



Trends, Challenges and Opportunities in the P/C Insurance Industry *Focus on Hawaii Markets*

**University of Hawaii Insurance and
Risk Management Symposium**

Honolulu, HI April 19, 2016

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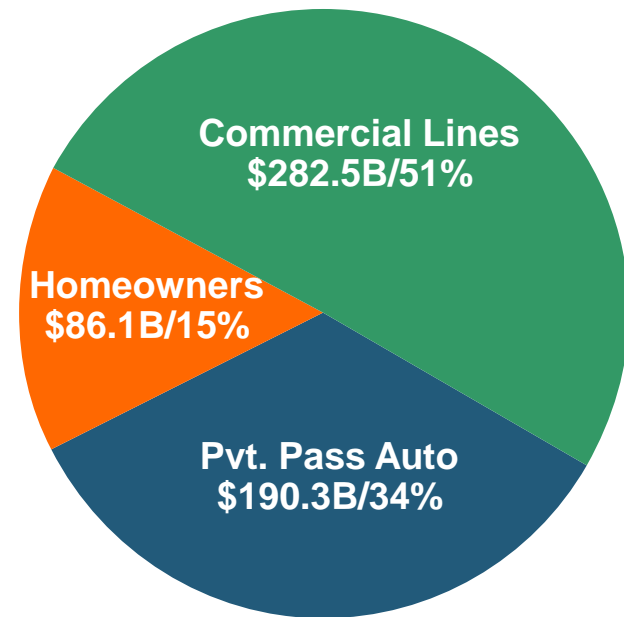
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Distribution of Direct Premiums Written by Segment/Line, 2014

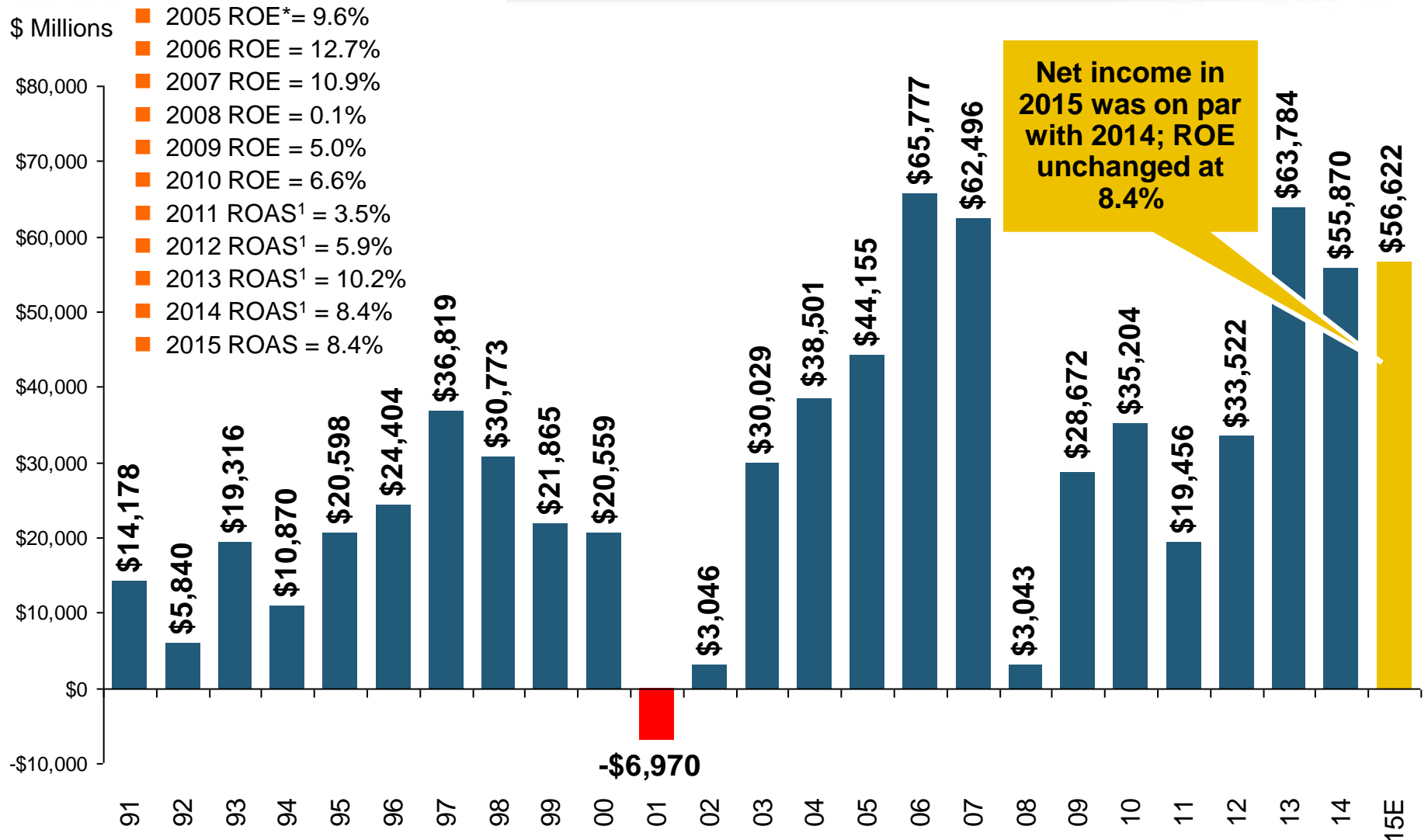
Distribution Facts

- 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

2014



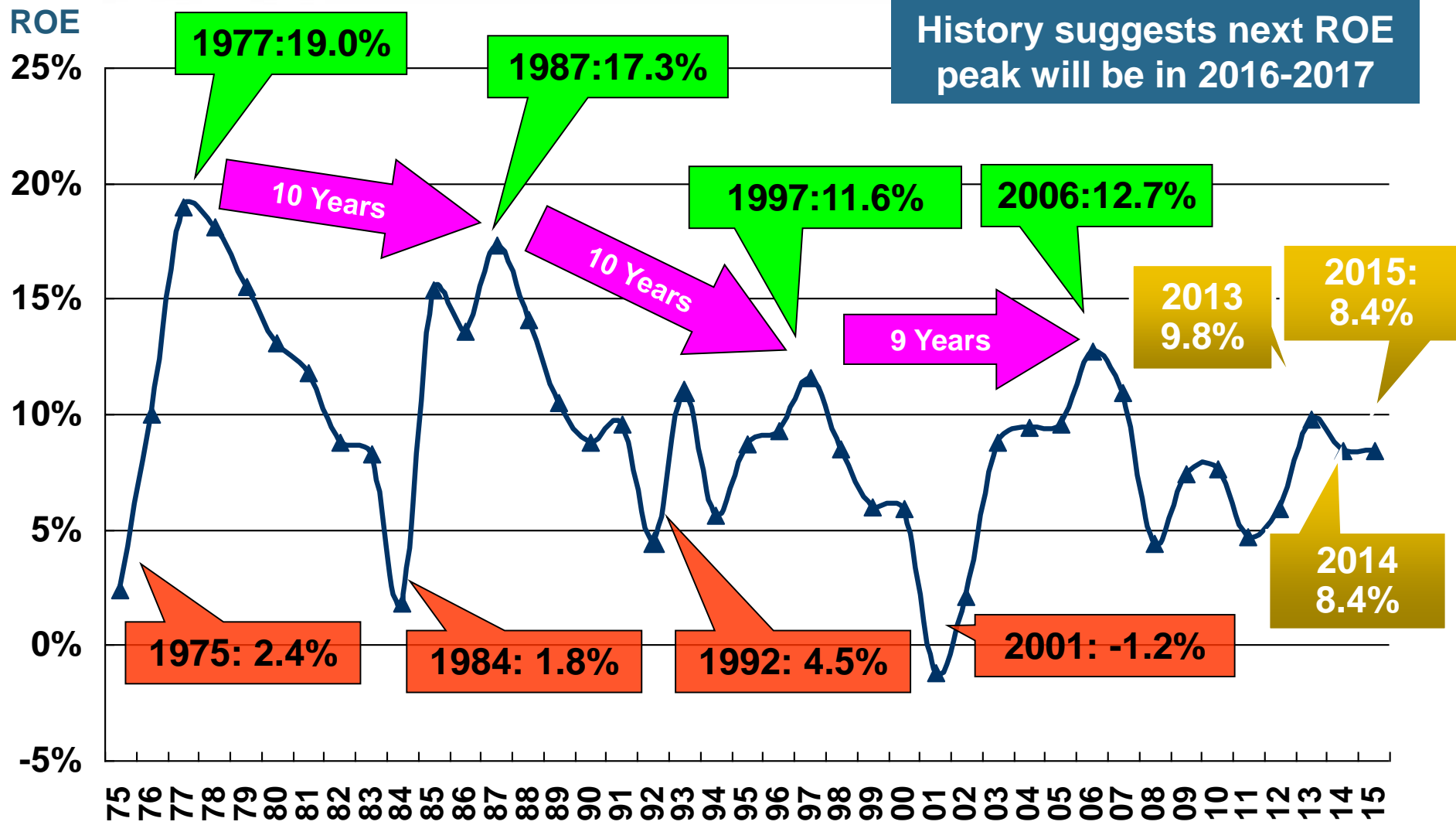
P/C Industry Net Income After Taxes 1991–2015



*ROE figures are GAAP; ¹Return 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; 2015E is annualized figure based actual figure through Q3 of \$44.0

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

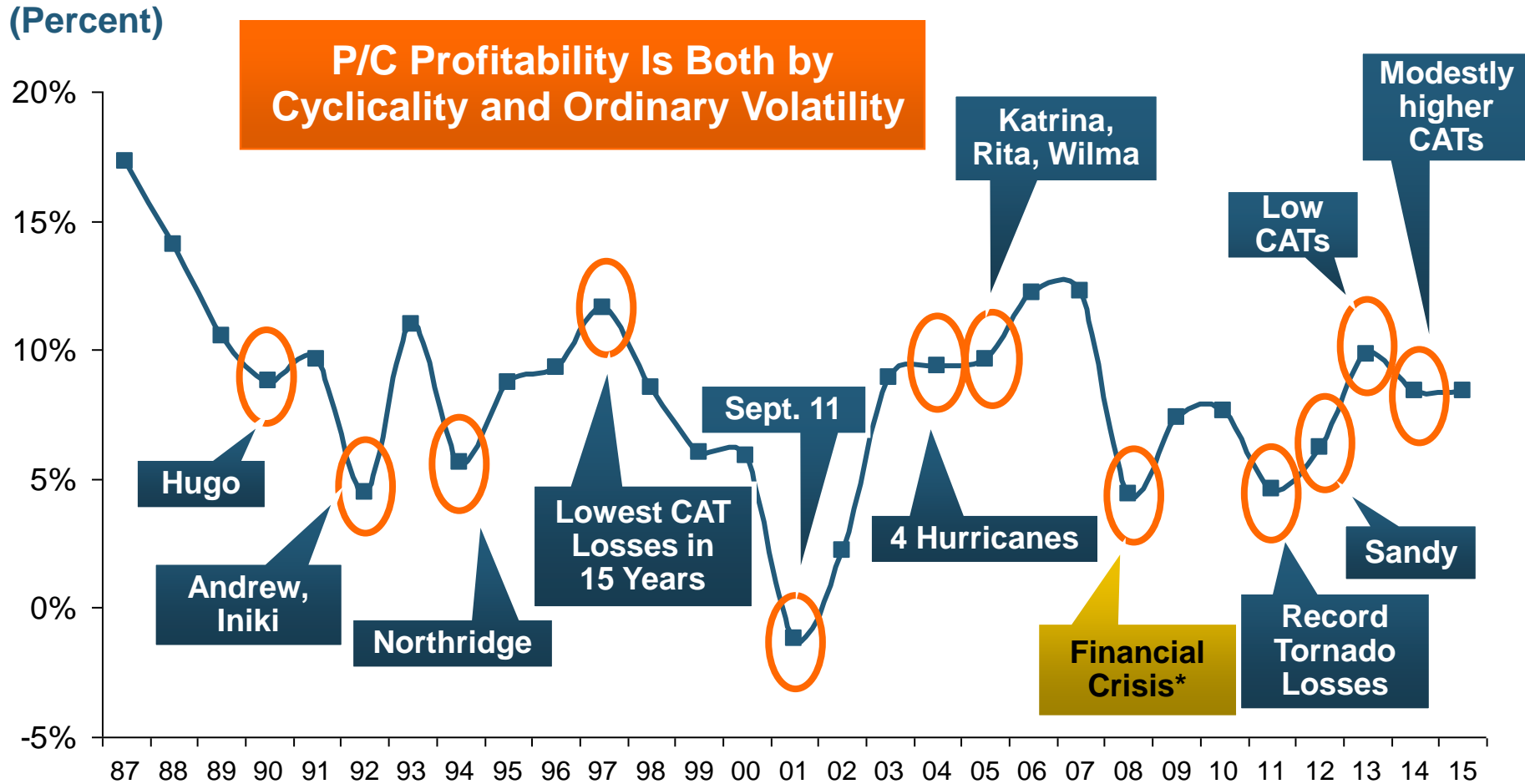
Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2015



*Profitability = P/C insurer ROEs. 2011-15 figures are estimates based on ROAS data. Note: Data for 2008-2014 exclude mortgage and financial guaranty insurers.

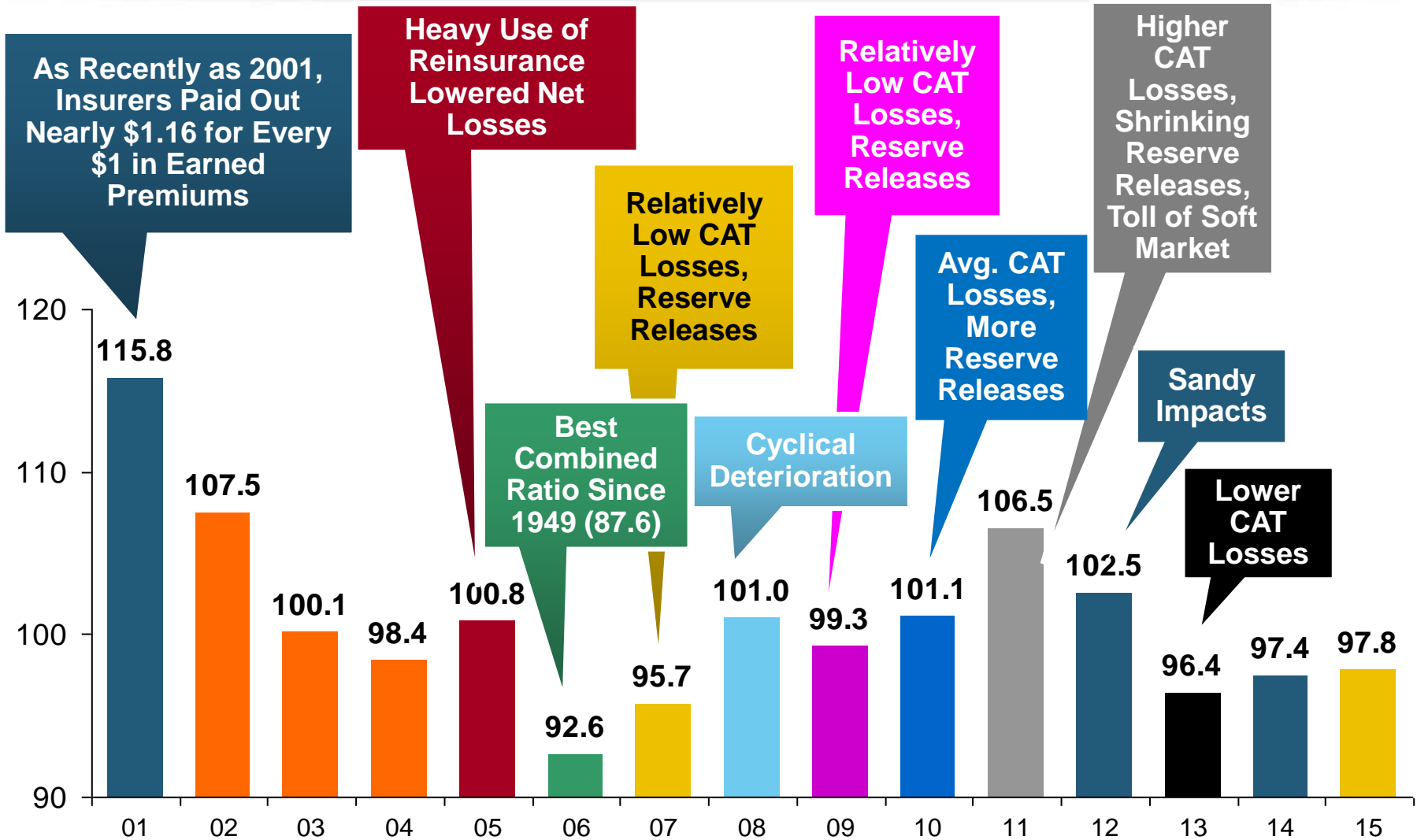
Source: Insurance Information Institute; NAIC, ISO, A.M. Best, Conning

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



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

P/C Insurance Industry Combined Ratio, 2001–2015*



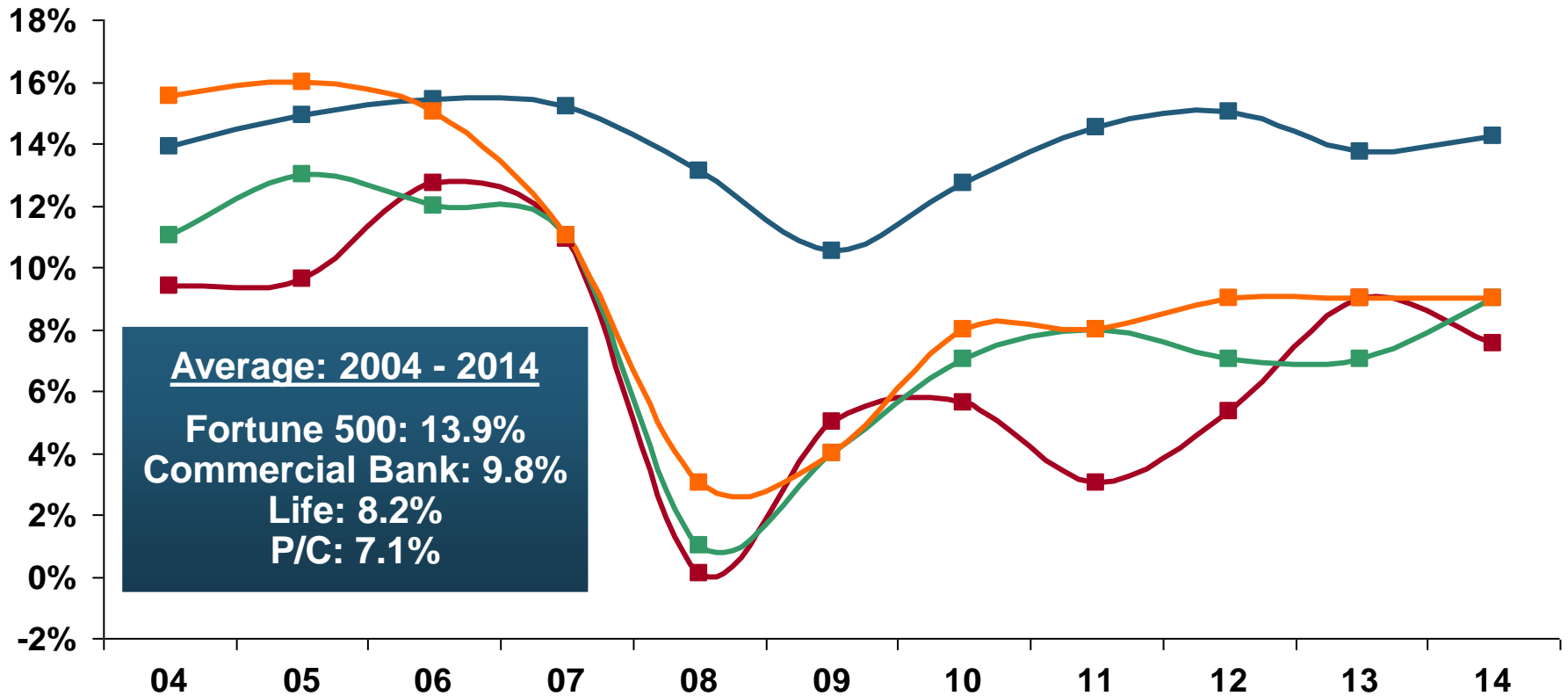
* Excludes Mortgage & Financial Guaranty insurers 2008--2014. Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012:=103.2; 2013: = 96.1; 2014: = 97.0.

Sources: A.M. Best, ISO; Figure for 2010-2014 is from A.M. Best P&C Review and Preview, Feb. 16, 2016.

Return on Equity by Financial Services Sector vs. Fortune 500, 2004-2014*

(Percent)

■ Fortune 500 ■ P/C Insurers ■ Life Insurers ■ Commercial Banks



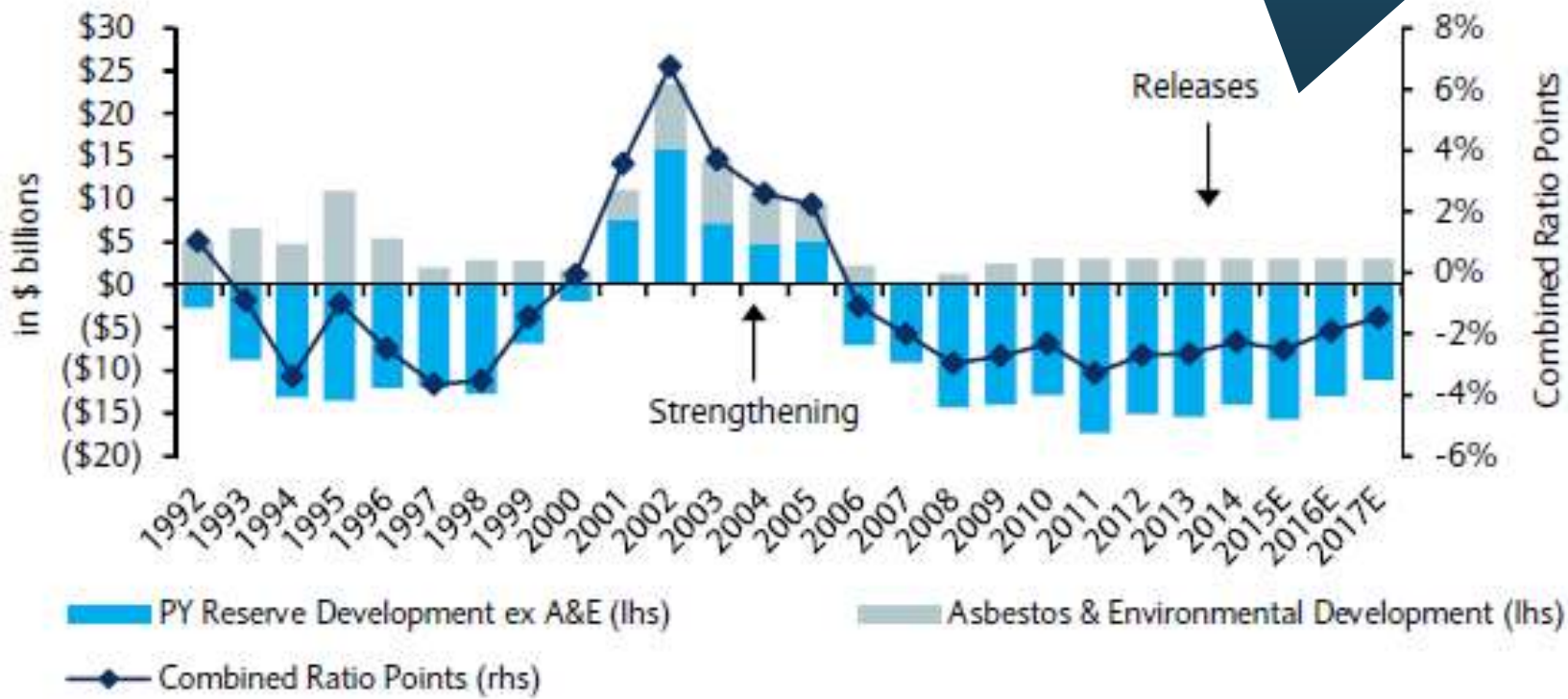
Banks and Insurers Have Substantially Underperformed the Fortune 500 Since the Financial Crisis

*GAAP basis.
Sources: ISO, Fortune; Insurance Information Institute.

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.



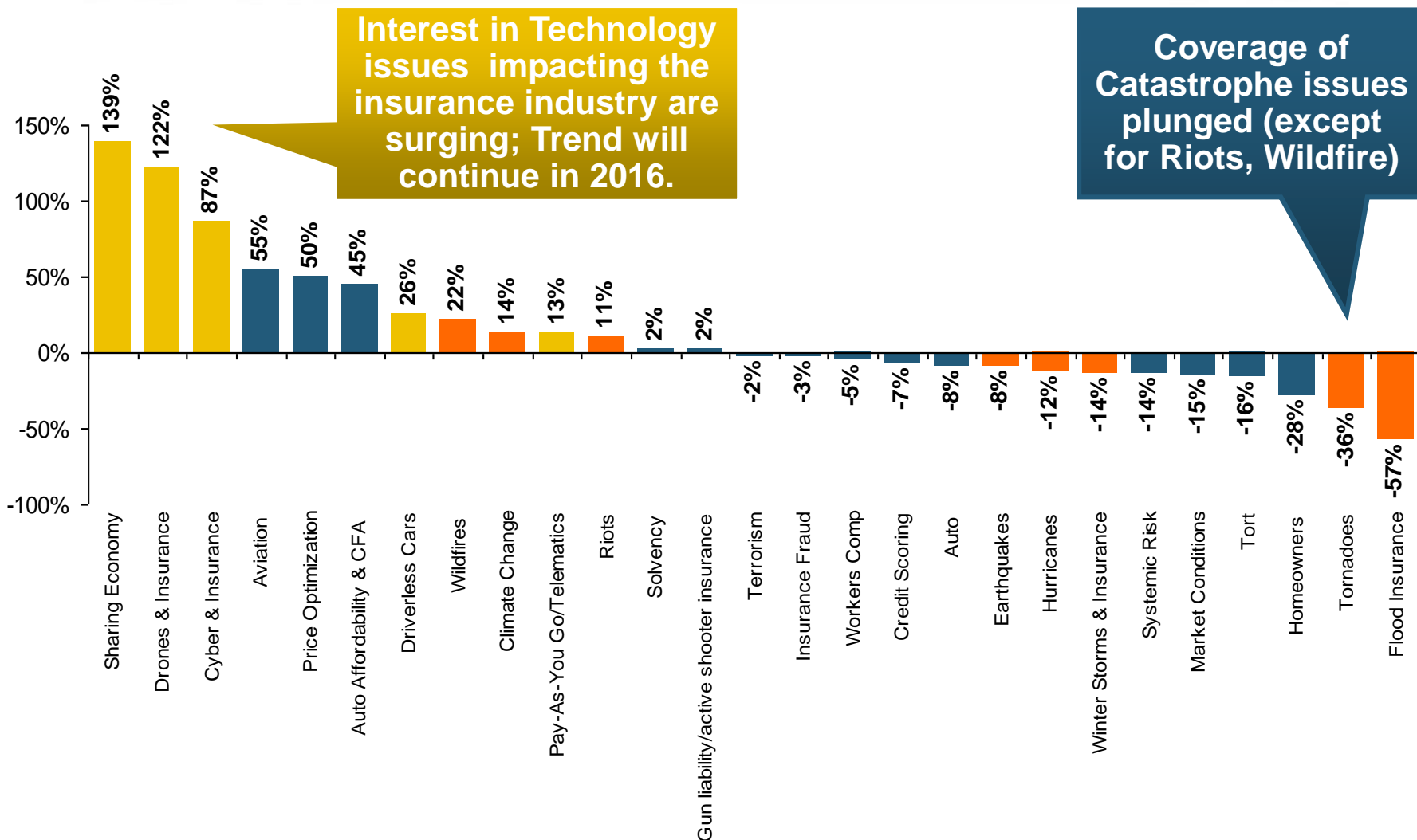
Top Insurance Issues:
What's Hot, What's Not

**Technology Spiked, Catastrophes
Crashed**

***Attacks on Pricing Methodologies
& Underwriting Criteria Increased***

I.I.I. Media Index, P/C, 2014 vs 2015*

Percent increase/decrease from previous year



*Based on a search of Lexis/Nexis (January 1-December 15)

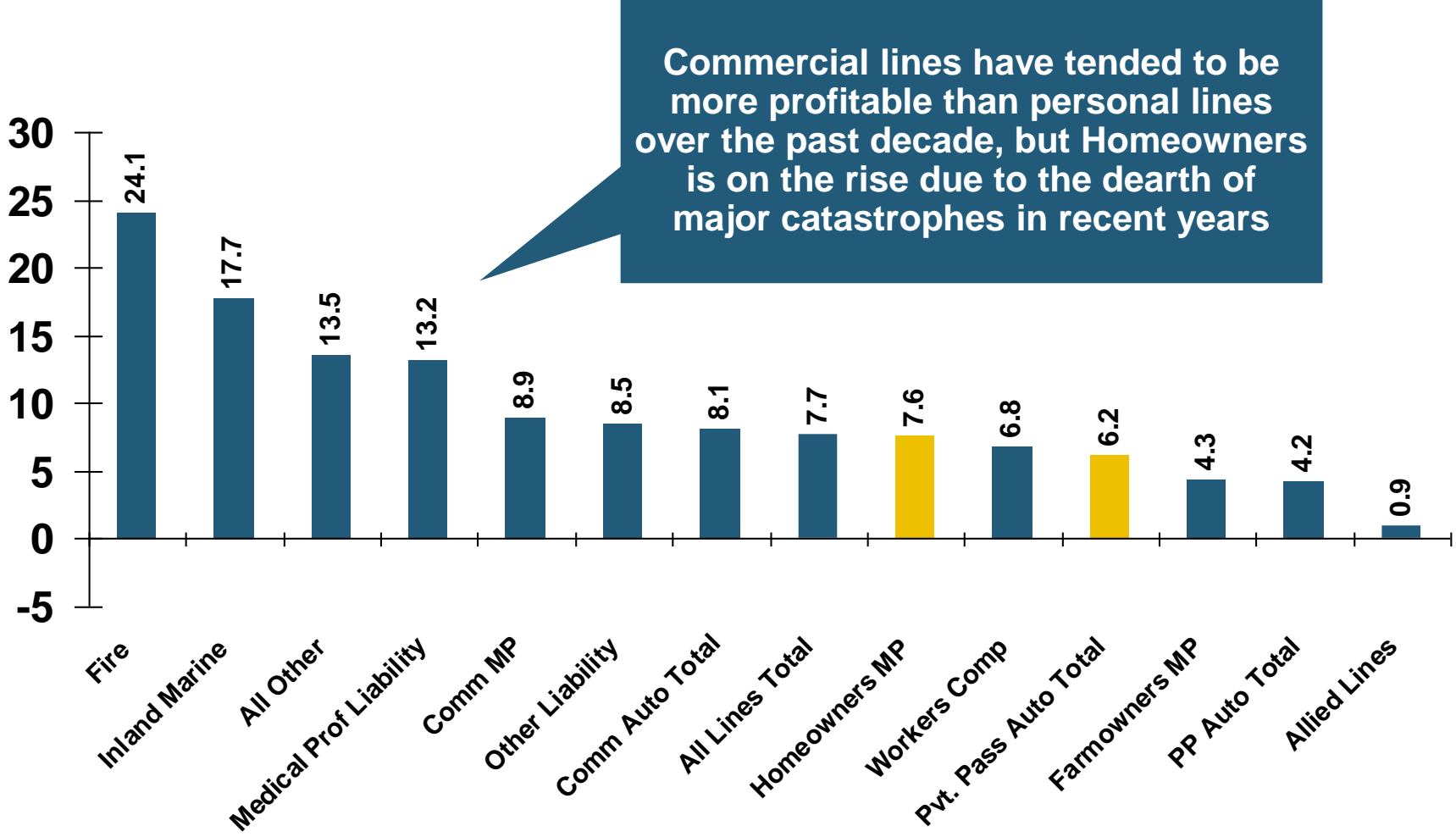
Profitability by Line and State

Hawaii Focus

**Results Have Been Fairly Strong
and Stable in Recent Years**

***Dearth of Major CATs, Pricing
Discipline Has Helped***

Return on Net Worth (RNW) All Lines: 2005-2014 Average

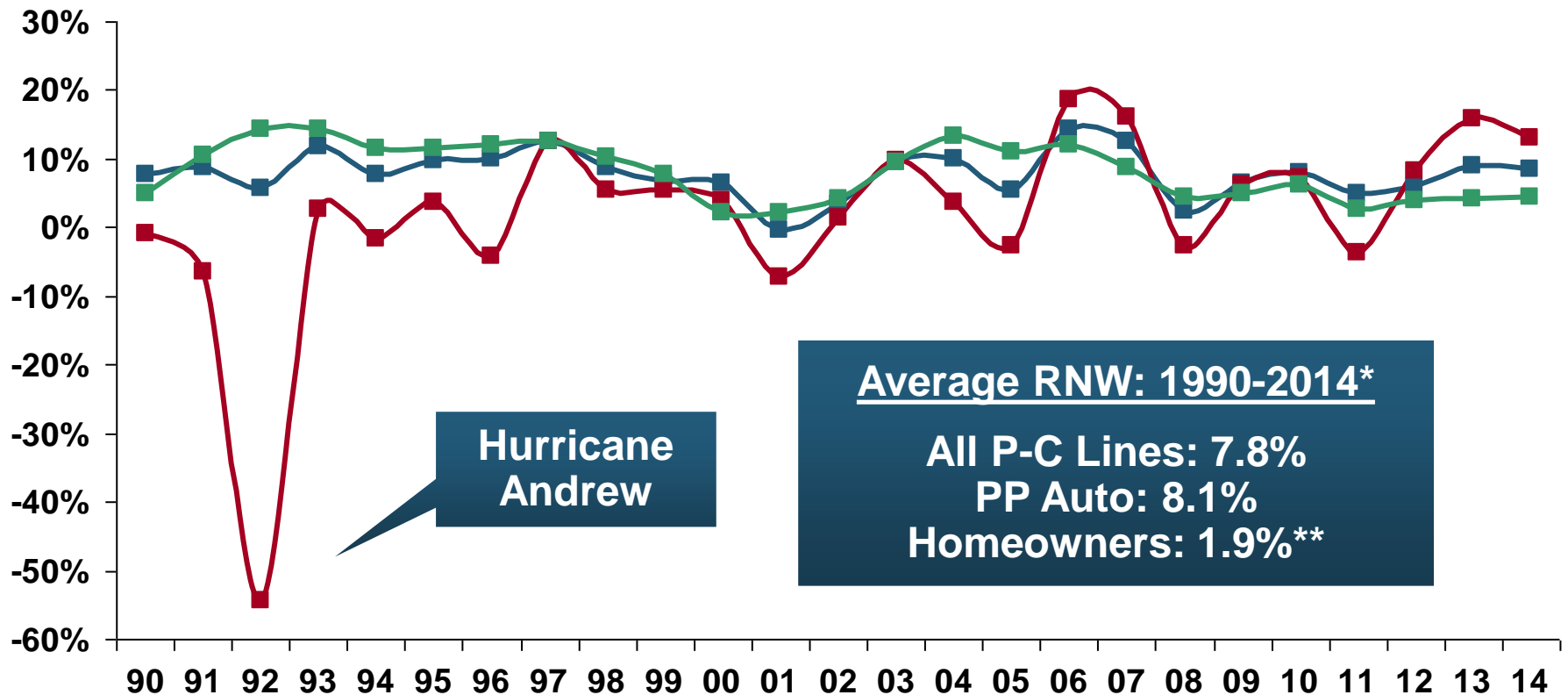


Source: NAIC; Insurance Information Institute.

Return on Net Worth: All P-C Lines vs. Homeowners & Pvt. Pass. Auto, 1990-2014*

(Percent)

■ US All Lines ■ US Home ■ US PP Auto



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

*Latest available.

**If 1992, the year of Hurricane Andrew is excluded, the resulting homeowners RNW is 4.3%.

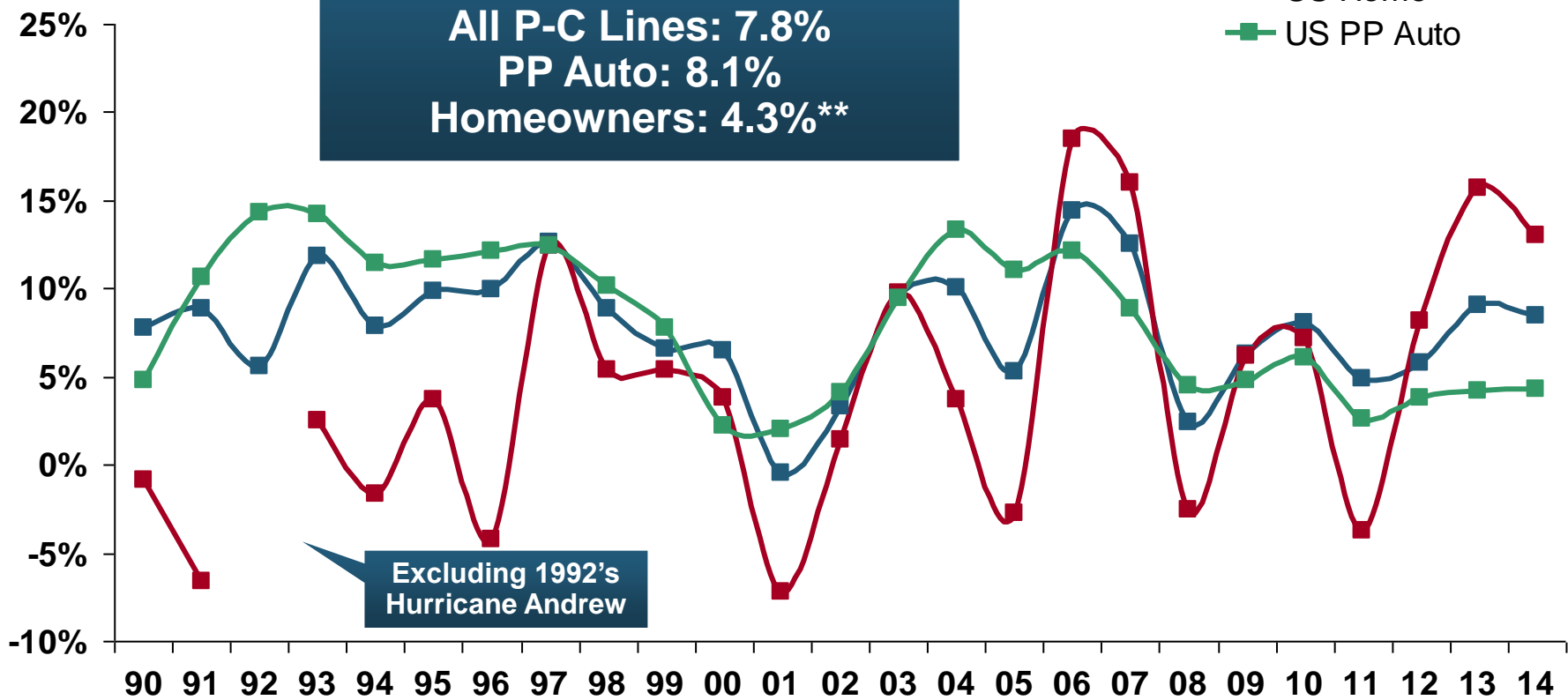
Sources: NAIC; Insurance Information Institute.

Return on Net Worth: All P-C Lines vs. Homeowners & Pvt. Pass. Auto, 1990-2014*

(Percent)

Average RNW: 1990-2013*
 All P-C Lines: 7.8%
 PP Auto: 8.1%
 Homeowners: 4.3%**

- US All Lines
- US Home
- US PP Auto



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

*Latest available.

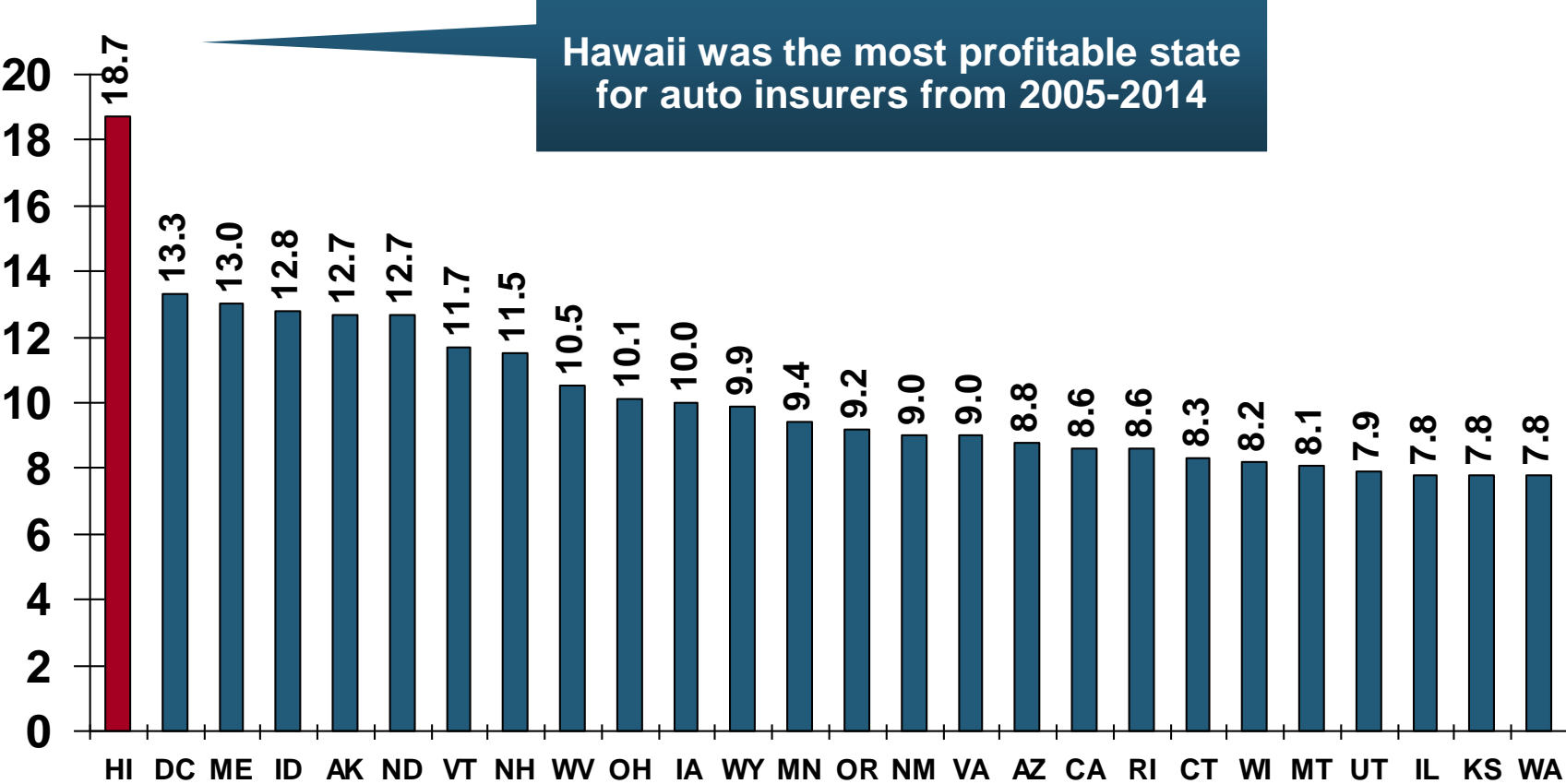
**Excludes 1992, the year of Hurricane Andrew. If 1992 is included the resulting homeowners RNW is 1.9%

Sources: NAIC; Insurance Information Institute.

RNW Pvt. Passenger Auto, 2005-2014

Average: Highest 25 States

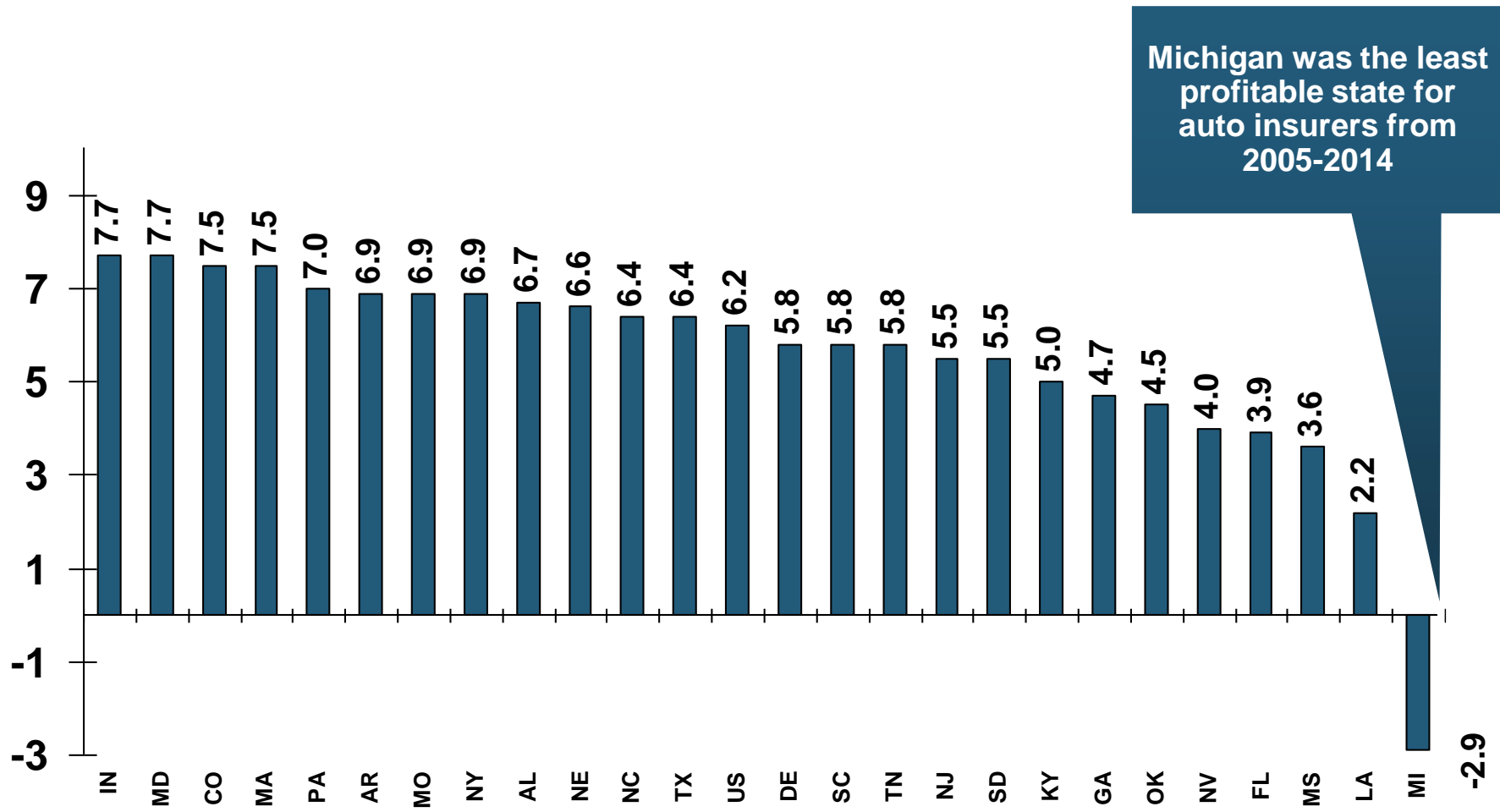
(Percent)



Sources: NAIC; Insurance Information Institute

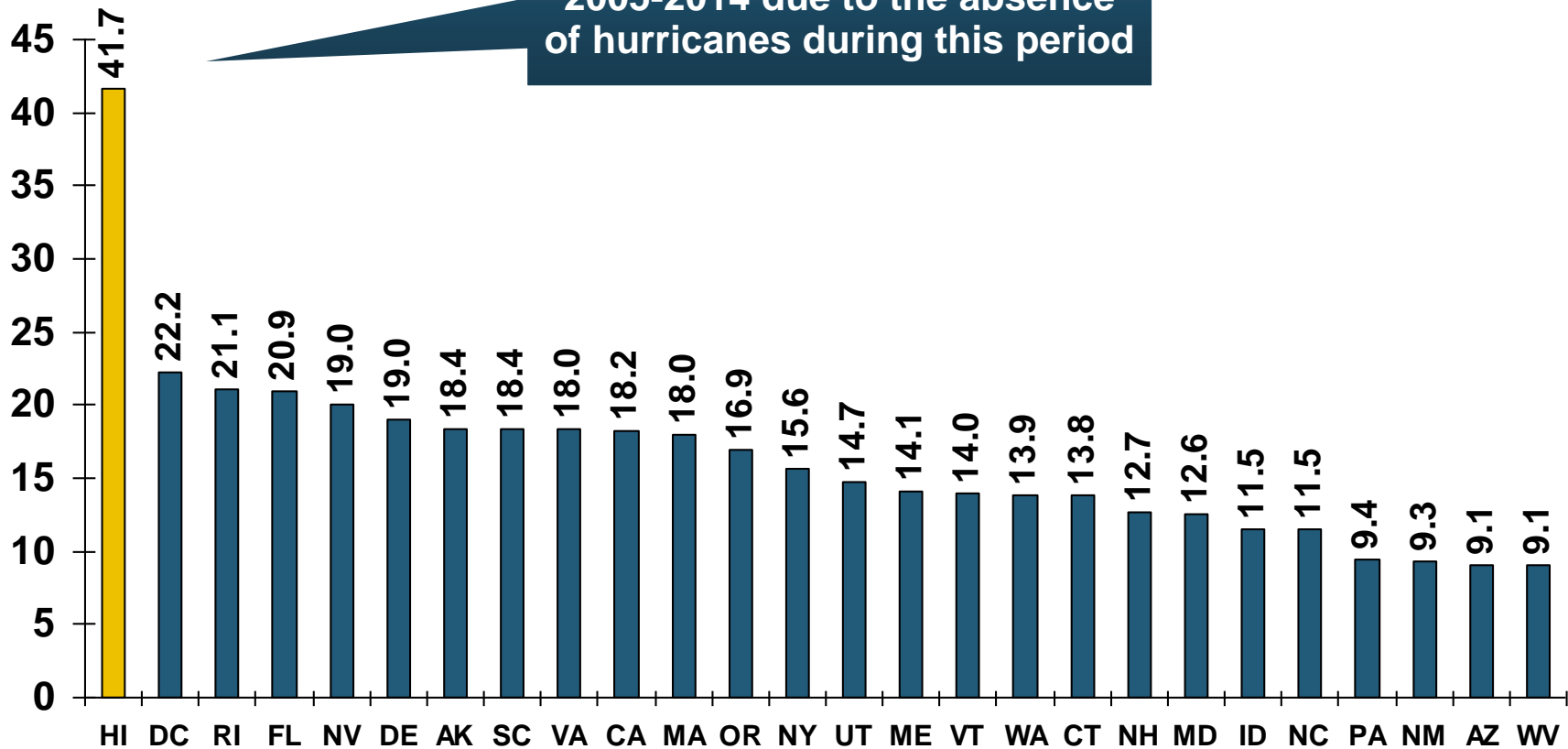
RNW Pvt. Passenger Auto, 2005-2014 Average: Lowest 25 States

(Percent)



