the effects of deductible policies. CPS = Current Population Survey. Source: NCCI

# Workers Compensation Medical Severity: Moderate Increase in 2014

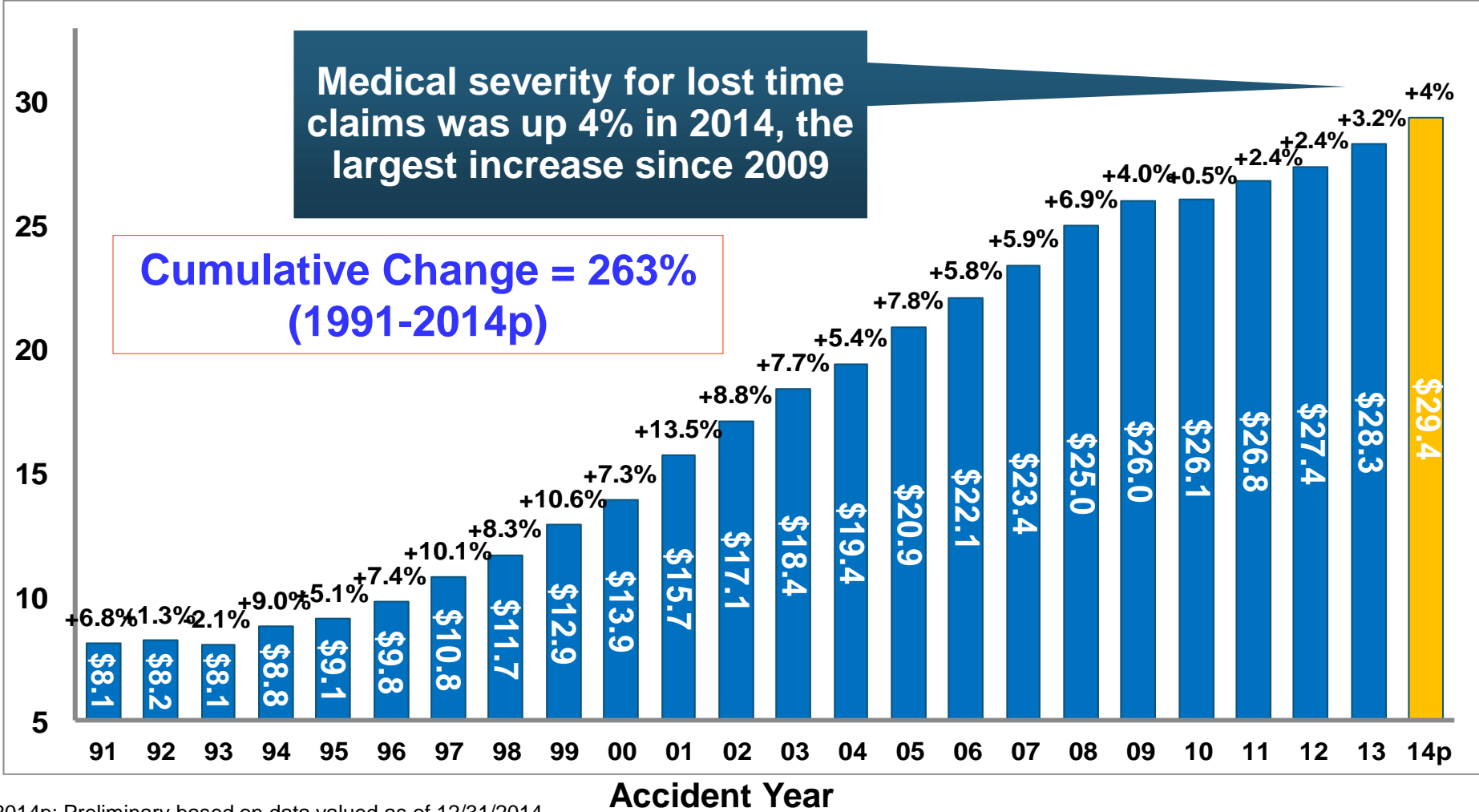


Medical Claim Cost (\$000s)

Average Medical Cost per Lost-Time Claim

Medical severity for lost time claims was up 4% in 2014, the largest increase since 2009

Cumulative Change = 263% (1991-2014p)

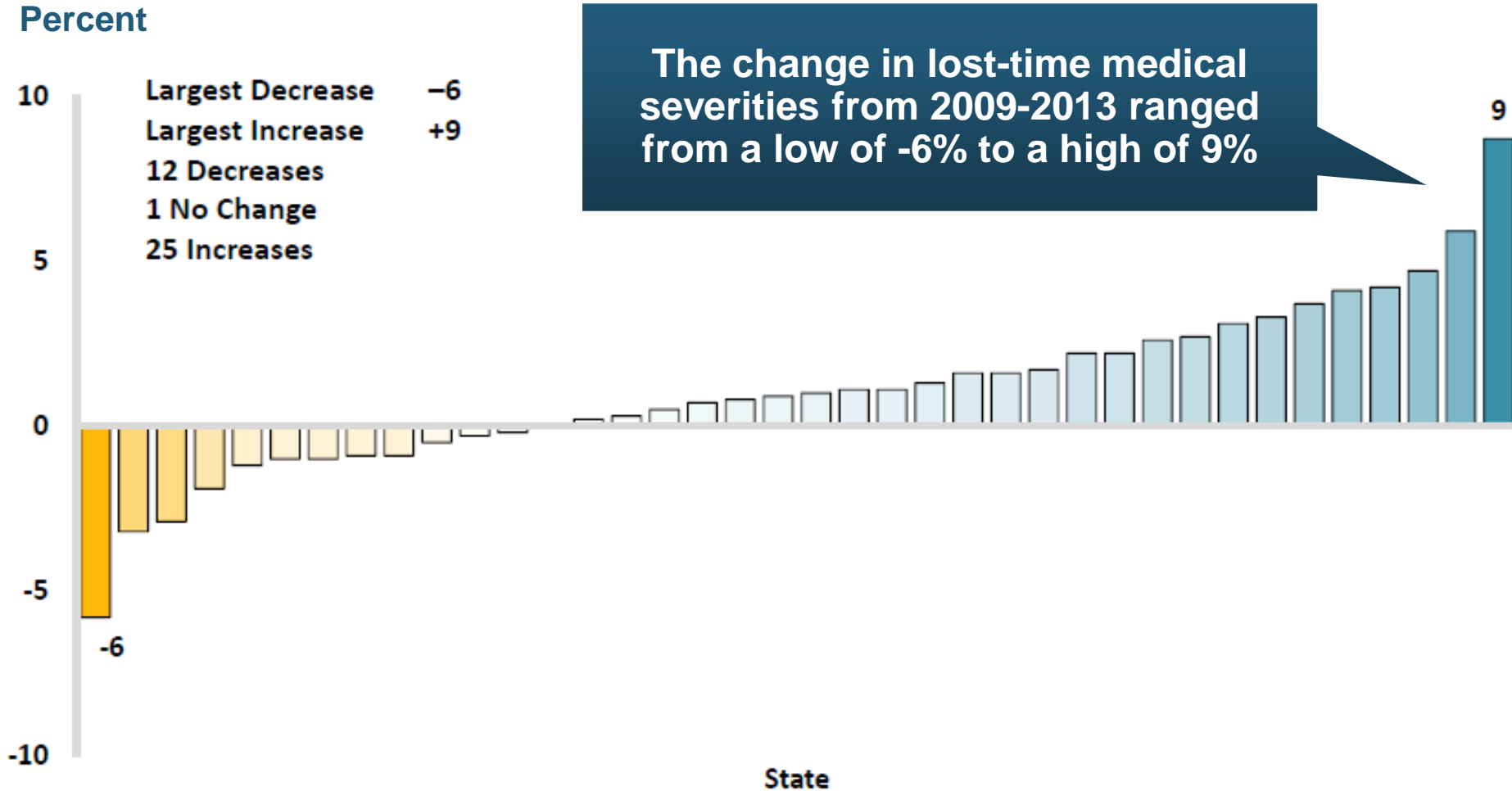


2014p: Preliminary based on data valued as of 12/31/2014.

1991-2013: Based on data through 12/31/2013, developed to ultimate

Based on the states where NCCI provides ratemaking services including state funds, excluding WV; Excludes high deductible policies.

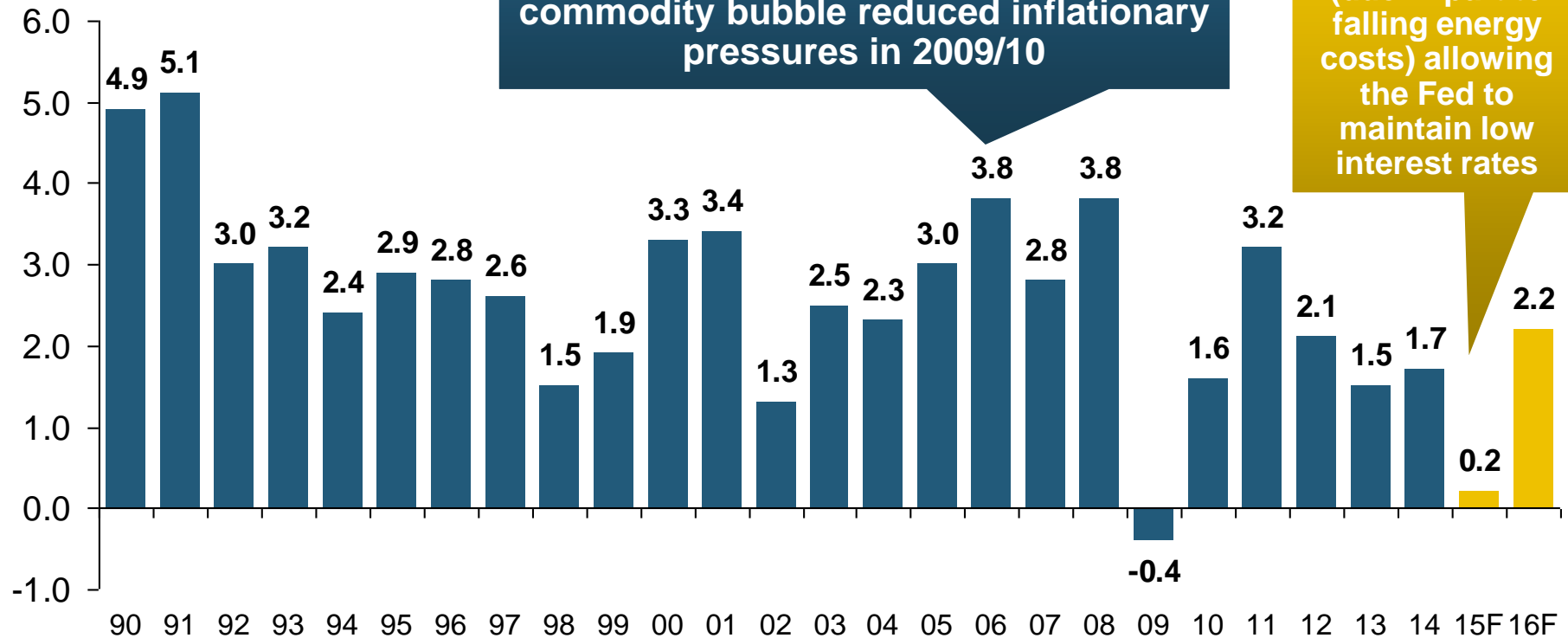
# Workers Comp Change in Medical Severity by State, Avg. Annual Change, 2009-2013



Source: NCCI's Analysis of Frequency and Severity of Claims Across the Country as of 12/31/13 on ncci.com. Values reflect methodology and state data underlying the most recent rate/lost cost filing. TX changes are for the years 2010-2013.

# Annual Inflation Rates, (CPI-U, %), 1990–2016F

Annual Inflation Rates (%)



Inflation peaked at 5.6% in August 2008 on high energy and commodity crisis. The recession and the collapse of the commodity bubble reduced inflationary pressures in 2009/10

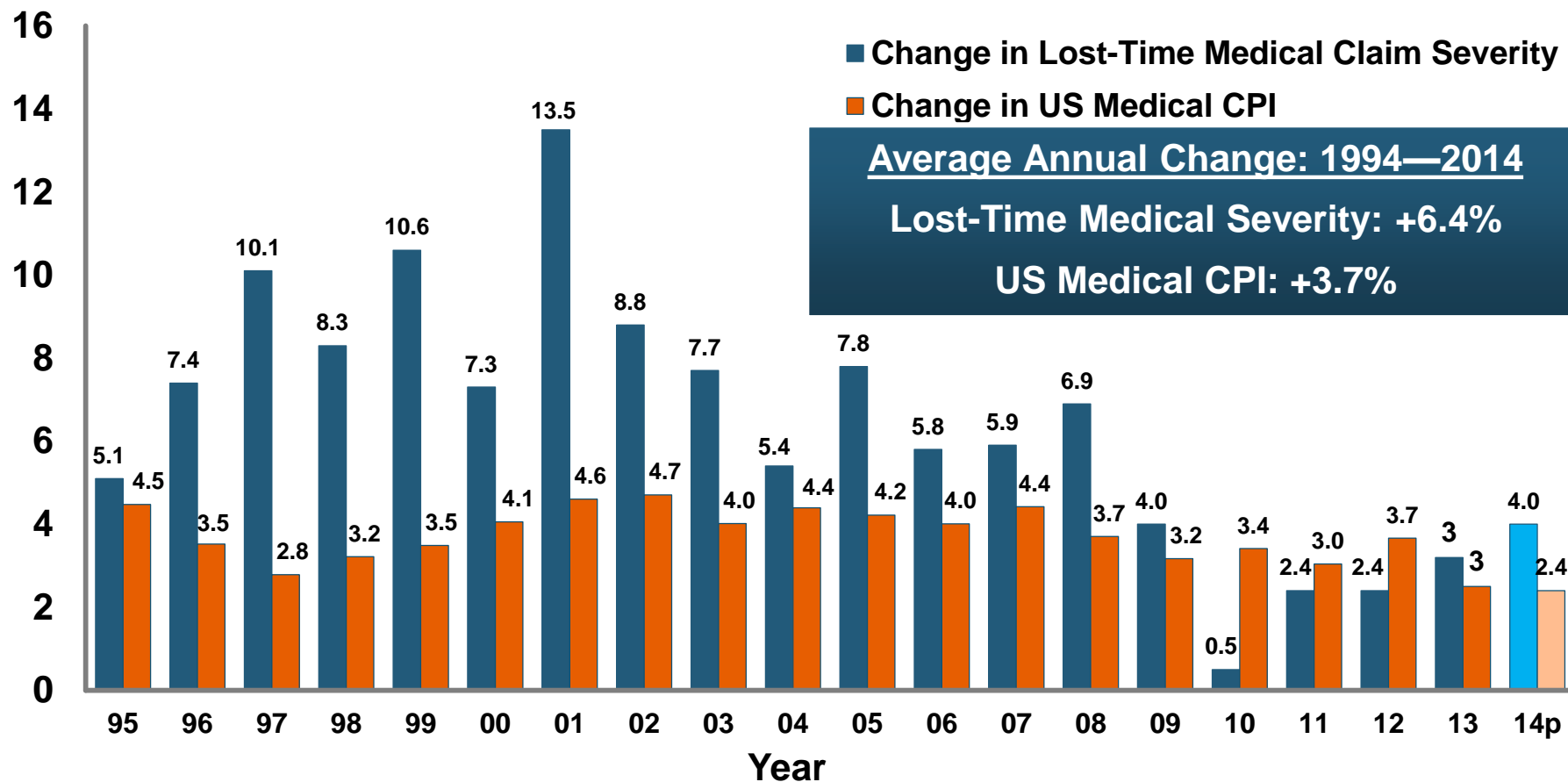
Inflationary expectations have slipped (due in part to falling energy costs) allowing the Fed to maintain low interest rates

Slack in the U.S. economy and falling energy prices suggests that inflationary pressures should remain subdued for an extended period of times

# Workers Compensation Change in Medical Severity

## Comparison to Change in Medical Consumer Price Index (CPI)

### Percent Change



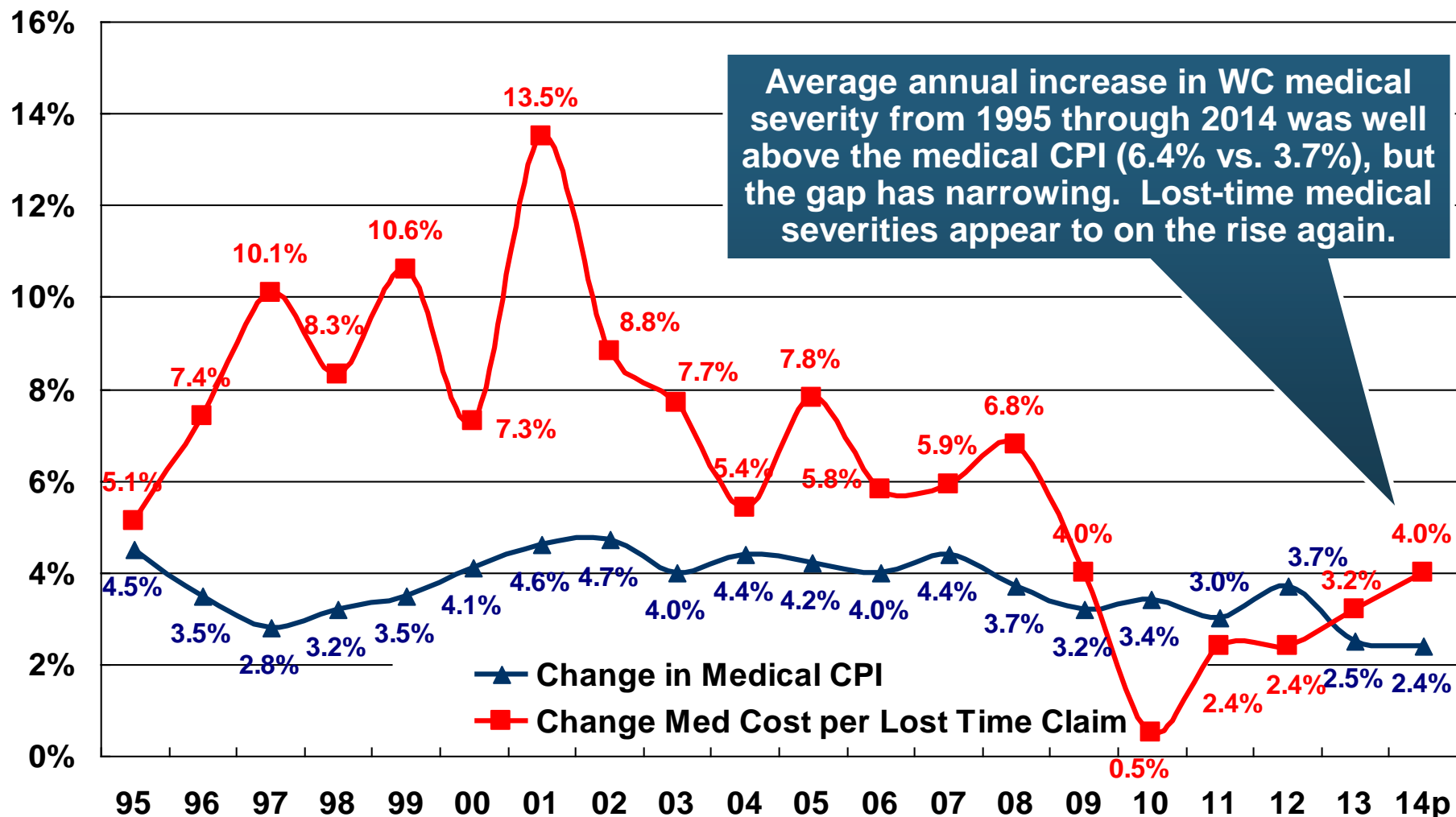
2014p: Preliminary based on data valued as of 12/31/2014.

