



Personal Lines P-C Insurance Markets: *Trends, Challenges & Opportunities for 2014 & Beyond*

NAMIC Personal Lines Seminar

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- **Personal Lines Growth Overview**
 - ◆ Auto, Home: US and by State
- **Personal Lines Growth Drivers**
 - ◆ Exposure, Pricing Factors
- **Personal Lines Profitability Analysis**
- **Personal Auto Ad Spend Trends**
- **Catastrophe Loss Trends: US & Local Impacts**
- **Reinsurance Market Overview & Outlook**
- **Cyclical Drivers in Personal Lines**
- **Private Passenger Auto Performance**
- **Distribution Trends**
- **Telematics: Usage-Based Insurance —Trends & Challenges**
- **P/C Financial Overview & Outlook: The Role of Cyclicity**
 - ◆ Profitability
 - ◆ Premium Growth
 - ◆ Capital, Capacity and Financial Strength
 - ◆ Underwriting Performance
- **Low Interest Rates: Impact of Persistent Record Low Yields**
- **Economic Overview: Exposure Drivers**
- **Regulatory Environment “Report Card”**
- **Q&A**

Personal Lines Growth Analysis

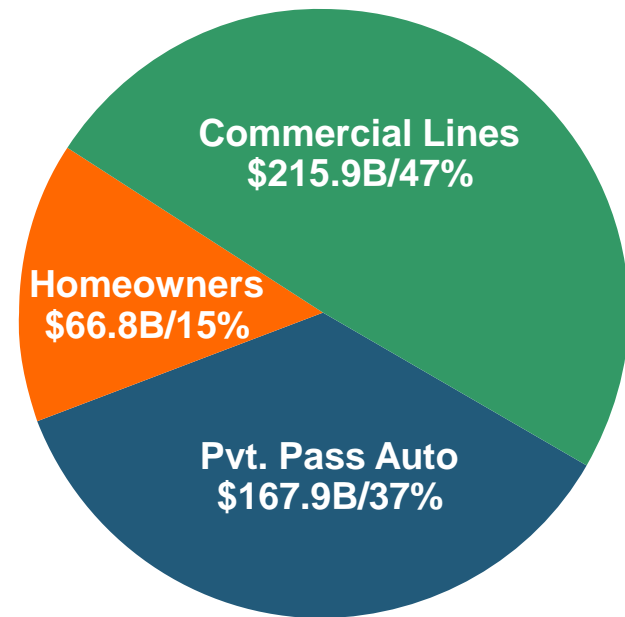
**Growth Trajectories Differ
Substantially by Line, by
State and Over Time**

Distribution of Direct Premiums Written by Segment/Line, 2012

Distribution Facts

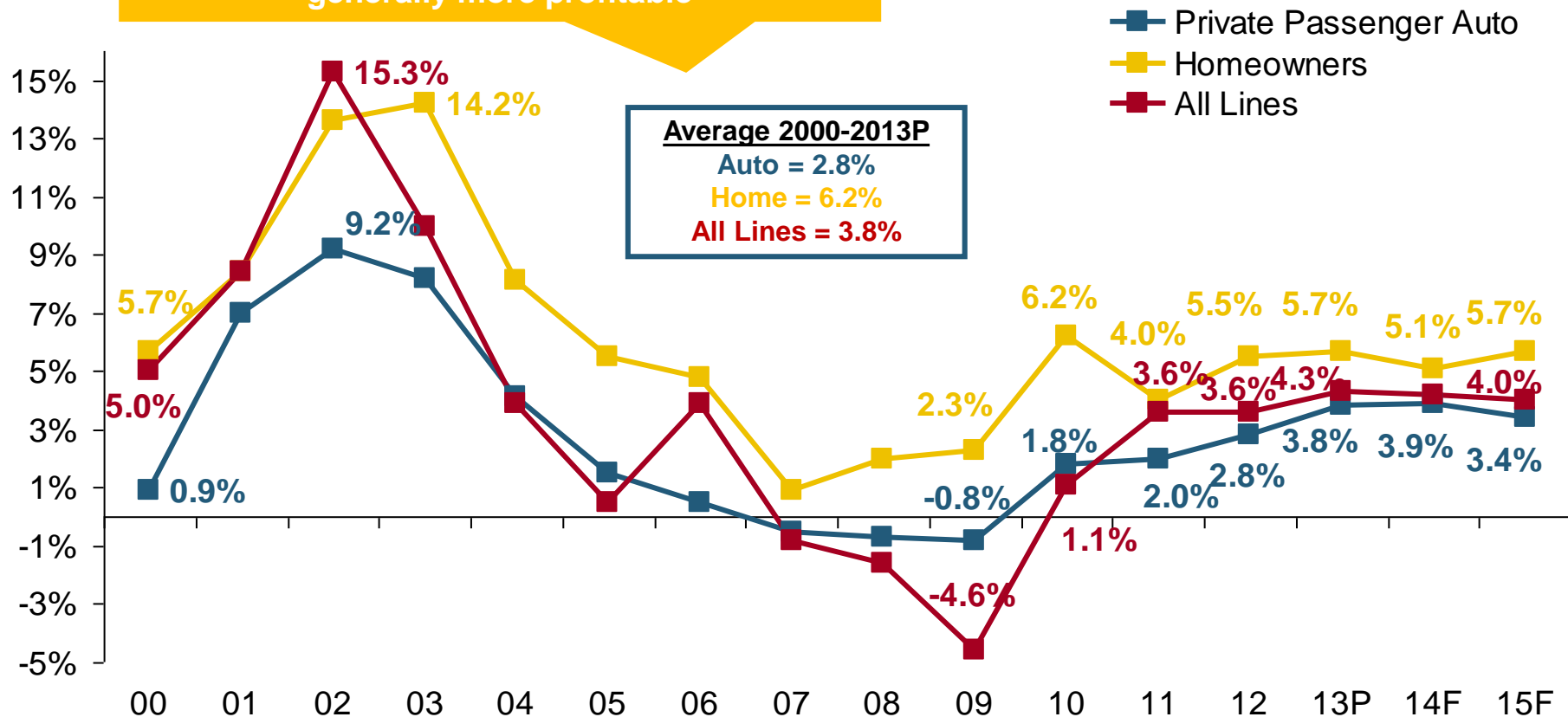
- Personal/Commercial lines split has been about 50/50 for many years; Personal Lines overtook Commercial Lines in 2010
- Pvt. Passenger Auto is by far the largest line of insurance and is currently the most important source of industry profits
- Billions of additional dollars in homeowners insurance premiums are written by state-run residual market plans

2012



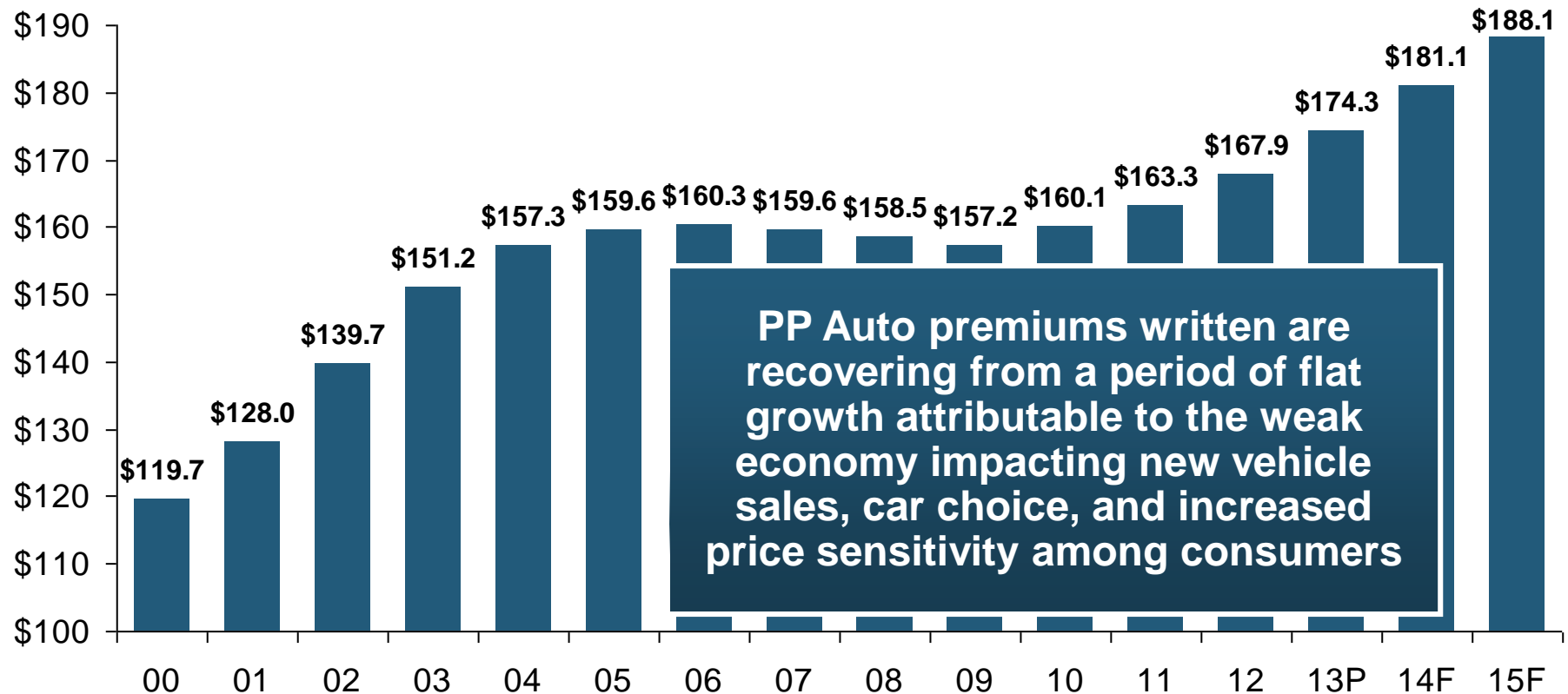
Auto & Home vs. All Lines, Net Written Premium Growth, 2000–2013P

While homeowners insurance has grown faster than auto over the past decade, auto is generally more profitable



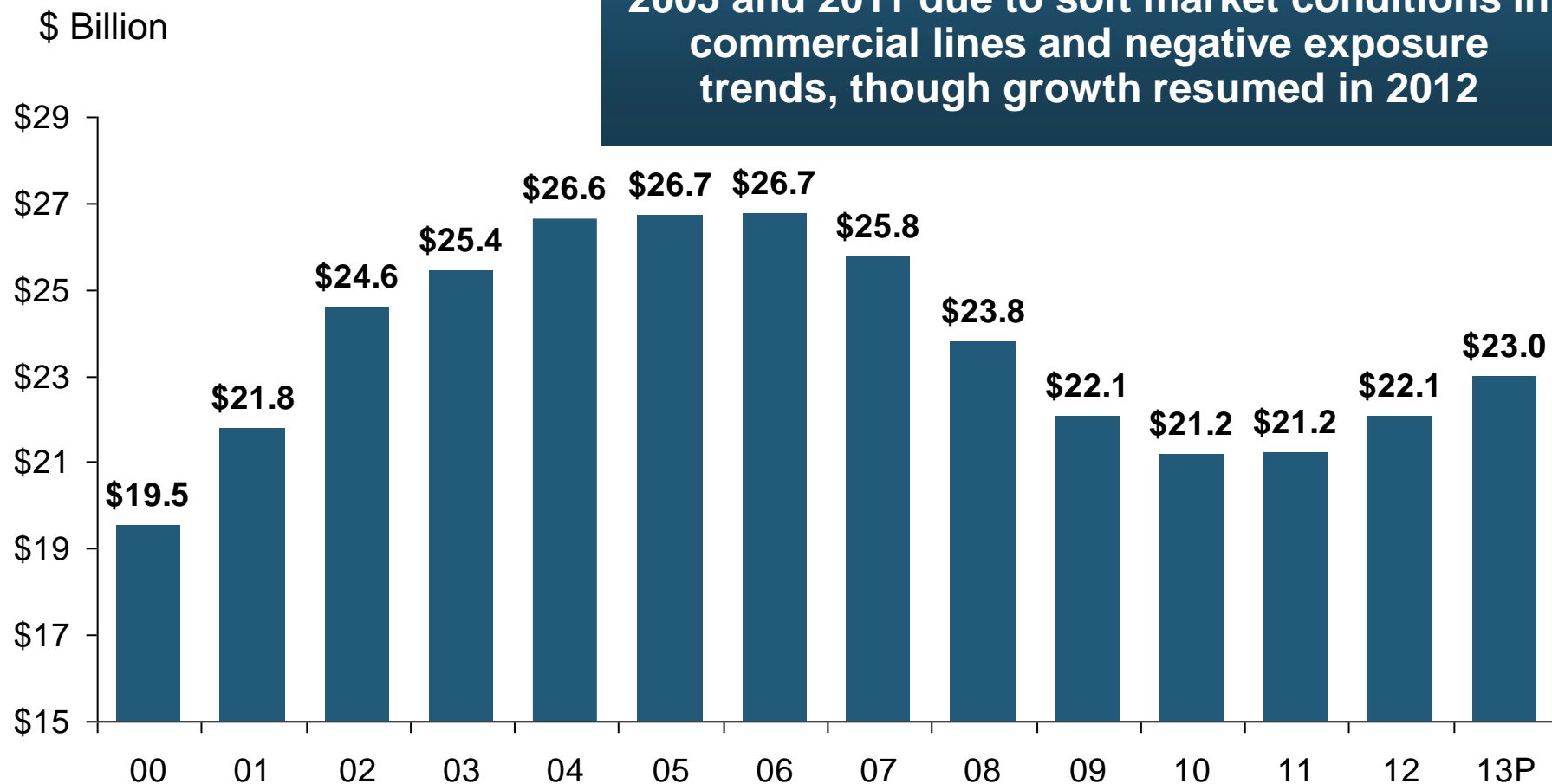
Private Passenger Auto Insurance Net Written Premium, 2000–2015F

\$ Billion



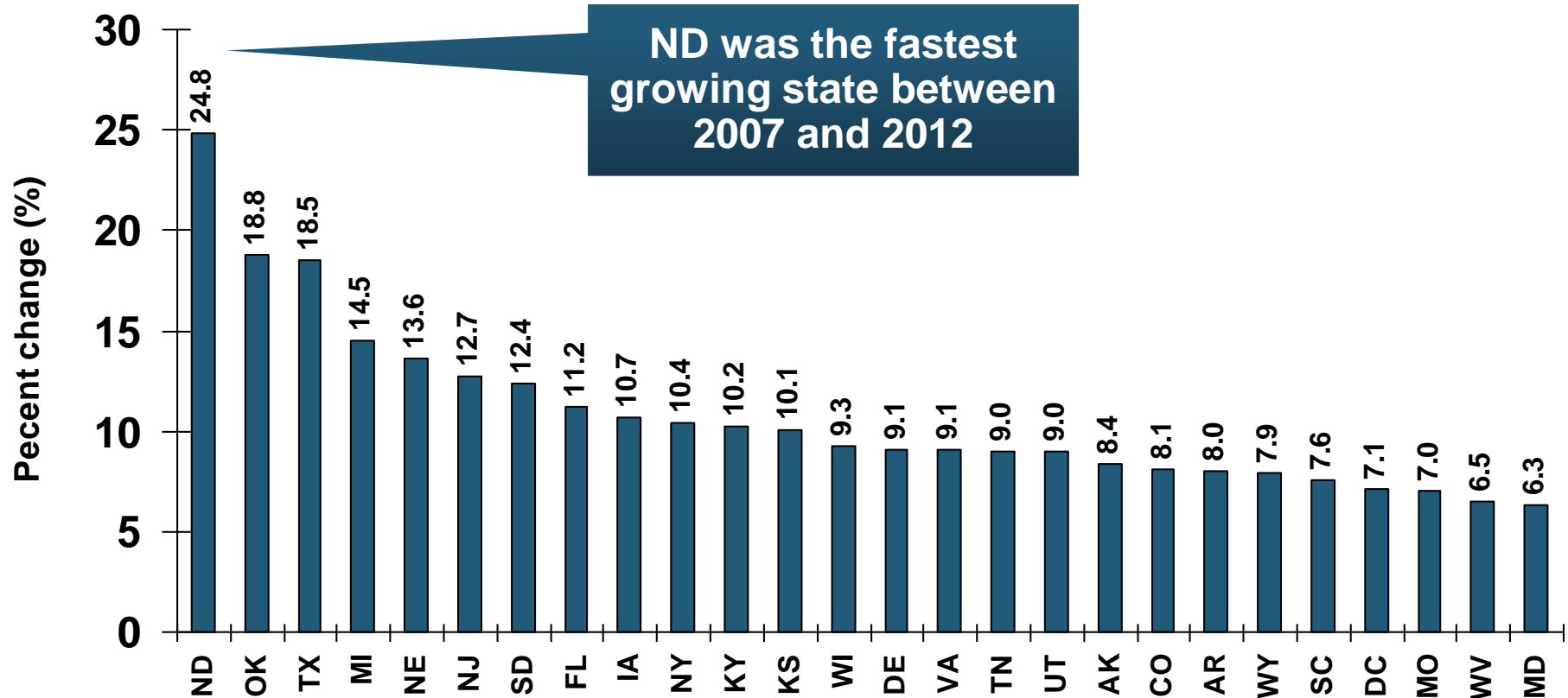
Commercial Auto Insurance Net Written Premium, 2000–2013P

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



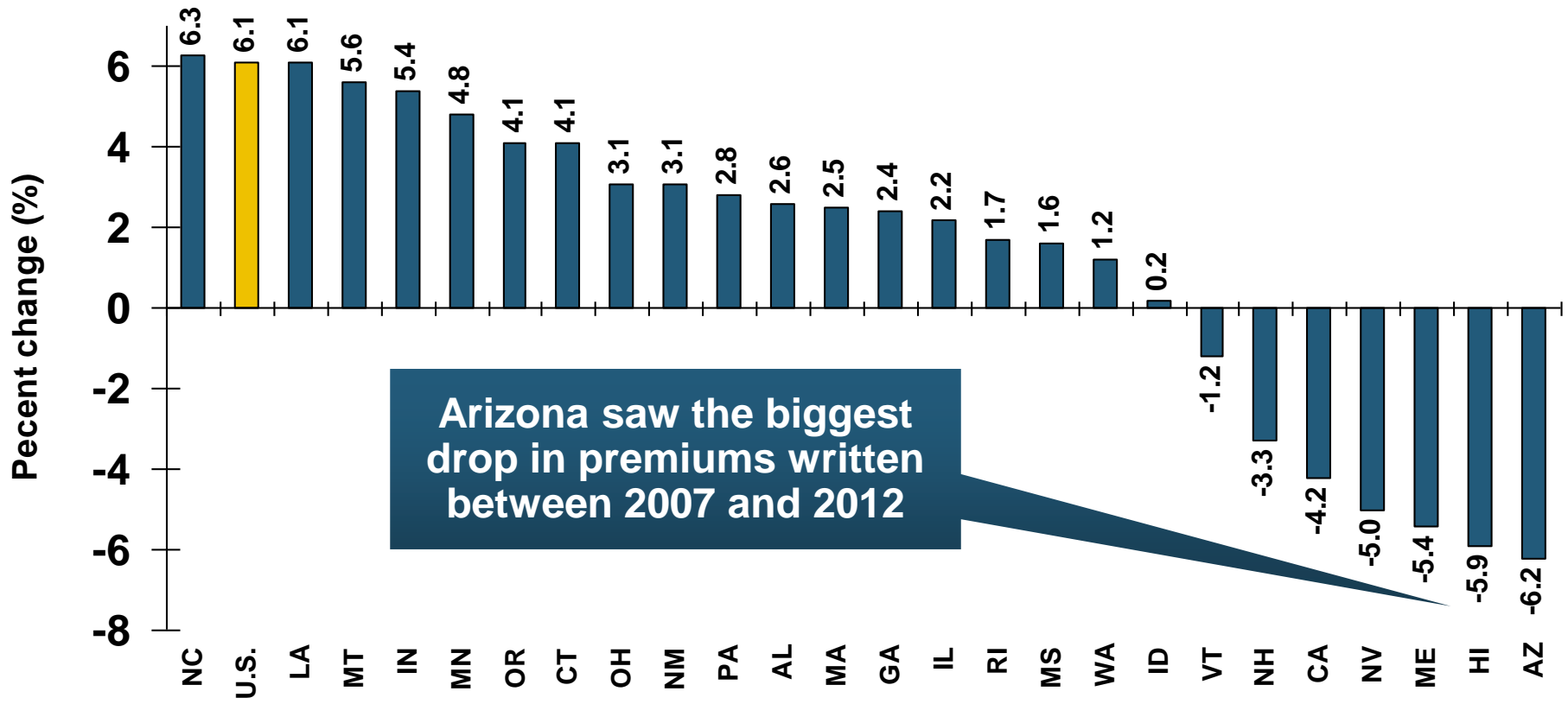
Direct Premiums Written: Auto Percent Change by State, 2007-2012

Top 25 States & DC



Direct Premiums Written: PP Auto Percent Change by State, 2007-2012*

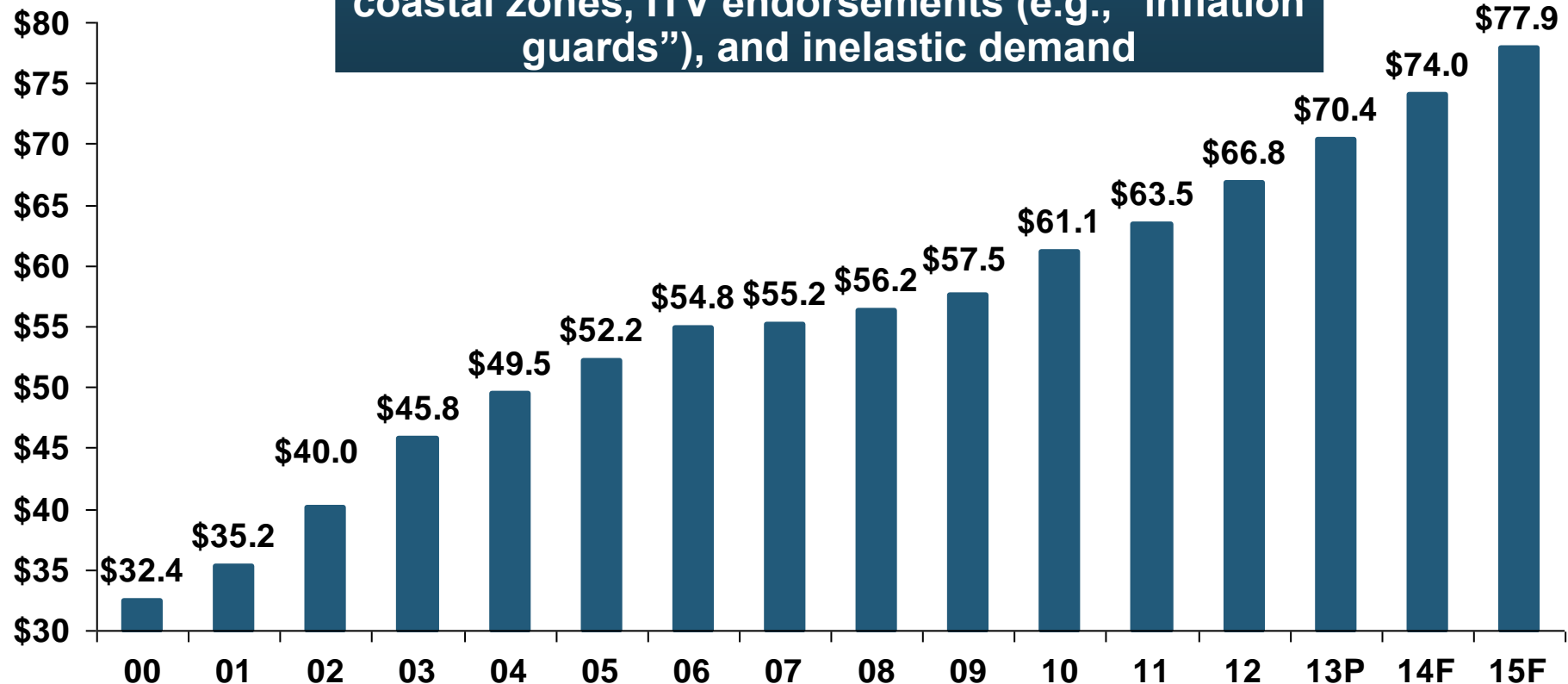
Bottom 25 States



Homeowners Insurance Net Written Premium, 2000–2015F

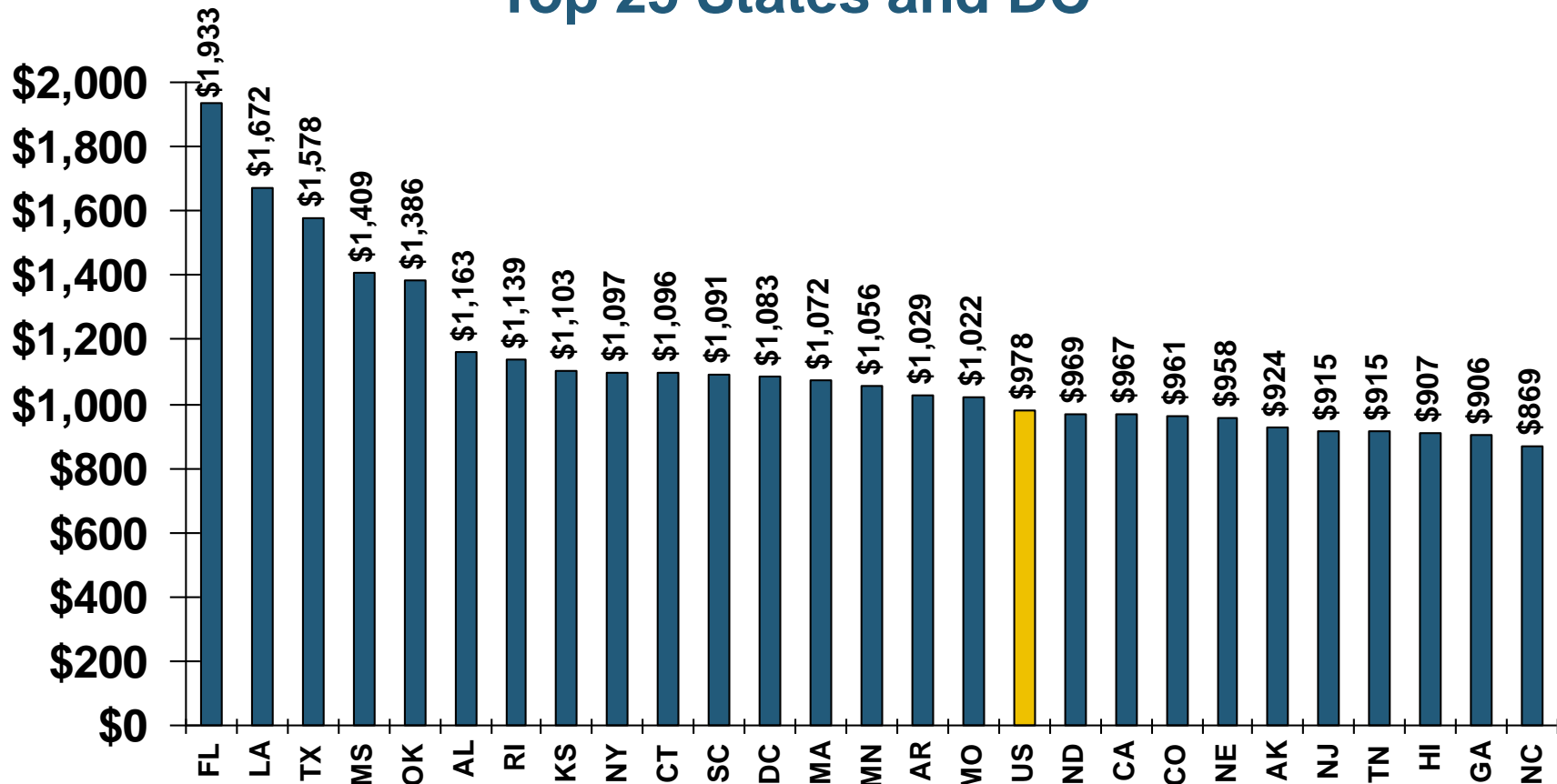
\$ Billions

Homeowners insurance NWP continues to rise (up 128% 2000-2013) despite very little unit growth during the wake of the real estate crash. Reasons include rate increases, especially in coastal zones, ITV endorsements (e.g., “inflation guards”), and inelastic demand



Average Premiums For Home Insurance By State, 2011* (1)

Top 25 States and DC



*Latest available.

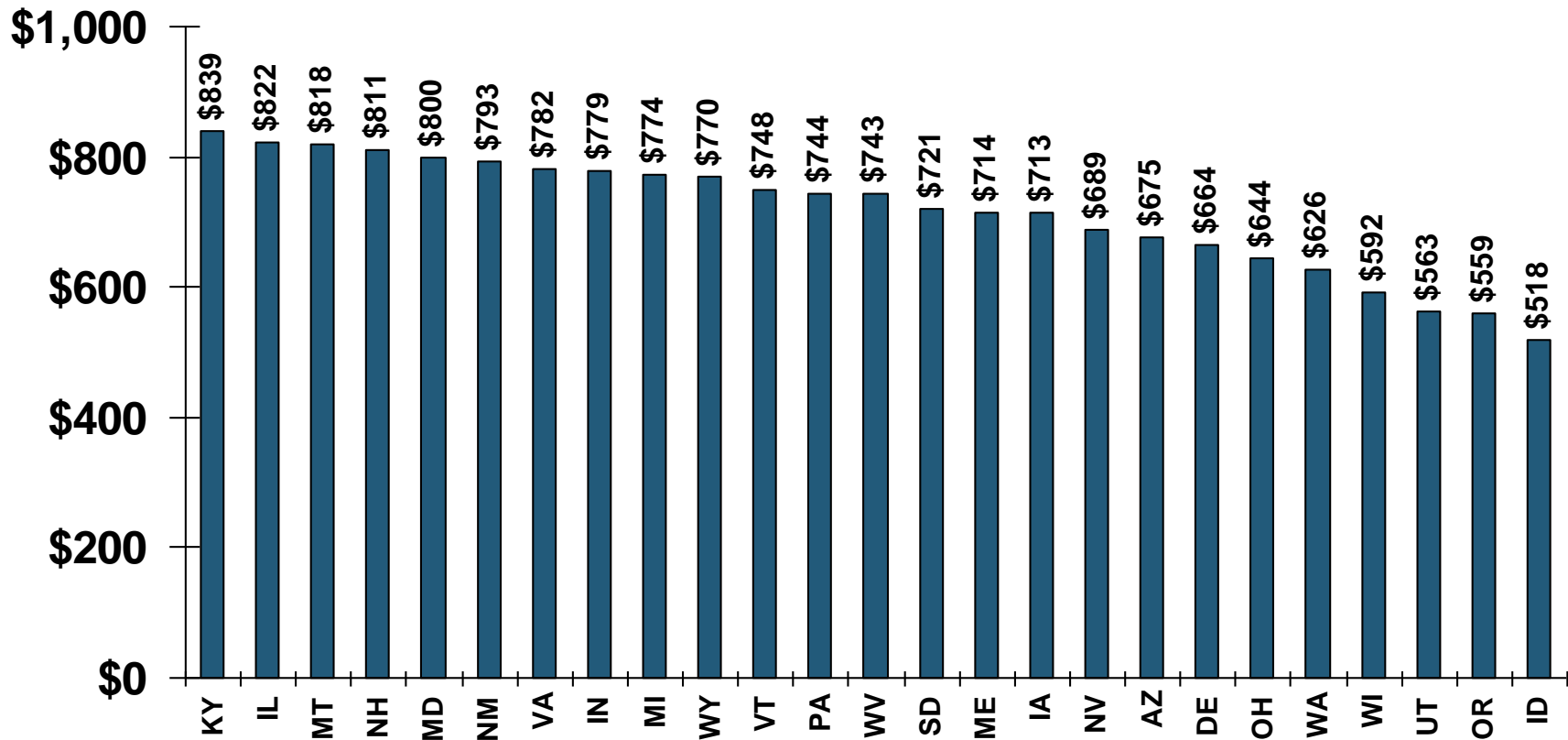
(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides "all risks" coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days insured coverage for a single dwelling.

Source: NAIC; Insurance Information Institute.

Average Premiums For Home Insurance By State, 2011* (1)

Bottom 25 States



• Latest available

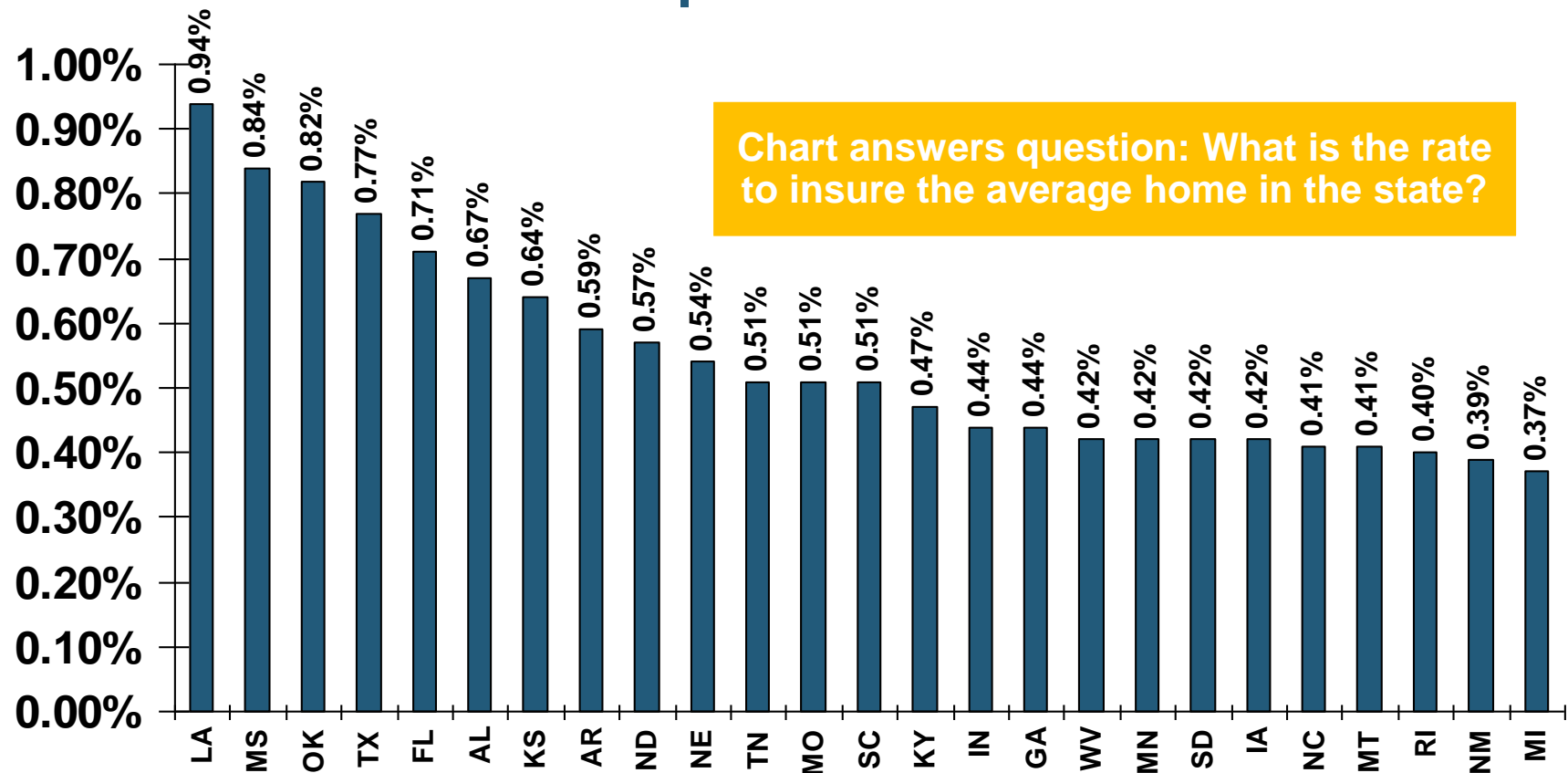
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Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days insured coverage for a single dwelling.

Source: © 2013 National Association of Insurance Commissioners (NAIC). Reprinted with permission. Further reprint or distribution strictly prohibited without written permission of NAIC.

Estimated Median Rate For Home Insurance By State, 2011* (1)

Top 25 States



*Latest available.

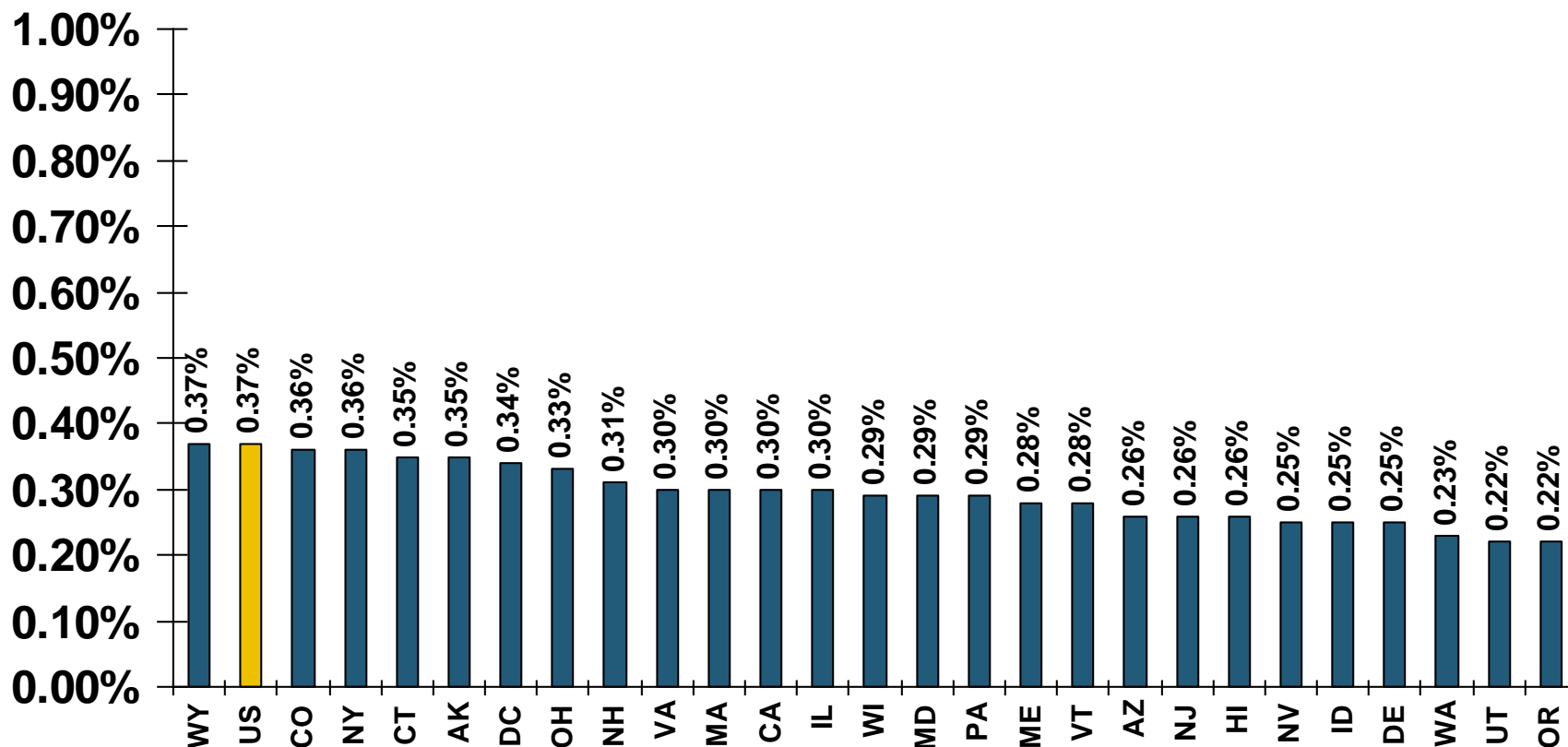
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Note: Estimated median = average premium in median insurance range/estimated average insurance value in that range.

Source: Insurance Information Institute estimate from NAIC data.

Estimated Median Rate For Home Insurance By State, 2011* (1)

Bottom 25 States and DC



*Latest available.