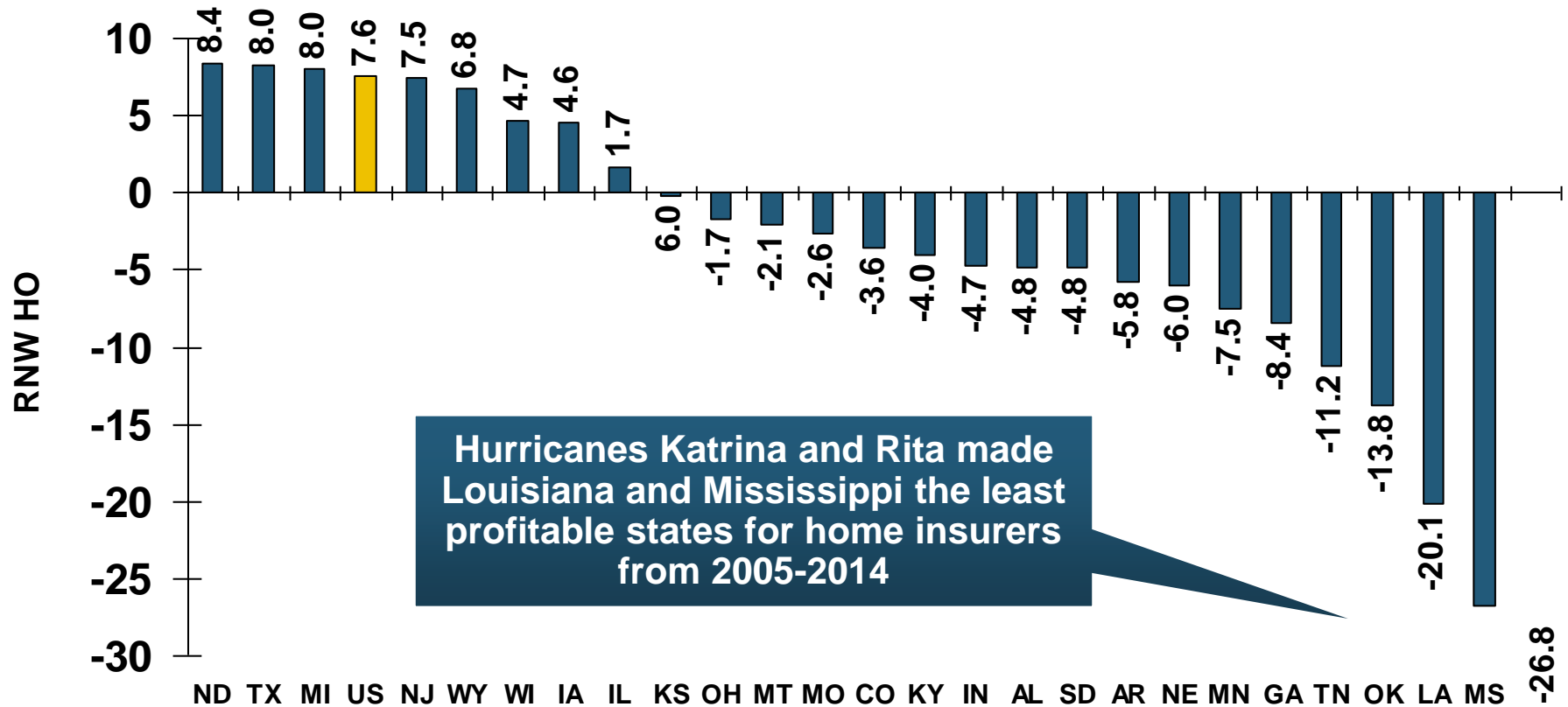
RNW Homeowners Insurance, 2005-2014 Average: Highest 25 States

(Percent)



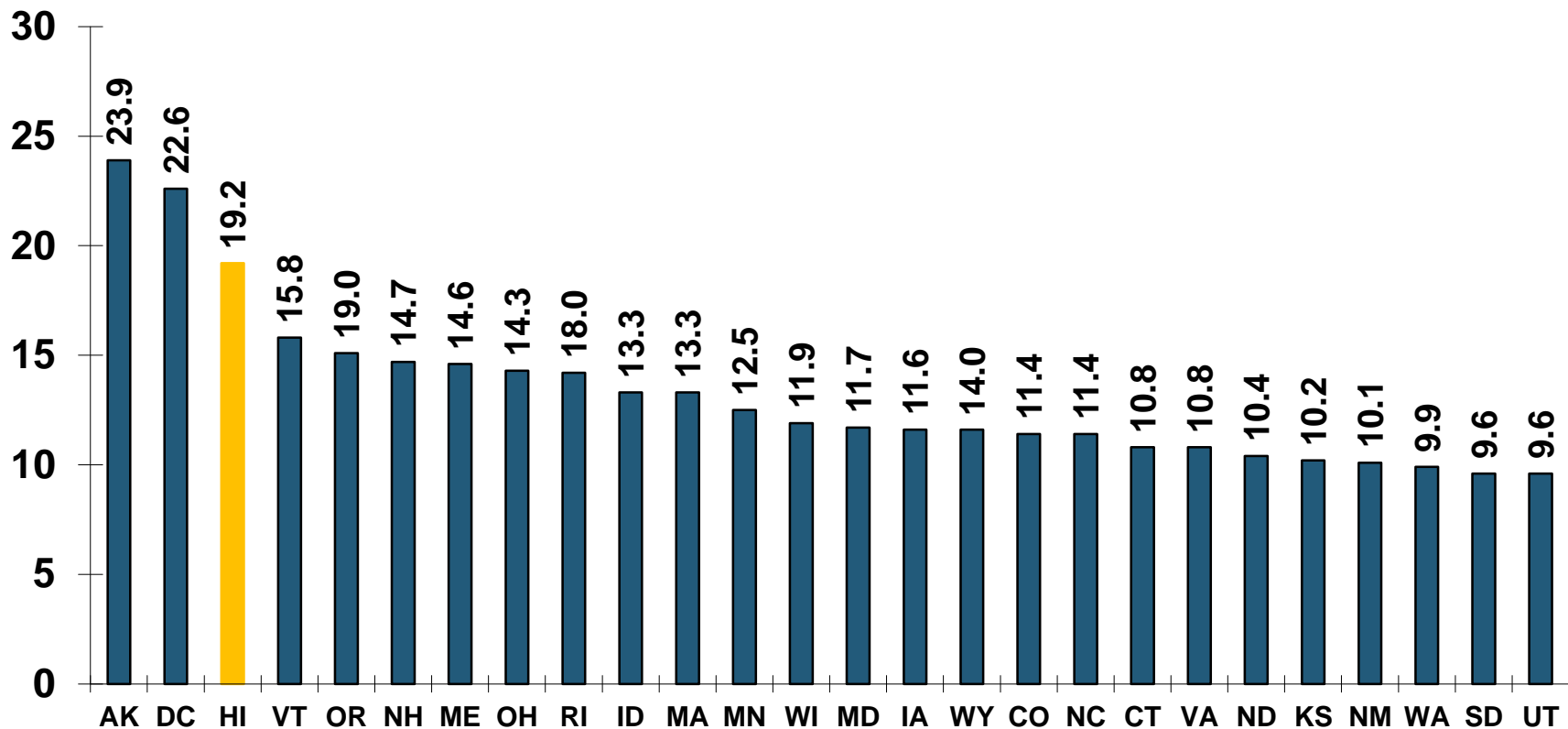
RNW Homeowners Insurance, 2005-2014 Average: Lowest 25 States

(Percent)



RNW Commercial Auto, 2005-2014 Average: Highest 25 States

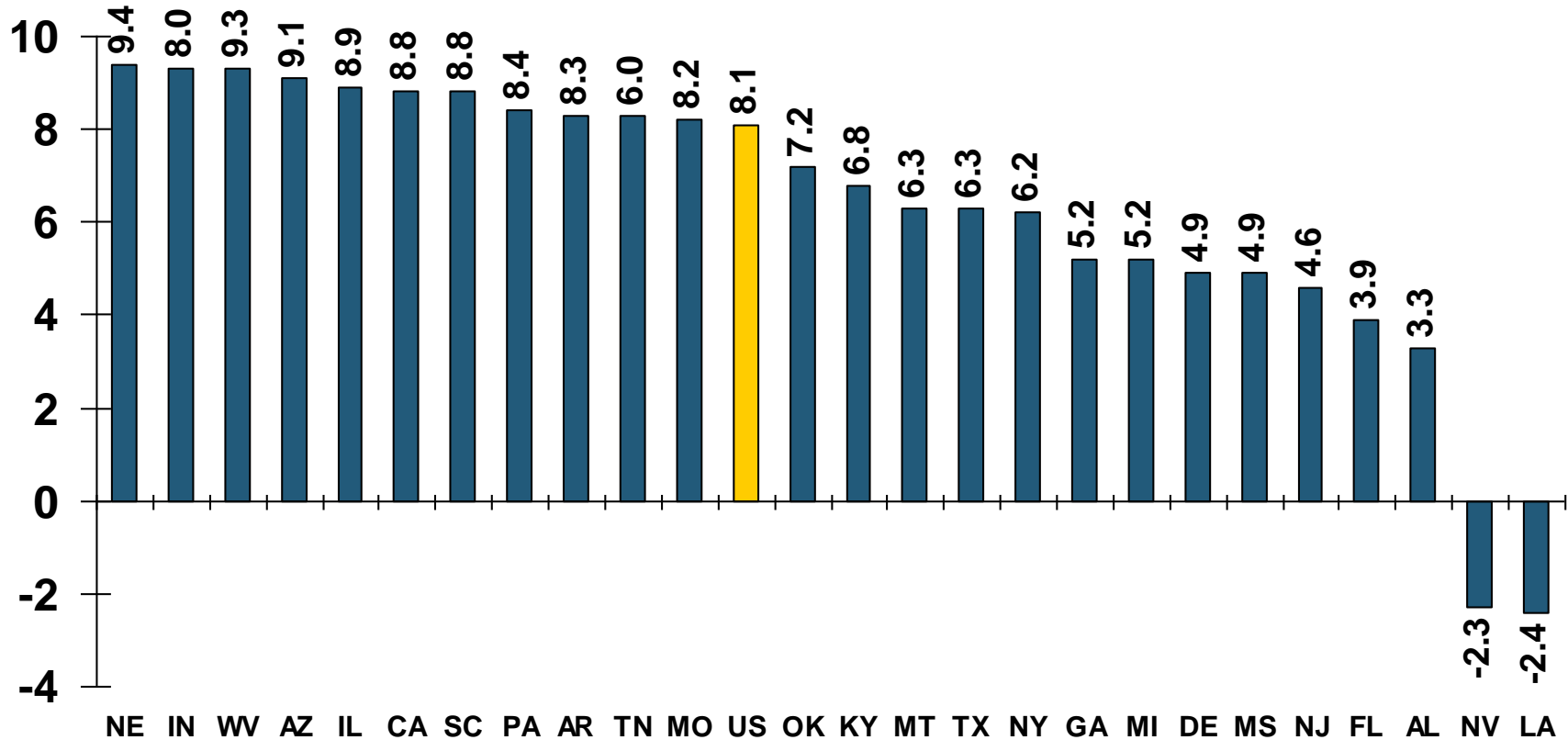
(Percent)



Sources: NAIC; Insurance Information Institute

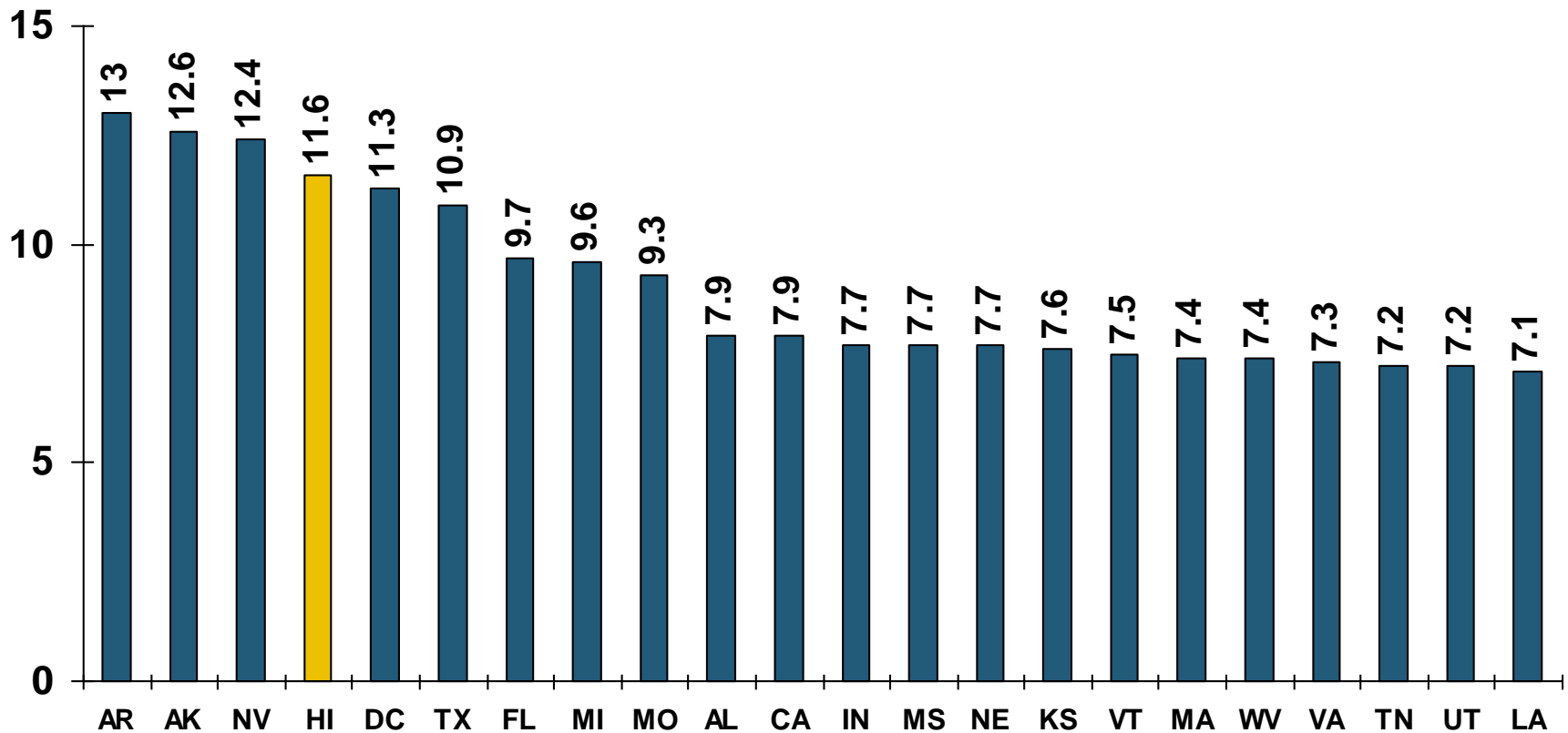
RNW Commercial Auto, 2005-2014 Average: Lowest 25 States

(Percent)



RNW Workers Compensation, 2005-2014 Average: Highest 25 States

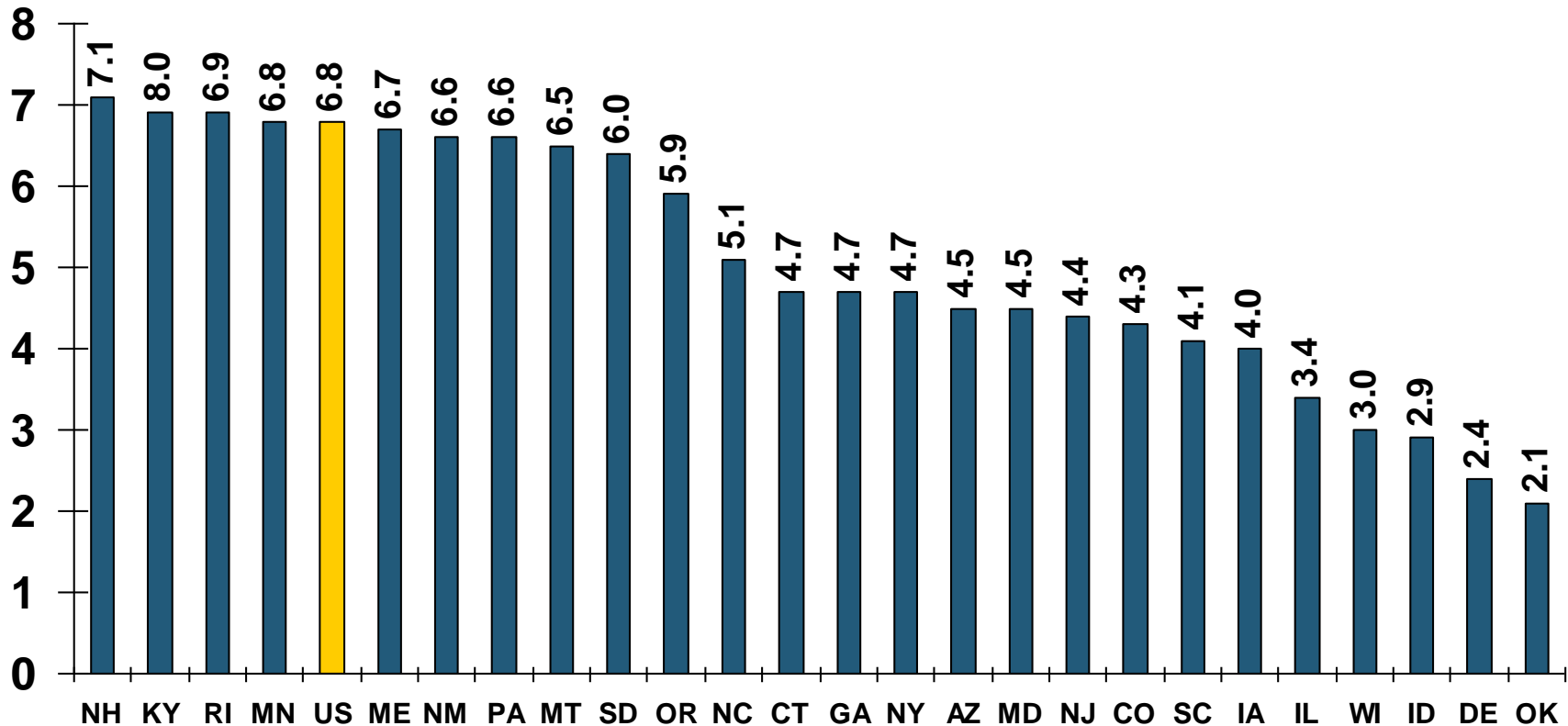
(Percent)



Sources: NAIC; Insurance Information Institute

RNW Workers Compensation, 2005-2014 Average: Lowest 25 States

(Percent)



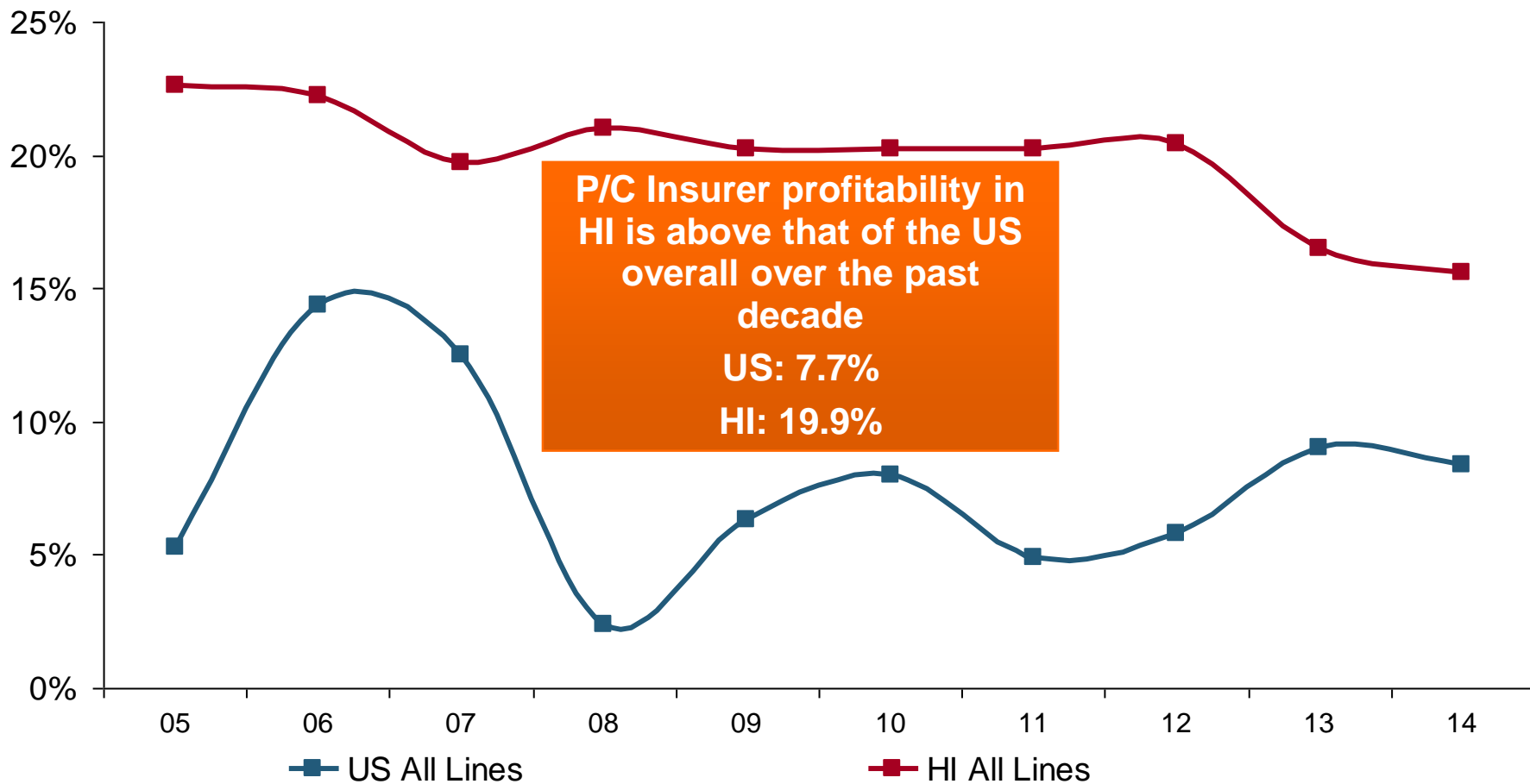


Profitability and Growth in Hawaii P/C Insurance Markets

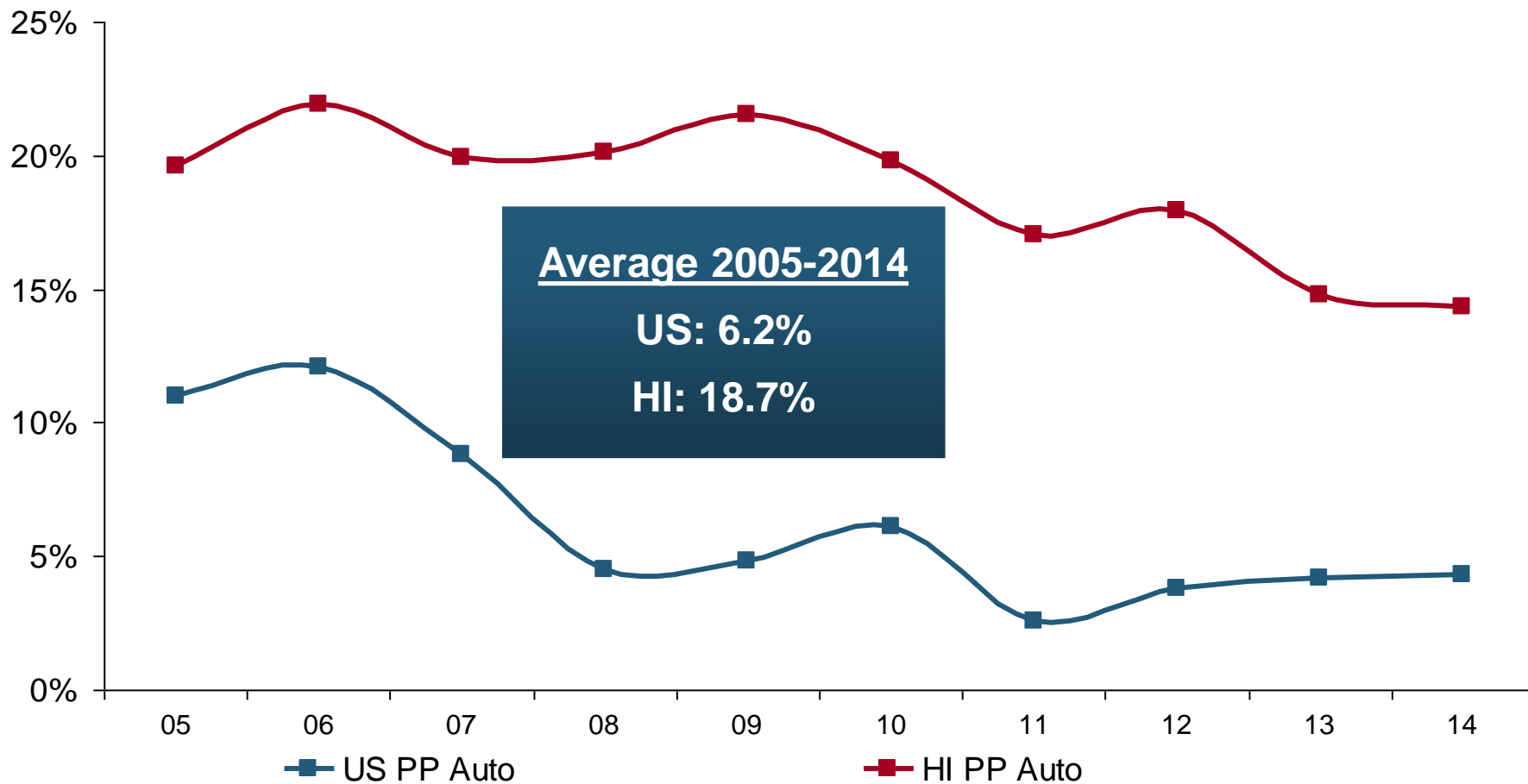
Analysis by Line and Nearby State Comparisons

RNW All Lines: HI vs. U.S., 2005-2014

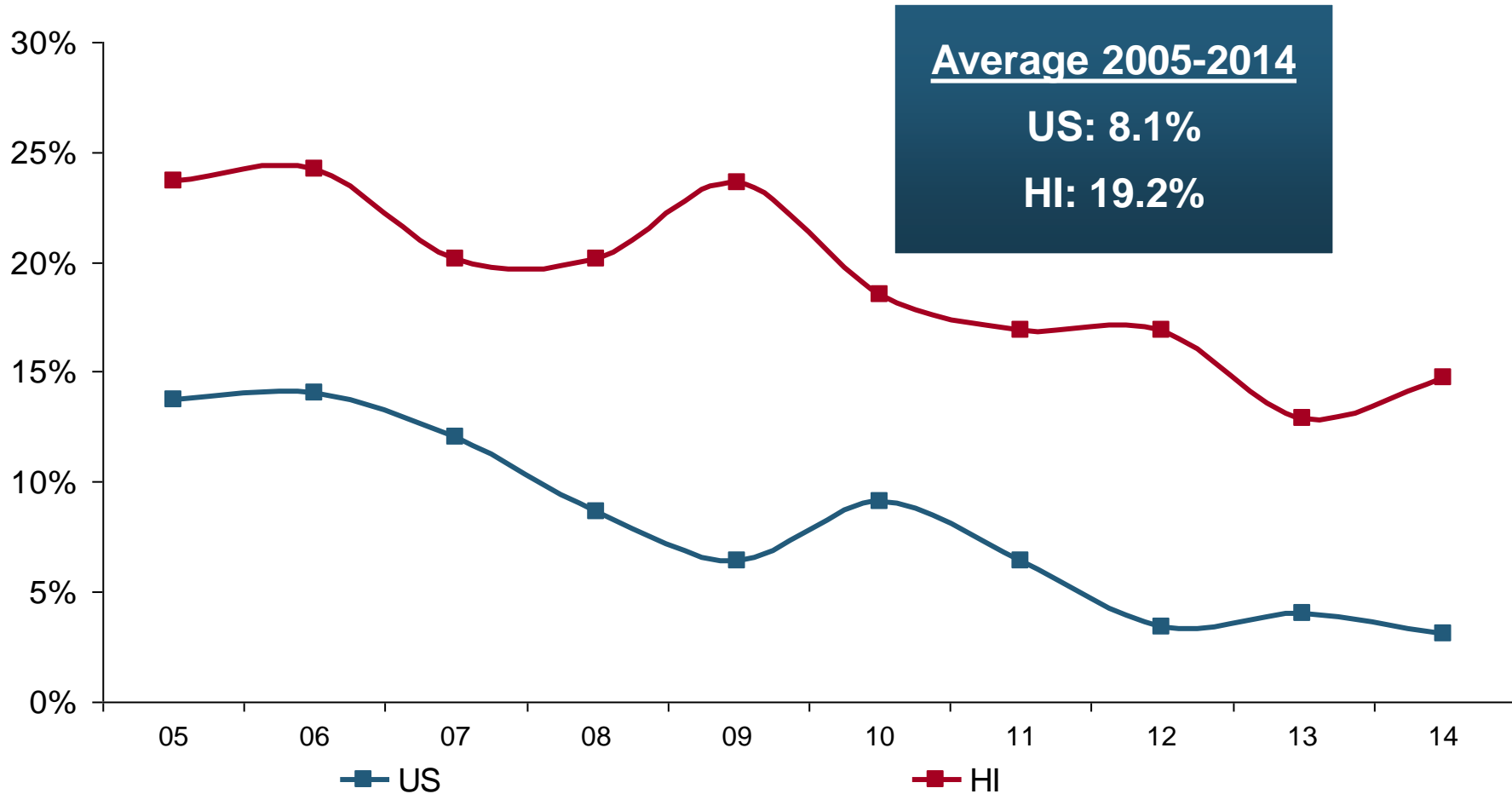
(Percent)



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

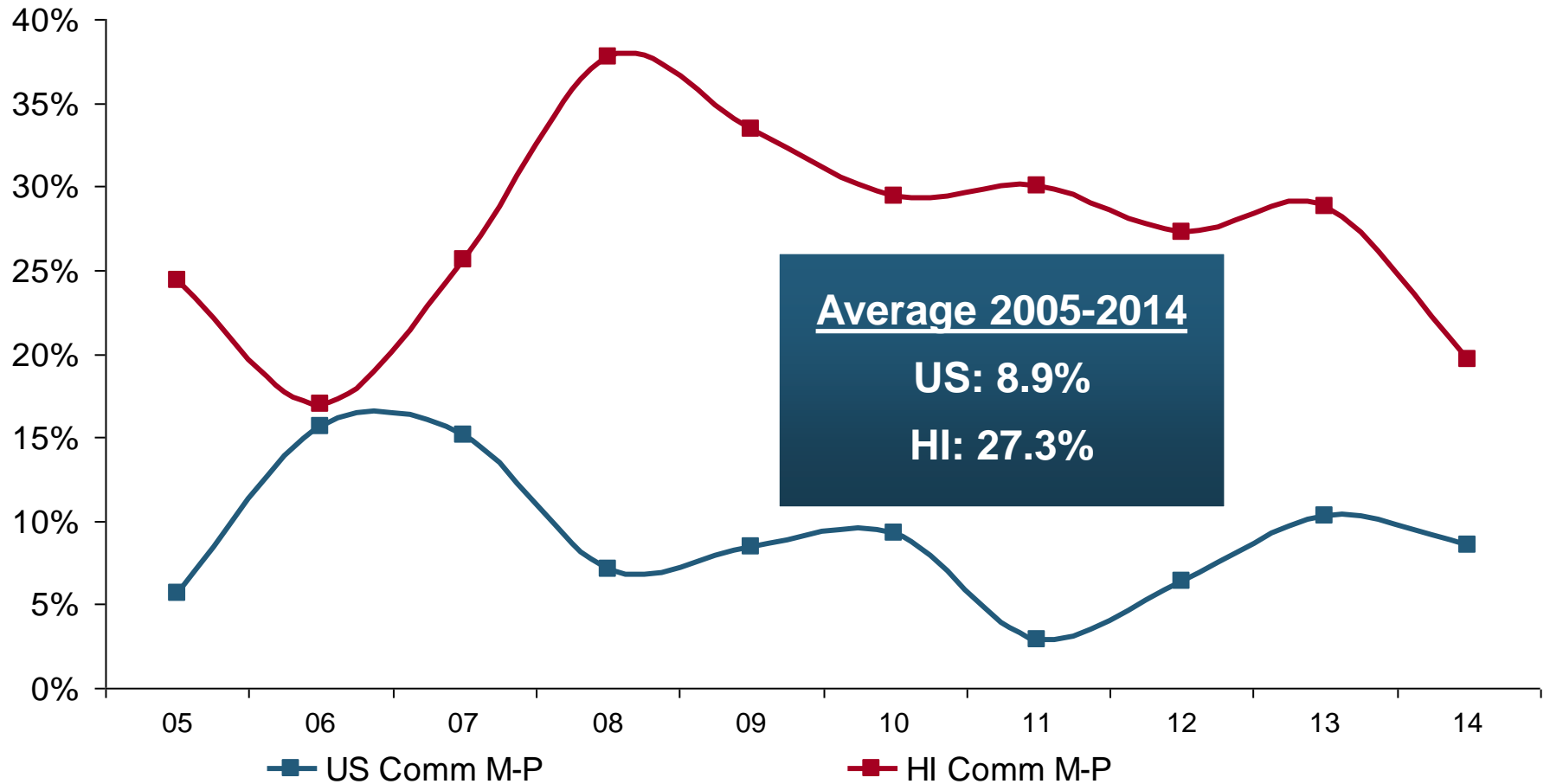


RNW Comm Auto: HI vs. U.S., 2005-2014



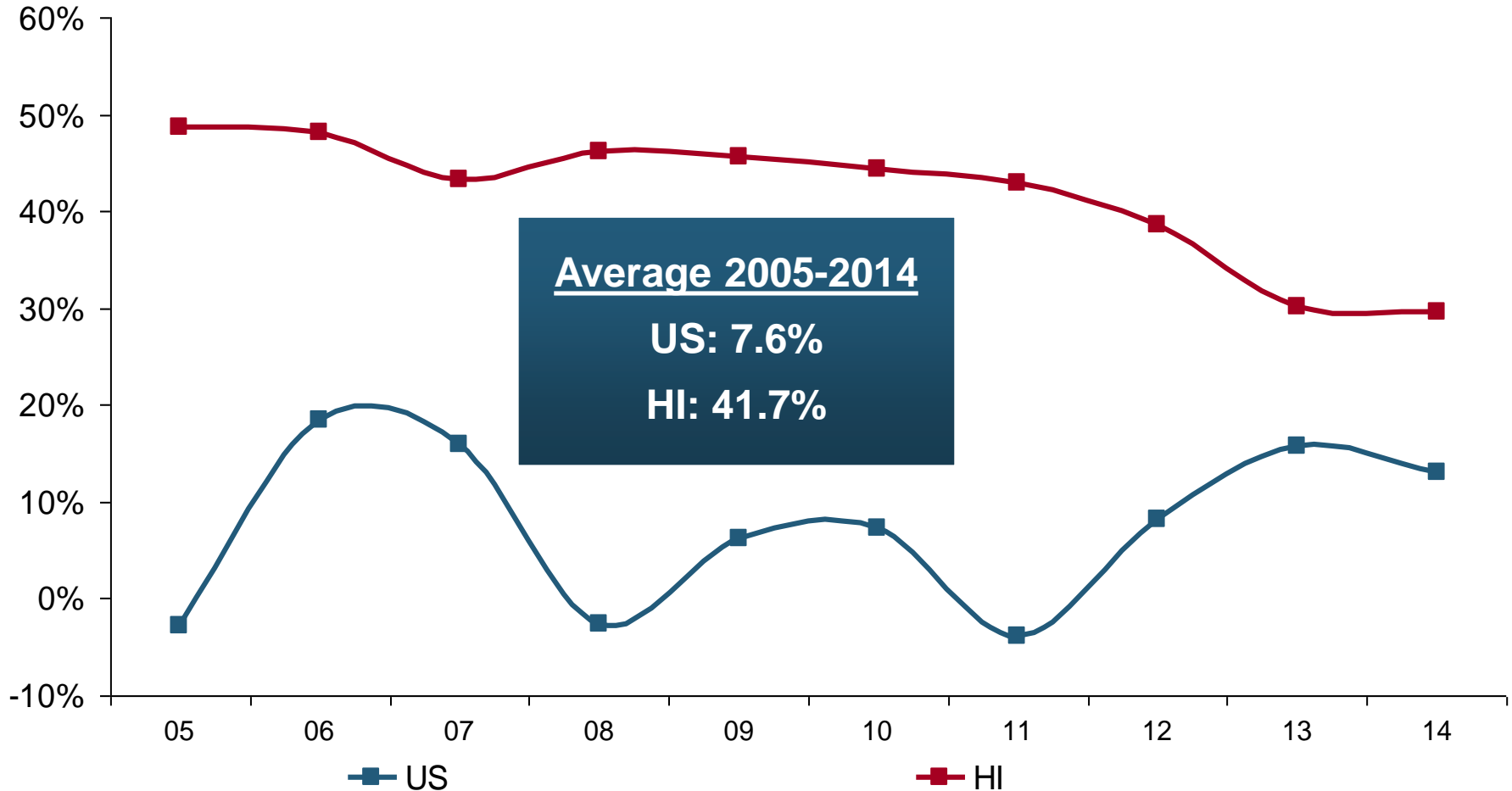
RNW Comm. Multi-Peril: HI vs. U.S., 2005-2014

(Percent)



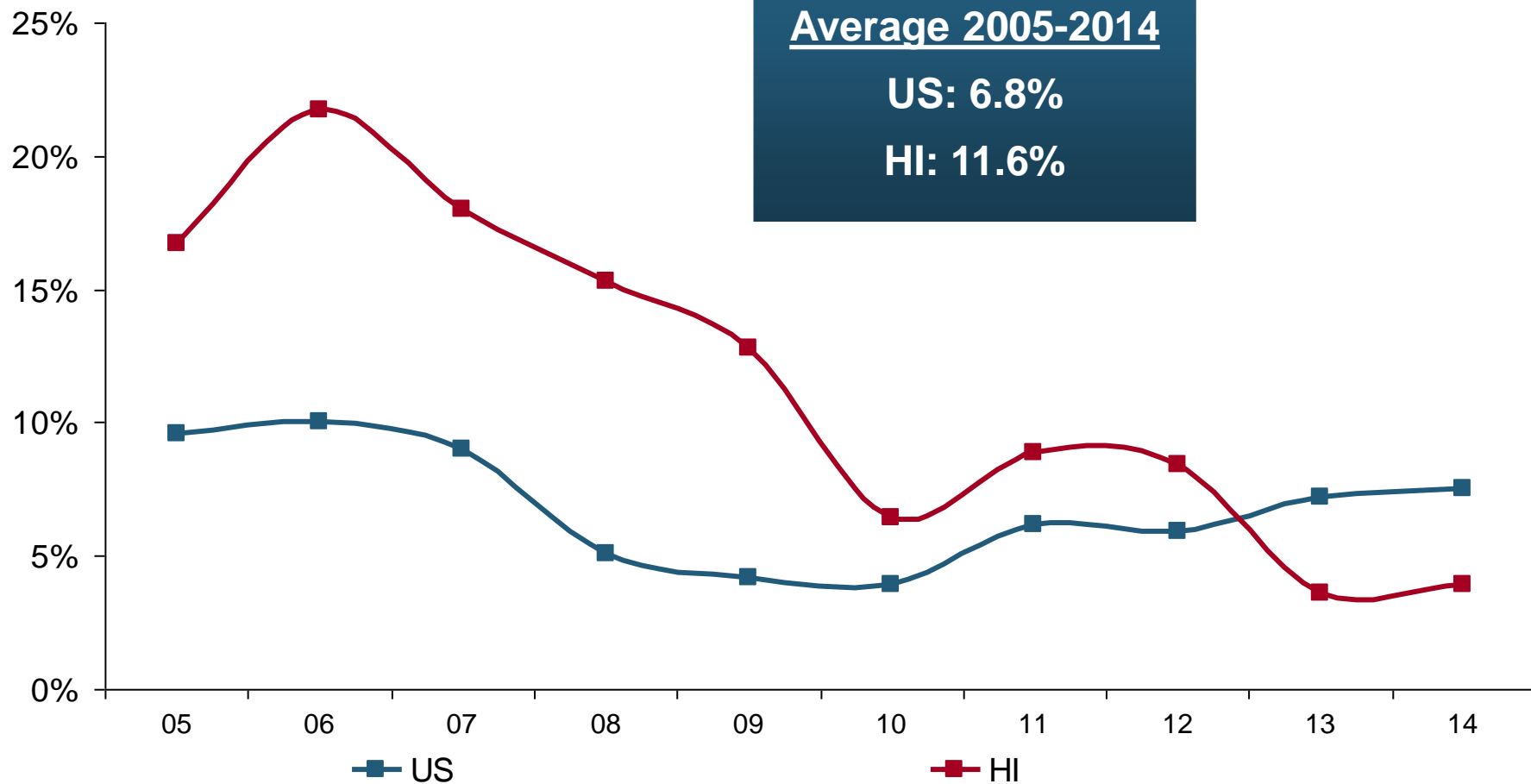
RNW Homeowners: HI vs. U.S., 2005-2014

(Percent)



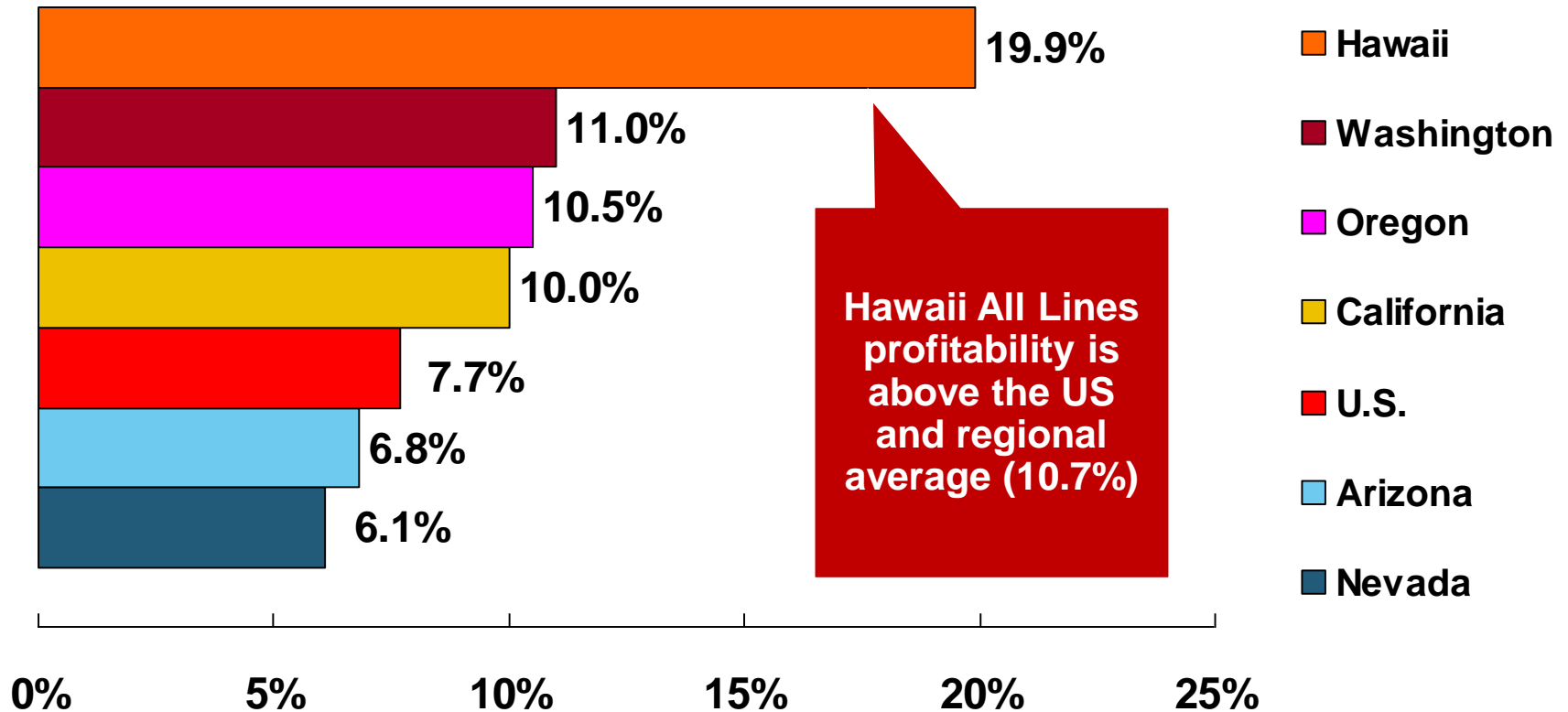
RNW Workers Comp: HI vs. U.S., 2005-2014

(Percent)



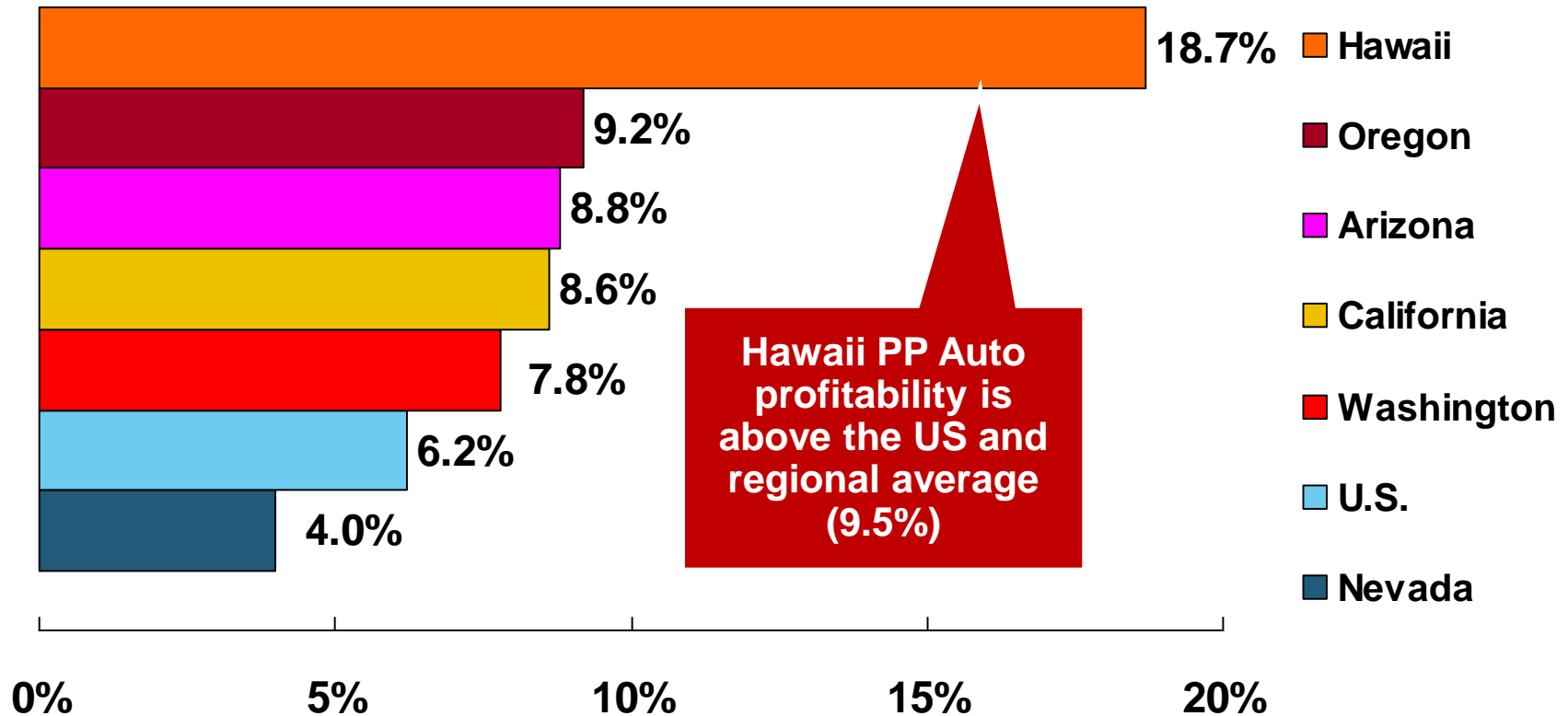
All Lines: 10-Year Average RNW HI & Nearby States

2005-2014



PP Auto: 10-Year Average RNW HI & Nearby States

2005-2014



Sources: NAIC, Insurance Information Institute

Top Ten Most Expensive And Least Expensive States For Automobile Insurance, 2013 (1)

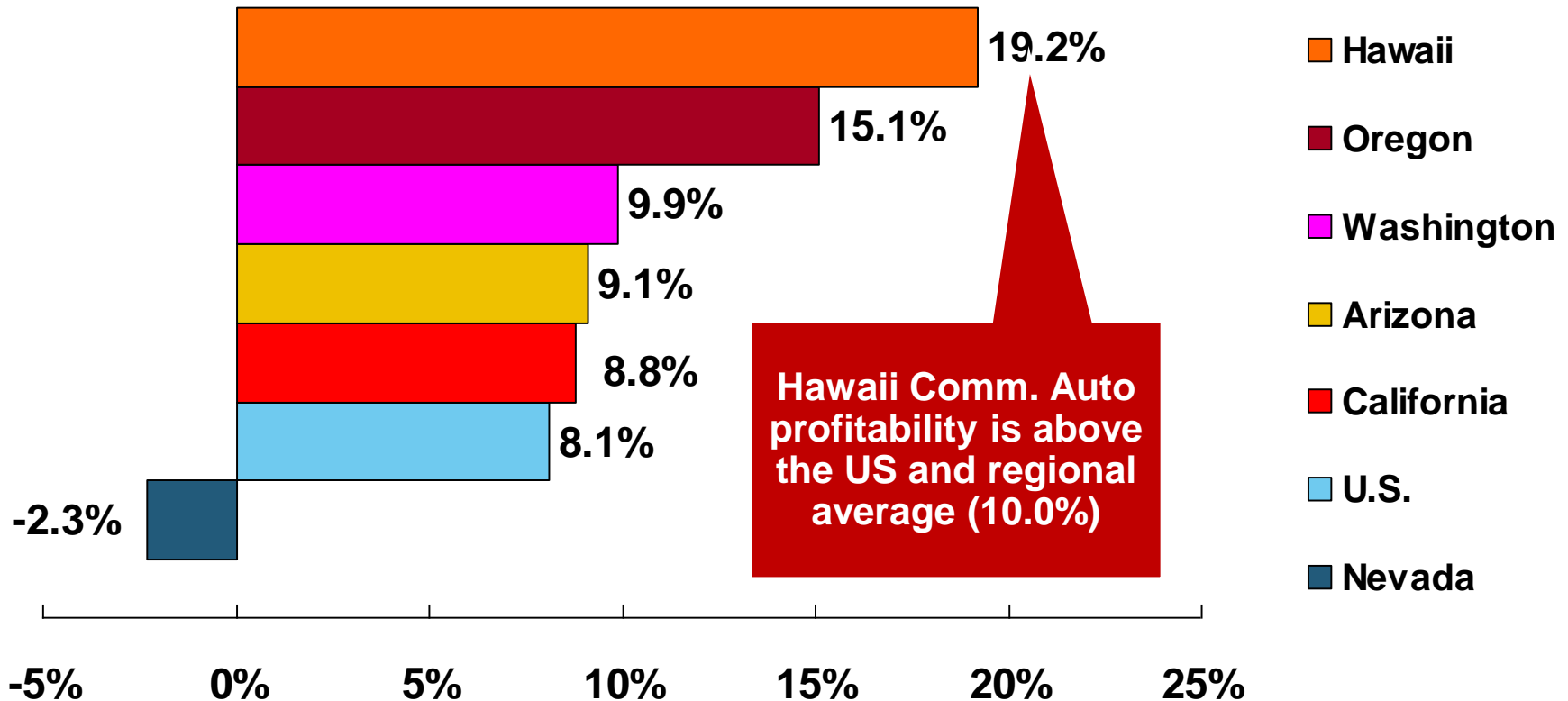
Rank	Most expensive states	Average expenditure	Rank	Least expensive states	Average expenditure
1	New Jersey	\$1,254.10	1	Idaho	\$553.38
2	D.C.	1,187.49	2	Iowa	572.14
3	New York	1,181.86	3	South Dakota	580.99
4	Louisiana	1,146.29	4	Maine	592.82
5	Florida	1,143.83	5	North Dakota	604.58
6	Michigan	1,131.40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

Hawaii ranked 29th in average expenditure for auto insurance in 2013. The average expenditure was \$739.26.