Sources: Severity: 995-2013: Based on data through 12/31/2013, developed to ultimate

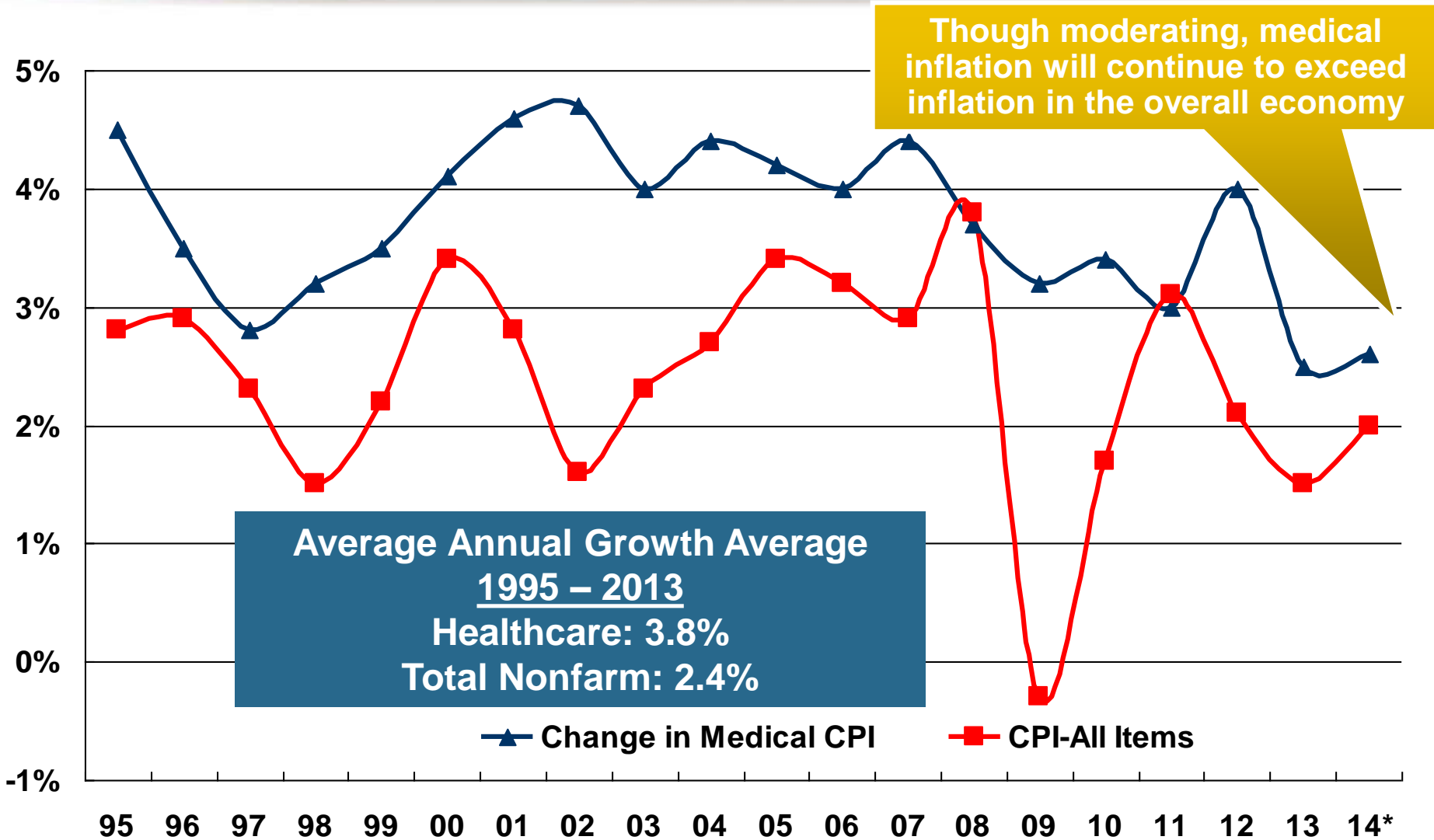
Based on the states where NCCI provides ratemaking services including state funds, excluding WV; Excludes high deductible policies.

US Medical CPI: US Bureau of Labor Statistics.

# WC Medical Severity Generally Outpaces the Medical CPI Rate



# Medical Cost Inflation vs. Overall CPI, 1995 – 2014\*



\*July 2014 compared to July 2013.

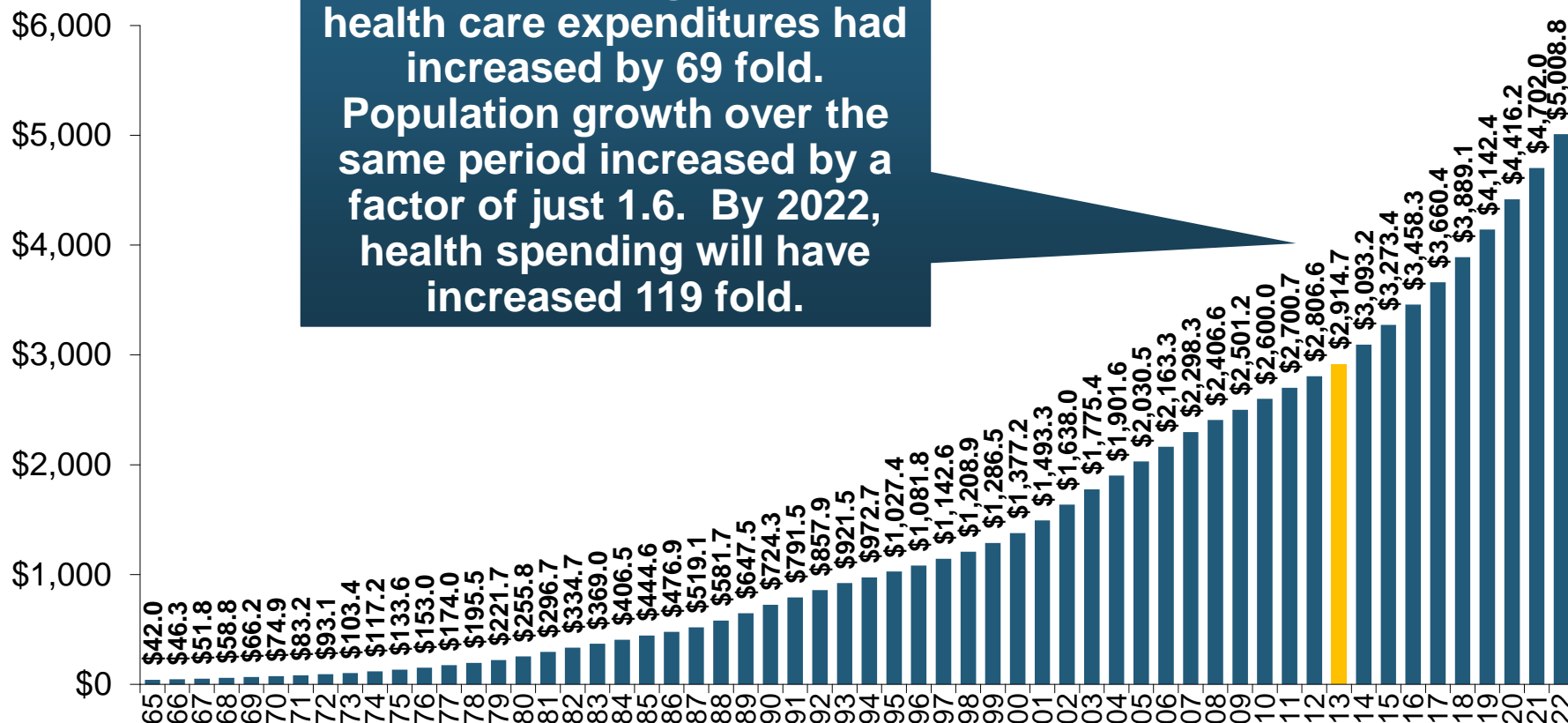
Sources: Med CPI from US Bureau of Labor Statistics, WC med severity from NCCI based on NCCI states.



# U.S. Health Care Expenditures, 1965–2022F

\$ Billions

From 1965 through 2013, US health care expenditures had increased by 69 fold. Population growth over the same period increased by a factor of just 1.6. By 2022, health spending will have increased 119 fold.

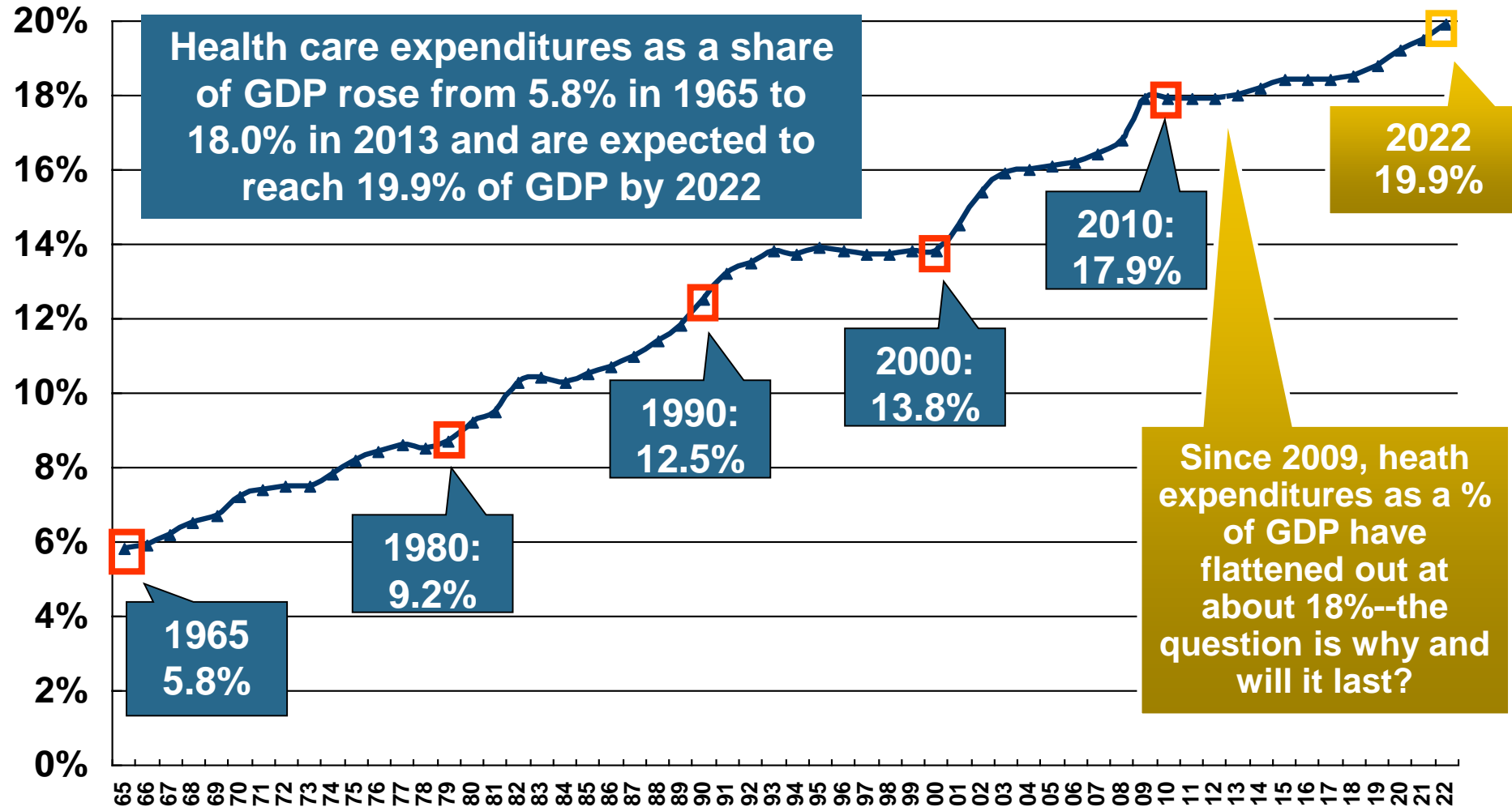


U.S. health care expenditures have been on a relentless climb for most of the past half century, far outstripping population growth, inflation of GDP growth

Sources: Centers for Medicare & Medicaid Services, Office of the Actuary at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html> accessed 3/14/14; Insurance Information Institute.

# National Health Care Expenditures as a Share of GDP, 1965 – 2022F\*

% of GDP



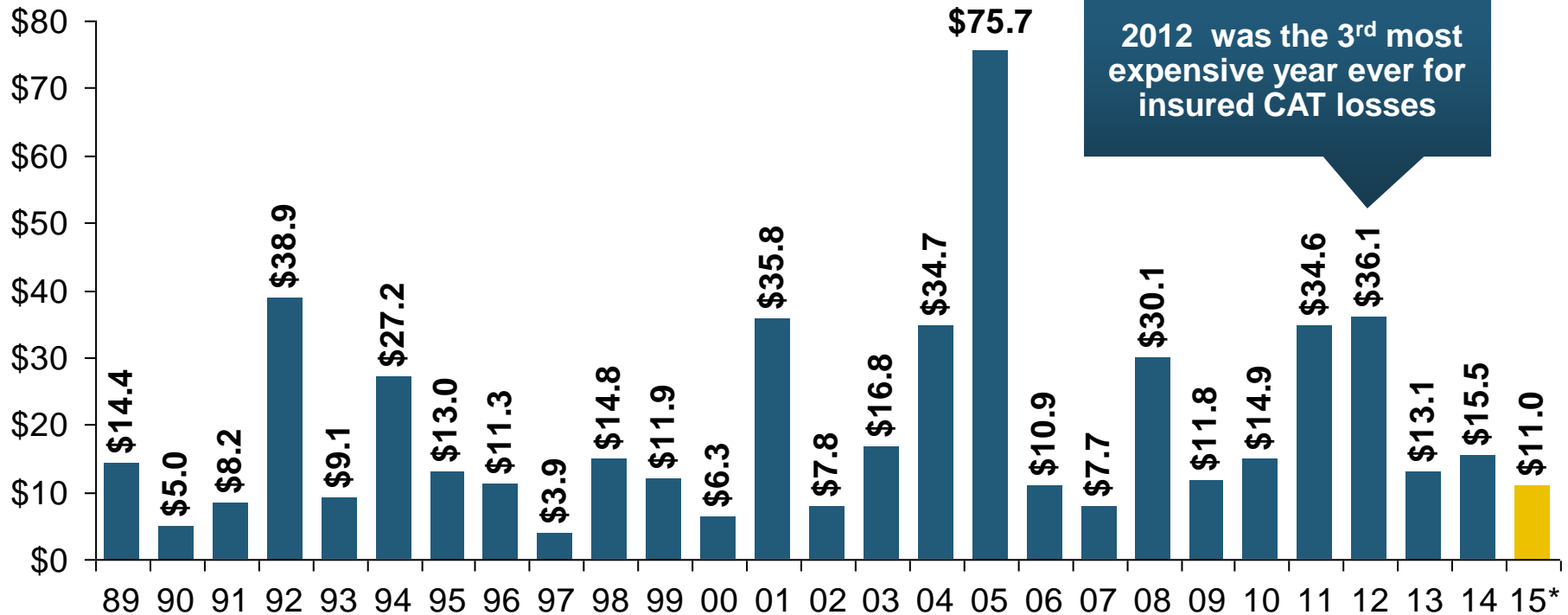
# Insured Catastrophe Losses

**2013/14 and YTD 2015 Experienced Below  
Average CAT Activity After Very High CAT  
Losses in 2011/12**

***Winter Storm Losses Far Above Average in  
2014 and 2015***

# U.S. Insured Catastrophe Losses

(\$ Billions, \$ 2014)



2012 was the 3<sup>rd</sup> most expensive year ever for insured CAT losses

**2013/14 Were Welcome Respite from 2011/12, among the Costliest Years for Insured Disaster Losses in US History. Longer-term Trend is for more—not fewer—Costly Events**

\$11.0B in insured CAT losses though 9/30/15

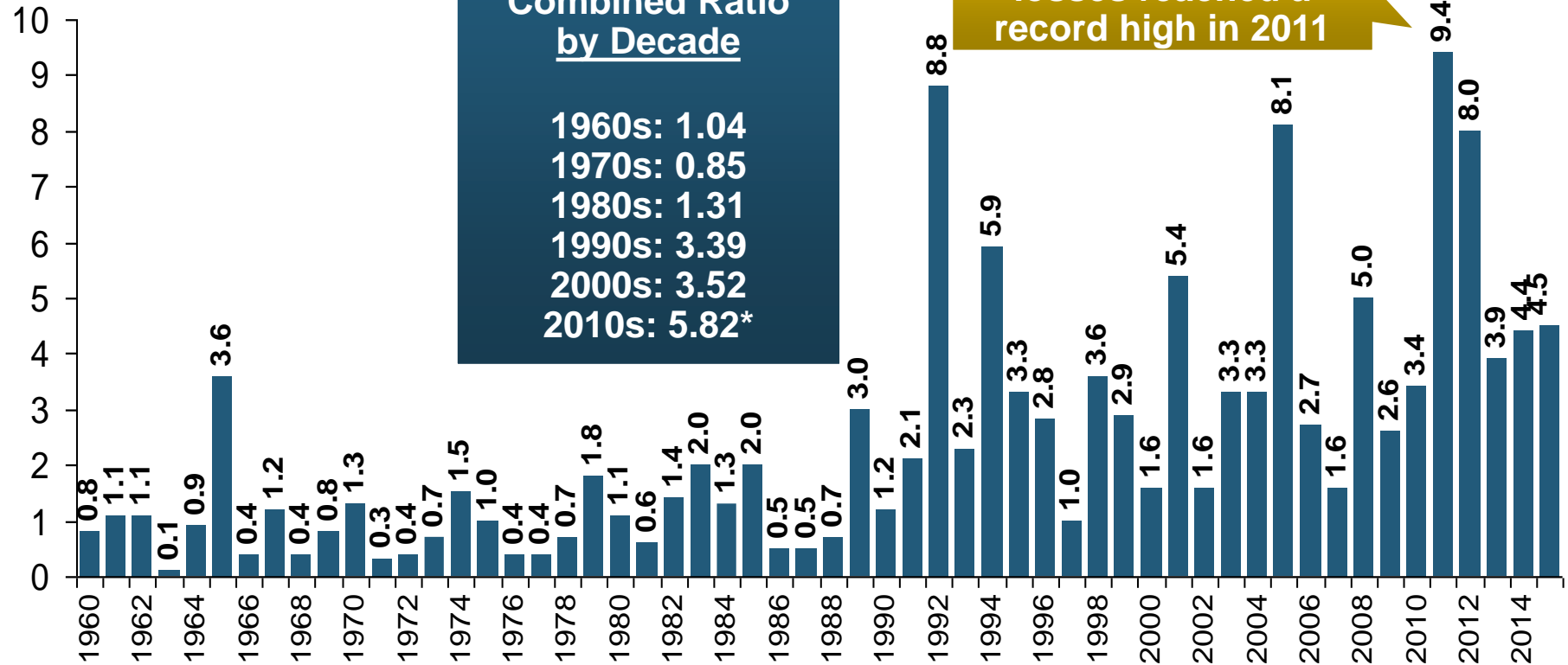
\*Through 9/30/15 in 2015 dollars.

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.

# Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2015F\*

## Combined Ratio Points



**The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades**

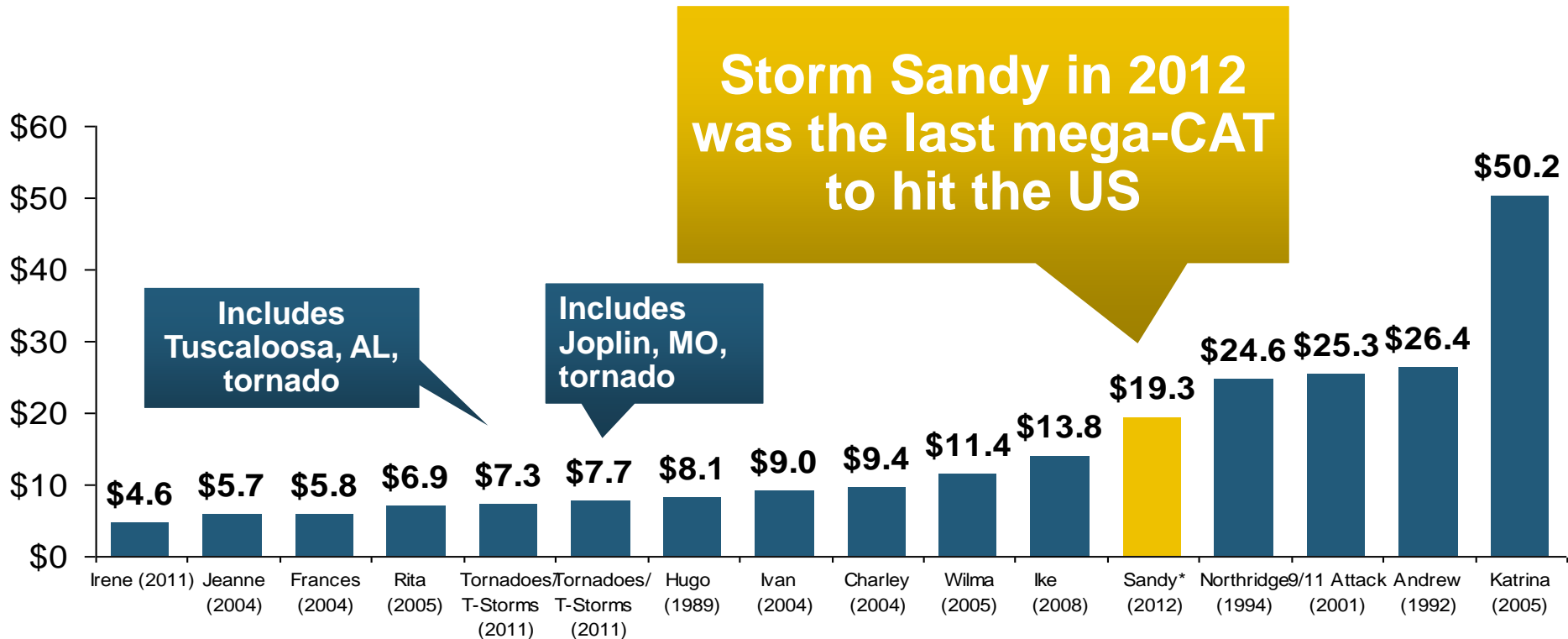
\*2010s represent 2010-2014.