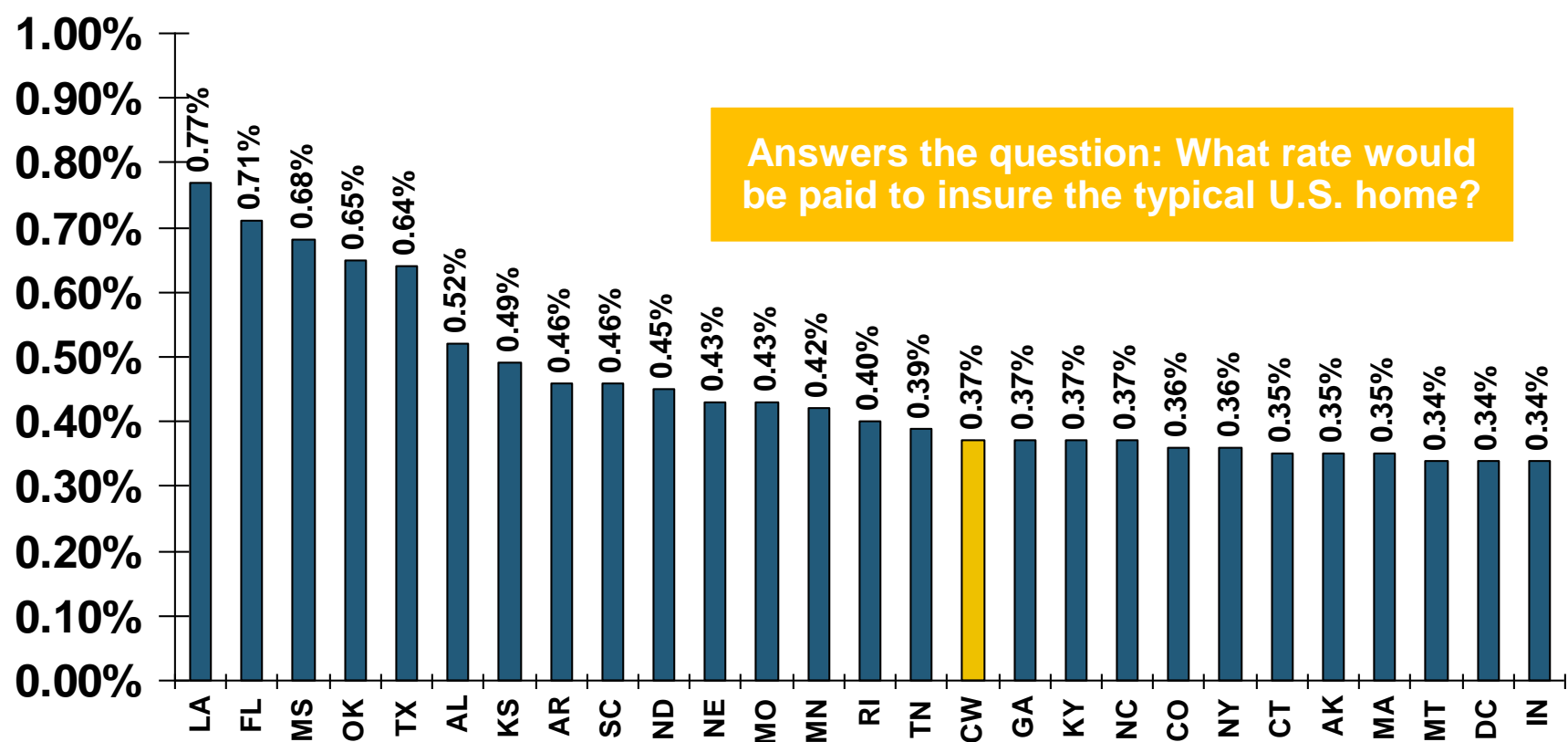
(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides "all risks" coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

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Source: Insurance Information Institute estimate from NAIC data.

Estimated Rate For Median U.S. Home Insurance By State, 2011* (1)

Top 25 States and DC



*Latest available.

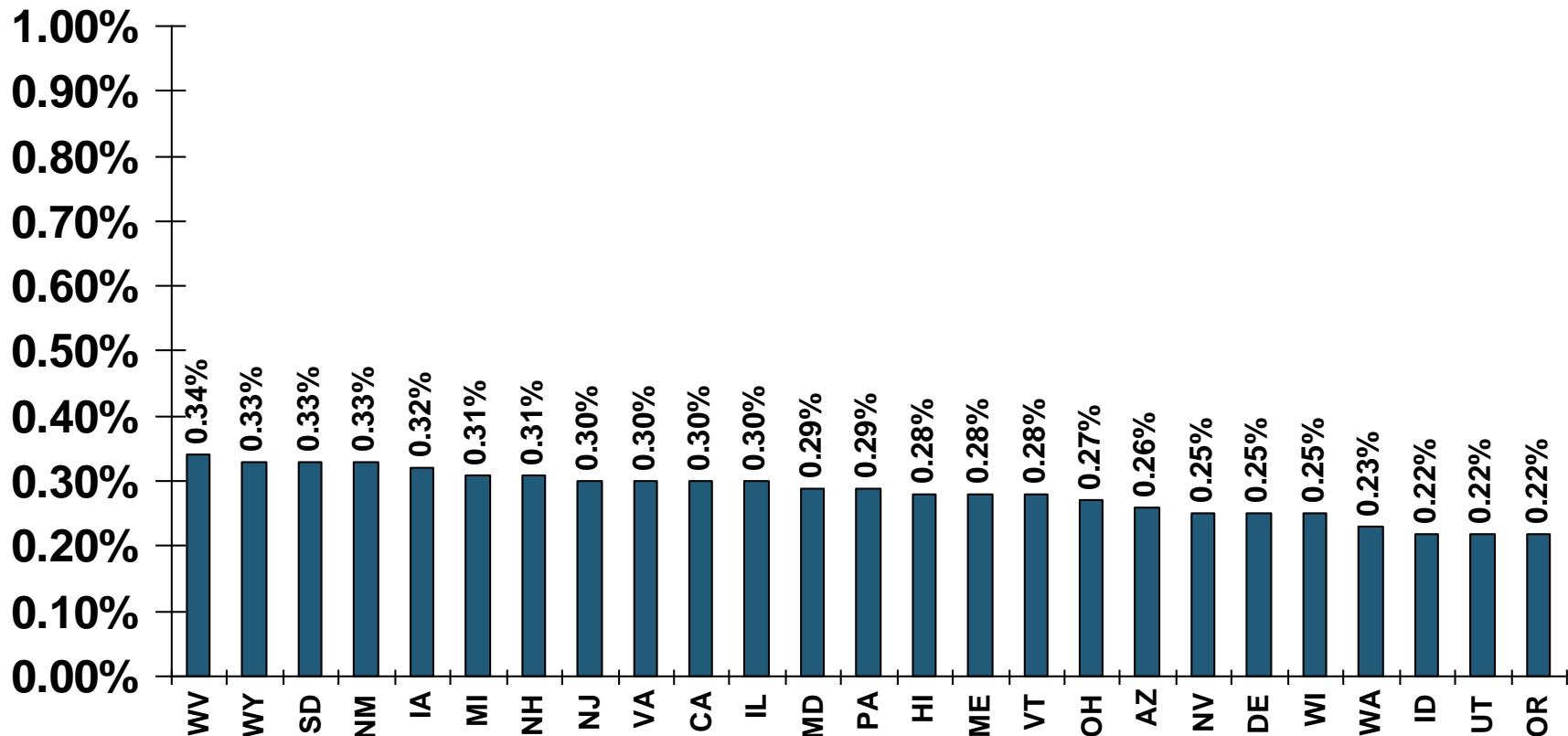
(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides "all risks" coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Estimated median = average premium in median U.S. insurance range/median U.S. insured value of homes in U.S.

Source: Insurance Information Institute estimate from NAIC data.

Estimated Rate For Median U.S. Home Insurance By State, 2011* (1)

Bottom 25 States



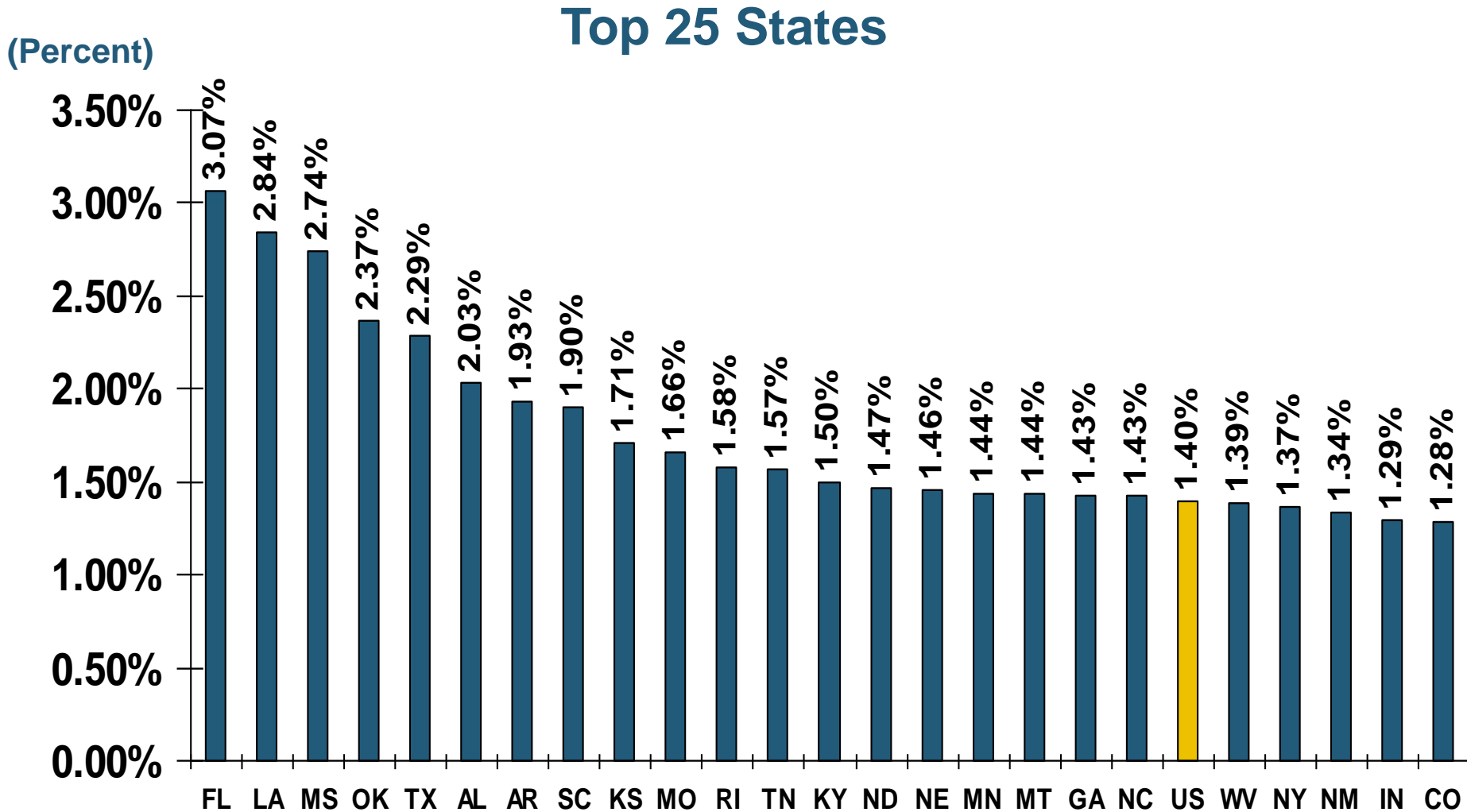
*Latest available.

(1) 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.

Note: Estimated median = average premium in median U.S. insurance range/median U.S. insured value of homes in U.S.

Source: Insurance Information Institute estimate from NAIC data.

Ratio of Avg. Premium for Homeowners Insurance to Median Family Income, 2011



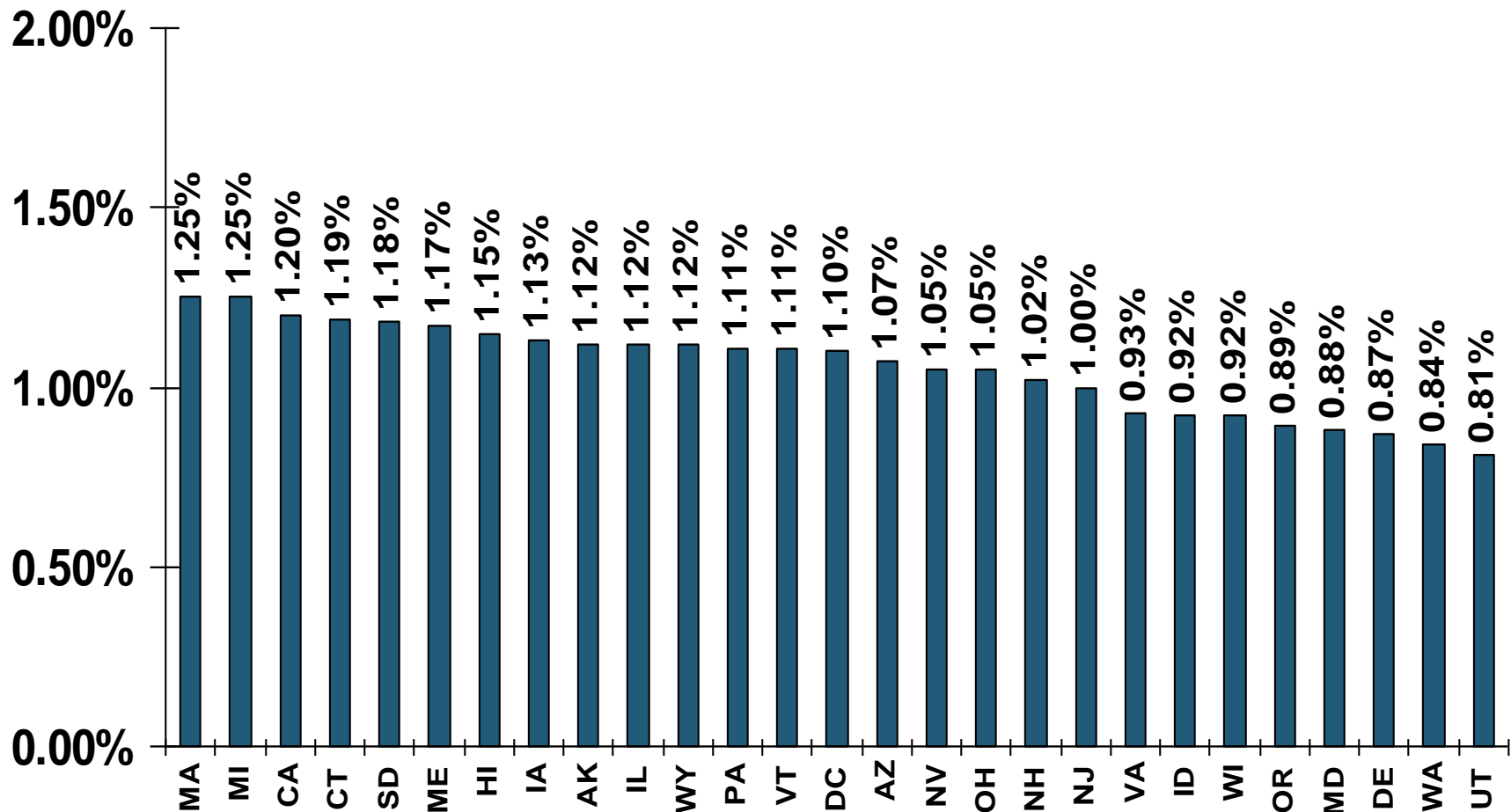
*Average homeowners insurance expenditure as a percentage of the 2011 median income for a family of four

Source: Property Insurance Report, February 10, 2014.

Ratio of Avg. Premium for Homeowners Insurance to Median Family Income, 2011

(Percent)

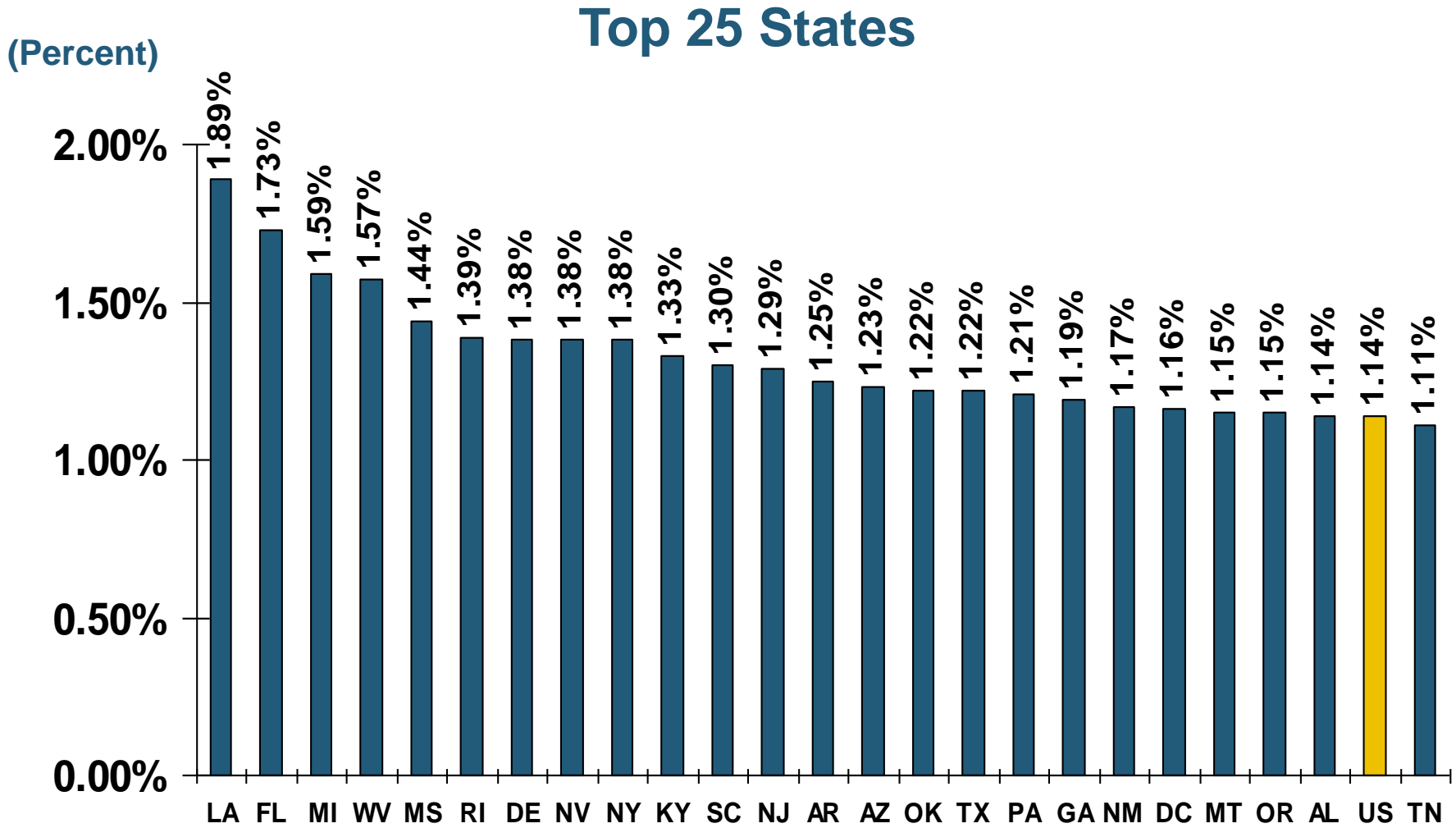
Bottom 25 States



*Average homeowners insurance expenditure as a percentage of the 2011 median income for a family of four

Source: Property Insurance Report, February 10, 2014.

Ratio of Avg. Expenditure for Pvt. Passenger Auto Insurance to Median Family Income, 2011

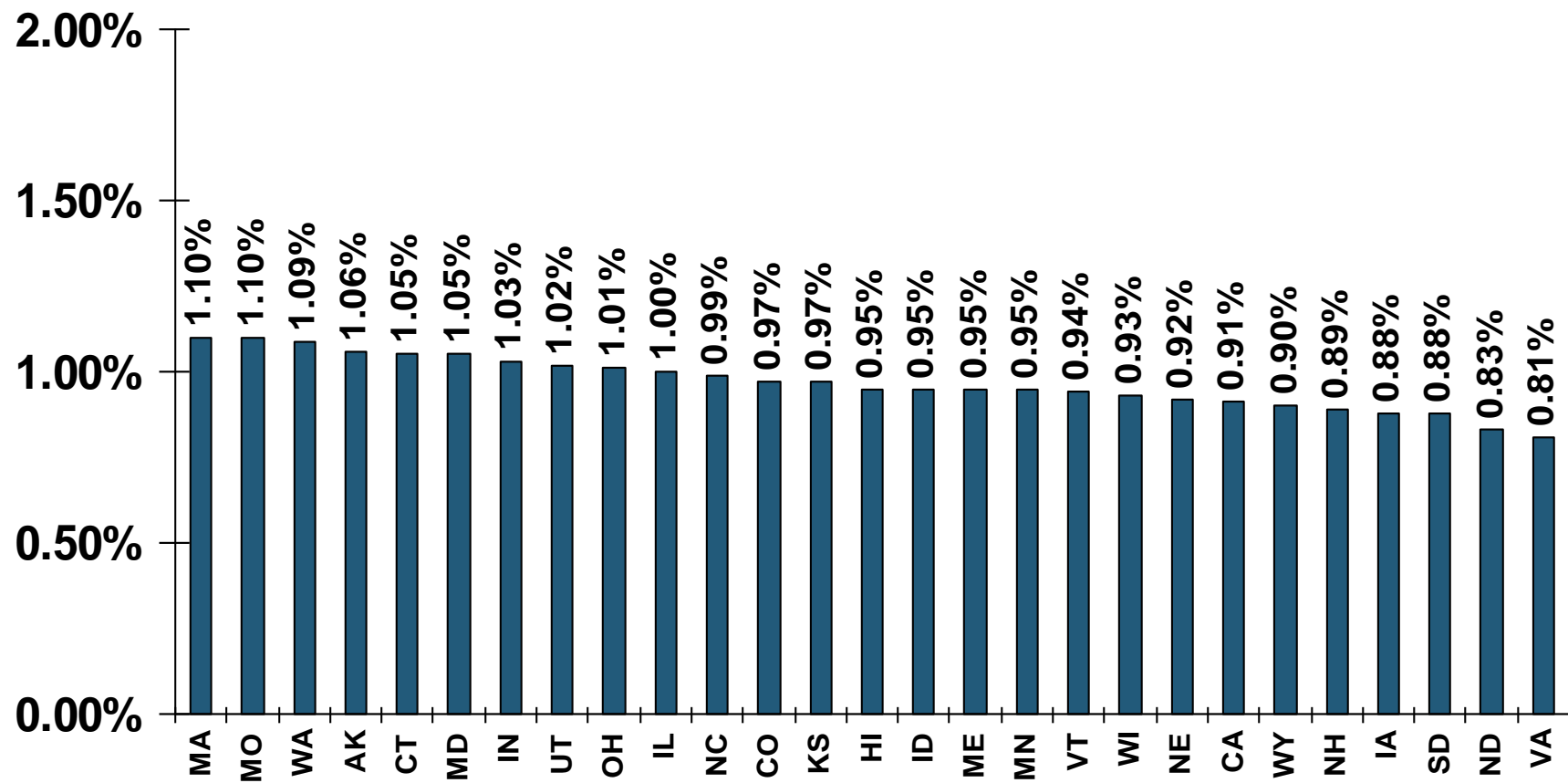


*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Source: Auto Insurance Report, January 20, 2014.

Ratio of Avg. Expenditure for Pvt. Passenger Auto Insurance to Median Family Income, 2011

(Percent)

Bottom 25 States



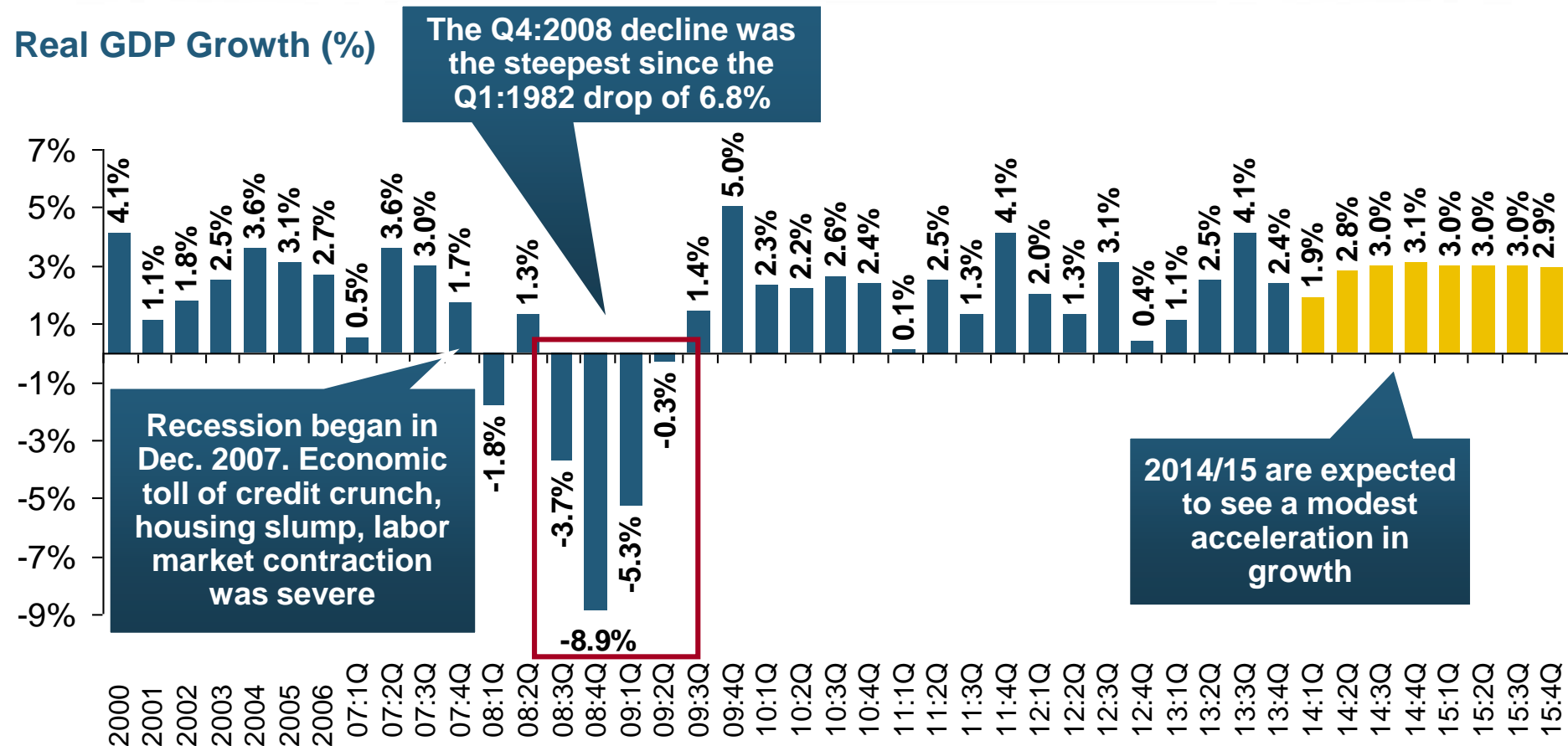
*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Source: Auto Insurance Report, January 20, 2014.



Personal Lines Growth Drivers: The Economy Is Creating Some Opportunities

**Consumer Sentiment is Strong Enough
to Propel Auto Sales and Insurable
Exposures but Not Homes (Yet)**

US Real GDP Growth*

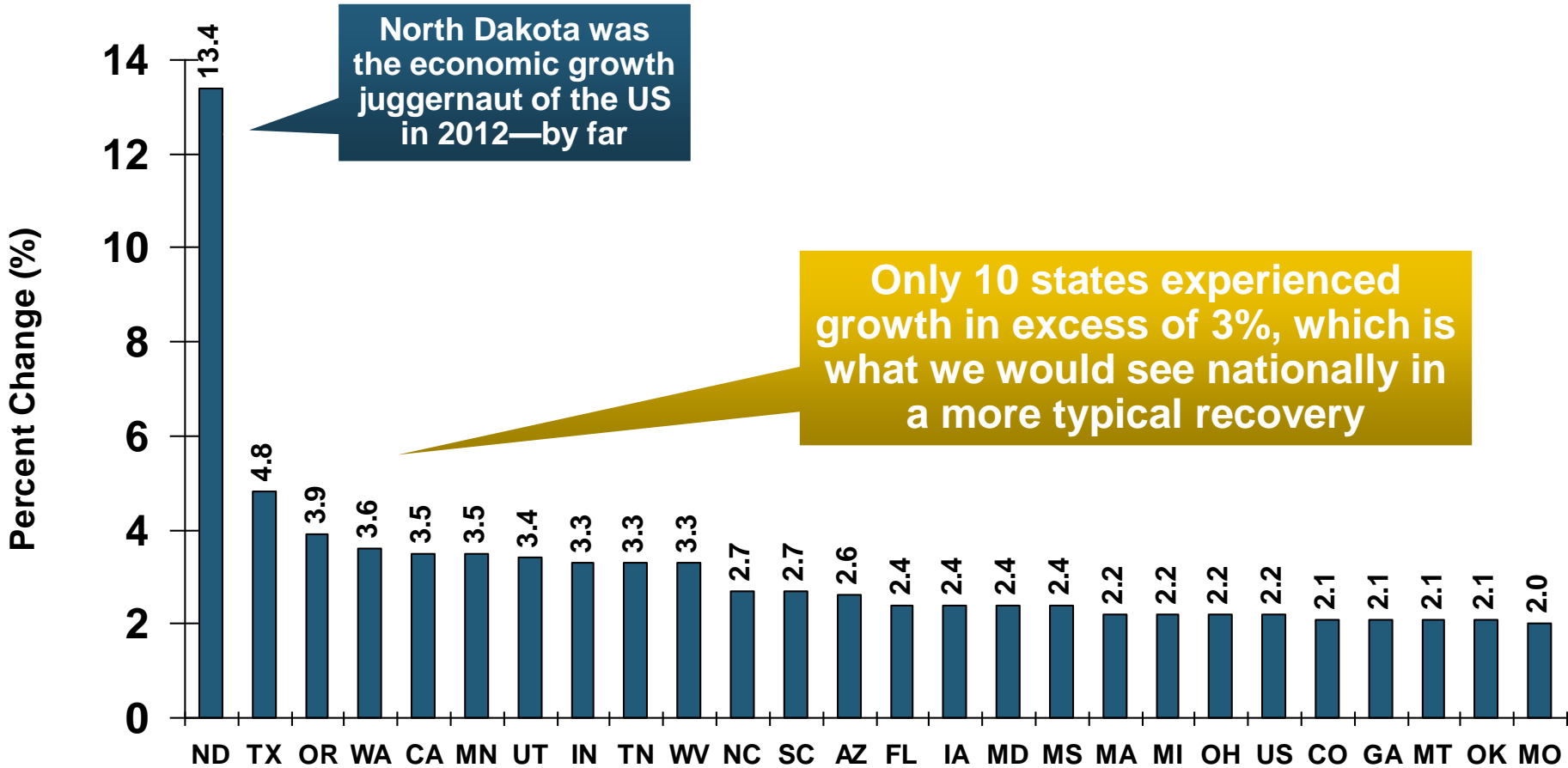


Demand for Insurance Should Increase in 2014/15 as GDP Growth Accelerates Modestly and Gradually Benefits the Economy Broadly

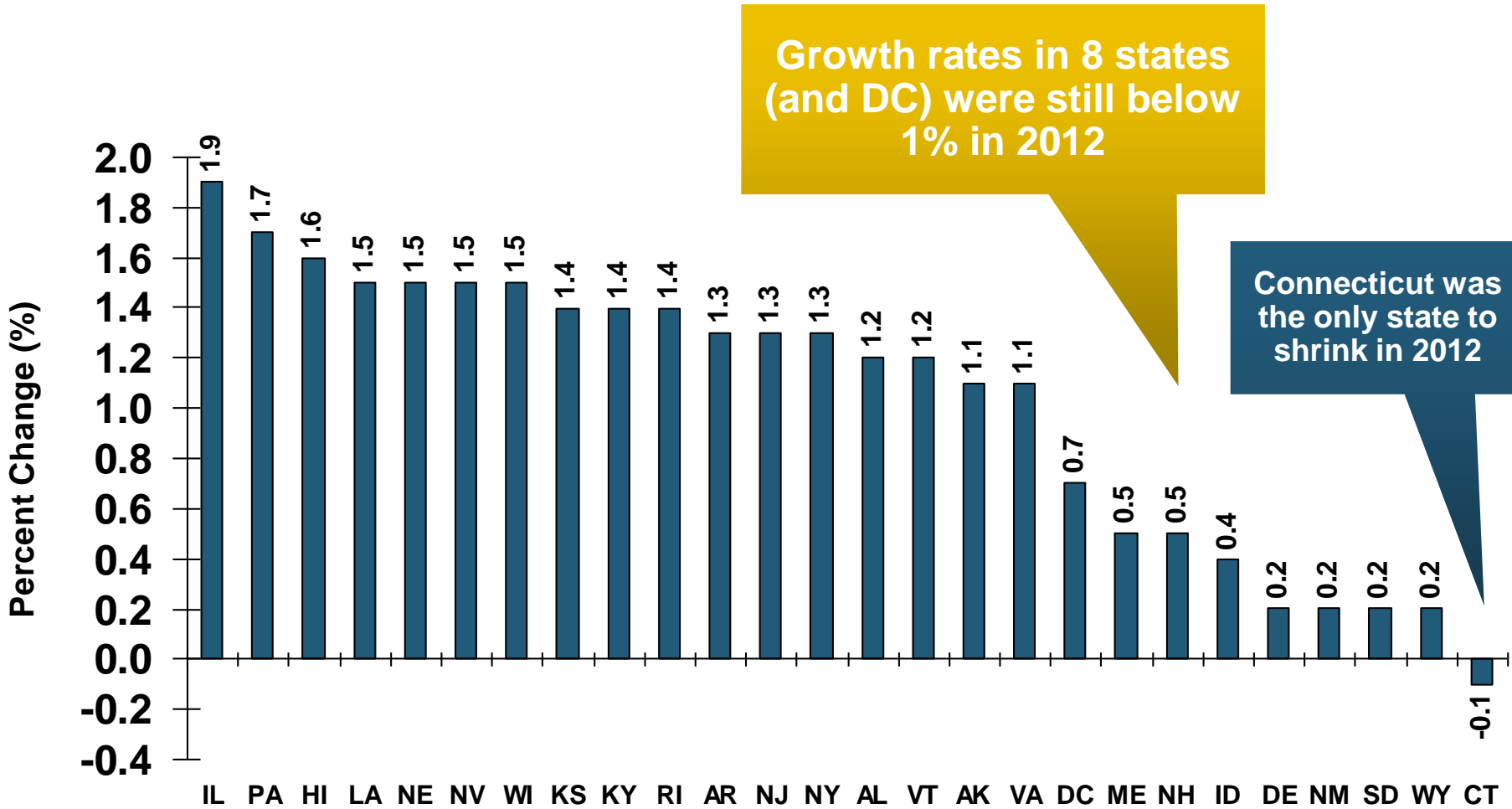
* Estimates/Forecasts from Blue Chip Economic Indicators.

Source: US Department of Commerce, Blue Economic Indicators 3/14; Insurance Information Institute.

Real GDP by State Percent Change, 2012: Highest 25 States

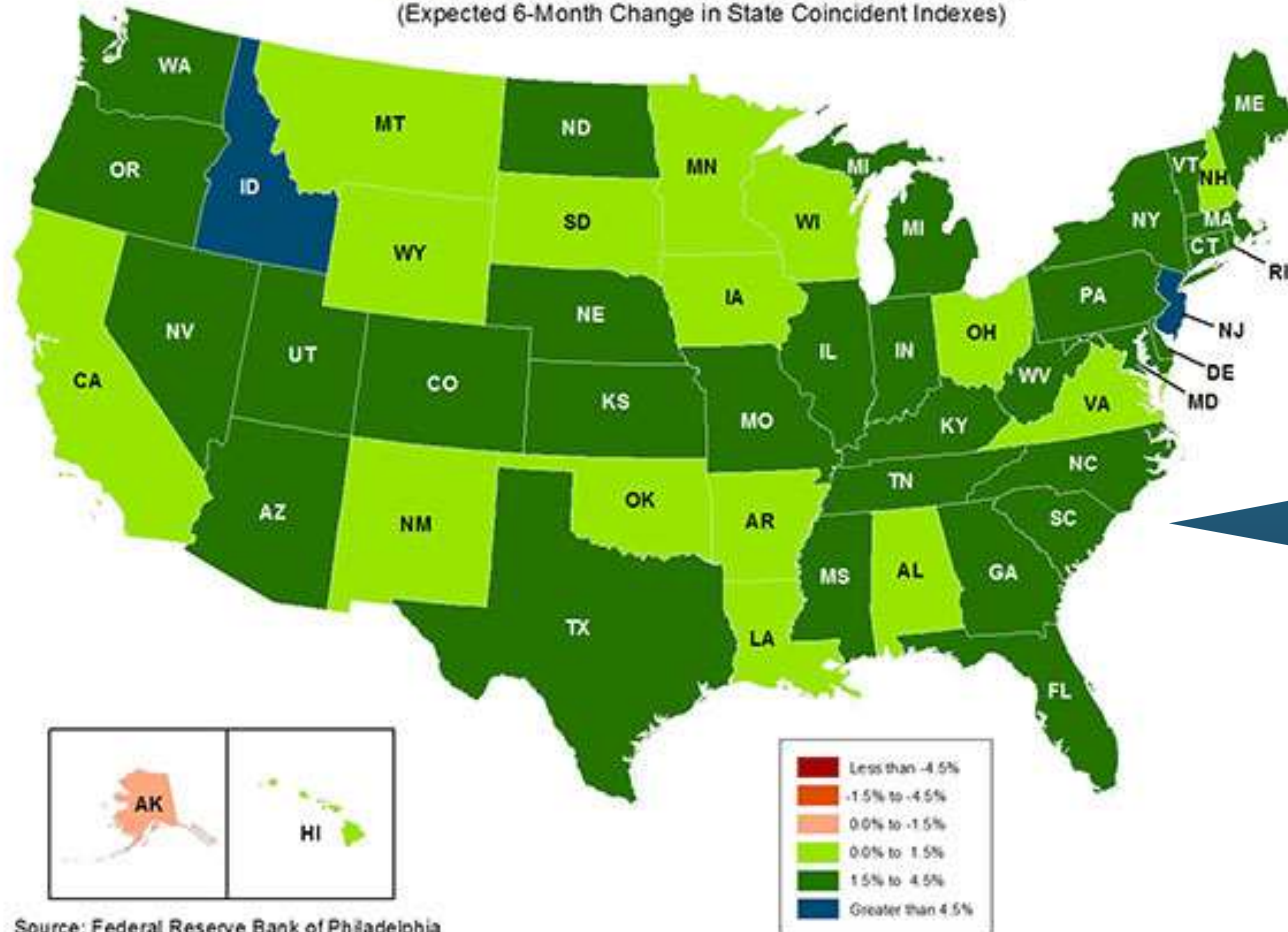


Real GDP by State Percent Change, 2012: Lowest 25 States



State-by-State Leading Indicators through 2014:Q2

November 2013 State Leading Indexes
(Expected 6-Month Change in State Coincident Indexes)

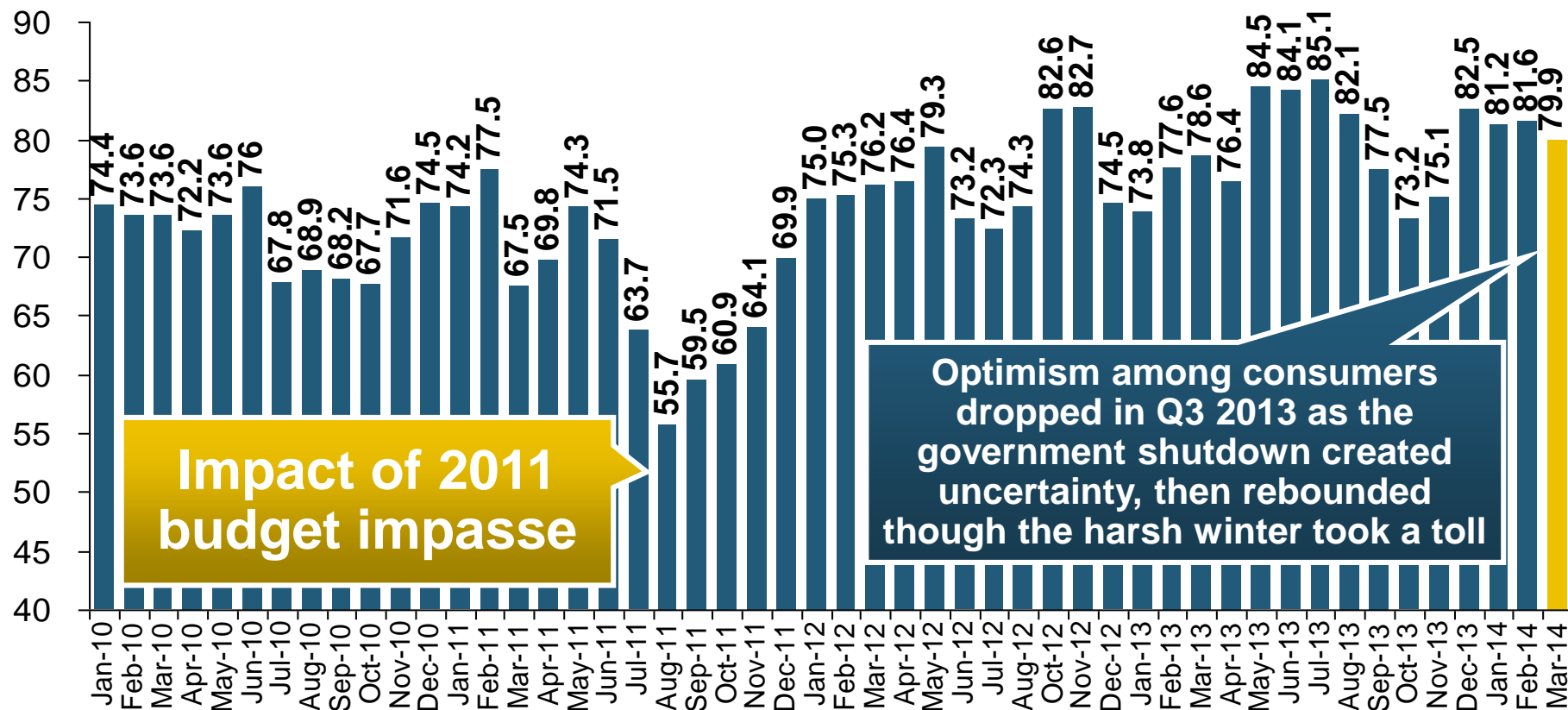


Source: Federal Reserve Bank of Philadelphia

The economic outlook for most of the US is positive for the first time in many years

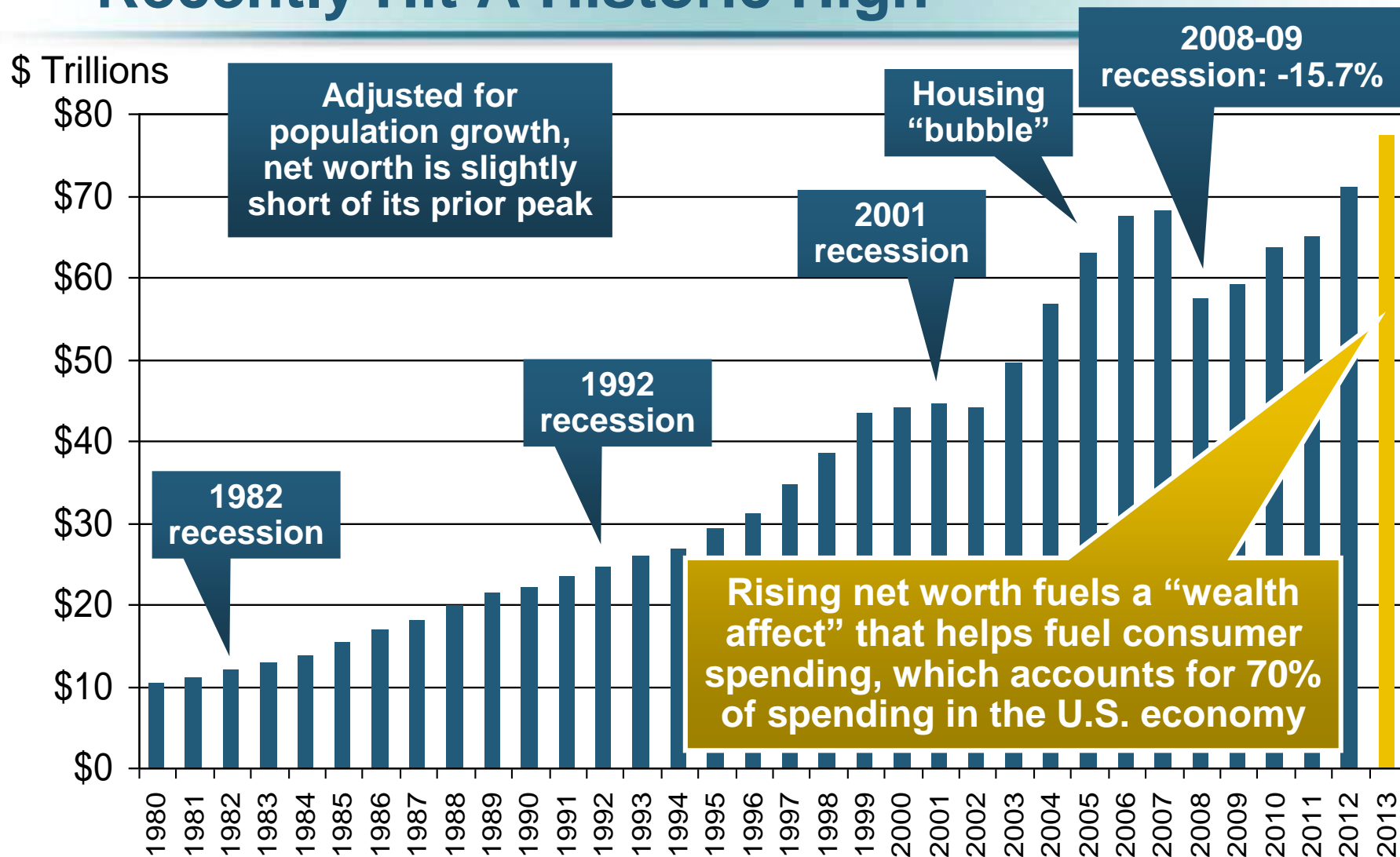
Consumer Sentiment Survey (1966 = 100)

January 2010 through March 2014



Consumer confidence has been low for years amid high unemployment, falling home prices and other factors adversely impact consumers, but improved substantially over the past 2+ years, though uncertainty in Washington sometimes takes a toll.