(1) Based on average automobile insurance expenditures.

Comm. Auto: 10-Year Average RNW HI & Nearby States

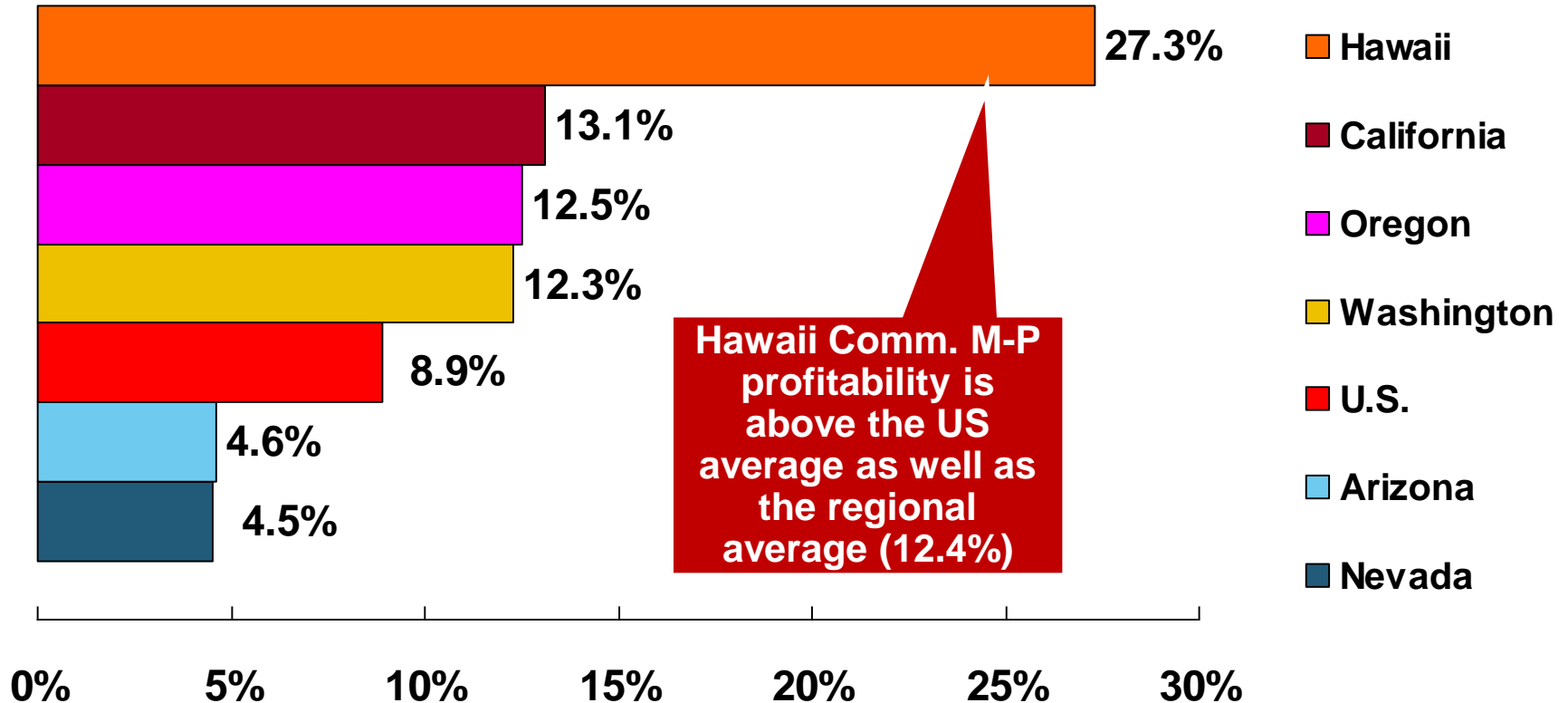
2005-2014



Hawaii Comm. Auto profitability is above the US and regional average (10.0%)

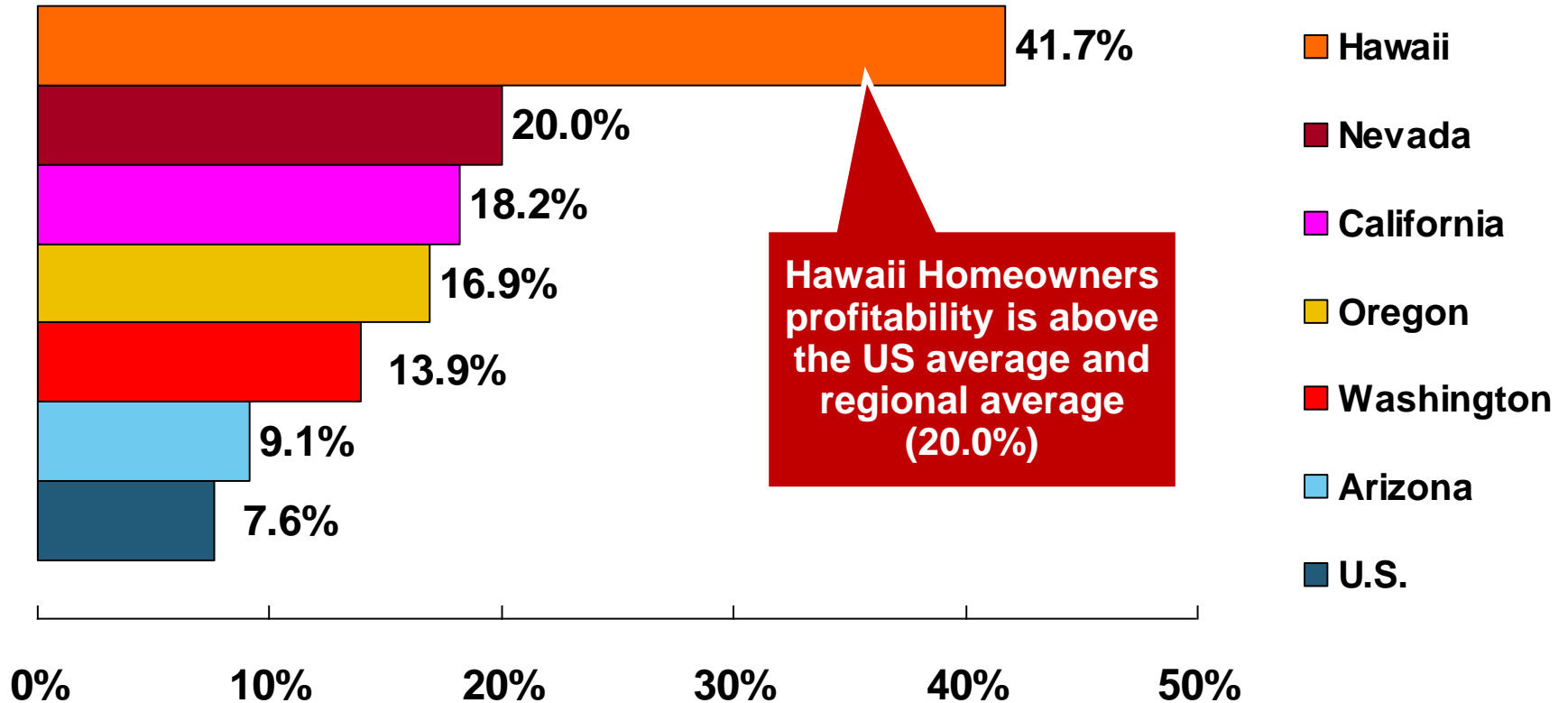
Comm. M-P: 10-Year Average RNW HI & Nearby States

2005-2014



Homeowners: 10-Year Average RNW HI & Nearby States

2005-2014



Sources: NAIC, Insurance Information Institute

Top Ten Most Expensive And Least Expensive States For Homeowners Insurance, 2013 (1)

Hawaii ranked as the 27th most expensive state for homeowners insurance in 2013, with an average expenditure of \$953.

Rank	Most expensive states	HO average premium	Rank	Least expensive states	HO average premium
1	Florida	\$2,115	1	Idaho	561
2	Texas (2)	1,837	2	Oregon	568
3	Louisiana	1,822	3	Utah	609
4	Oklahoma	1,654	4	Wisconsin	665
5	Mississippi	1,395	5	Washington	676
6	Kansas	1,343	6	Nevada	687
7	Rhode Island	1,334	7	Delaware	709
8	Alabama	1,323	8	Arizona	724
9	Connecticut	1,274	9	Ohio	763
10	Massachusetts	1,263	10	Maine	776

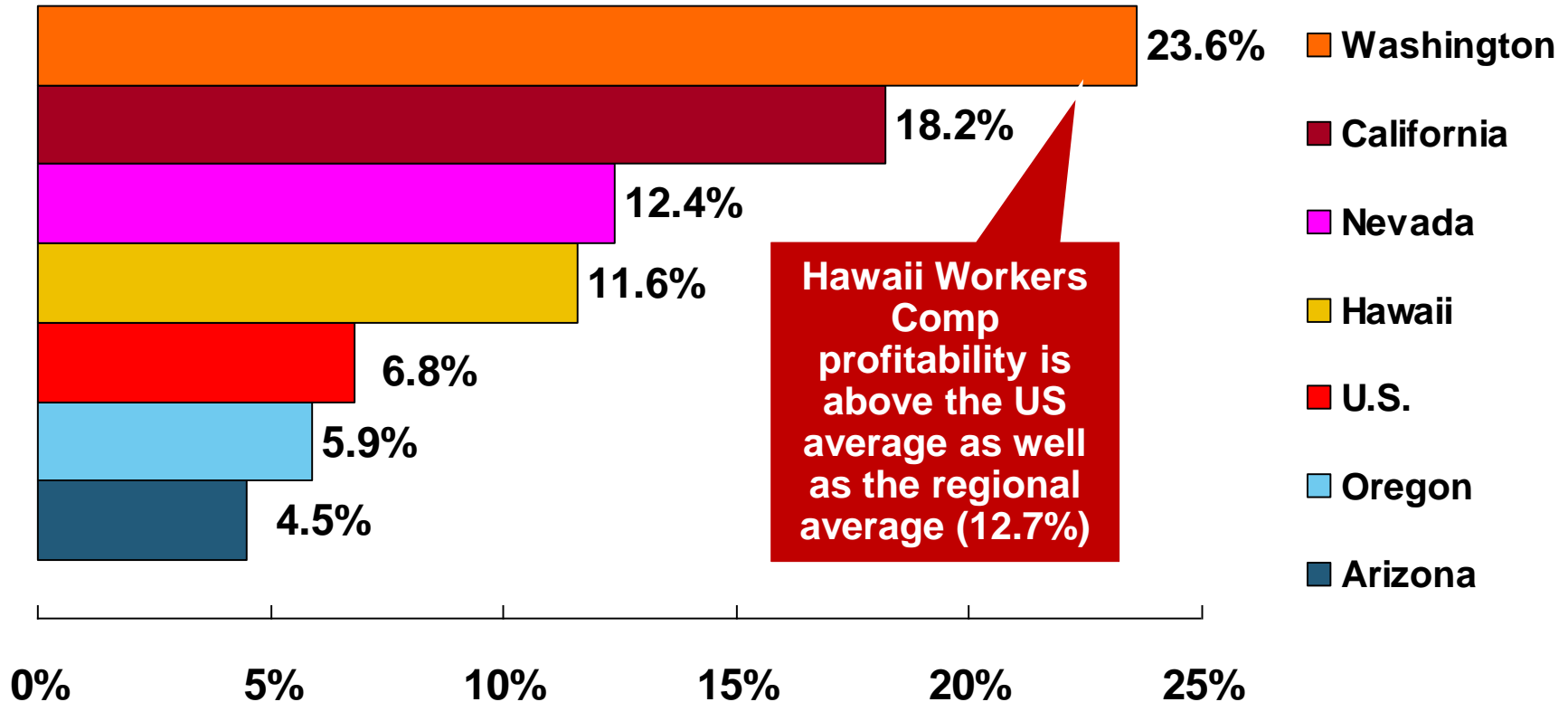
- (1) Includes policies written by Citizens Property Insurance Corp. (Florida) and Citizens Property Insurance Corp. (Louisiana), Alabama Insurance Underwriting Association, Mississippi Windstorm Underwriting Association, North Carolina Joint Underwriting Association and South Carolina Wind and Hail 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: ©2016 National Association of Insurance Commissioners (NAIC). Reprinted with permission. Further reprint or distribution strictly prohibited without written permission of NAIC.

Workers Comp.: 10-Year Average RNW HI & Nearby States

2005-2014



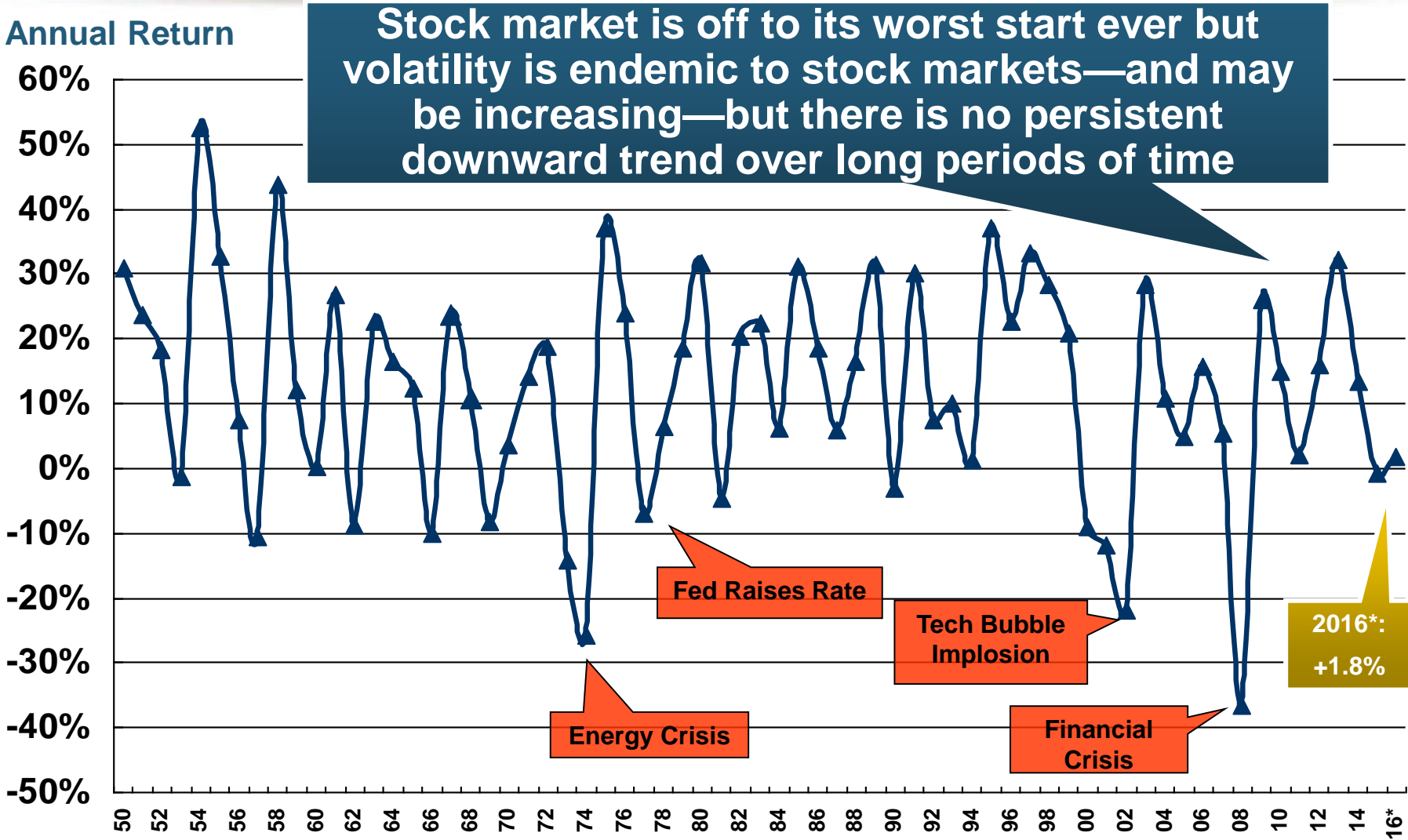
Sources: NAIC, Insurance Information Institute

INVESTMENTS: THE NEW REALITY

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

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

S&P 500 Index Returns, 1950 – 2016*

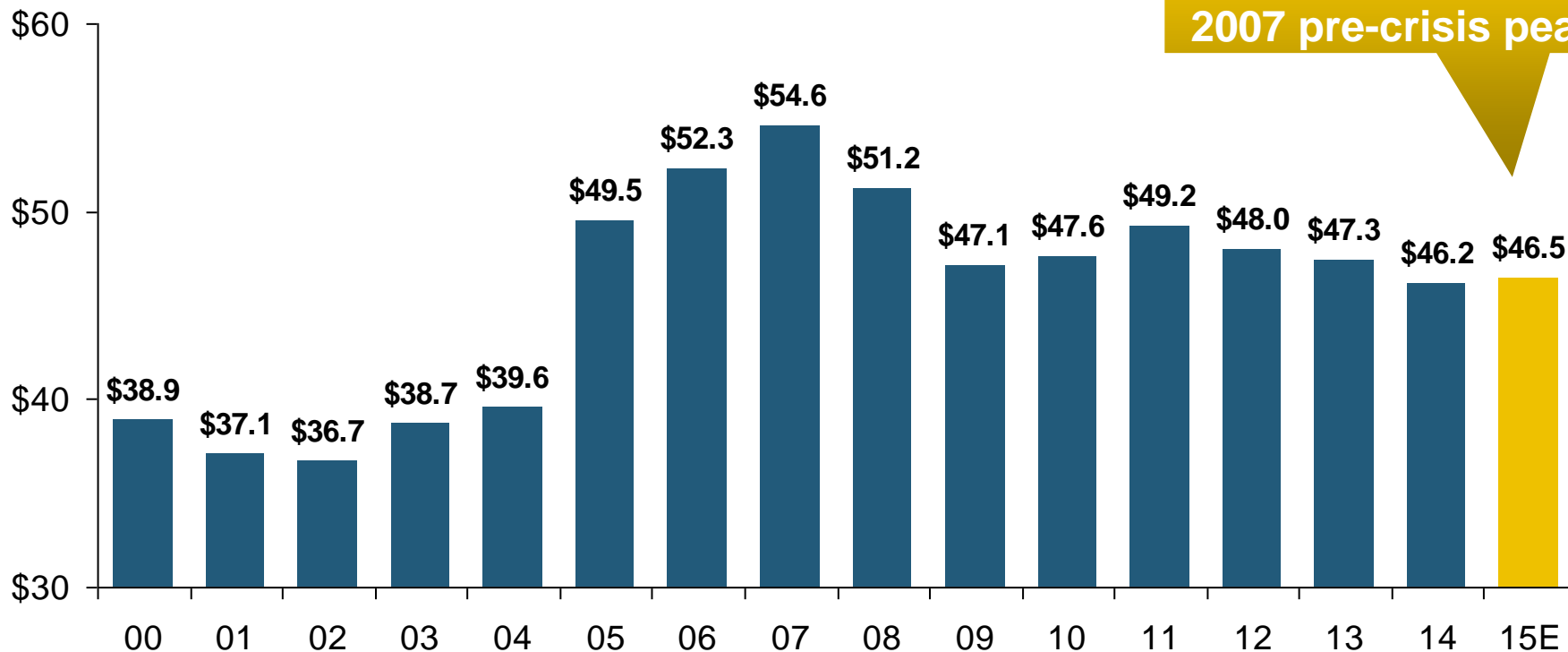


*Through Apr. 15, 2016.

Source: NYU Stern School of Business: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html Ins. Info. Inst.

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

(\$ Billions)

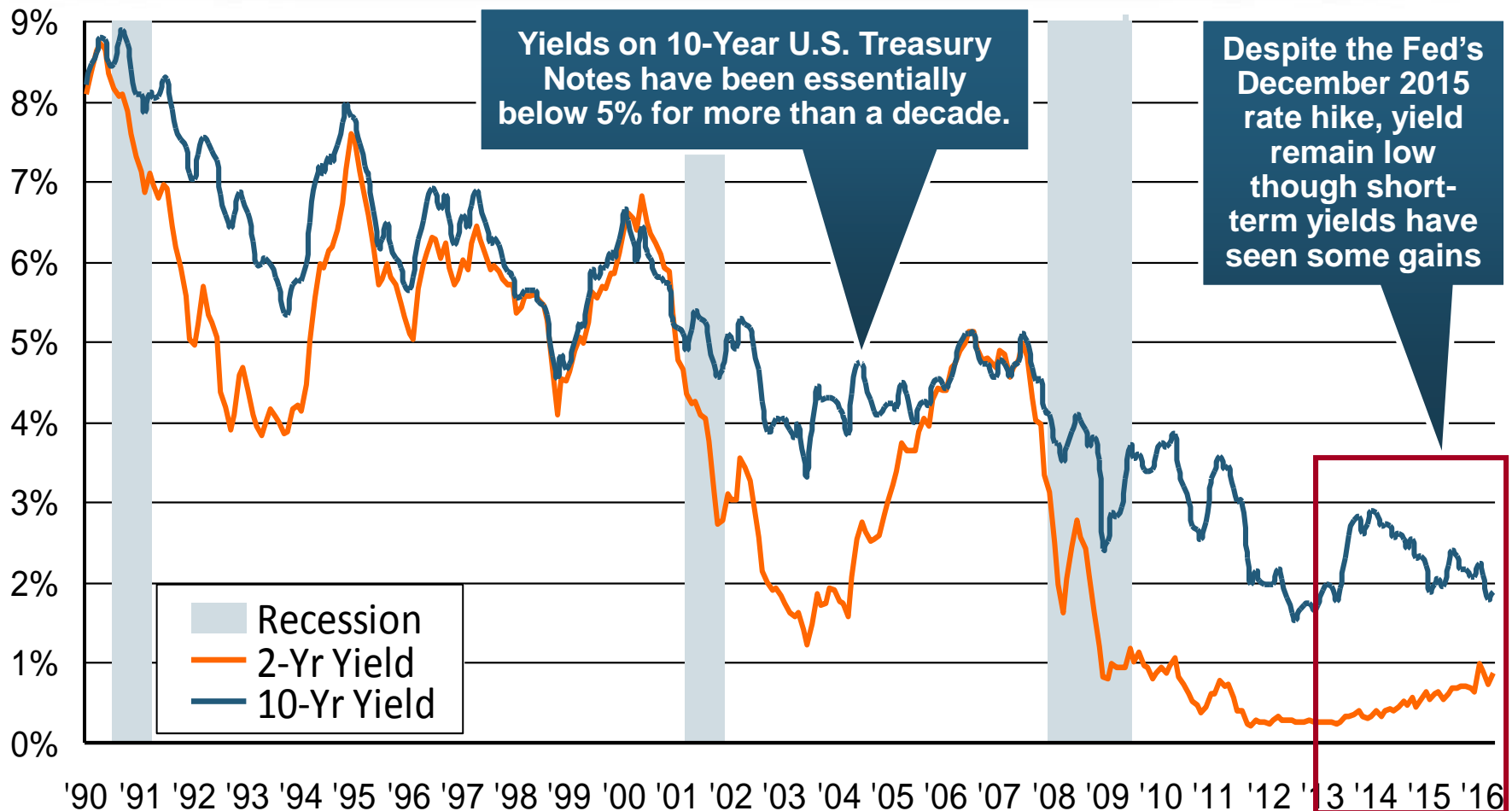


**Due to persistently low interest rates,
investment income fell in 2012, 2013 and 2014.**

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

*2015 figure is estimated based on annualized data through Q3.

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



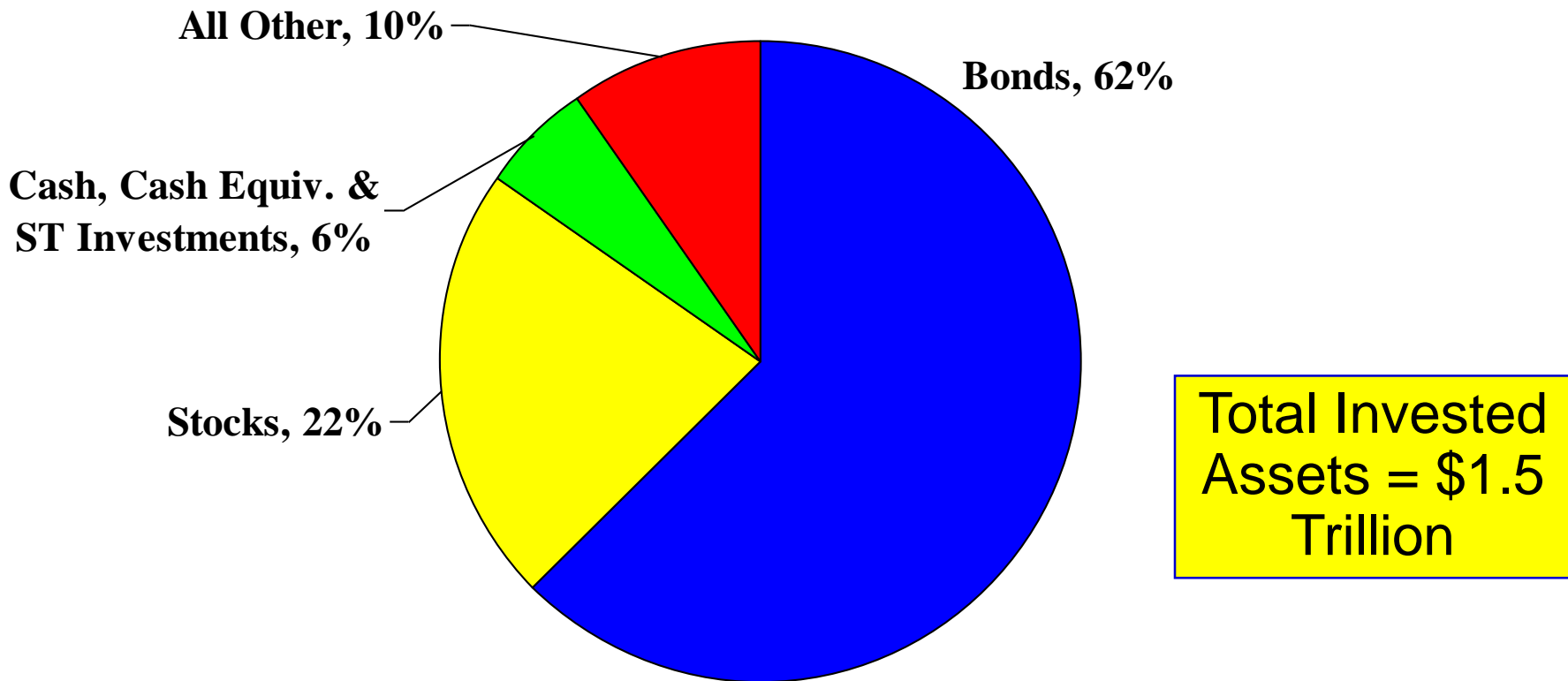
Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.

*Monthly, constant maturity, nominal rates, through March 2016.

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

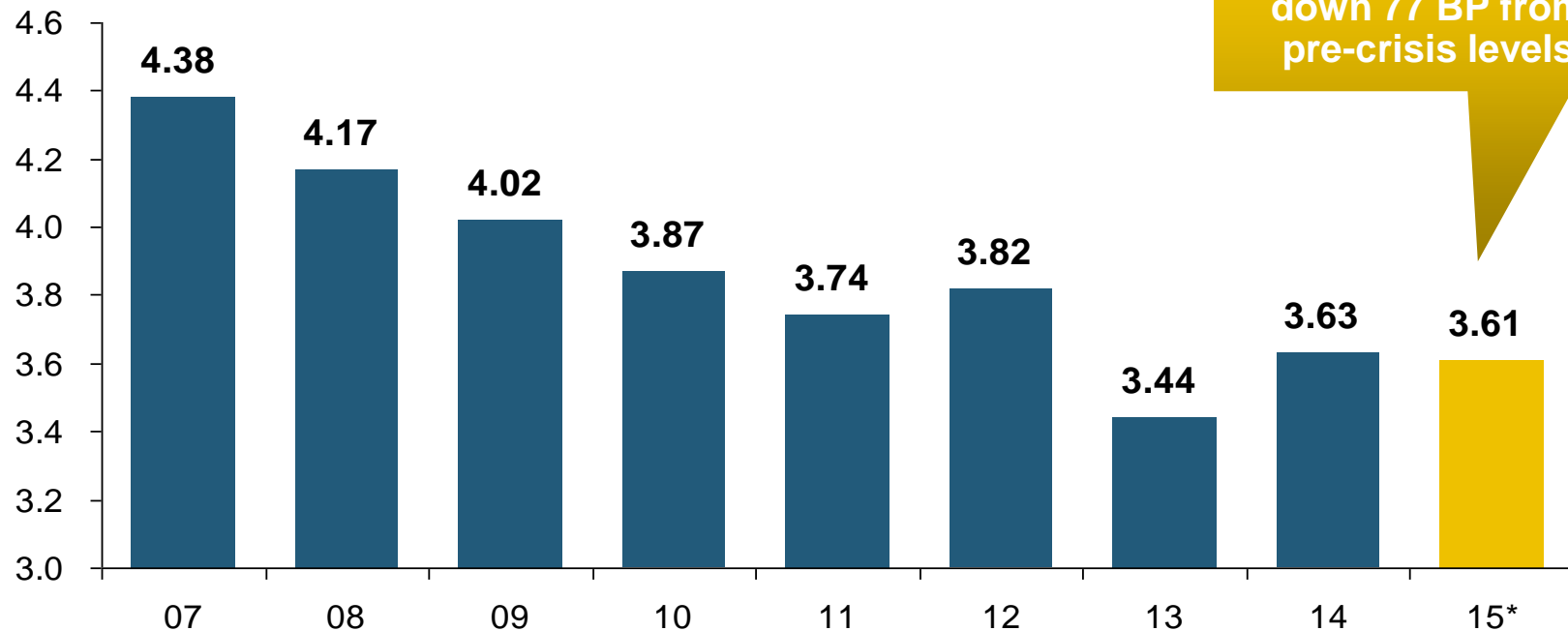
Distribution of Invested Assets: P/C Insurance Industry, 2013

\$ Billions



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

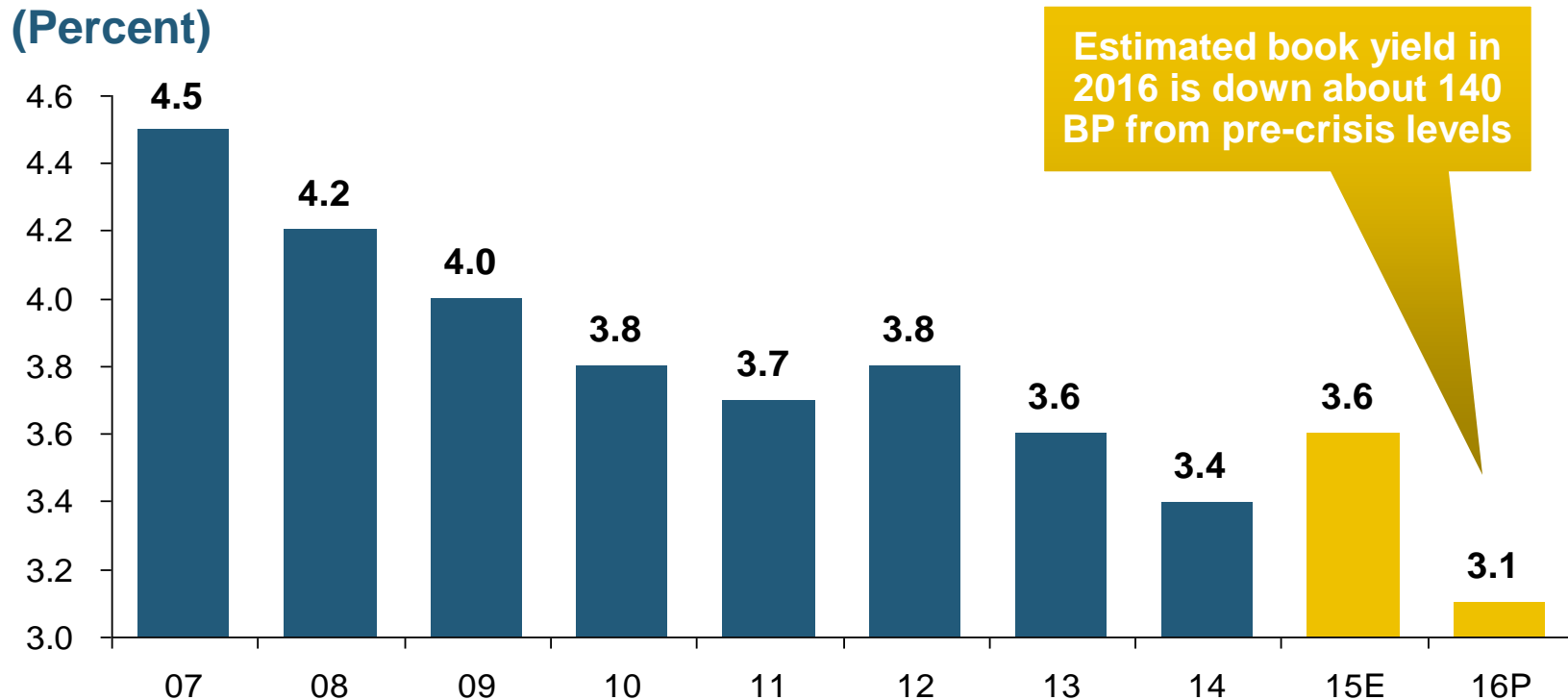
(Percent)



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

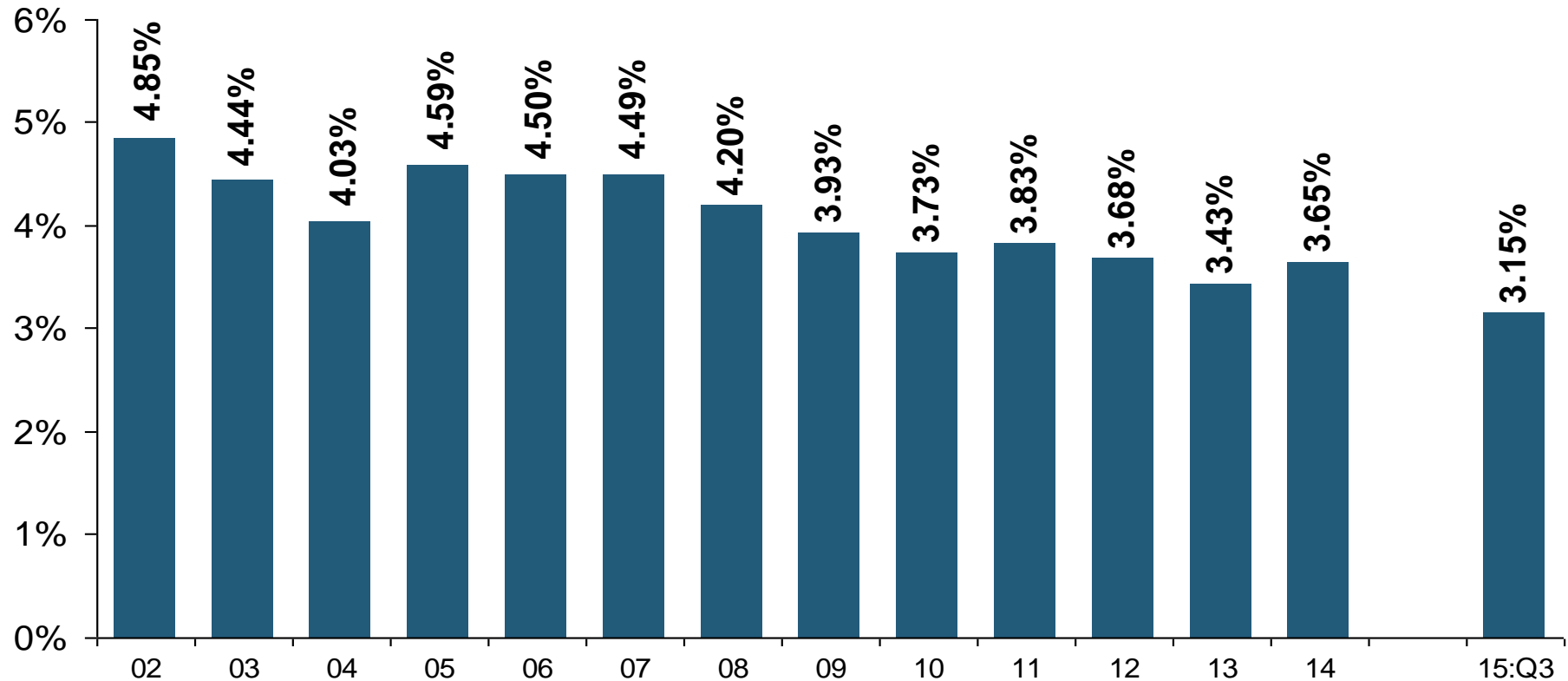
The yield on invested assets remains low relative to pre-crisis yields. The Fed's plan to raise interest rates in late 2015 has already pushed up some yields, albeit quite modestly.

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



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

P/C Insurer Portfolio Yields, 2002-2015:Q3



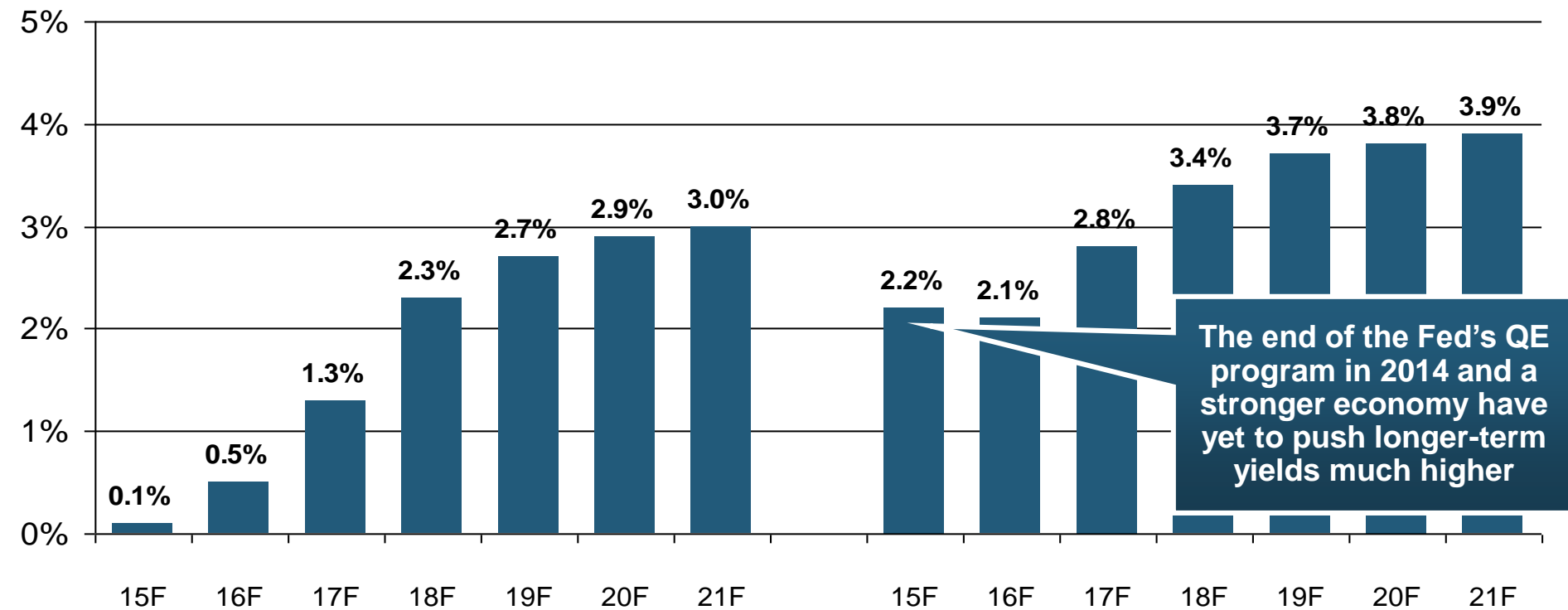
P/C carrier yields have been falling for over a decade, reflecting the long downtrend in prevailing interest rates. Even as prevailing rates rise in the next few years, portfolio yields are unlikely to rise quickly, since low yields of recent years are “baked in” to future returns.

Interest Rate Forecasts: 2016 – 2021

Yield (%)

3-Month Treasury

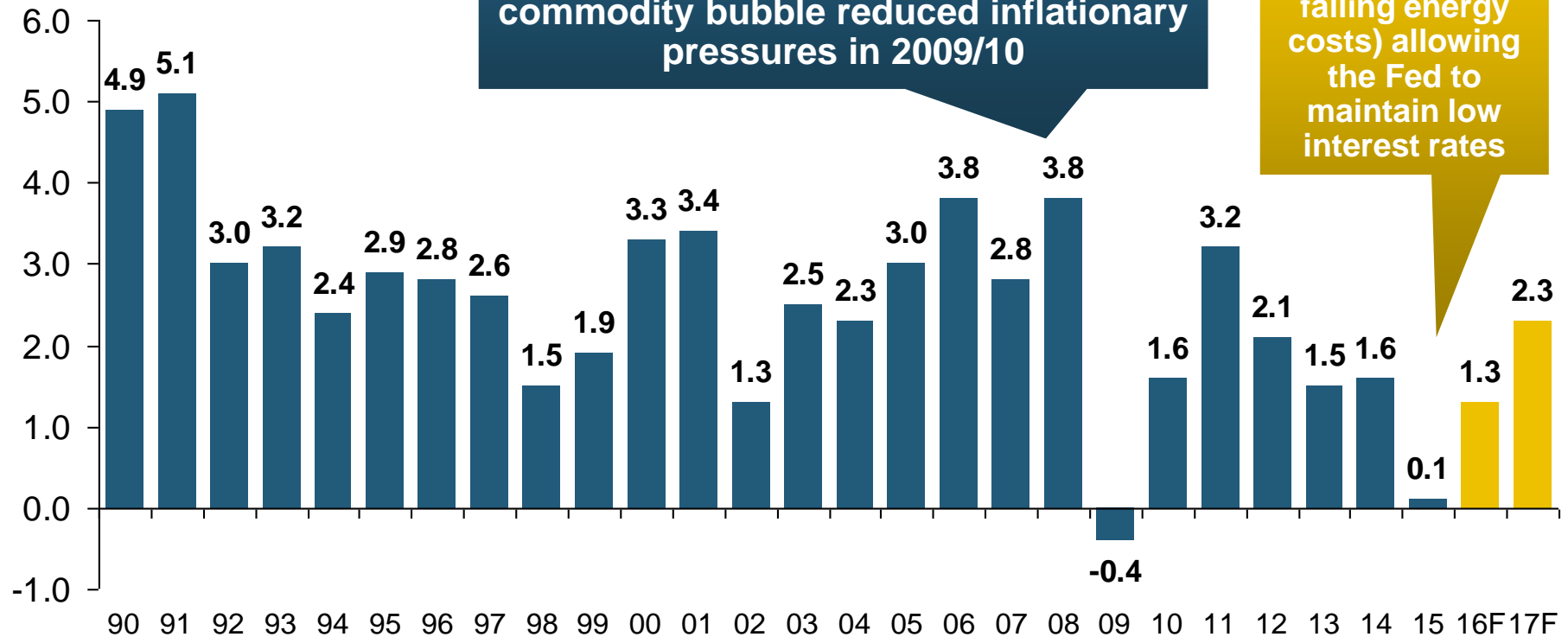
10-Year Treasury



A full normalization of interest rates is unlikely until 2019, more than a decade after the onset of the financial crisis.

Annual Inflation Rates, (CPI-U, %), 1990–2017F

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

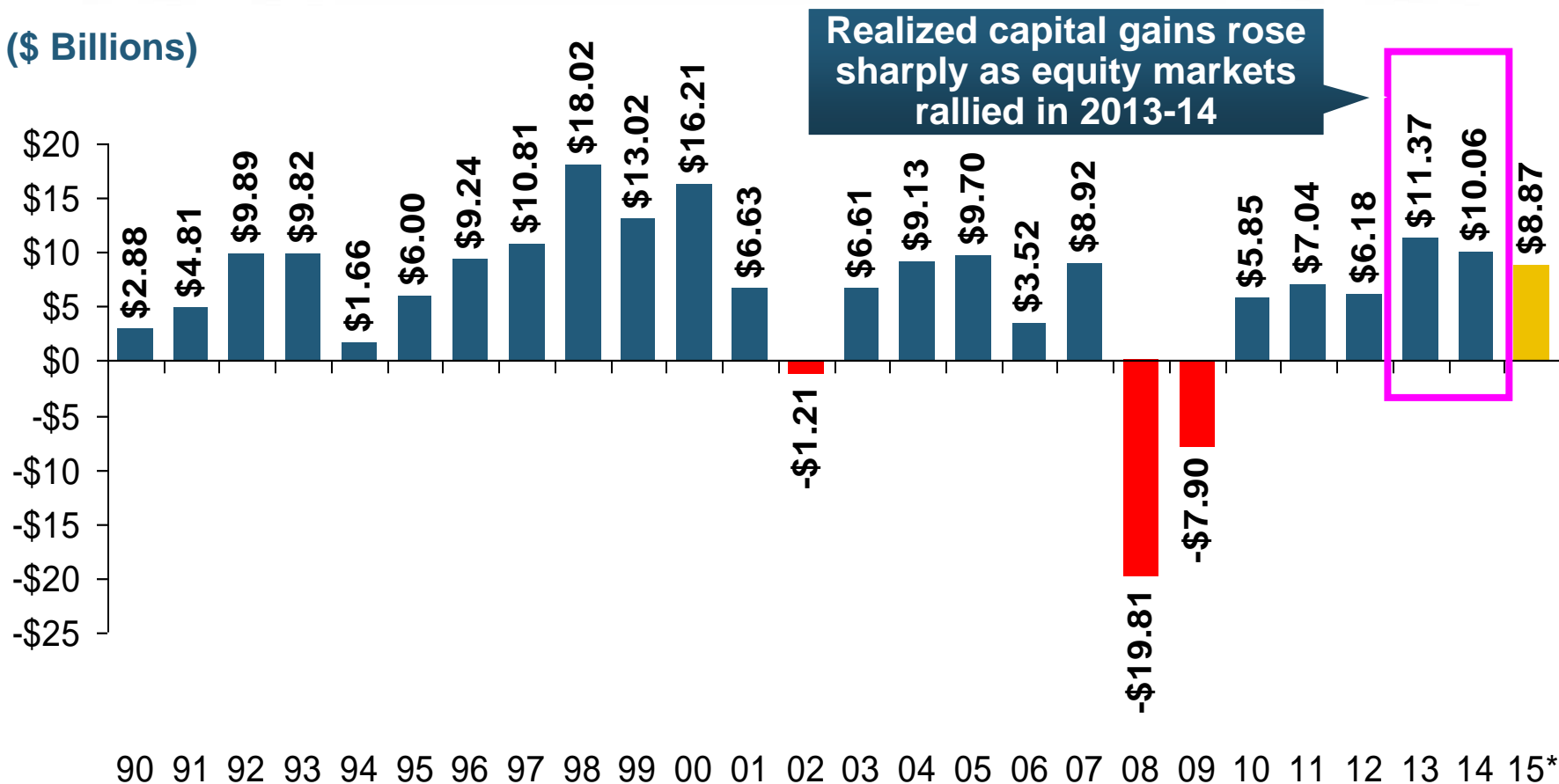
Inflationary expectations have slipped (due in part to falling energy costs) allowing the Fed to maintain low interest rates

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

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators, 4/16 (forecasts).

P/C Insurer Net Realized Capital Gains/Losses, 1990-2015:Q3*

(\$ Billions)



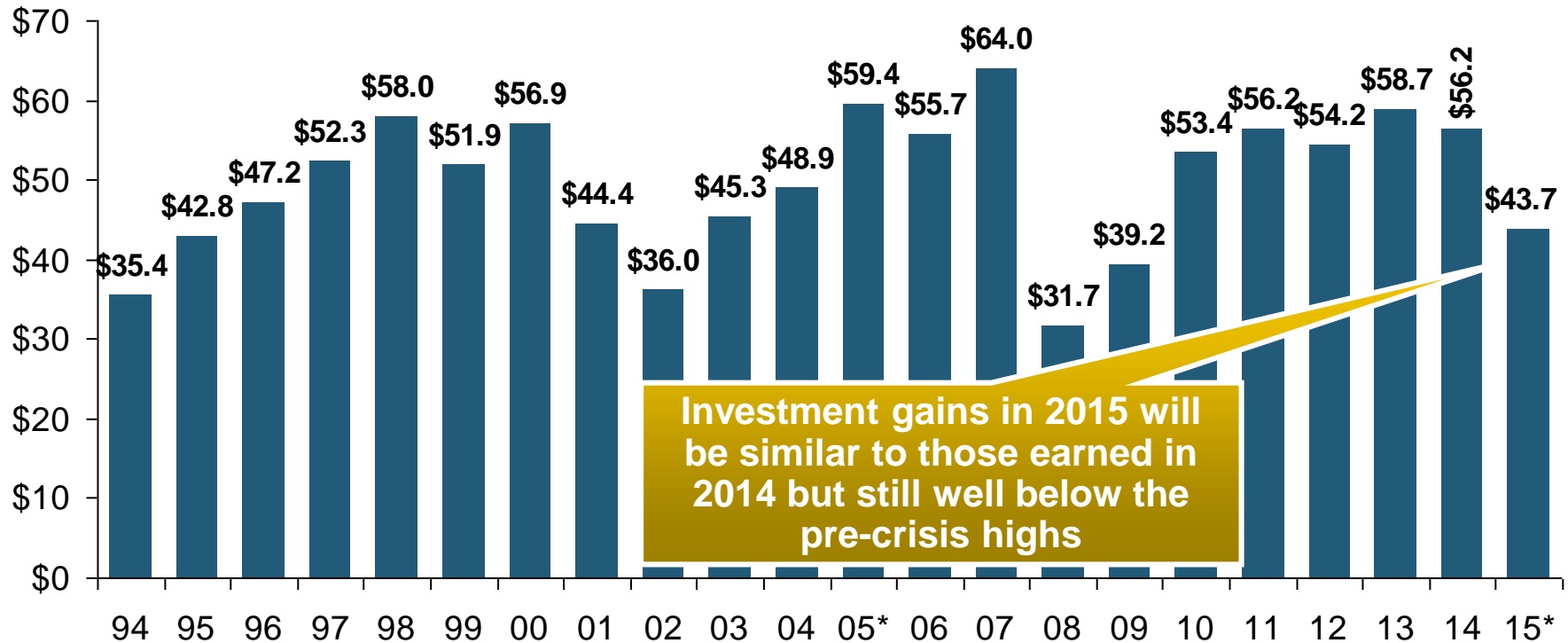
Insurers Posted Net Realized Capital Gains in 2010 - 2014 Following Two Years of Realized Losses During the Financial Crisis. Realized Capital Losses Were a Primary Cause of 2008/2009's Large Drop in Profits and ROE.