Notes: Private carrier losses only. Excludes loss adjustment expenses and reinsurance reinstatement premiums. Figures are adjusted for losses ultimately paid by foreign insurers and reinsurers.

Source: ISO (1960-2010); A.M. Best (2011-15E) Insurance Information Institute.

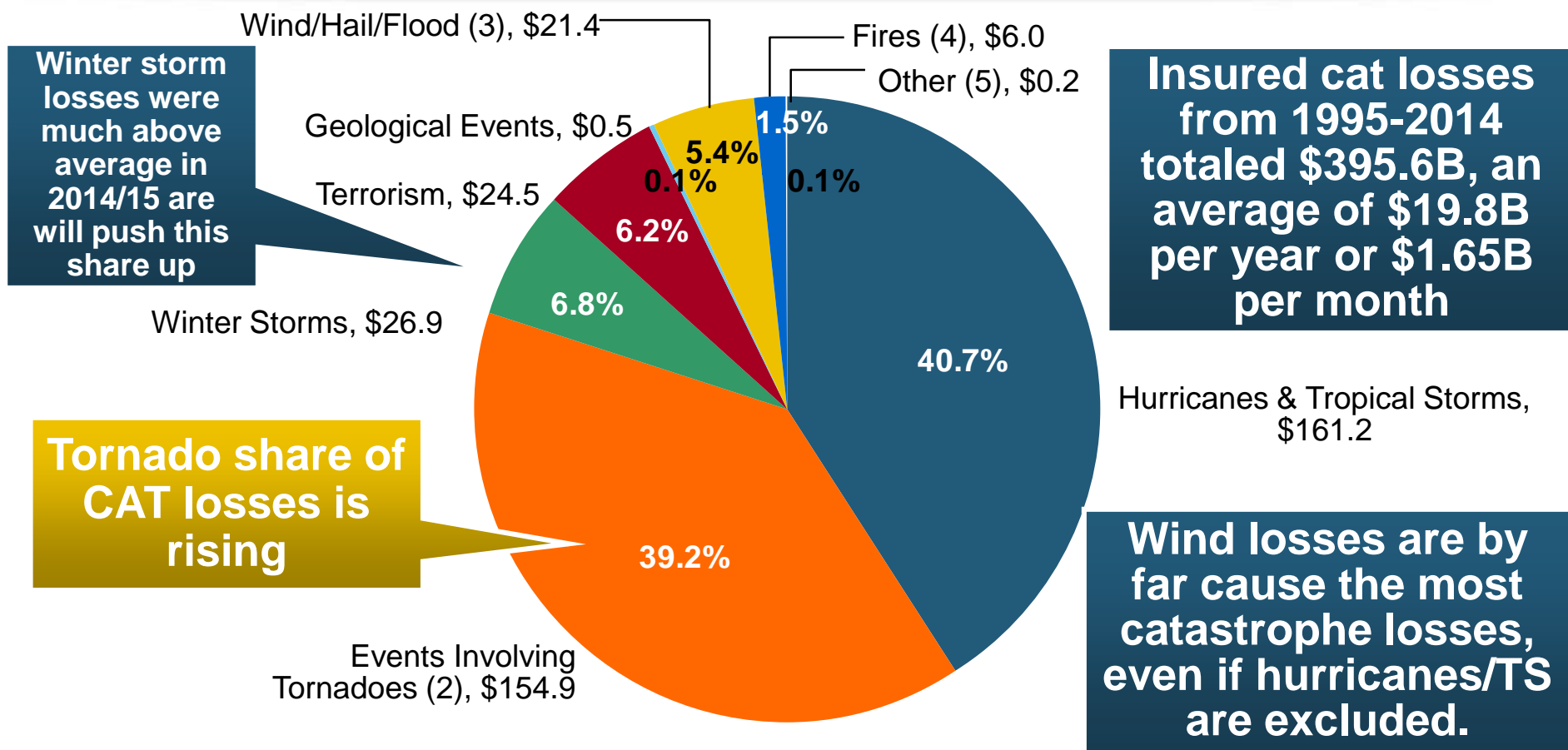
# Top 16 Most Costly Disasters in U.S. History—Katrina Still Ranks #1

(Insured Losses, 2014 Dollars, \$ Billions)



**12 of the 16 Most Expensive Events in US History Have Occurred Since 2004**

# Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1995–2014<sup>1</sup>



Winter storm losses were much above average in 2014/15 are will push this share up

Insured cat losses from 1995-2014 totaled \$395.6B, an average of \$19.8B per year or \$1.65B per month

Tornado share of CAT losses is rising

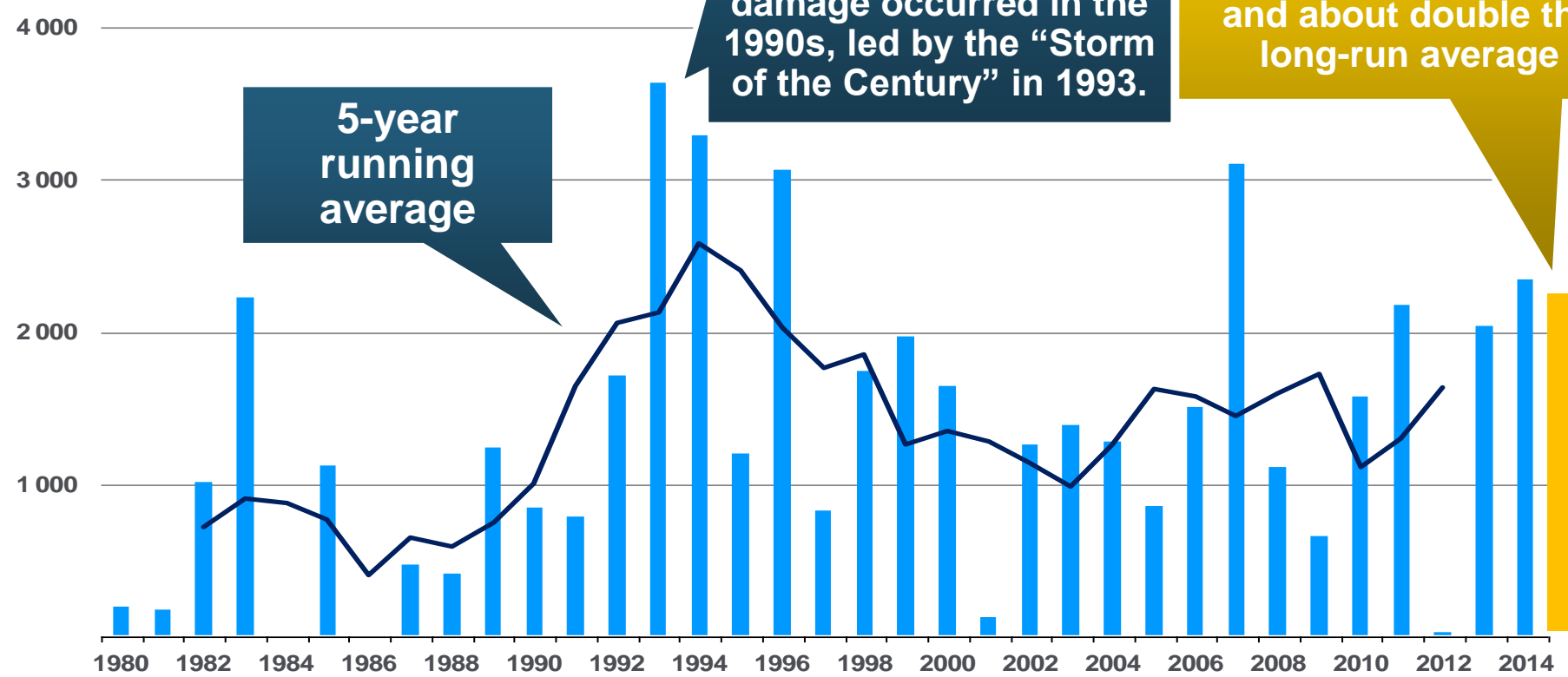
Wind losses are by far cause the most catastrophe losses, even if hurricanes/TS are excluded.

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.

# Winter Storm and Winter Damage Events in the US, 1980-2015 (2014 US\$)

\$ Billions, in 2014 Dollars



Three of the four most costly years ever for insured losses from winter storms and damage occurred in the 1990s, led by the “Storm of the Century” in 1993.

2015 insured winter storm losses totaled \$2.3B, similar to 2014 and about double the long-run average

5-year running average

\*Winter storms include winter damage, blizzard, snow storm and cold wave

\*\*Losses adjusted to inflation based on country CPI

Source: Property Claim Services, MR NatCatSERVICE.

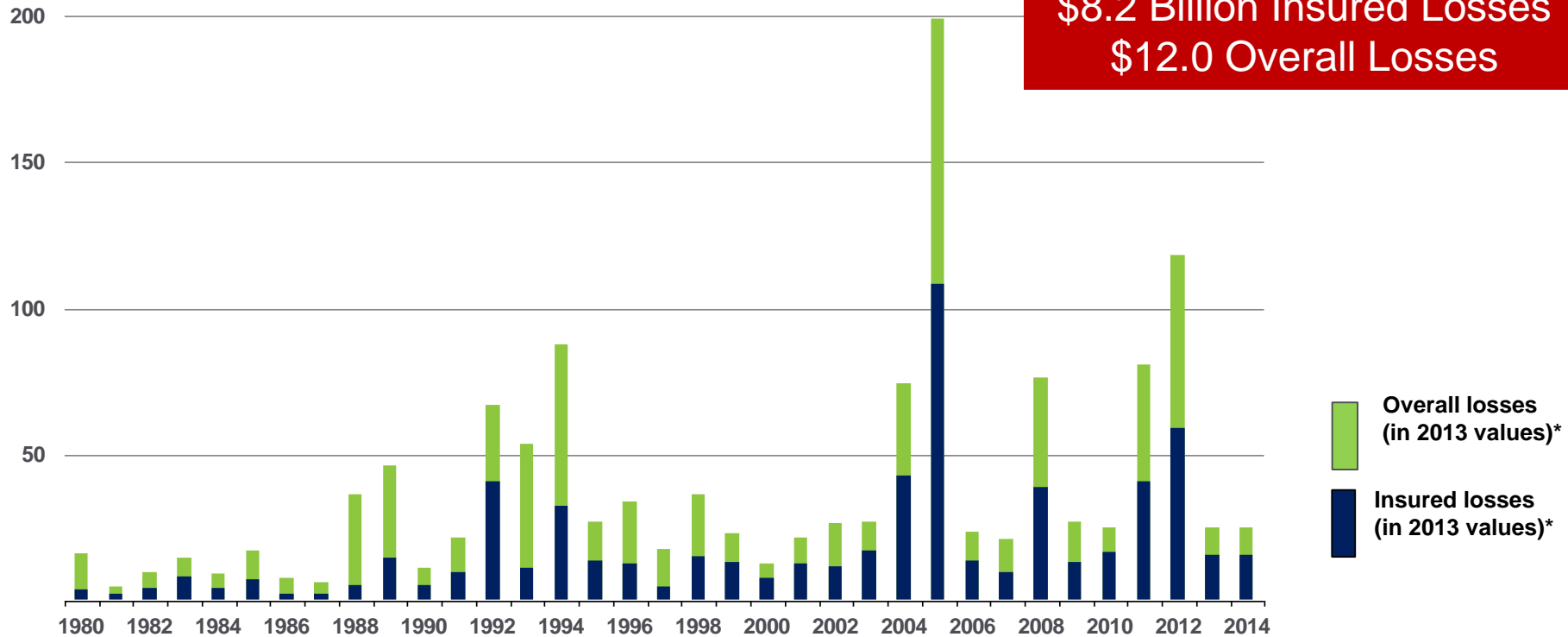


# Loss Events in the US, 1980 – 2014

## Overall and Insured Losses

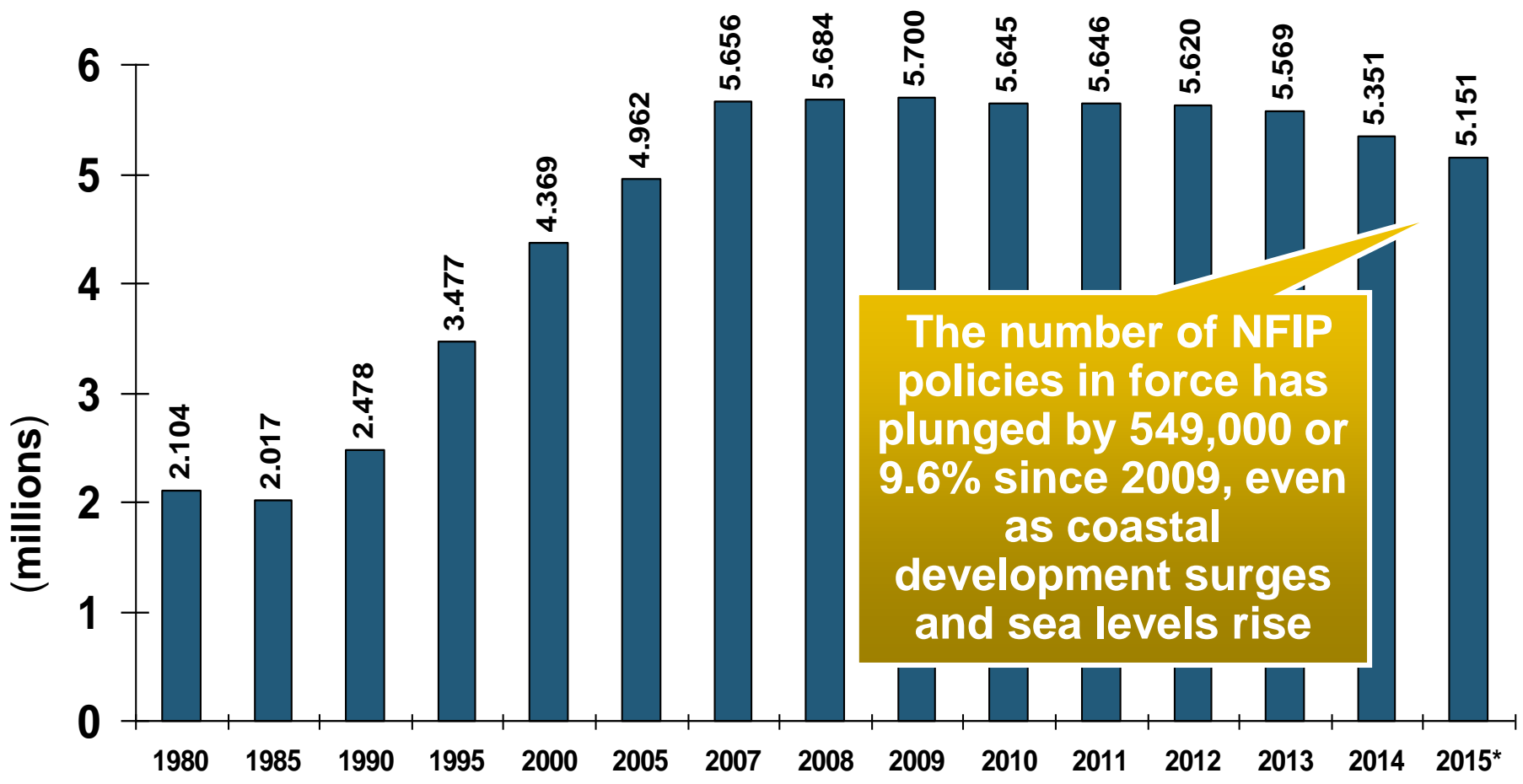
**Overall losses totaled \$25bn; Insured losses totaled \$15.3bn**

\$ Billions



\*Losses adjusted to inflation based on CPI.

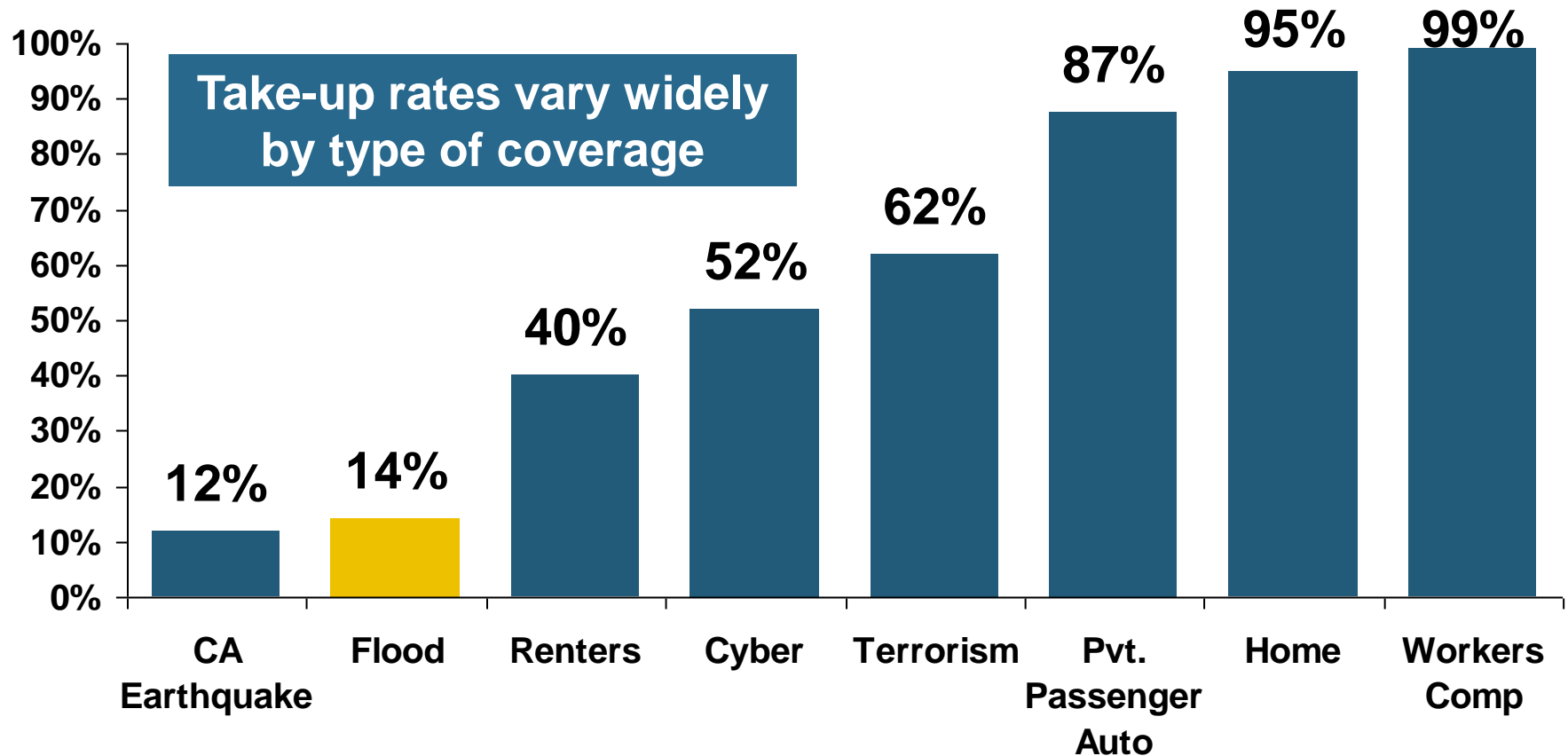
# Number of National Flood Insurance Program Policies in Force at Year-End, 1980-2015\*



Source: National Flood Insurance Program.  
\* As of July, 2015

# Take-Up Rates for Various Types of Insurance in the U.S.

## Take-Up Rate



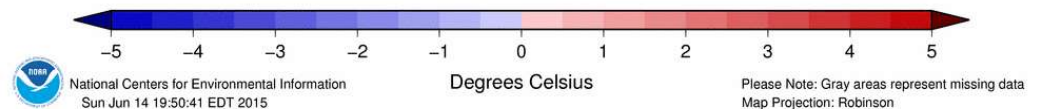
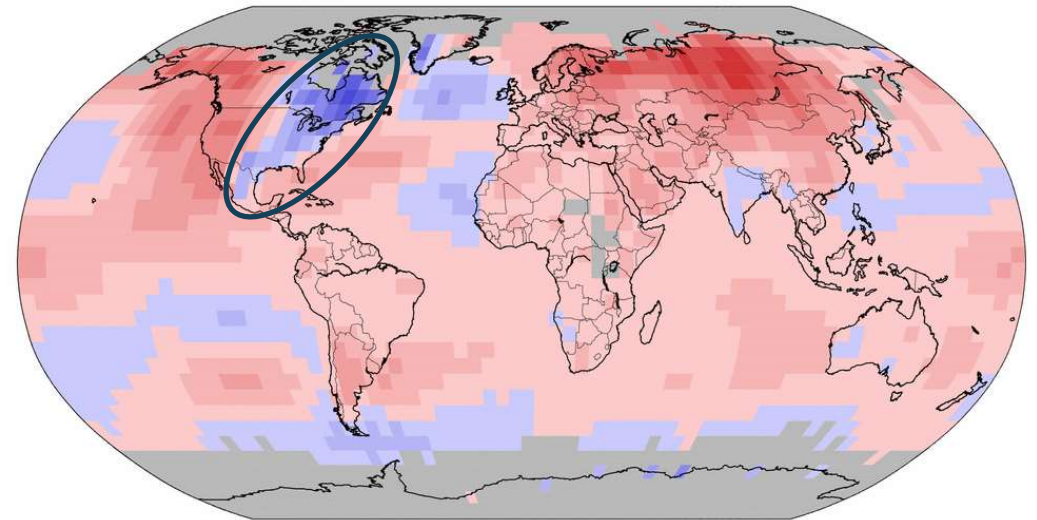
Sources: CA Earthquake (WSJ, <http://www.wsj.com/articles/california-pushes-homeowners-to-insure-against-earthquakes-1440980138>); Flood and Renters (I.I.I. June 2015 Pulse Survey); Cyber (Advisen, 2015); Terrorism (Marsh Global Analytics, 2014 *Terrorism Risk Insurance Report*, April 2014; data for 2013); Pvt. Passenger Auto (Insurance Research Council, *Uninsured Motorists*, 2014 Edition, data for 2012); Home and Workers Comp (I.I.I. estimates); Insurance Information Institute research.