Net Worth of Households* Recently Hit A Historic High



*and nonprofit organizations. Data are as of year-end, except in 2013:Q3 (data posted on Dec 9, 2013).

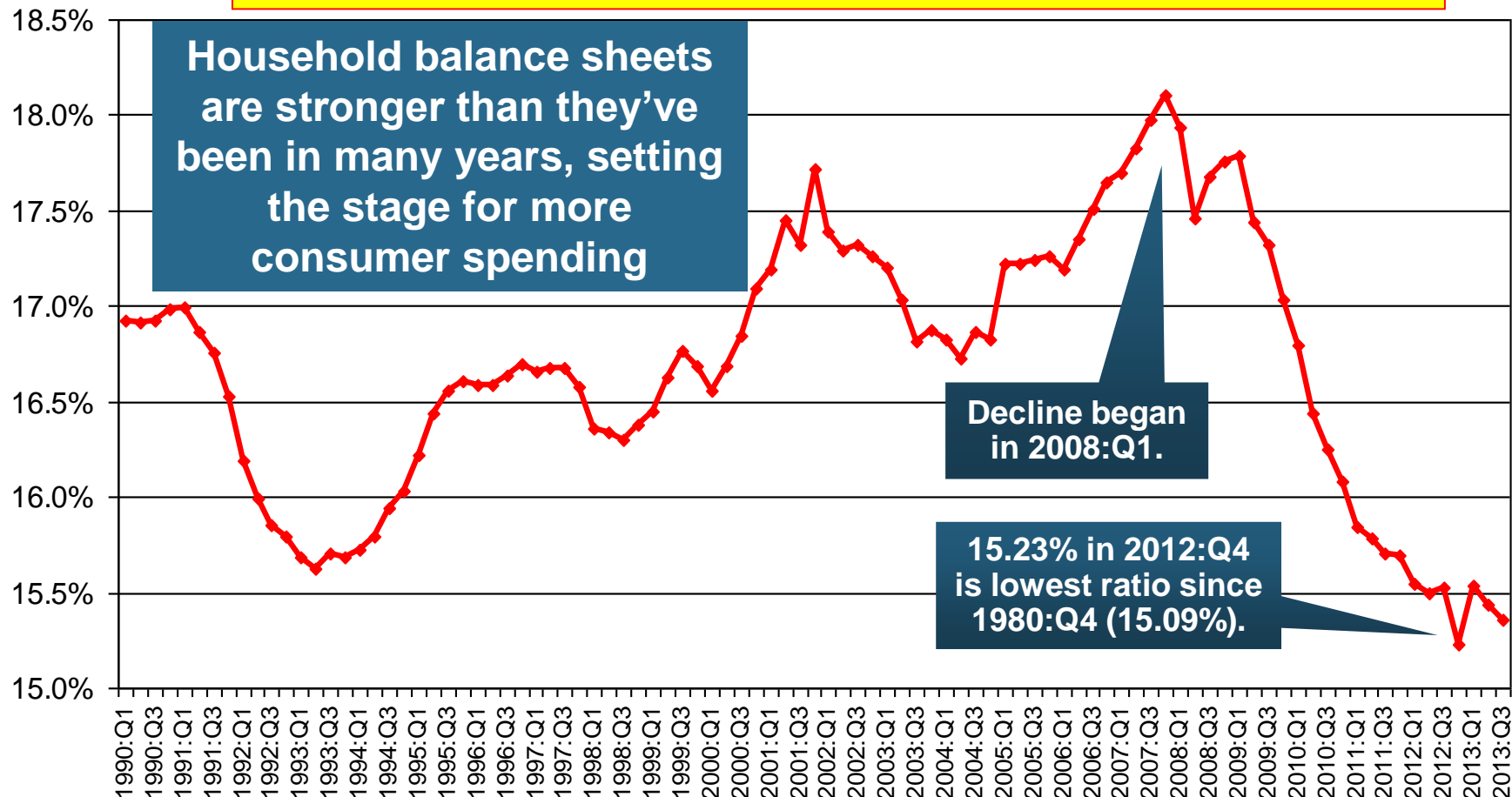
Next release March 6, 2014. Data not seasonally adjusted or inflation-adjusted

Source: Federal Reserve Board

Household Financial Obligations Ratio Recently Hit A Historic Low

Financial
Obligations
Ratio

Financial Obligations Ratio: debt service (mortgage and consumer debt), auto lease, residence rent, HO insurance, and property tax payments as % of personal disposable income.

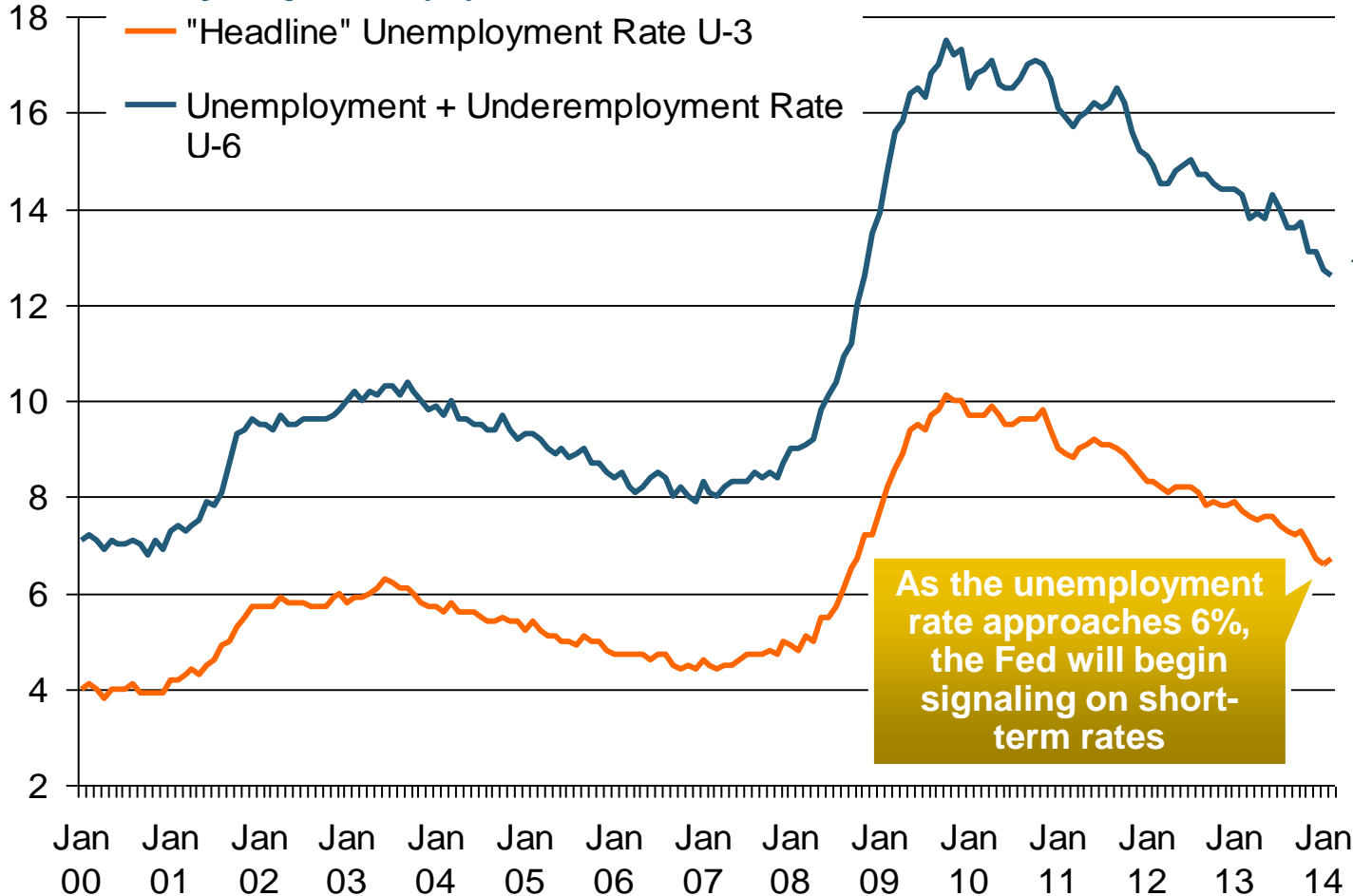


*through 2013:Q3 (data posted on Dec 13, 2013)

Source: Federal Reserve Board, at <http://www.federalreserve.gov/releases/housedebt>

Unemployment and Underemployment Rates: Still Too High, But Falling

January 2000 through February 2014,
Seasonally Adjusted (%)



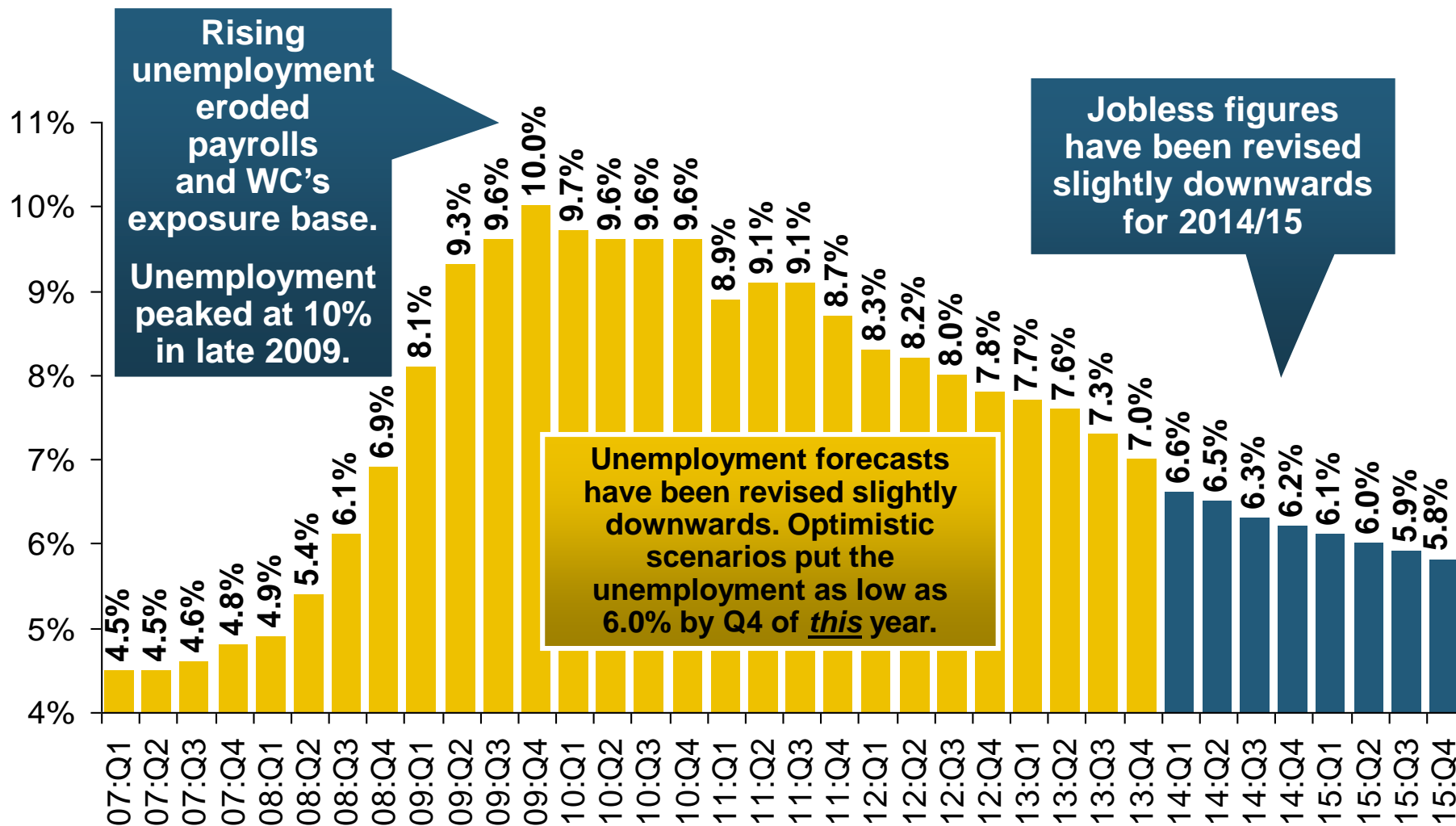
U-6 went from 8.0% in March 2007 to 17.5% in October 2009; Stood at 12.6% in Feb. 2014. 8% to 10% is "normal."

"Headline" unemployment was 6.7% in February 2014. 4% to 6% is "normal."

Stubbornly high unemployment and underemployment constrain overall economic growth, but the job market is now clearly improving.

US Unemployment Rate Forecast

2007:Q1 to 2015:Q4F*

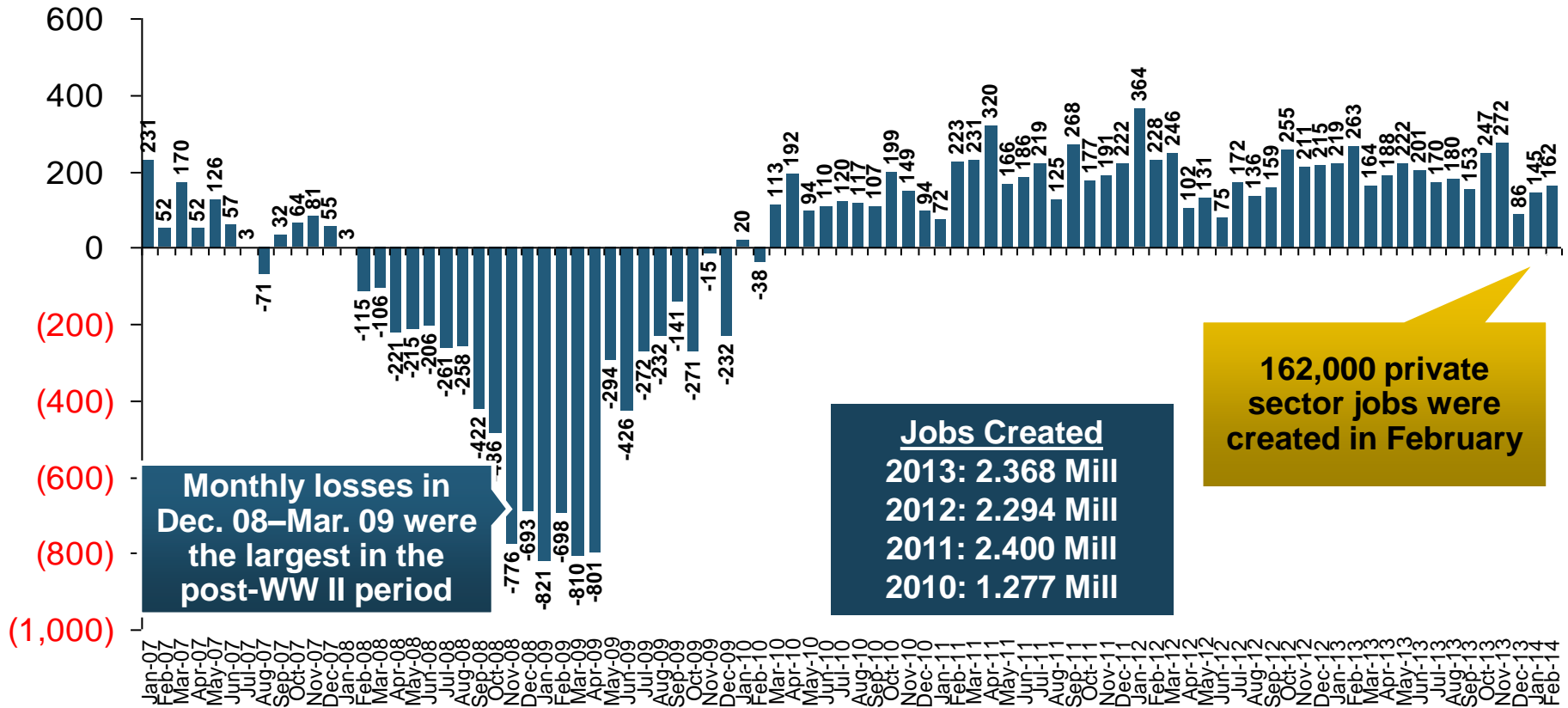


* ■ = actual; ■ = forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (3/14 edition); Insurance Information Institute.

Monthly Change in Private Employment

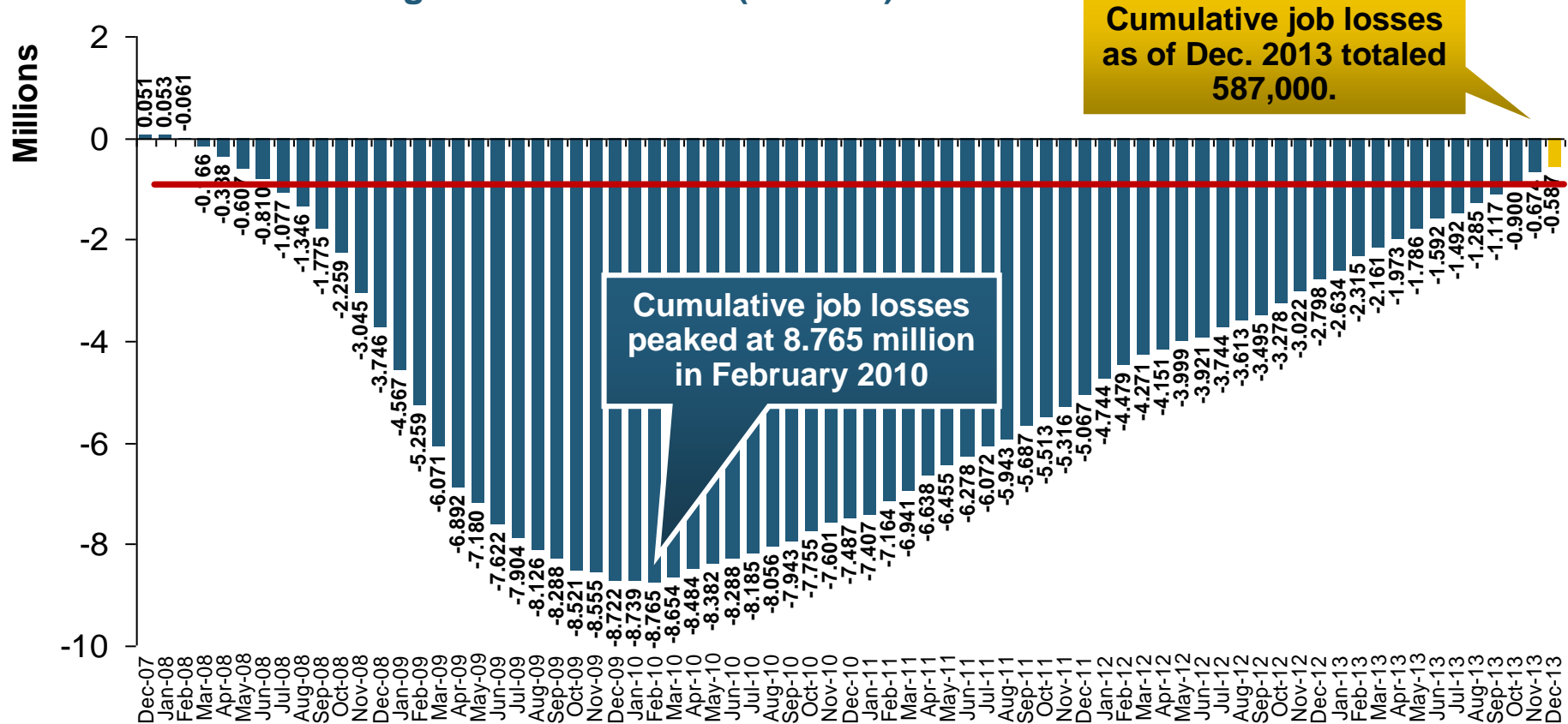
January 2007 through February 2014 (Thousands, Seasonally Adjusted)



Private Employers Added 8.34 million Jobs Since Jan. 2010 After Having Shed 5.01 Million Jobs in 2009 and 3.76 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

Cumulative Change in Private Employment: Dec. 2007—Dec. 2013

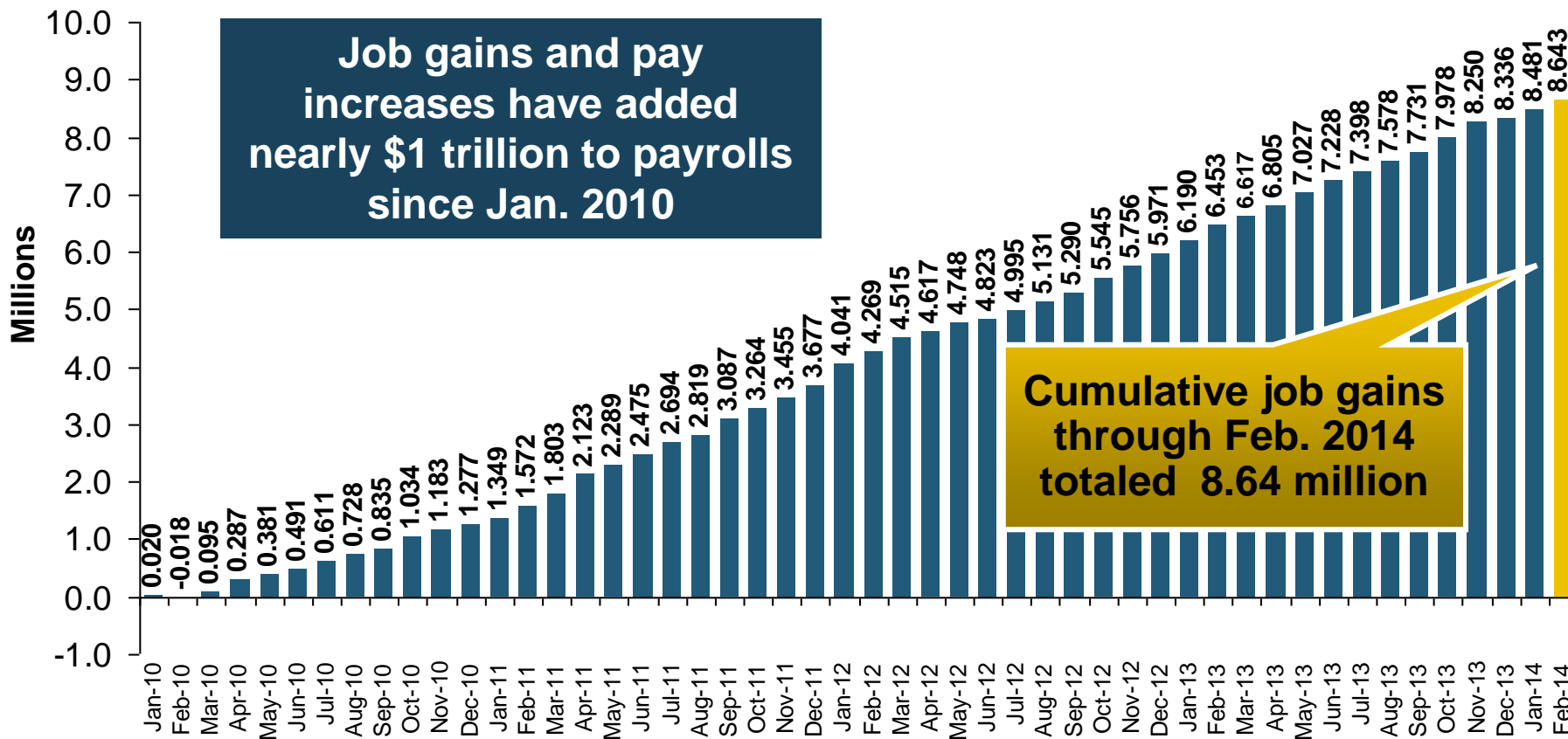
December 2007 through December 2013 (Millions)



Private Employers Added 8.14 million Jobs Since Jan. 2010 After Having Shed 4.98 Million Jobs in 2009 and 3.80 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

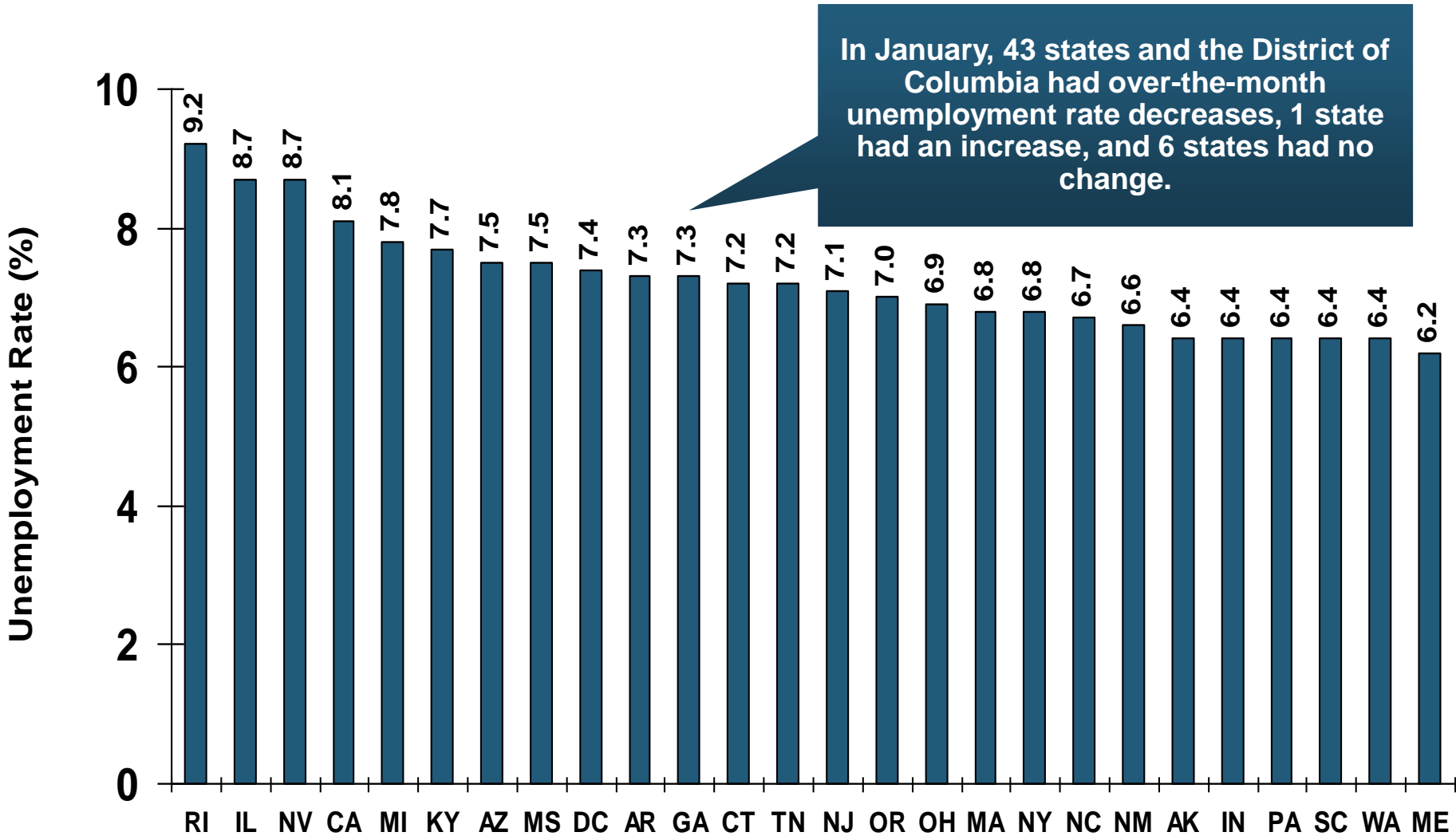
Cumulative Change in Private Sector Employment: Jan. 2010—Feb. 2014

January 2010 through February 2014* (Millions)



Private Employers Added 8.64 million Jobs Since Jan. 2010 After Having Shed 4.98 Million Jobs in 2009 and 3.80 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

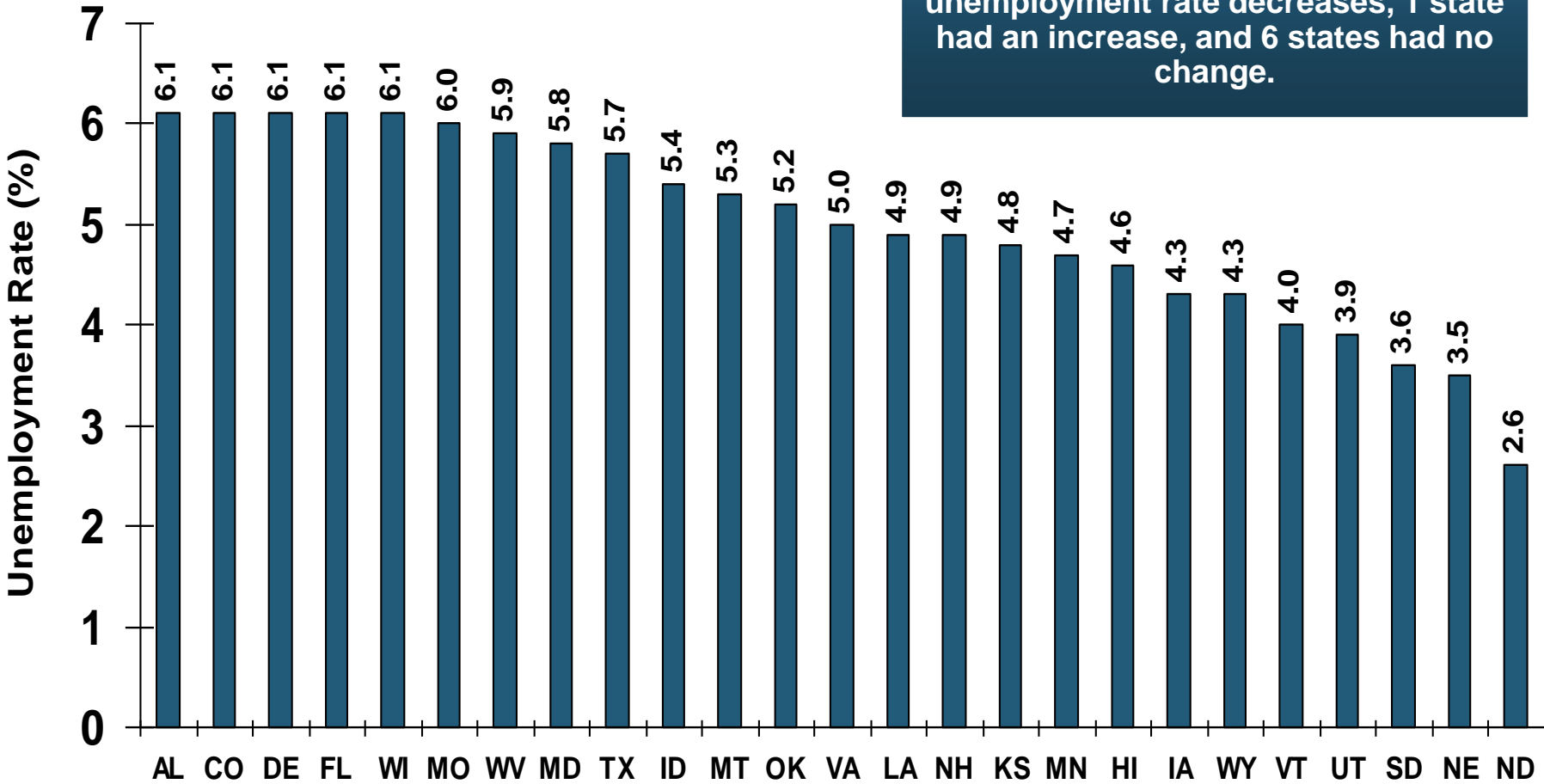
Unemployment Rates by State, January 2014: Highest 25 States*



*Provisional figures for January 2014, seasonally adjusted.
Sources: US Bureau of Labor Statistics; Insurance Information Institute.

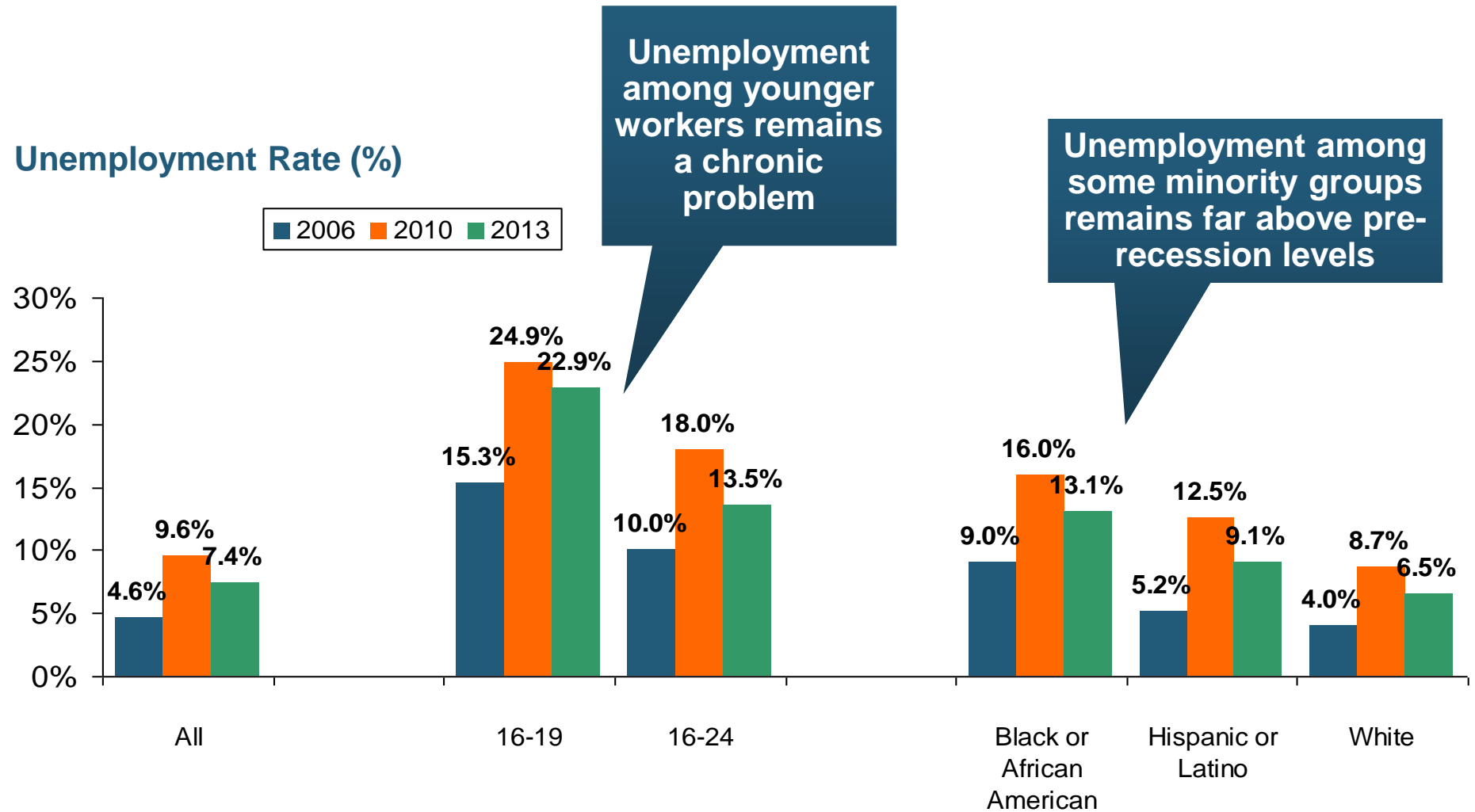
Unemployment Rates by State, January 2014: Lowest 25 States*

In January, 43 states and the District of Columbia had over-the-month unemployment rate decreases, 1 state had an increase, and 6 states had no change.



*Provisional figures for January 2014, seasonally adjusted.
Sources: US Bureau of Labor Statistics; Insurance Information Institute.

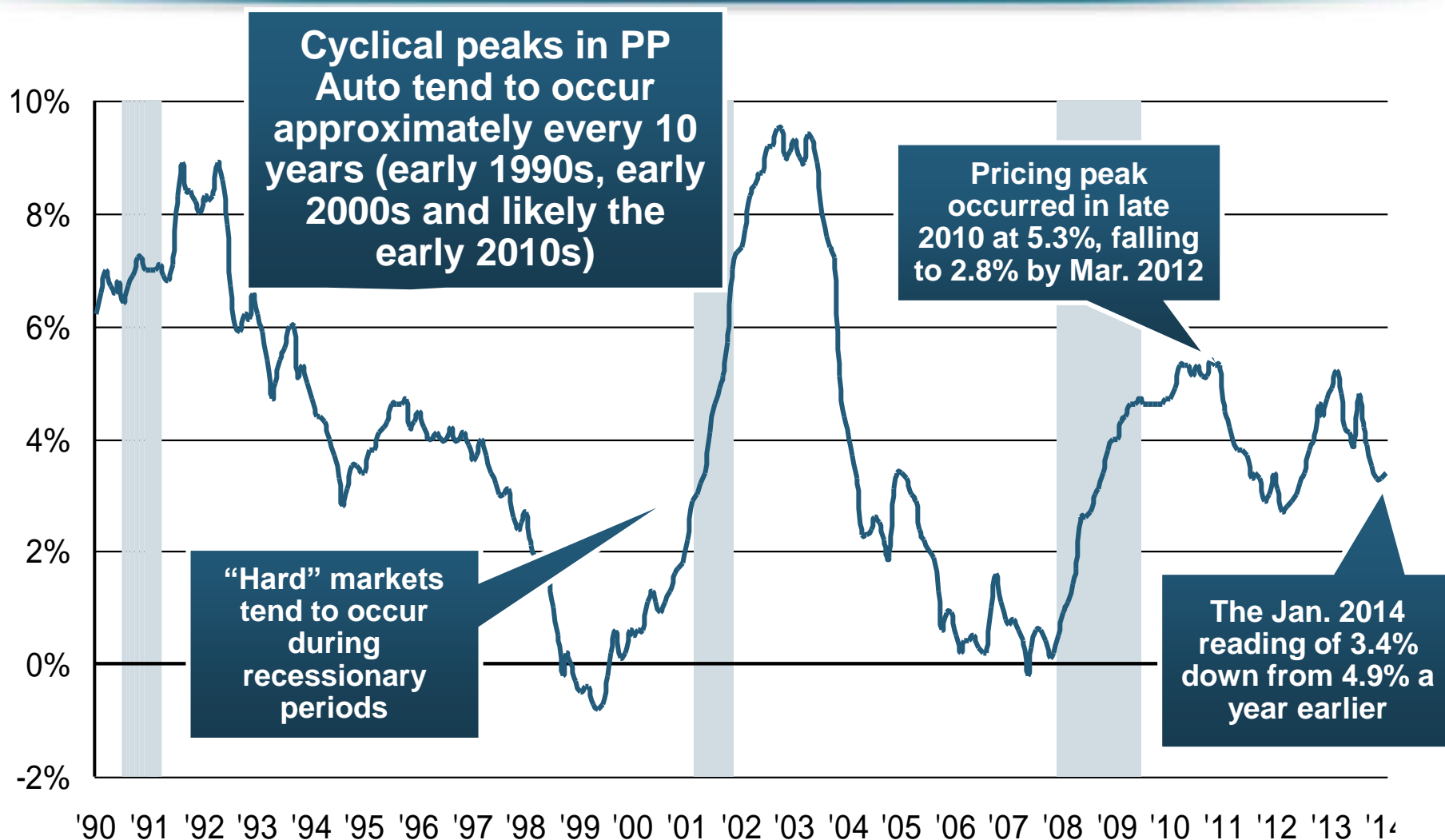
Unemployment Rates by Age and Race: 2006, 2010 and 2013



Personal Lines Growth Drivers

**Rate is Presently a Bigger
Driver than Exposure**

Monthly Change* in Auto Insurance Prices, 1991–2014*



*Percentage change from same month in prior year; through January 2014; 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.