*Through Q3 2015.

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

Property/Casualty Insurance Industry Investment Gain: 1994–2015:Q3¹

(\$ Billions)



Investment gains in 2015 will be similar to those earned in 2014 but still well below the pre-crisis highs

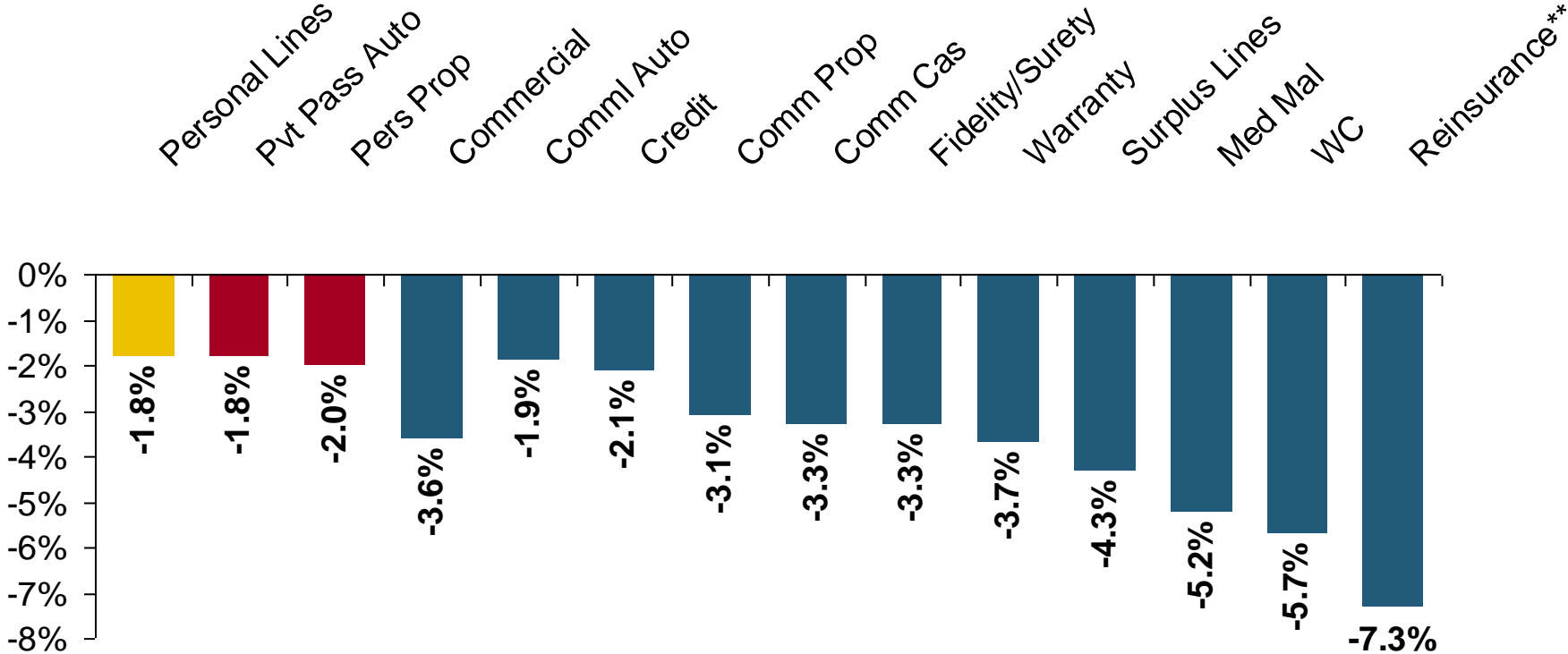
Total Investment Gains Were Down Slightly in 2014 as Low Interest Rates Pressured Investment Income but Realized Capital Gains Remained Robust

¹ 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 Q3 2015.

Sources: ISO, SNL; Insurance Information Institute.

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

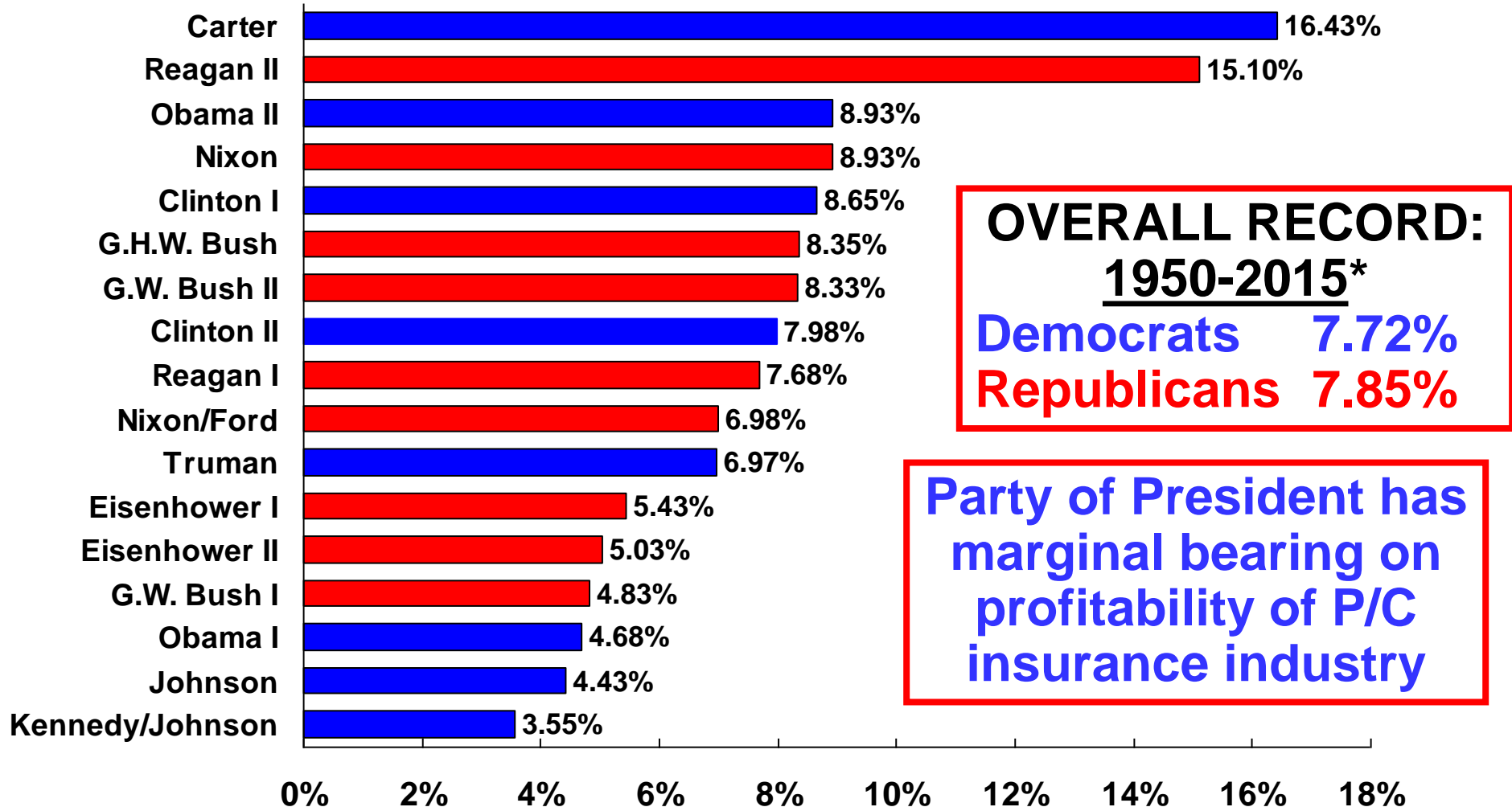
**US domestic reinsurance only

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

Profitability & Politics

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

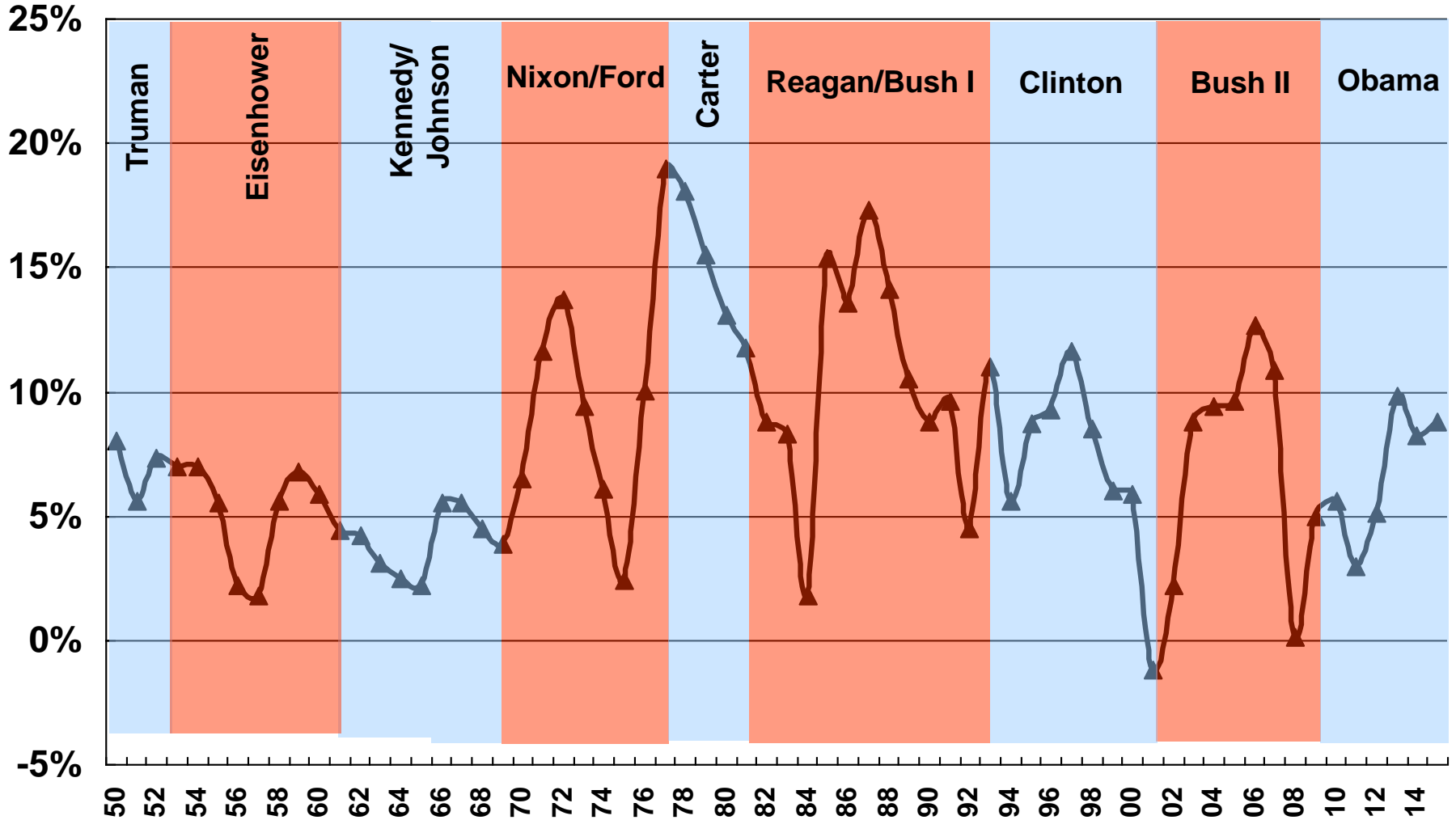
P/C Insurance Industry ROE by Presidential Administration, 1950-2014*



*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- 2015*

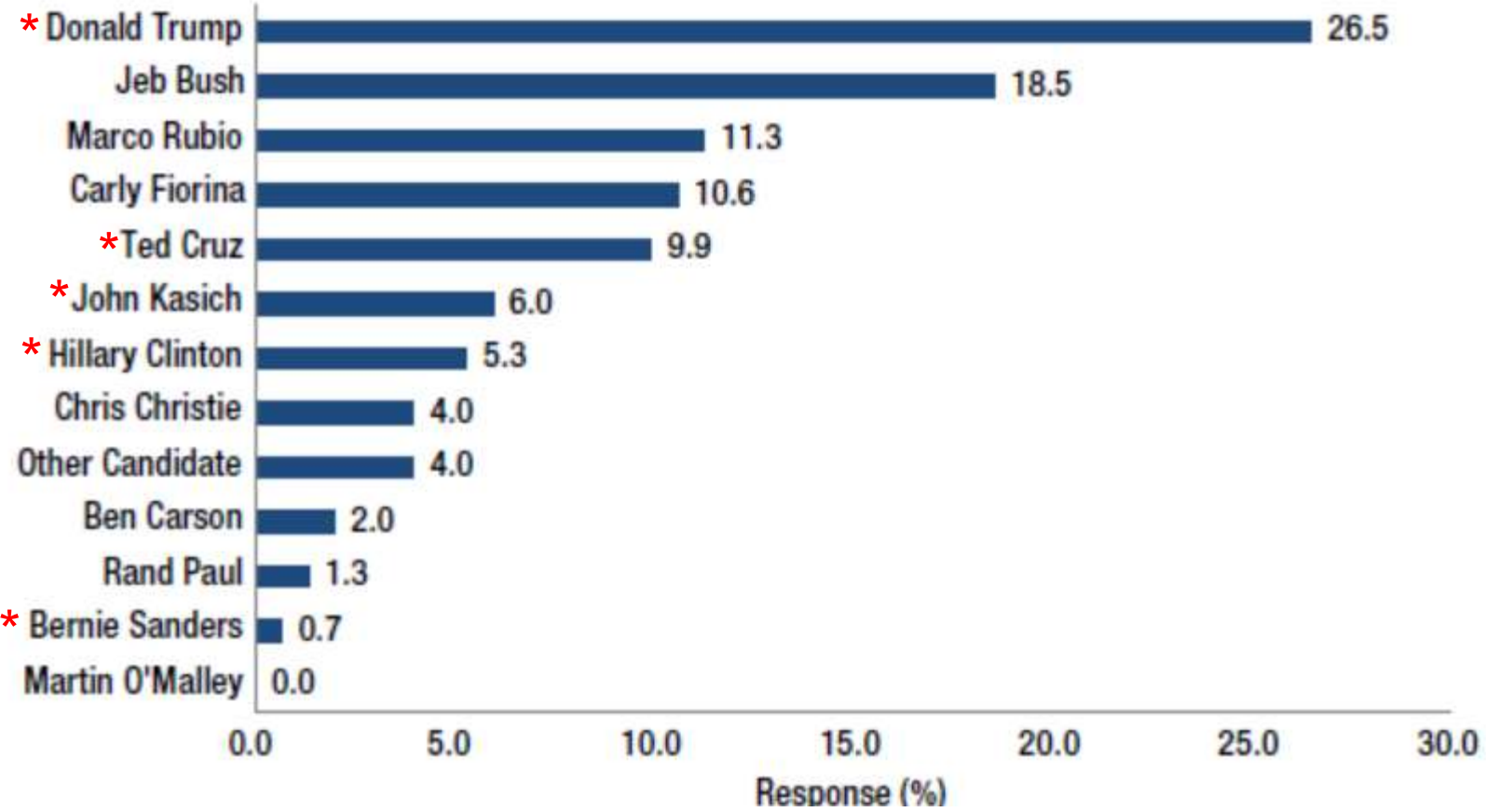
BLUE = Democratic President **RED** = Republican President



*2015 data is through Q3.

Source: Insurance Information Institute

Presidential Candidate Anticipated as Having the Most Favorable Policies for the P/C Insurance Industry



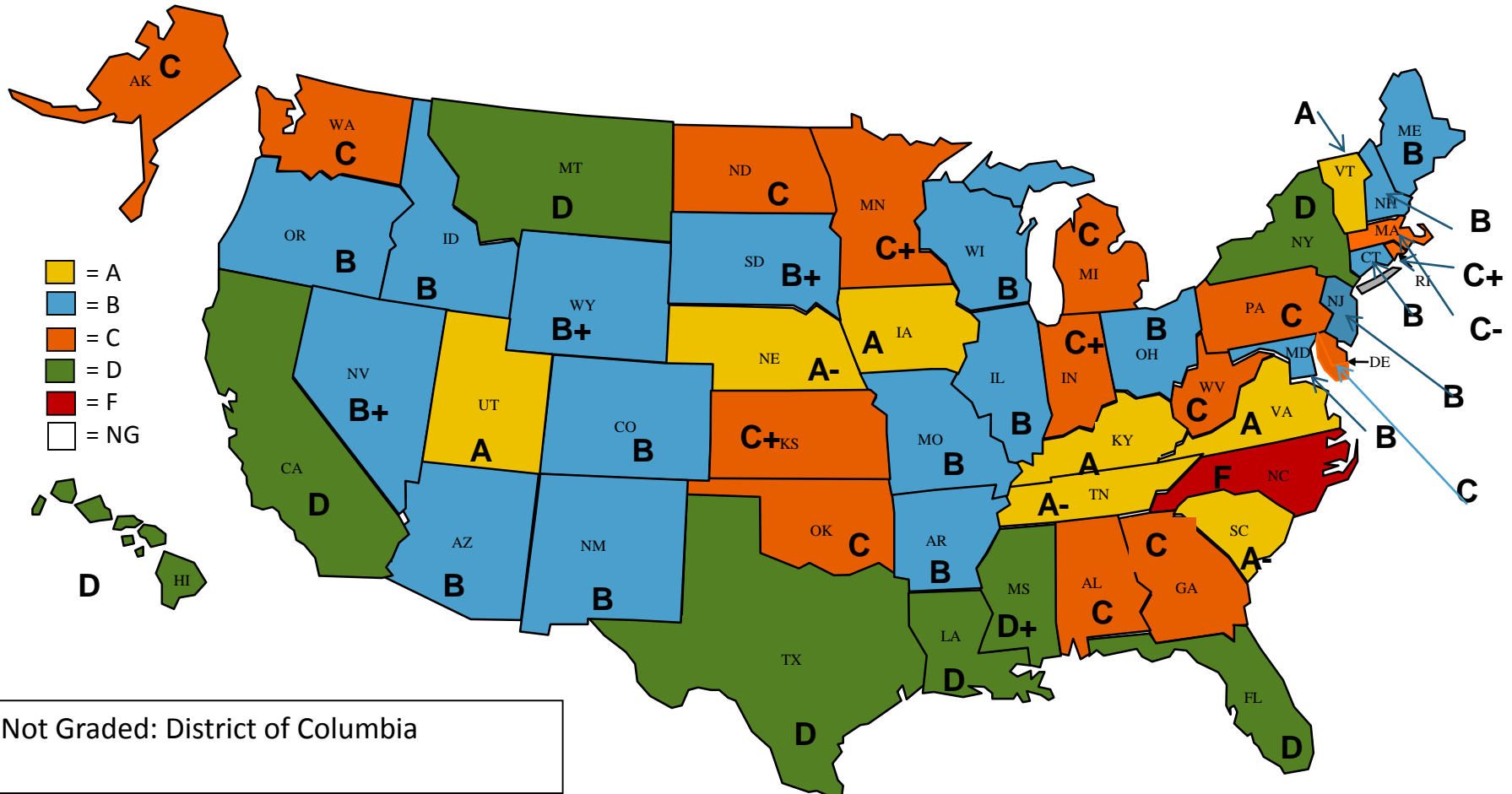
*Still in the race as of March 31, 2016.

Sources: A.M. Best Winter 2015/2016 Insurance Industry Survey, March 2016; Insurance Information Institute.

Trump vs. Clinton: Issues that Matter to P/C Insurers

Issue	Trump	Clinton
Economy	<p>Supply Side-Like Philosophy: Lower taxes→Faster real GDP growth; Deficits likely grow as tax cuts are combined with targeted increased spending on Homeland Security, Defense, etc.</p>	<p>Keynesian Philosophy: More government spending on infrastructure, education, social services; Deficits likely increase as tax increases likely difficult to pass</p>
Interest Rates	<p>May trend higher with larger deficits; Shift from monetary policy to fiscal focus (tax cuts, government spending)</p>	<p>Status quo at the Fed; Net impact on interest rates unclear</p>
Taxes	<p>Favors lower tax rates for corporate and personal income tax rates; Tax code overhaul?</p>	<p>Unlikely to reduce taxes or embark on major overhaul of tax code</p>
International Trade	<p>Protectionist Tendencies</p>	<p>Has criticized Trans-Pacific Partnership but is a realist on international matters</p>
Tort System	<p>Doesn't like trial lawyers but seems to like filing lawsuits</p>	<p>Status Quo</p>

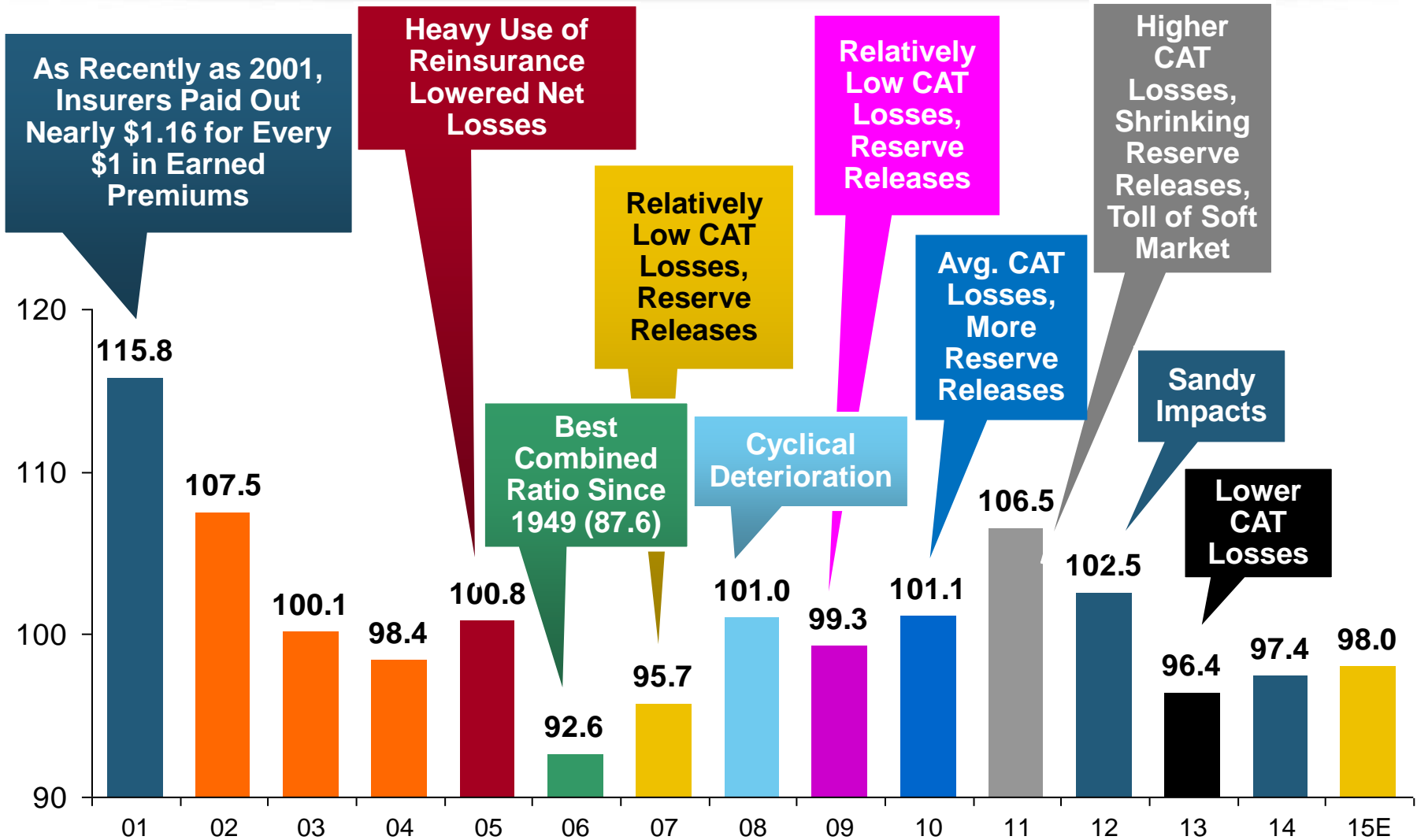
2015 Property and Casualty Insurance Regulatory Report Card





**We're in the "Back to Future"
Era for Underwriting
Performance**

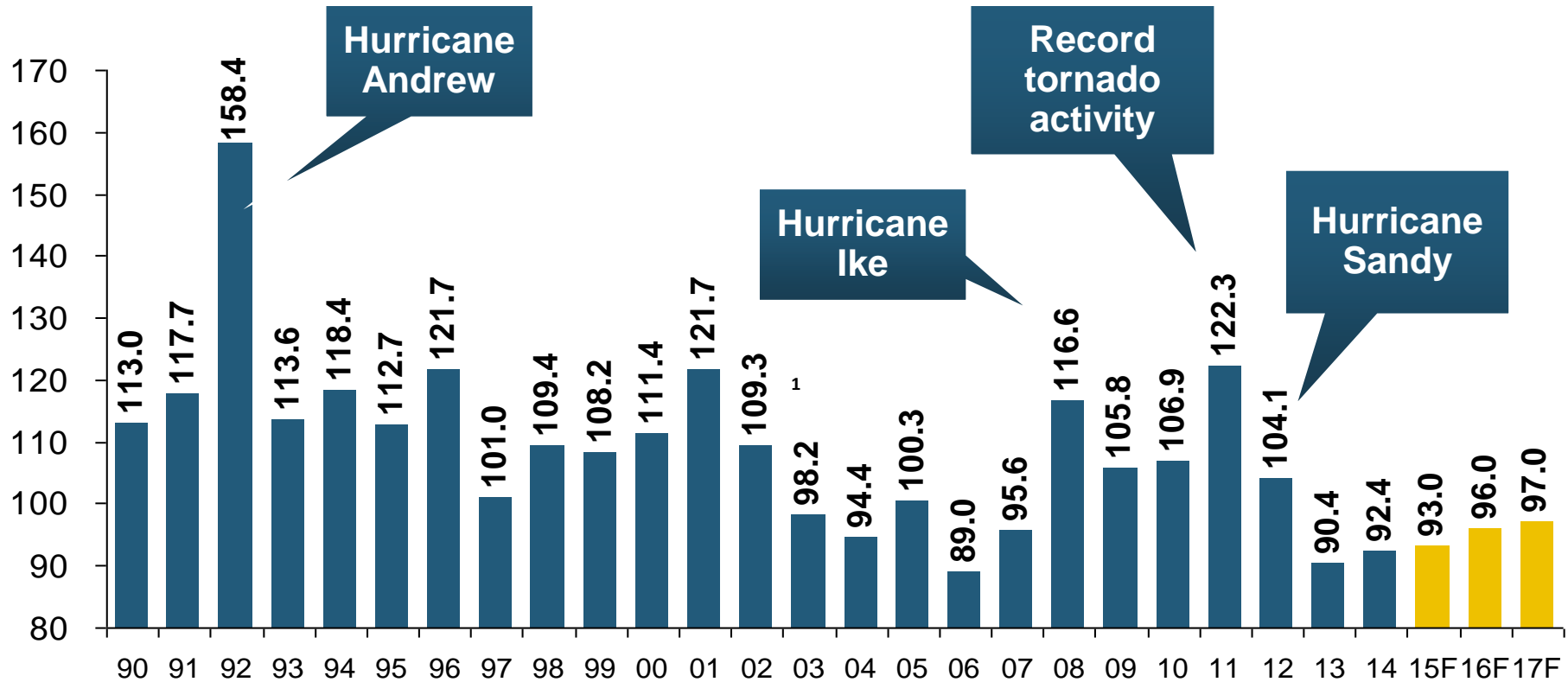
P/C Insurance Industry Combined Ratio, 2001–2015 (Est.)*



* 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; Figure for 2010-2015E is from A.M. Best P&C Review and Preview, Feb. 16, 2016.

Homeowners Insurance Combined Ratio: 1990–2017F

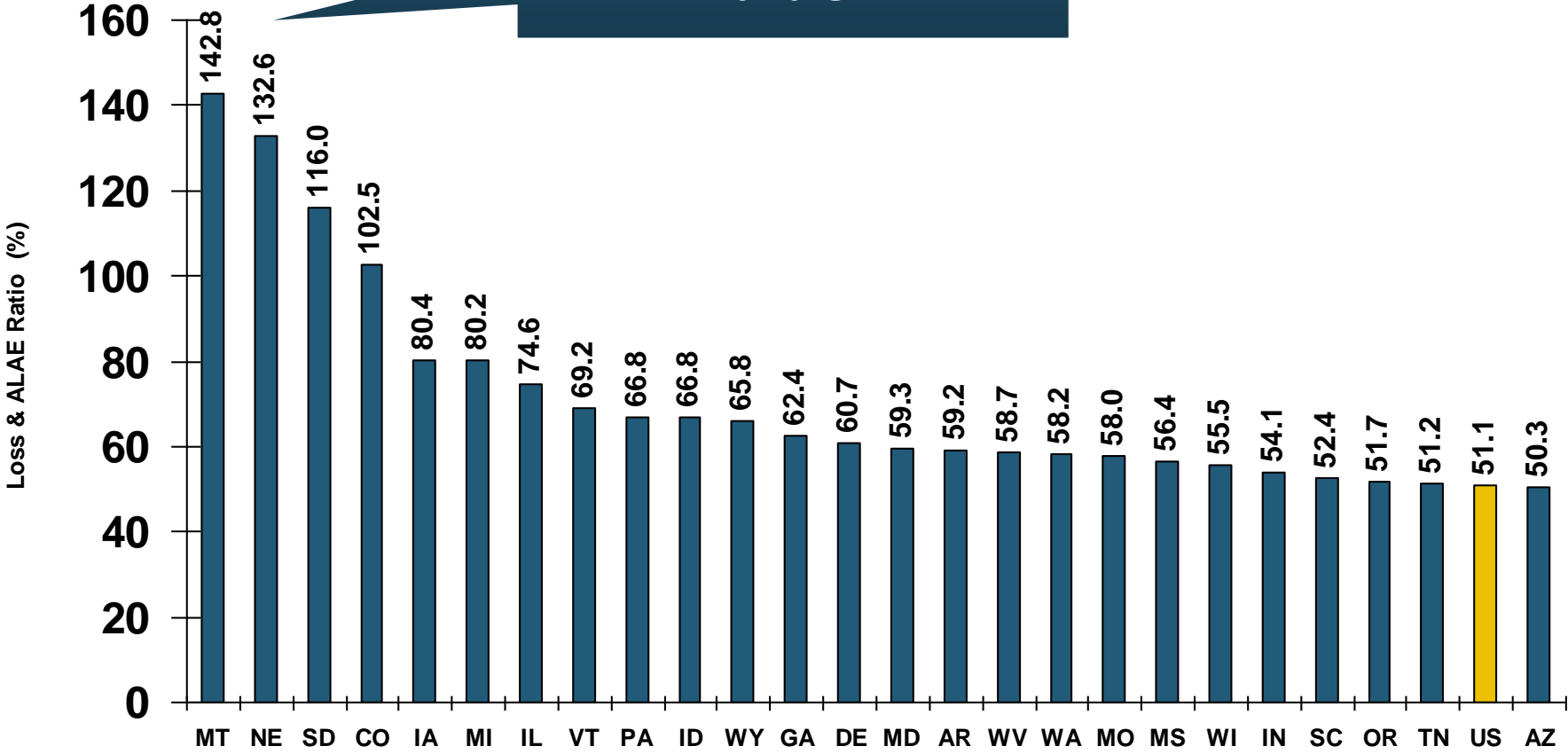


Homeowners Performance Has Improved Markedly Since the 2011/12's Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity

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



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

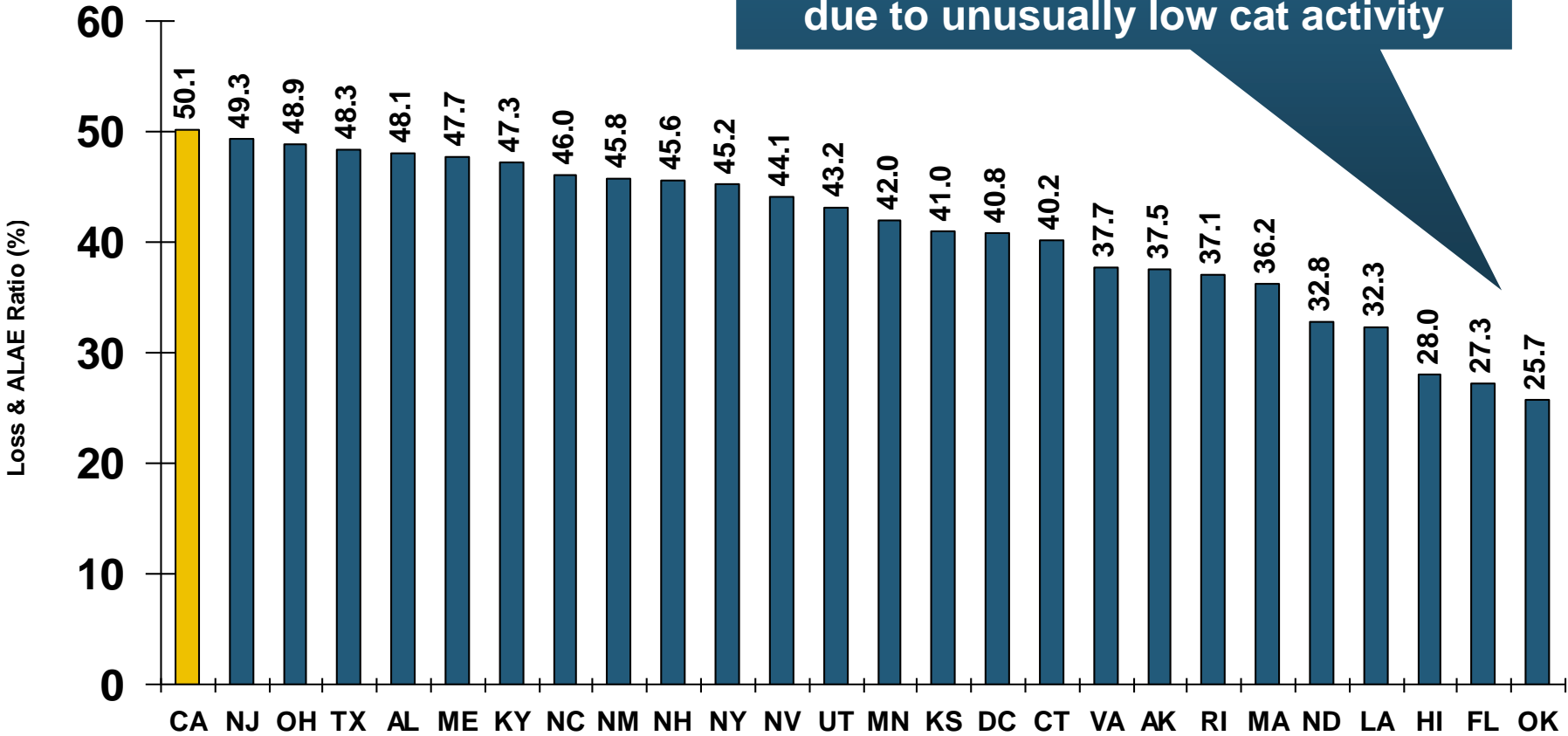


Sources: SNL Financial; Insurance Information Institute.

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

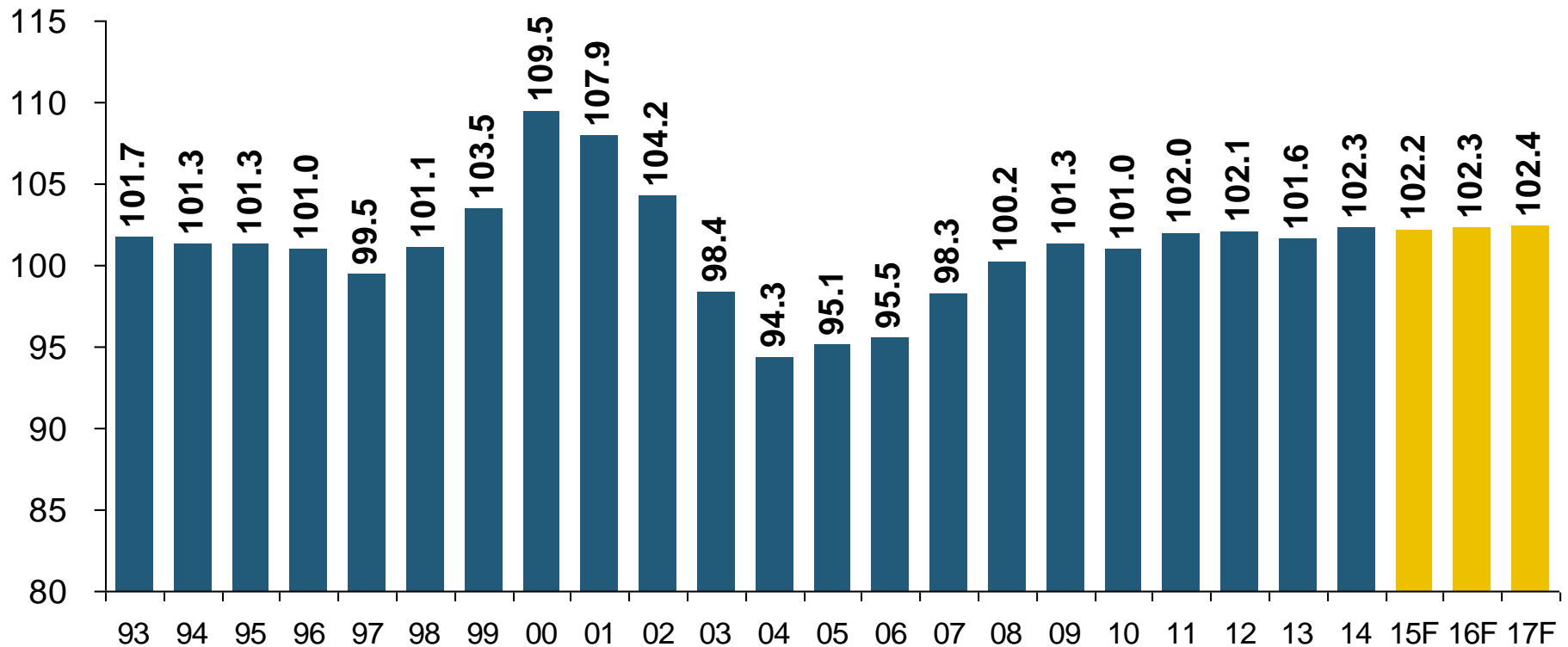


OK and FL had the best performances in 2014! Traditionally high cat-loss states did well last year due to unusually low cat activity



Sources: SNL Financial; Insurance Information Institute.

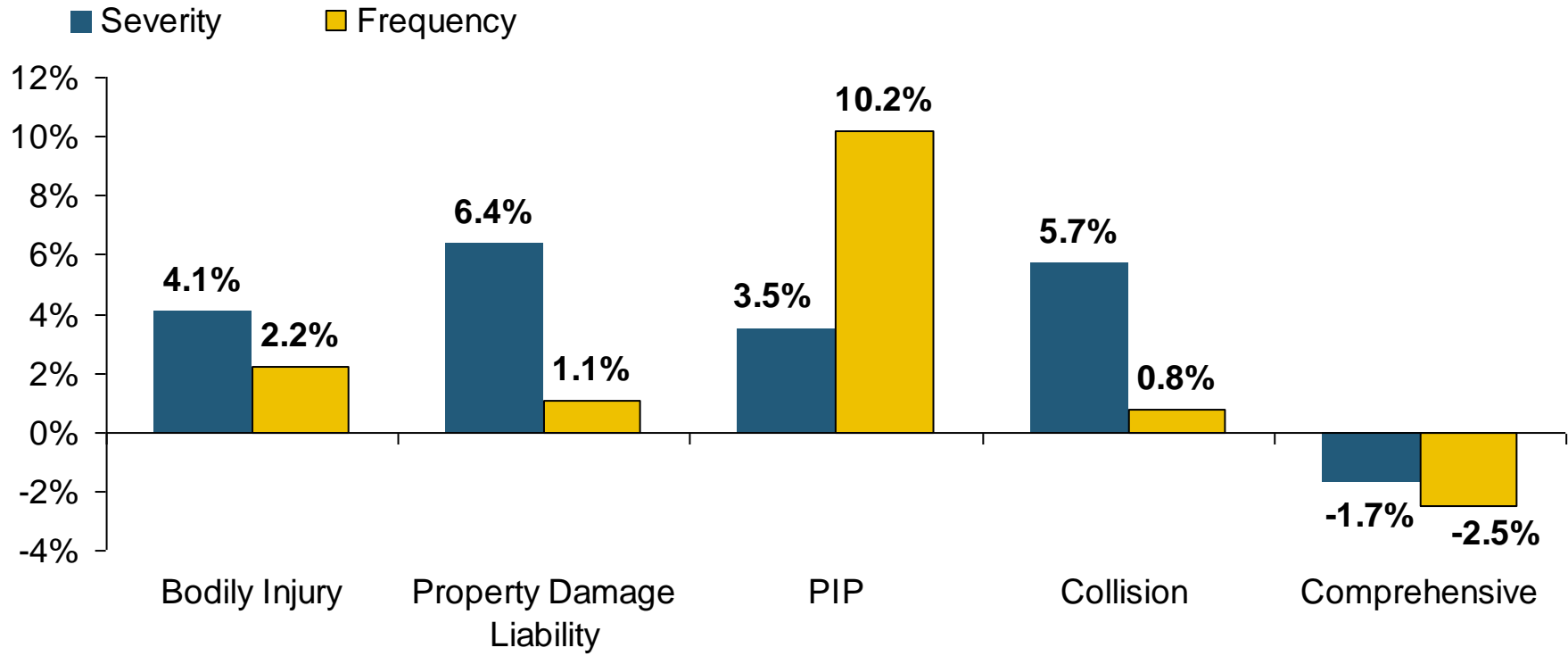
Private Passenger Auto Combined Ratio: 1993–2017F



Private Passenger Auto Underwriting Performance Is Exhibiting Remarkable Stability

US Auto Severity & Frequency by Coverage: Trending Up in 2015

Annual Change, 2015 Over 2014

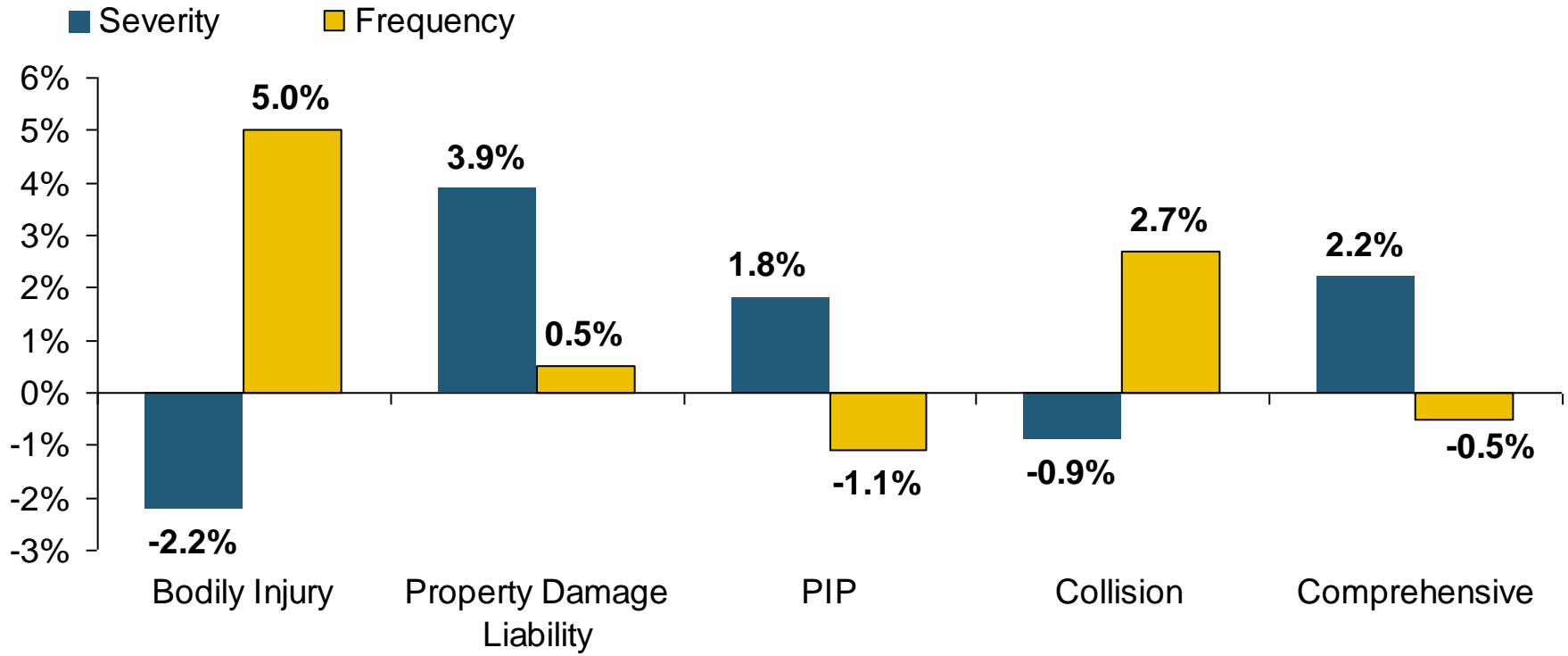


Frequency and Severity Were Up Across Most Coverage Types in 2015; A Trend Likely to Continue in 2016

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

HI Auto Severity & Frequency by Coverage: Mixed in 2015

Annual Change, 2015 Over 2014



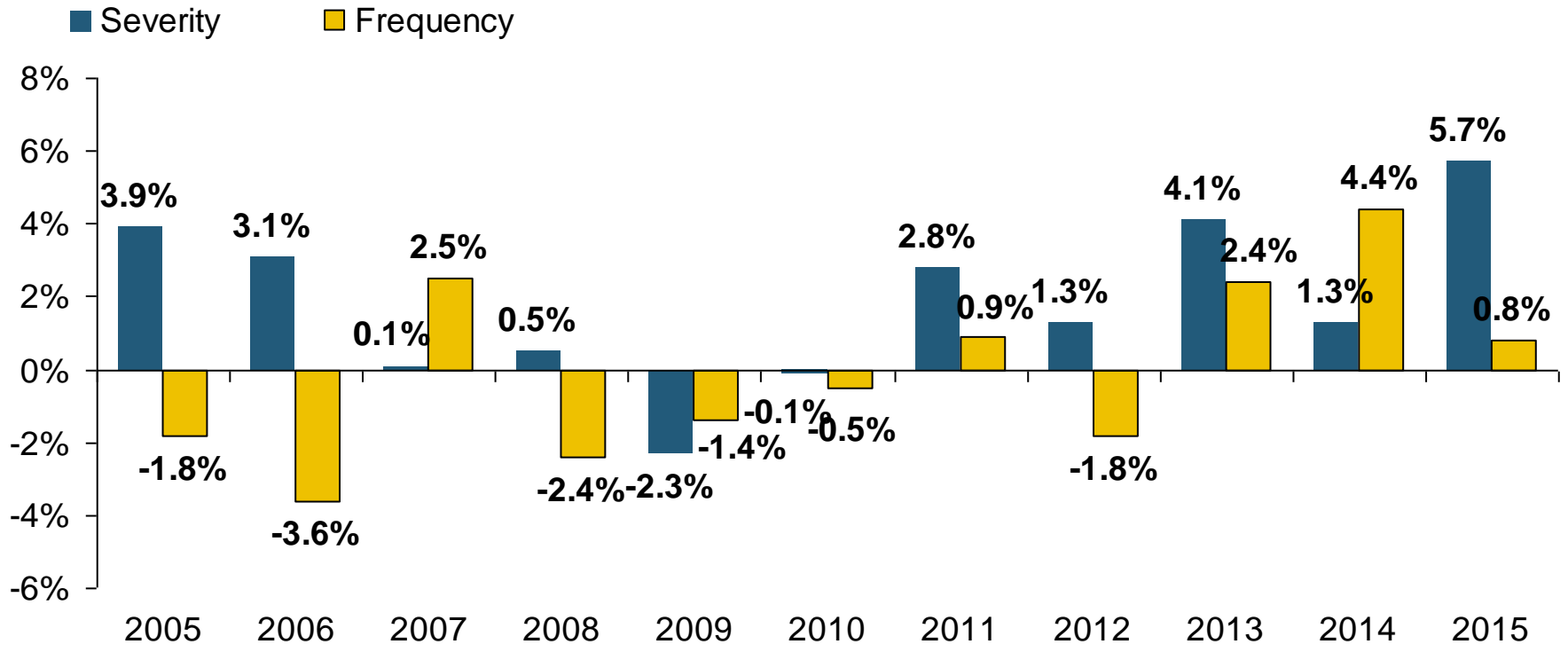
Frequency and Severity Were Mixed in Hawaii Across Most Coverage Types in 2015

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

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



Annual Change, 2005 through 2015

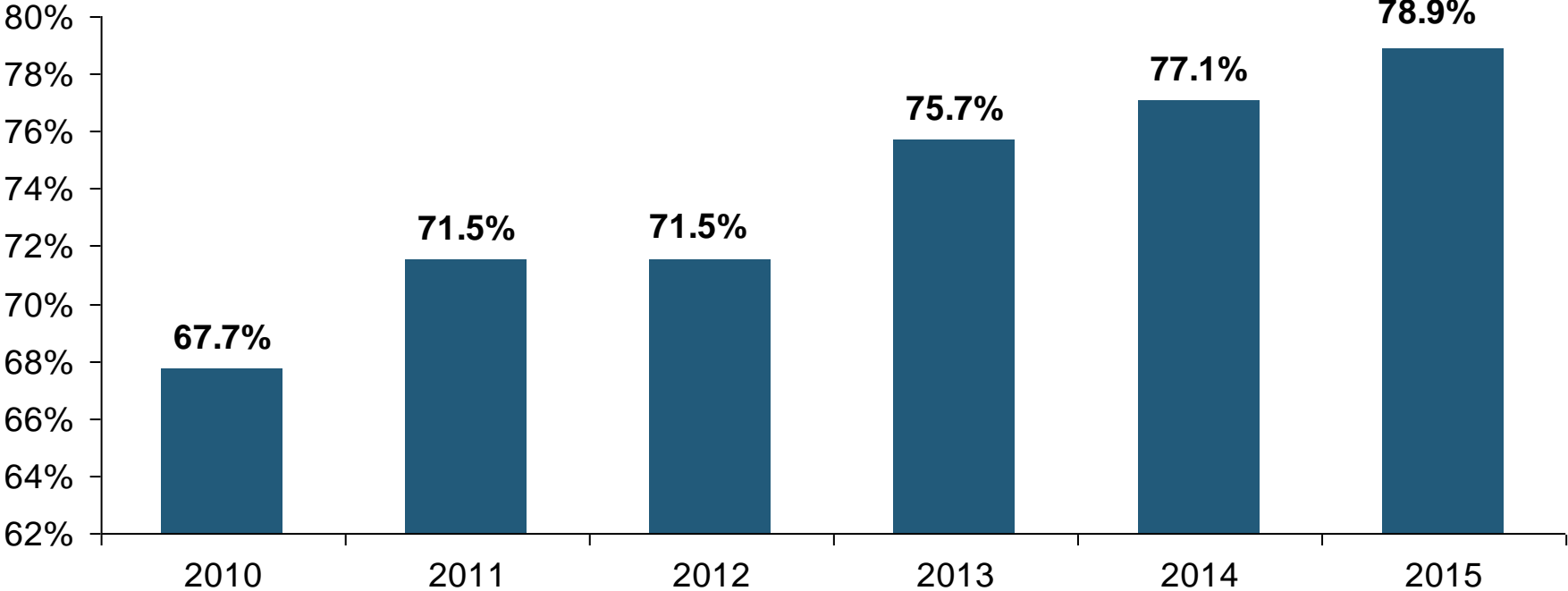


The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Has Clearly Reversed, Consistent with Experience from Past Recoveries