# The World is Warmer...With One Big Exception!

## HIGHLIGHTS

- **2014 was the warmest year across global land and ocean surfaces since records began in 1880.**
- **9 of the 10 warmest years in the 135-year period of record have occurred in the 21<sup>st</sup> century. 1998 currently ranks as the fourth warmest year on record.**
- ***2015 will likely also be one of the warmest years on record as well***

Land & Ocean Temperature Departure from Average Jan–May 2015  
(with respect to a 1981–2010 base period)  
Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0

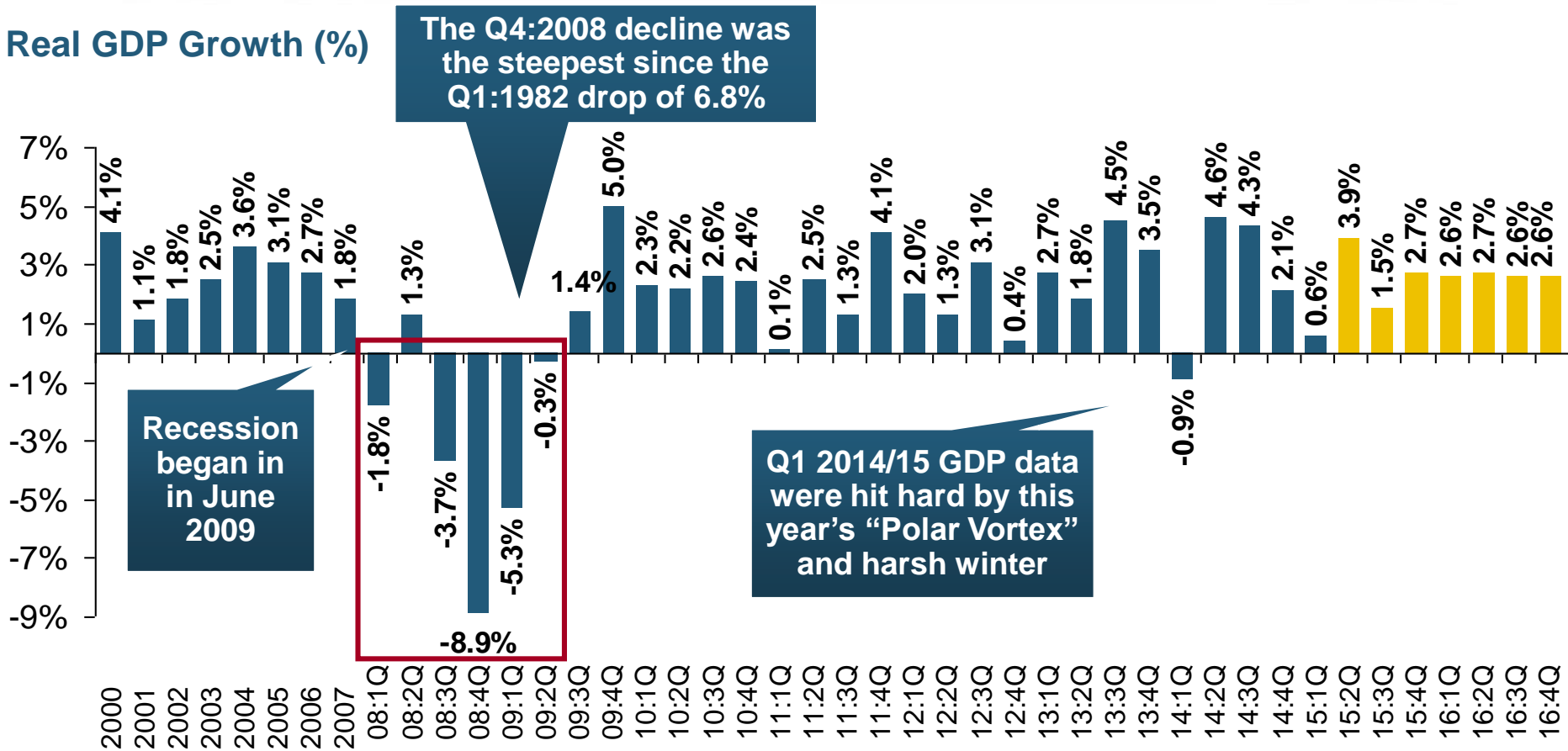


# THE ECONOMY

**The Strength of the Economy Will Greatly  
Influence Insurer Exposure Base  
Across Most Lines**

# US Real GDP Growth\*

Real GDP Growth (%)

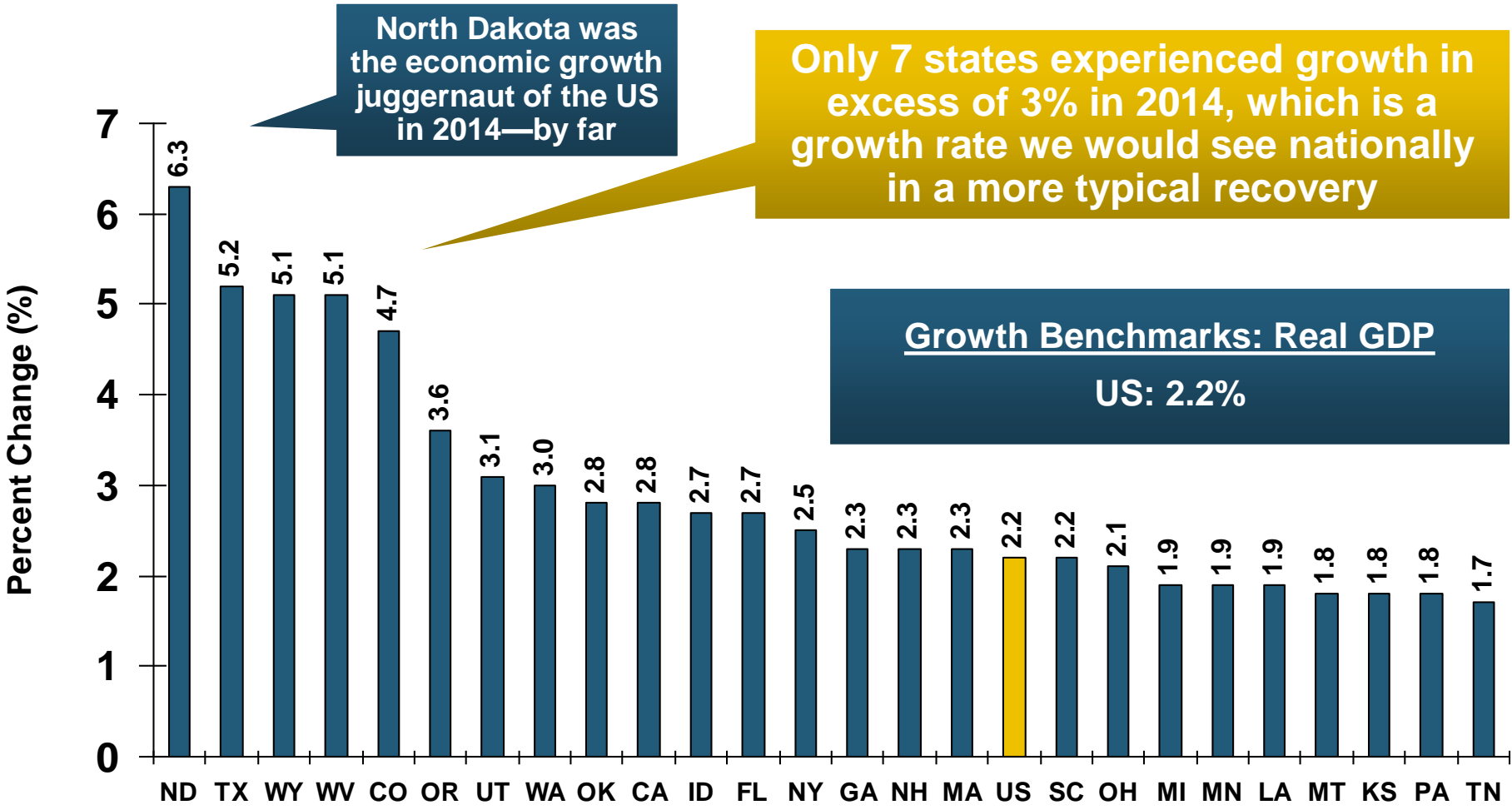


**Demand for Insurance Should Increase in 2016 as GDP Growth Continues at a Steady, Albeit Moderate Pace and Gradually Benefits the Economy Broadly**

\* Estimates/Forecasts from Blue Chip Economic Indicators.

Source: US Department of Commerce, Blue Economic Indicators 11/15; Insurance Information Institute.

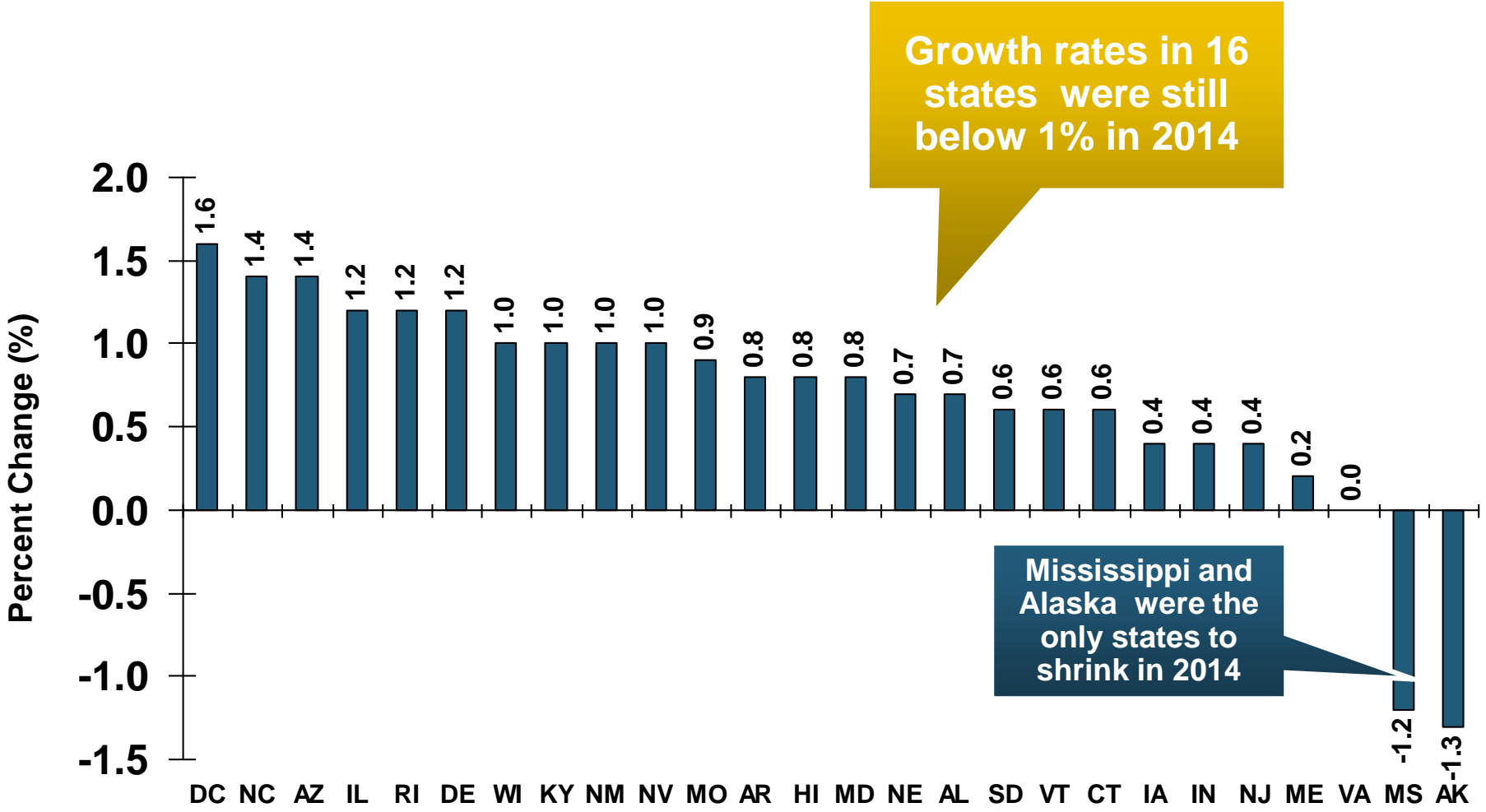
# Real GDP by State Percent Change, 2014\*: Highest 25 States



\*Advance statistics

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

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



Growth rates in 16 states were still below 1% in 2014

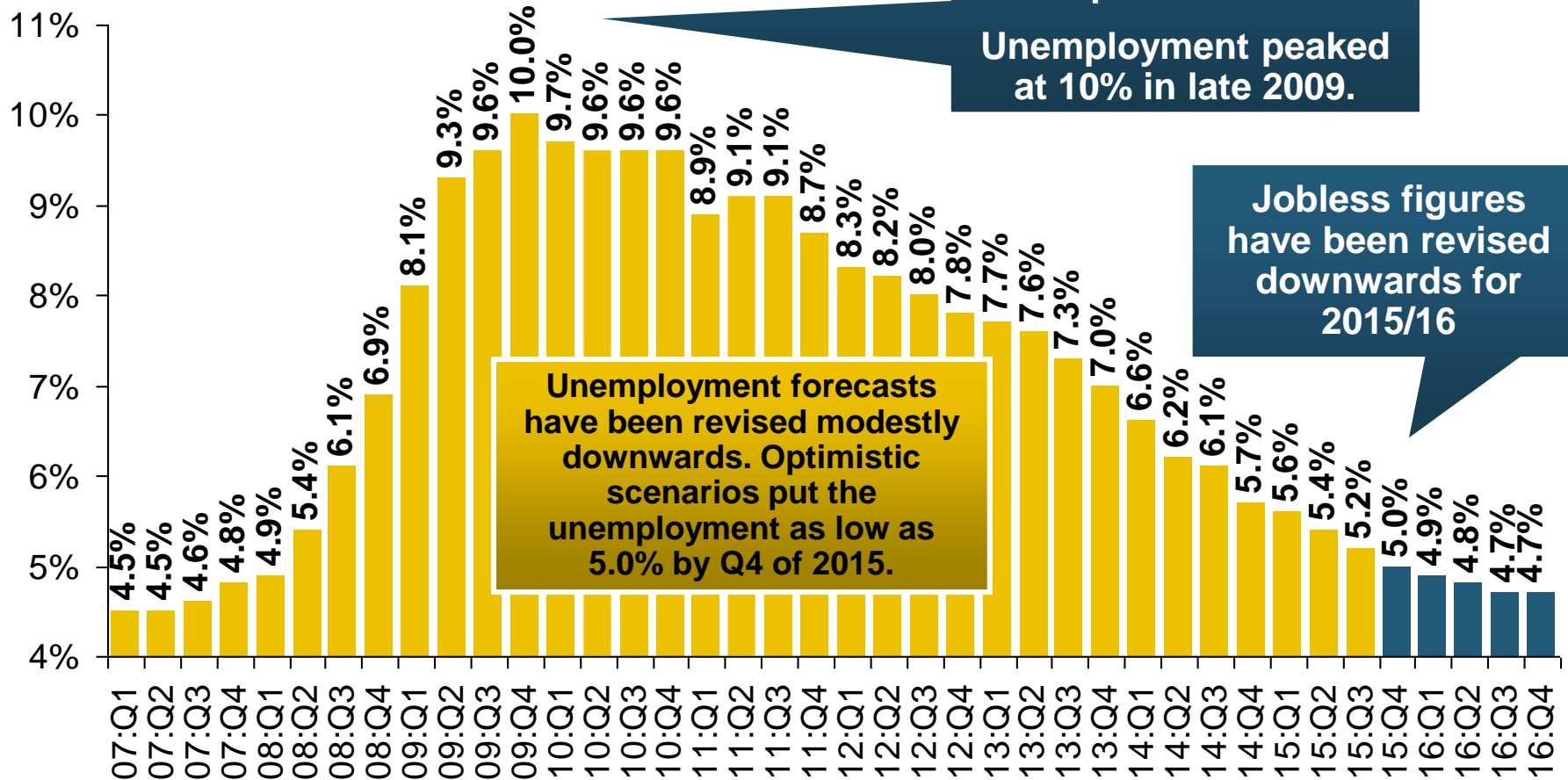
Mississippi and Alaska were the only states to shrink in 2014

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



# 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

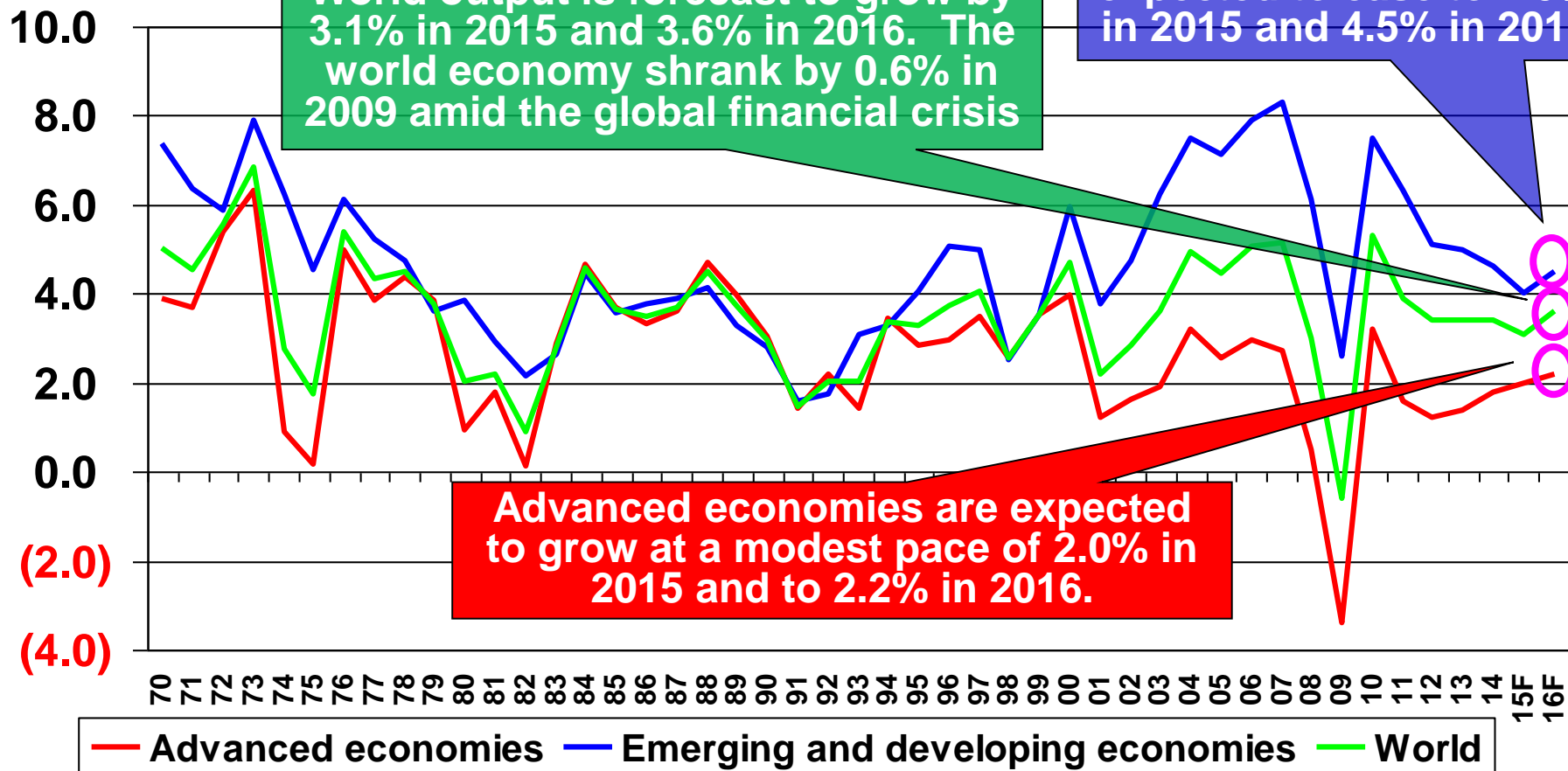
Unemployment forecasts have been revised modestly downwards. Optimistic scenarios put the unemployment as low as 5.0% by Q4 of 2015.