Monthly Change* in Auto Insurance Prices, January 2005 - December 2013

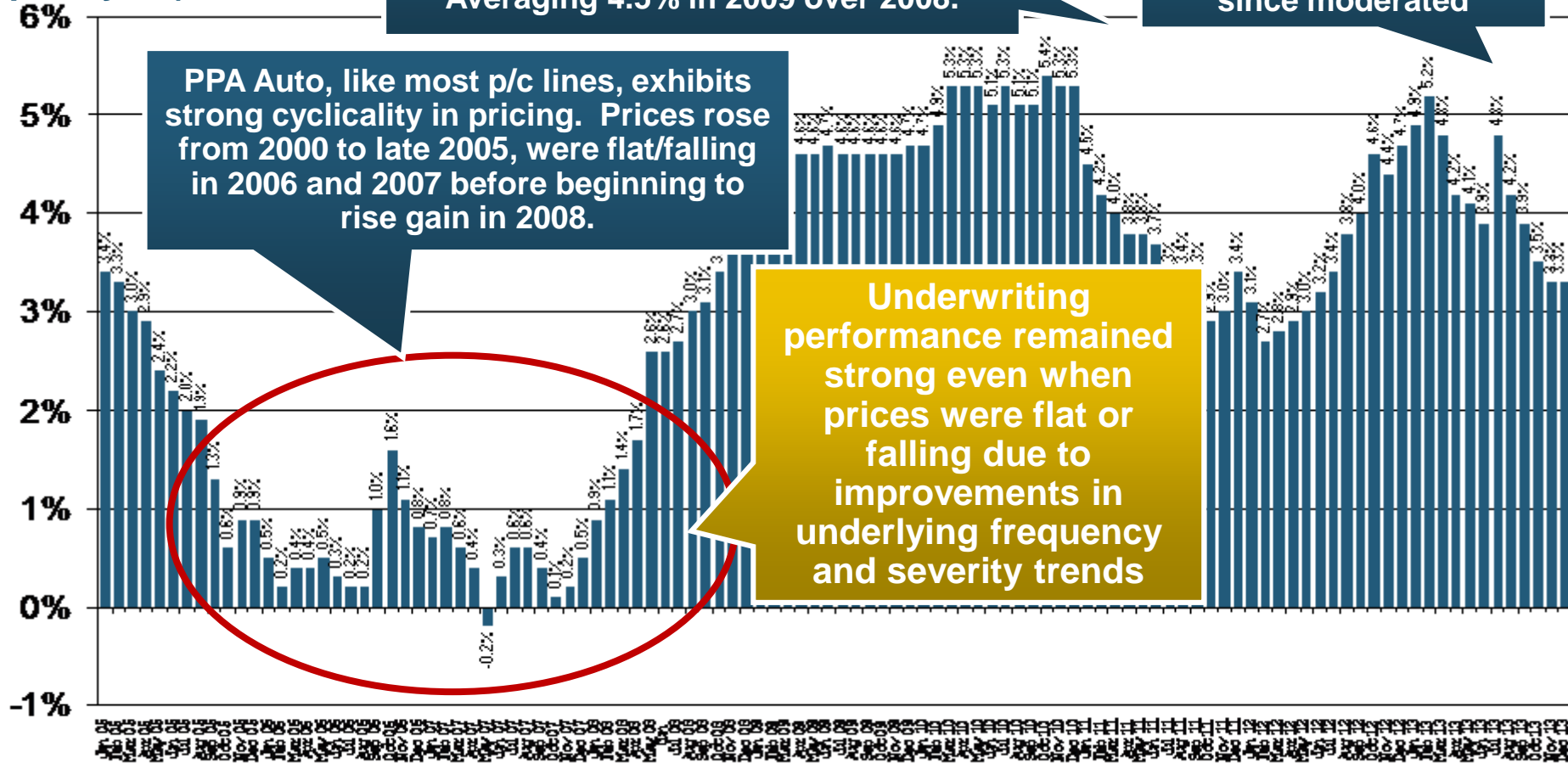
(Percent Change from same month, prior year)

Auto Insurance Price Increases Averaged 5.1% in 2010 over 2009, After Averaging 4.5% in 2009 over 2008.

Pricing weakened in 2011, strengthened in 2012/early 2013 but has since moderated

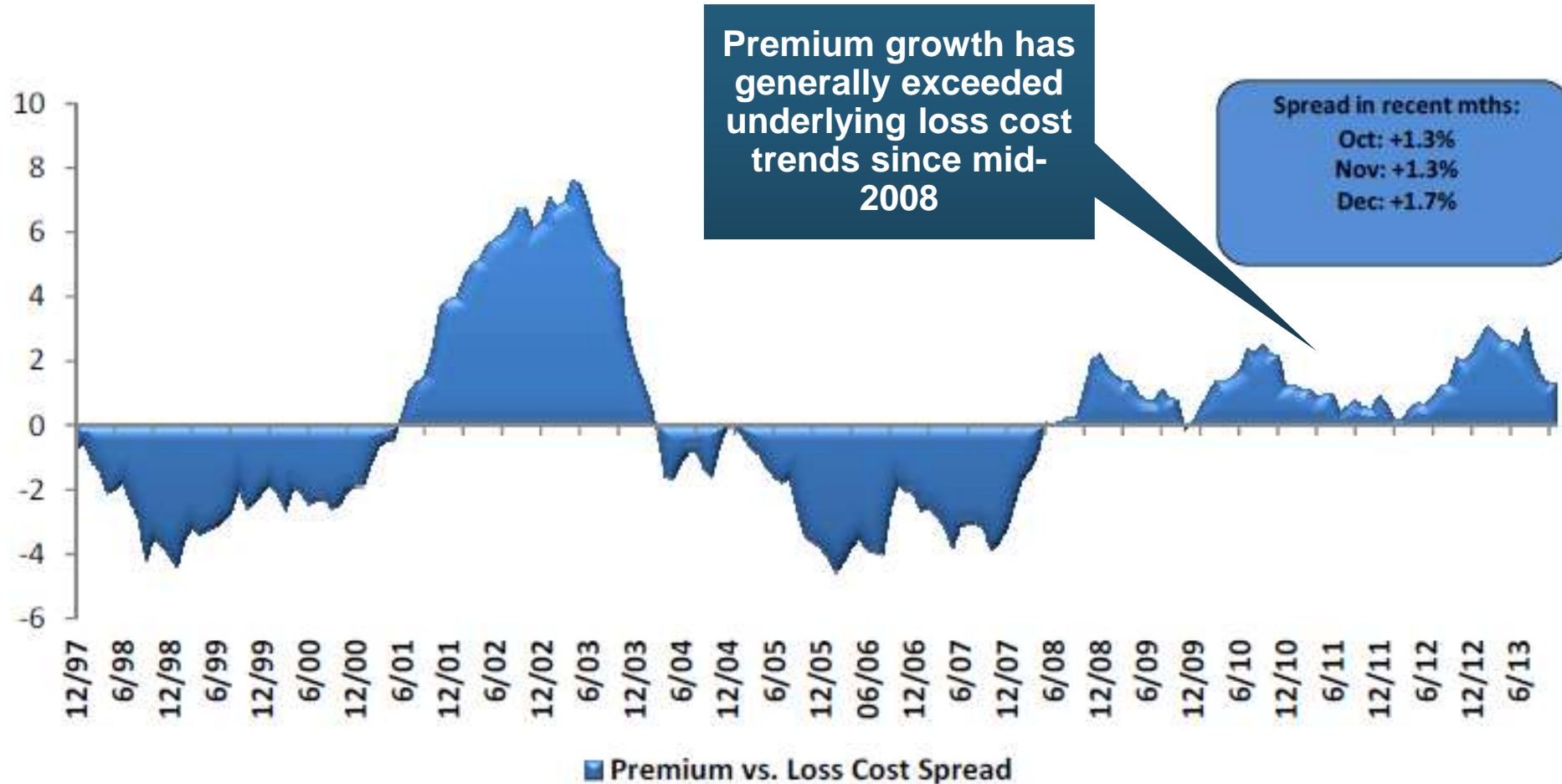
PPA Auto, like most p/c lines, exhibits strong cyclicity in pricing. Prices rose from 2000 to late 2005, were flat/falling in 2006 and 2007 before beginning to rise again in 2008.

Underwriting performance remained strong even when prices were flat or falling due to improvements in underlying frequency and severity trends



*Percentage change from same month in prior year, seasonally adjusted.
Sources: US Bureau of Labor Statistics; Insurance Information Institute

Private Passenger Auto: Premium Growth vs. Loss Cost Spread

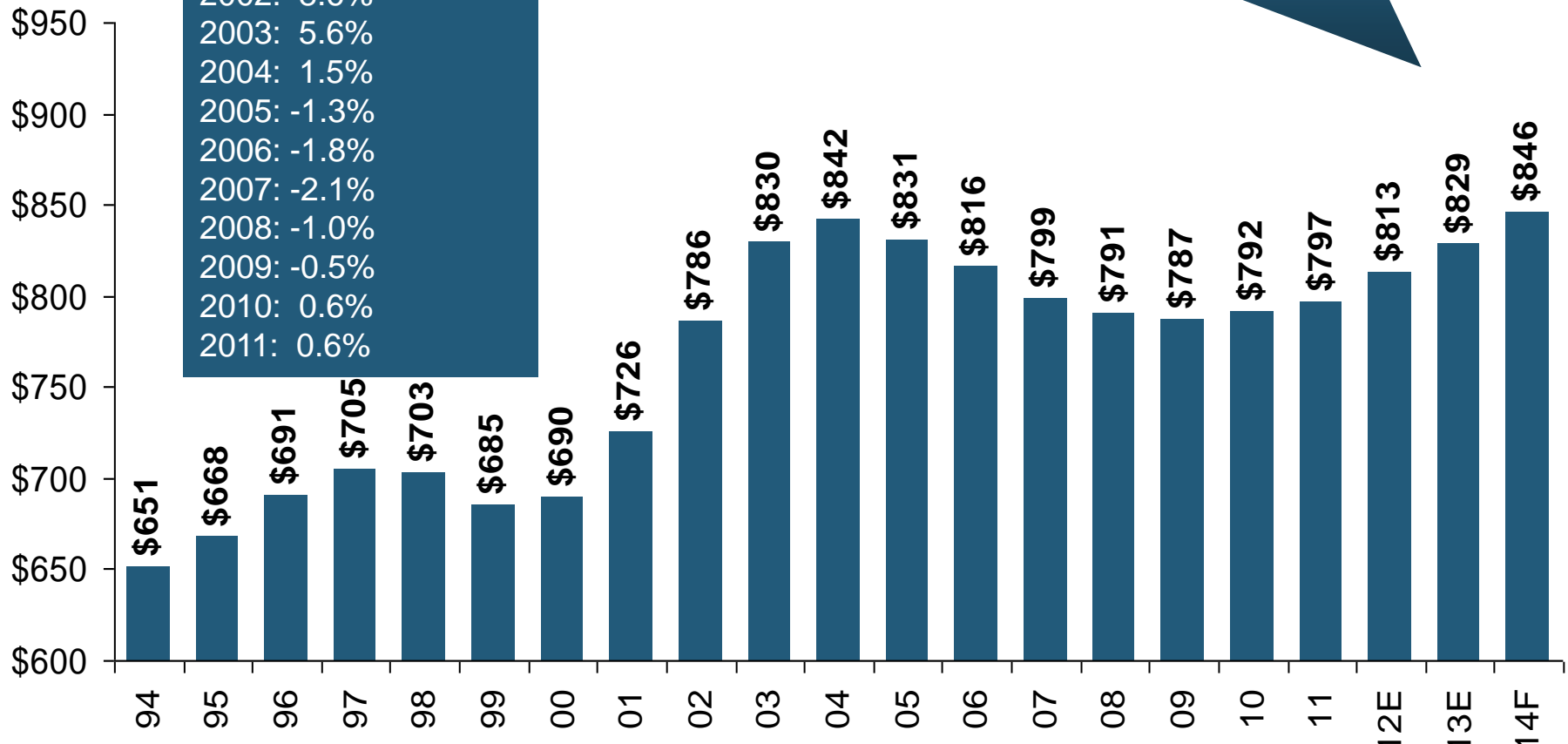


Average Expenditures* on Auto Insurance, 1994-2014F

Annual Pct Changes

2001: 5.2%
2002: 8.6%
2003: 5.6%
2004: 1.5%
2005: -1.3%
2006: -1.8%
2007: -2.1%
2008: -1.0%
2009: -0.5%
2010: 0.6%
2011: 0.6%

The average expenditure on auto insurance is lower today than it was in 2004

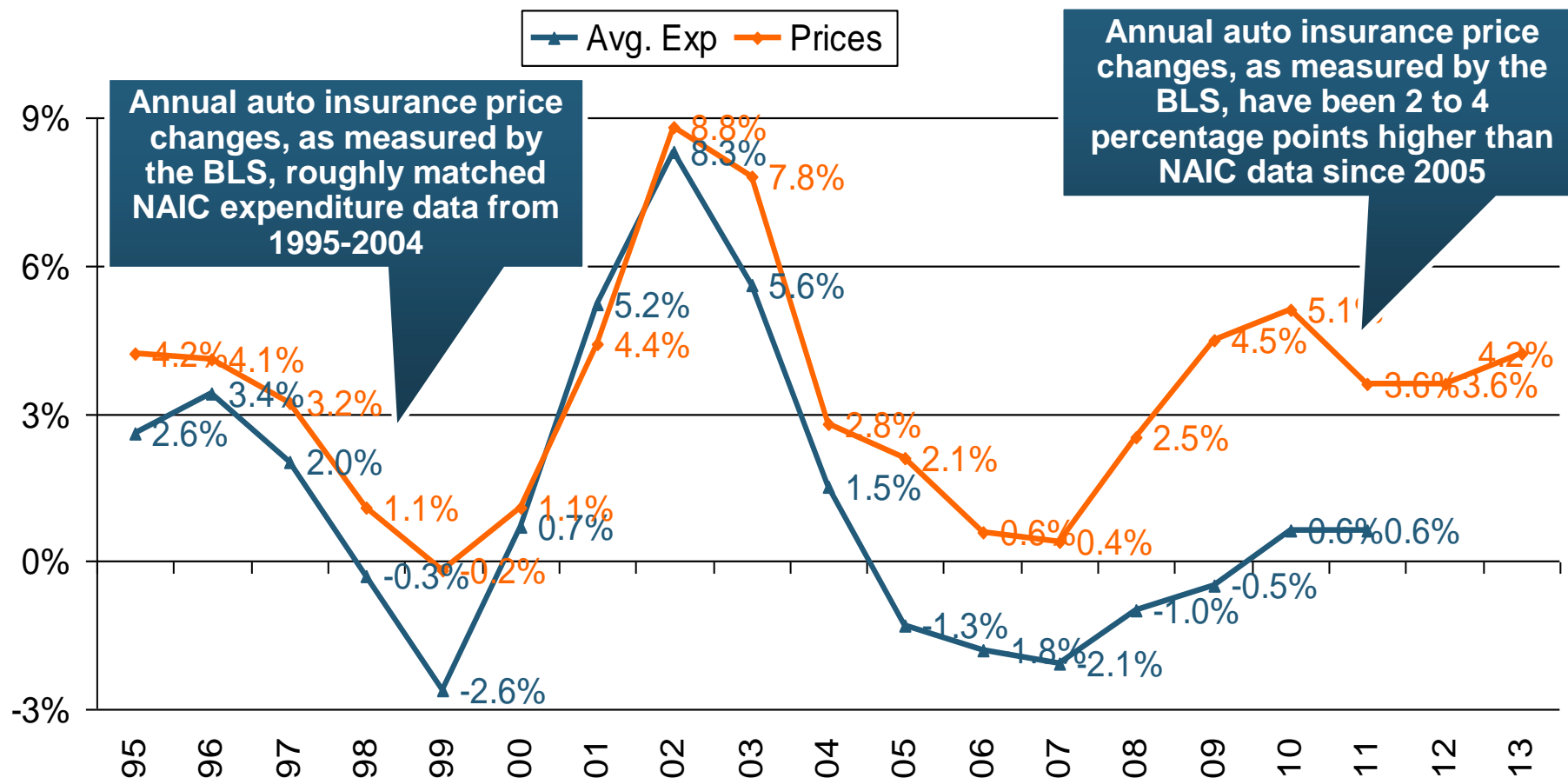


Across the U.S., auto insurance expenditures fell by 0.8% in 2008 and 0.5% in 2009 but rose 0.5% in 2010 and 0.8% in 2011. I.I.I. estimates for 2012-2014 are each +2.0%.

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

Sources: NAIC for 1994-2011; Insurance Information Institute estimates for 2012-2014 based on CPI and other data.

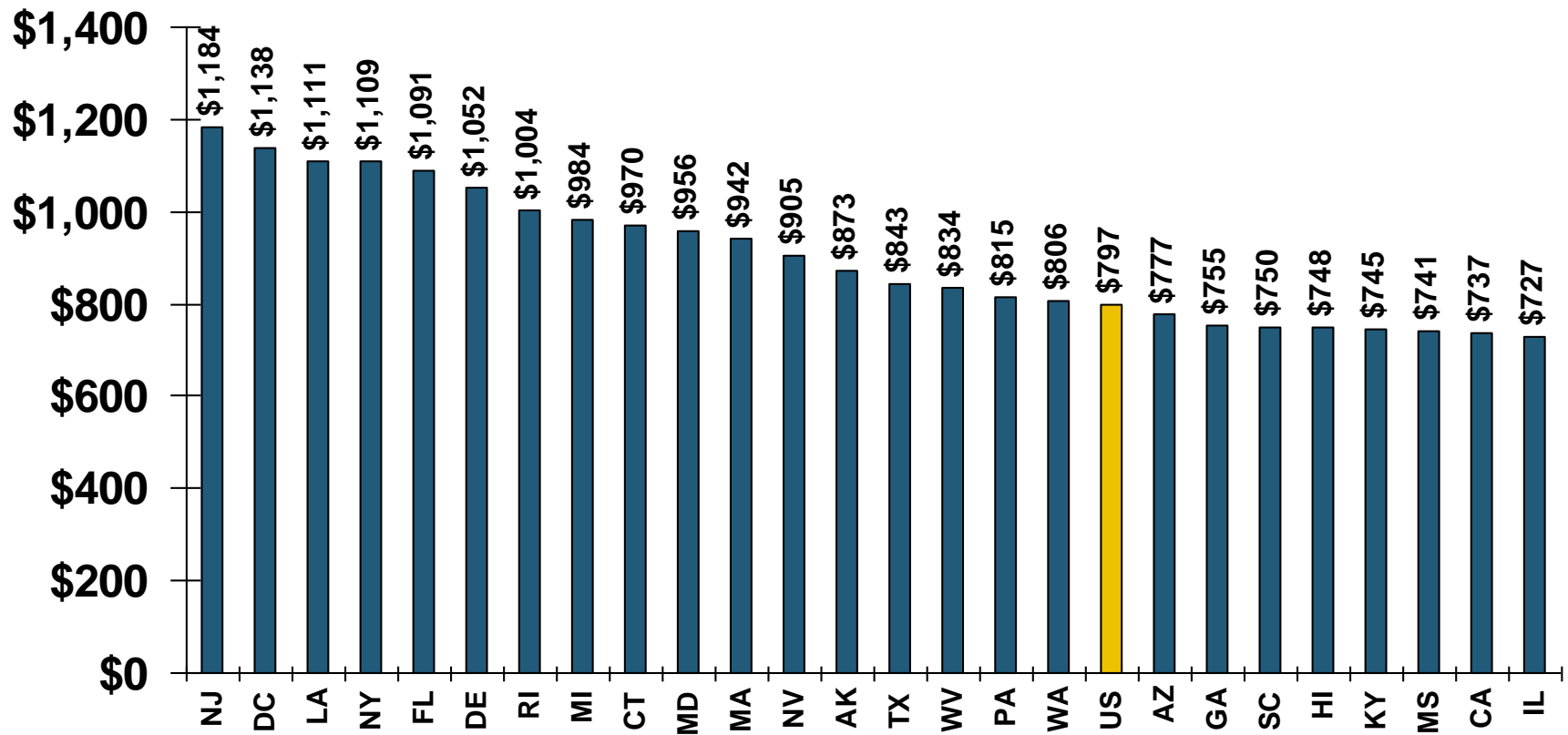
Annual Pct. Change in Avg. Expenditures on Auto Insurance, vs. Auto Insurance Prices, 1995-2011



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

Average Expenditures For Auto Insurance By State, 2011

Top 25 States

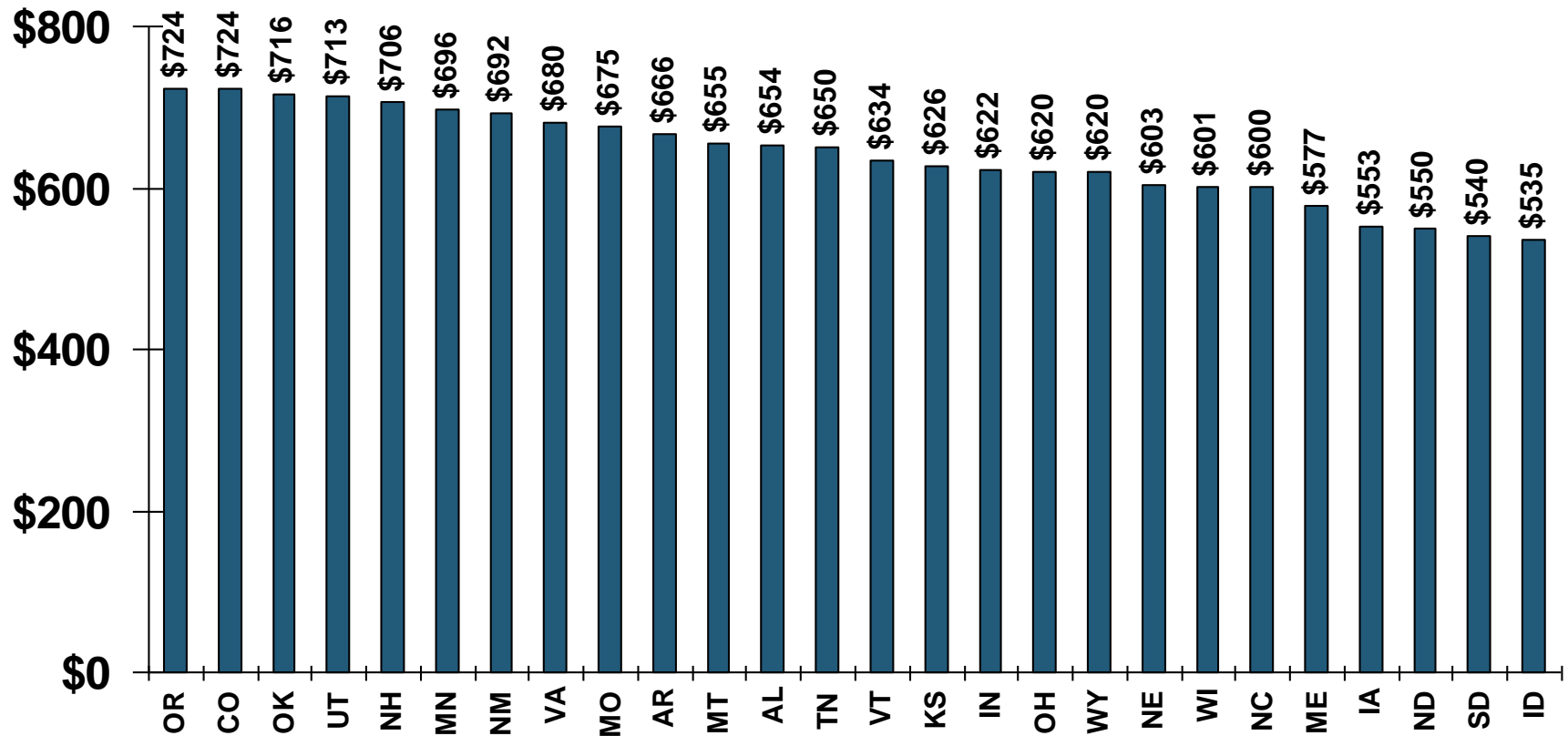


Note: Average expenditure=Total written premium/liability car years. A car year is equal to 365 days of insured coverage for a single vehicle.

Source: © 2012 National Association of Insurance Commissioners.

Average Expenditures For Auto Insurance By State, 2011

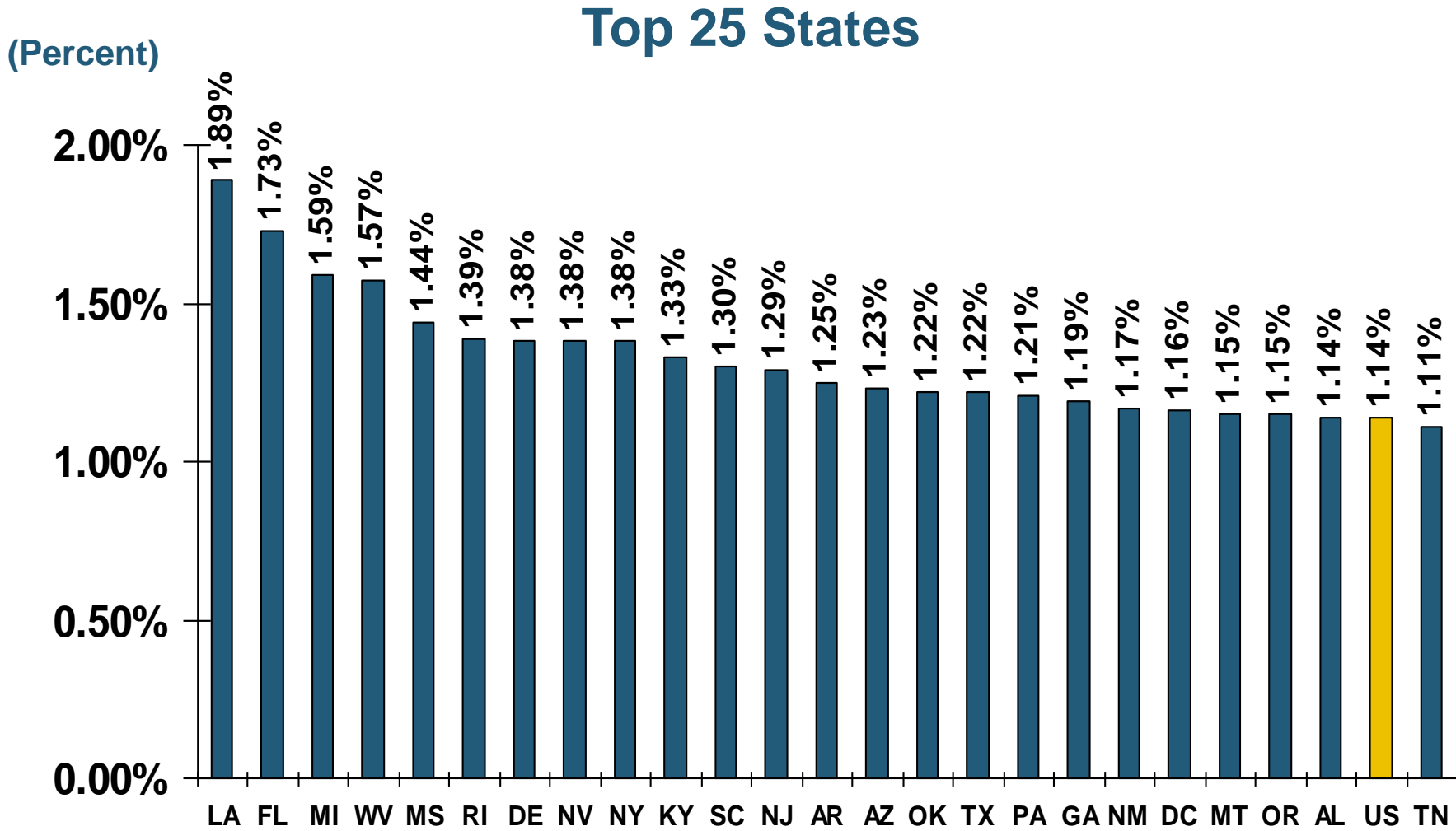
Bottom 25 States



Note: Average expenditure=Total written premium/liability car years. A car year is equal to 365 days of insured coverage for a single vehicle.

Source: © 2012 National Association of Insurance Commissioners.

Ratio of Avg. Expenditure for Pvt. Passenger Auto Insurance to Median Family Income, 2011



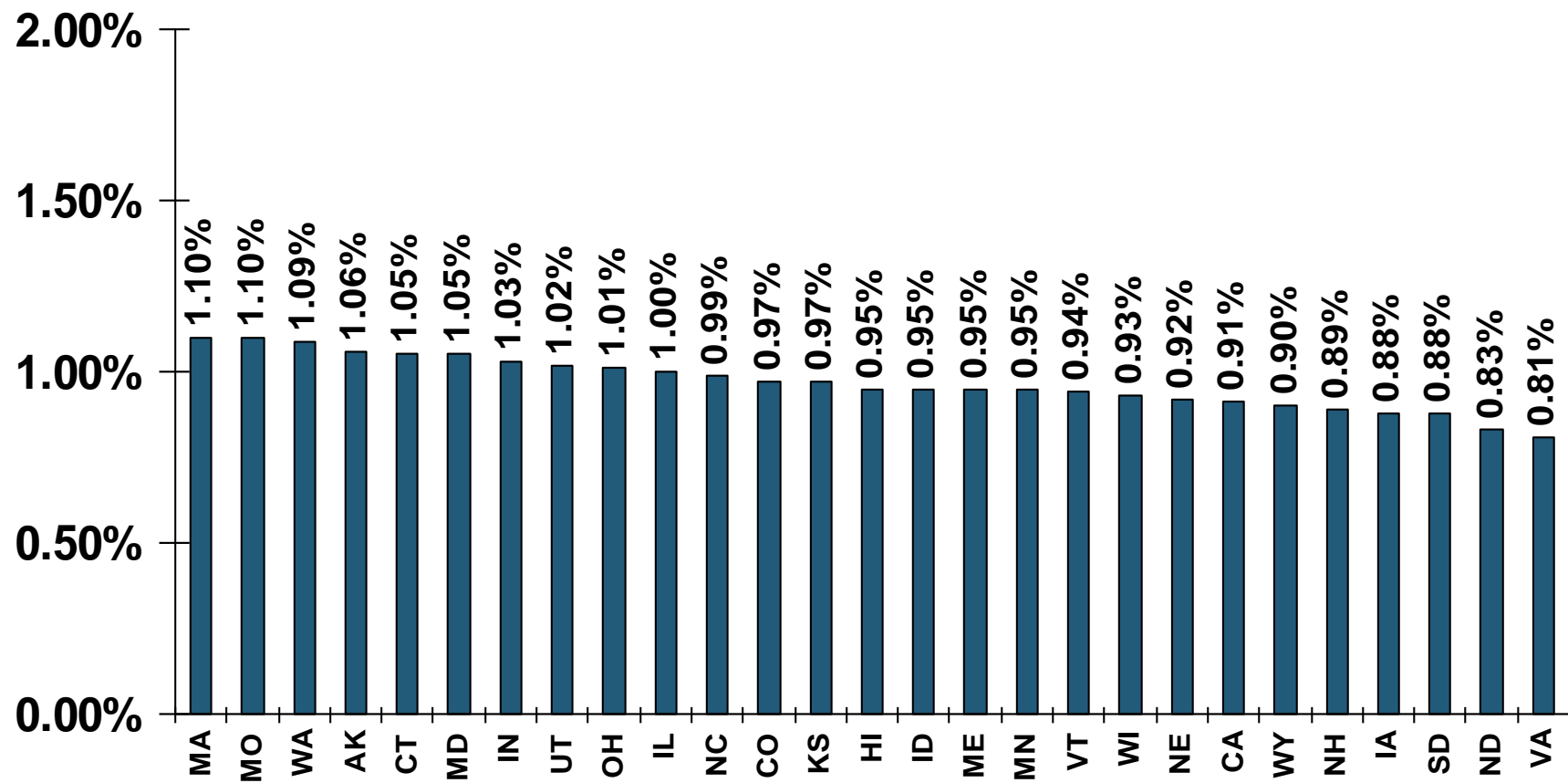
*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Source: Auto Insurance Report, January 20, 2014.

Ratio of Avg. Expenditure for Pvt. Passenger Auto Insurance to Median Family Income, 2011



(Percent)

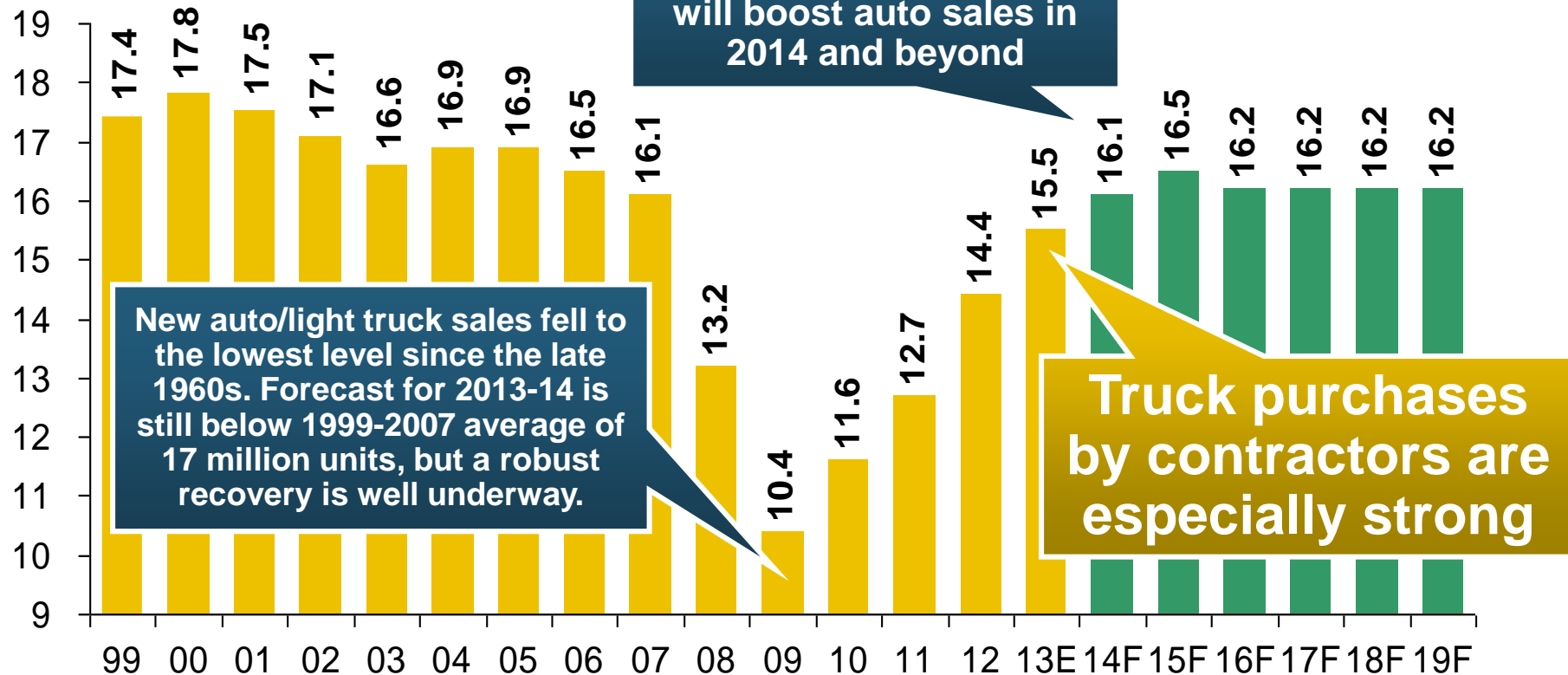
Bottom 25 States



*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Source: Auto Insurance Report, January 20, 2014.