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

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

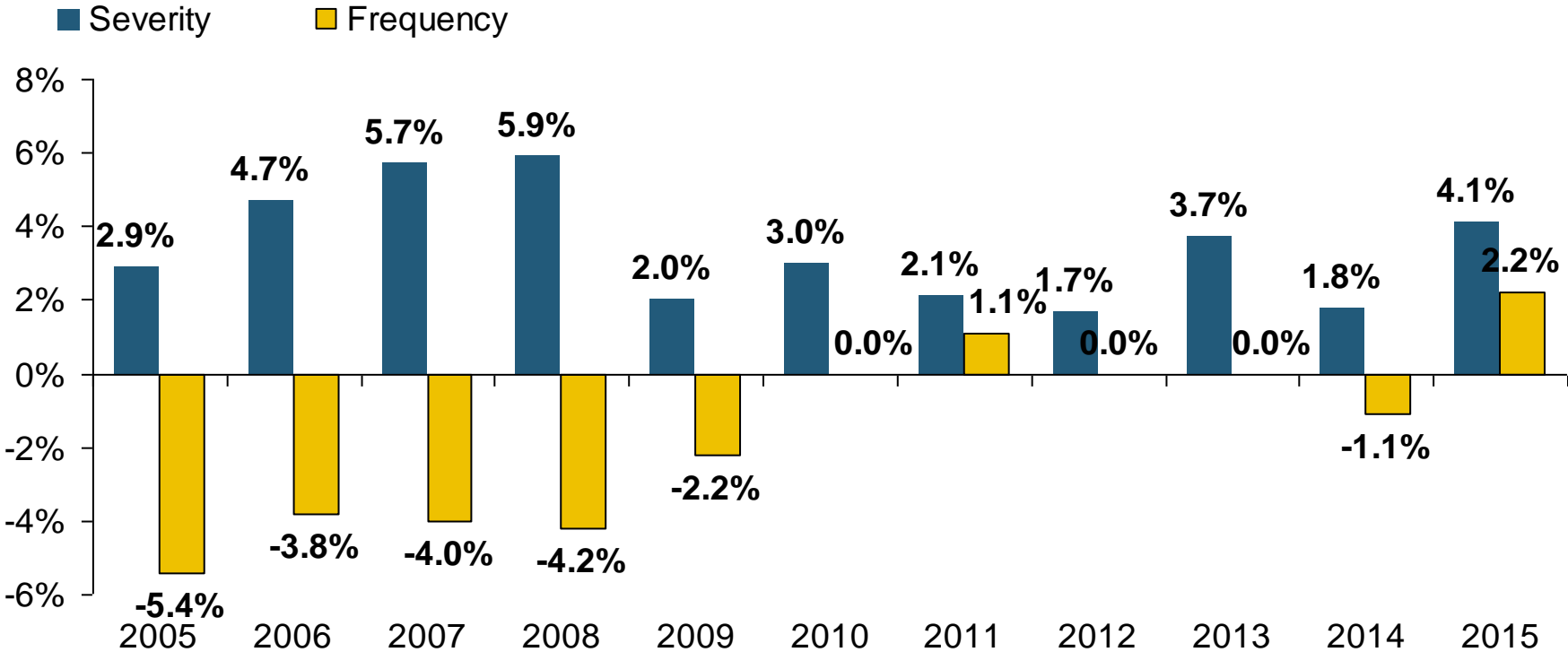
Loss Ratio



Collision Loss Ratios are Trending Steadily Upward

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

Annual Change, 2005 through 2015

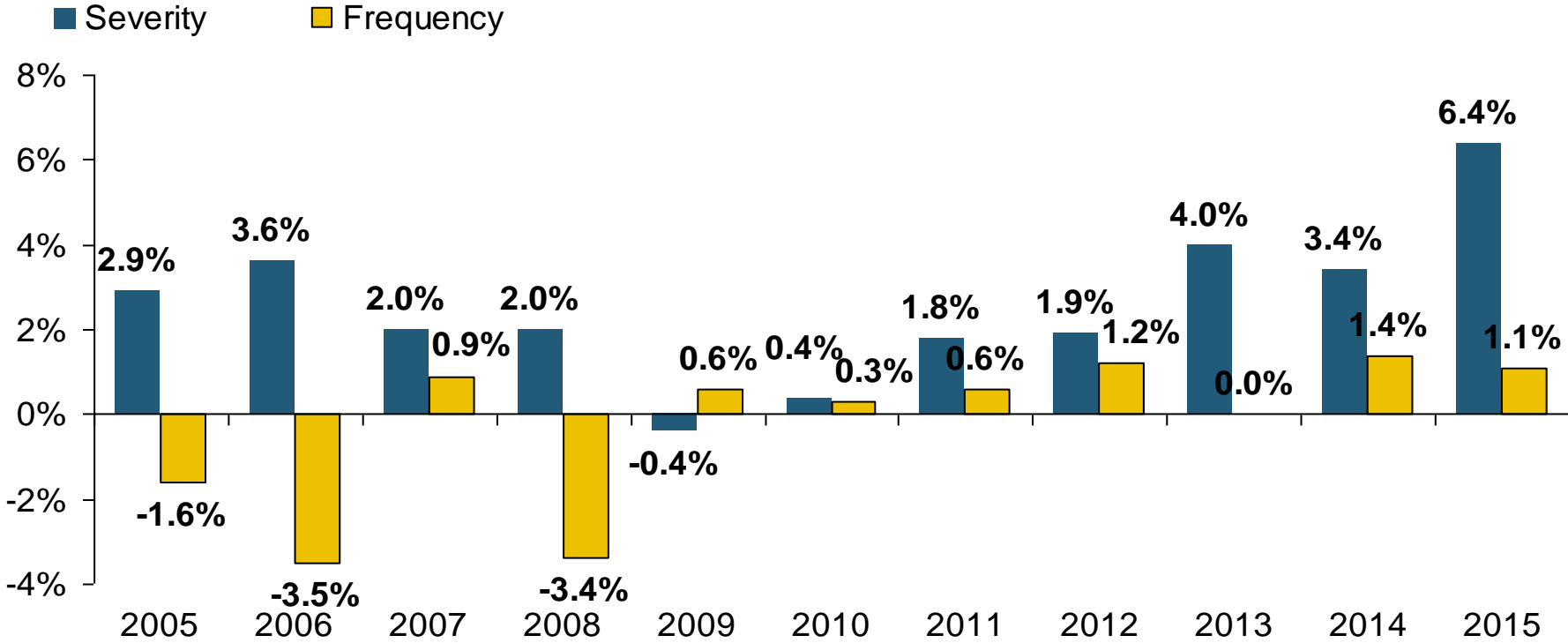


Cost Pressures Will Increase if BI Frequency and Severity Trends Persist

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

Property Damage Liability: Severity and Frequency Are Up

Annual Change, 2005 through 2015

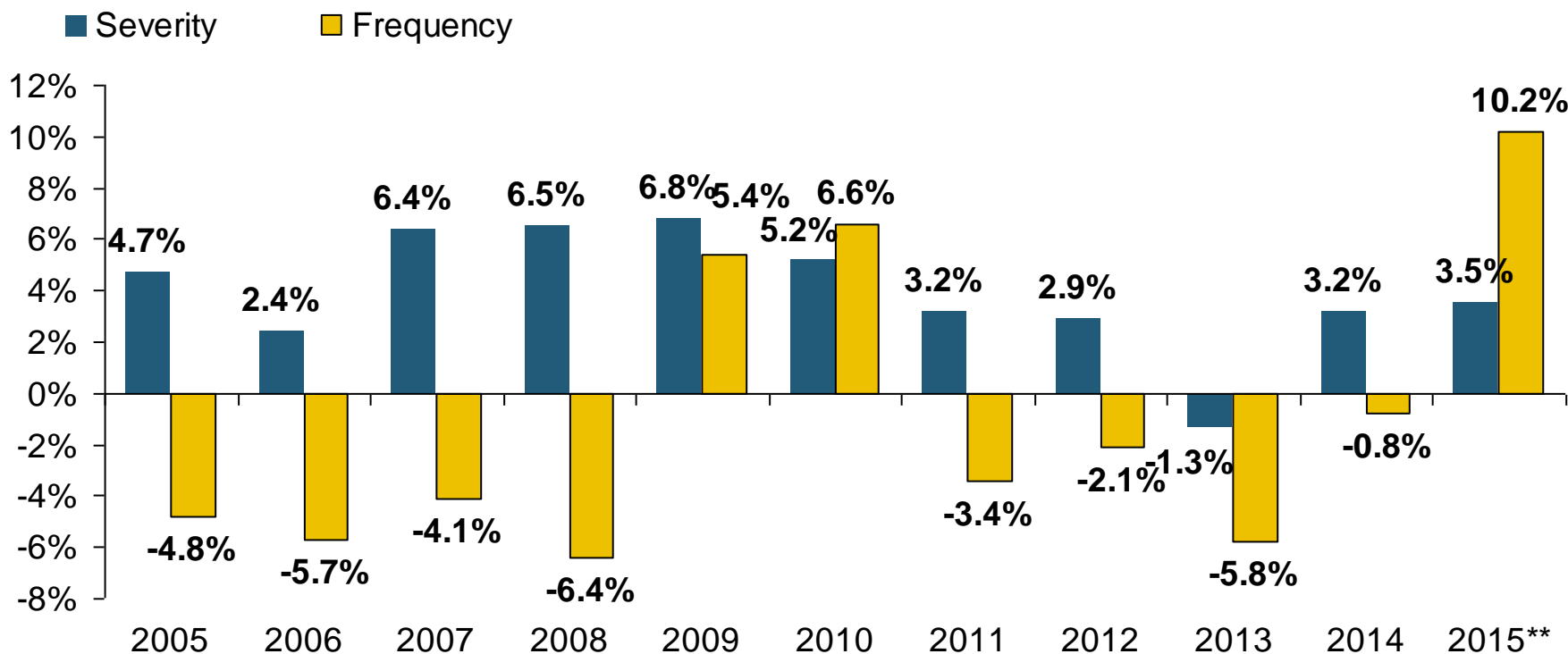


Severity/Frequency Trends Have Been Volatile, But Rising Severity since 2011 Is a Concern

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

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

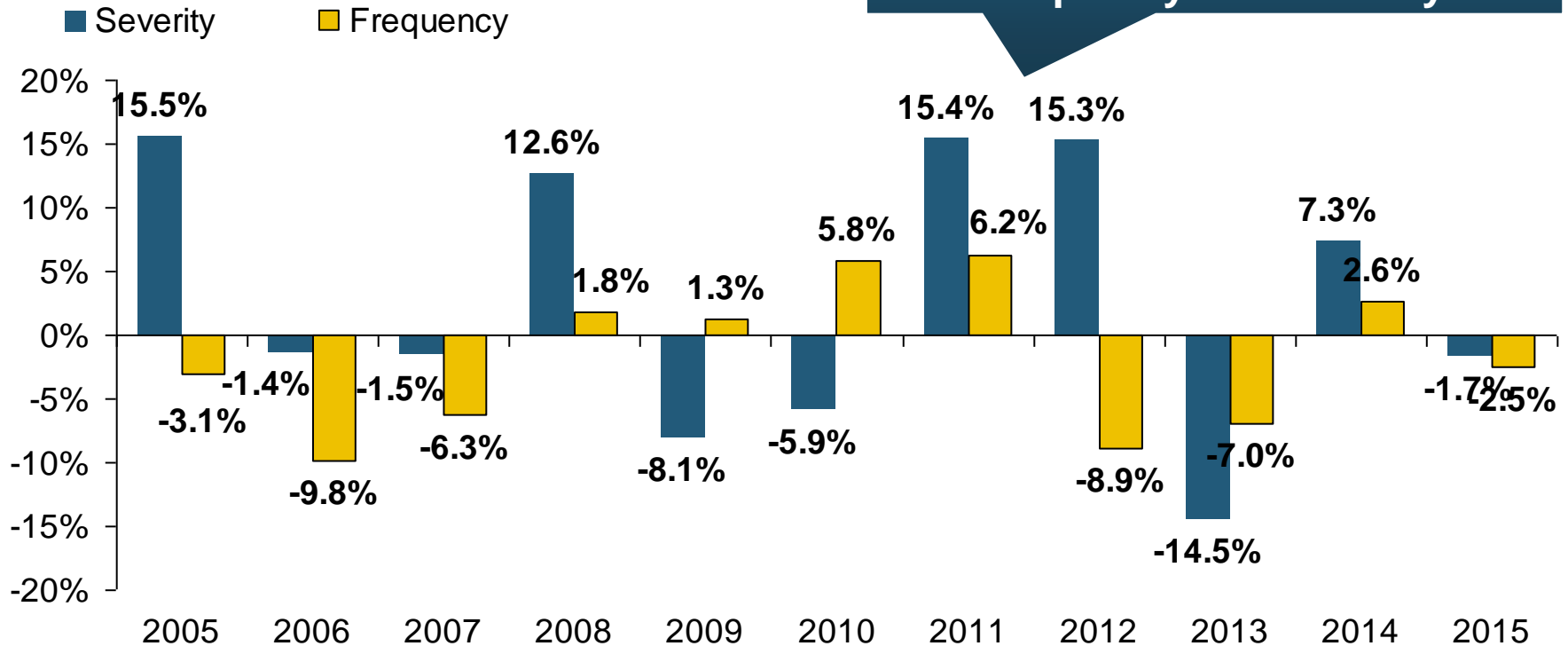
*No-fault states included are: FL, HI, KS, KY, MA, MI, MN, NY, ND and UT.

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

Comprehensive Coverage: Frequency and Severity Trends Are Volatile

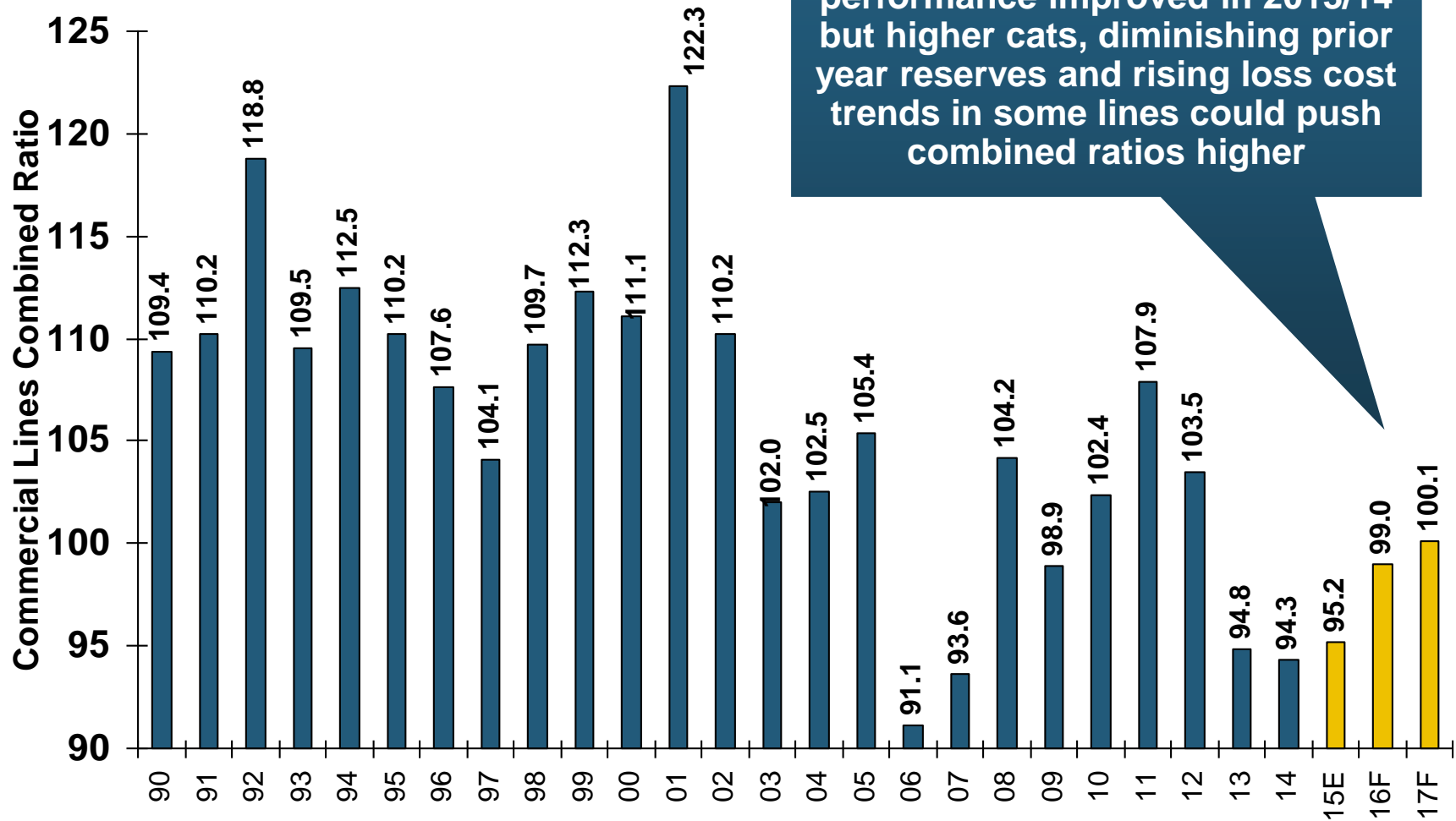
Annual Change, 2005 through 2015

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



Weather Creates Volatility for Comprehensive Coverage

Commercial Lines Combined Ratio, 1990-2017F*

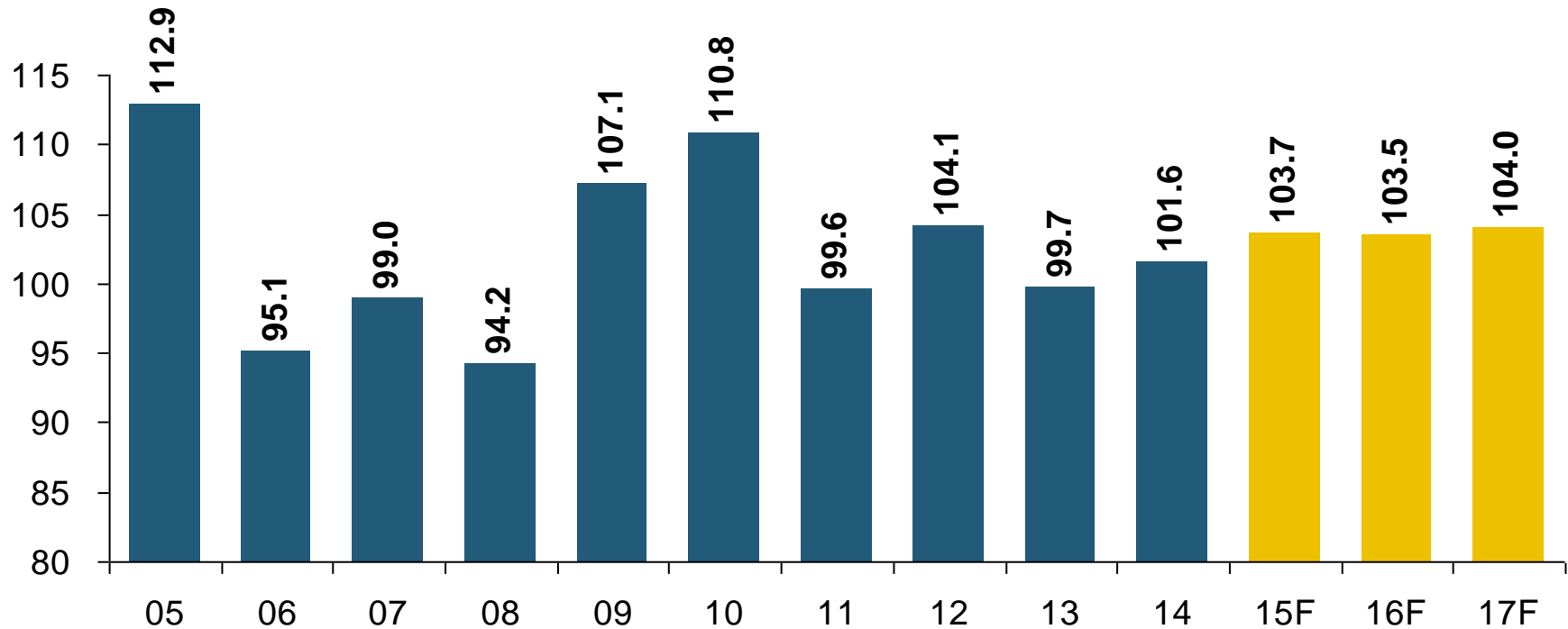


Commercial lines underwriting performance improved in 2013/14 but higher cats, diminishing prior year reserves and rising loss cost trends in some lines could push combined ratios higher

*2007-2012 figures exclude mortgage and financial guaranty segments.

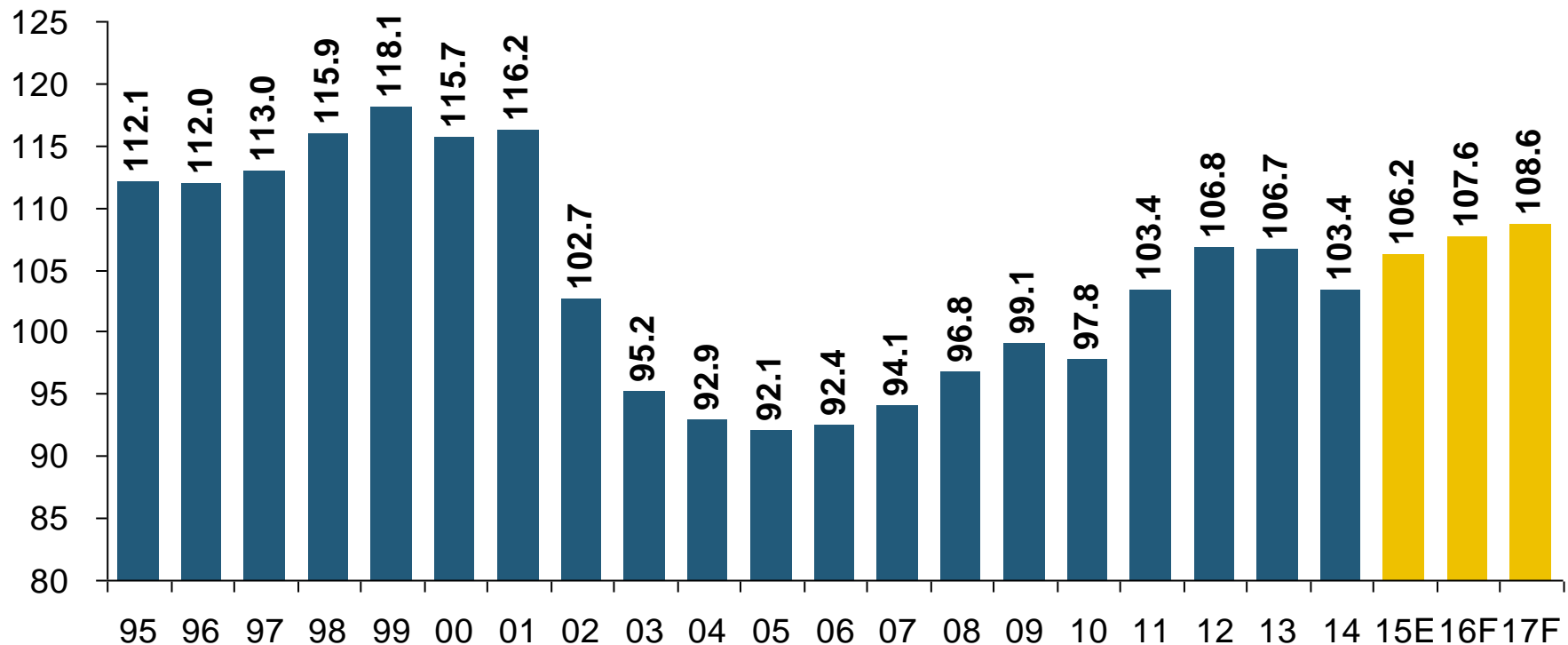
Source: A.M. Best (1990-2014); Conning (2015E-17F) Insurance Information Institute.

General Liability Combined Ratio: 2005–2017F



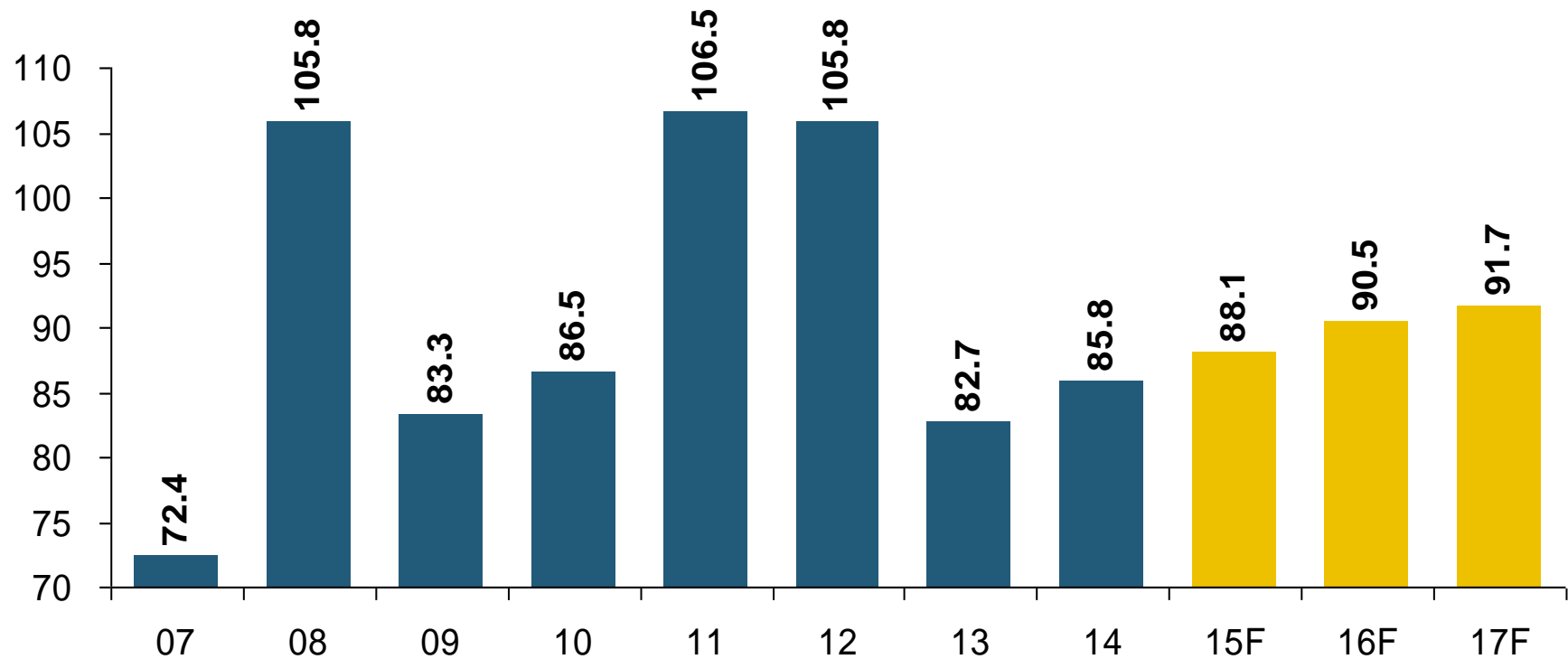
**Commercial General Liability Underwriting
Performance Has Been Volatile in Recent Years**

Commercial Auto Combined Ratio: 1993–2017F



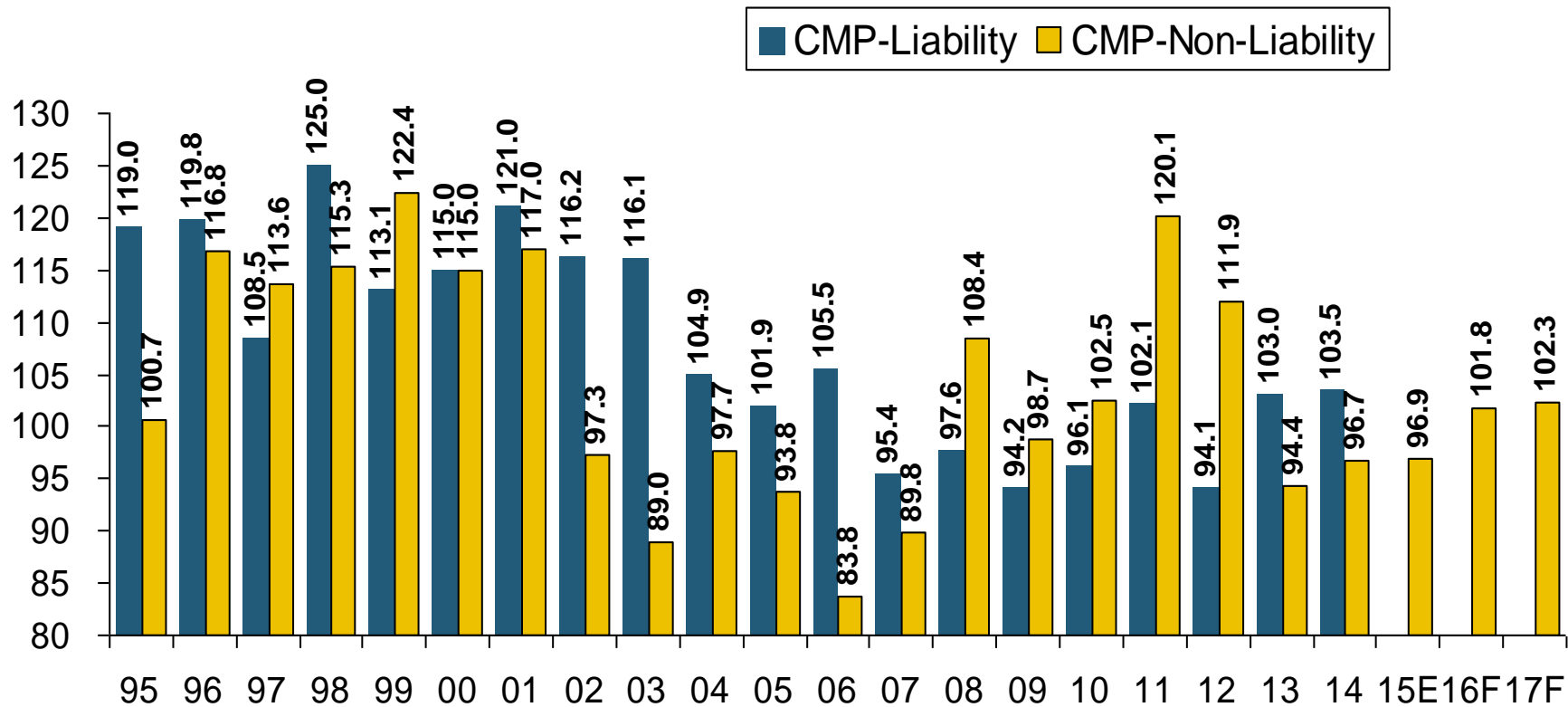
Commercial Auto Results Are Challenged as Rate Gains Barely Have Yet to Offset Adverse Frequency and Severity Trends

Commercial Property Combined Ratio: 2007–2017F



**Commercial Property Underwriting Performance
Has Improved in Recent Years, Largely Due to
Diminished CAT Activity**

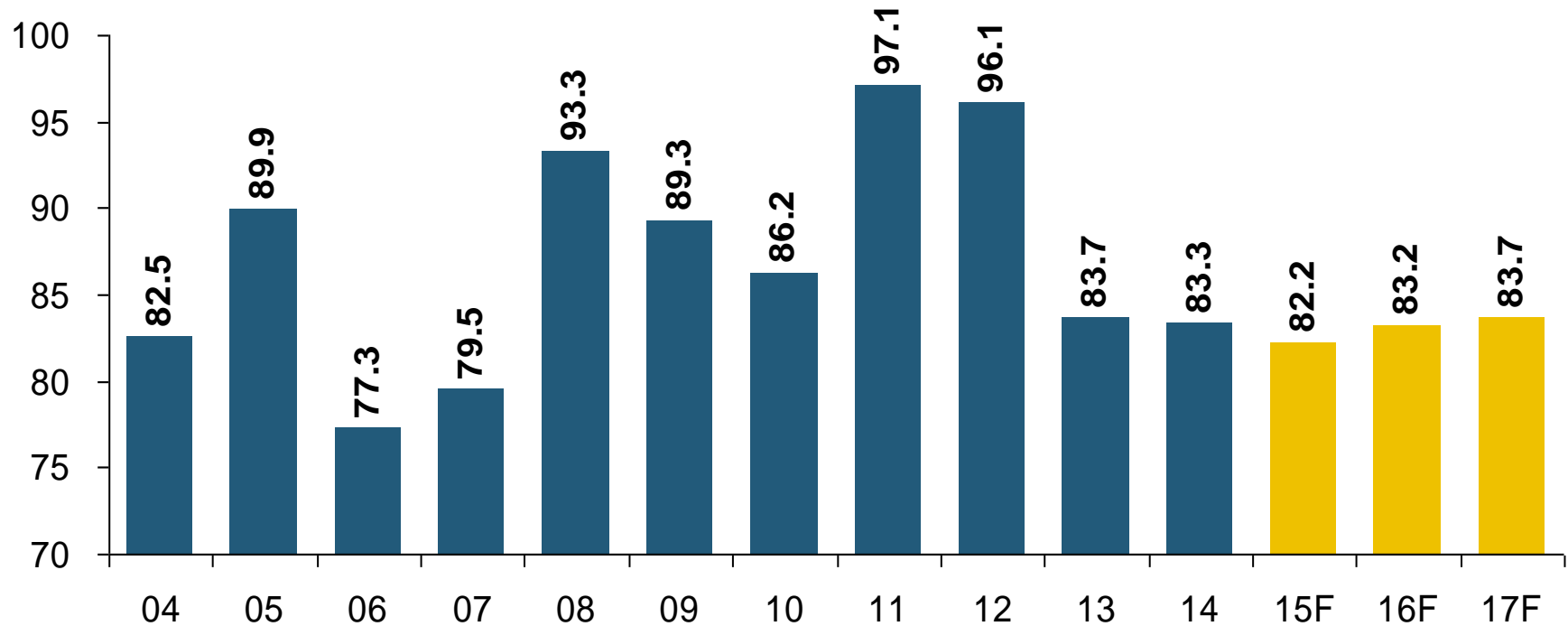
Commercial Multi-Peril Combined Ratio: 1995–2017F



Commercial Multi-Peril Underwriting Performance is Expected to Deteriorate Slightly in the 2015 - 2017 Period Assuming Normal Catastrophe Loss Activity

*2015E-2017F figures are Conning figures for the combined liability and non-liability components.
Sources: A.M. Best; Conning; Insurance Information Institute.

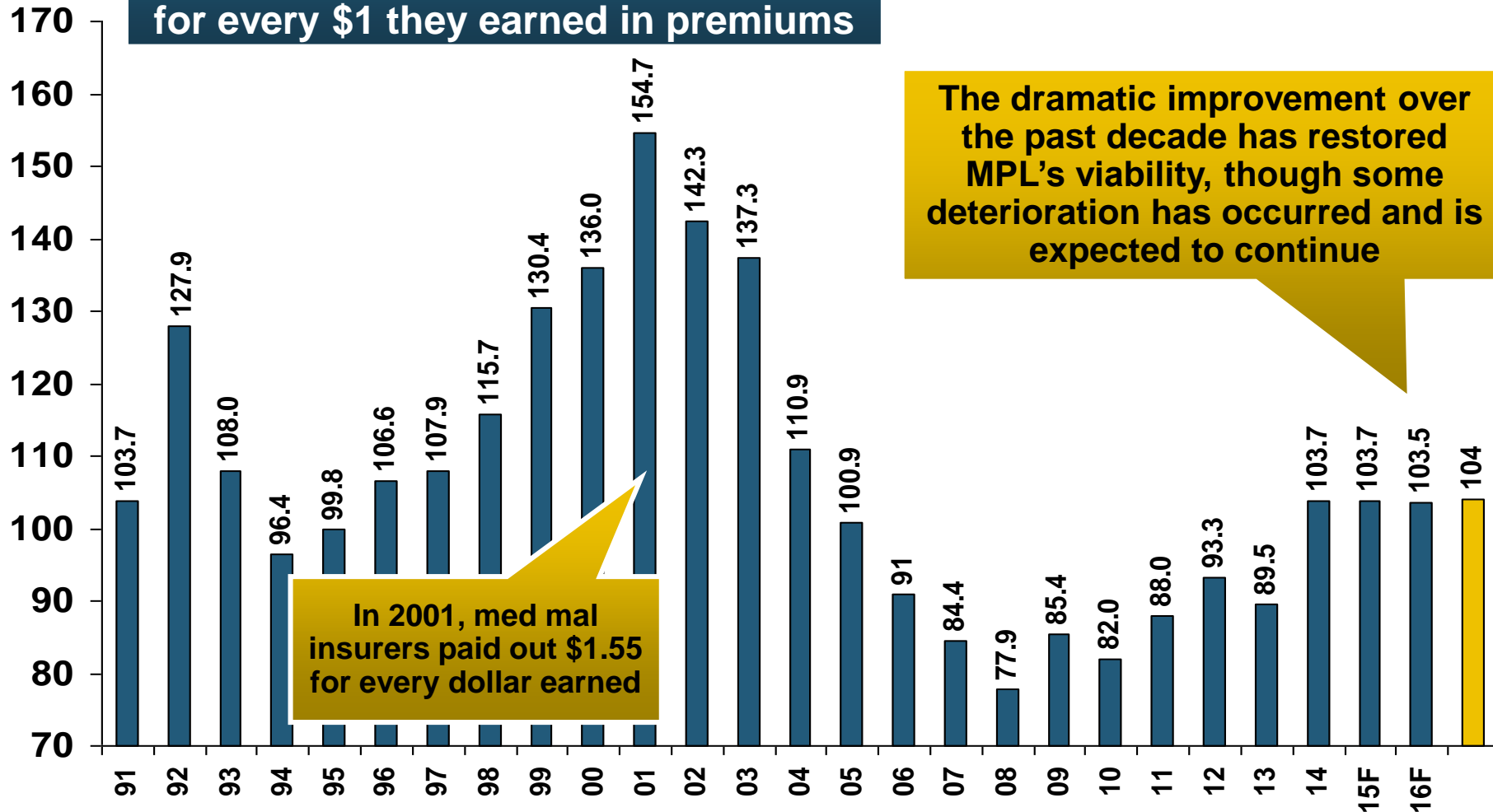
Inland Marine Combined Ratio: 2004–2017F



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

Medical Malpractice Combined Ratio vs. All Lines Combined Ratio, 1991-2017F

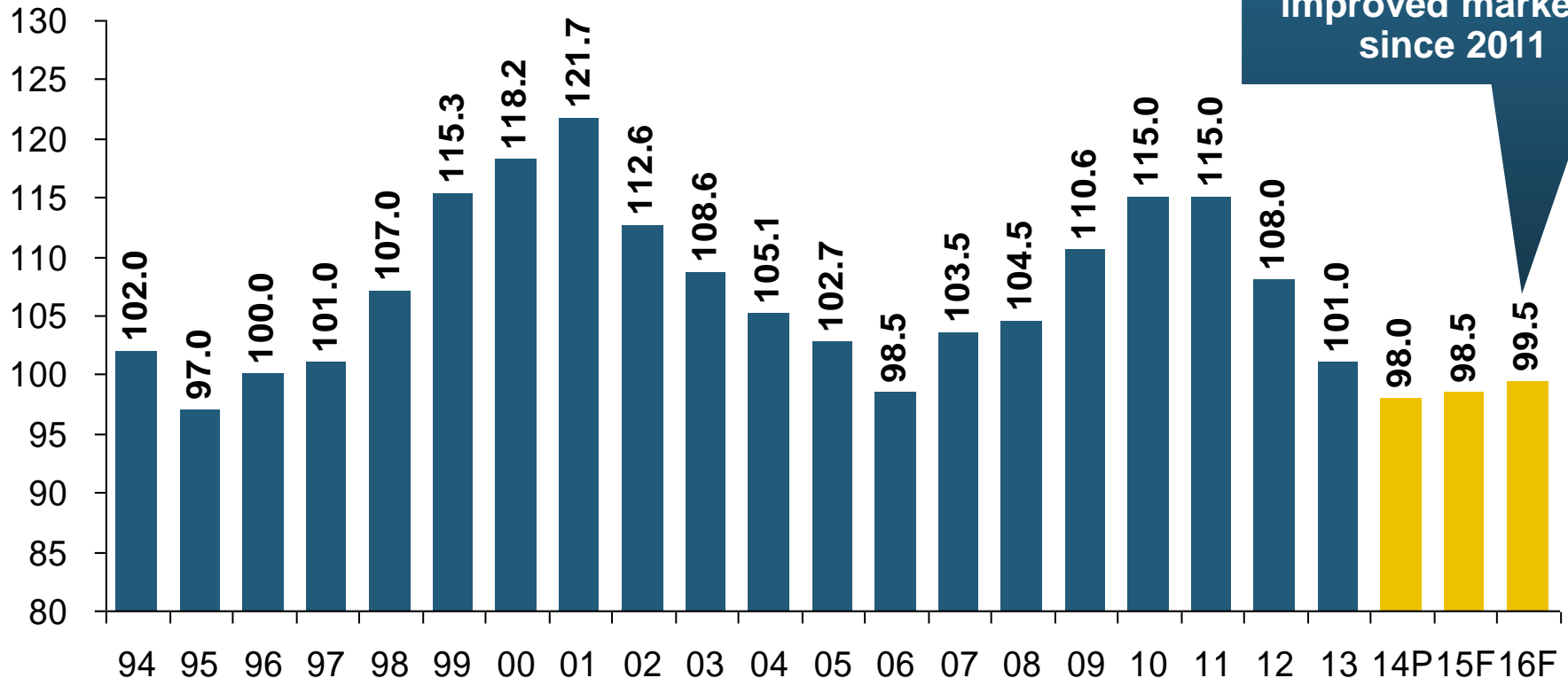
MPL insurers in 2015 paid out an estimated \$1.04 in loss and expense for every \$1 they earned in premiums



The dramatic improvement over the past decade has restored MPL's viability, though some deterioration has occurred and is expected to continue

In 2001, med mal insurers paid out \$1.55 for every dollar earned

Workers Compensation Combined Ratio: 1994–2016F



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.

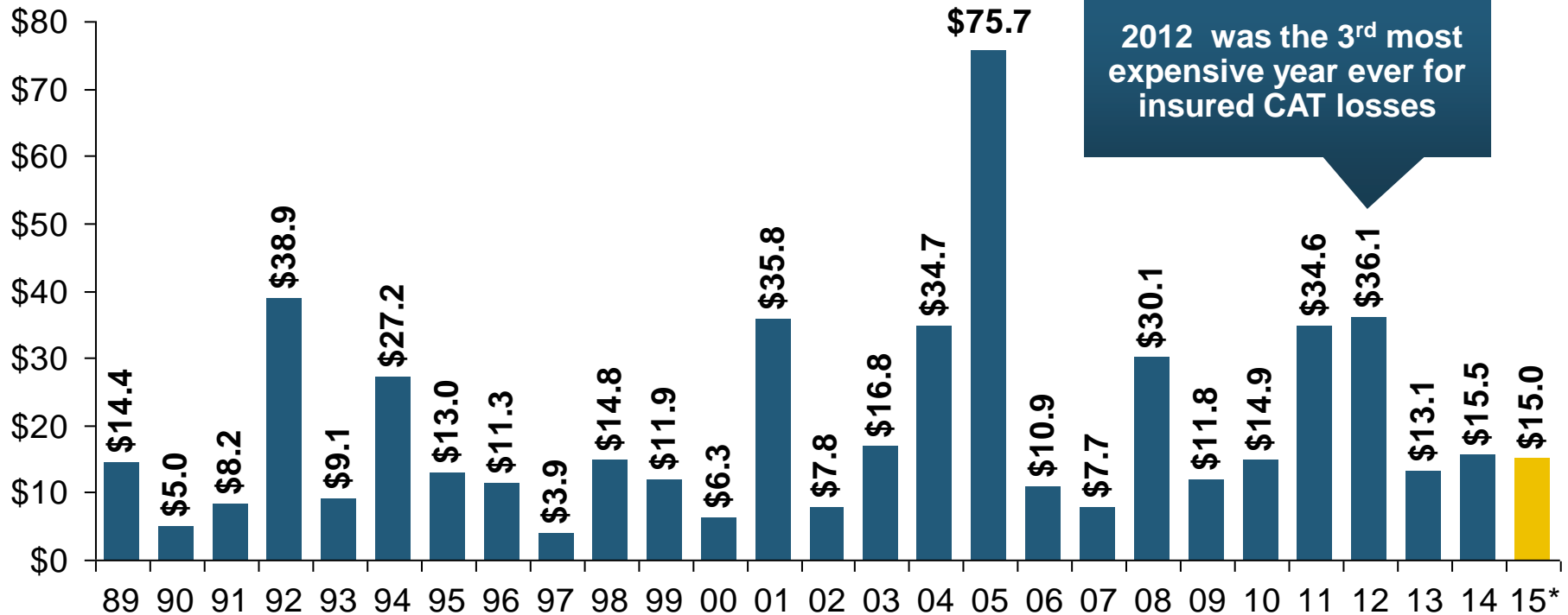
Insured Catastrophe Losses

**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, \$ 2015)



2012 was the 3rd 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

\$15B in insured CAT losses though 12/31/15 (est.)

*Estimate through 12/31/15 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.

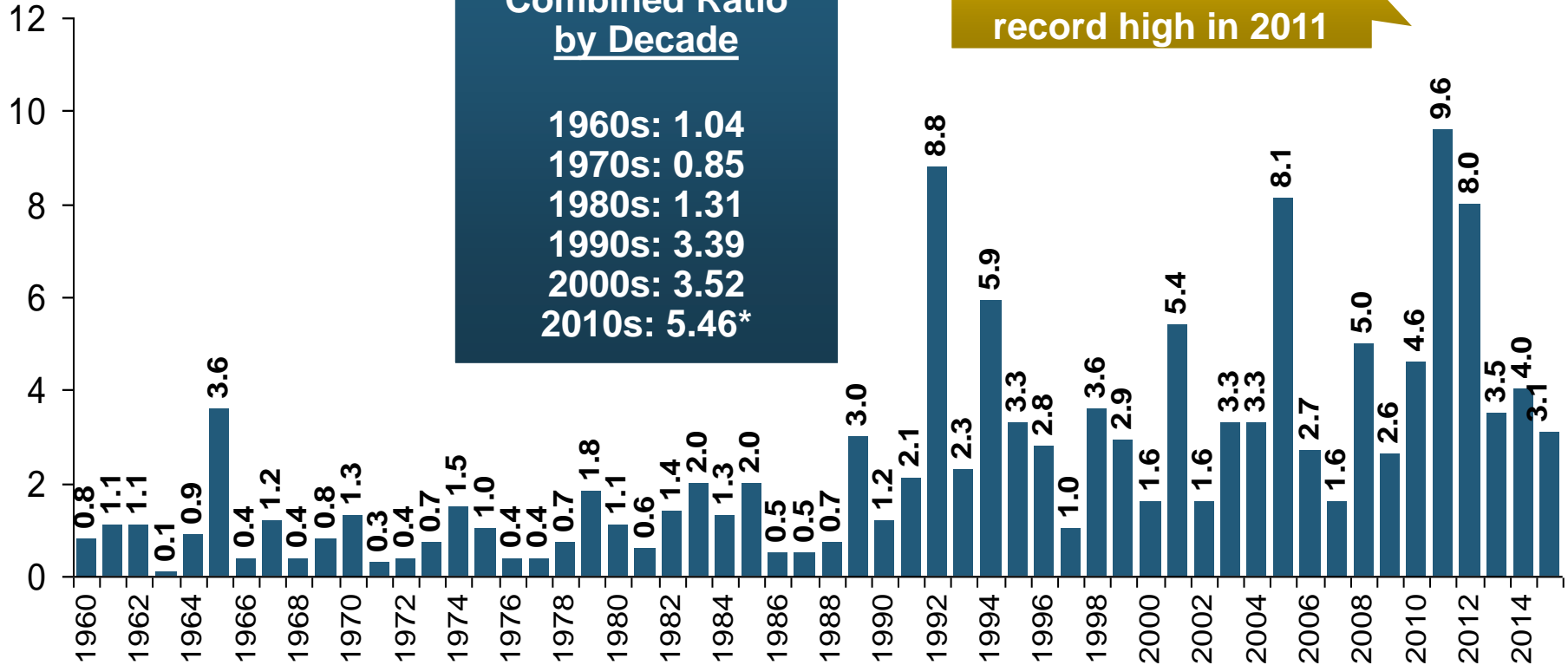
Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2015E*

Combined Ratio Points

Avg. CAT Loss Component of the Combined Ratio by Decade

1960s: 1.04
 1970s: 0.85
 1980s: 1.31
 1990s: 3.39
 2000s: 3.52
 2010s: 5.46*

Catastrophe losses as a share of all losses reached a record high in 2011



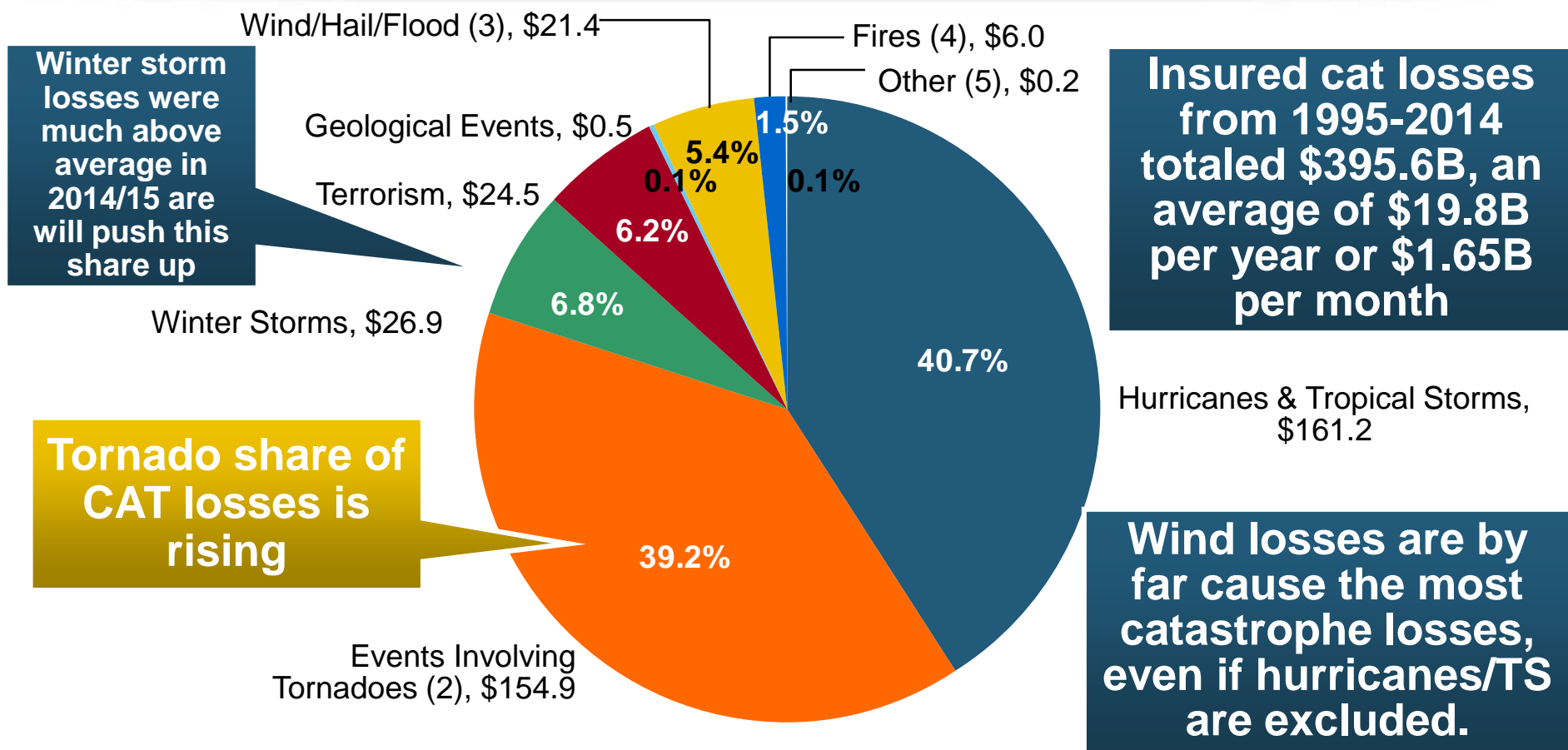
The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades

*2010s represent 2010-2015E.