\* = actual; = forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (11/15 edition); Insurance Information Institute.

# GDP Growth: Advanced & Emerging Economies vs. World, 1970-2016F

GDP Growth (%)



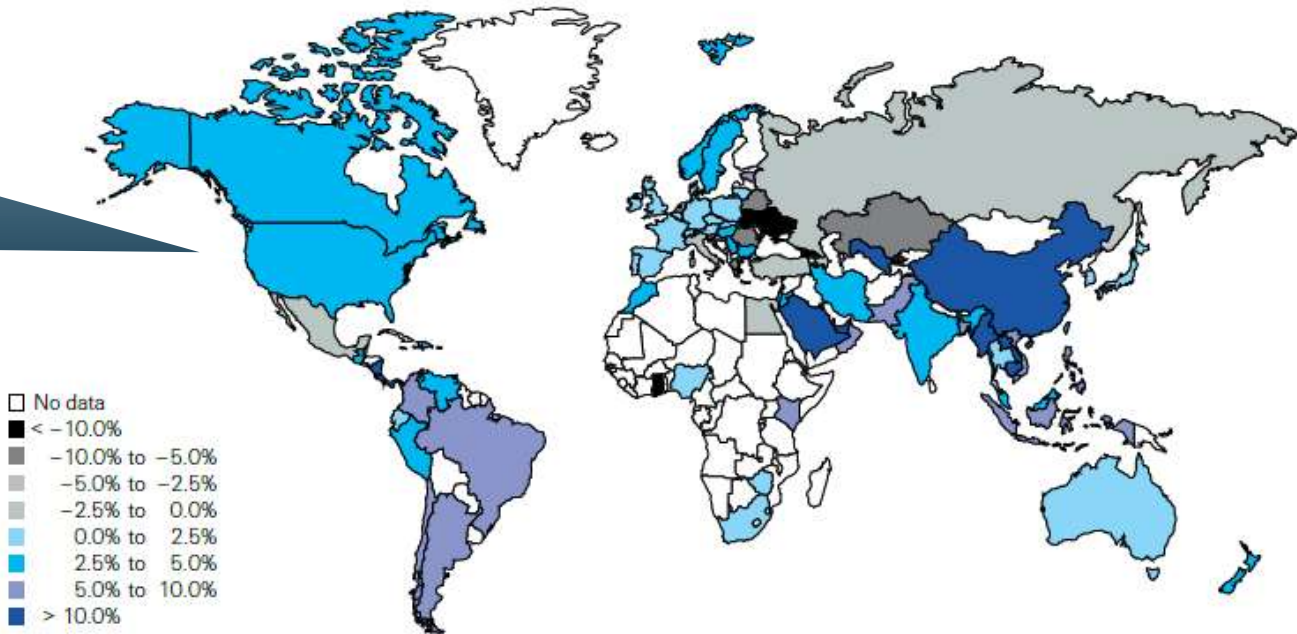
World output is forecast to grow by 3.1% in 2015 and 3.6% in 2016. The world economy shrank by 0.6% in 2009 amid the global financial crisis

Emerging economy growth rates are expected to ease to 4.0% in 2015 and 4.5% in 2016

Advanced economies are expected to grow at a modest pace of 2.0% in 2015 and to 2.2% in 2016.

# Non-Life Insurance: Global Real (Inflation Adjusted) Premium Growth, 2014

Real nonlife premium growth was stronger in the US in 2014 than in most of Europe



Market	Life	Non-Life	Total
Advanced	3.8	1.8	2.9
Emerging	6.9	8.0	7.4
World	4.3	2.9	3.7

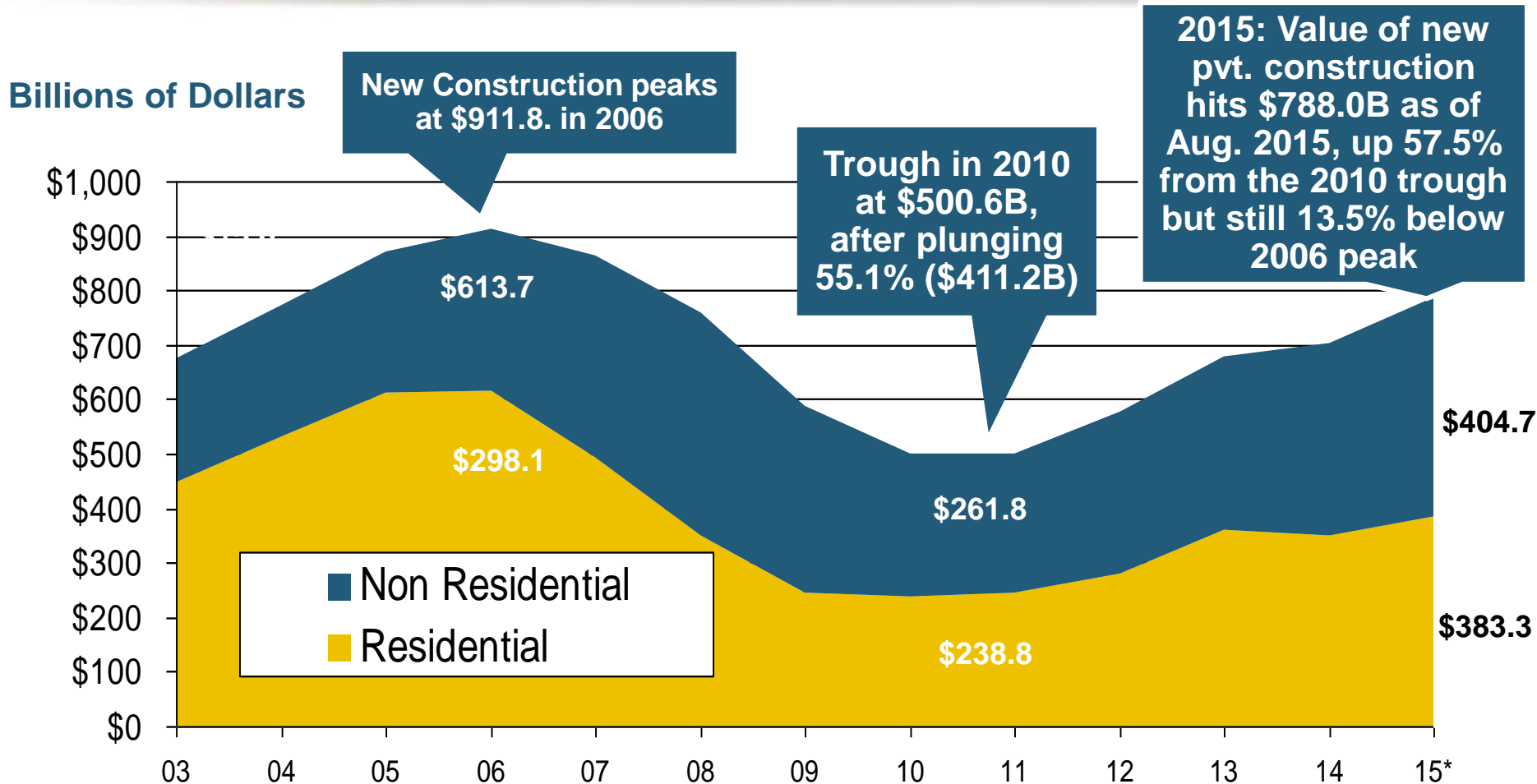
Source: Swiss Re, *sigma*, No. 4/2015.



# CONSTRUCTION INDUSTRY OVERVIEW & OUTLOOK

**The Construction Sector Is  
Critical to the Economy and  
the P/C Insurance Industry**

# Value of New Private Construction: Residential & Nonresidential, 2003-2015\*



**Private Construction Activity Is Moving in a Positive Direction though Remains Well Below Pre-Crisis Peak; Residential Dominates**

\*2015 figure is a seasonally adjusted annual rate as of August.

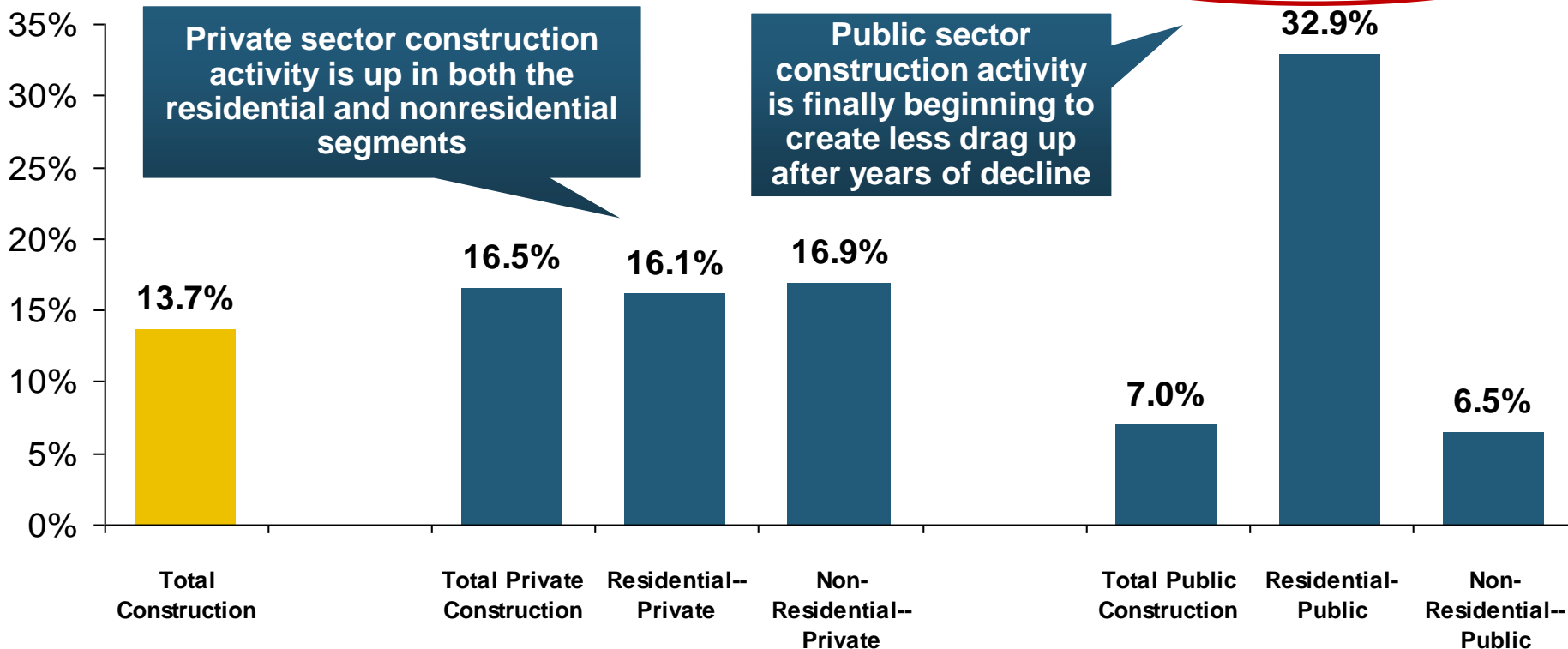
Sources: US Department of Commerce <http://www.census.gov/construction/c30/c30index.html> ; Insurance Information Institute.

# Value of Construction Put in Place, August 2015 vs. August 2014\*

Growth (%)

**Private: +16.5%**

**Public: +7.0%**



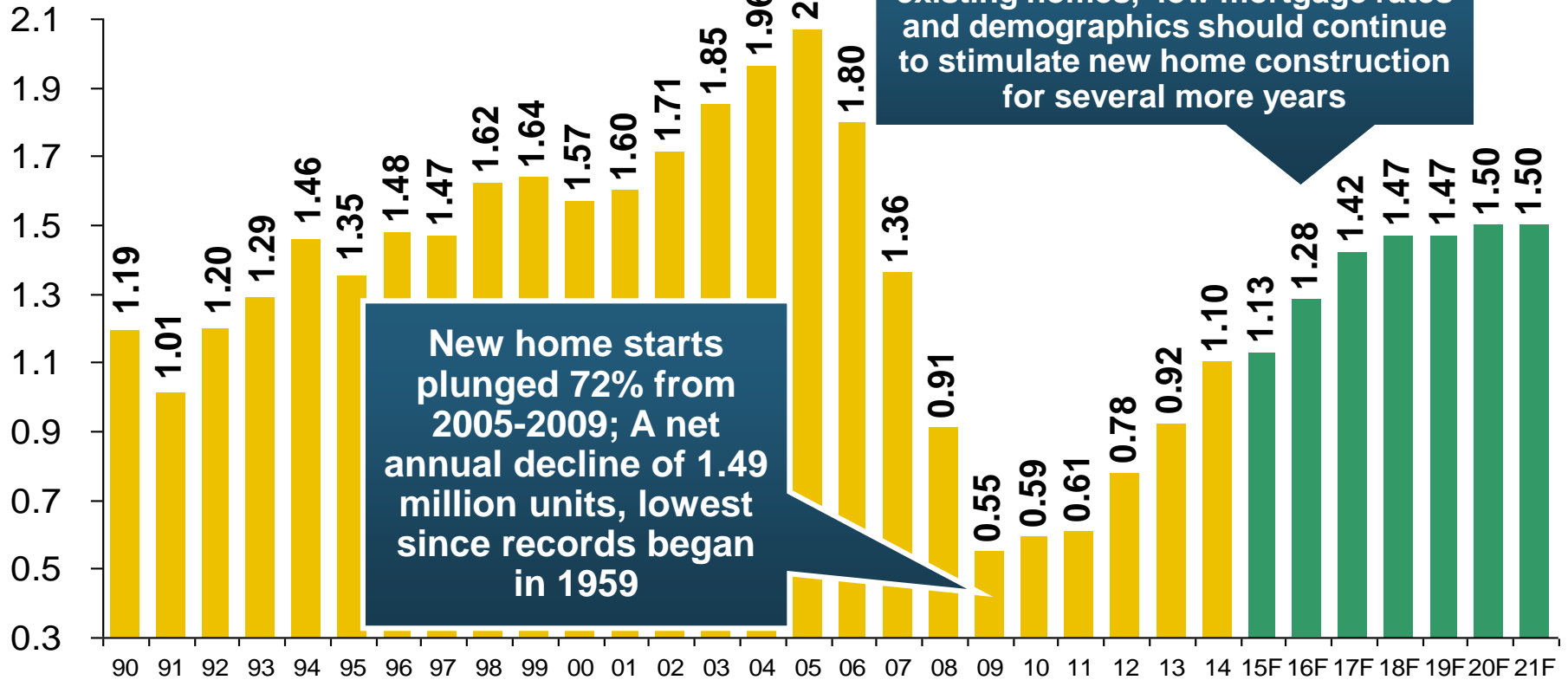
**Overall Construction Activity is Up Again After Languishing in Early 2015; State/Local Sector Government Sector May Be Recovering as Budget Woes Ease in Some Jurisdictions**

\*seasonally adjusted

Source: U.S. Census Bureau, <http://www.census.gov/construction/c30/c30index.html> ; Insurance Information Institute.

# New Private Housing Starts, 1990-2021F

(Millions of Units)

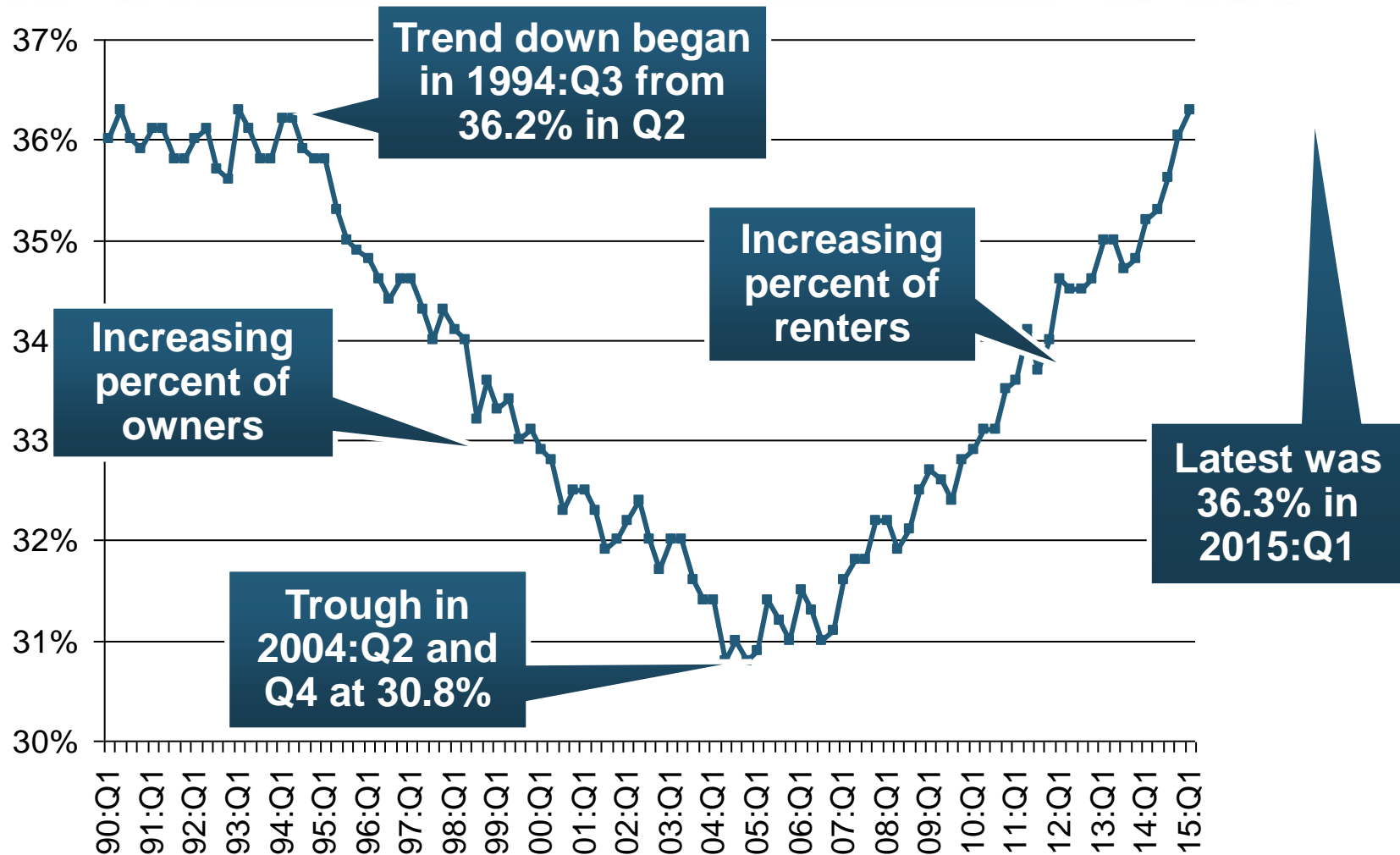


Job growth, low inventories of existing homes, low mortgage rates and demographics should continue to stimulate new home construction for several more years

New home starts plunged 72% from 2005-2009; A net annual decline of 1.49 million units, lowest since records began in 1959

**Insurers Are Continue to See Meaningful Exposure Growth in the Wake of the “Great Recession” Associated with Home Construction: Construction Risk Exposure, Surety, Commercial Auto; Potent Driver of Workers Comp Exposure**

# Rental-Occupied Housing Units as % of Total Occupied Units, Quarterly, 1990:Q1-2015:Q1



Since the Great Recession ended in June 2009, renters occupied 5.7 million more units (+15.6%).