Auto/Light Truck Sales, 1999-2019F

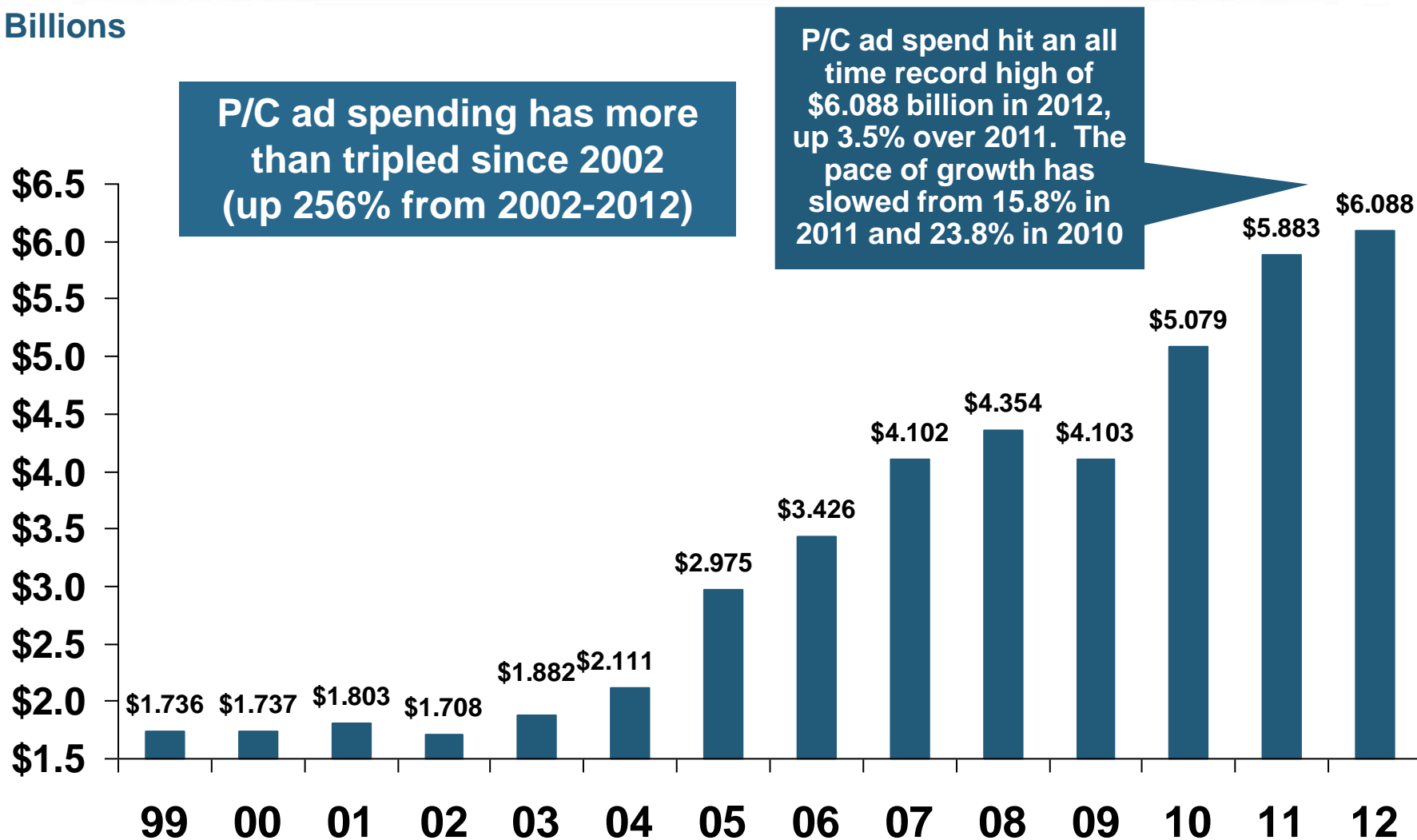
(Millions of Units)



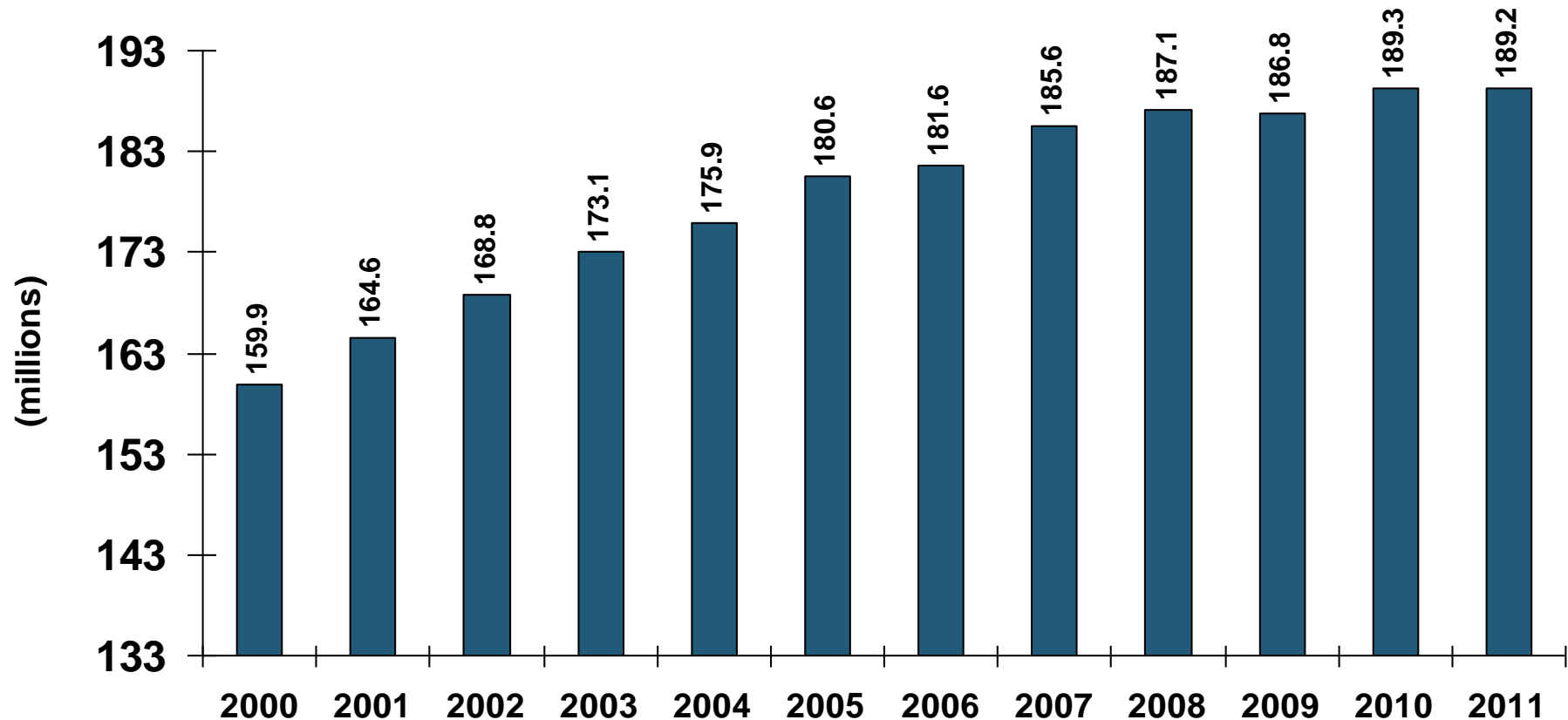
Car/Light Truck Sales Will Continue to Recover from the 2009 Low Point, Bolstering the Auto Insurer Growth and the Manufacturing Sector Along With Workers Comp Exposures

Advertising Expenditures by P/C Insurance Industry, 1999-2012

\$ Billions



Number of Insured Vehicles in the US, 2000-2011*



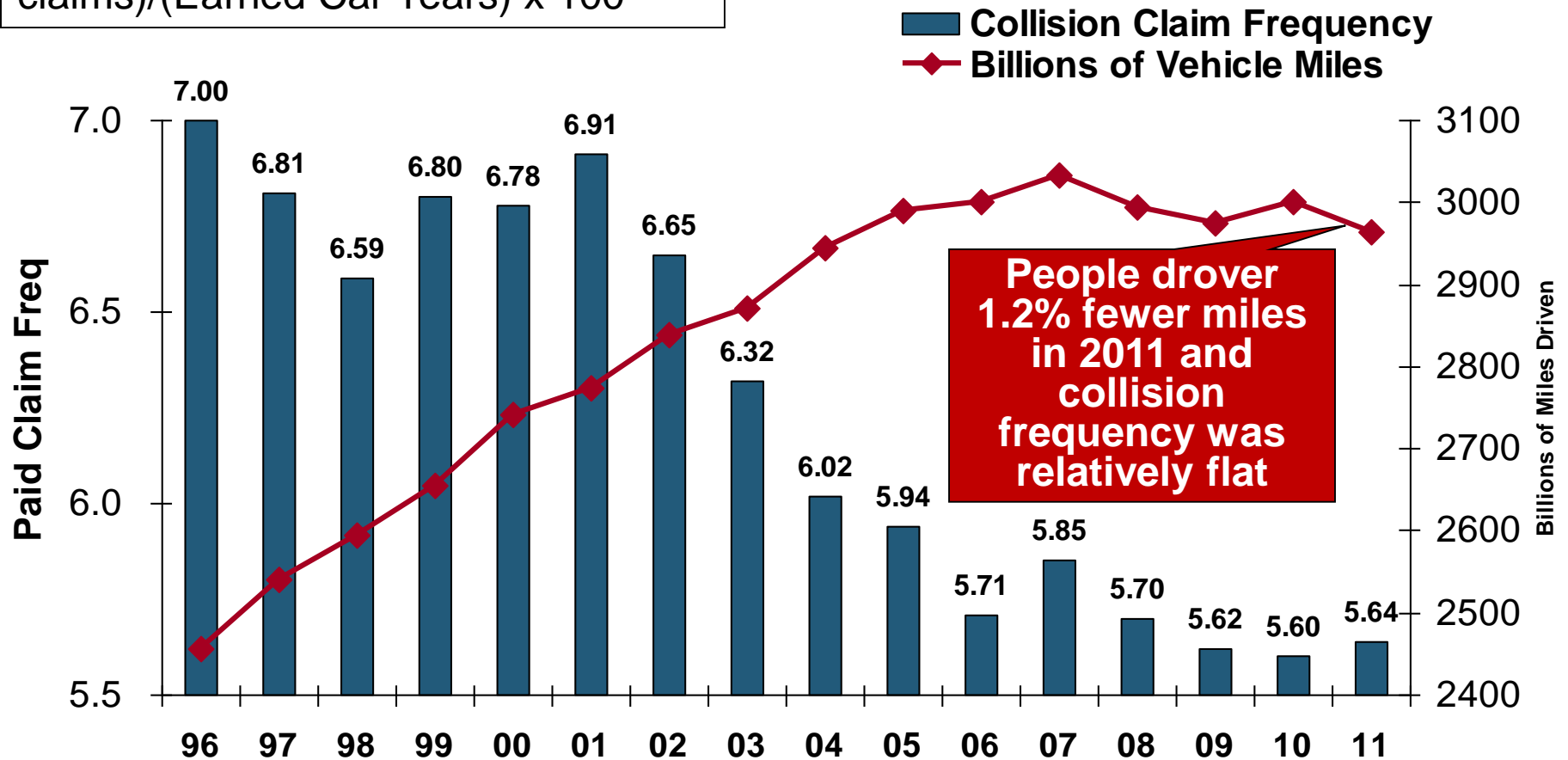
The Number of Insured Passenger Vehicles Stopped Growing During the Economic Downturn. Growth Has Likely Returned.

*Note: Texas car years are not available

Source: Automobile Insurance Plans Service Office.

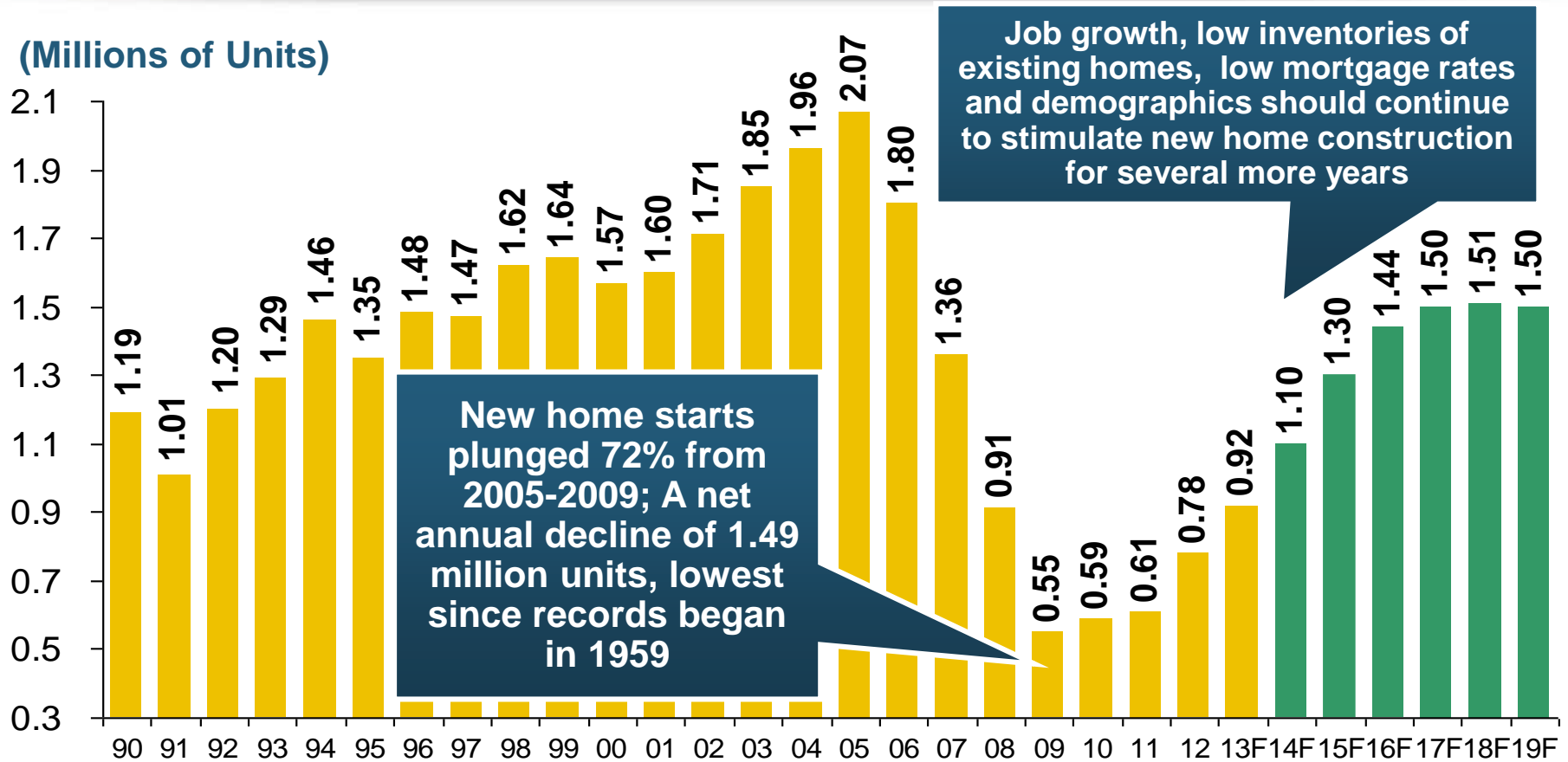
Do Changes in Miles Driven Affect Auto Collision Claim Frequency?

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



Sources: Federal Highway Administration (<http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm>); ISO Fast Track Monitoring System, *Private Passenger Automobile Fast Track Data*: 1st Qtr. 2012 and earlier reports. *2011 ISO figure is for 12 months ending 12/31/2011; FHA data is for 12 months ending Dec. 2011.

New Private Housing Starts, 1990-2019F



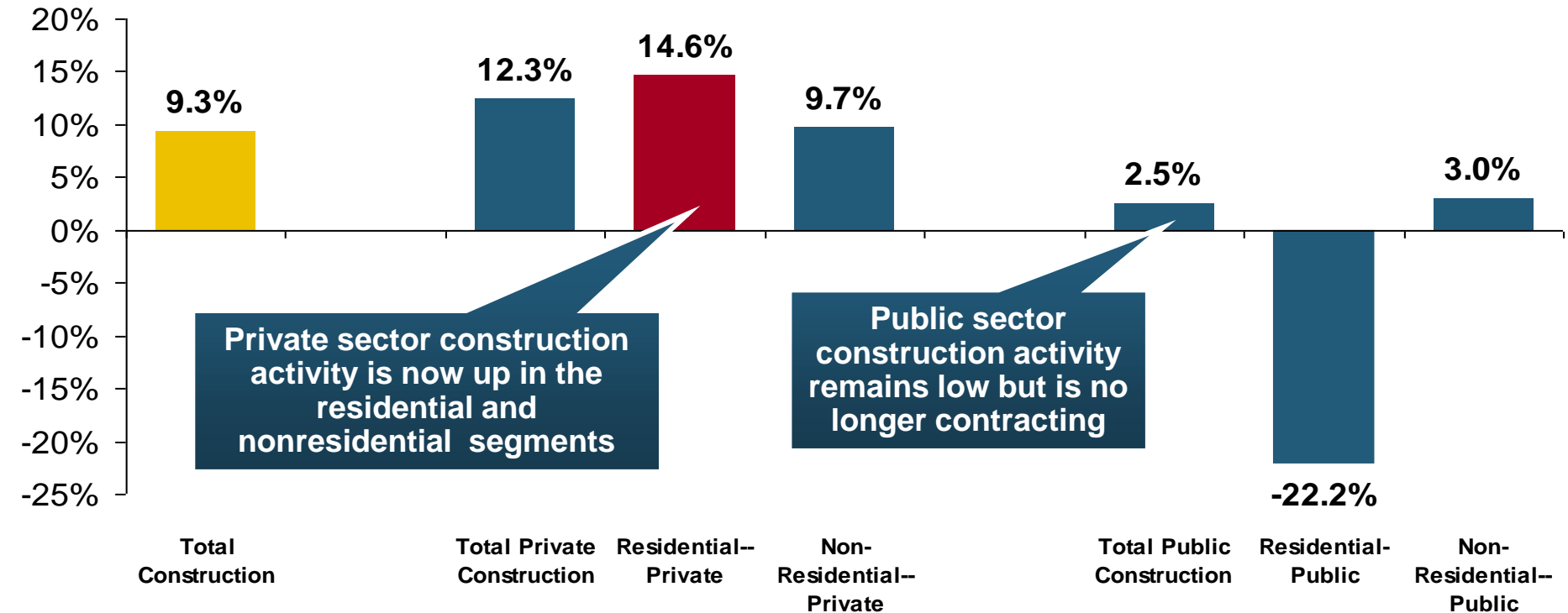
Insurers Are Continue to See Meaningful Exposure Growth in the Wake of the “Great Recession” Associated with Home Construction: Construction Risk Exposure, Surety, Commercial Auto; Potent Driver of Workers Comp Exposure

Value of Construction Put in Place, January 2014 vs. January 2013*

Growth (%)

Private: +12.3%

Public: +2.5%

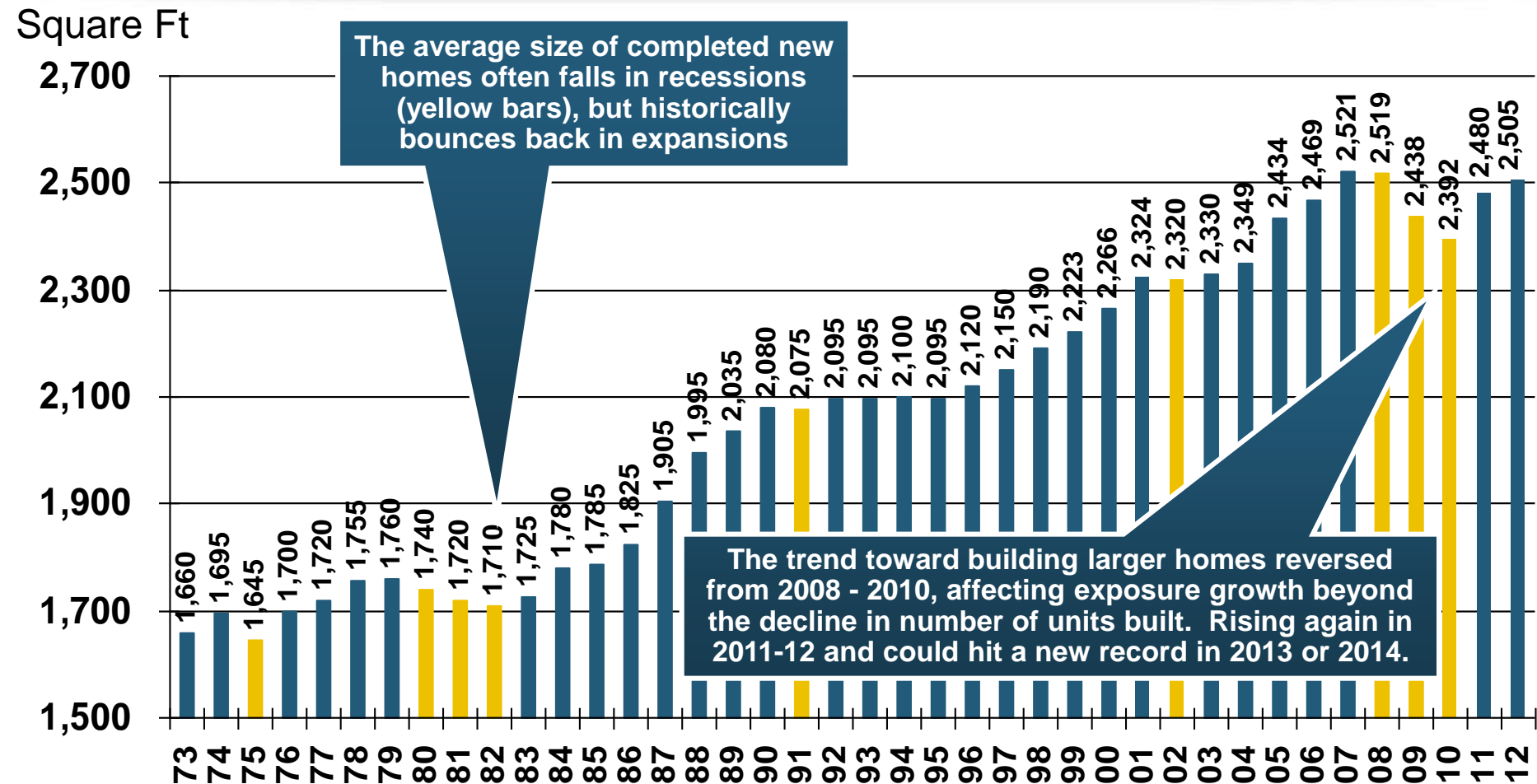


Overall Construction Activity is Up, But Growth Is Almost Entirely in the Private Sector as State/Local Government Budget Woes Continue

*seasonally adjusted

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

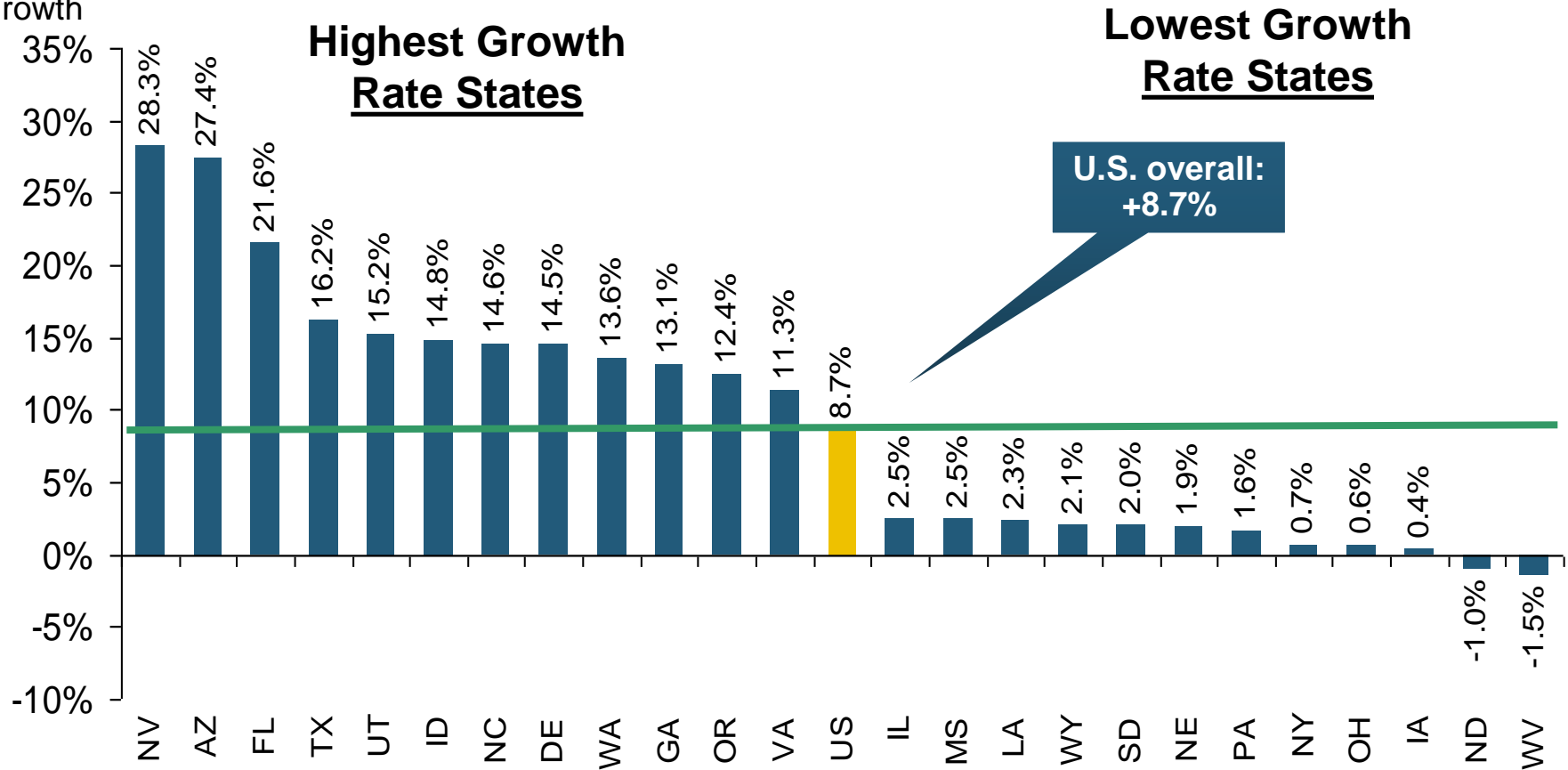
Average Square Footage of Completed New Homes in U.S., 1973-2012



The average size of completed new homes fell by 147 square feet (5.75%) from 2008-2010. This was the largest recession-based drop in nearly four decades.

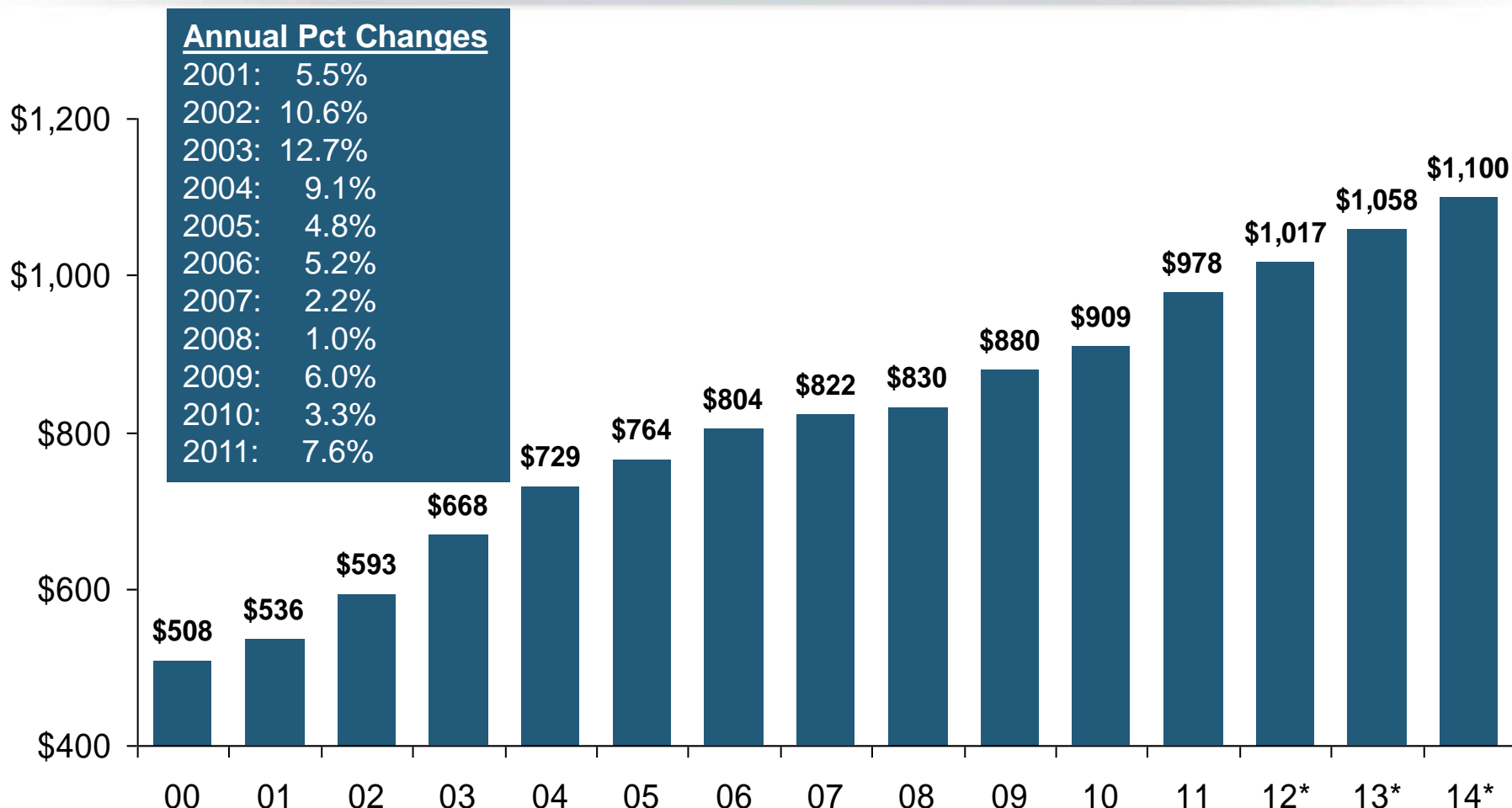
State Population Growth Rate Projections, 2010-2020*

Projected Population
Growth



The Mountain West region is projected to grow the most from now to 2020 (up 17.6%), followed by the South Atlantic (up 14.5%) and Pacific (up 11.2%). The Mid-Atlantic is projected to be the slowest-growing region (up 1.9%).

Average Premium for Home Insurance Policies**

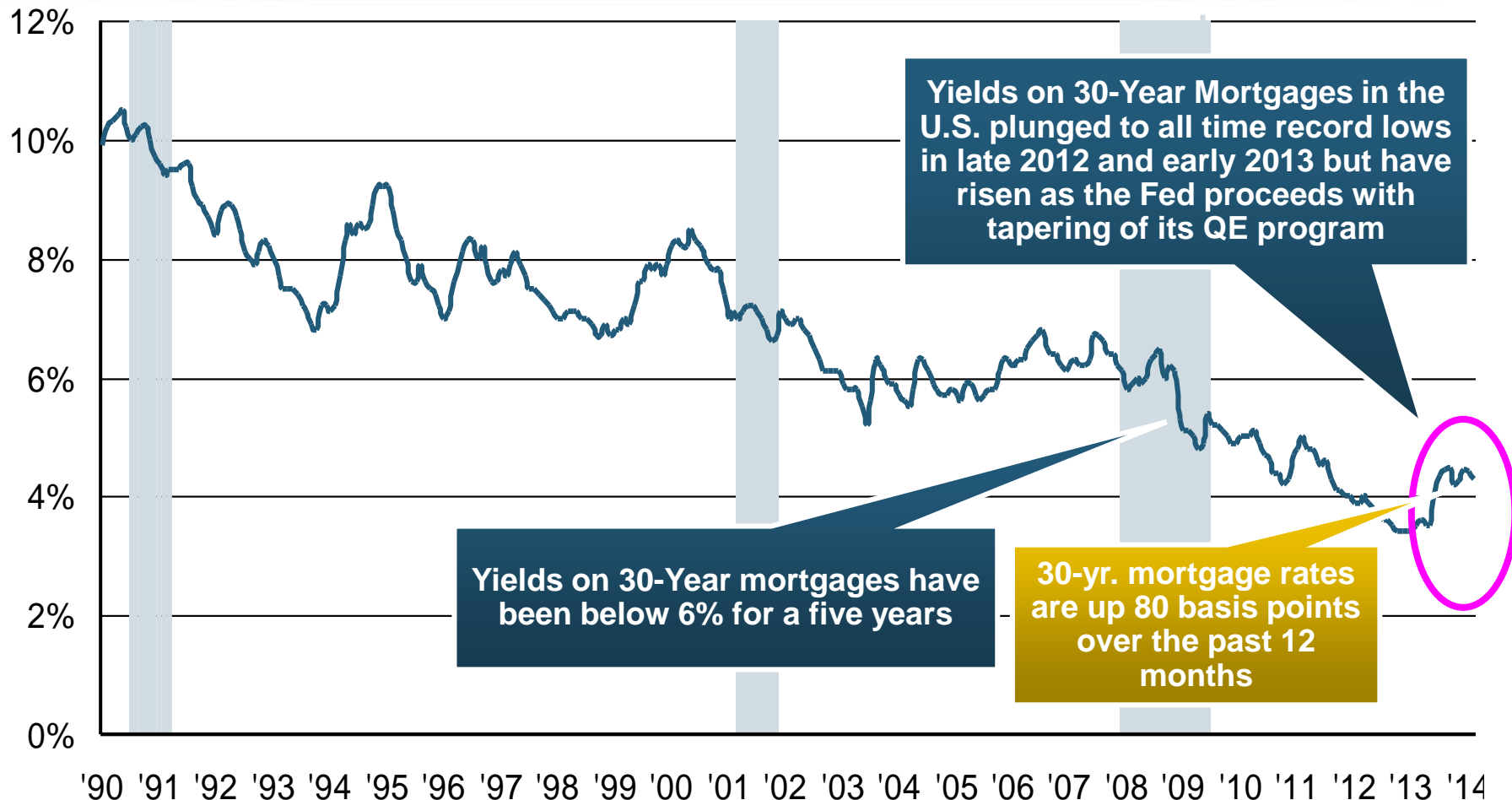


Across the U.S., home insurance expenditures rose by an estimated 4.0% in 2012-2014

* Insurance Information Institute Estimates/Forecasts **Excludes state-run insurers.

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

Interest Rate on Convention 30-Year Mortgages: Headed Back Up, 1990–2014*



High mortgage interest should have only a marginal impact on home buying

*Monthly, through February 2014.

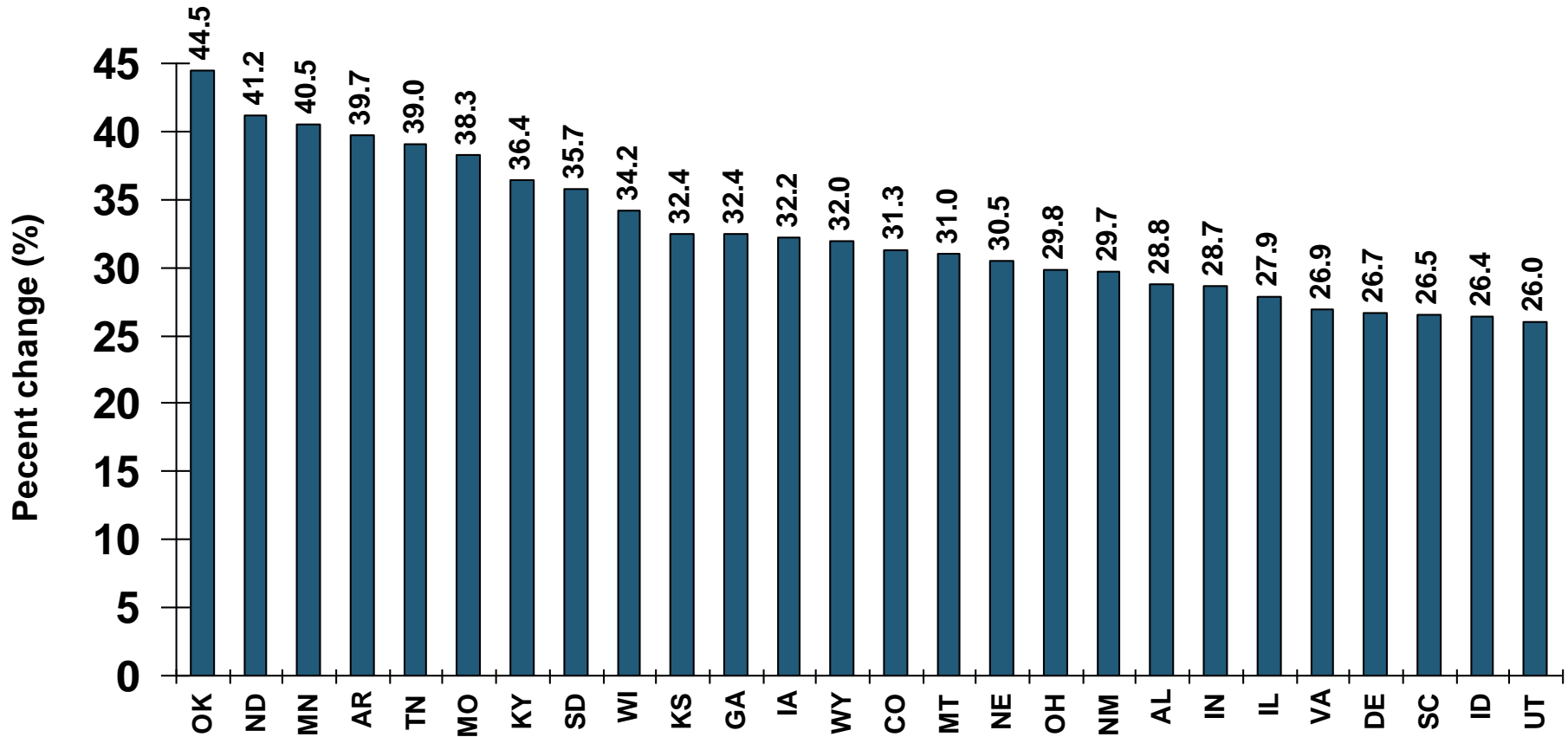
Note: Recessions indicated by gray shaded columns.

Sources: Federal Reserve Bank at <http://www.federalreserve.gov/releases/h15/data.htm>.

National Bureau of Economic Research (recession dates); Insurance Information Institutes.

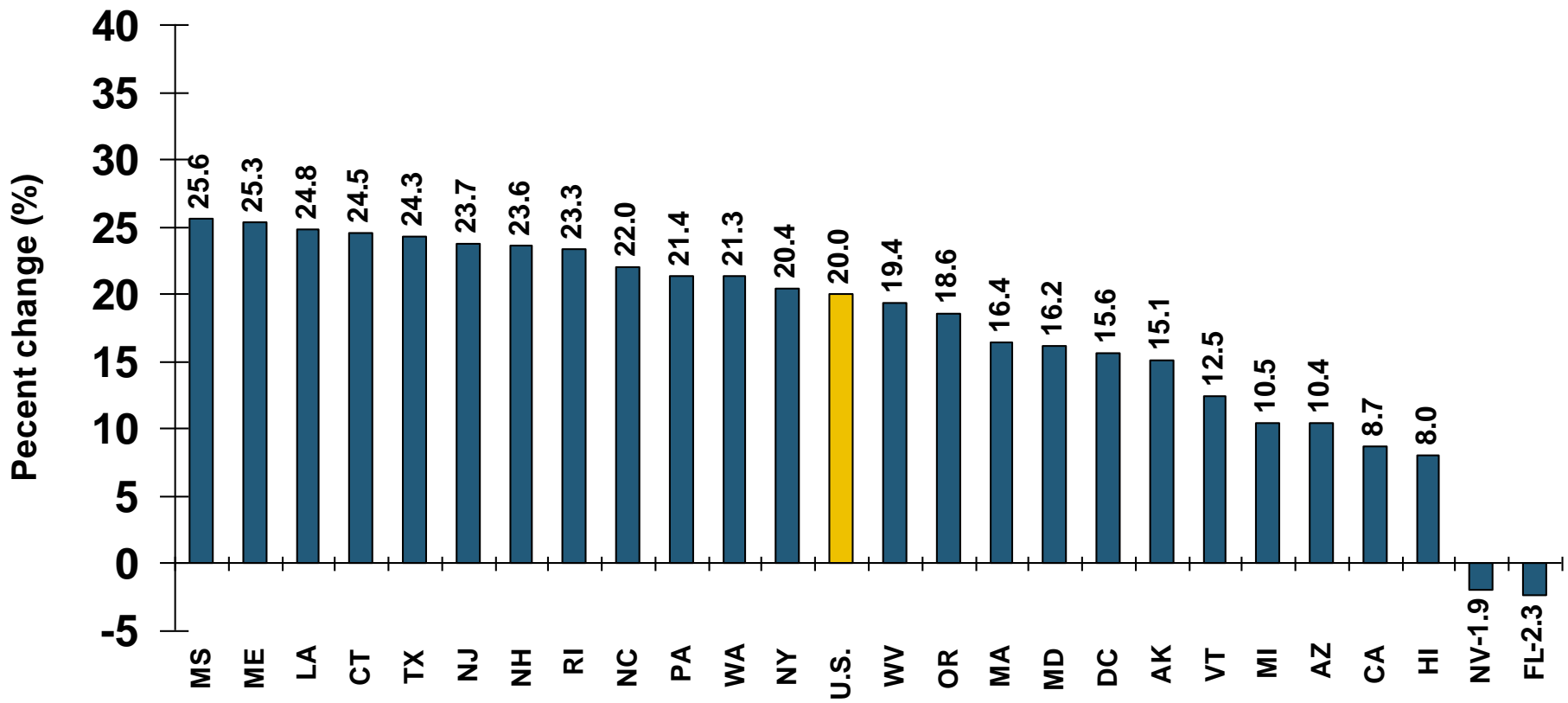
Direct Premiums Written: Homeowners Percent Change by State, 2007-2012*

Top 25 States



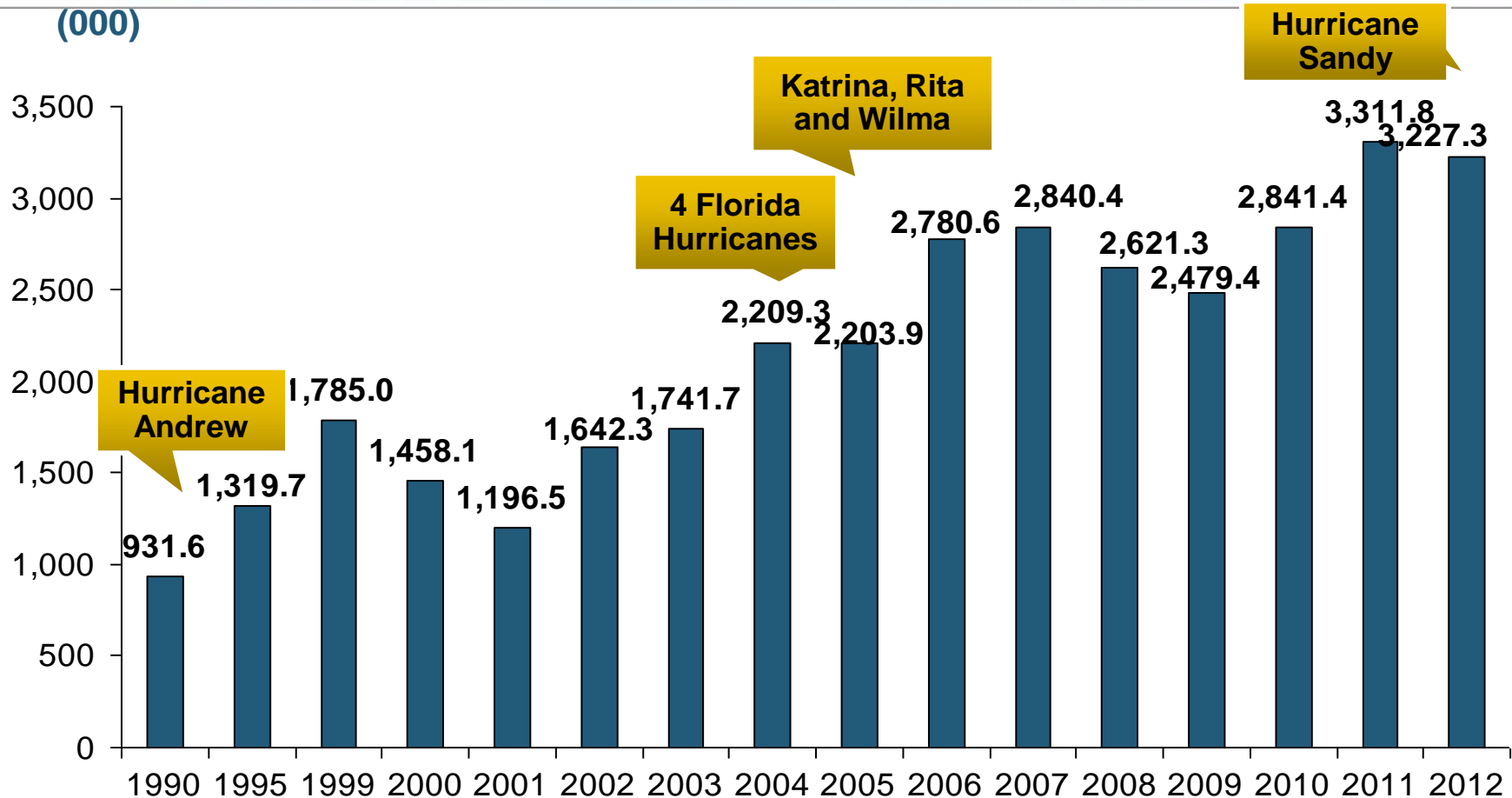
Direct Premiums Written: Homeowners Percent Change by State, 2007-2012*

Bottom 25 States



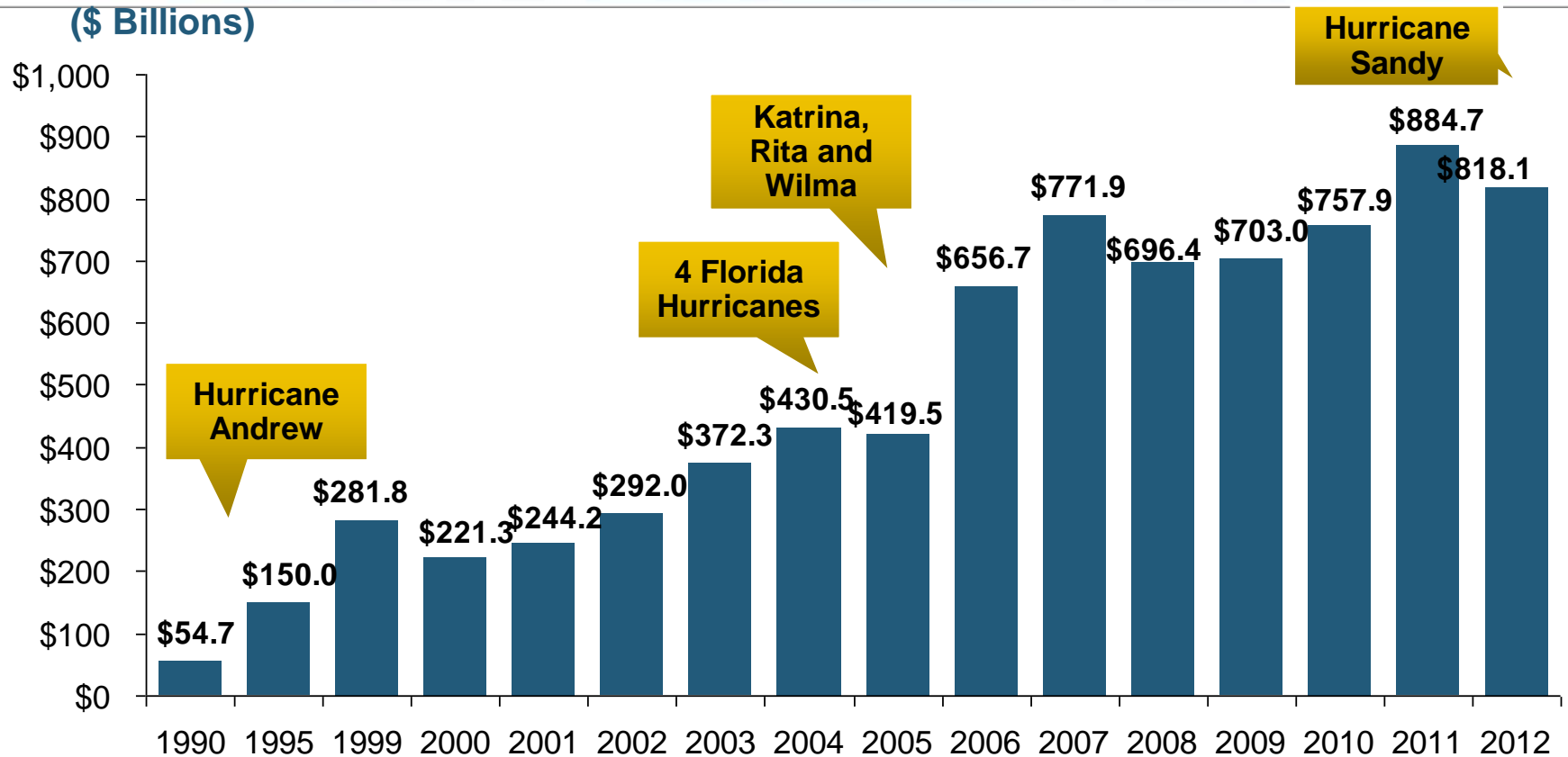
Sources: SNL Financial LLC.; Insurance Information Institute.