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 (1960-2009); A.M. Best (2010-15E) Insurance Information Institute.

Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1995–2014¹



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

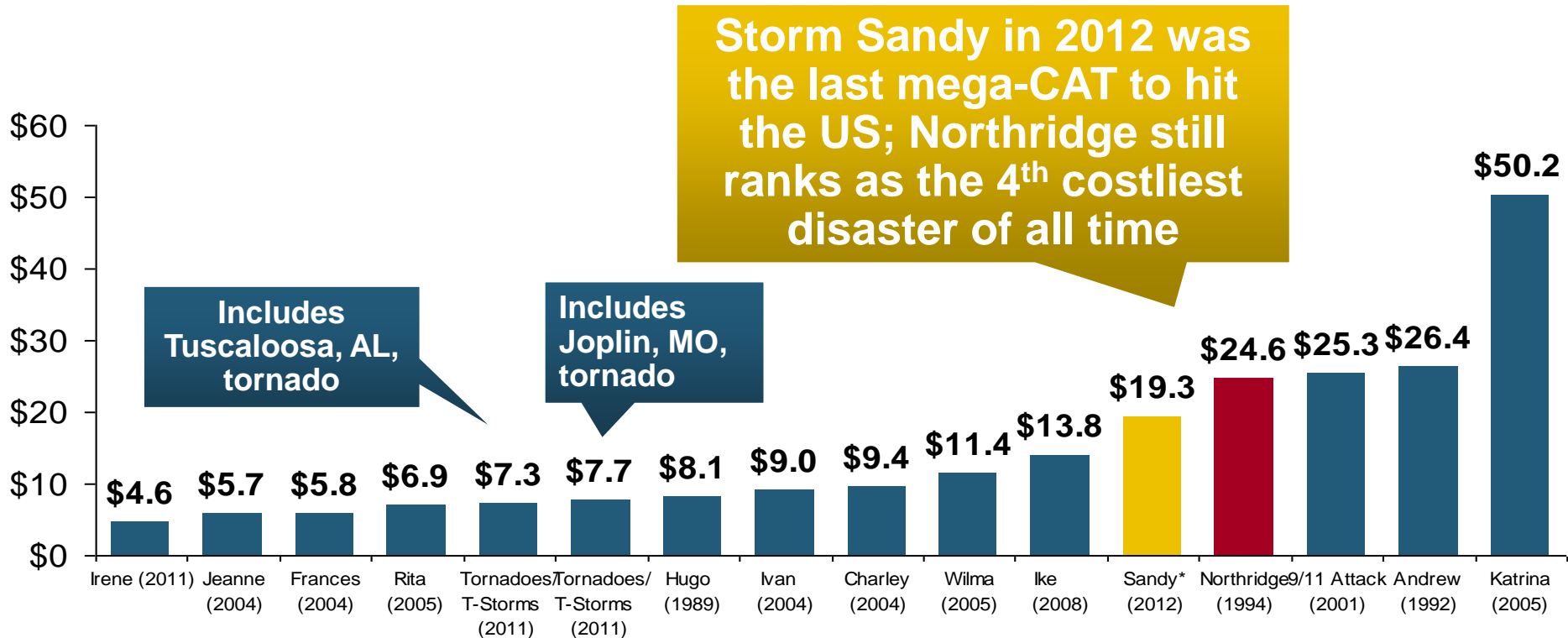
Wind losses are by far cause the most catastrophe losses, even if hurricanes/TS are excluded.

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.

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

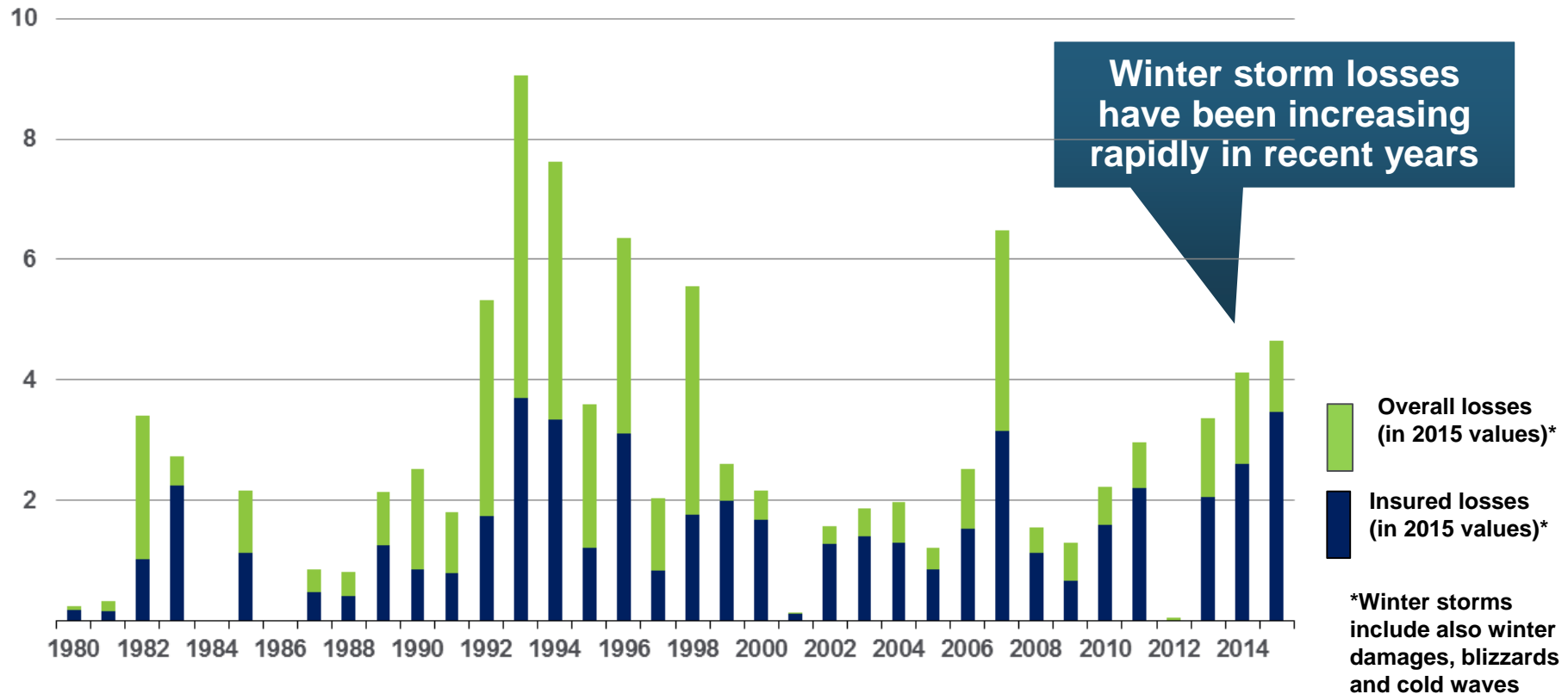
(Insured Losses, 2014 Dollars, \$ Billions)



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

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

\$ Billions

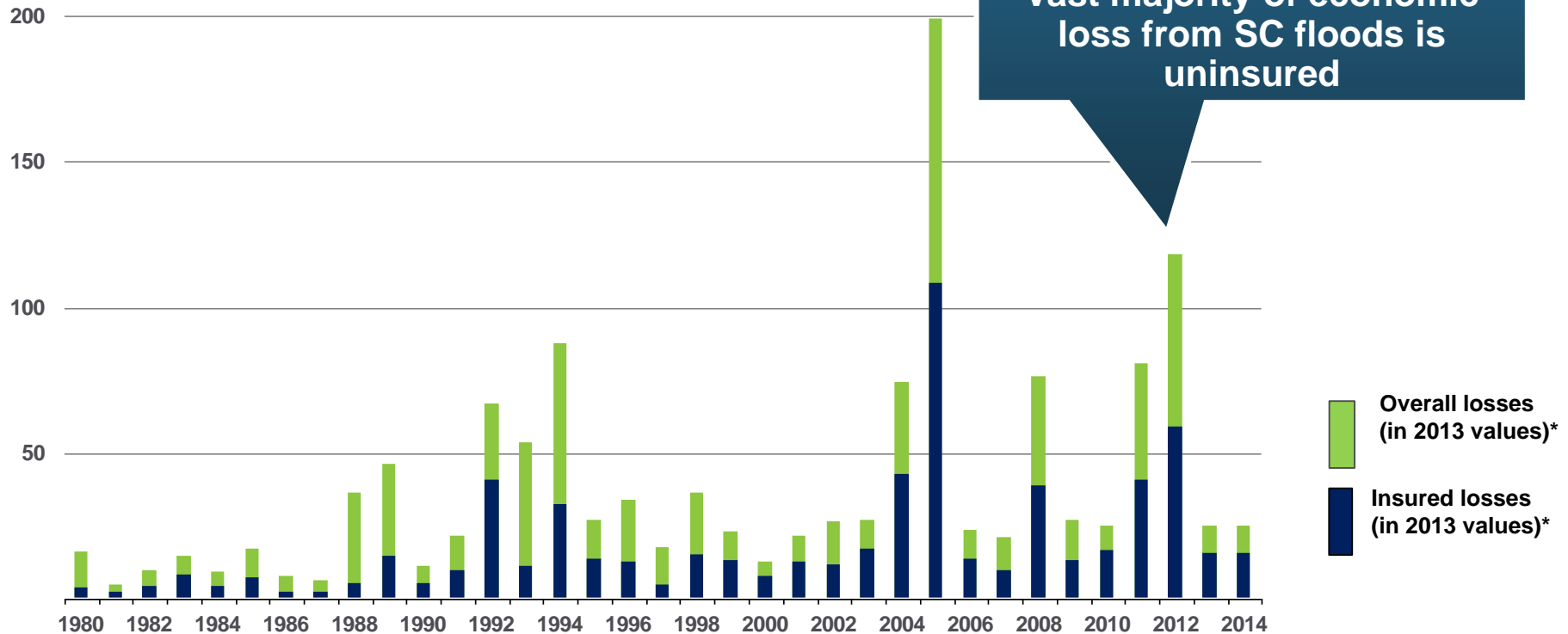


Loss Events in the US, 1980 – 2014

Overall and Insured Losses

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

\$ Billions

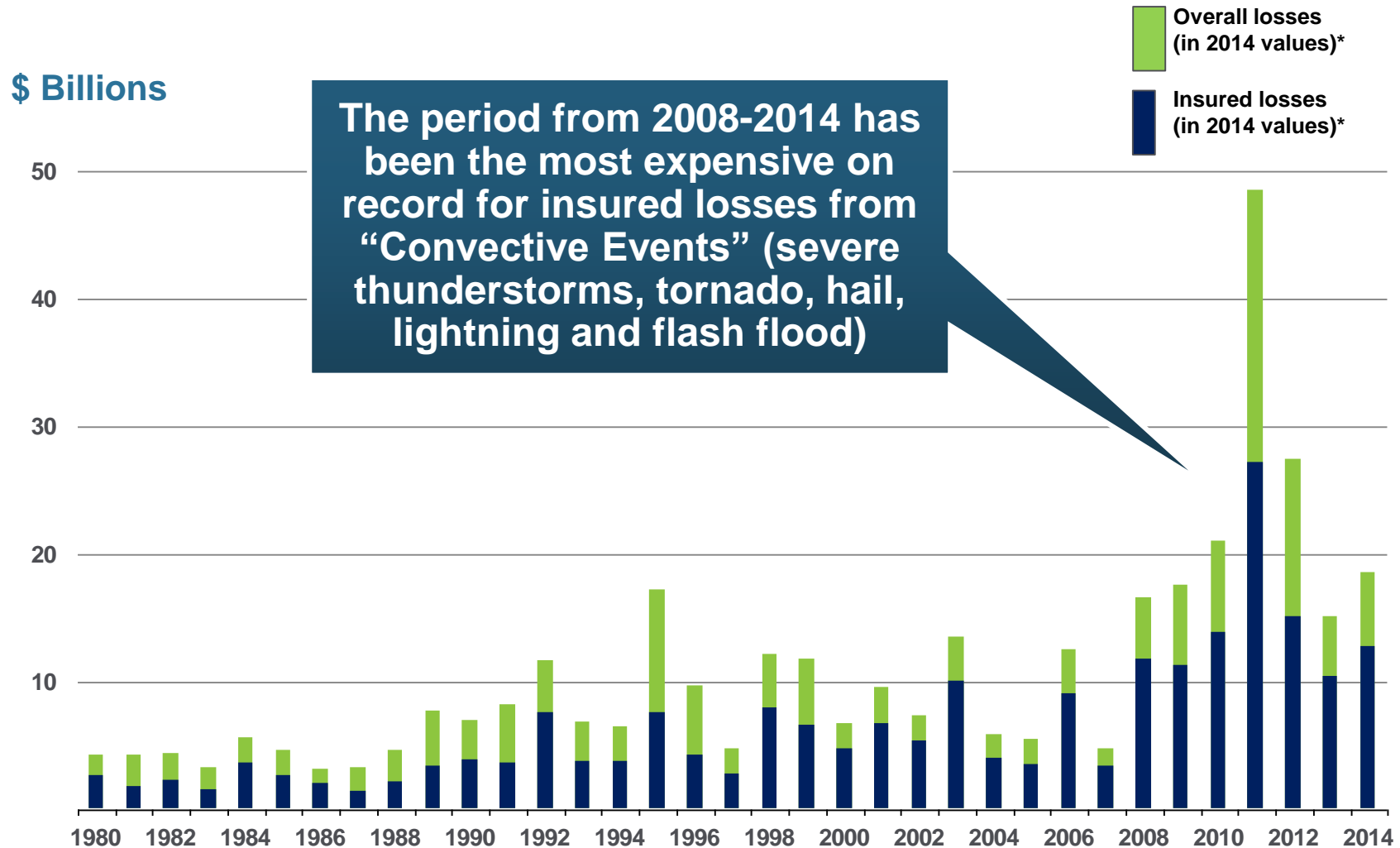


Uninsured loss component is large and could get larger. Vast majority of economic loss from SC floods is uninsured

Overall losses (in 2013 values)*
 Insured losses (in 2013 values)*

*Losses adjusted to inflation based on CPI.

Convective Loss Events in the US Overall and insured losses, 1980 – 2014



*Losses adjusted to inflation based on CPI

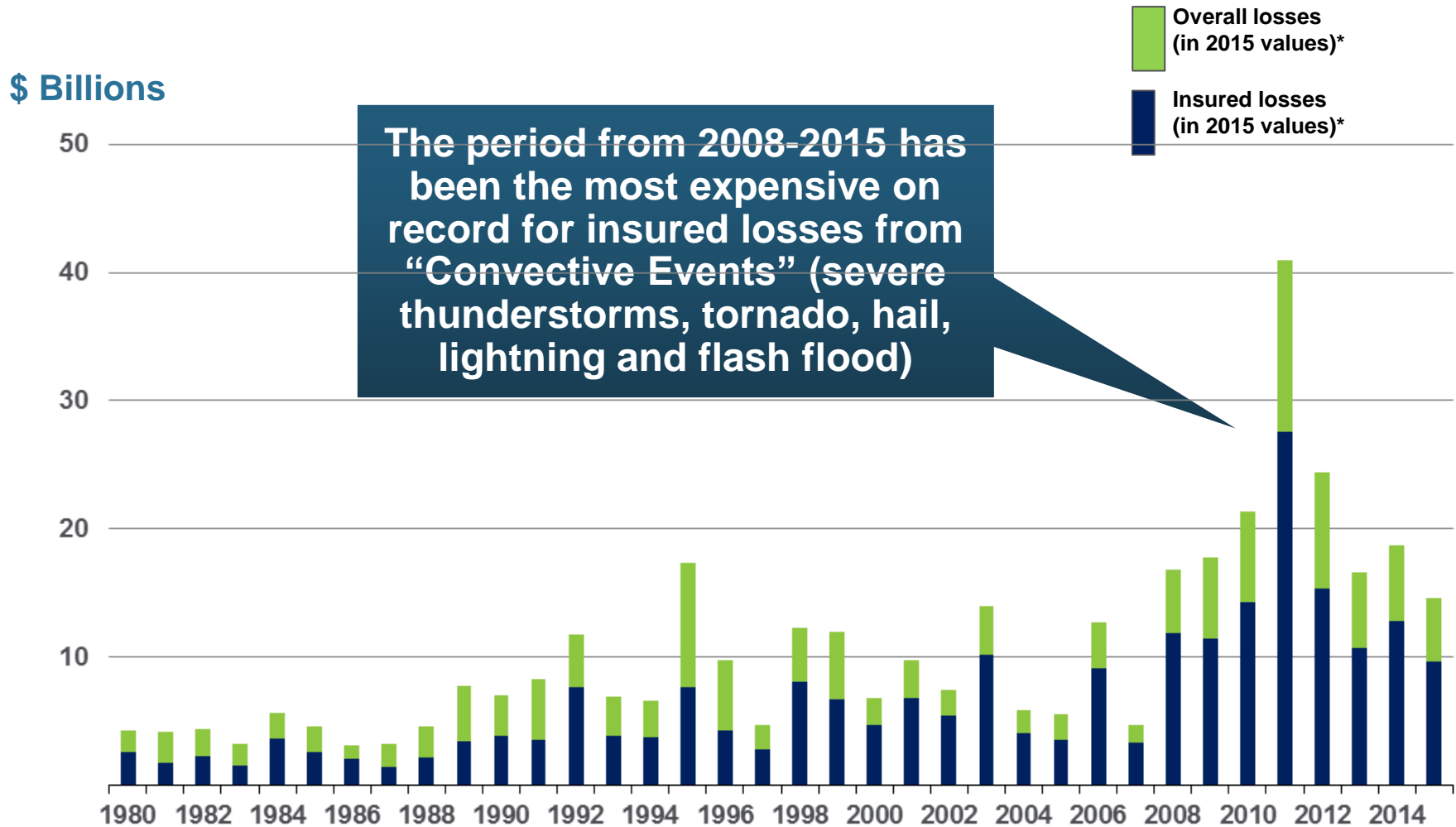
Source: Geo Risks Research, NatCatSERVICE

Analysis contains:

severe storm, tornado, hail, flash flood and lightning

Convective Loss Events in the US

Overall and insured losses, 1980 – 2015



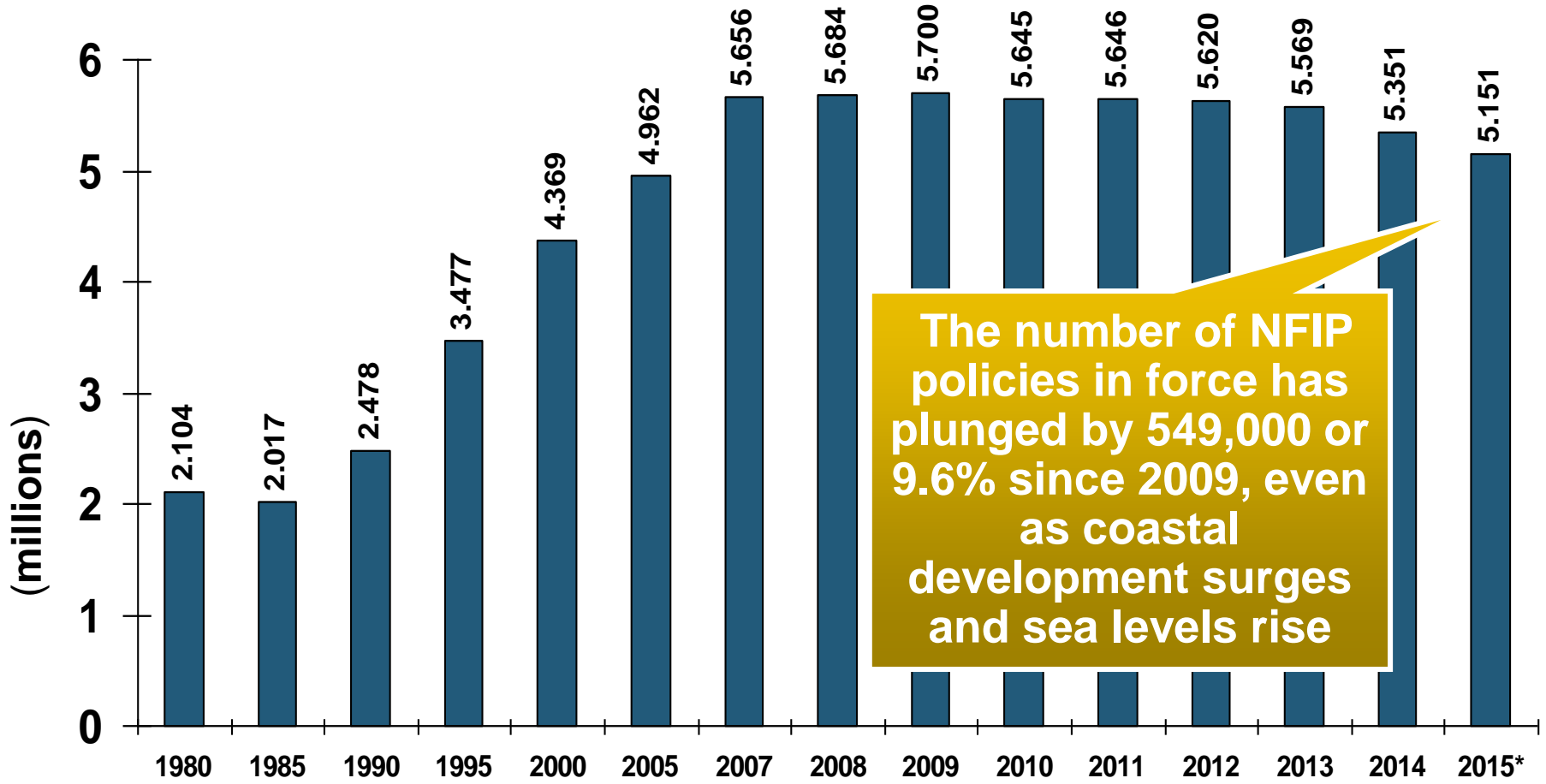
*Losses adjusted to inflation based on CPI

Source: Geo Risks Research, NatCatSERVICE

Analysis contains:

severe storm, tornado, hail, flash flood and lightning

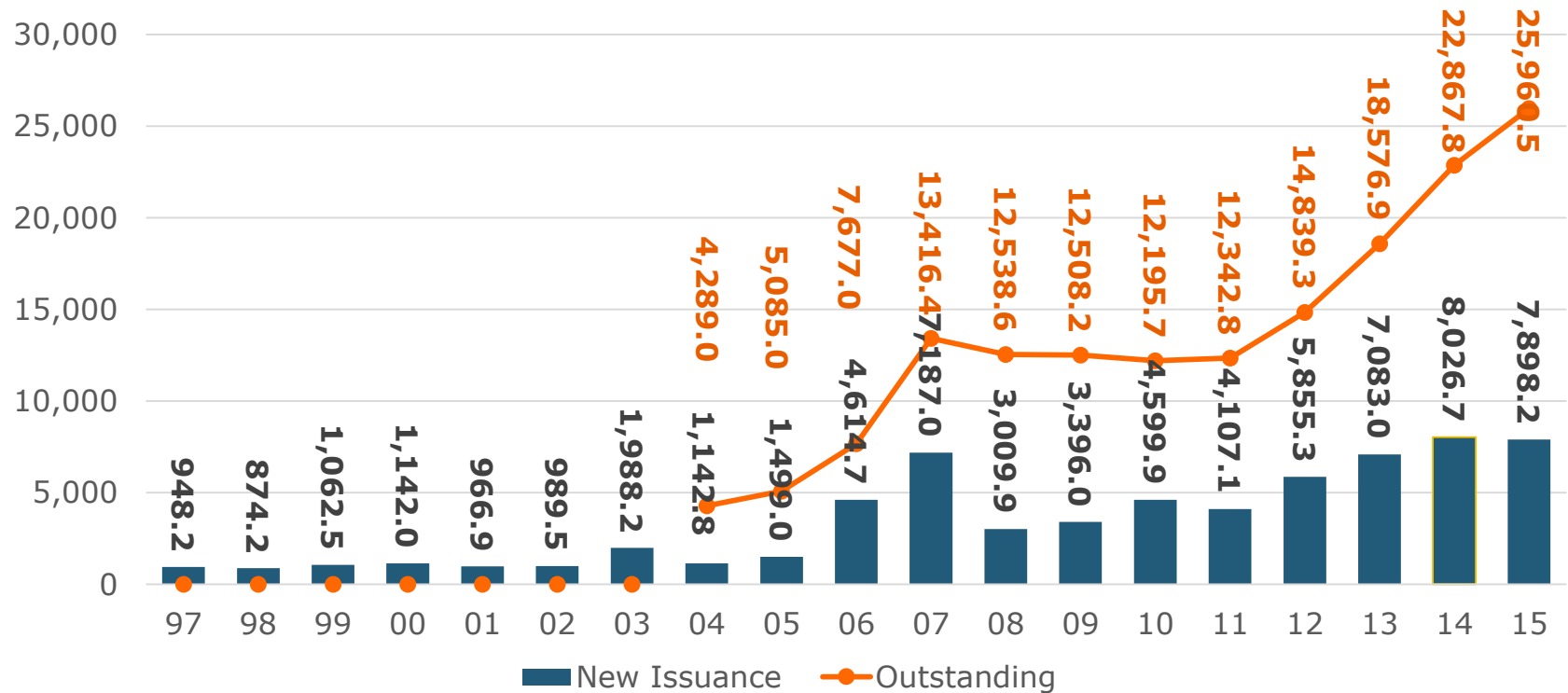
Number of National Flood Insurance Program Policies in Force at Year-End, 1980-2015*



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

Catastrophe Bond Issuance and Outstanding: 1997-2015

Risk Capital Amount (\$ Millions)

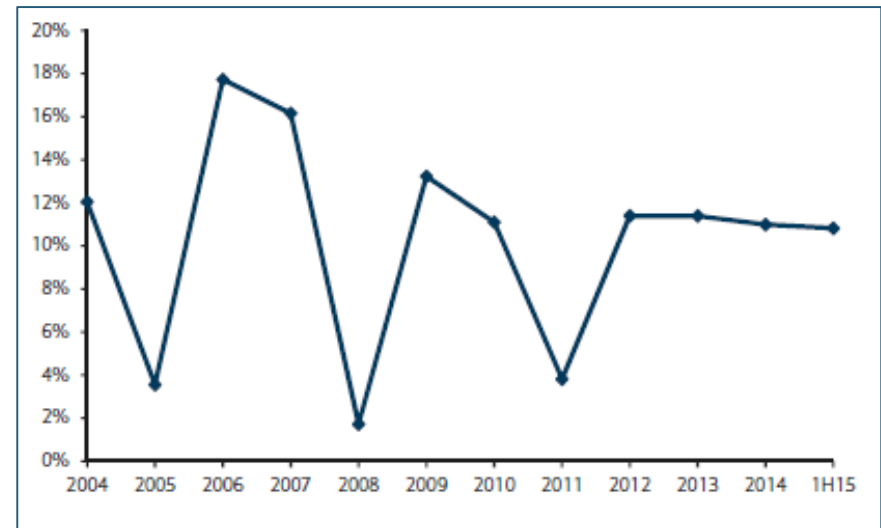
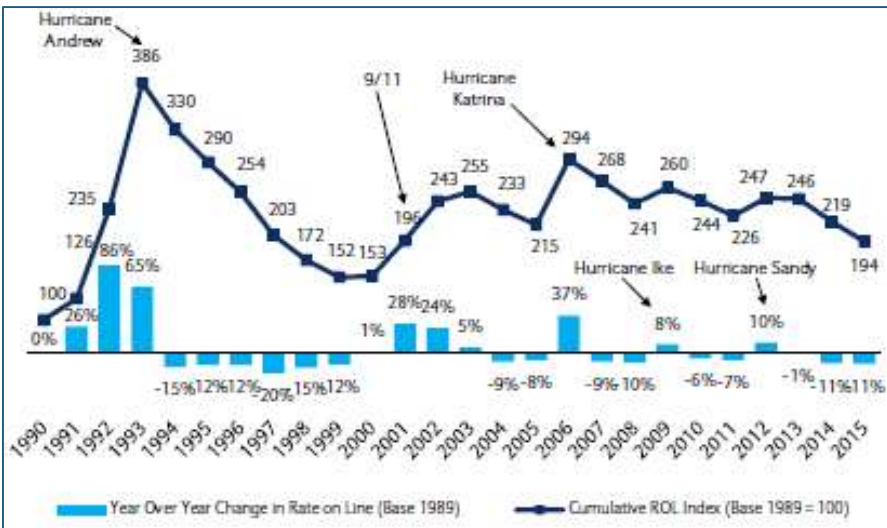


Cat Bond Issuance Declined Slightly in 2015 from 2014's Record Pace. Lower Yields on Bonds Explain Some of the Contraction.

US Property CAT Rate on Line Index & Global Reinsurance ROE

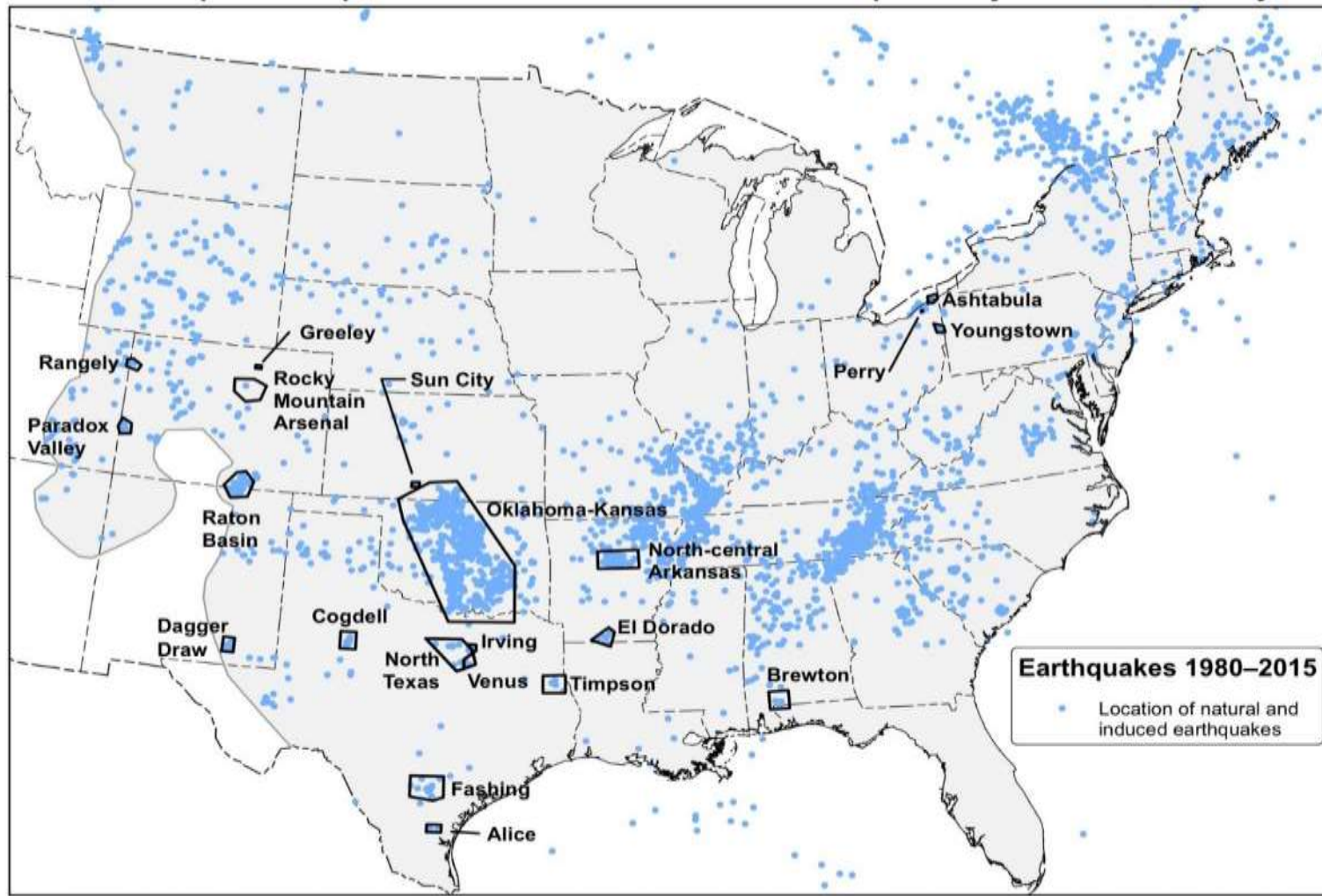
US Property CAT ROL

Global Reinsurance ROE



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

Earthquakes Since 1980 and Recent Area Impacted by Induced Seismicity

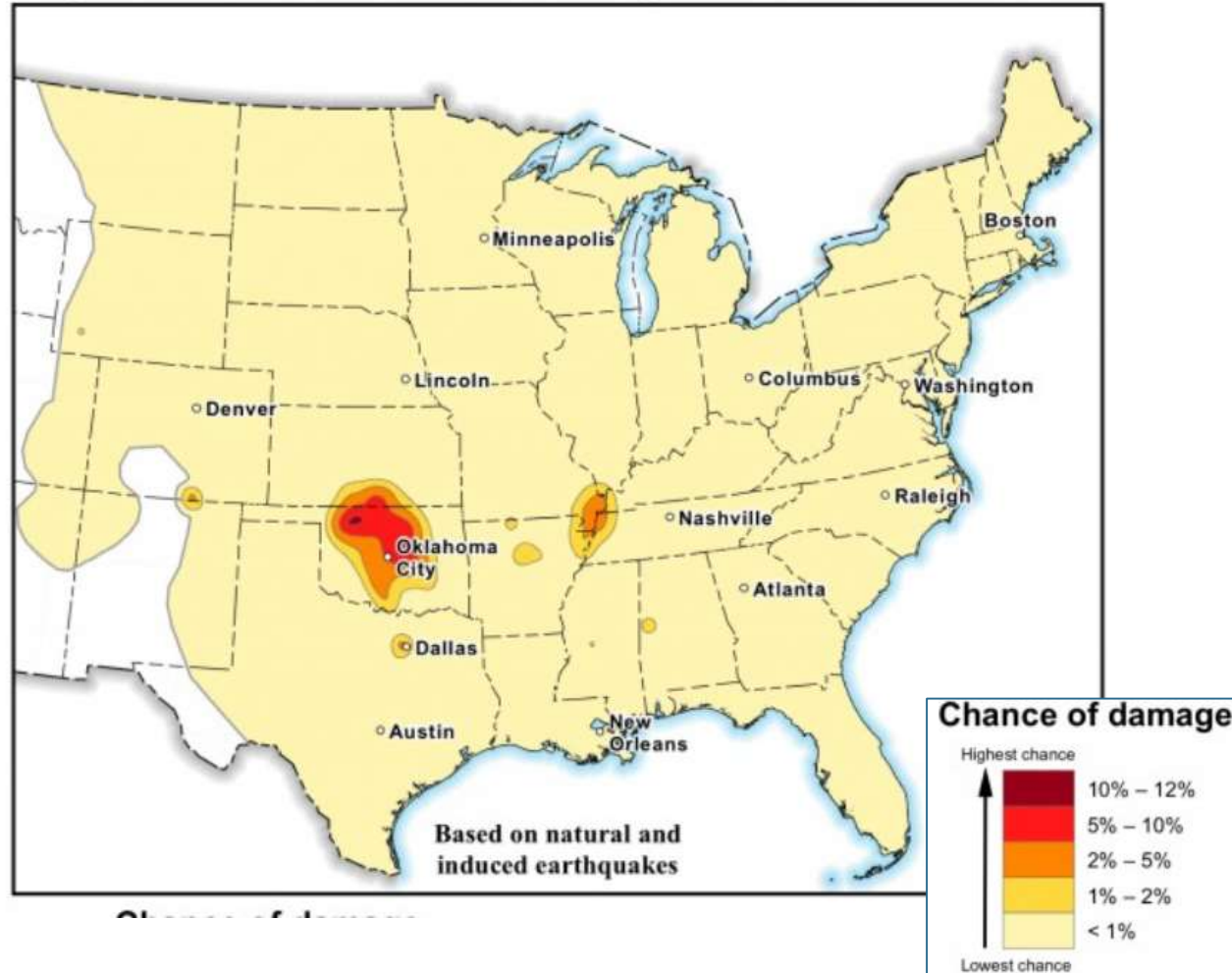
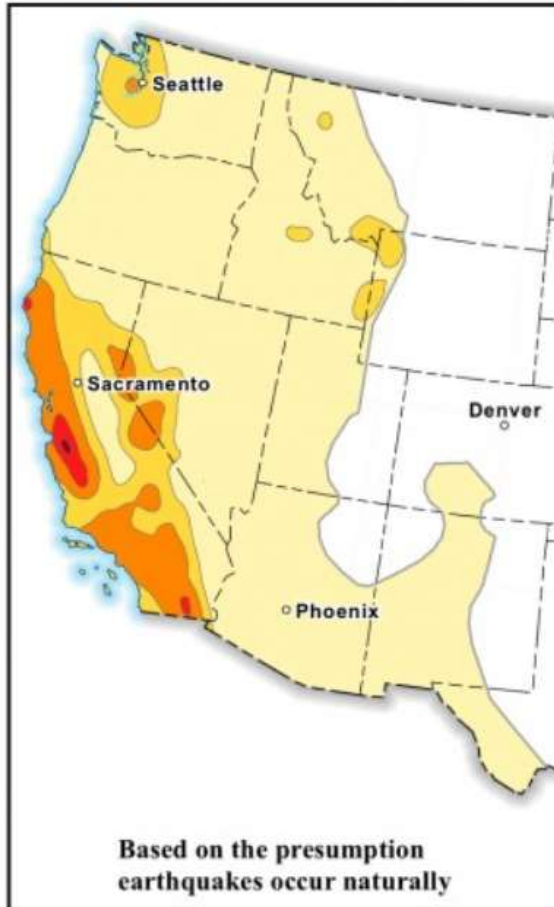


USGS map displaying 21 areas where scientists have observed rapid changes in seismicity that have been associated with wastewater injection. The map also shows earthquakes—both natural and induced—recorded from 1980 to 2015 in the central and eastern U.S. with a magnitude greater than or equal to 2.5.

Sources: http://www.usgs.gov/blogs/features/usgs_top_story/induced-earthquakes-raise-chances-of-damaging-shaking-in-2016/?from=title; Insurance Information Institute.

2016 Natural and Induced Earthquake Damage Forecast

USGS Forecast for Damage from Natural and Induced Earthquakes in 2016

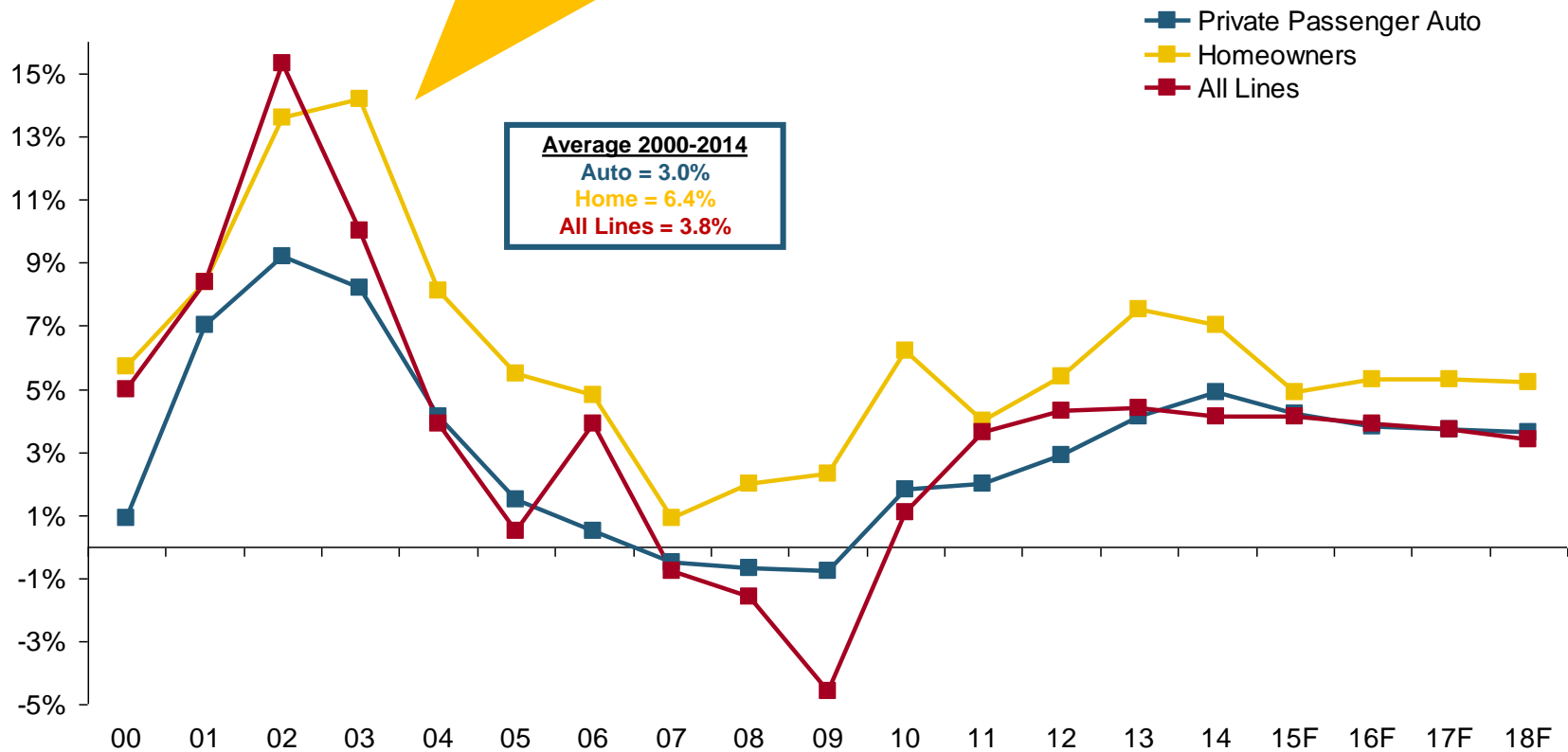


Personal Lines Growth Analysis

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

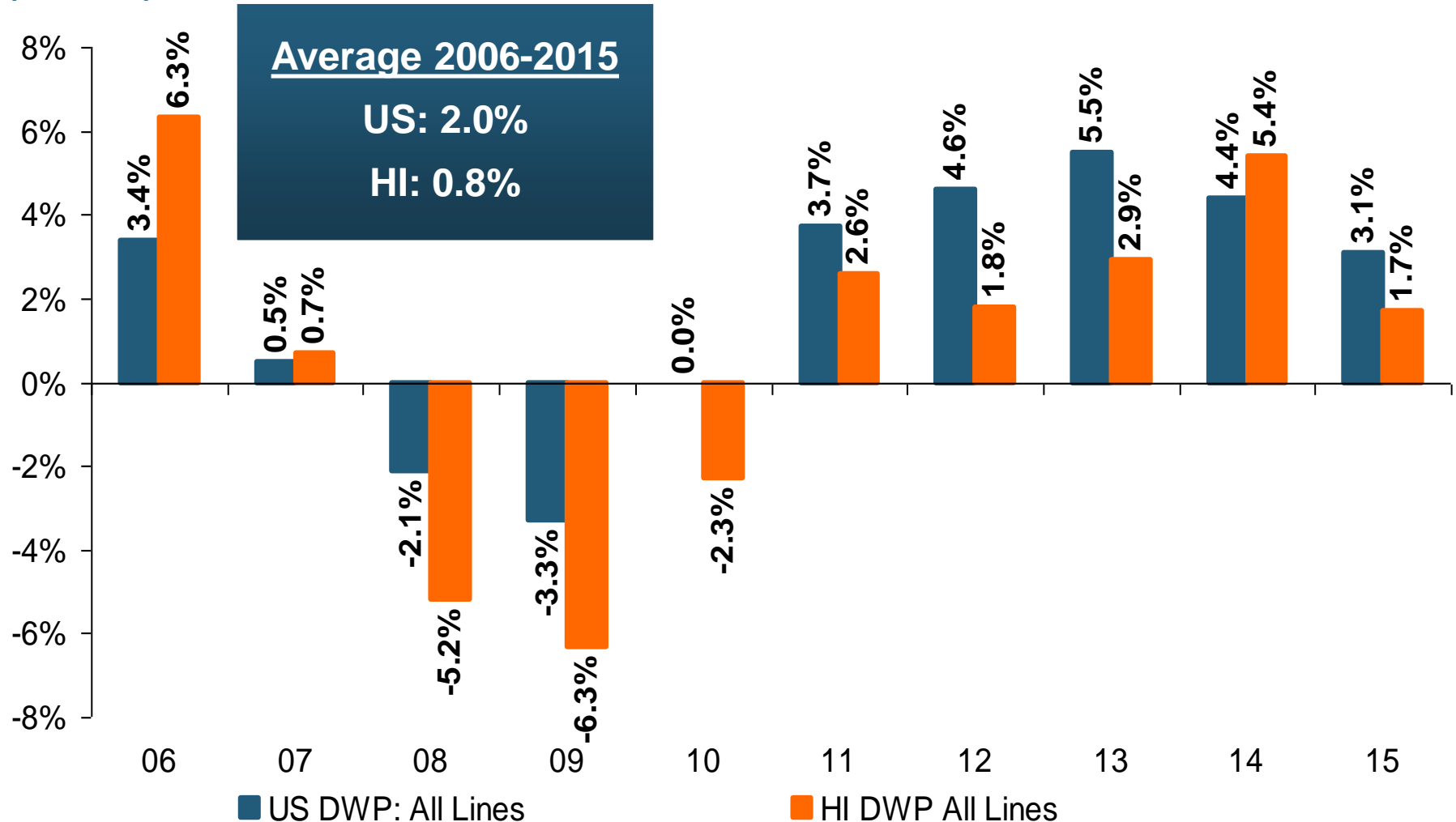
Auto & Home vs. All Lines, Net Written Premium Growth, 2000–2018F

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



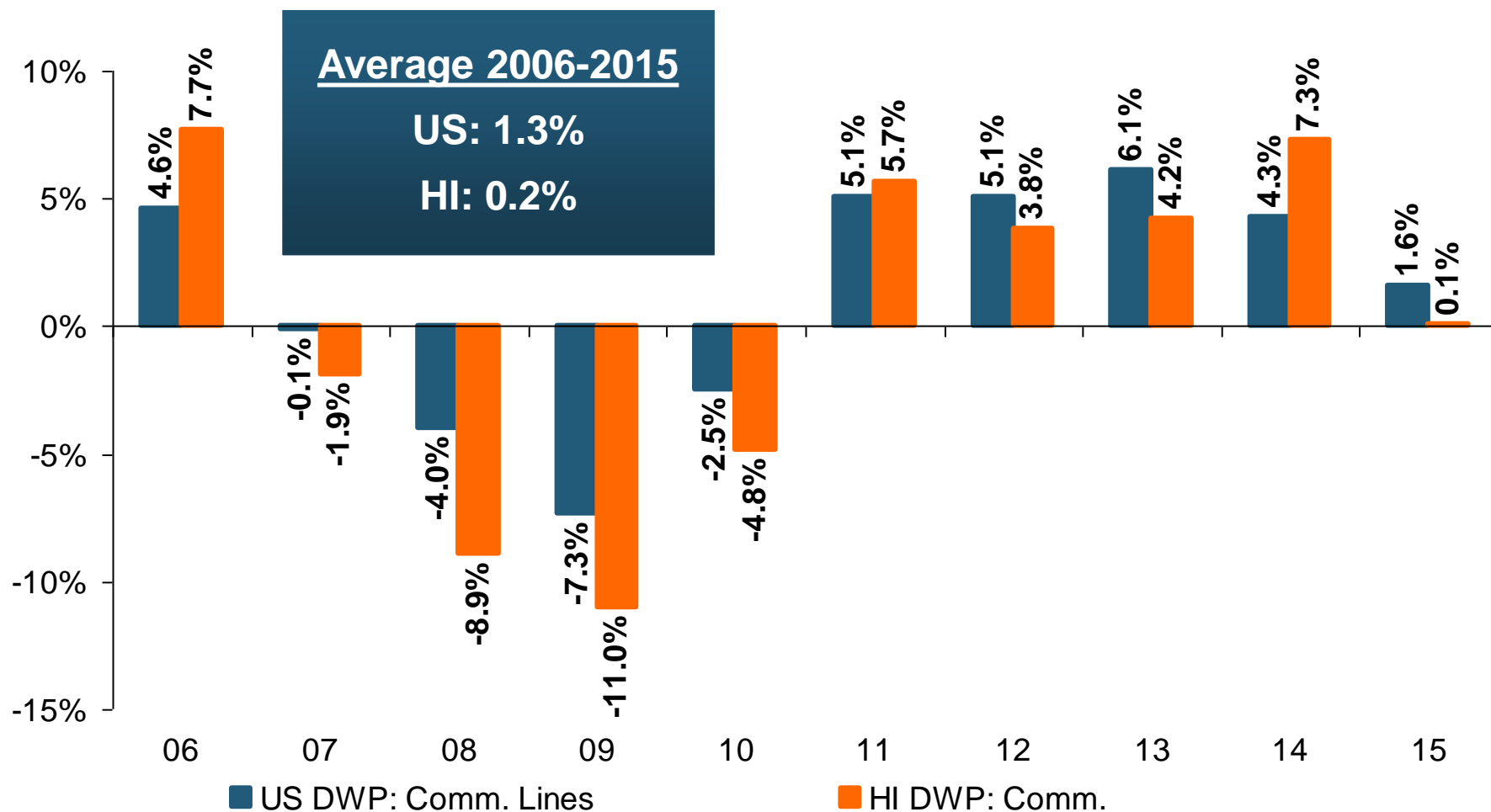
All Lines DWP Growth: HI vs. U.S., 2006-2015

(Percent)