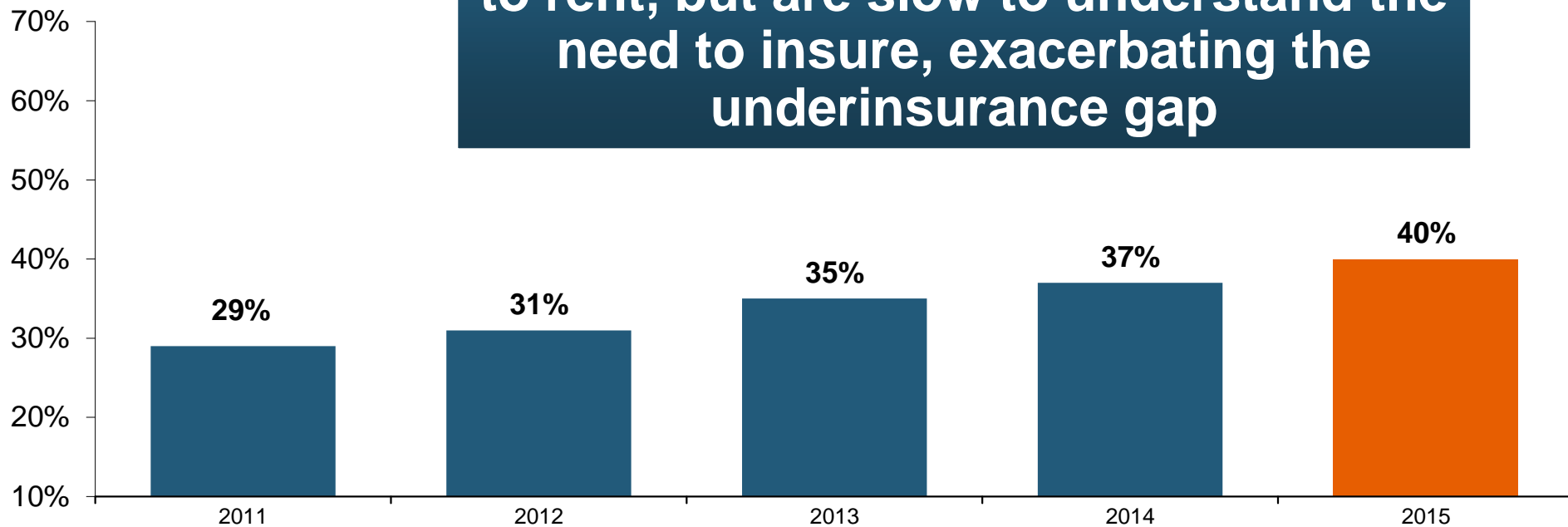
Sources: US Census Bureau, *Residential Vacancies & Home Ownership in the First Quarter of 2015* (released April 28, 2015) and earlier issues; Insurance Information Institute. Next Census Bureau report to be released on July 28, 2015.



# I.I.I. Poll: Renter's Insurance

Q. Do you have renters insurance? <sup>1</sup>

**Americans are increasingly choosing to rent, but are slow to understand the need to insure, exacerbating the underinsurance gap**



**The Percentage of Renters Who Have Renters Insurance Has Been Rising Since 2011.**

<sup>1</sup>Asked of those who rent their home.



# **CYBER RISK & CYBER INSURANCE**

**Cyber Risk is a Rapidly Emerging  
Exposure for Businesses Large and  
Small in Every Industry**

# Data Breaches 2005-2015, by Number of Breaches and Records Exposed

# Data Breaches/Millions of Records Exposed

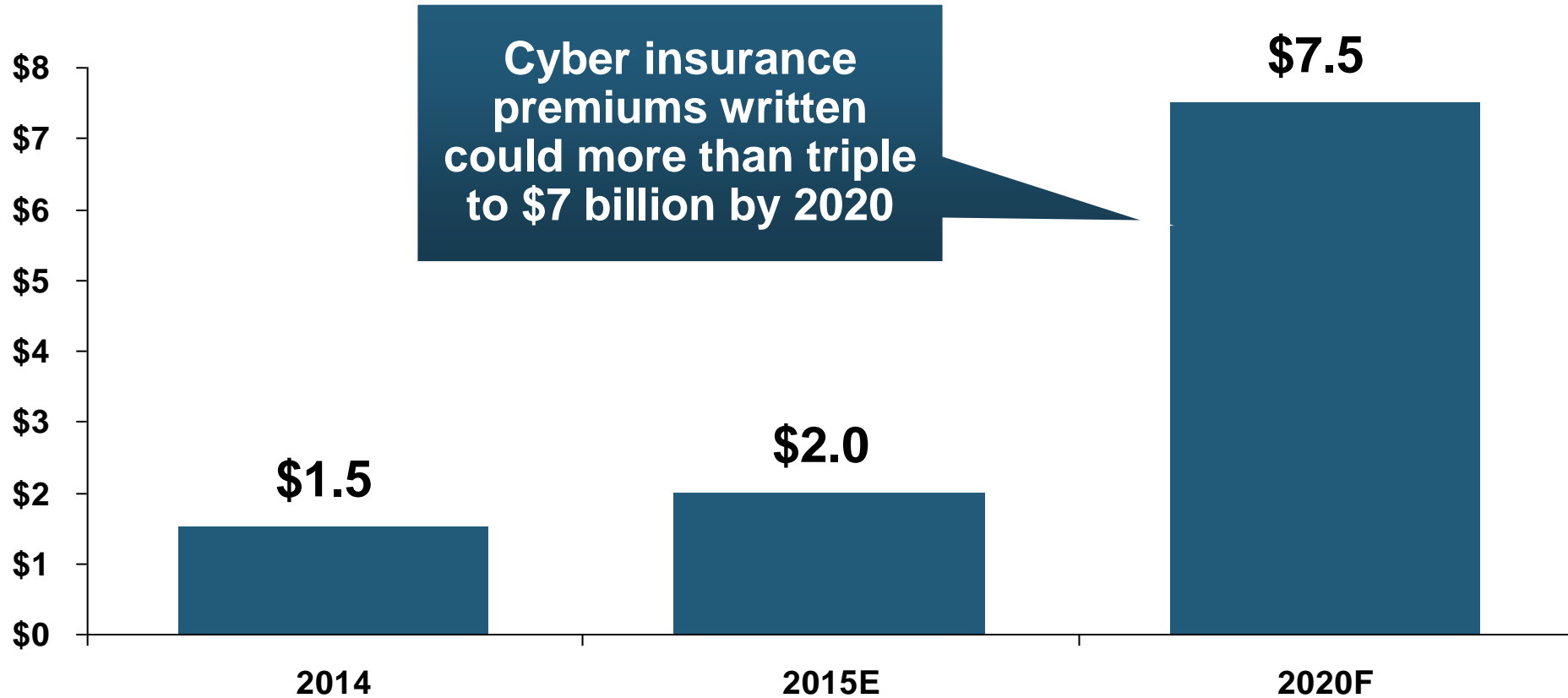


The total number of data breaches (+27.5%) hit a record high of 783 in 2014, exposing 85.6 million records. Through June 30, this year has seen 117.6 million records exposed in 400 breaches.\*

\*Figures as of June 30, 2015, from the Identity Theft Resource Center, <http://www.idtheftcenter.org/images/breach/ITRCBreachReport2015.pdf>

# Estimated Cyber Insurance Premiums Written, 2014 – 2020F

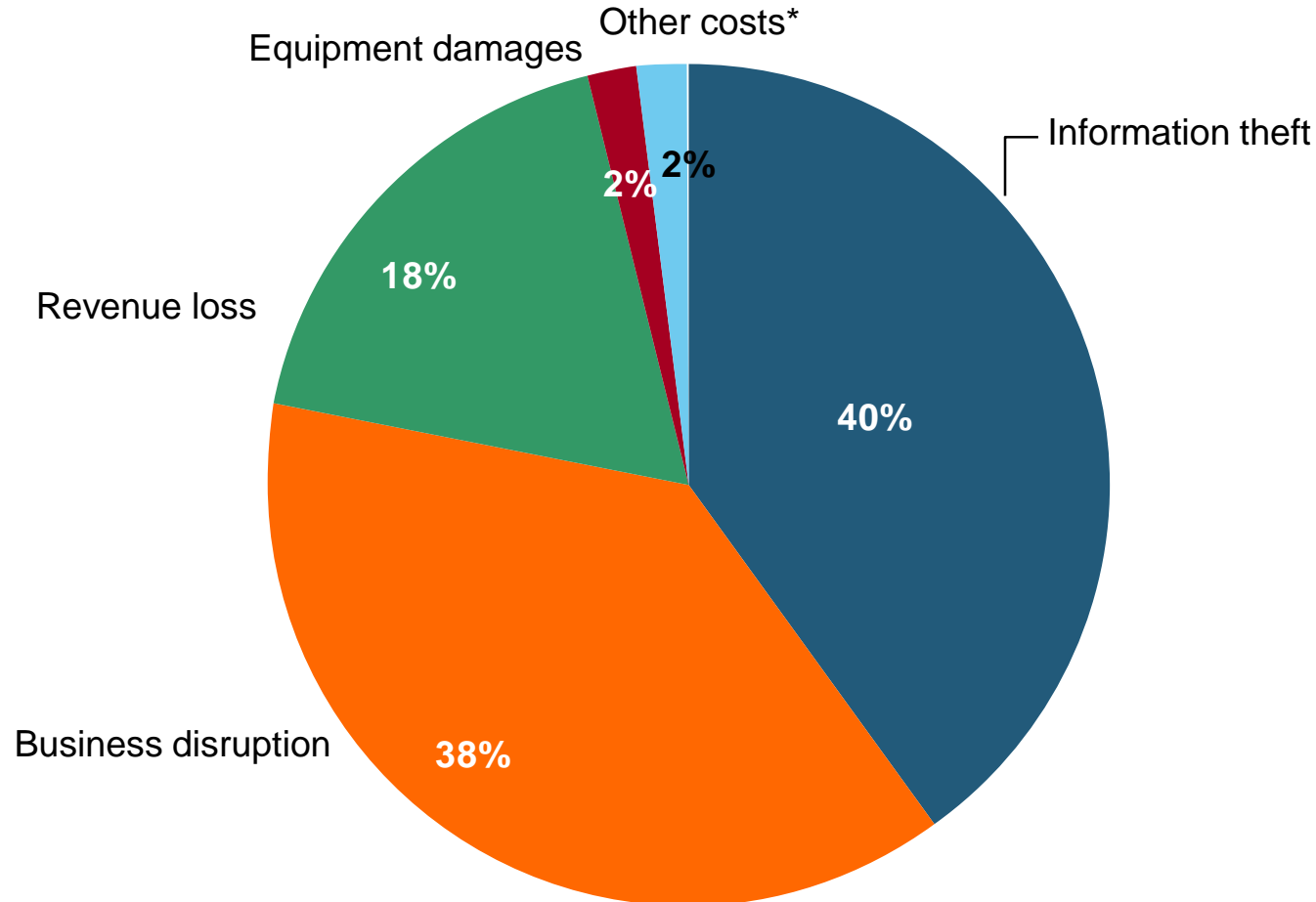
\$ Billions



Source: Advisen (2014 est.); PwC (2015, 2020); Insurance Information Institute.

# US: External Cyber Crime Costs: Fiscal Year 2014

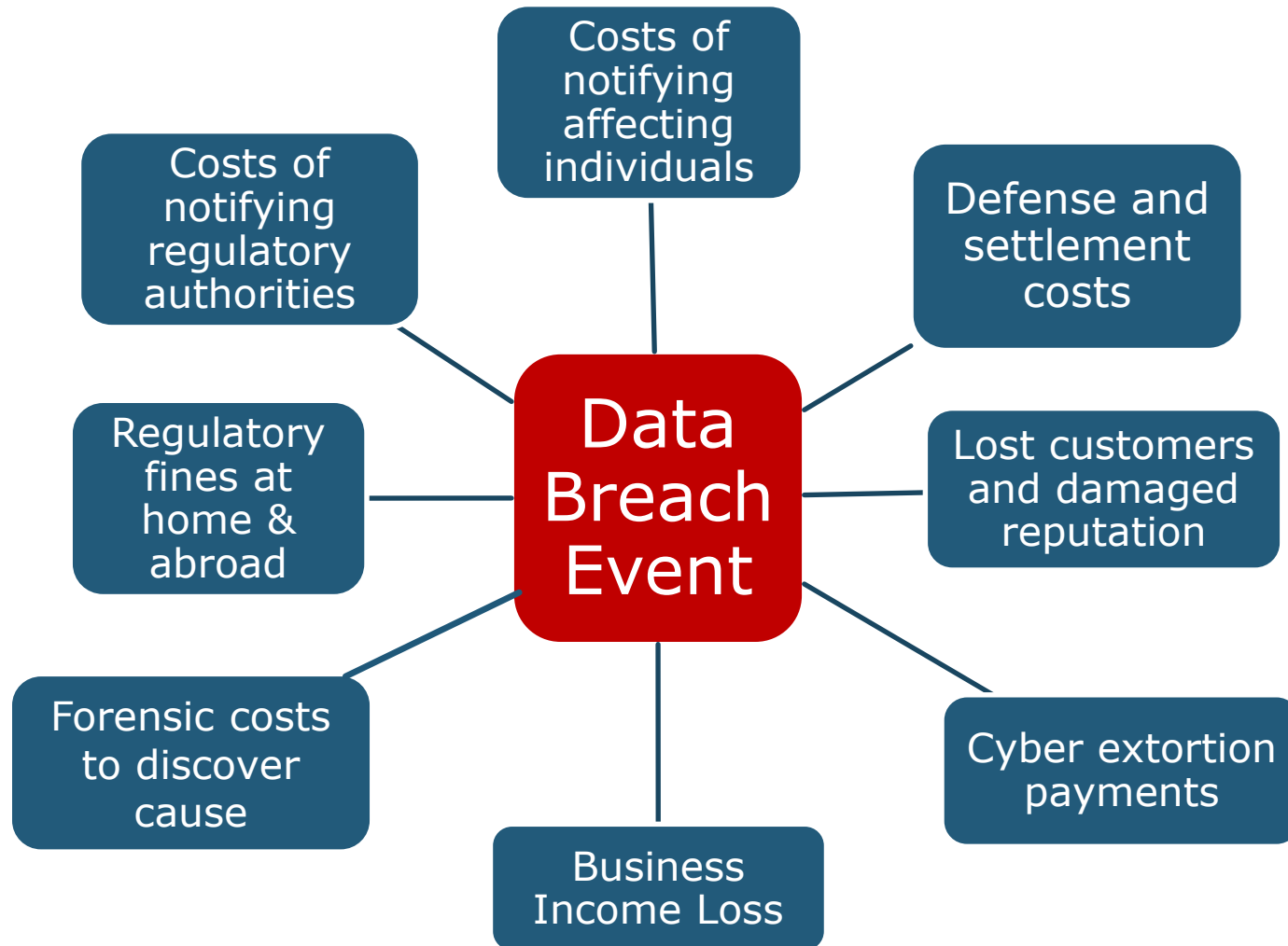
Information theft (40%) and business disruption or lost productivity (38%) account for the majority of external costs due to cyber crime.



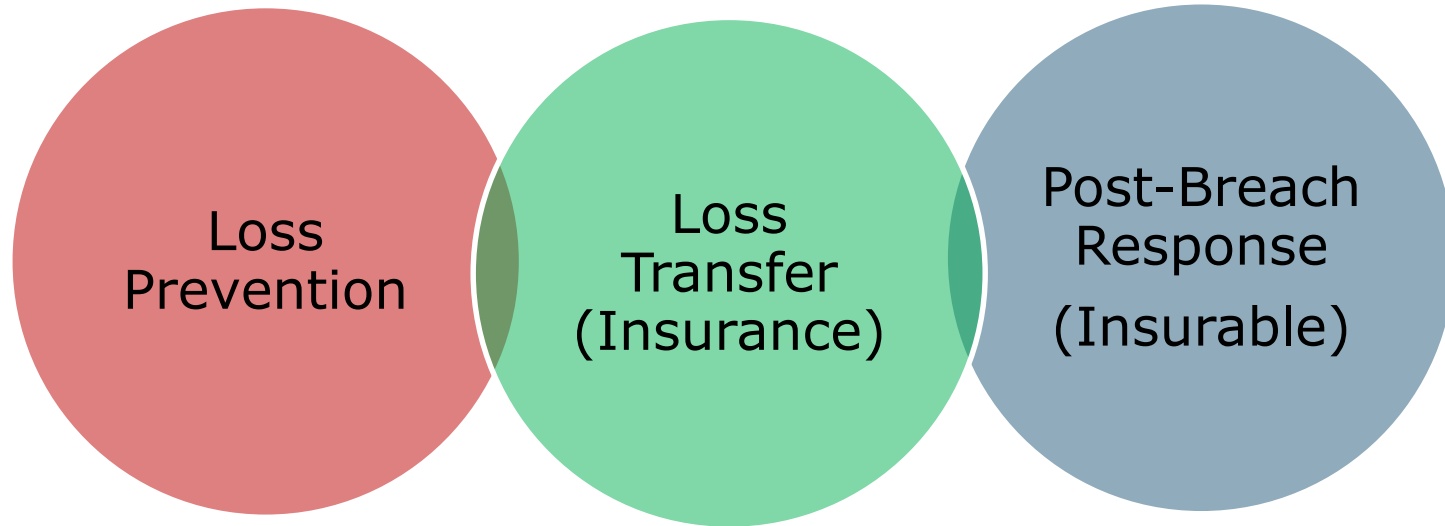
\* Other costs include direct and indirect costs that could not be allocated to a main external cost category

Source: 2014 Cost of Cyber Crime: United States, Ponemon Institute.

# Data/Privacy Breach: Many Potential Costs Can Be Insured



# The Three Basic Elements of Cyber Coverage: Prevention, Transfer, Response



**Cyber risk management today involves three essential components, each designed to reduce, mitigate or avoid loss. An increasing number of cyber risk products offered by insurers today provide all three.**

# I.I.I.'s New Cyber Risk Report (Oct. 2015): *Cyber Risks Threat and Opportunity*

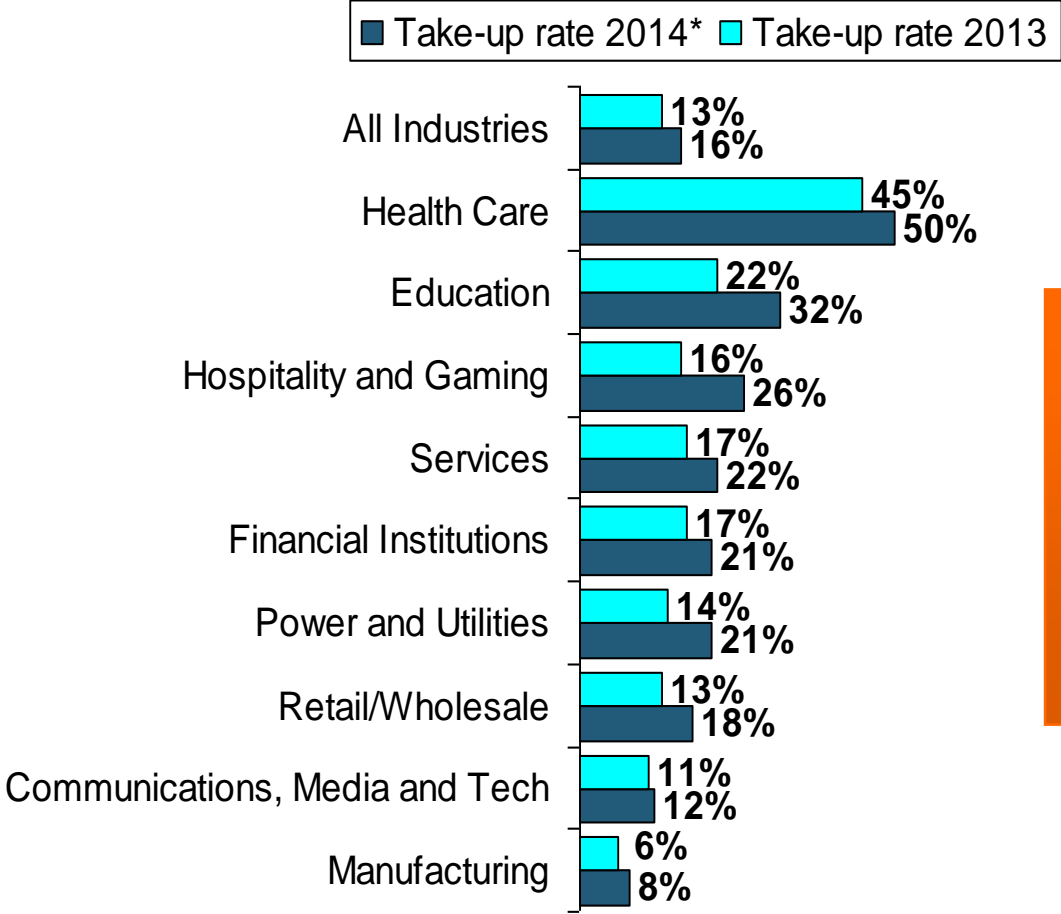


- I.I.I.'s 3<sup>rd</sup> report on cyber risk:  
*Cyber Risk: Threat and Opportunity*
- Provides information on cyber threats and insurance market solutions
- Global cyber risk overview
  - Quantification of threats by type and industry
- Cyber security and cost of attacks
- Cyber terrorism
- Cyber liability
- Insurance market for cyber risk

<http://www.iii.org/white-paper/cyber-risks-threat-and-opportunities-100715>



# Marsh: Percentage of U.S. Companies Purchasing Cyber Insurance Increased in 2014



**Ever larger numbers of insureds seek financial protection via cyber insurance. The percentage of U.S. companies buying cyber insurance rose to 16 percent in 2014.**