U.S. Residual Market: Total Policies In-Force (1990-2012) (000)



In the 23-year period between 1990 and 2012, the total number of policies in-force in the residual market (FAIR & Beach/Windstorm) Plans has more than tripled.

U.S. Residual Market Exposure to Loss (1990-2012) (\$ Billions)



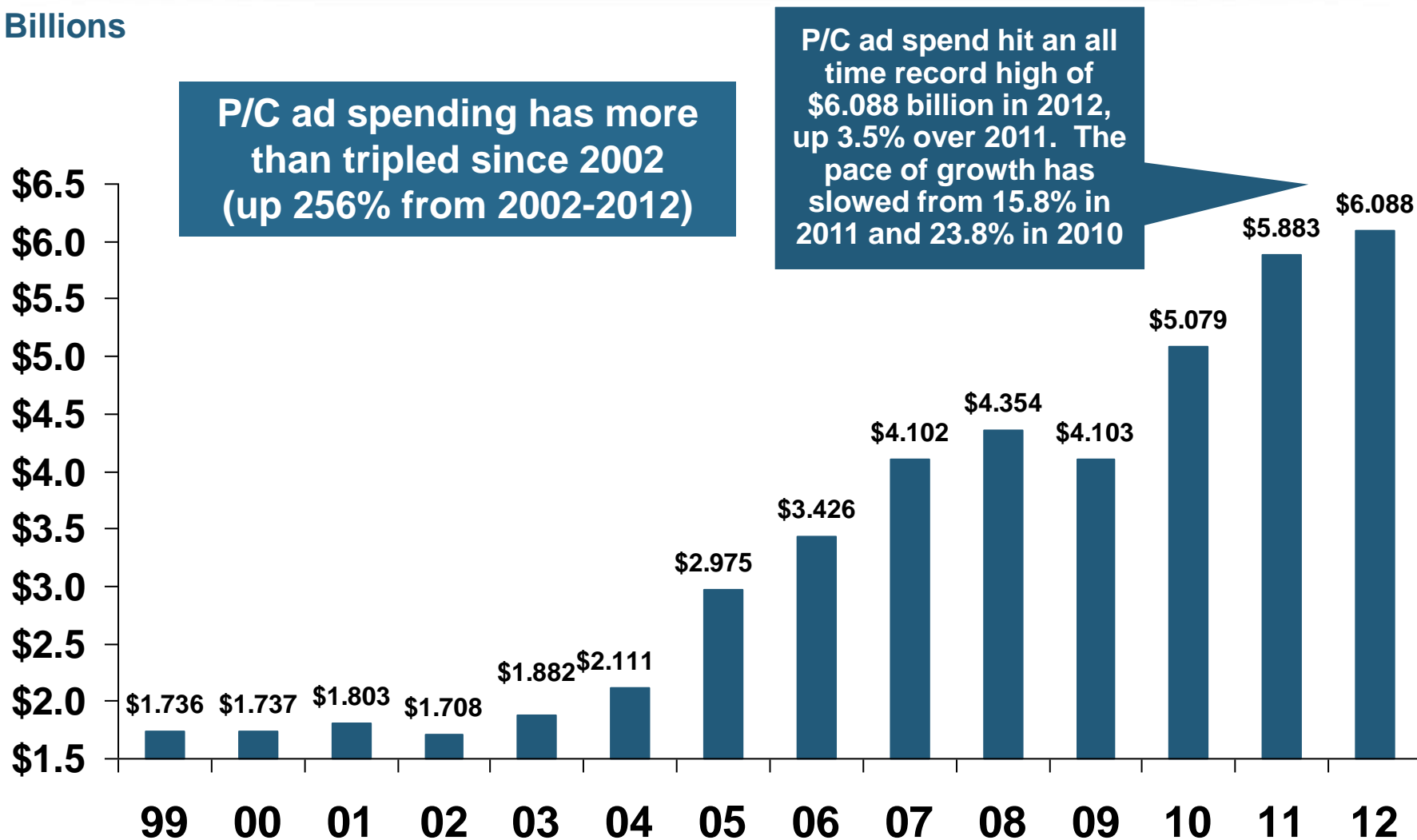
In the 23-year period between 1990 and 2012, total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from \$54.7 billion in 1990 to \$818.1 billion in 2012.

Personal Auto Ad Spend Trends

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

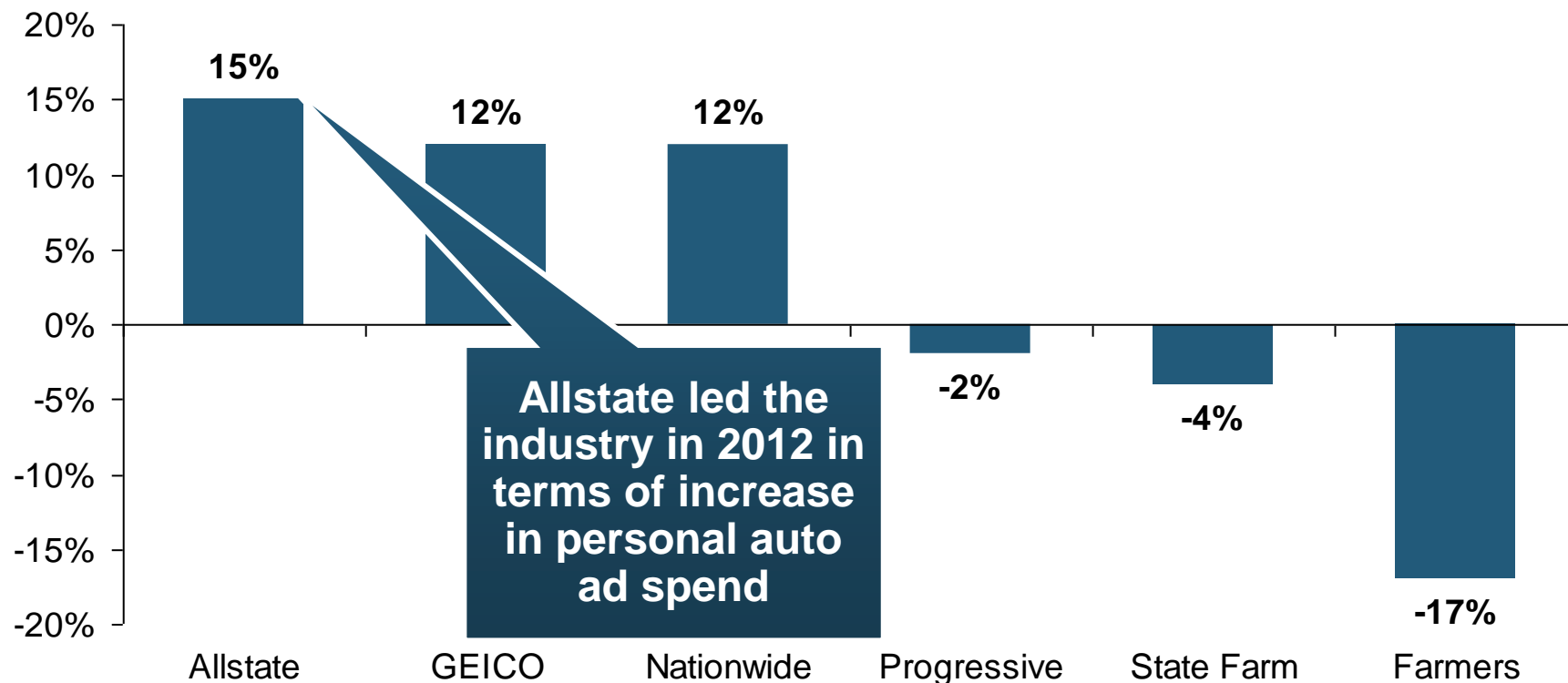
Advertising Expenditures by P/C Insurance Industry, 1999-2012

\$ Billions



Advertising Spend Change by Select Personal Auto Writers: 2012 vs. 2011

Percentage Change (%)



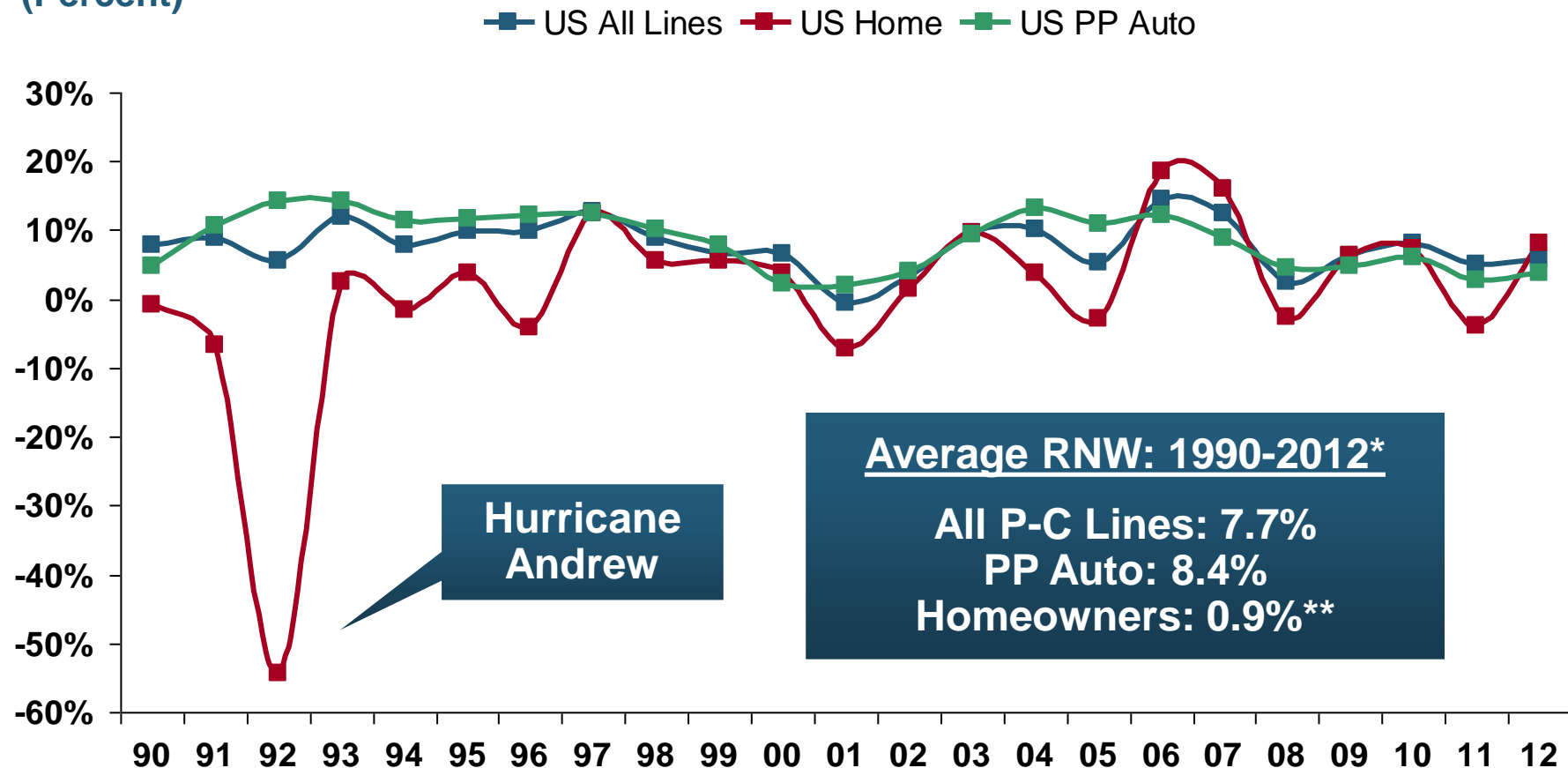
Overall these carriers spent nearly \$4 billion on advertising, up 4% from 2011 and two-thirds the industry total.

Personal Lines Profitability Analysis

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

Return on Net Worth: All P-C Lines vs. Homeowners & Pvt. Pass. Auto, 1990-2012*

(Percent)



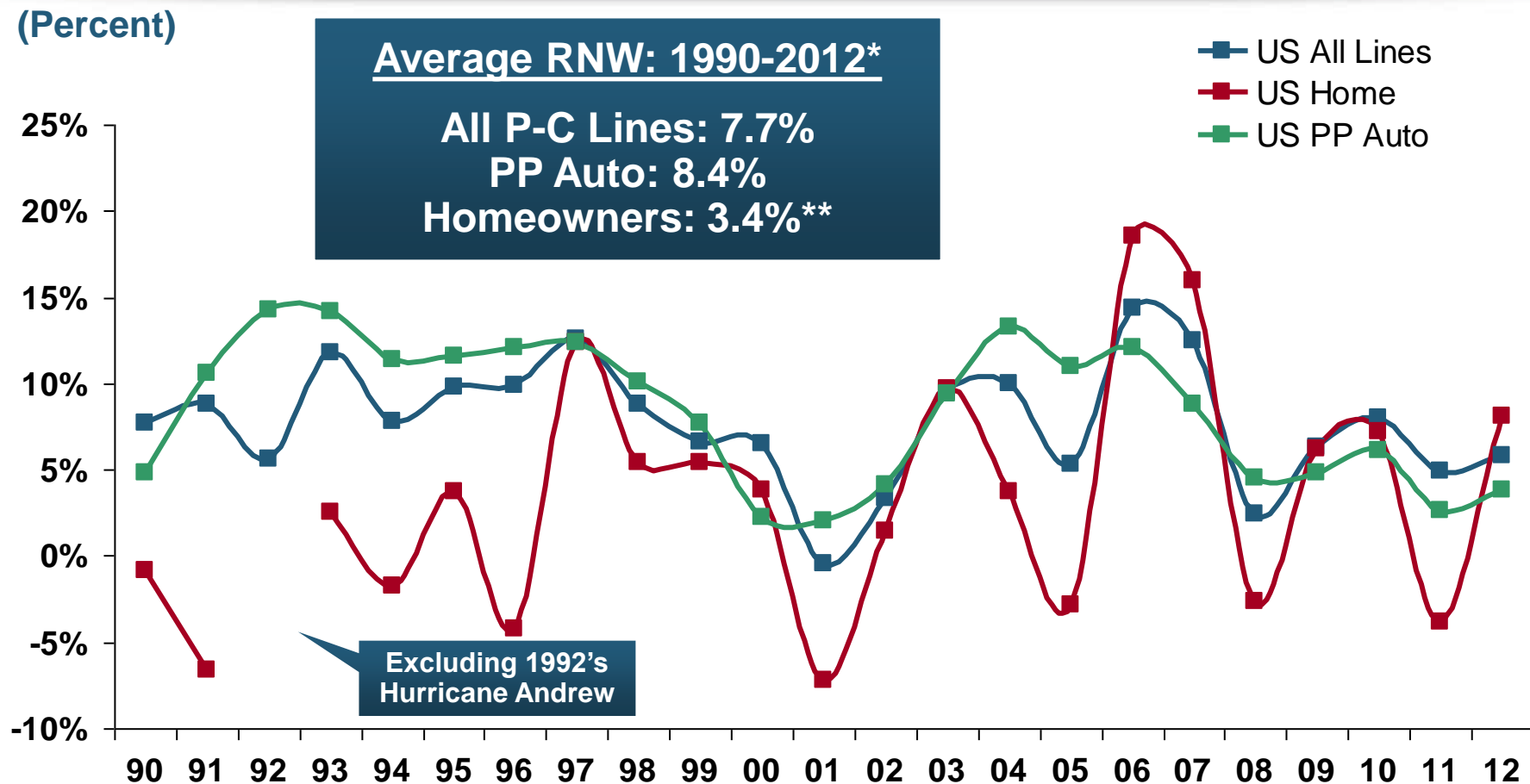
Pvt.Pass. Auto Has Consistently Outperformed the P-C Industry as a Whole. Homeowners Volatility is Associated Primarily With Coastal Exposure Issues

*Latest available.

**If 1992, the year of Hurricane Andrew is excluded, the resulting homeowners RNW is 3.4%.

Sources: NAIC; Insurance Information Institute.

Return on Net Worth: All P-C Lines vs. Homeowners & Pvt. Pass. Auto, 1990-2012*



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

*Latest available.

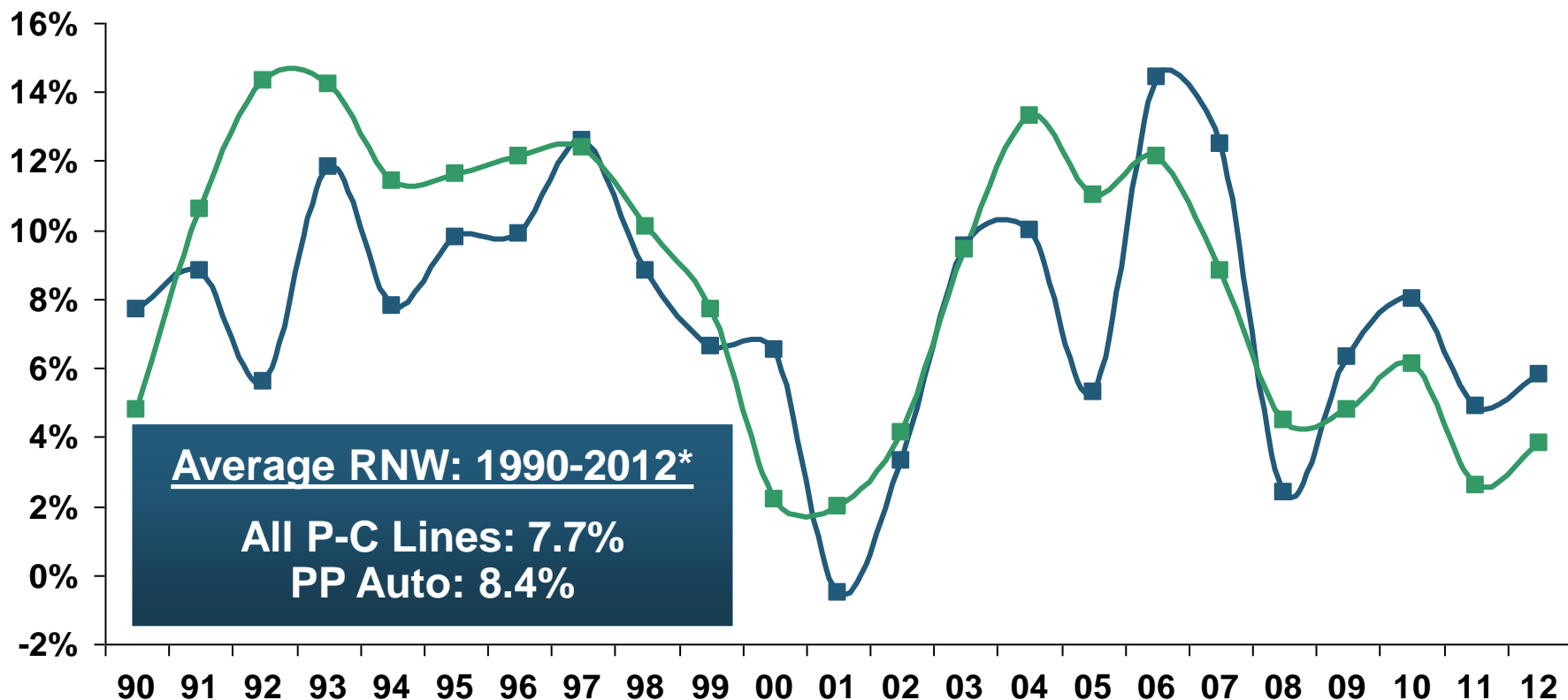
**Excludes 1992, the year of Hurricane Andrew. If 1992 is included the resulting homeowners RNW is 0.9%

Sources: NAIC; Insurance Information Institute.

Return on Net Worth: All P-C Lines vs. Pvt. Pass. Auto, 1990-2012*

(Percent)

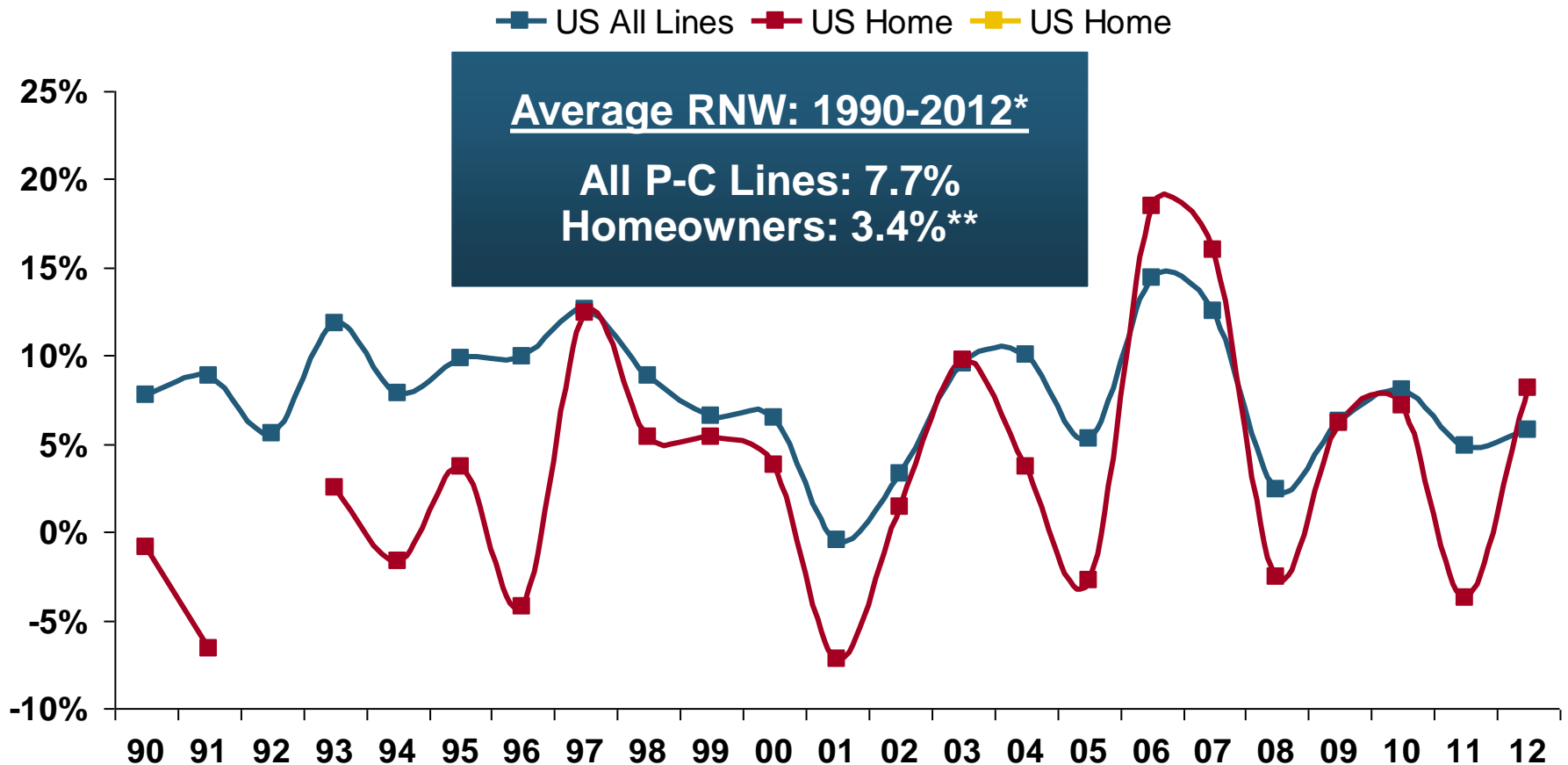
■ US All Lines ■ US PP Auto



Pvt.Pass. Auto Profitability Has Exceeded the P-C Industry as a Whole in 13 of the 23 Years from 1990-2012 (Inclusive)

Return on Net Worth: All P-C Lines vs. Homeowners, 1990-2012*

(Percent)



Homeowners Insurance Is Considerably More Volatile than the Market Overall Due to Coastal Exposure and Interior Wind/Hail Events

*Latest available.

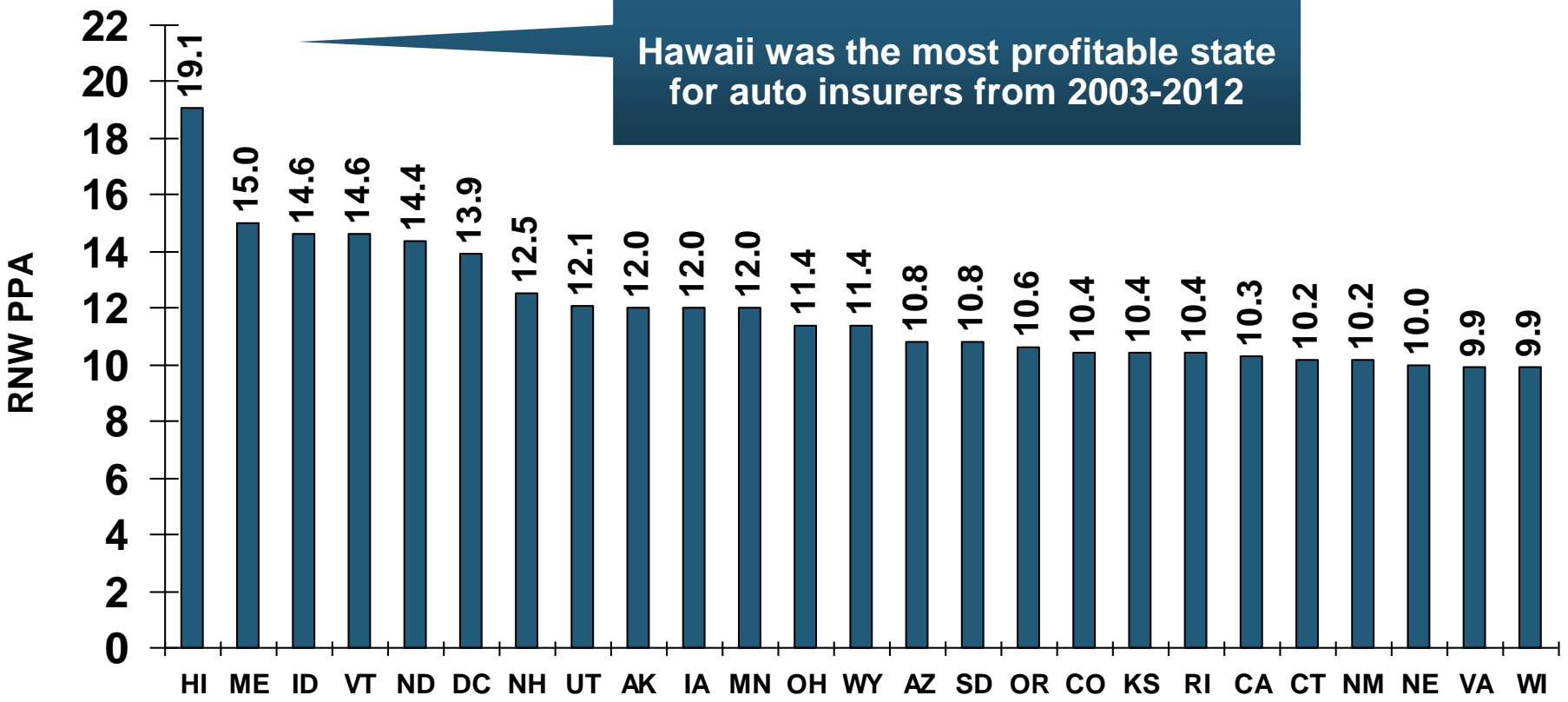
**Excluding Hurricane Andrew (1992); Including 1992 produces an average homeowners RNW of 0.9%.

Sources: NAIC.

Return on Net Worth: Pvt. Passenger Auto, 10-Year Average (2003-2012*)

Top 25 States

(Percent)



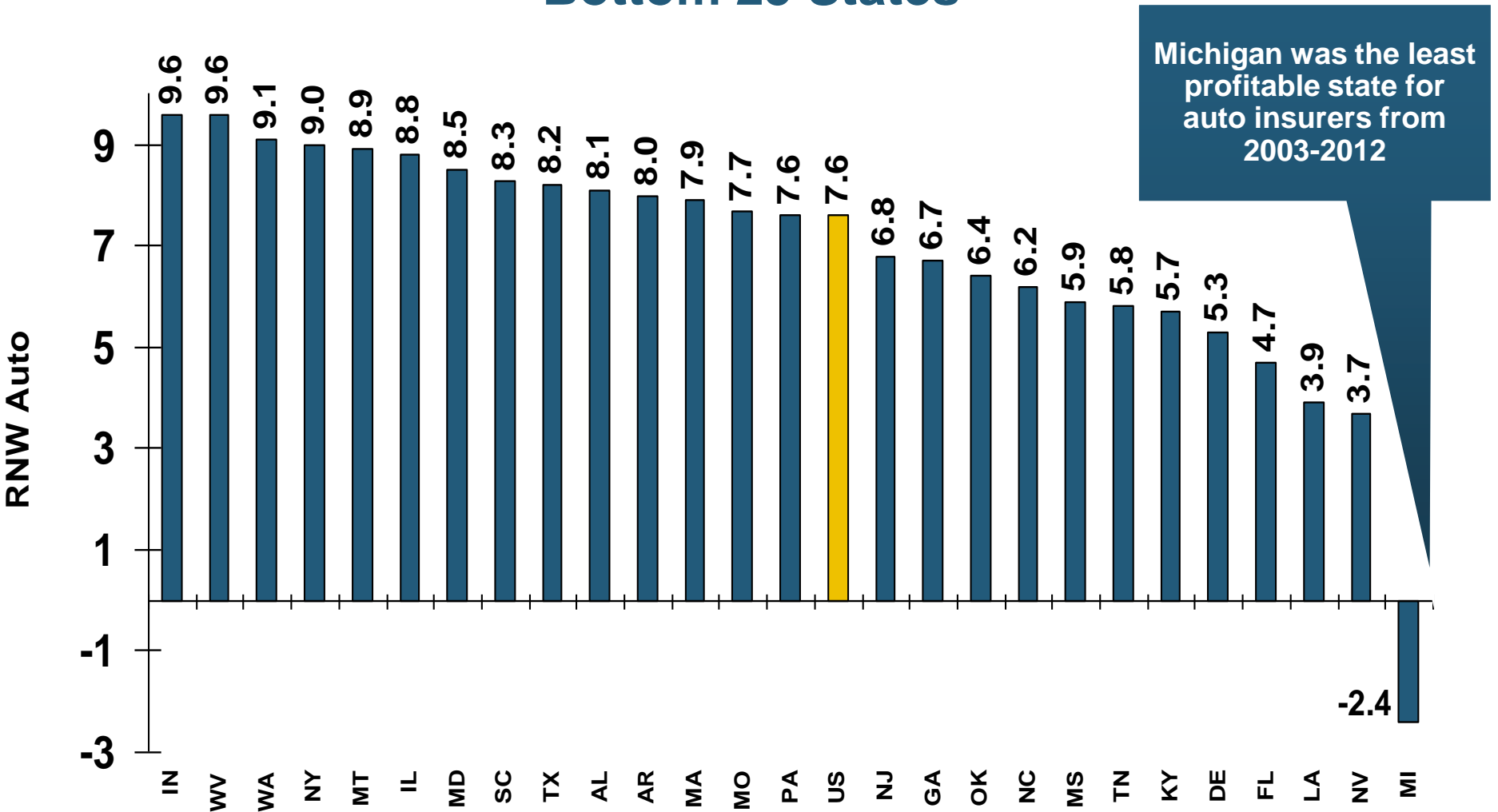
*Latest available.
Sources: NAIC.

Return on Net Worth: Pvt. Passenger Auto, 10-Year Average (2003-2012*)



(Percent)

Bottom 25 States

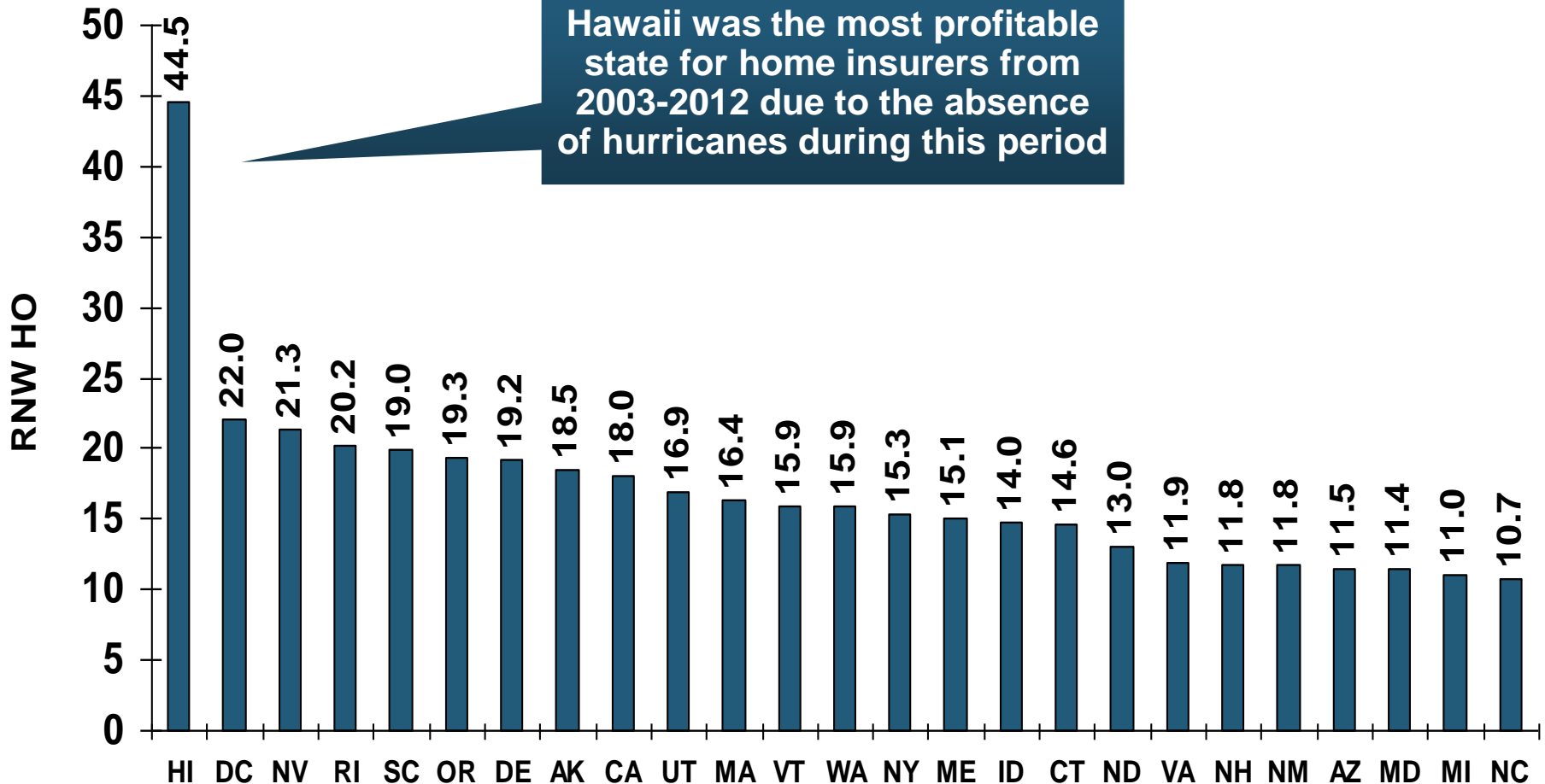


*Latest available.
Sources: NAIC

Return on Net Worth: Homeowners Insurance, 10-Year Average (2003-2012*)

Top 25 States

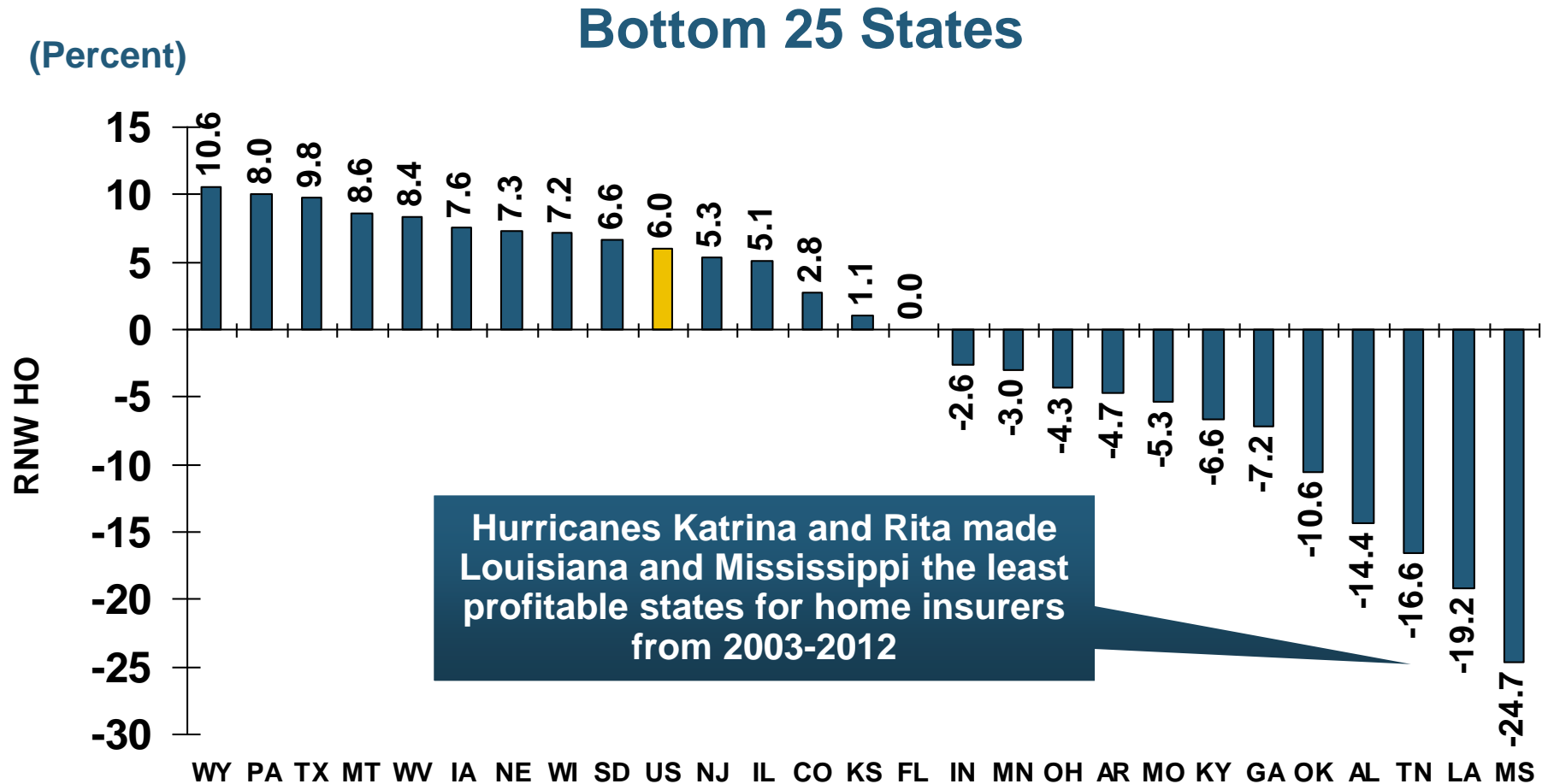
(Percent)



*Latest available.