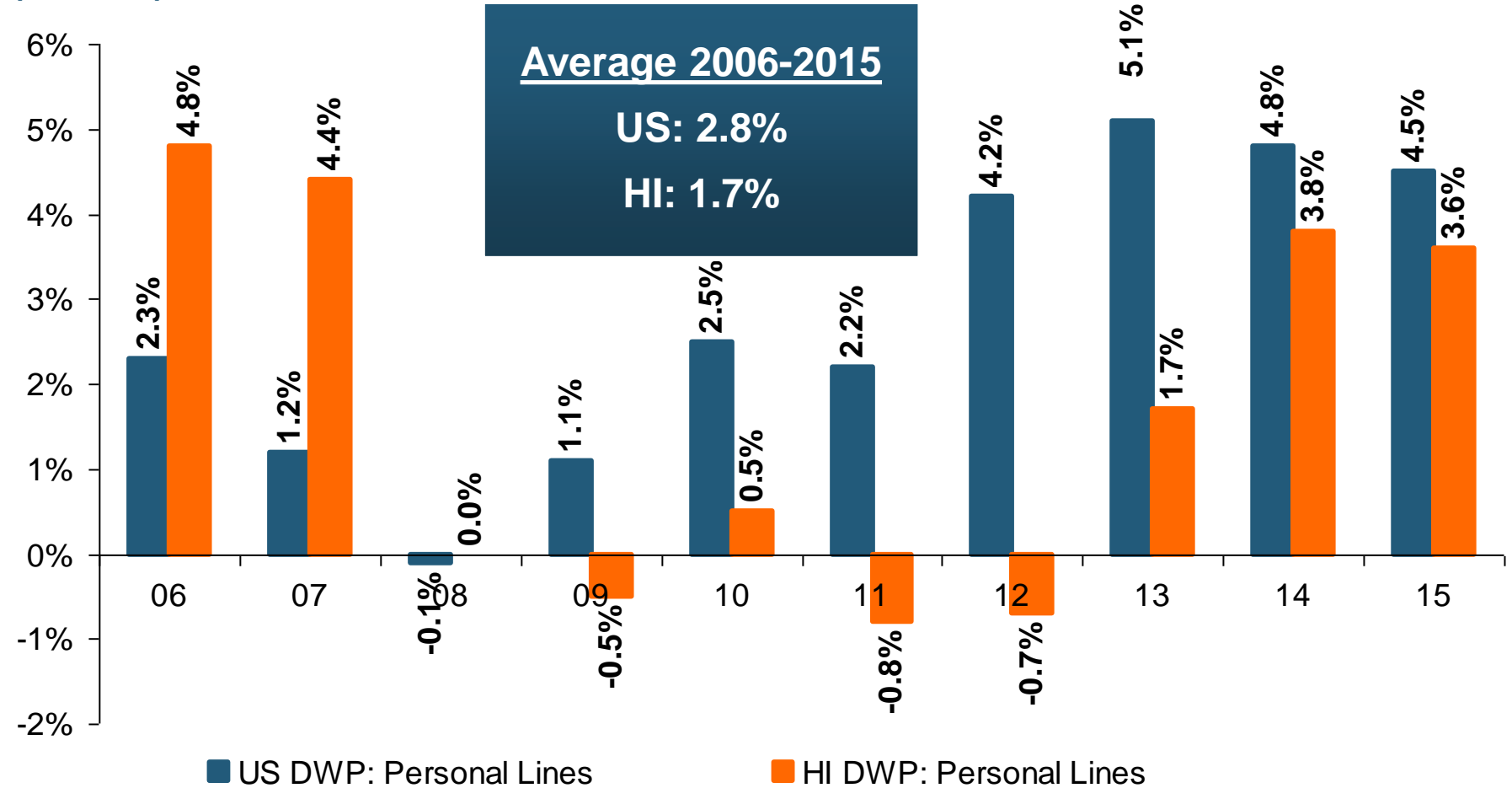
Comm. Lines DWP Growth: HI vs. U.S., 2006-2015

(Percent)



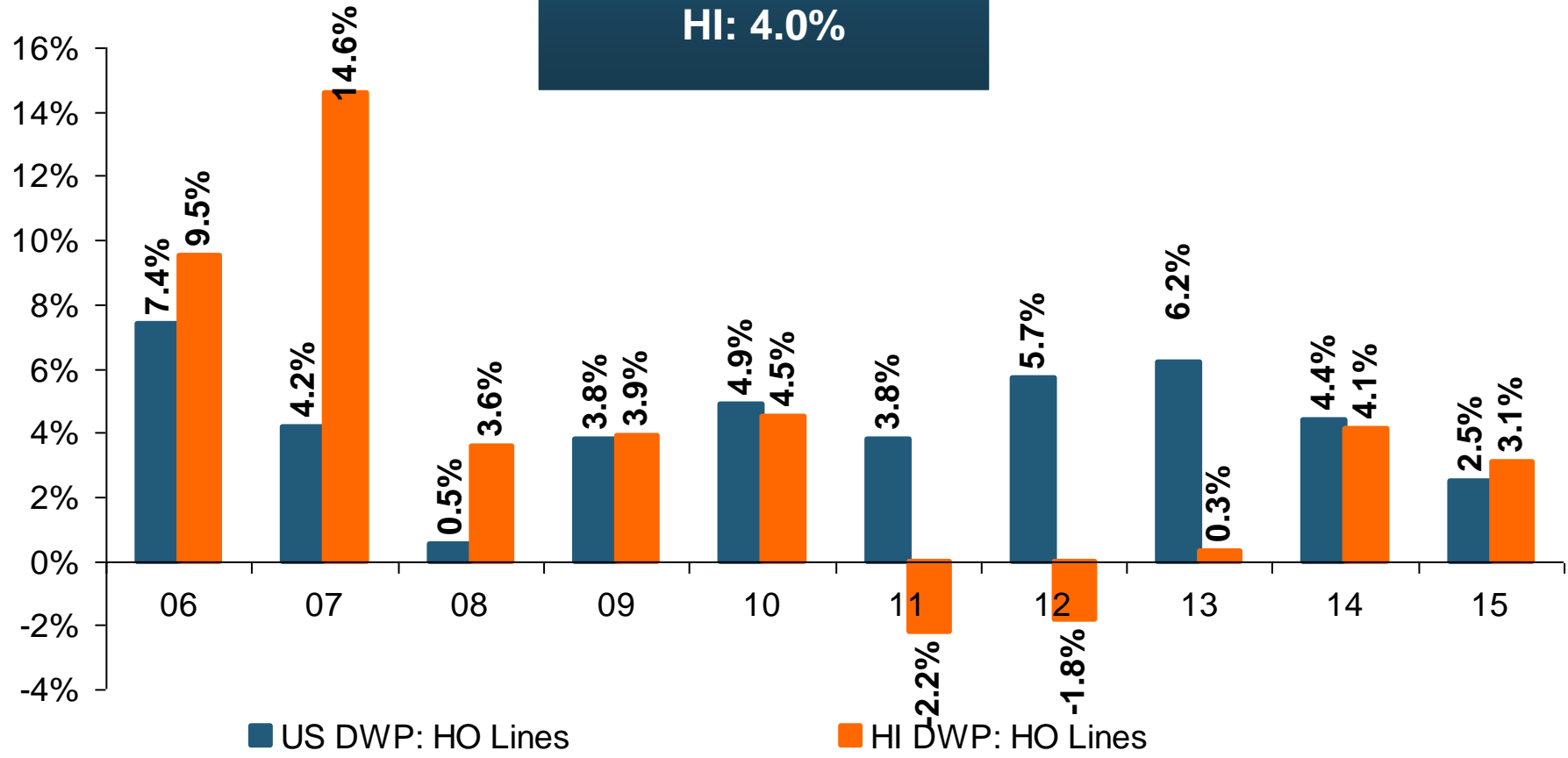
Personal Lines DWP Growth: HI vs. U.S., 2006-2015

(Percent)

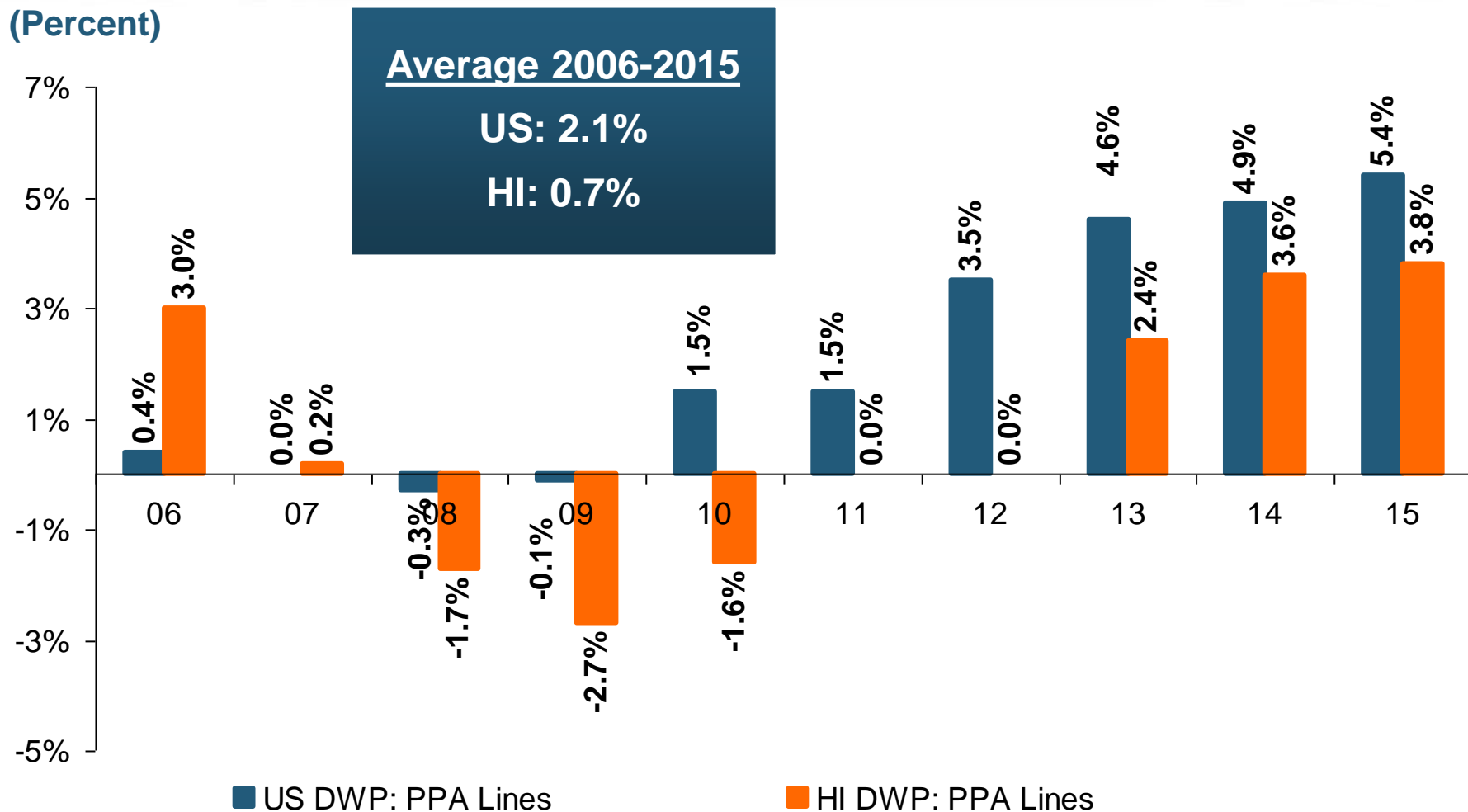


Homeowners MP DWP Growth: HI vs. U.S., 2006-2015

(Percent)

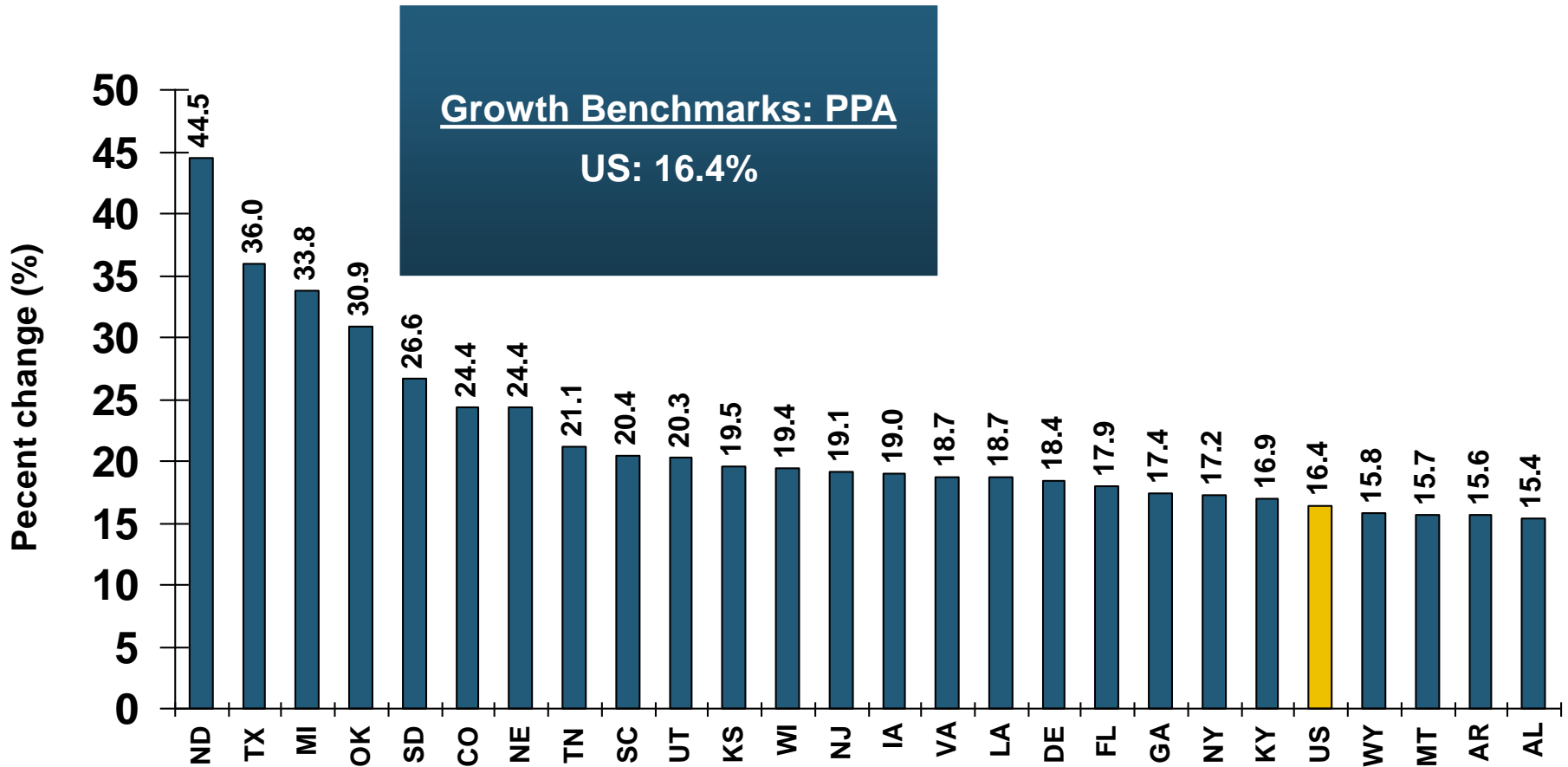


Private Passenger Auto Growth: HI vs. U.S., 2006-2015



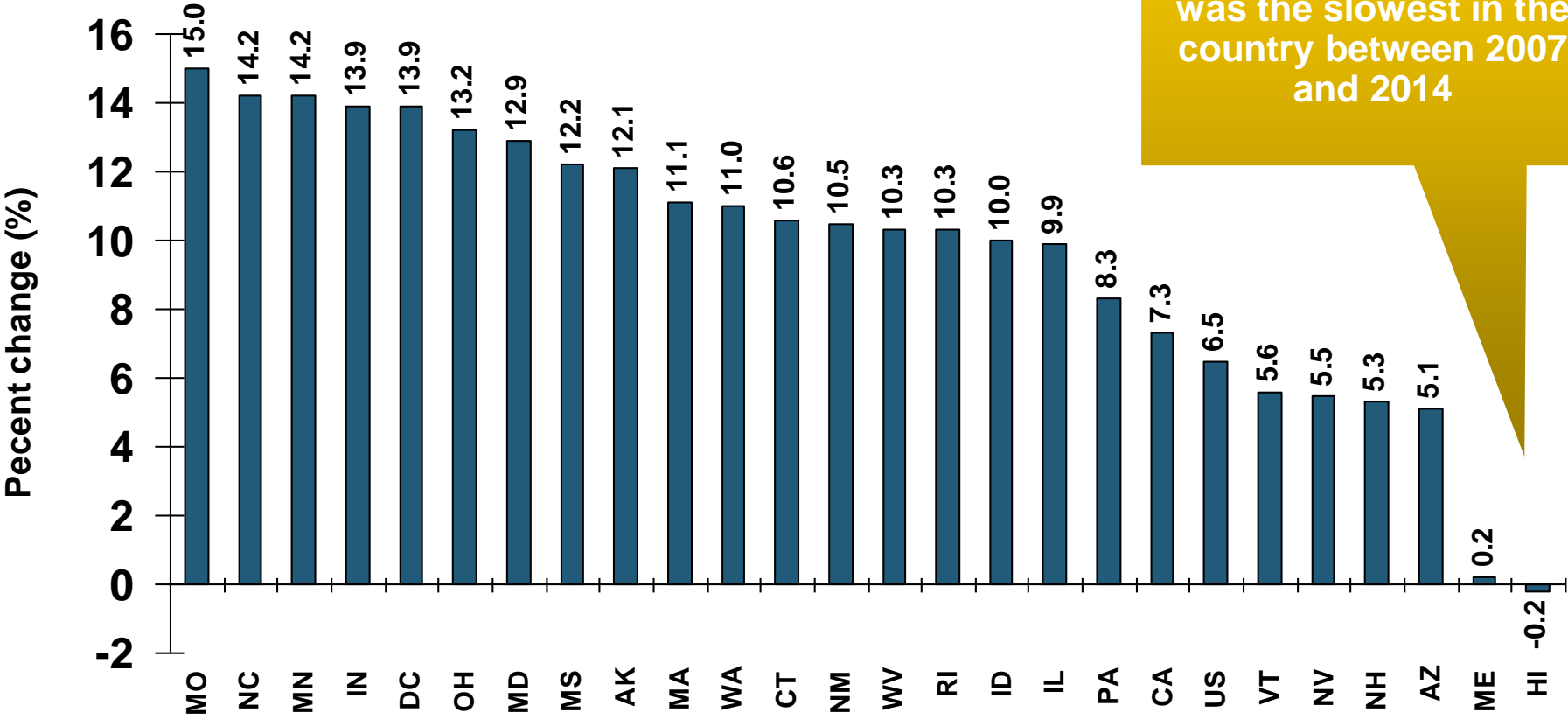
Direct Premiums Written: PP Auto Percent Change by State, 2007-2014

Top 25 States



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

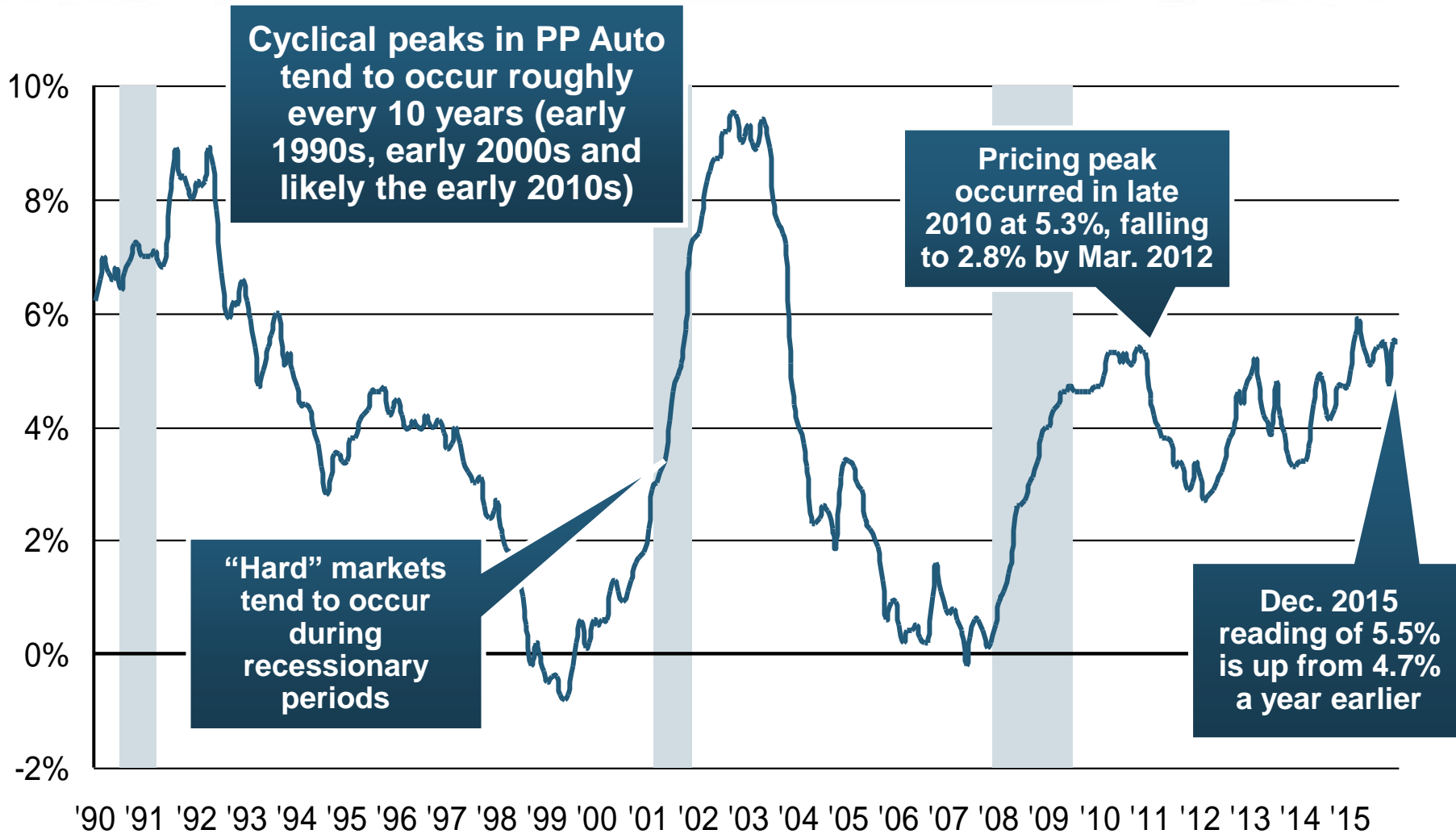
Bottom 25 States



Pvt. Passenger Auto premium growth in HI was the slowest in the country between 2007 and 2014

Sources: SNL Financial LC.; Insurance Information Institute.

Monthly Change in Auto Insurance Prices, 1991–2015*



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

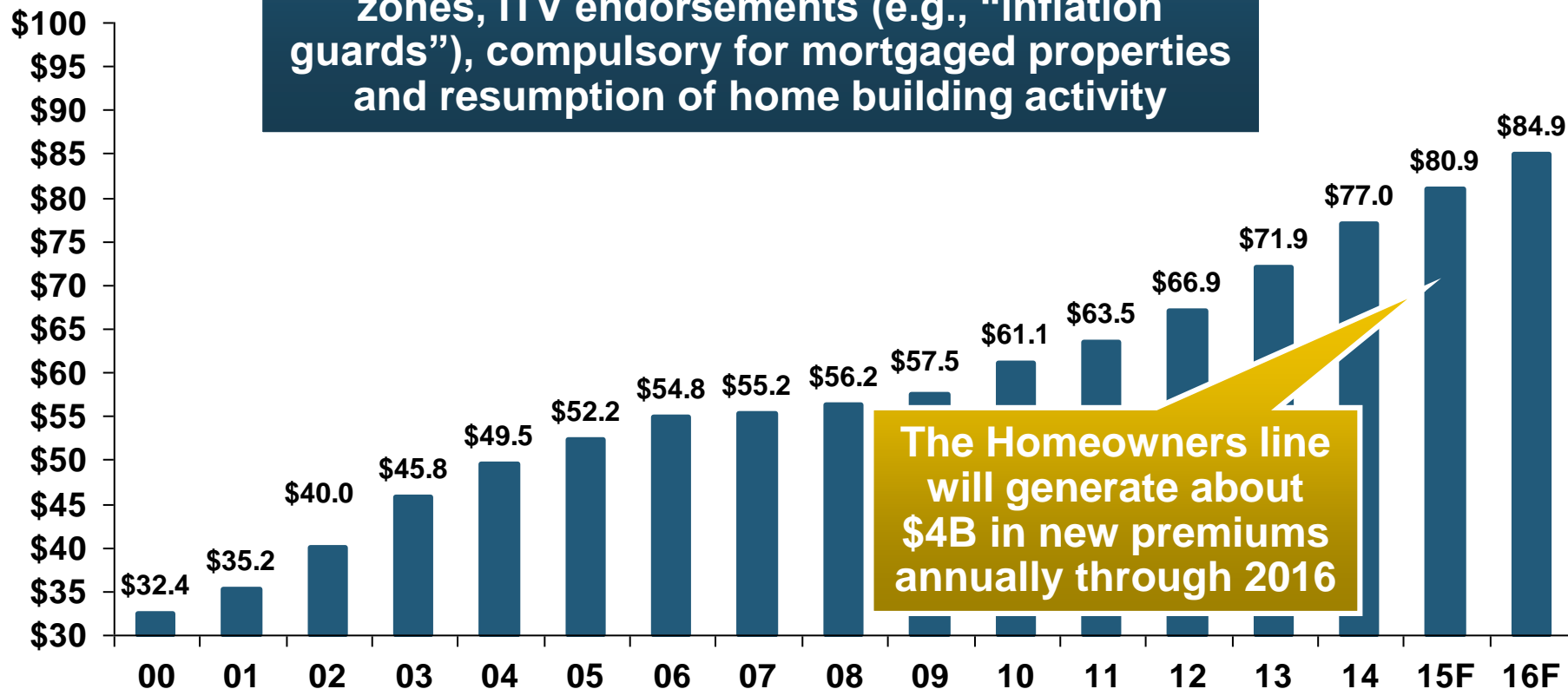
Note: Recessions indicated by gray shaded columns.

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

US Homeowners Insurance Net Written Premium, 2000–2016F

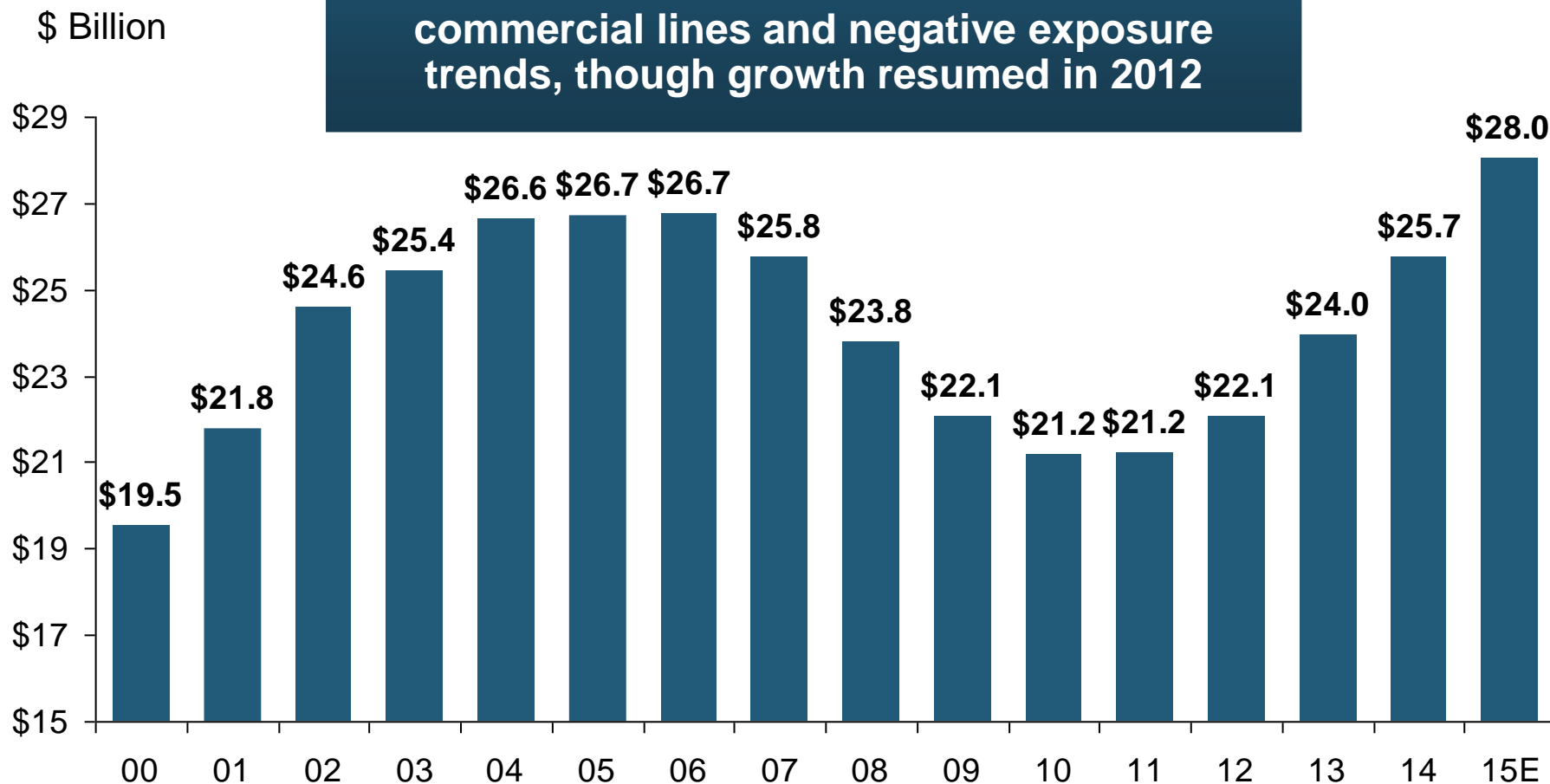
\$ Billions

Homeowners insurance NWP continues to rise (up 150% 2000-2015F) despite very little unit growth during the real estate crash. Reasons include rate increases, especially in coastal zones, ITV endorsements (e.g., “inflation guards”), compulsory for mortgaged properties and resumption of home building activity



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

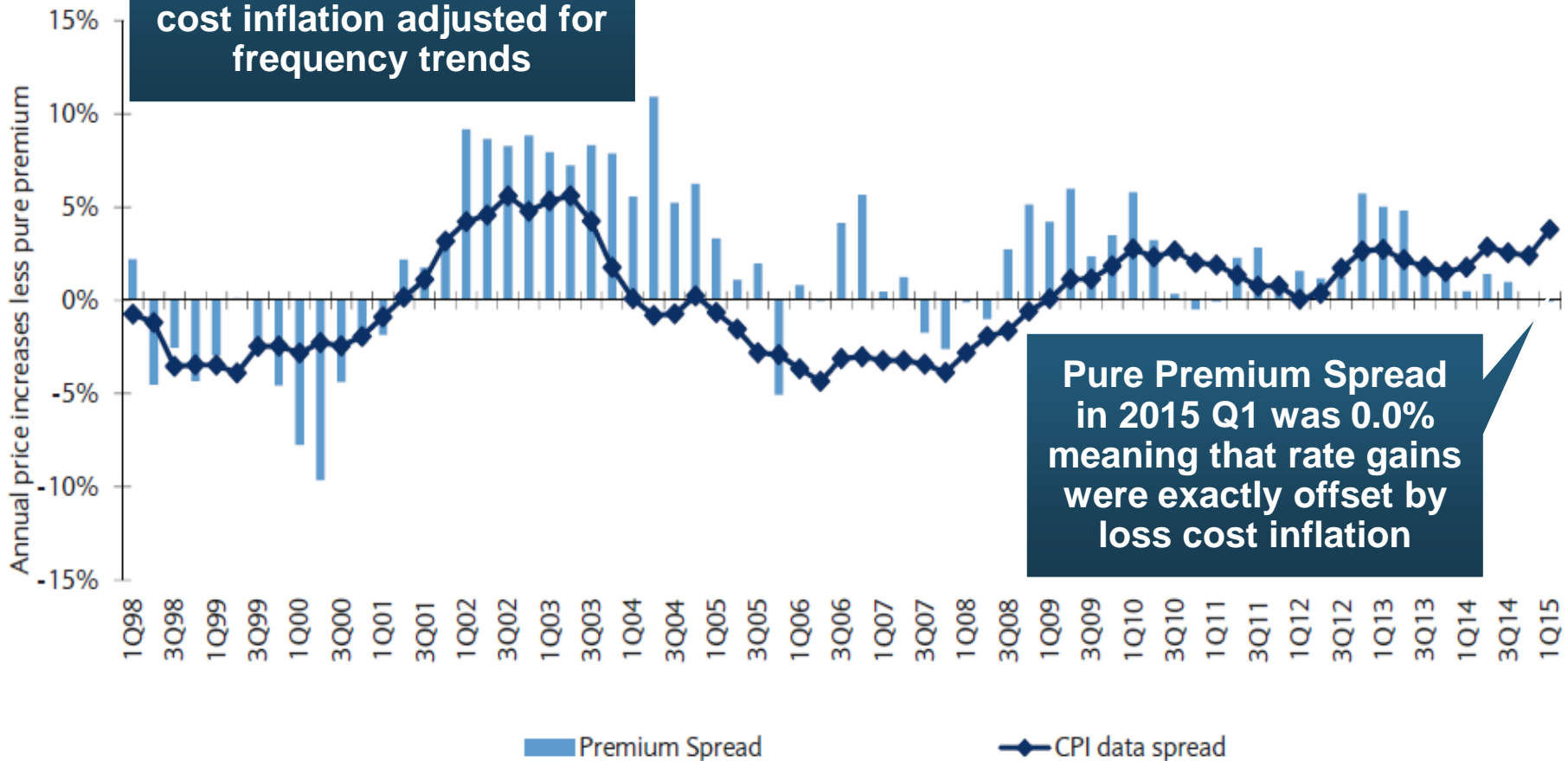


Personal Lines Growth Drivers

**Rate and Exposure are Both
Presently Important
Growth Drivers**

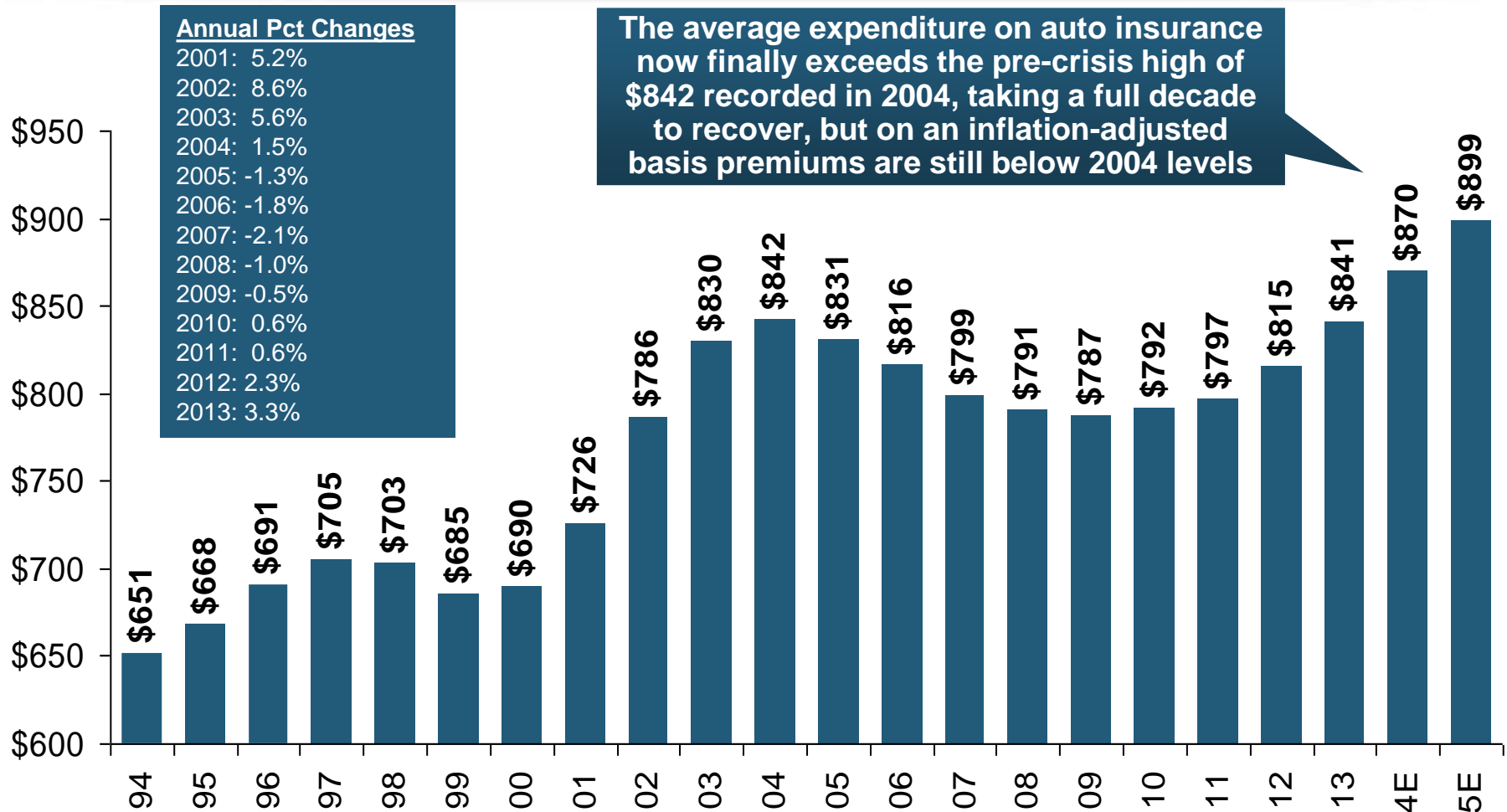
Private Passenger Auto: Premium Growth vs. Loss Cost Spread

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, 1994-2015E



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

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

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

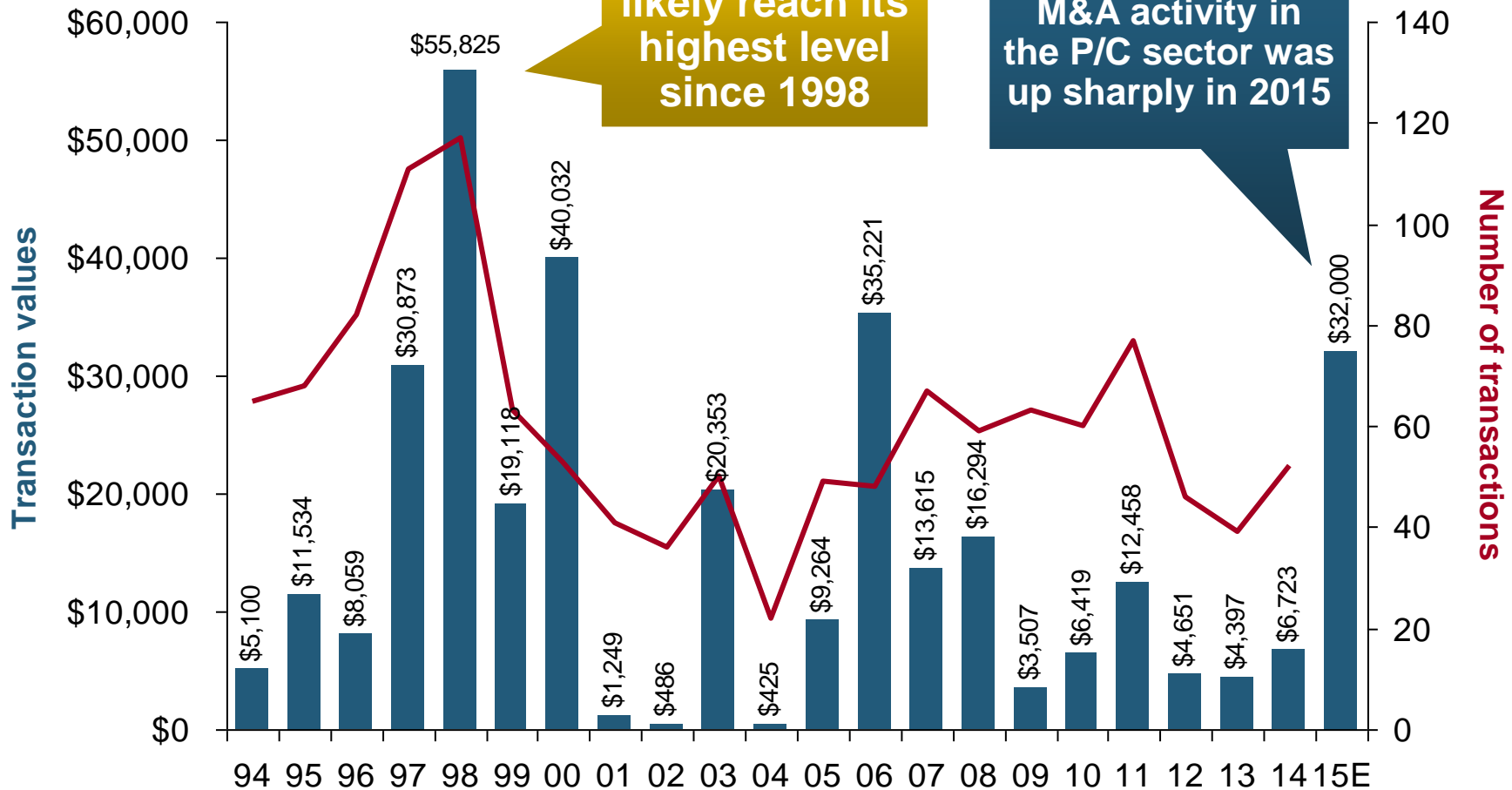
M&A UPDATE: *A PATH TO GROWTH?*

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

***Not Currently Focused on
Personal Lines***

U.S. INSURANCE MERGERS AND ACQUISITIONS, P/C SECTOR, 1994-2015E (1)

(\$ Millions)



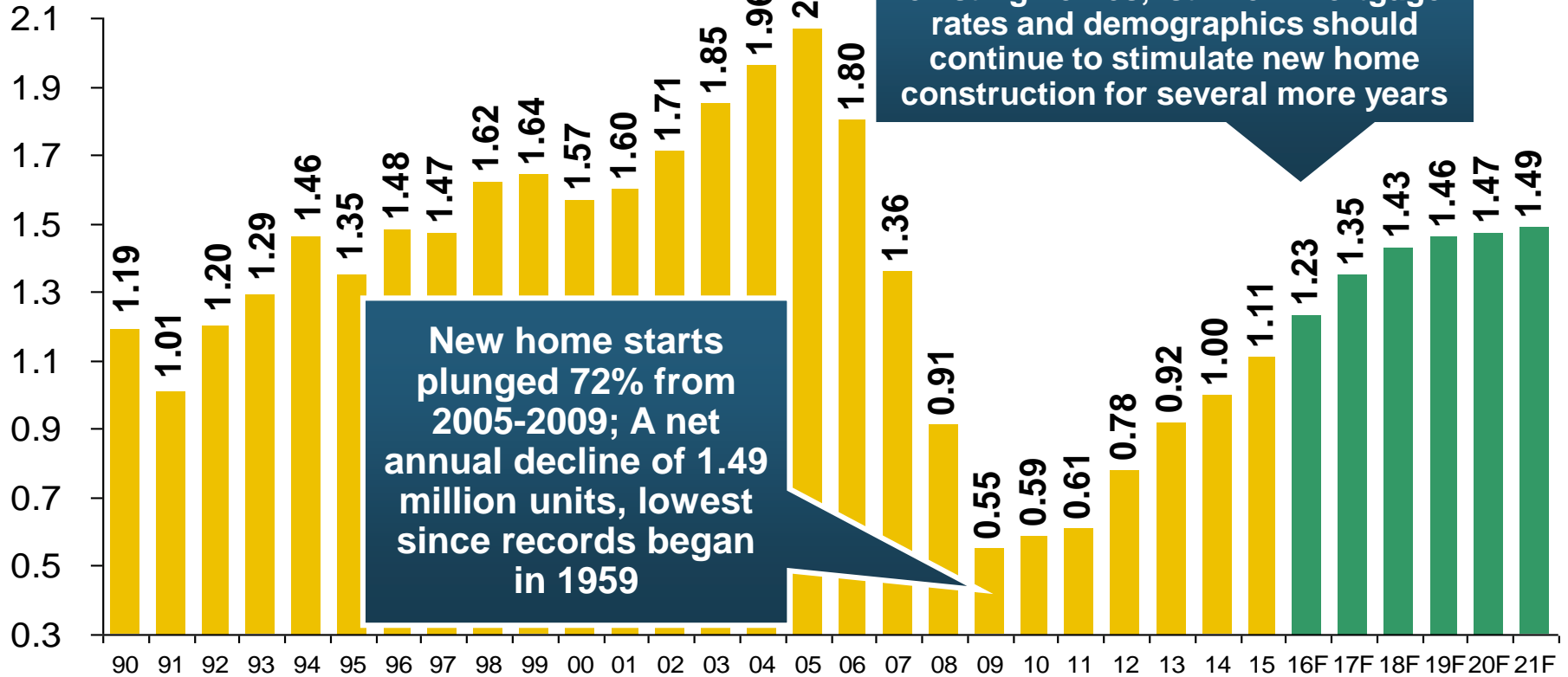
(1) Includes transactions where a U.S. company was the acquirer and/or the target.

Personal Lines: Economic and Demographic Considerations

Auto, Home Are Sensitive to Underlying Economic Conditions

New Private Housing Starts, 1990-2021F

(Millions of Units)



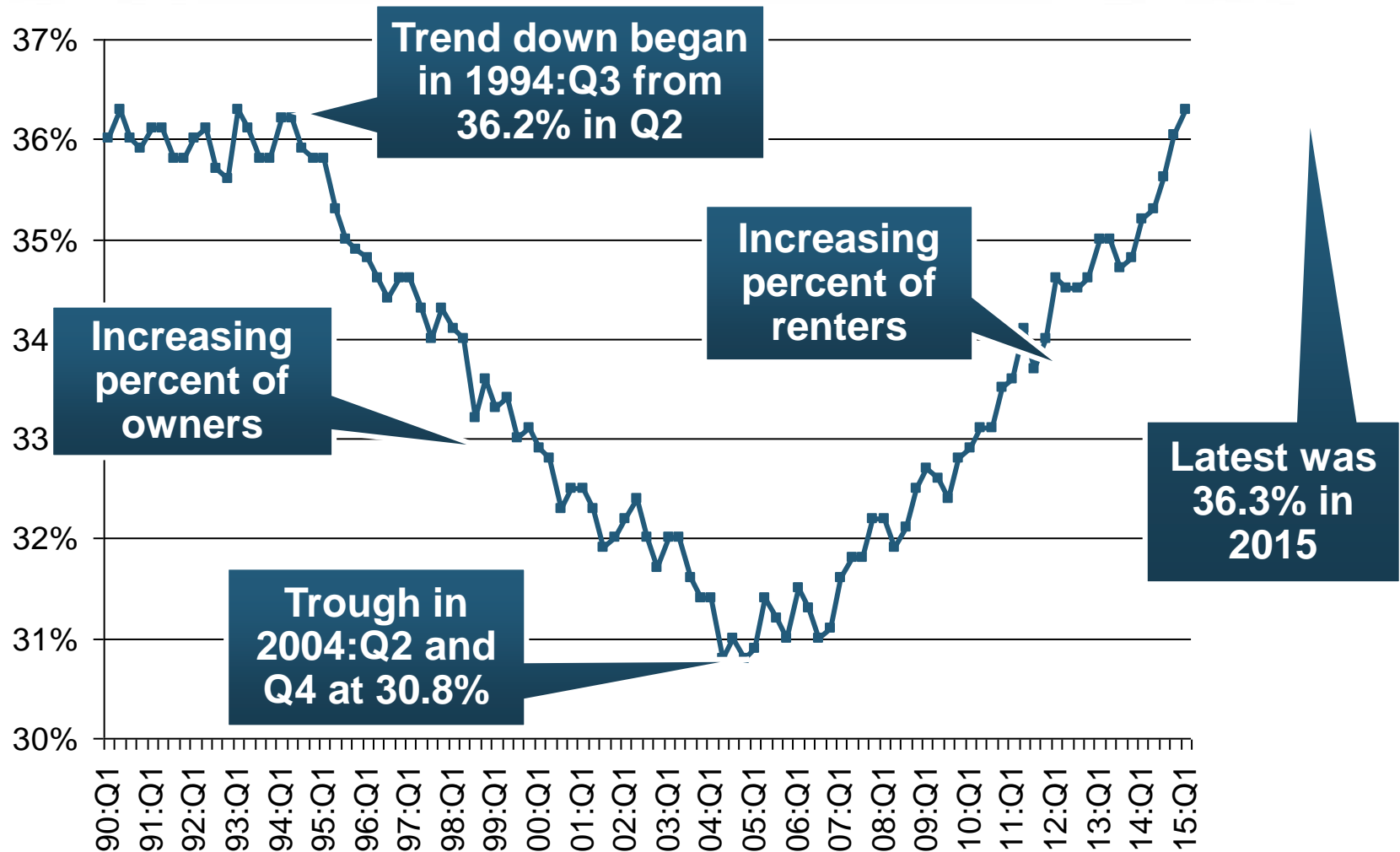
Job growth, low inventories of existing homes, still-low mortgage rates and demographics should continue to stimulate new home construction for several more years

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

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (4/16 for 2016-17; 3/16 for 2018-21F; Insurance Information Institute.

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



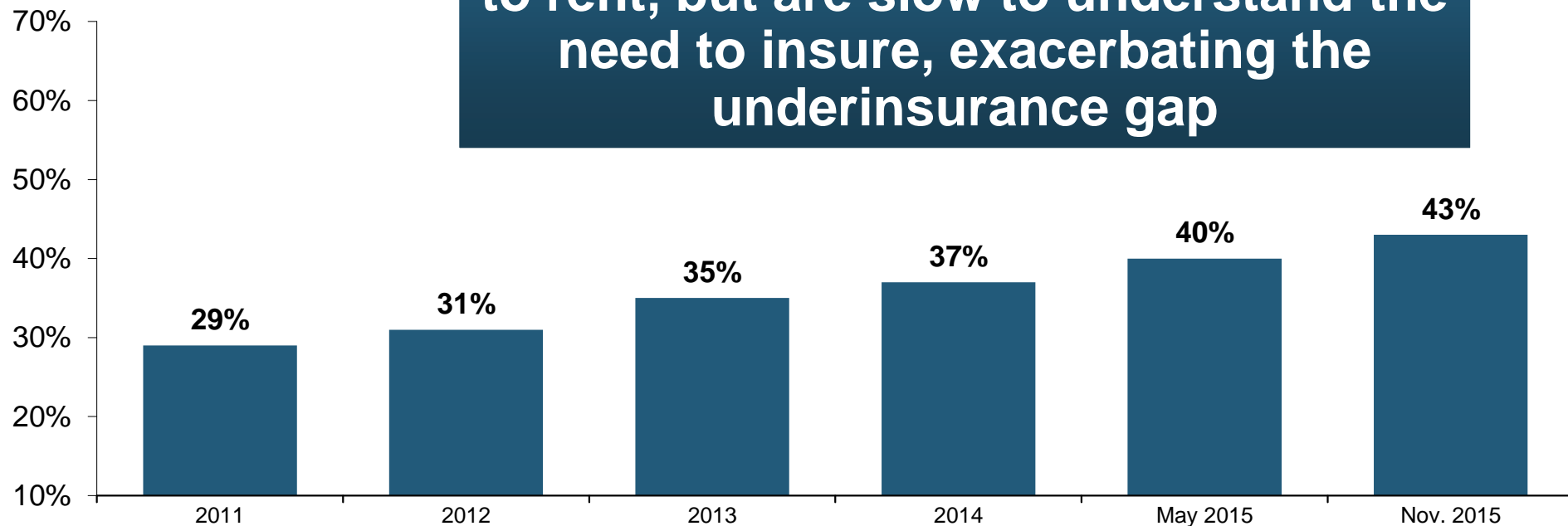
Since the Great Recession ended in June 2009, renters occupied 5.7 million more units (+15.6%).