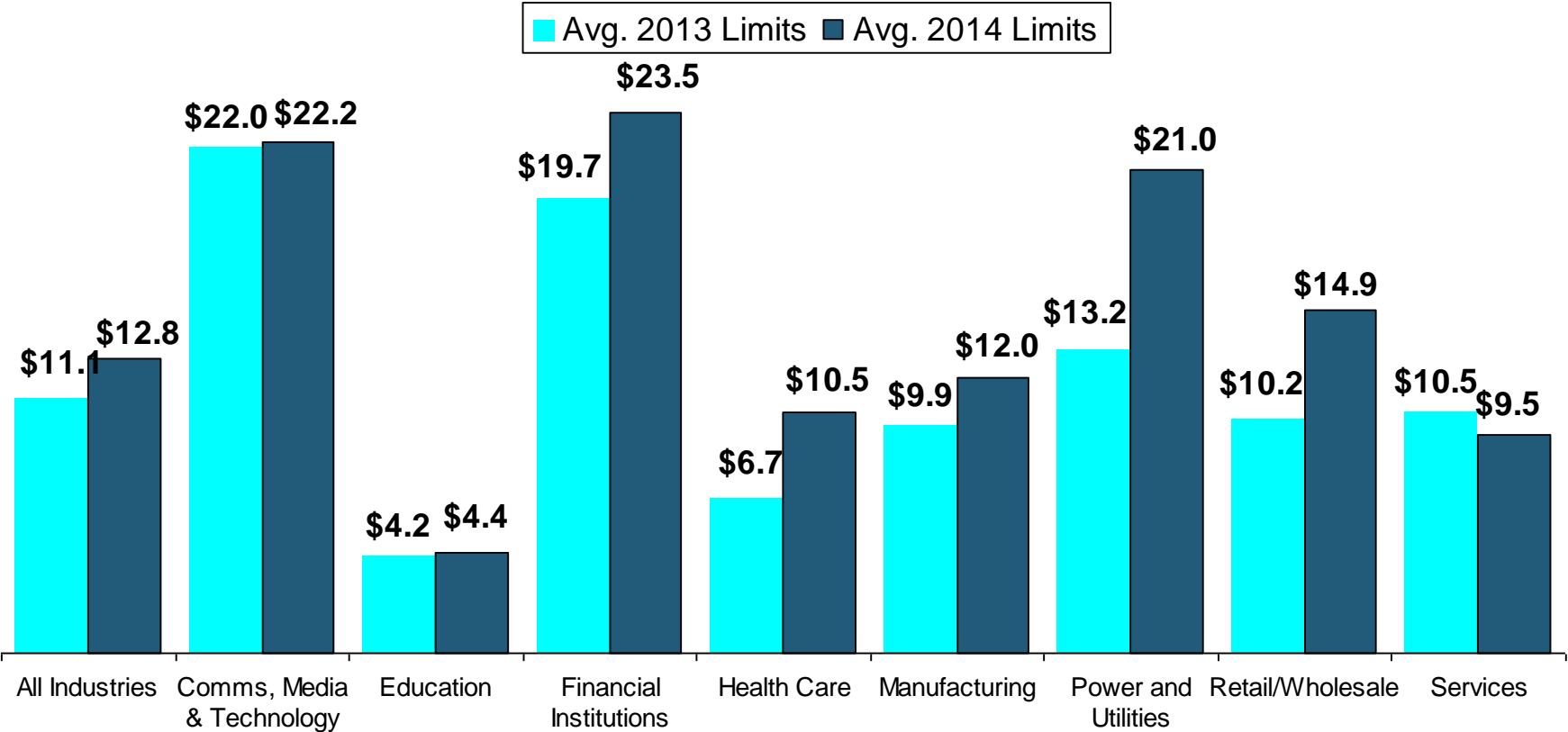
\*Take-up rate refers to the overall percentage of clients that purchased standalone cyber insurance.

Source: *Benchmarking Trends: As Cyber Concerns Broaden, Insurance Purchases Rise*, Marsh Risk Management Research Briefing, March 2015

# Marsh: Total Limits Purchased, By Industry – Cyber Liability, All Revenue Size

Average limits purchased for cyber risk rose to \$12.8 million for all industries and all company sizes in 2014. Power and utility companies witnessed the sharpest percentage increase in average limits, at 59 percent.

(\$ Millions)



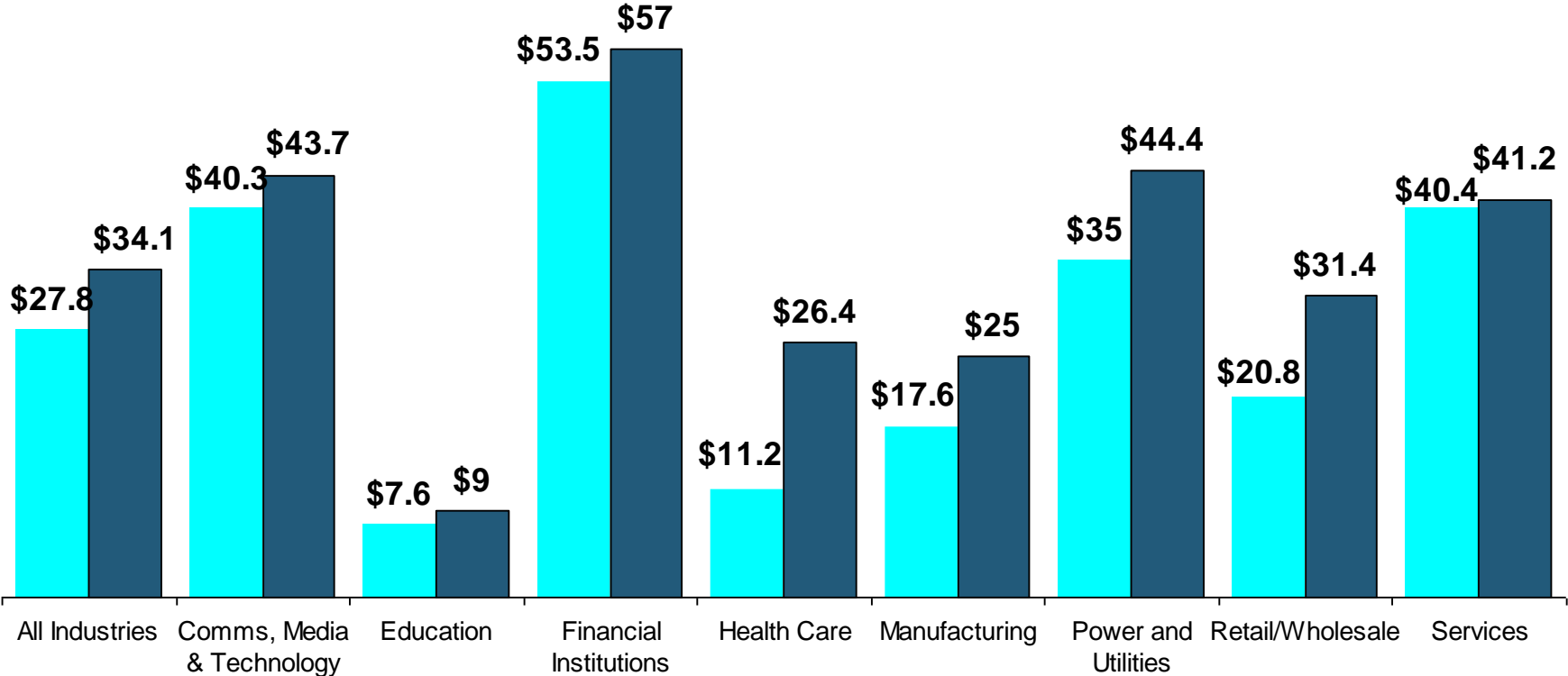
Source: *Benchmarking Trends: As Cyber Concerns Broaden, Insurance Purchases Rise*, Marsh Risk Management Research Briefing, March 2015

# Marsh: Total Limits Purchased, By Industry – Cyber Liability, Revenue \$1 Billion+

Among larger companies, average cyber insurance limits purchased increased by 22 percent to \$34.1 million in 2014, from \$27.8 million in 2013.

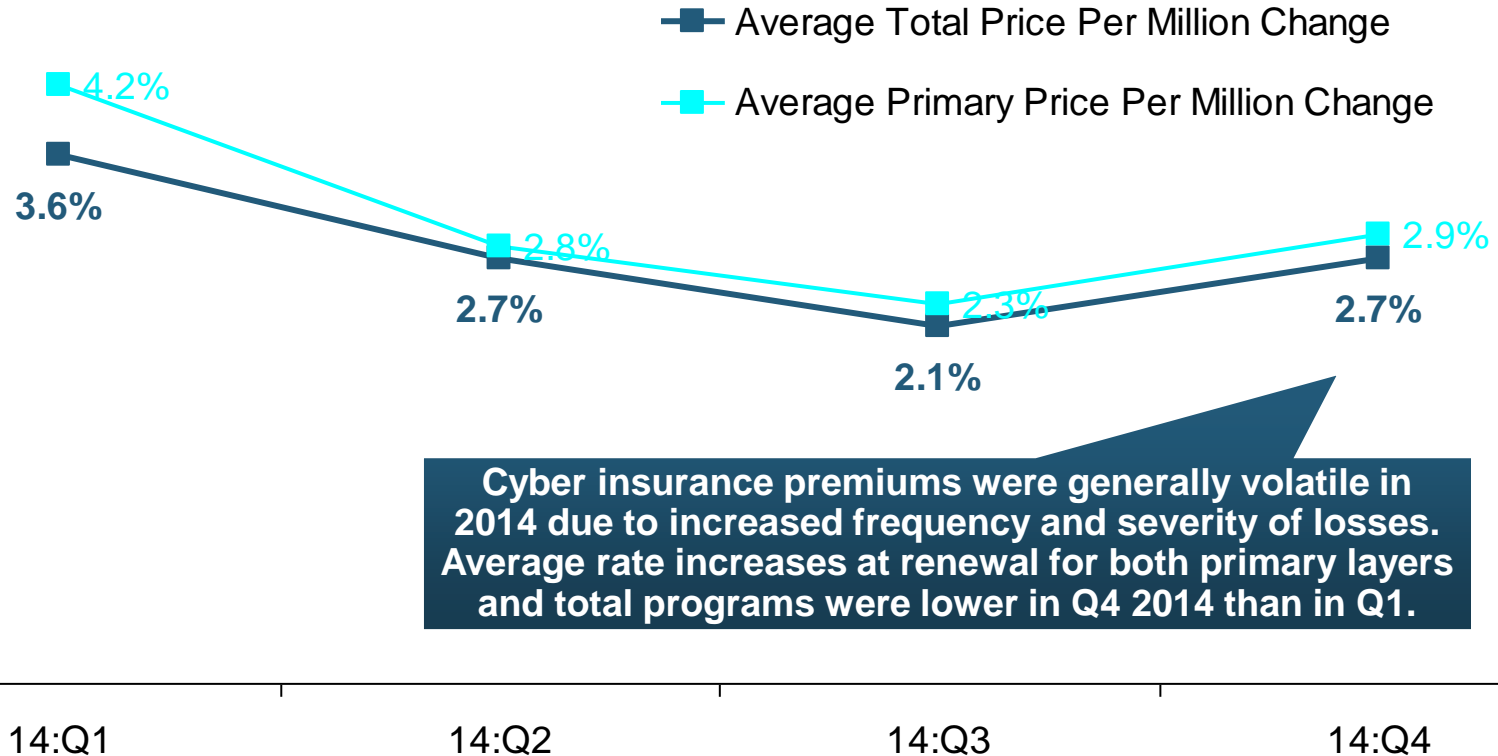
(\$ Millions)

■ Avg. 2013 Limits ■ Avg. 2014 Limits



Source: *Benchmarking Trends: As Cyber Concerns Broaden, Insurance Purchases Rise*, Marsh Risk Management Research Briefing, March 2015

# Cyber Liability: Historical Rate (price per million) Changes



Cyber insurance premiums were generally volatile in 2014 due to increased frequency and severity of losses. Average rate increases at renewal for both primary layers and total programs were lower in Q4 2014 than in Q1.

# INDUSTRY DISRUPTORS

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

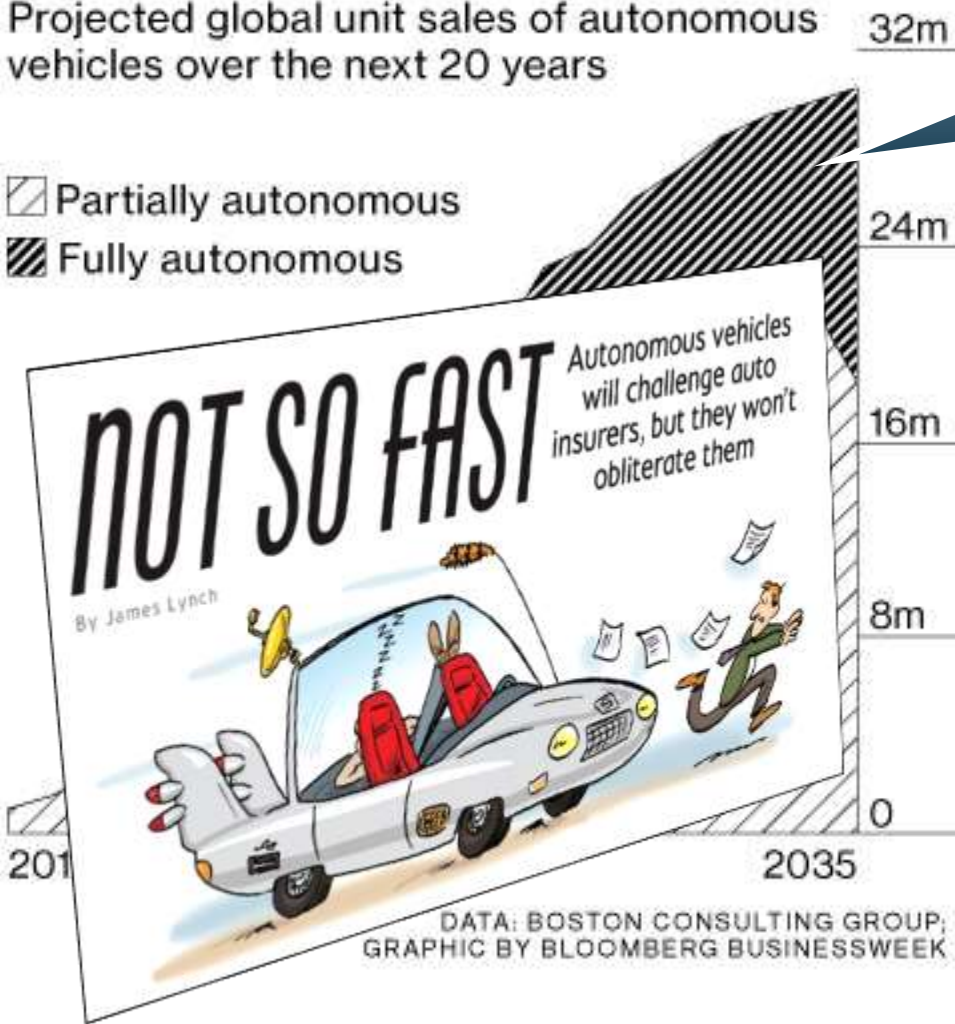
***Will Insurers Keep Pace?***

# 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

- ▨ Partially autonomous
- ▩ Fully autonomous



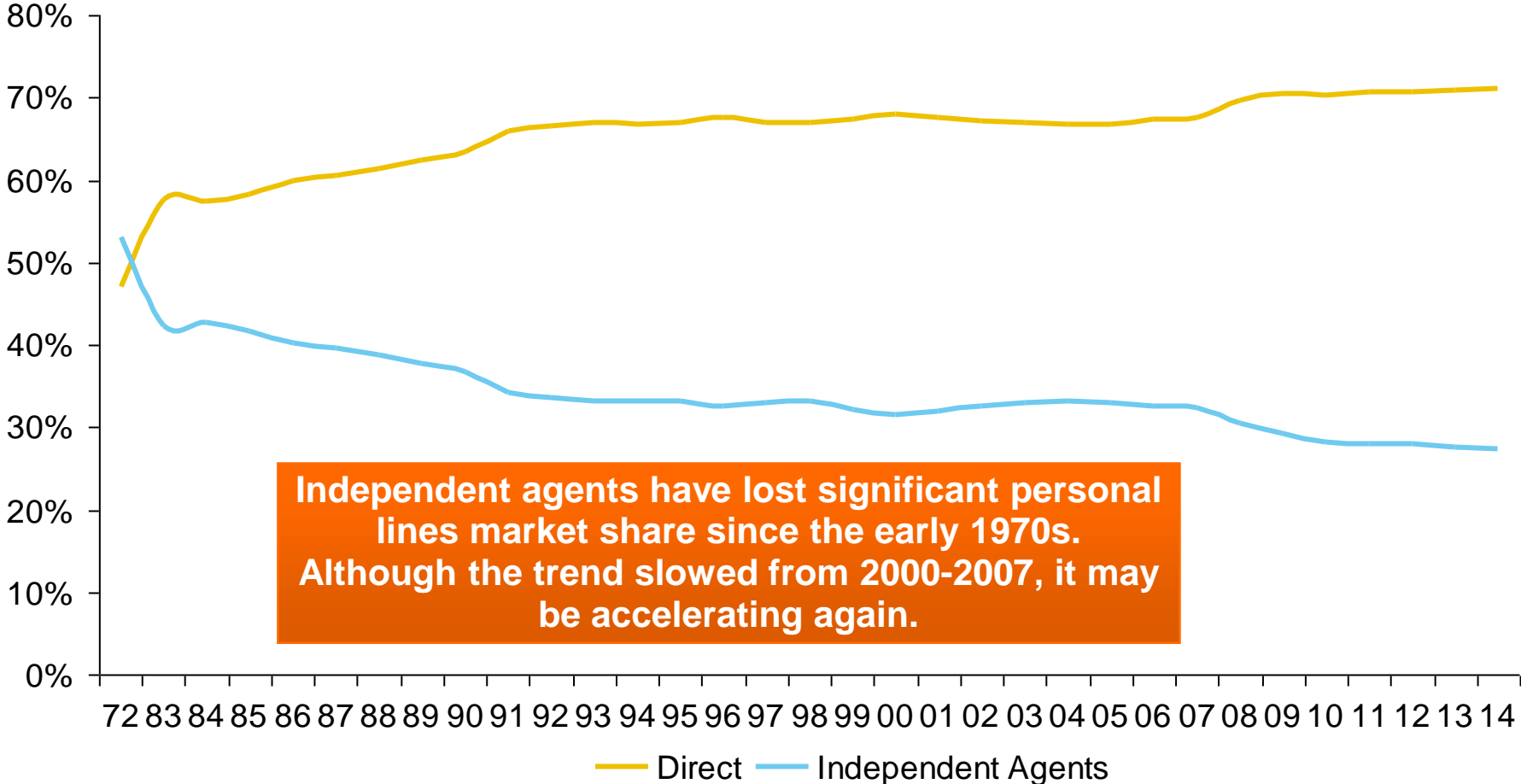
By 2035, it is estimated that 25% of new vehicle sales could be fully autonomous models

### Questions

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

DATA: BOSTON CONSULTING GROUP;  
GRAPHIC BY BLOOMBERG BUSINESSWEEK

# Personal Lines Distribution Channels, Direct vs. Independent Agents, 1972-2014



Source: Insurance Information Institute; based on data from Conning and A.M. Best.

# 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



U B E R





# Labor on Demand: Huge Implications for the US Economy, Workers & Insurers

Will YOUR job be reduced to an app?