Sources: NAIC.

Return on Net Worth: Homeowners Insurance, 10-Year Average (2003-2012*)

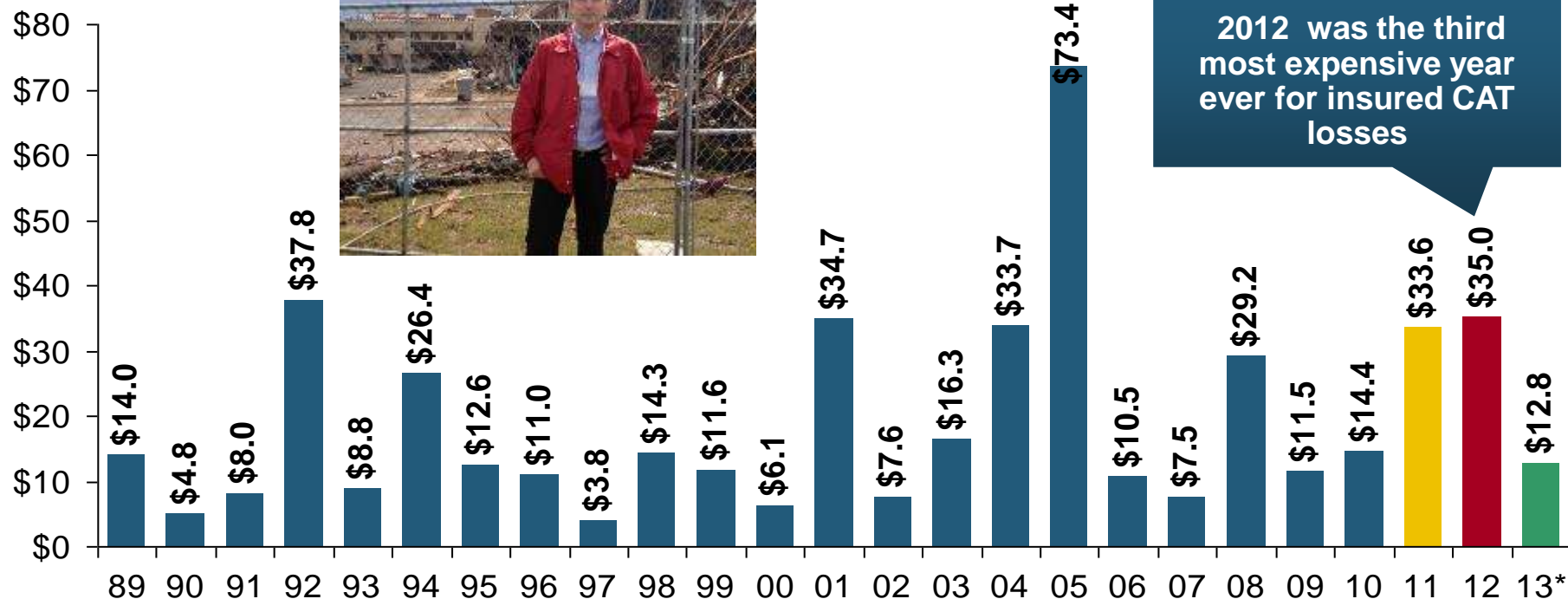


U.S. Insured Catastrophe Loss Update

**2013 Was a Welcome Respite from the
High Catastrophe Losses in Recent Years**

U.S. Insured Catastrophe Losses

(\$ Billions, \$ 2012)



2012 was the third most expensive year ever for insured CAT losses

2012 Was the 3rd Highest Year on Record for Insured Losses in U.S. History on an Inflation-Adj. Basis. 2011 Losses Were the 6th Highest. YTD 2013 Running Well Below 2011 and 2012 YTD Totals.

Record tornado losses caused 2011 CAT losses to surge

*Through 12/31/13.

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.

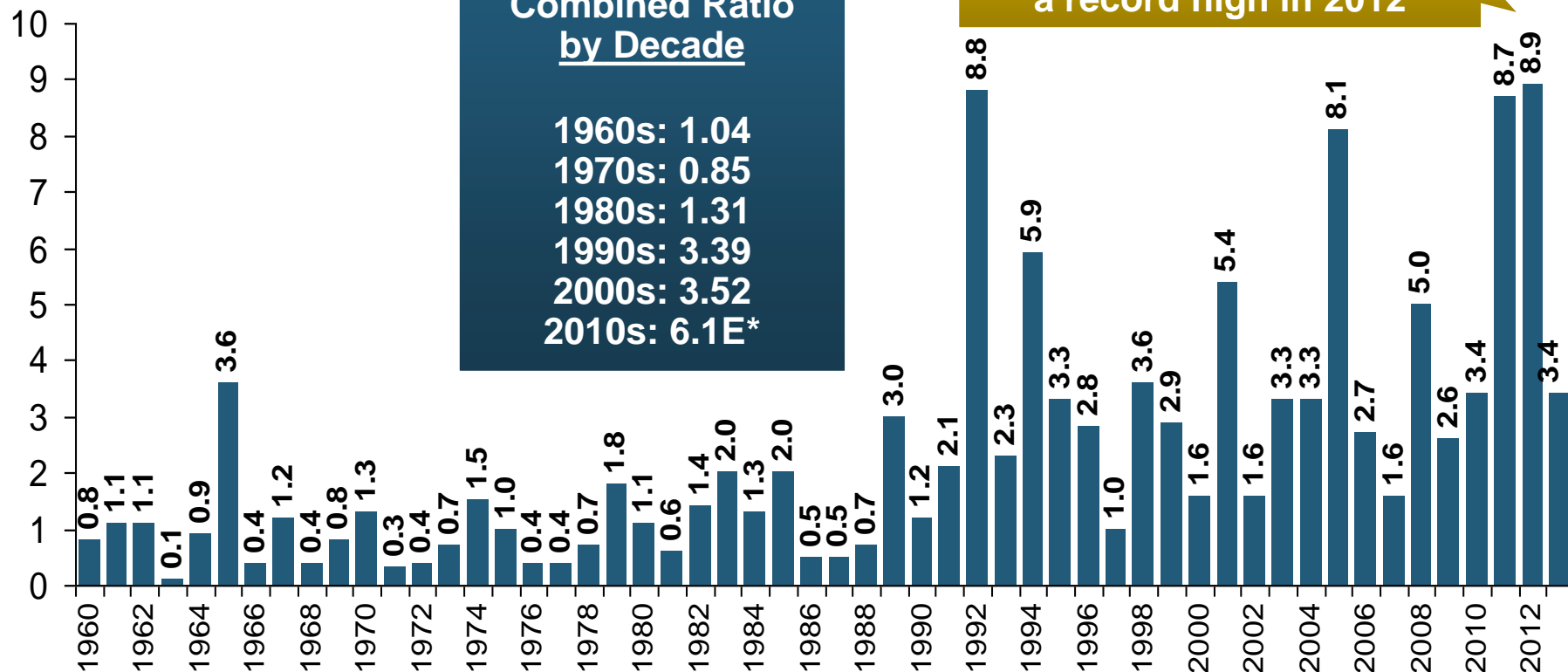
Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2013*

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: 6.1E*

Catastrophe losses as a share of all losses reached a record high in 2012



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

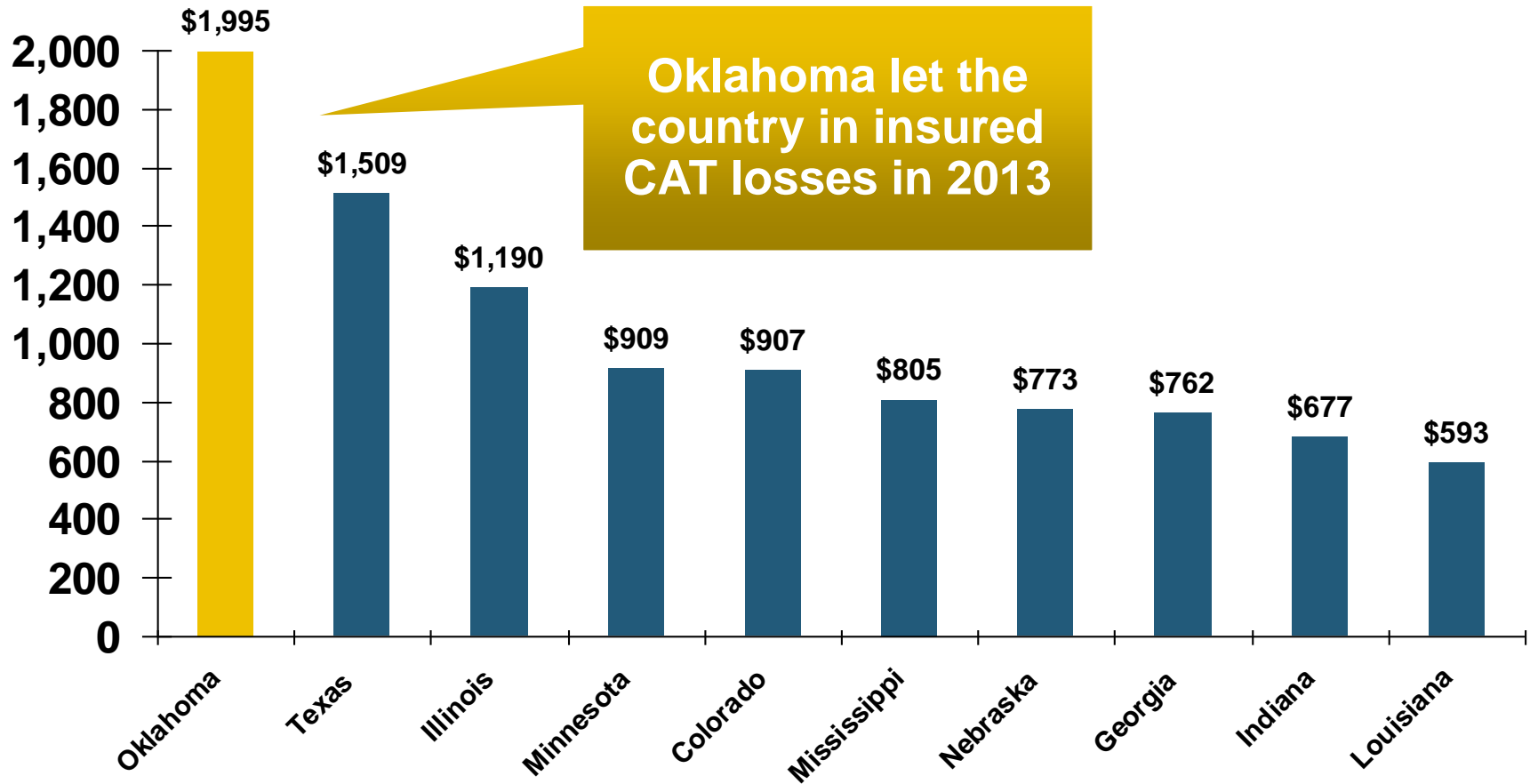
*2010s represent 2010-2013.

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 (1960-2011); A.M. Best (2012E) Insurance Information Institute.

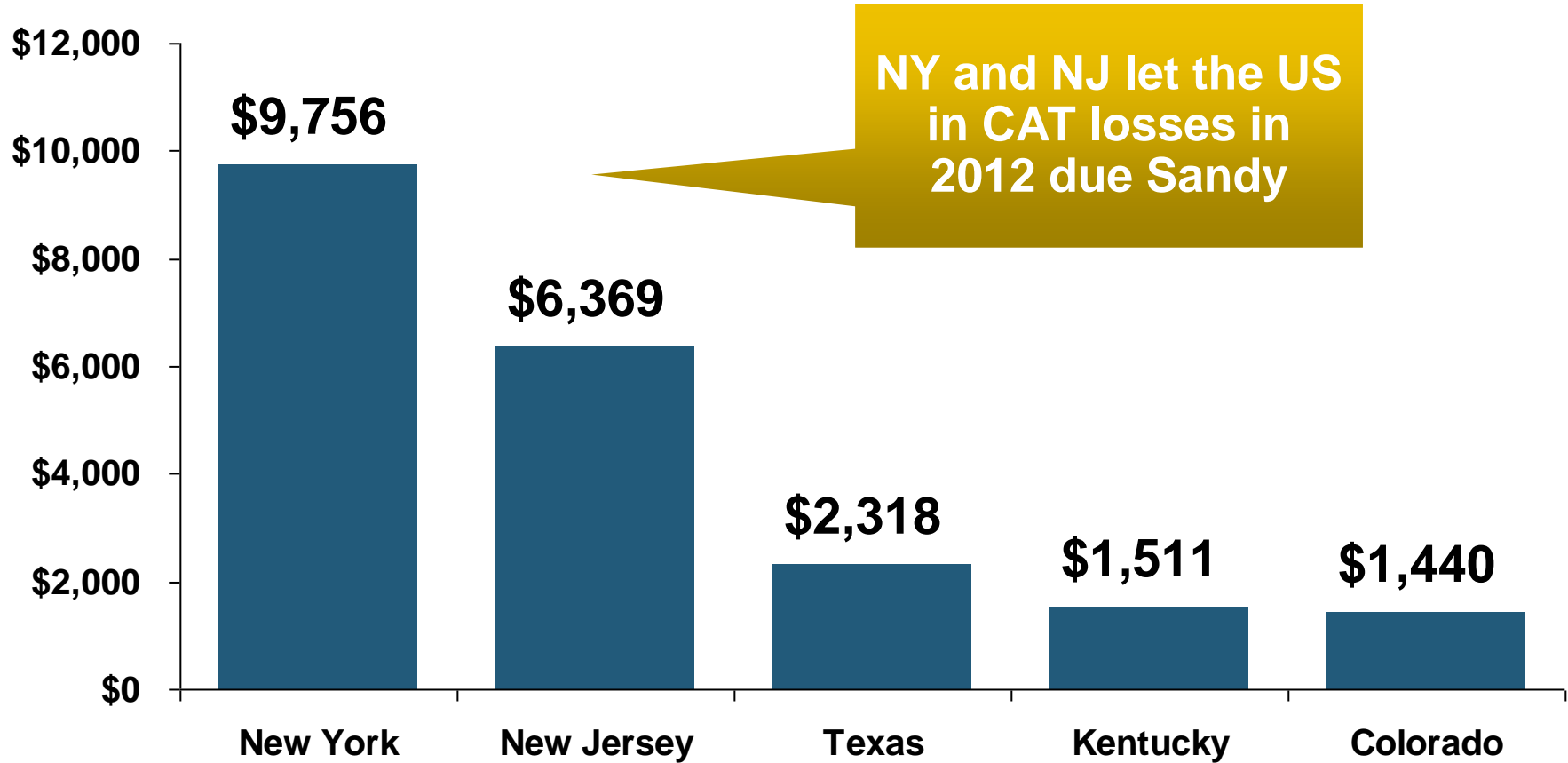
Top 10 States for Insured Catastrophe Losses, 2013

\$ Millions



Top 5 States by Insured Catastrophe Losses in 2012*

(2012, \$ Billions)



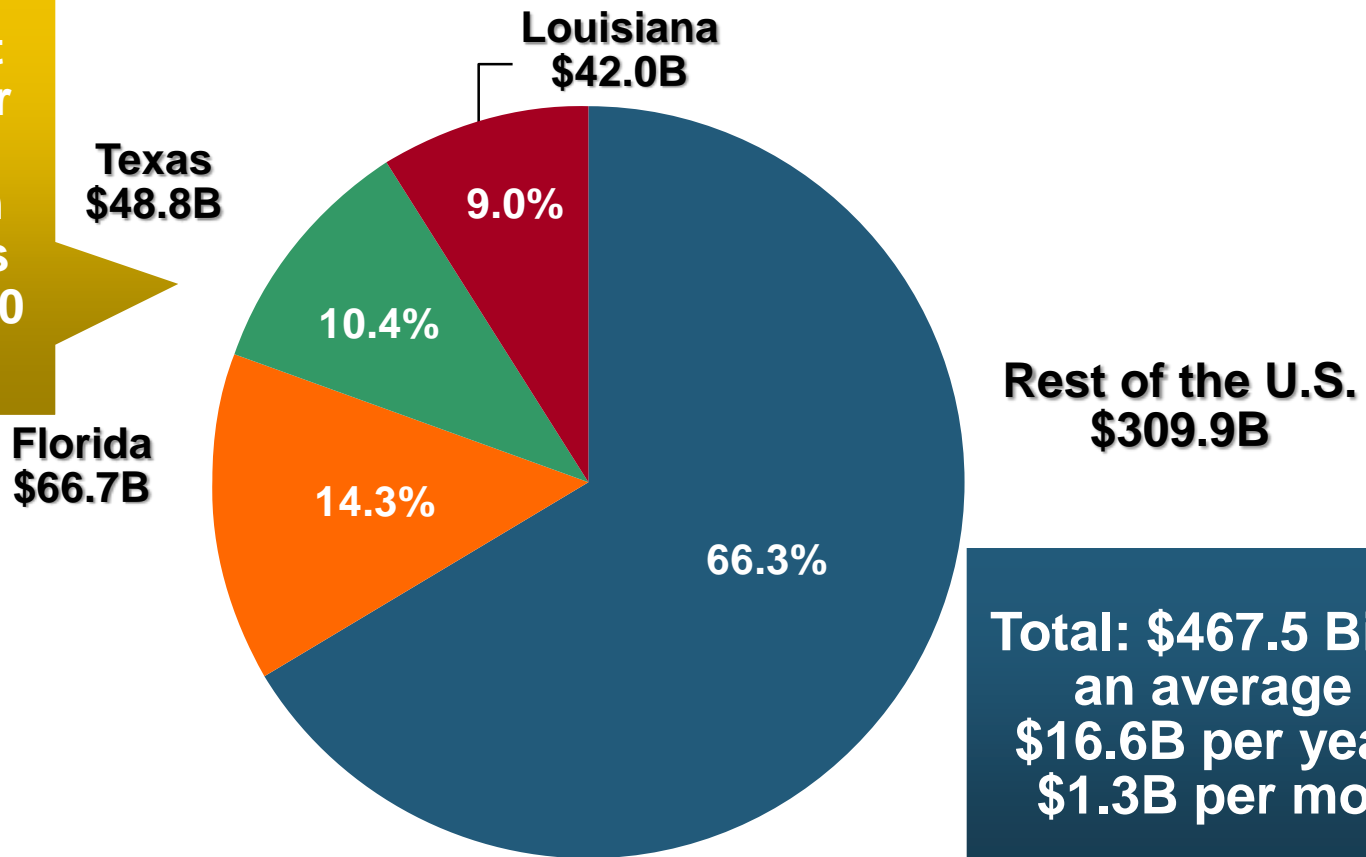
*Includes catastrophe losses of at least \$25 million.

Sources: PCS unit of ISO; Insurance Information Institute.

Top States by Inflation-Adjusted Insured Catastrophe Losses, 1983–2012

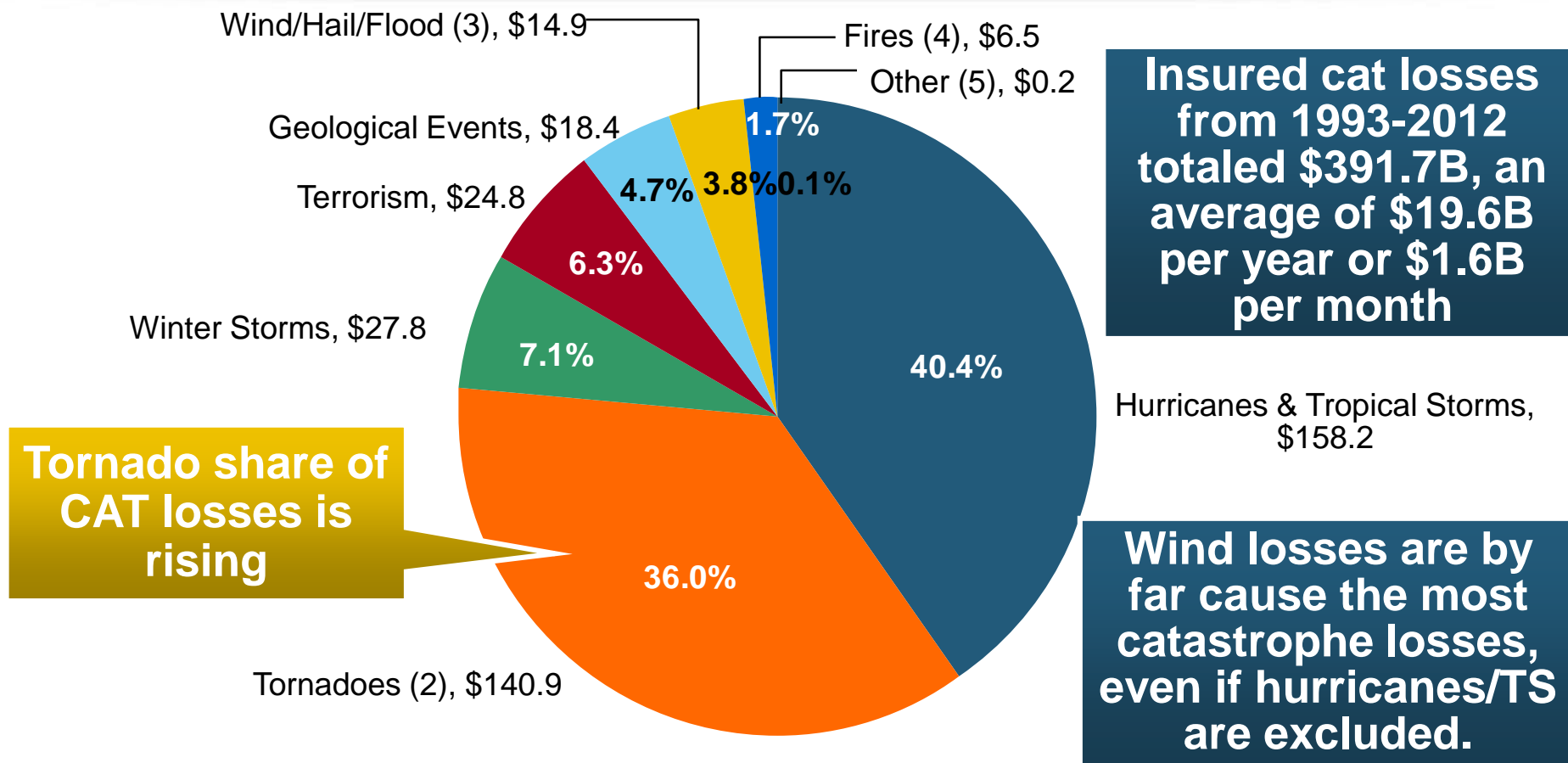
Over the Past 30 Years Florida Has Accounted for the Largest Share of Catastrophe Losses in the U.S., Followed by Texas and Louisiana

FL is the most costly state for CATs, with nearly \$67B in insured losses over the past 30 years



Total: \$467.5 Billion,
an average of
\$16.6B per year or
\$1.3B per month

Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1993–2012¹

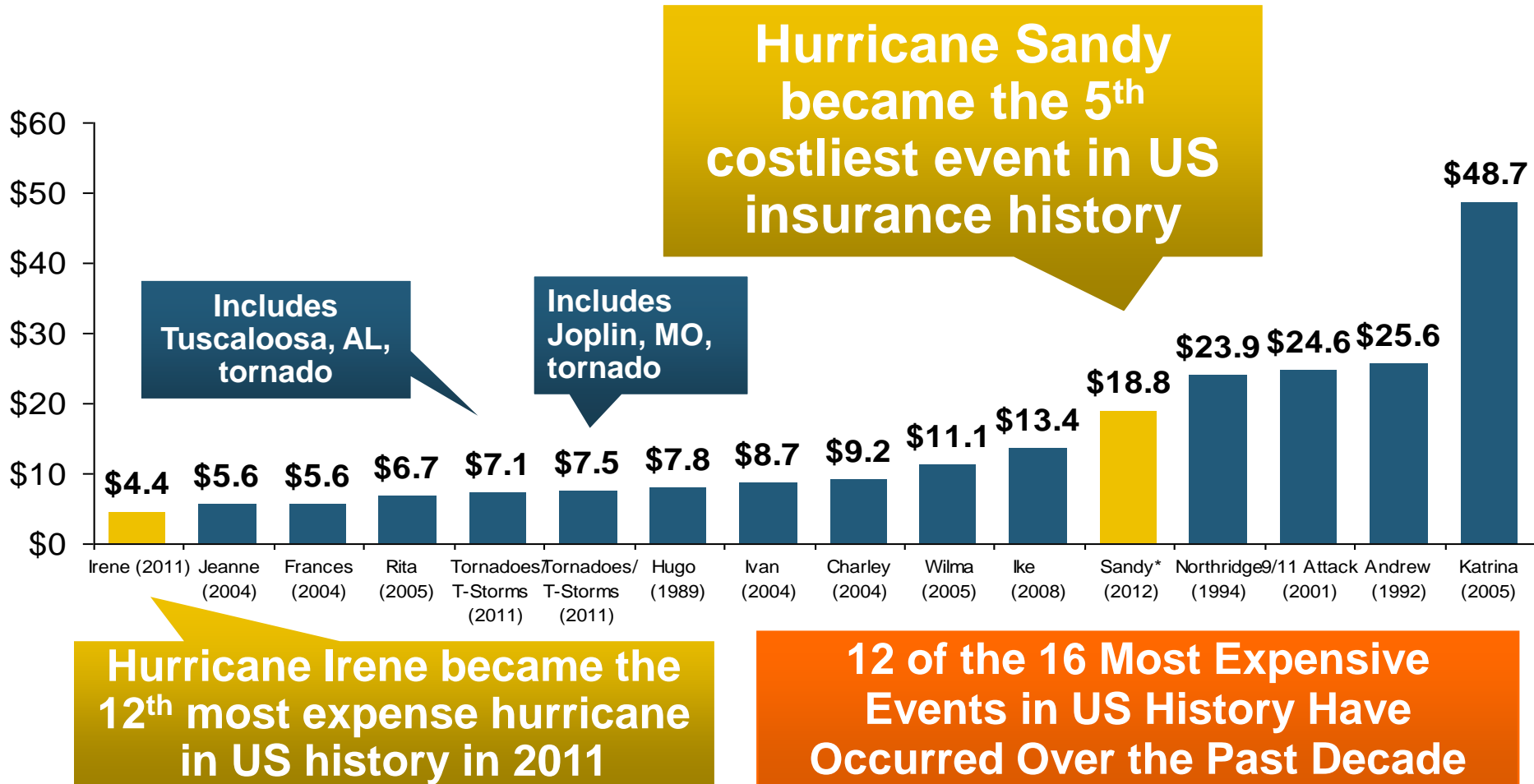


1. Catastrophes are defined as events causing direct insured losses to property of \$25 million or more in 2012 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses
4. Includes wildland fires
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO's Property Claim Services Unit.

Top 16 Most Costly Disasters in U.S. History

(Insured Losses, 2012 Dollars, \$ Billions)



*PCS estimate as of 4/12/13.

Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.

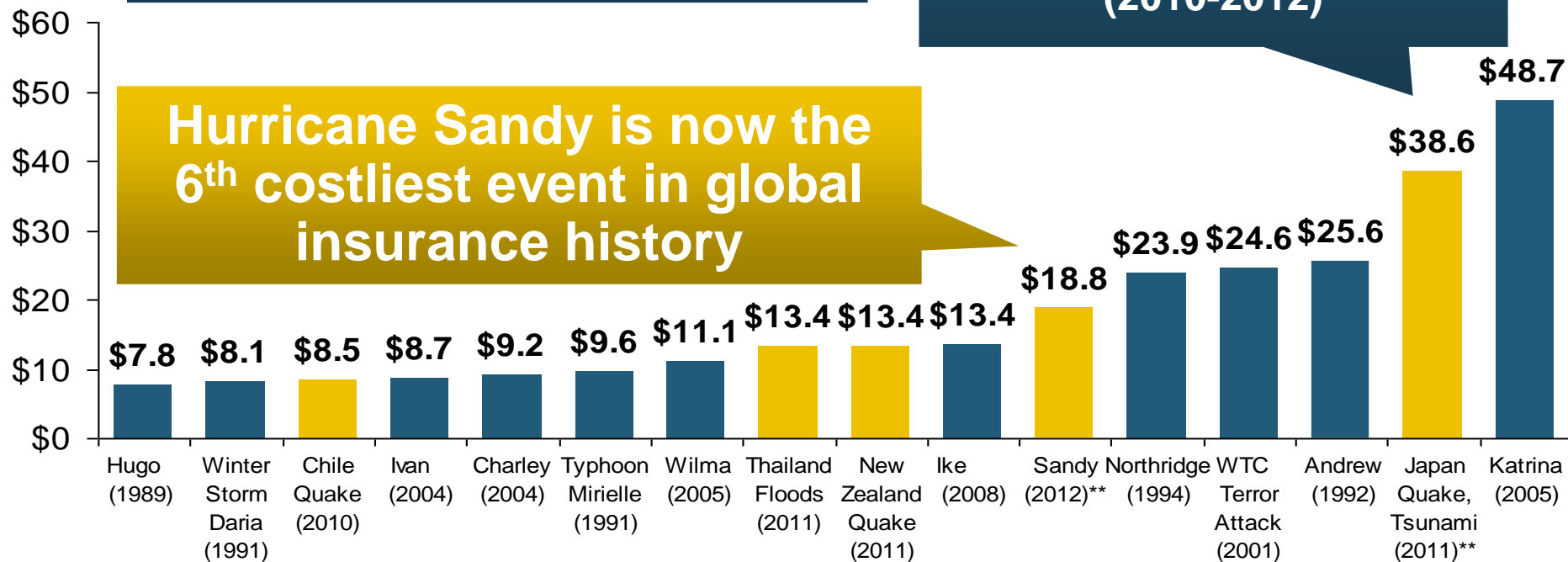
Top 16 Most Costly World Insurance Losses, 1970-2013*

(Insured Losses, 2012 Dollars, \$ Billions)

2012 insured CAT Losses totaled \$60B; Economic losses totaled \$140B, according to Swiss Re

5 of the top 14 most expensive catastrophes in world history have occurred within the past 3 years (2010-2012)

Hurricane Sandy is now the 6th costliest event in global insurance history



*Figures do not include federally insured flood losses.

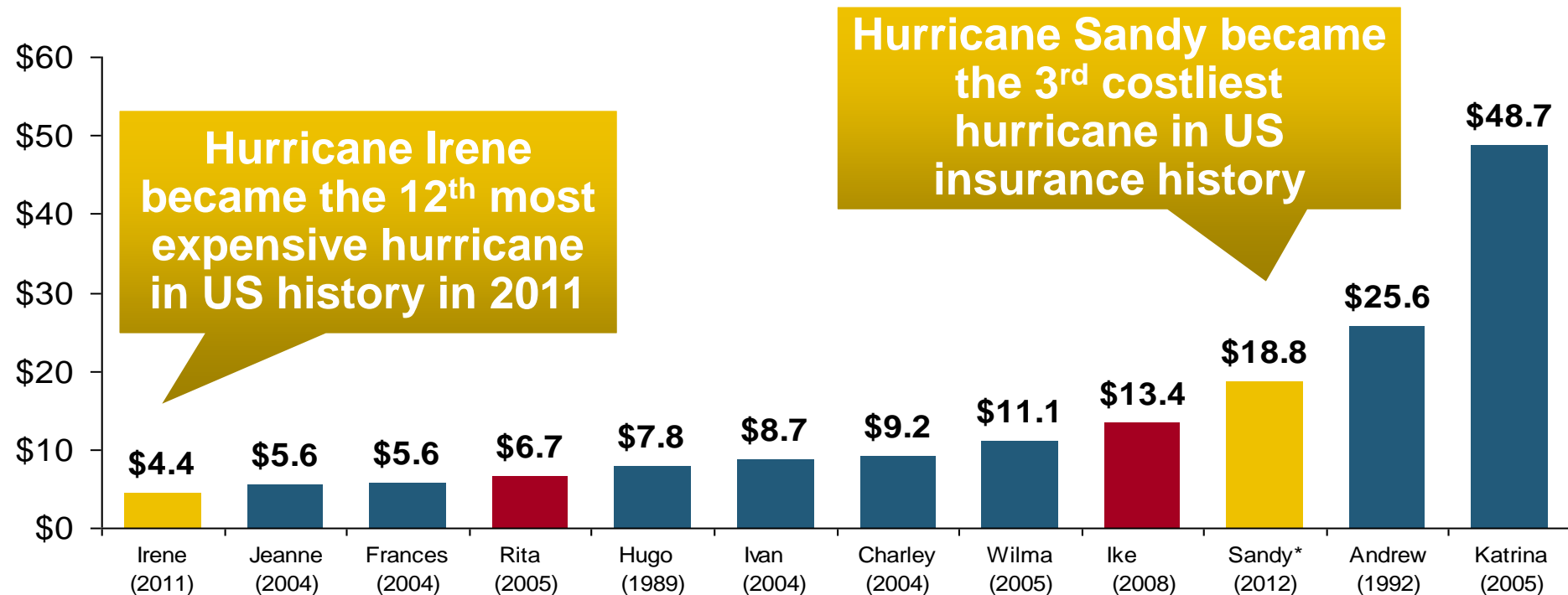
**Estimate based on PCS value of \$18.75B as of 4/12/13.

Sources: Munich Re; Swiss Re; Insurance Information Institute research.

Top 12 Most Costly Hurricanes in U.S. History

(Insured Losses, 2012 Dollars, \$ Billions)

10 of the 12 most costly hurricanes in insurance history occurred over the past 9 years (2004—2012)

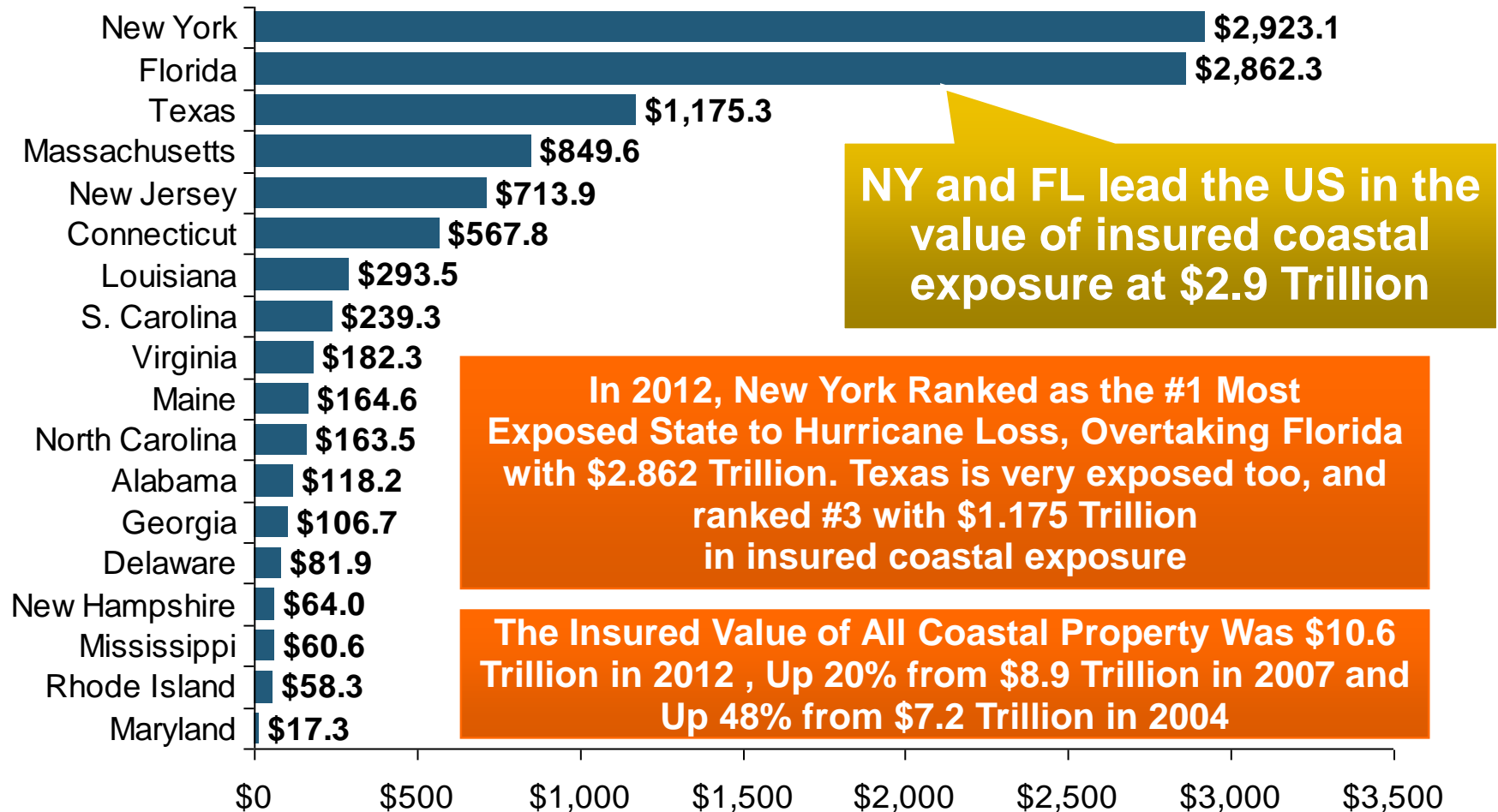


*PCS estimate as of 4/12/13.

Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.