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. *As of Q1.

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

Q. Do you have renters insurance? ¹

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

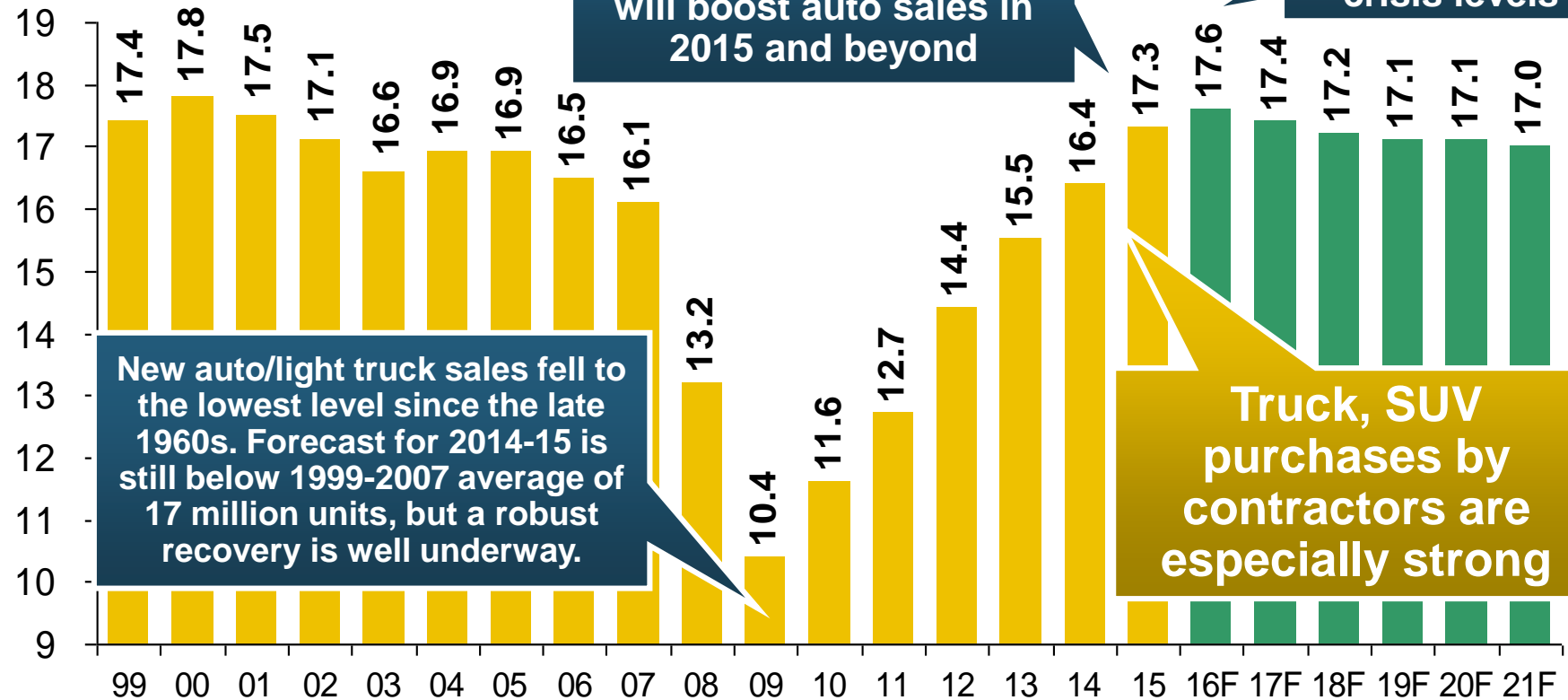


The Percentage of Renters Who Have Renters Insurance Has Been Rising Since 2011.

¹Asked of those who rent their home.

Auto/Light Truck Sales, 1999-2021F

(Millions of Units)



Job growth and improved credit market conditions will boost auto sales in 2015 and beyond

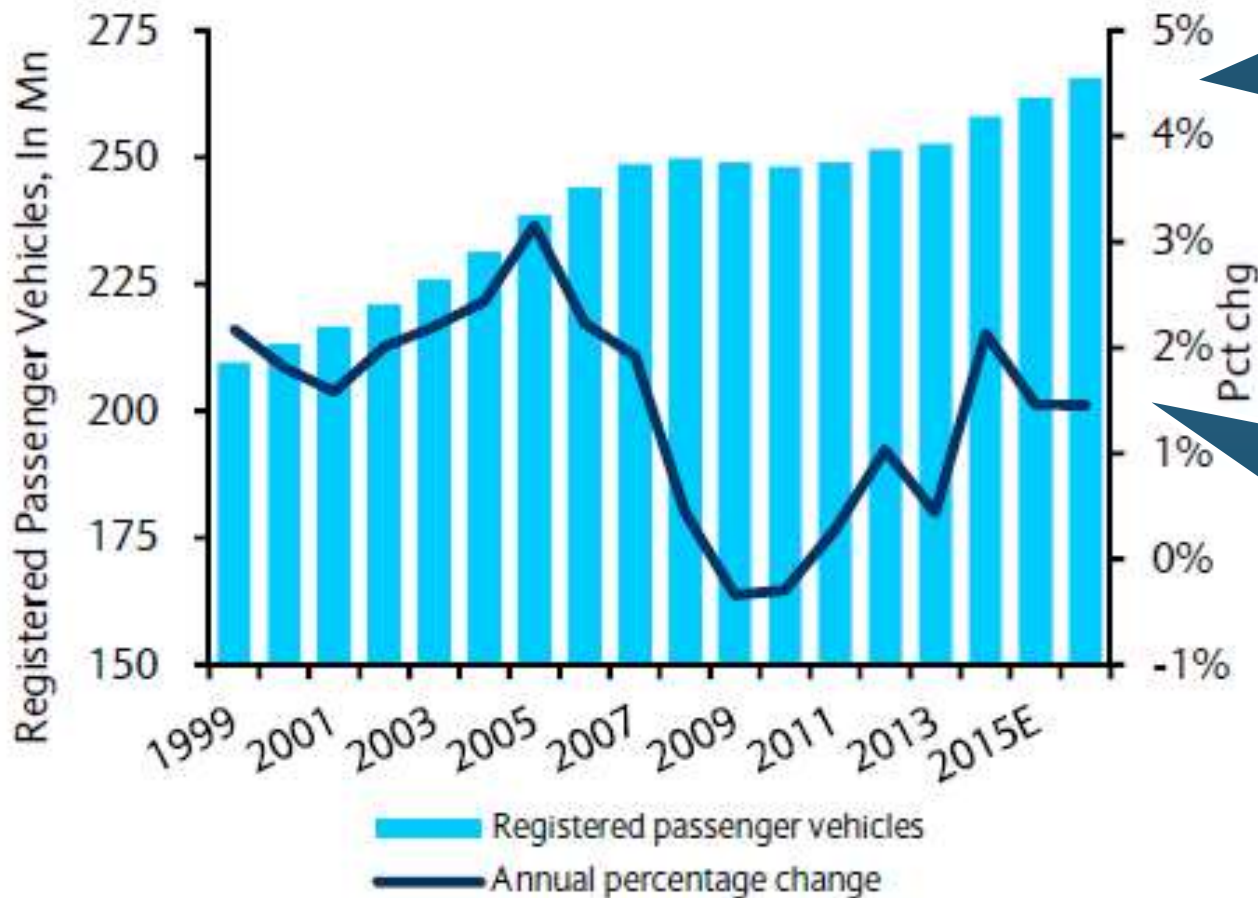
Sales have returned to pre-crisis levels

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. PP Auto premium might grow by 3.5% - 5%.

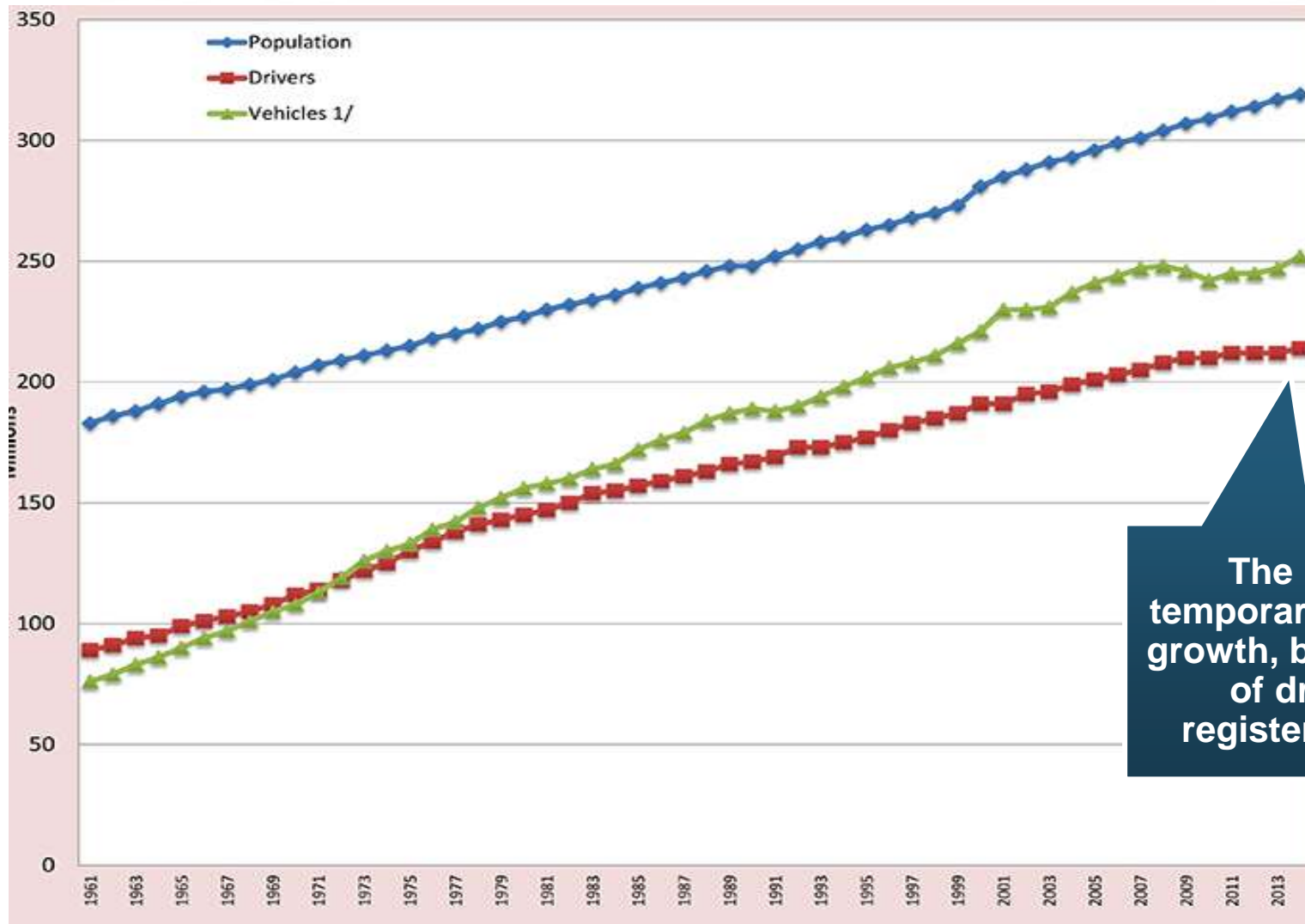
Number of Registered Passenger Vehicles in US, 1999 – 2015E



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

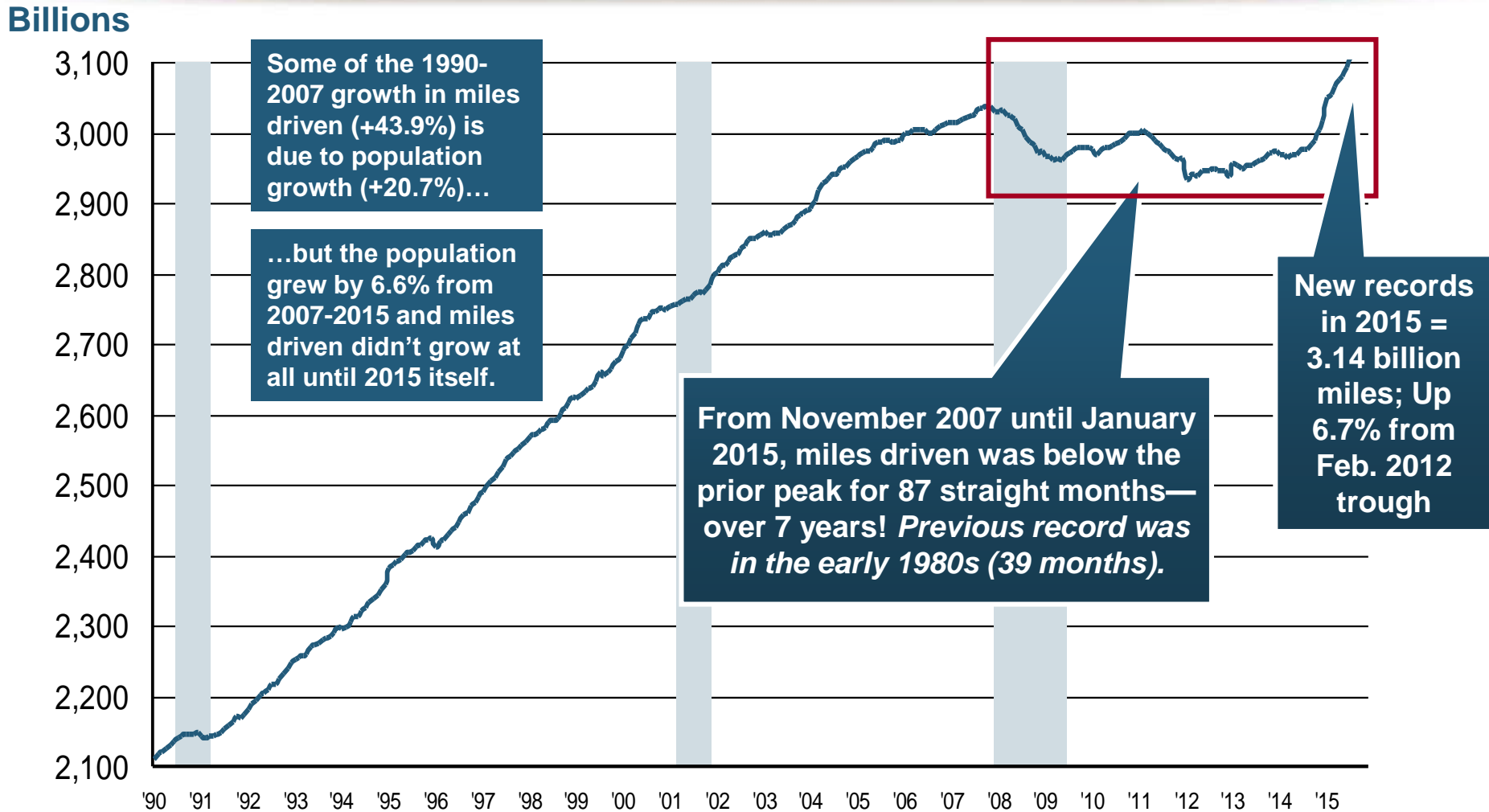
Vehicle registrations are expected to increase at an annual rate of about 1.5% per year in 2015 and 2016

Licensed Drivers, Vehicle Registrations and Resident Population: *All UP!*



Source: Federal Highway Administration: <http://www.fhwa.dot.gov/policyinformation/statistics/2014/dv1c.cfm>
accessed 2/1/16; Insurance Information Institute.

America is Driving More Again (Finally!): Total Miles Driven*, 1990–2015*



*Moving 12-month total. The 2015 data are through November 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.

Change in Proportion of Persons with Driver Licenses in the US, by Age, 1983-2014

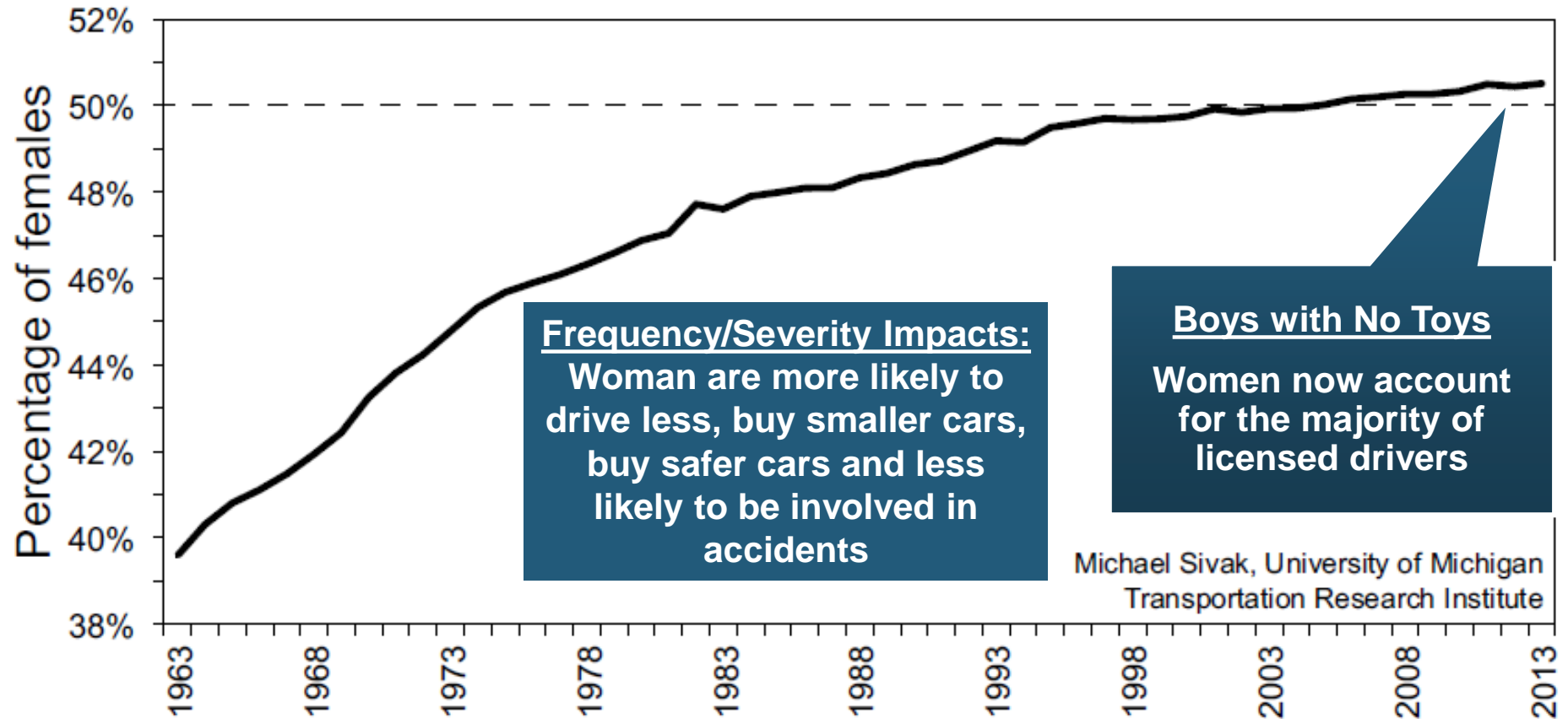
Age	Change from 1983 to 2014	Change from 2008 to 2014	Change from 2011 to 2014
16	-47.0%	-21.2%	-10.9%
17	-34.8%	-10.2%	-0.2%
18	-25.2%	-8.1%	-0.3%
19	-21.0%	-8.6%	-0.4%
20-24	-16.4%	-6.5%	-3.8%
25-29	-11.0%	-1.4%	-2.7%
30-34	-10.3%	-4.4%	-2.8%
35-39	-7.4%	-4.1%	-2.5%
40-44	-3.4%	-3.0%	-2.7%
45-49	-2.2%	-2.7%	-1.5%
50-54	-0.2%	-3.2%	-1.1%
55-59	+4.1%	-3.3%	-1.5%
60-64	+9.9%	-4.0%	-0.6%
65-69	+15.4%	-2.8%	-1.7%
≥70	+43.6%	+0.8%	-0.3%

Smaller proportions of younger drivers have licenses but not because they're all taking Uber.

The AARP crowd can't be pried away from the cars

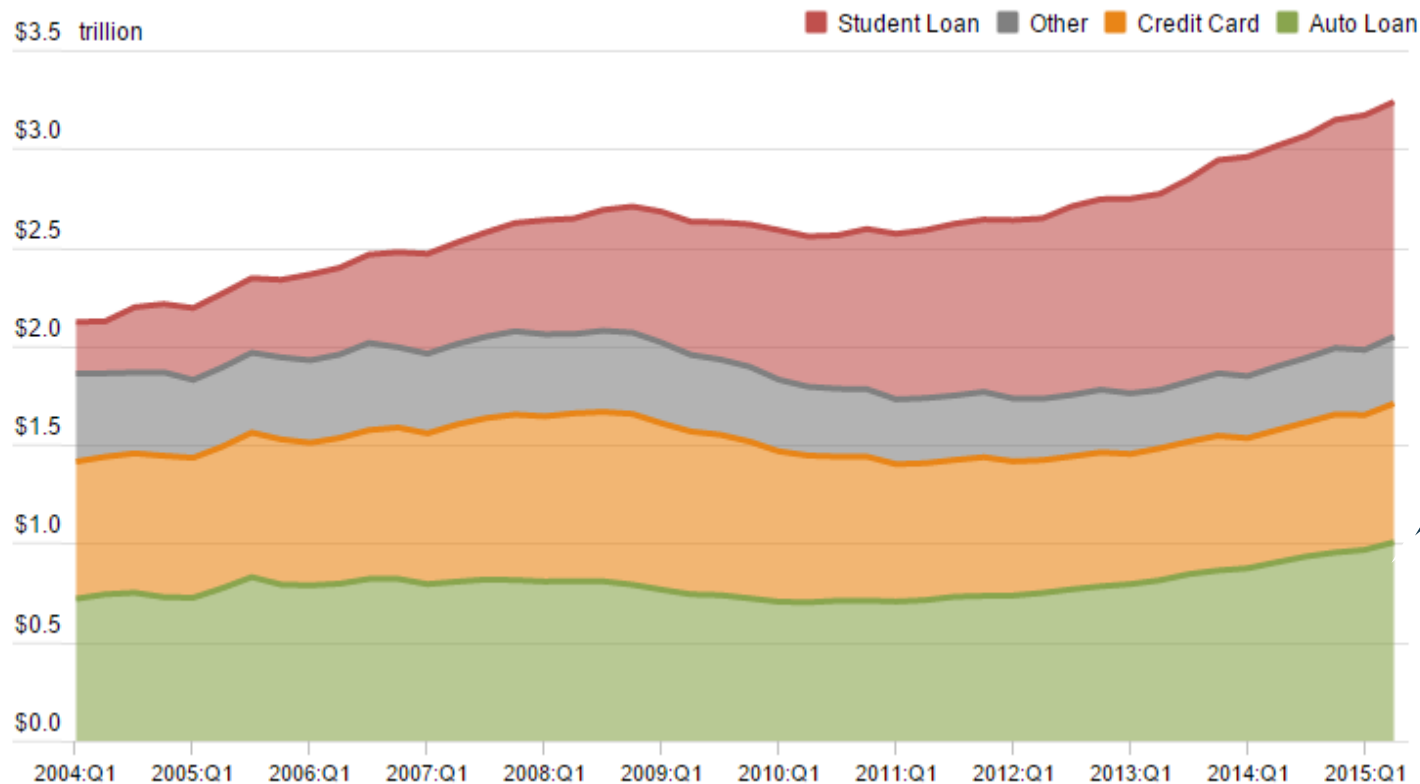
Source: University of Michigan Transportation Research Institute, "Recent Decreases in the Proportion of Persons with a Driver's License Across All Age Groups," M. Sivak and B. Schoettle., Jan. 2016; Insurance Information Institute.

Girl Power: Females with a Driver's License as a % of All Licensed Drivers



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

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

*As of Q1 2015.

Source: Federal Reserve Bank of NY Consumer Credit Panel/Equifax; I. I.I.

INDUSTRY DISRUPTORS

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

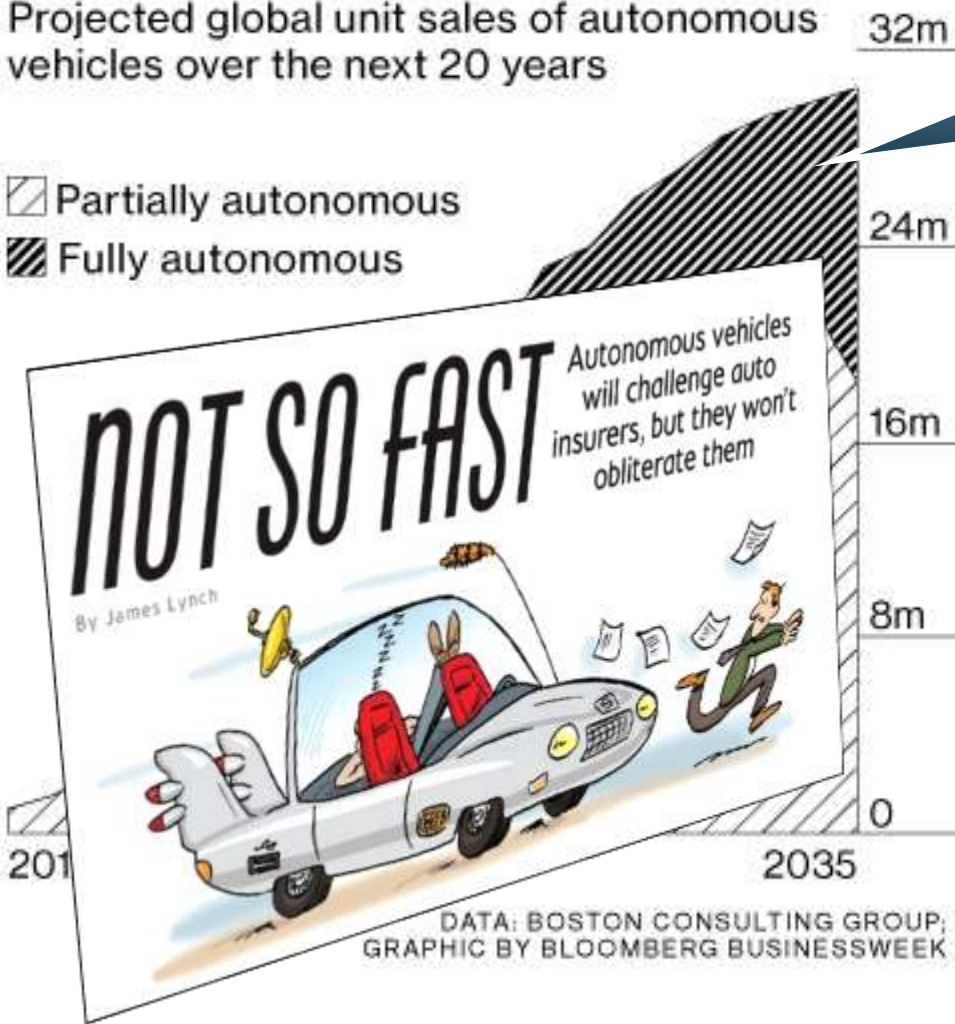
Thoughts on the Future

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

Source: Boston Consulting Group.

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



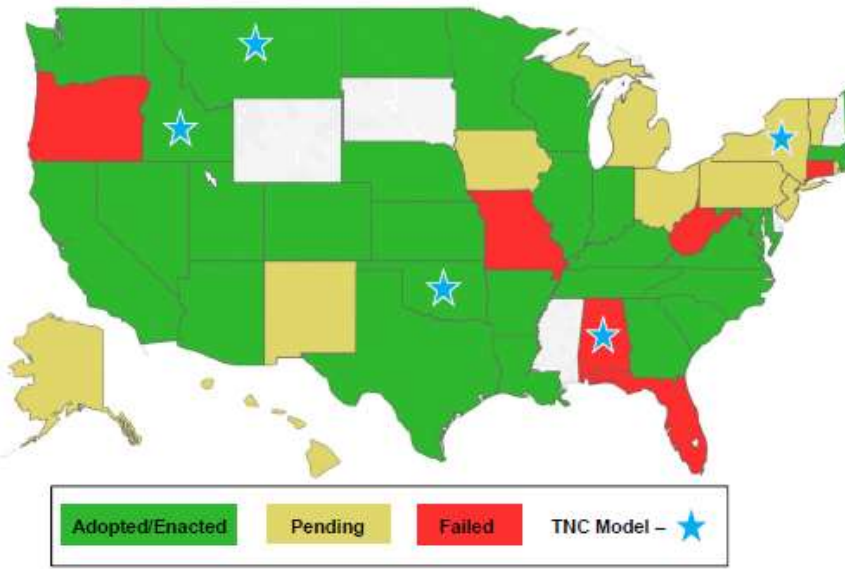
TNC Ridesharing Arrangements: Insurance Applicability

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

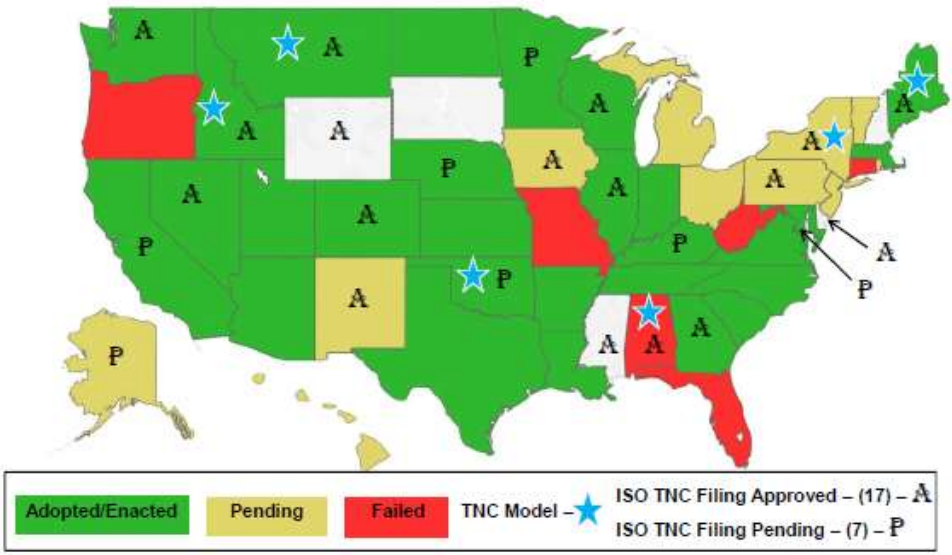
The concern was that TNCs were seeking to offload risk on to personal auto insurers. An increasing number of personal auto insurers have developed solutions to ensure that coverage gaps are minimized

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

Status Ride Sharing Legislation/Regulation



Status of ISO Filings



Source: ISO.

Homesharing Arrangements: Potential Host Exposure Concerns (Receives Rental Income)

- **Property**
 - Loss to host's property/furnishings
 - Loss of use

- **Liability**
 - Damage to property of traveler, traveler's guests
 - Damage to landlord's property/furnishings
 - Bodily injury to traveler, traveler's guests

- **Comment**
 - A landlord may act as a host (vacant unit)
 - A Homeowners Policy may be issued to the owner-occupant(s) of a 1, 2, 3 or 4 family dwelling

Homesharing Arrangements: Potential Traveler Exposure Concerns

- **Property**
 - Loss to traveler's property
- **Liability**
 - Damage to property/furnishings of host and landlord
 - Bodily injury to traveler's guests, other tenants and visitors to building
 - Personal injury due to poor reviews
- **Comment**
 - Similar exposures currently exist for travelers at hotels, B & B's, guest houses

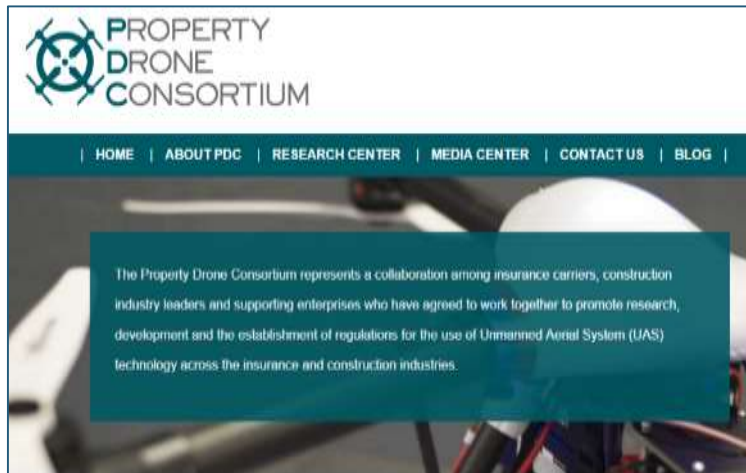
Homesharing: ISO's Proposed Changes*

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

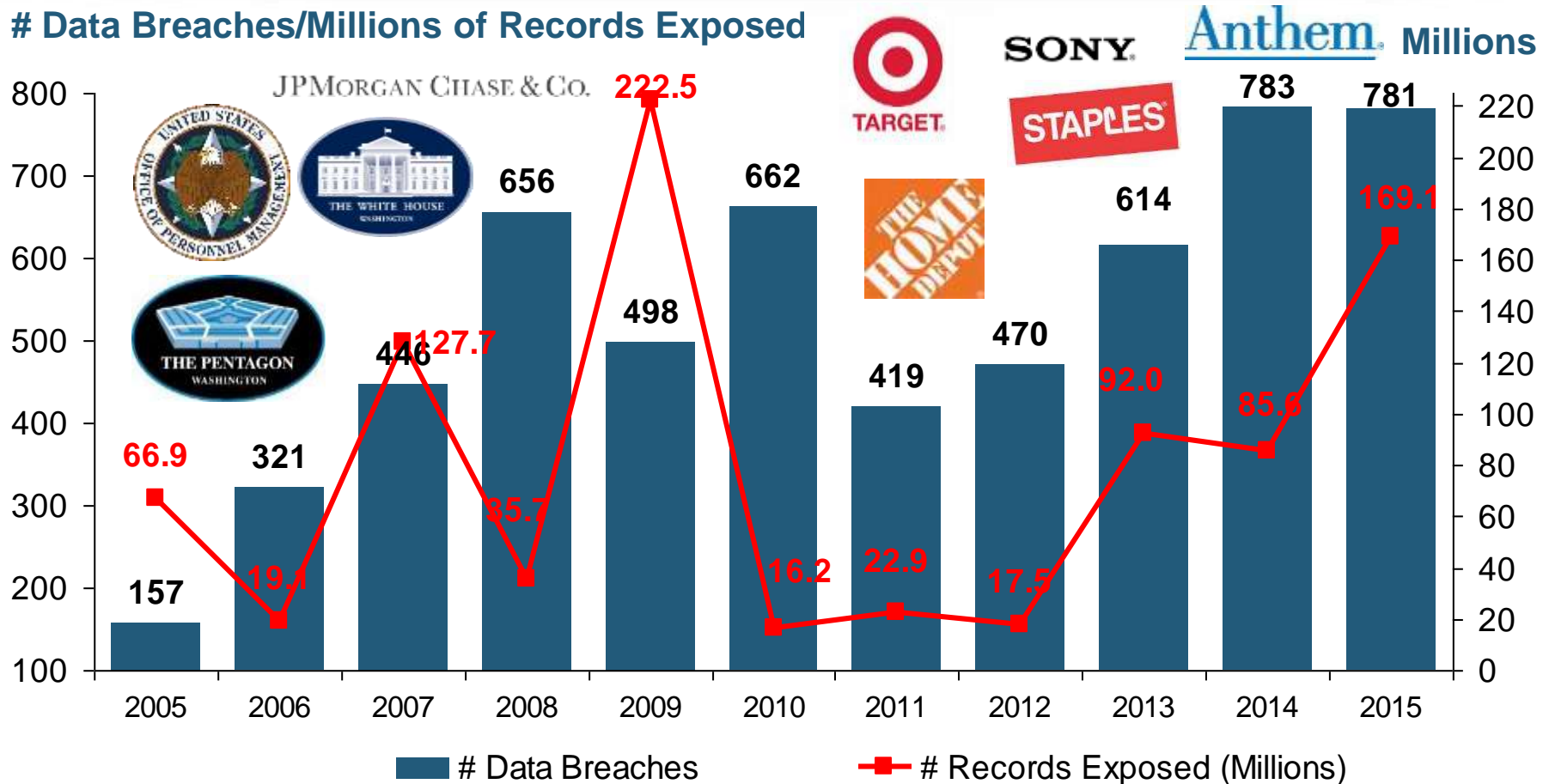


- Drones or Unmanned Aerial Vehicle (UAV) technology is seeing rapid adoption rate in many industries, including insurance
- ~700,000 drones in US by year-end
- FAA granting Section 333 exemptions for commercial use and testing of UAS
- FAA will require most drones to be registered by year-end 2015.
- 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



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

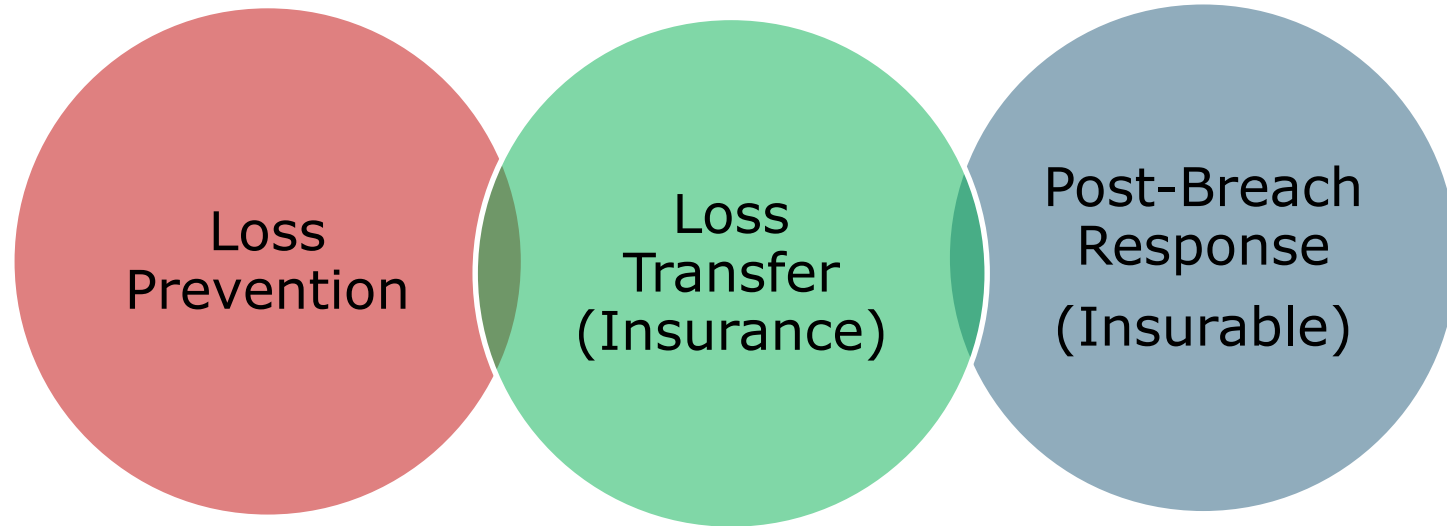
Data Breaches/Millions of Records Exposed



The 781 reported data breaches in 2015 was virtually unchanged from the record 783 reported in 2014. The number of exposed records soared to 169.1 million, and increase of 97.5%.

Source: Identity Theft Resource Center (updated as of Jan. 6, 2016); <http://www.idtheftcenter.org/images/breach/ITRCBreachReport2015.pdf>

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.



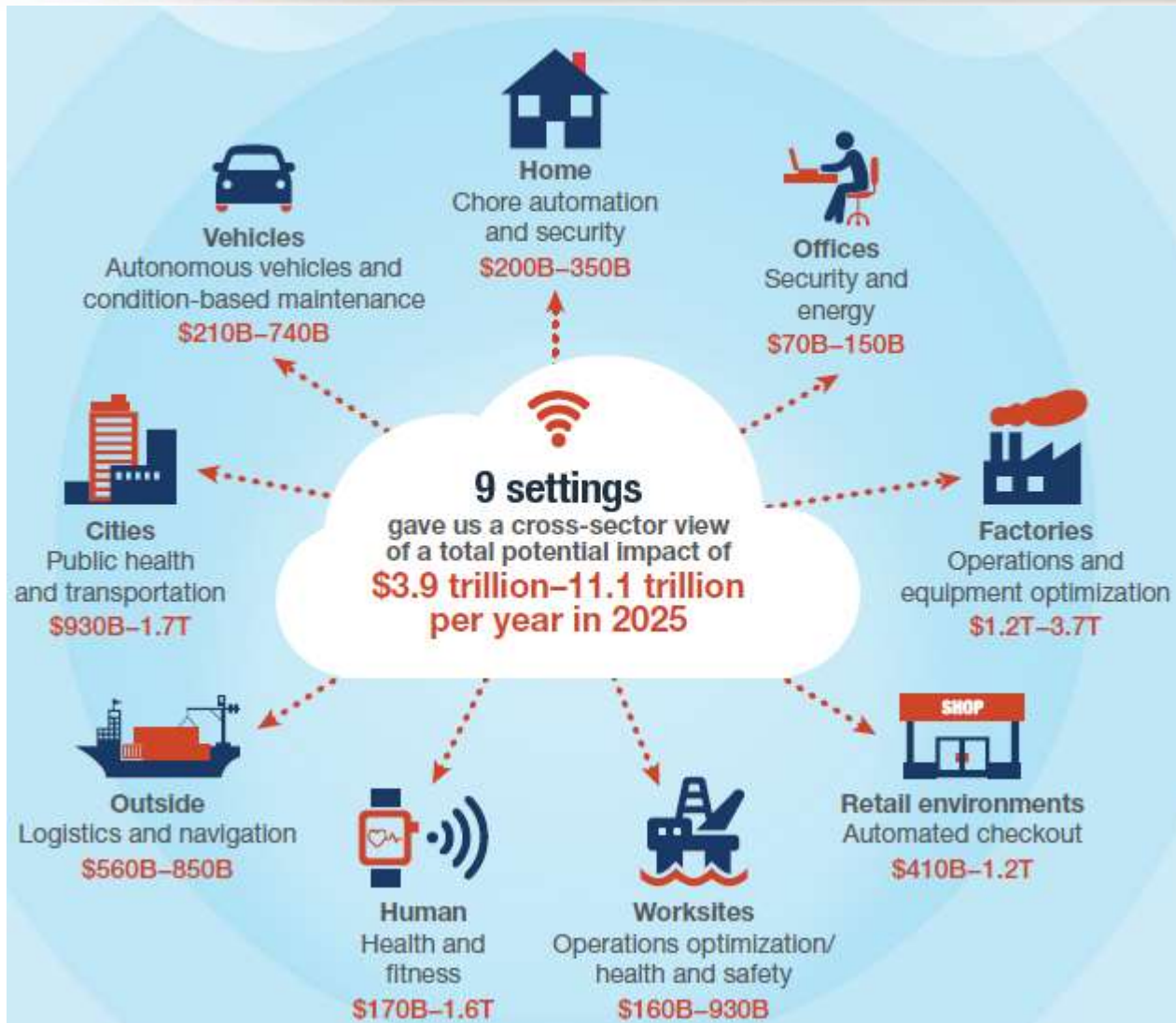
AUTO TECHNOLOGY & THE FUTURE OF AUTO INSURANCE

Technology Promises Safer Cars and Highways, *BUT* Some Analysts, Media and Many in Silicon Valley Are Predicting Doom for Auto Insurers

THE ‘INTERNET OF THINGS’

Capturing Economic Value Amid a Shifting Insurer Value Chain

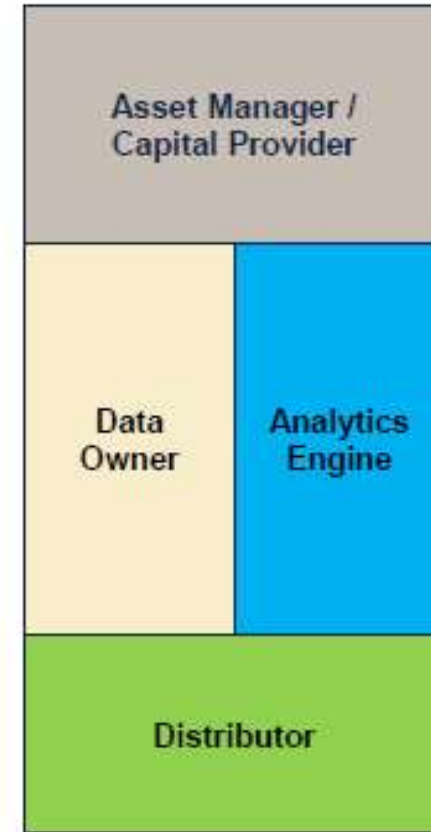
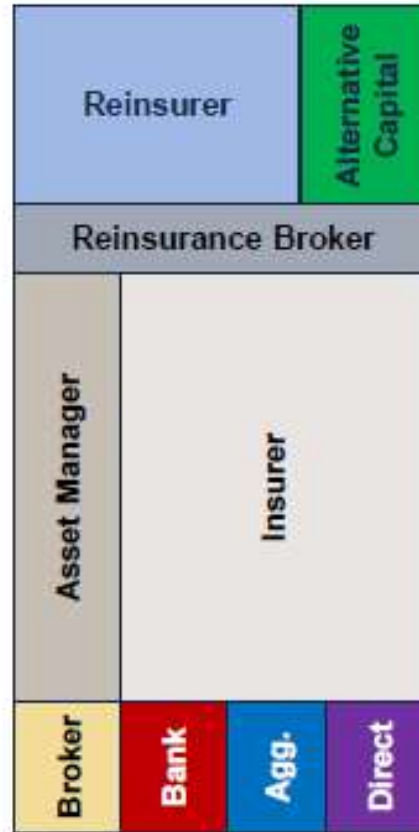
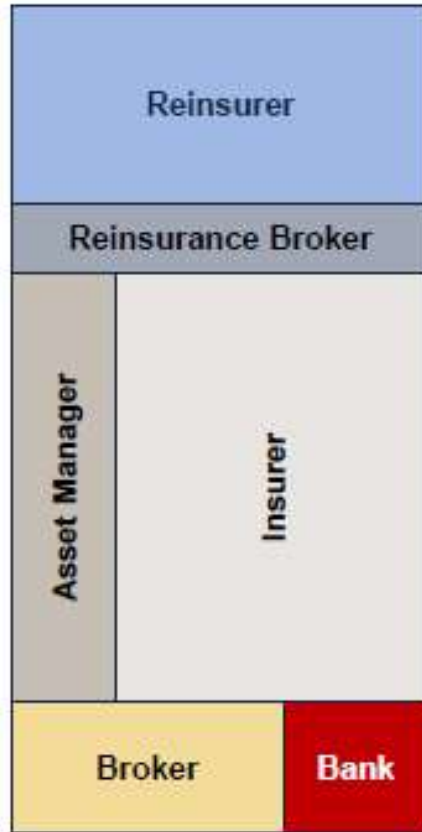
The Internet of Things and the Insurance Industry



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

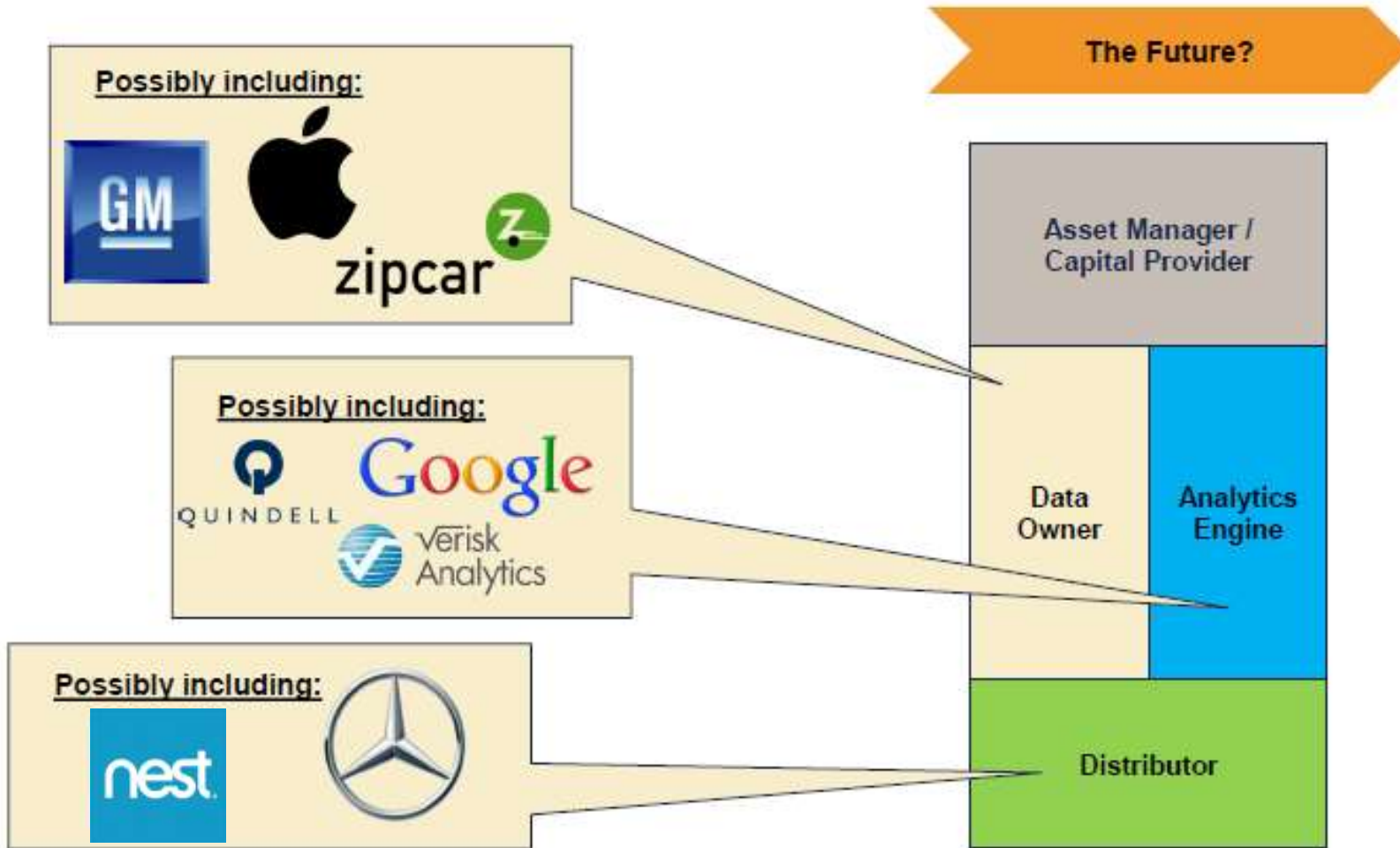
- The “Internet of Things” will create trillions in economic value throughout the global economy by 2025
- What opportunities, challenges will this create for insurers?
- What are the impact on the insurance industry “value chain”?

The Internet of Things and the Insurance Industry Value Chain



The Insurance Industry Value Chain Is Changing for Many Reasons

The Internet of Things and the Insurance Industry Value Chain



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



A NEST Case Study

Nest: A Leader in the “Internet of Things”

Collision Course or Cooperation with the Insurance Industry?



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.

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



Nest is actively seeking to partner with insurers. As of Jan. 10, 2016, Nest listed 2 insurance partners offering discounts in a number of states

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and your attention!*

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