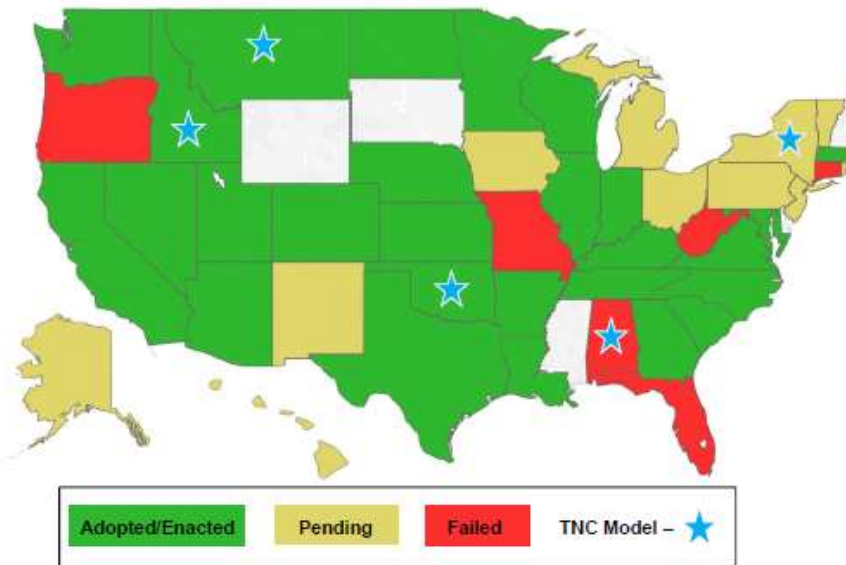
# TNC Ridesharing Arrangements: Insurance Applicability

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

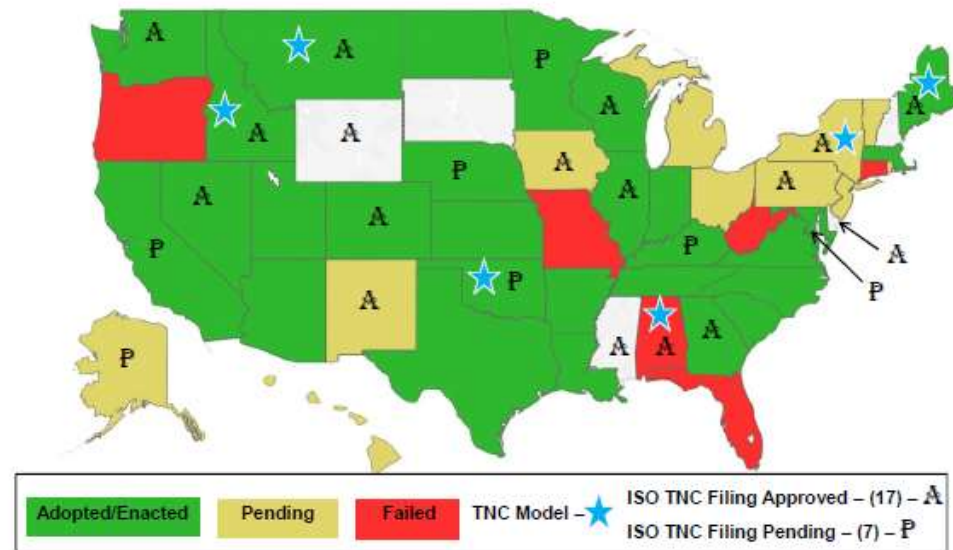
**The concern was that TNCs were seeking to offload risk on to personal auto insurers. An increasing number of personal auto insurers have developed solutions to ensure that coverage gaps are minimized**

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

## Status Ride Sharing Legislation/Regulation



## Status of ISO Filings



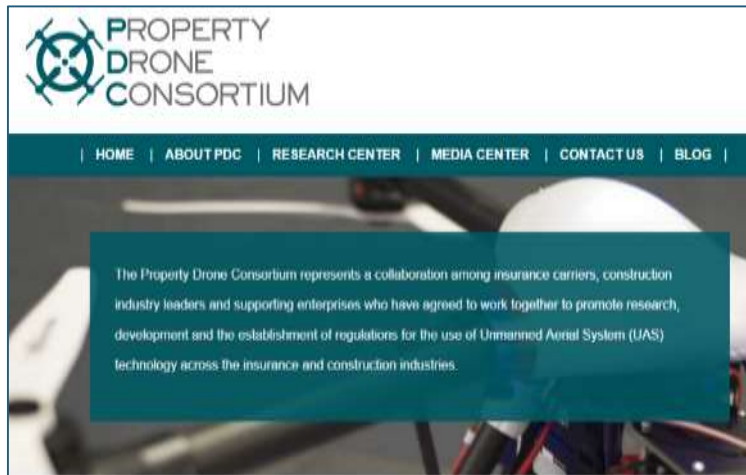
# Homesharing: ISO's Proposed Changes\*

1. Policyholder Notice
  - Guidance for policyholder to contact insurer
2. Exclusion
  - Explicit exclusion for loss/damage/injury arising out of homesharing
  - Applicable to host, landlord
  - To the extent possible, preserve existing coverage for rentals that do not originate from homesharing, such as that providing for roomers, boarders
3. Coverage option
  - Property and liability coverage for loss/damage/injury arising out of homesharing
  - Applicable to host, landlord

# Send in the Drones: Potential Rapid Adoption in Industry; Media Loves It



- Drones or Unmanned Aerial Vehicle (UAV) technology is seeing rapid adoption rate in many industries, including insurance
- ~700,000 drones in US by year-end
- FAA granting Section 333 exemptions for commercial use and testing of UAS
- FAA will require most drones to be registered by year-end 2015.
- At least 5 insurers have received permission to test
- Wide variety of applications: claims, pre-event property inspections...
- Insurers partnering with construction industry to guide R&D and regulation of UAV use via *Property Drone Consortium*: [www.propertydrone.org](http://www.propertydrone.org)



# Telematics for Your Home: The Internet of Things

- The home is the next frontier for telematics
- Rapidly becoming a crowded space
- How and with whom will insurers partner?
- Can control increasing array of household systems remotely



- ◆ Heat, A/C
- ◆ Fire, CO detection
- ◆ Security Systems
- ◆ Cameras/Monitors
- ◆ Appliances
- ◆ Lighting

- Technology is adaptive

- ◆ *Uses sensors and algorithms to learn about you*



# Partnerships with Insurers: Selling Safety and Savings Simultaneously

Stay safe.  
Save money.

 nest

Your insurance company knows Nest Protect helps keep you safe. They know it saves lives.

So we've partnered with leading insurance companies to help you get a Nest Protect at no cost. Your insurance provider could also lower your premiums up to 5% because Nest Protect is special - it can connect to Wi-Fi and tell them it's working.

It's their business to know what keeps families safe. And they believe in Nest Protect.

---

Find out when a Nest insurance partner is coming to your area.



**Nest is actively seeking to partner with insurers. As of Nov. 1, 2015, Nest listed 2 insurance partners offering discounts in a number of states: American Family (MN) and Liberty Mutual (AL, CO, DE, IL, KY, ME, MN, PA, UT and WI)**

# Partnerships with Insurers

In just a few minutes, you can:



Get a Nest Protect at no cost.



Get a discount on your insurance premiums.



Insurance companies  
will send you a  
Nest Protect.

Nest is selling  
its products via  
insurance  
partners



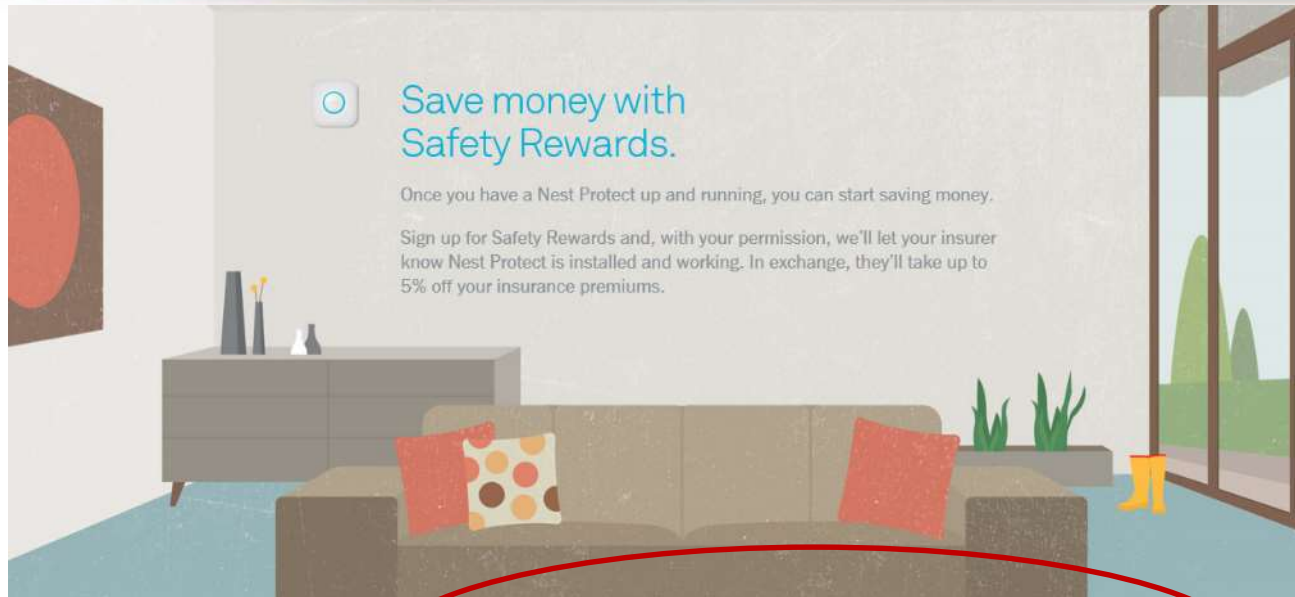
The Nest Protect smoke and CO alarm speaks to tell you what and where the danger is, sends phone alerts, and tests itself to make sure it's working. There's no smoke alarm quite like it.

So our insurance partners will send you a \$99 Nest Protect at no cost.

4 out of 5 firefighters would trust Nest Protect to protect their own homes.



# Partnerships with Insurers



Nest is selling its products via insurance partners

Your private data stays private.

Sign up for Safety Rewards and, once a month, Nest Protect will tell your insurance provider if:



Its batteries are charged.



Its sensors are working.



Its Wi-Fi connection is good.

Your insurer will never know if the alarm went off because you burned the popcorn.

[Learn more about what data we share >](#)

Even if your Wi-Fi drops or batteries run low, you won't lose your discount. And you can opt out of Safety Rewards at any time.

# Partnerships with Insurers: Information Collected, Addressing Privacy Concerns

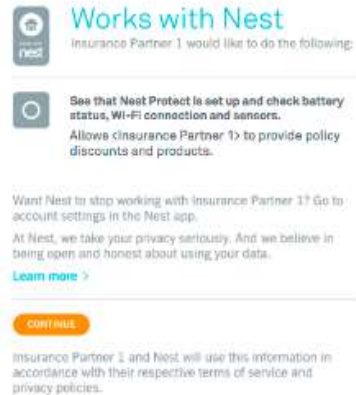
When I enroll in Safety Rewards, what kind of data is shared with my insurance company?

The Safety Rewards data you authorize Nest to share is secure and is limited to basic summarized information that verifies that your Nest Protect is working.

## Safety Rewards Information

Nest Protect tests itself to make sure that the batteries have power, that the sensors are working, and that it's connected to Wi-Fi. Nest Protect can also tell you when these tests succeed and when they don't.

When you enroll in Safety Rewards you'll be asked to grant Nest permission to provide basic summarized information about your Nest Protect to your insurance company. This will show they're working to help keep you and your home safe. Each month, Nest will summarize and send your Nest Protect data to your insurance company. This summary includes status of the batteries, smoke sensor, carbon monoxide sensor, and connection to the Internet. The status report is limited to basic values such as:



**Works with Nest**  
Insurance Partner 1 would like to do the following:

- See that Nest Protect is set up and check battery status, Wi-Fi connection and sensors.
- Allows Insurance Partner 1 to provide policy discounts and products.

Want Nest to stop working with Insurance Partner 1? Go to account settings in the Nest app.

At Nest, we take your privacy seriously. And we believe in being open and honest about using your data.

[Learn more >](#)

**CONTINUE**

Insurance Partner 1 and Nest will use this information in accordance with their respective terms of service and privacy policies.

Privacy, control of data concerns get significant attention



"Good" - functioning normally

"Low" - battery charge is low

"Issue" - problem with one or more sensors

"Unknown" - there may be an issue, but Nest Protect cannot diagnose it, or has not checked in because it is offline

The monthly status summary will also include your ZIP or postal code and the names of the rooms where you have your Nest Protects installed. The ZIP or postal code information enables your insurance company to verify that the devices are in a home covered by your insurance policy.

### What you won't share

The monthly status summary does not include any smoke or carbon monoxide alarms that may have occurred in your home. In addition, any custom labels that you have given to your Nest Protects will not be shared. Lastly, it does not include any information about how you use the Nest app.

[Nest Protect locations, names and labels >](#)

# Partnerships with Insurers: Information Collected, Addressing Privacy Concerns

## What you won't share

The monthly status summary does not include any smoke or carbon monoxide alarms that may have occurred in your home. In addition, any custom labels that you have given to your Nest Protects will not be shared. Lastly, it does not include any information about how you use the Nest app.

[Nest Protect locations, names and labels >](#)

## You're in control of access to these monthly reports

While you're enrolling in Safety Rewards and setting up your connection, you'll be able to review the data requested before you grant permission to share it. If you decide not to grant permission, you won't be able to participate in Safety Rewards, but all your Nest products will continue to work just as before. If you decide to stop participating in Safety Rewards at some point, it's easy and simple to remove your permission. We won't send any more monthly status reports for your account.

[I'd like to stop participating in Safety Rewards, how can I cancel it? >](#)

## Your data is shared in a limited way

When you're setting up a connection to Nest for Safety Rewards there's no personal information — such as your email address — exchanged. We limit the type of information accessed by Safety Rewards connections, but a connection will request access to basic home and Nest Protect data so it can work.

Privacy, control and security of data get significant attention



## Your data is secure

We secure access to data with tokens that use [OAuth 2.0](#) instead of personal information, as well as SSL. These security standards are widely used by many leading technology companies.

## You can always change your mind

If you ever change your mind after you grant access to your data for these monthly reports, you can always remove the Safety Rewards connection. Removing the connection will remove you from the program, but your Nest products will continue to work just as before.

[How to remove a Safety Rewards connection >](#)

## Please read our Privacy Statement for Nest Products and Services

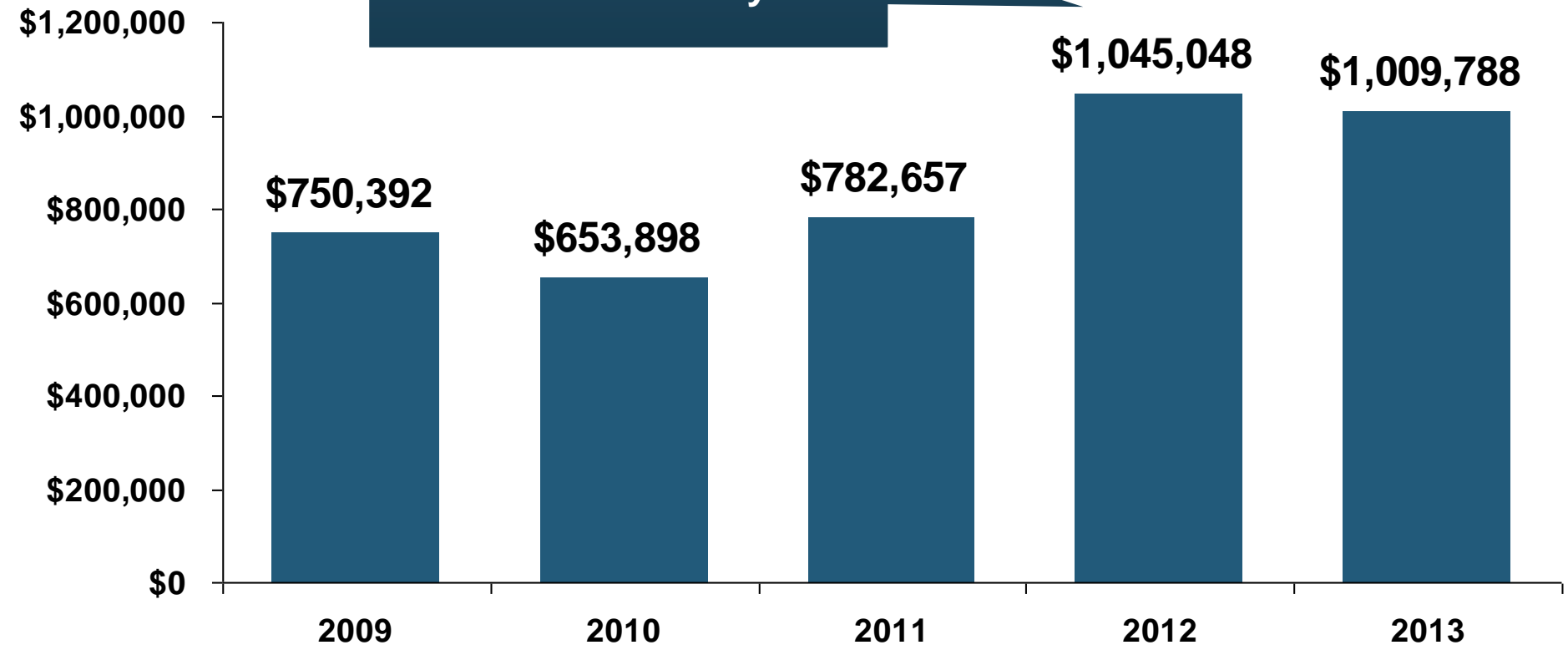
For complete details on how we keep your information private and secure, please see our [Privacy Statement](#) which describes how we handle personal data, data sharing and access.

# Shifting Legal Liability & Tort Environment

## Will the Tort Pendulum Swing Against Insurers?

# Average Personal Injury Jury Award, 2009 – 2013

Average awards in Personal Injury cases have increased by more than 1/3 in recent years



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

# Business Leaders Ranking of Liability Systems in 2015

## Best States

1. Delaware
2. Vermont
3. Nebraska
4. Iowa
5. New Hampshire
6. Idaho
7. North Carolina
8. Wyoming
9. South Dakota
10. Utah

### New in 2015

- Vermont
- New Hampshire
- North Carolina
- South Dakota

### Drop-offs

- Minnesota
- Kansas
- Virginia
- North Dakota

## Worst States

41. Arkansas
42. Missouri
43. Mississippi
44. Florida
45. New Mexico
46. Alabama
47. California
48. Illinois
49. Louisiana
50. West Virginia

### Newly Notorious

- Arkansas
- Missouri

### Rising Above

- Oklahoma
- Montana

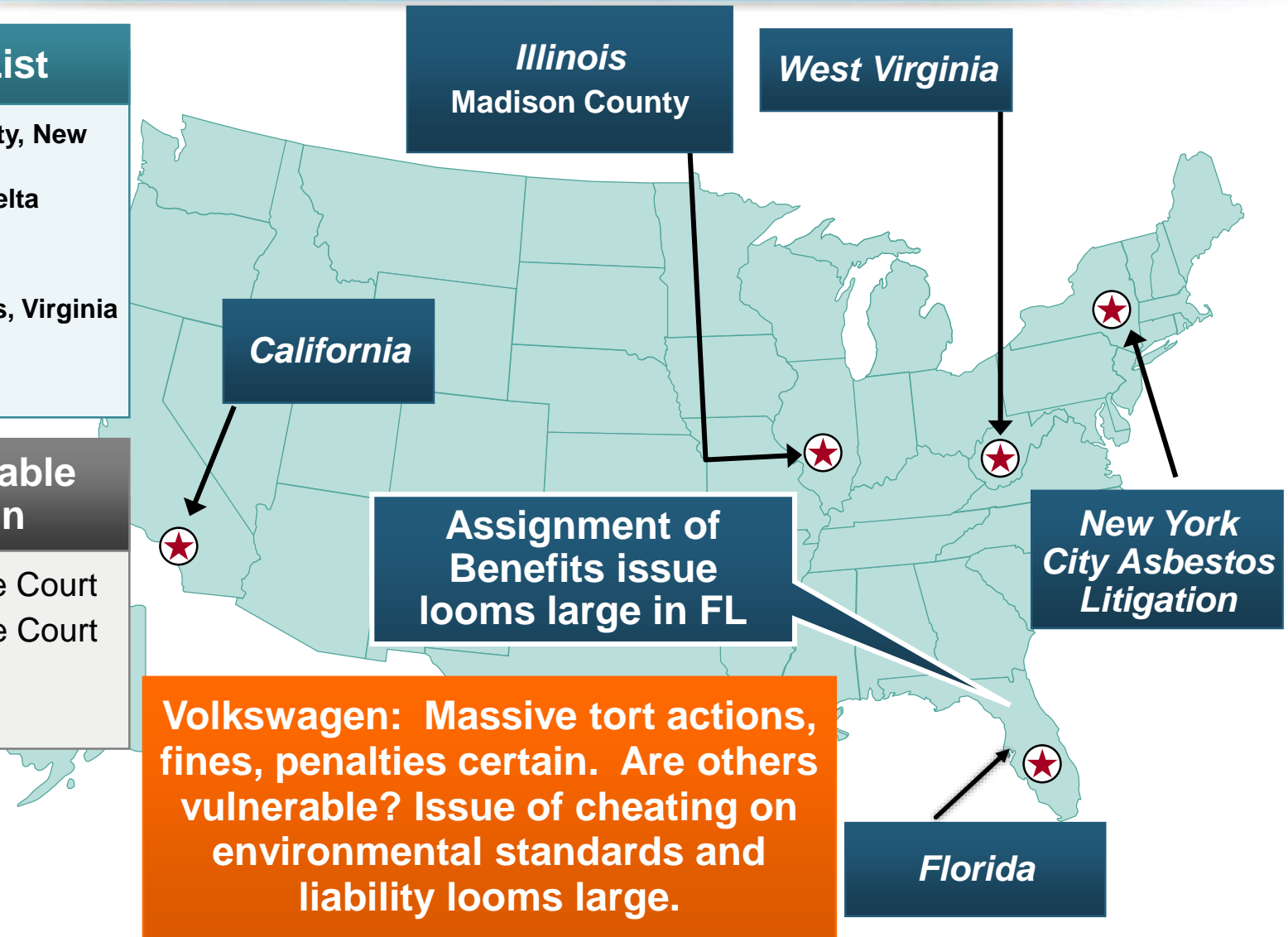
# The Nation's Judicial "Hellholes": 2014/2015

## Watch List

- Atlantic County, New Jersey
- Mississippi Delta
- Montana
- Nevada
- Newport News, Virginia
- Philadelphia, Pennsylvania

## Dishonorable Mention

- AL Supreme Court
- PA Supreme Court



Insurance Information Institute Online:

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