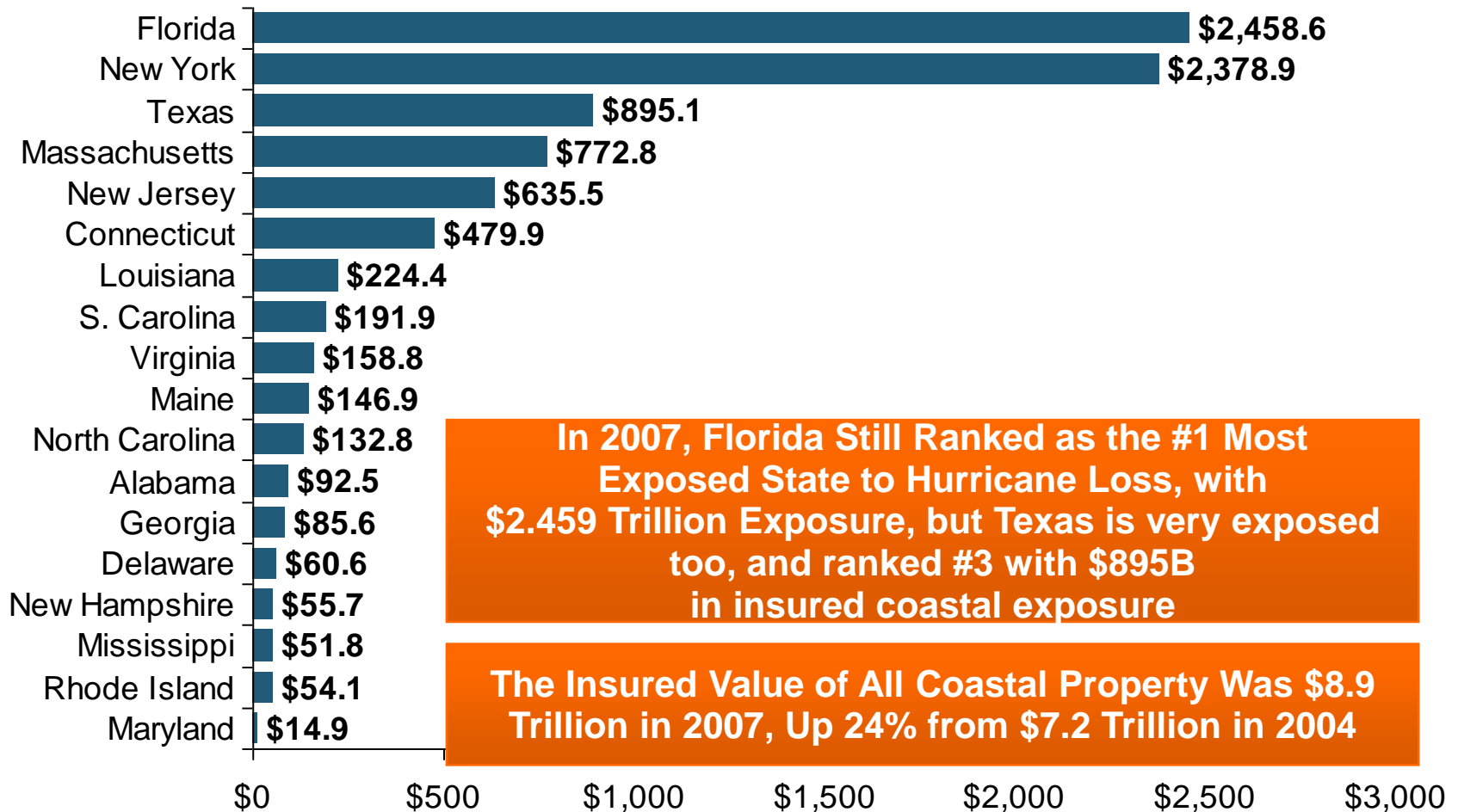
Total Value of Insured Coastal Exposure in 2012

(2012, \$ Billions)

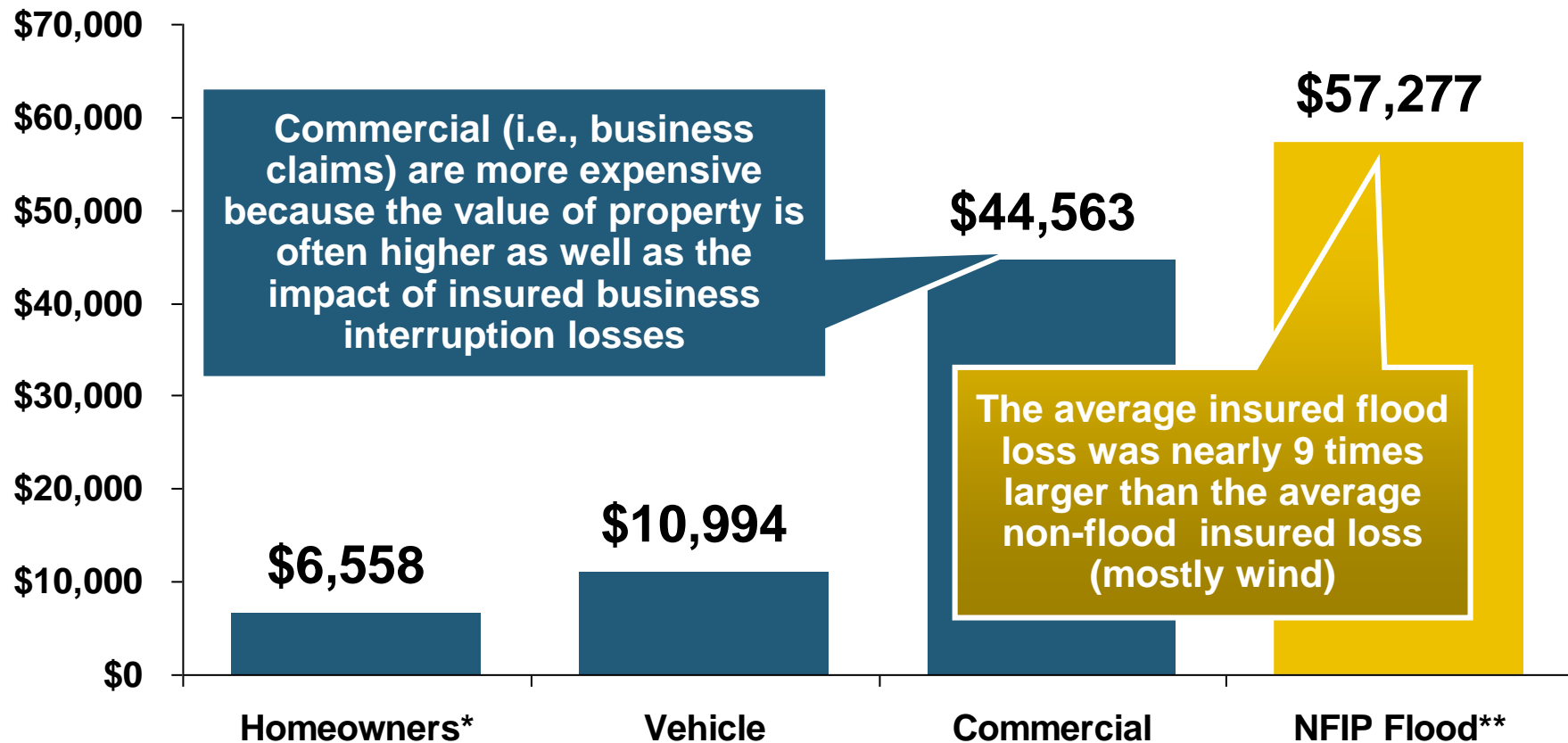


Total Value of Insured Coastal Exposure in 2007

(2007, \$ Billions)



Hurricane Sandy: Average Claim Payment by Type of Claim



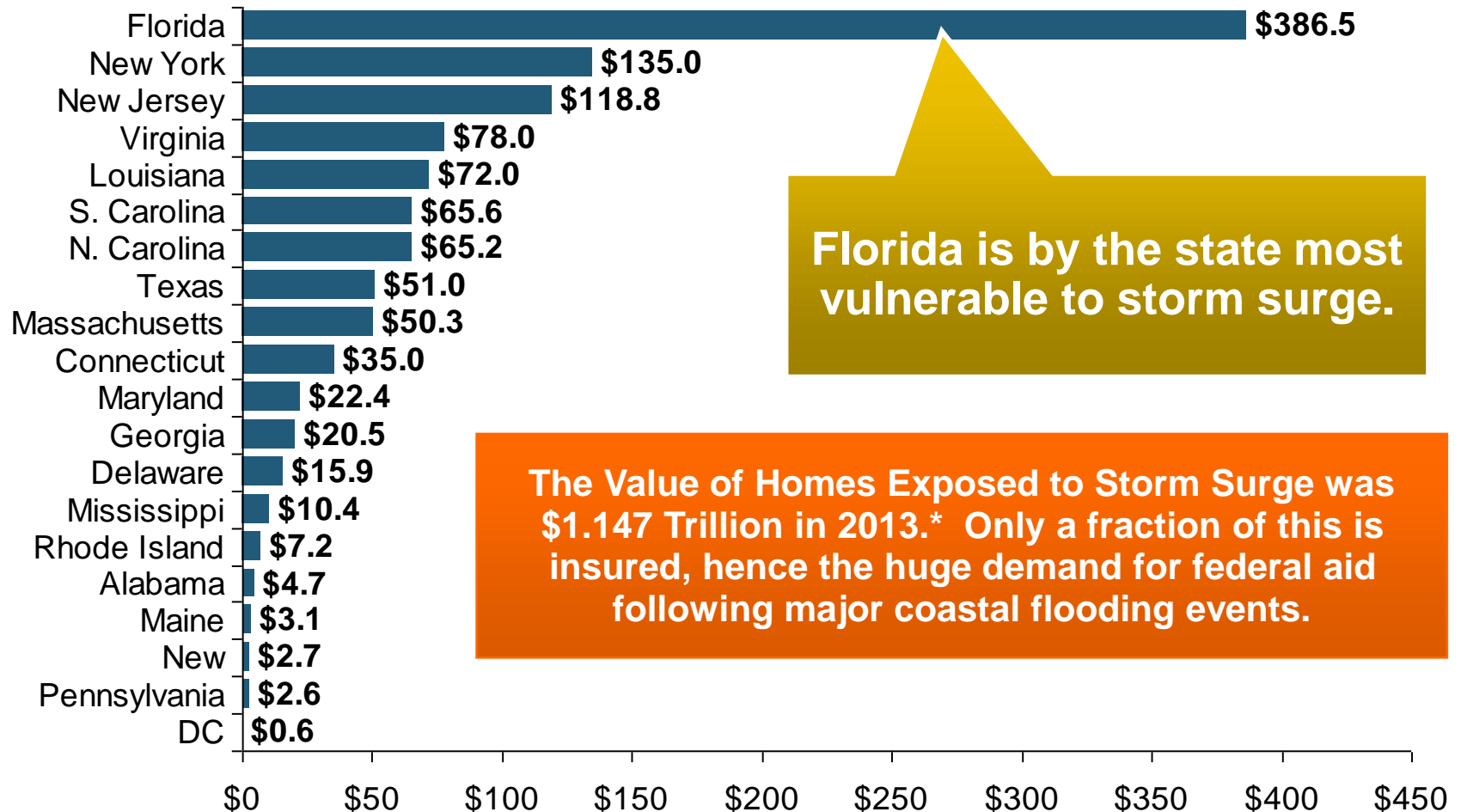
Post-Sandy, the I.I.I. worked very hard to make help media, consumers and regulators understand the distinction between a flood claim and a standard homeowners claim. *NFIP is \$24B in debt.*

*Includes rental and condo policies (excludes NFIP flood). **As of Oct. 31, 2013.

Sources: Catastrophe loss data is for Catastrophe Serial No. 90 (Oct. 28 – 31, 2012) from PCS as of March 2013; Insurance Information Institute.

Total Potential Home Value Exposure to Storm Surge Risk in 2013*

(\$ Billions)



*Insured and uninsured property. Based on estimated property values as of April 2013.

Source: *Storm Surge Report 2013*, CoreLogic.

Top 10 Winter Storm and Winter Damage Events in the US and Canada, 1980-2013*



Ranked by Insured Loss, in Millions of \$ 2013*

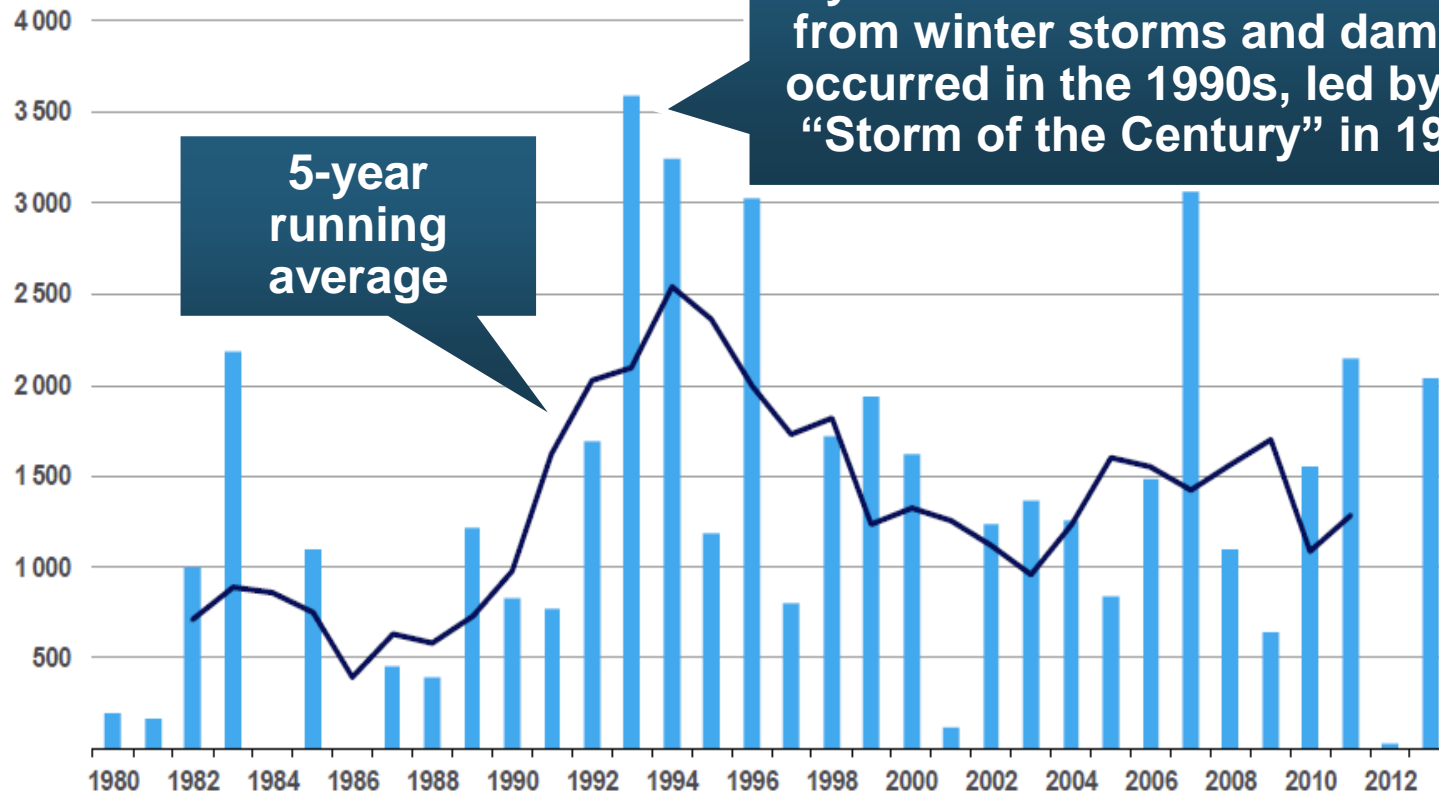
| Period | Area | Economic Loss (in inflation-adjusted 2013 \$US mill) | Insured Loss (in inflation-adjusted 2013 \$US mill) | Fatalities |
|----------------------|----------|--|---|------------|
| Mar. 11-14, 1993 | CAN, USA | 8,061 | 3,224 | 270 |
| Dec. 17-30, 1983 | USA | 2,339 | 2,058 | 500 |
| Apr. 13-17, 2007 | CAN, USA | 2,247 | 1,775 | 23 |
| Dec. 10-13, 1992 | USA | 4,981 | 1,660 | 19 |
| Jan. 5-12, 1998 | CAN, USA | 4,145 | 1,644 | 45 |
| Feb. 10-12, 1994 | USA | 4,716 | 1,258 | 9 |
| Jan. 17-20, 1994 | USA | 1,572 | 1,258 | 70 |
| Apr. 7-11, 2013 | USA | 1,600 | 1,200 | N/A |
| Jan. 1-4, 1999 | CAN, USA | 1,398 | 1,084 | 25 |
| Jan. 31-Feb. 2, 2011 | USA | 1,346 | 1,010 | 36 |

*Top 10 events in original insured loss dollars were adjusted to and ranked by the Insurance Information Institute to 2013 inflation-adjusted values.

Sources: Munich Re NatCatSERVICE; Insurance Information Institute.

Winter Storm and Winter Damage Events in the US and Canada, 1980-2013 (2013 US\$)

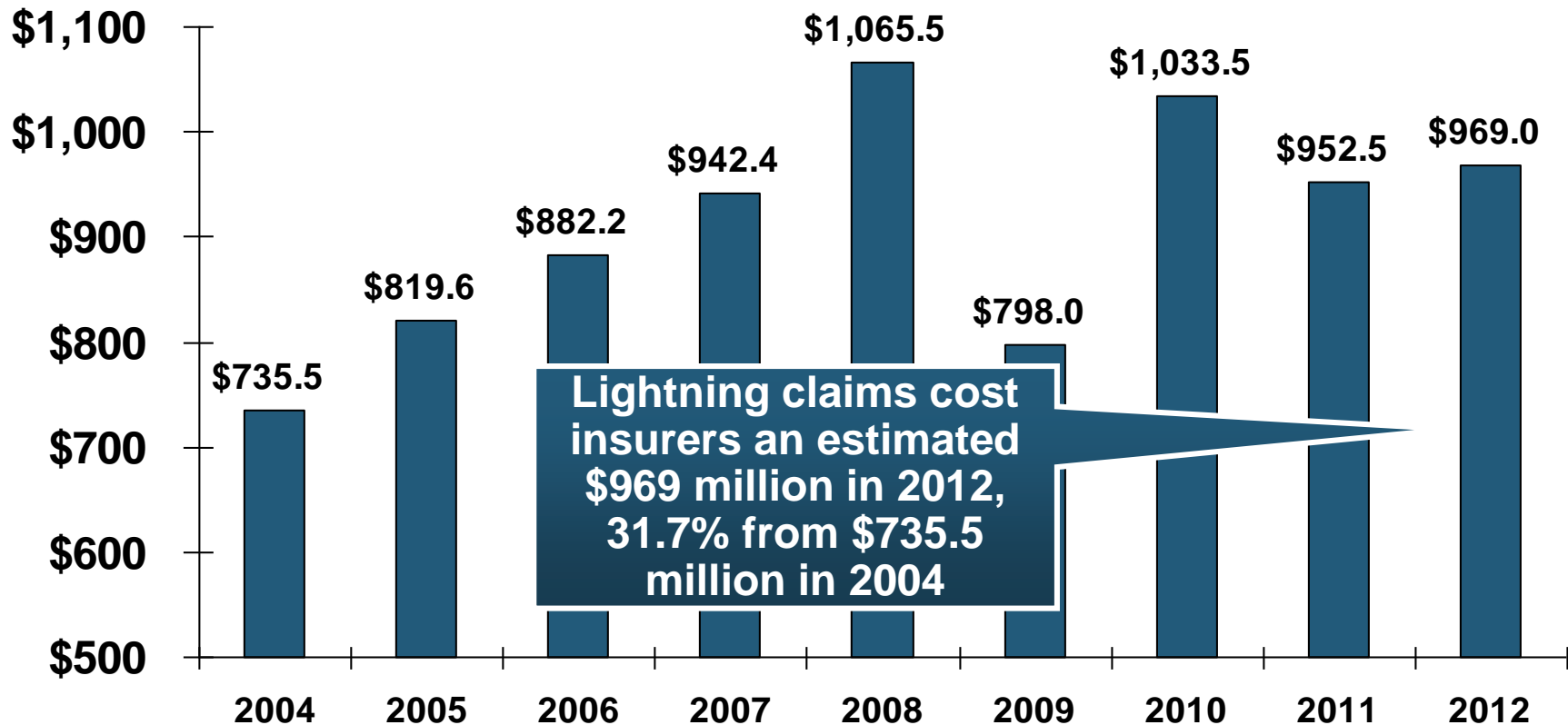
Insured Losses (Millions, \$ 2013)



Insured winter storm and damage losses in Jan. 2014 already totaled \$1.5 billion. Continued severe weather since then makes it likely that 2014 will become one of the top 5 costliest winters since 1980.

Insured Homeowners Losses Due to Lightning, 2004-2012

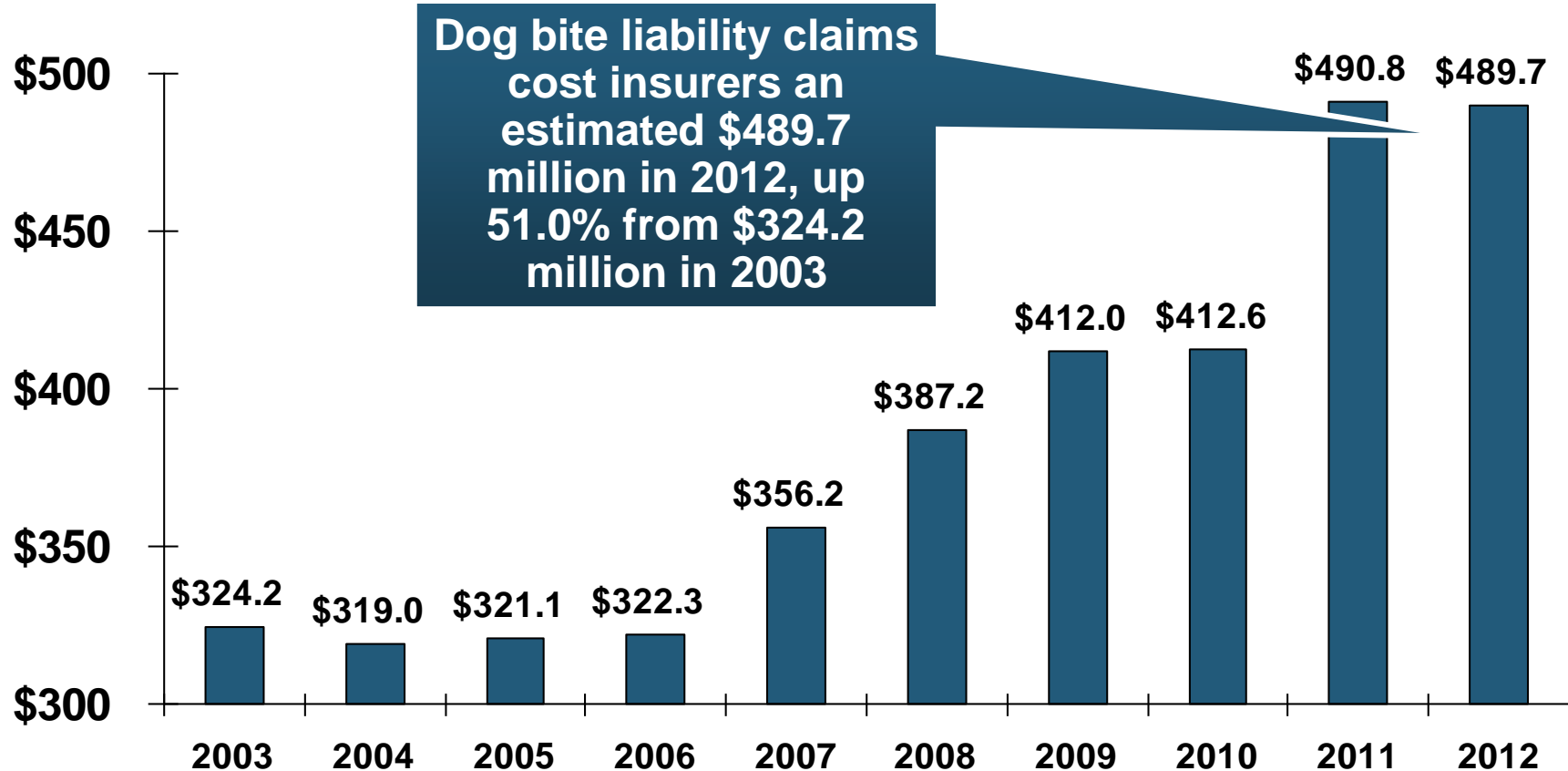
\$ Millions



The Increased Number and Value of Expensive Electronic Devices in Homes is Pushing the Total Lightning Claim Costs Up Even as the Number of Lightning Claims Falls

Insured Homeowners Losses Due Dog Bite Liability Claims, 2003-2012

\$ Millions



The Increased Average Cost per Dog Bite Claim is Pushing Total Dog Bite Liability Claim Costs Higher Even as the Number of Claims Remains Relatively Flat

Natural Disaster Losses in the United States, by Type, 2013

| As of December 31, 2013 | Number of Events | Fatalities | Estimated Overall Losses (US \$m) | Estimated Insured Losses (US \$m) |
|----------------------------|------------------|------------|-----------------------------------|-----------------------------------|
| Severe Thunderstorm | 69 | 110 | 16,341 | 10,274 |
| Winter Storm | 11 | 43 | 2,935 | 1,895 |
| Flood | 19 | 23 | 1,929 | 240 |
| Earthquake & Geophysical | 6 | 1 | Minor | Minor |
| Tropical Cyclone | 1 | 1 | Minor | Minor |
| Wildfire, Heat, & Drought | 22 | 29 | 620 | 385 |
| Totals | 128 | 207 | 21,825 | 12,794 |

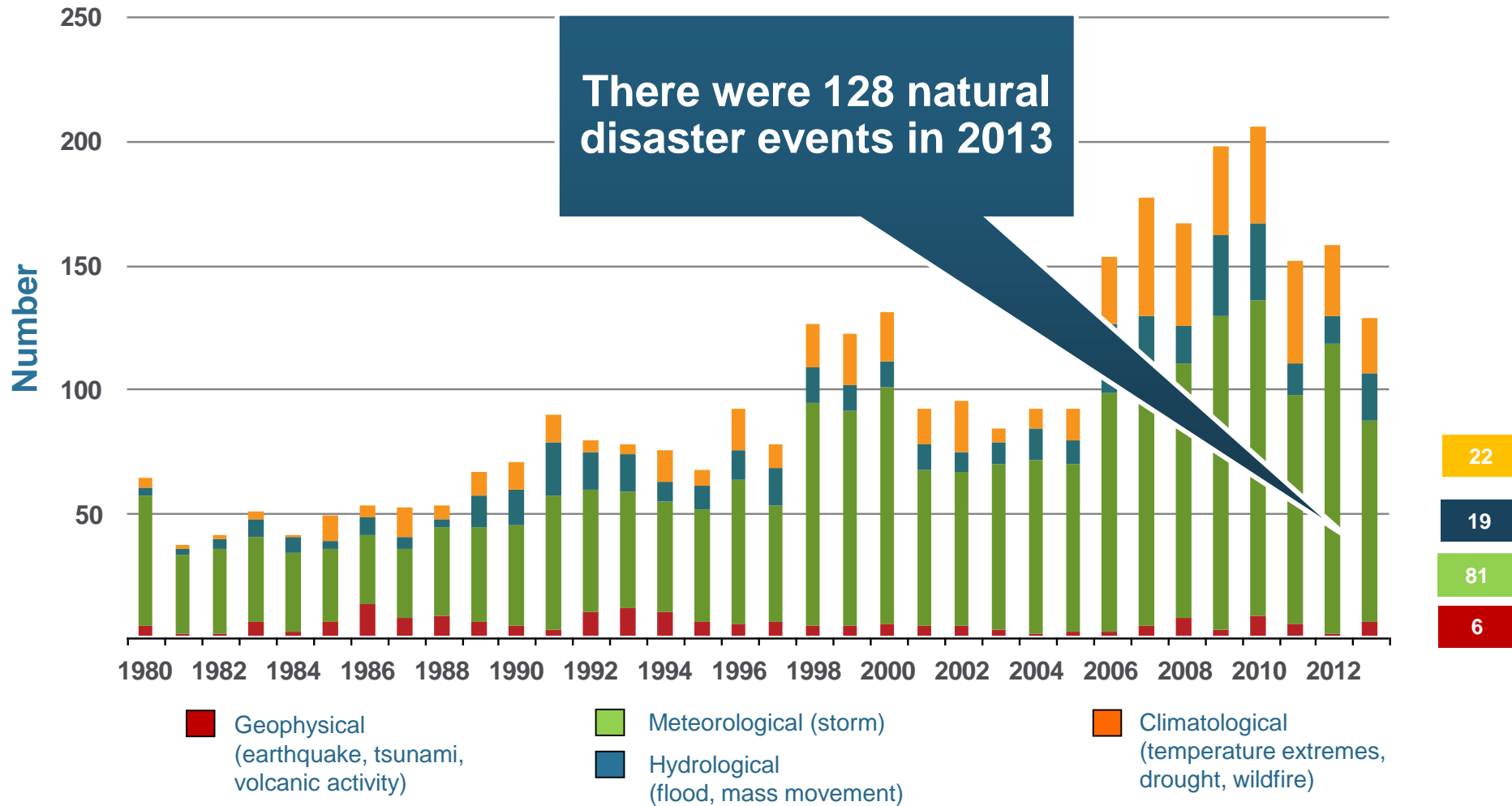
Significant Natural Catastrophes, 2013

(Events with \$1 billion economic loss and/or 50 fatalities)

| Date | Event | Estimated Economic Losses (US \$m) | Estimated Insured Losses (US \$m) |
|------------------|---------------|------------------------------------|-----------------------------------|
| February 24 – 25 | Winter Storm | 1,300 | 690 |
| March 18 – 19 | Thunderstorms | 2,200 | 1,600 |
| April 7 – 11 | Winter Storm | 1,600 | 1,200 |
| April 16 – 18 | Thunderstorms | 1,100 | 560 |
| May 18 – 20 | Thunderstorms | 3,100 | 1,800 |
| May 28 – 31 | Thunderstorms | 2,800 | 1,400 |
| August 6 – 7 | Thunderstorms | 1,300 | 740 |
| September 9 – 16 | Flooding | 1,500 | 160 |
| November 17 - 18 | Thunderstorms | 1,300 | 931 |

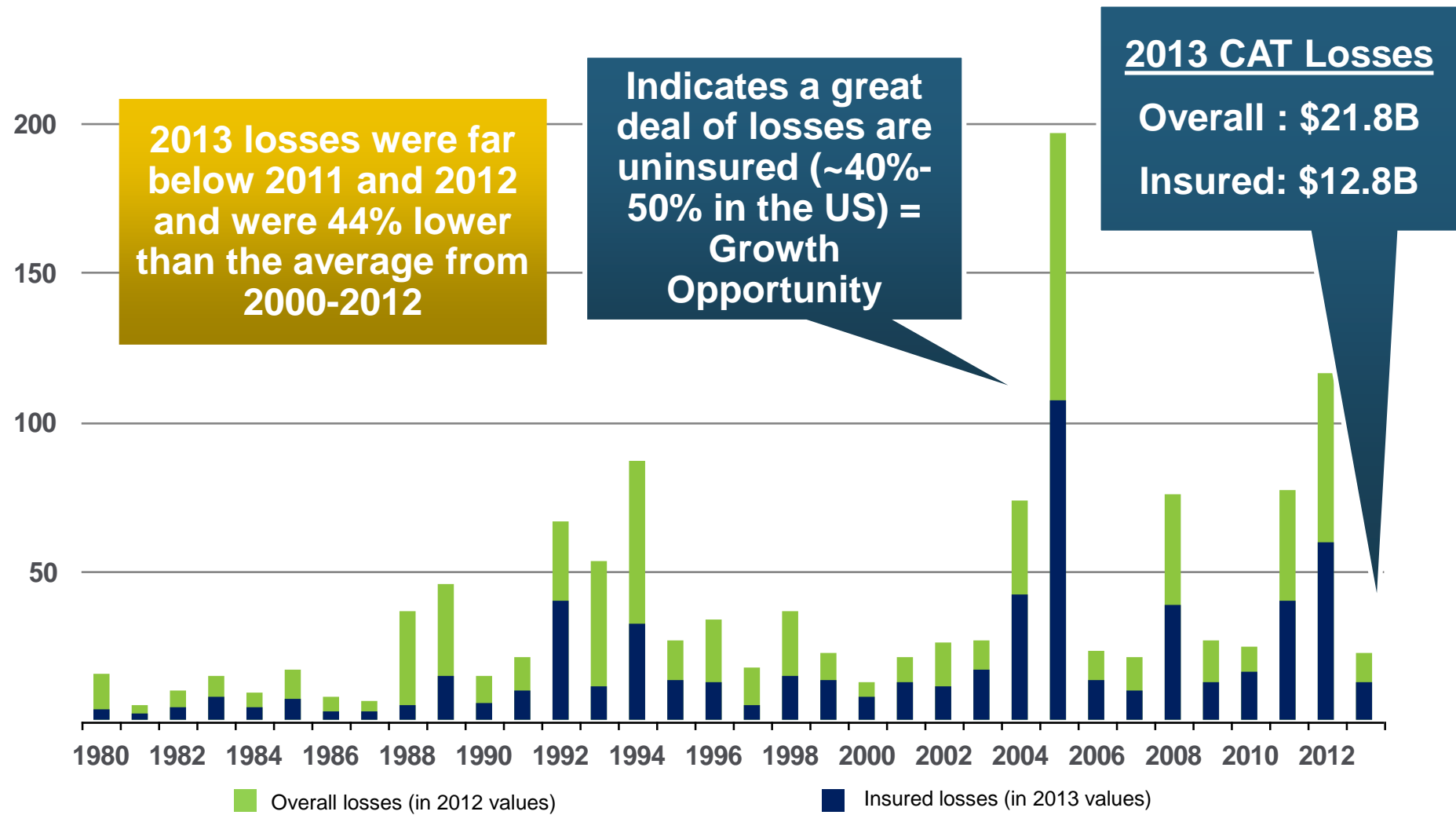
Natural Disasters in the United States, 1980 – 2013

Number of Events (Annual Totals 1980 – 2013)



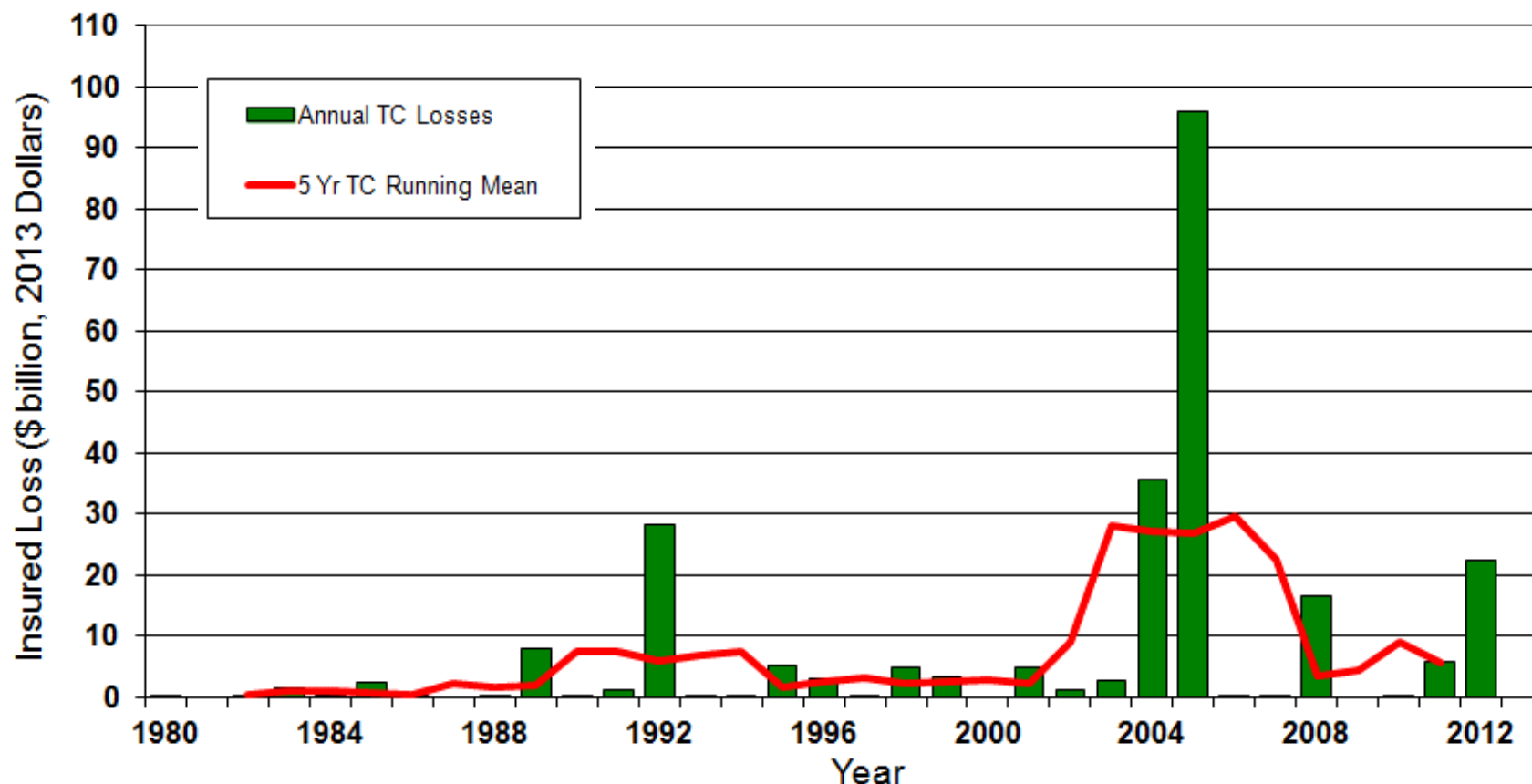
Losses Due to Natural Disasters in the US, 1980–2013

(2013 Dollars, \$ Billions) (Overall and Insured Losses)

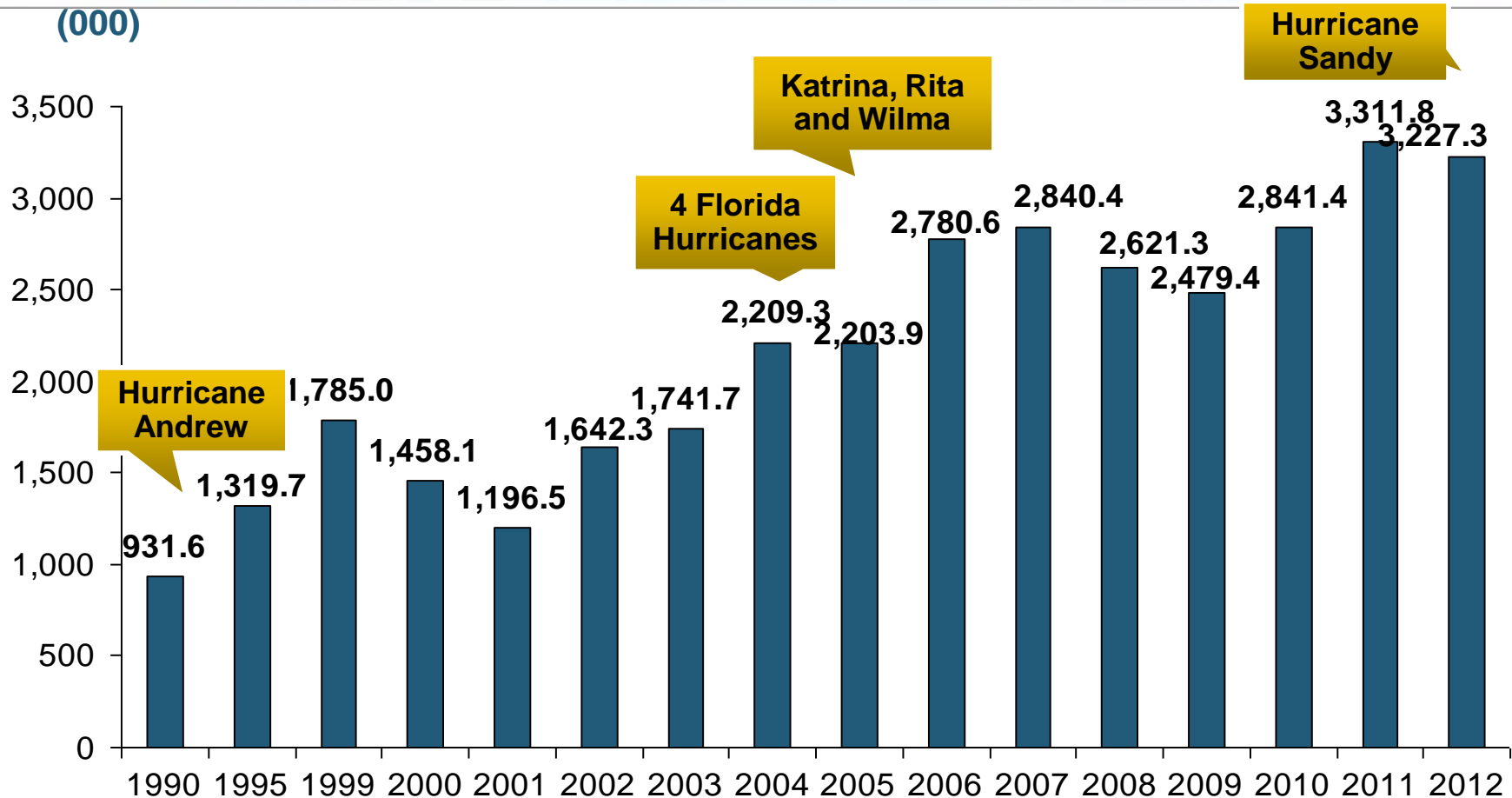


Insured US Tropical Cyclone Losses, 1980 - 2013

The current 5-year average (2008 - 2013) insured tropical cyclone loss is \$5.6 billion per year.

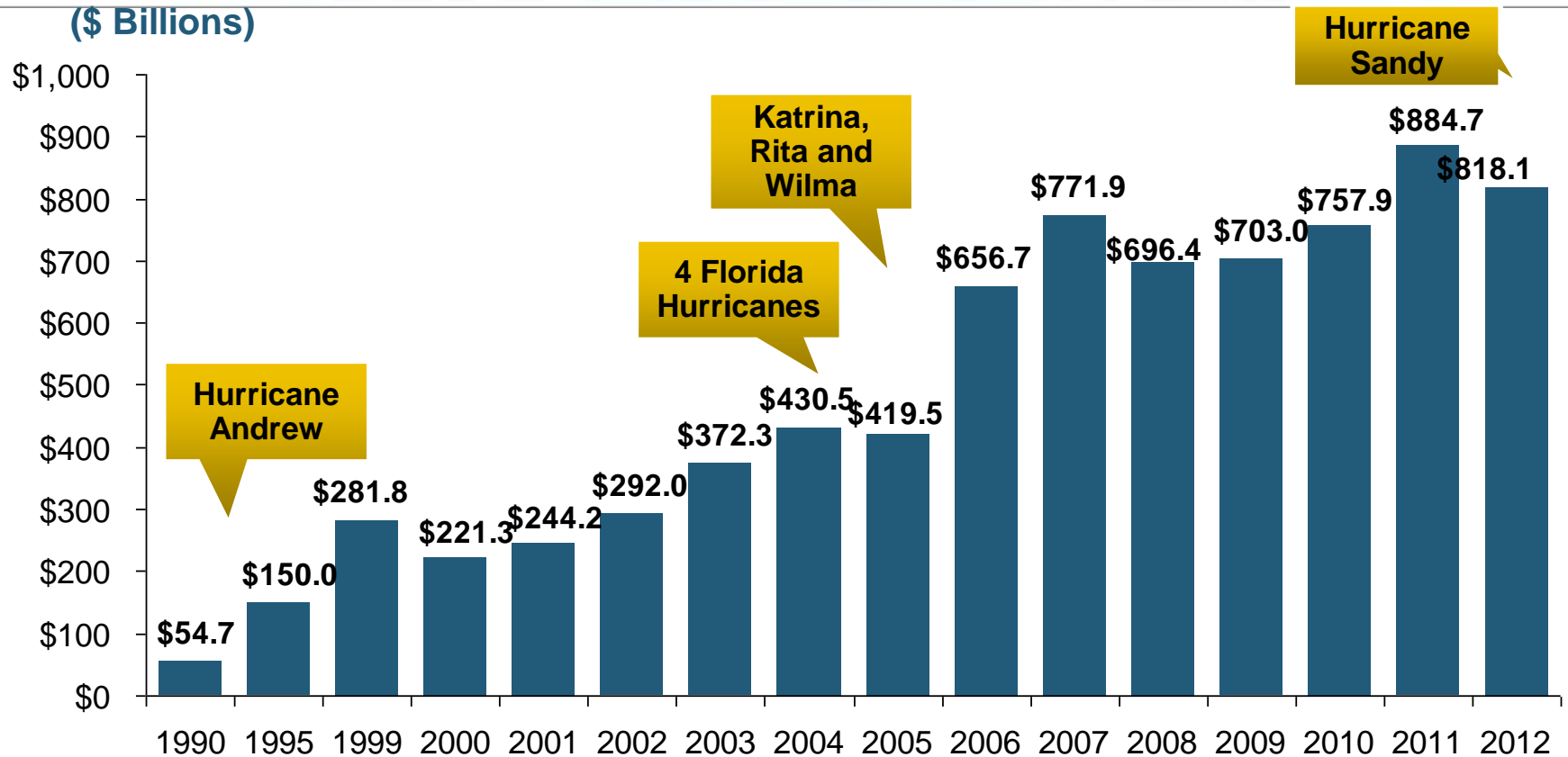


U.S. Residual Market: Total Policies In-Force (1990-2012) (000)



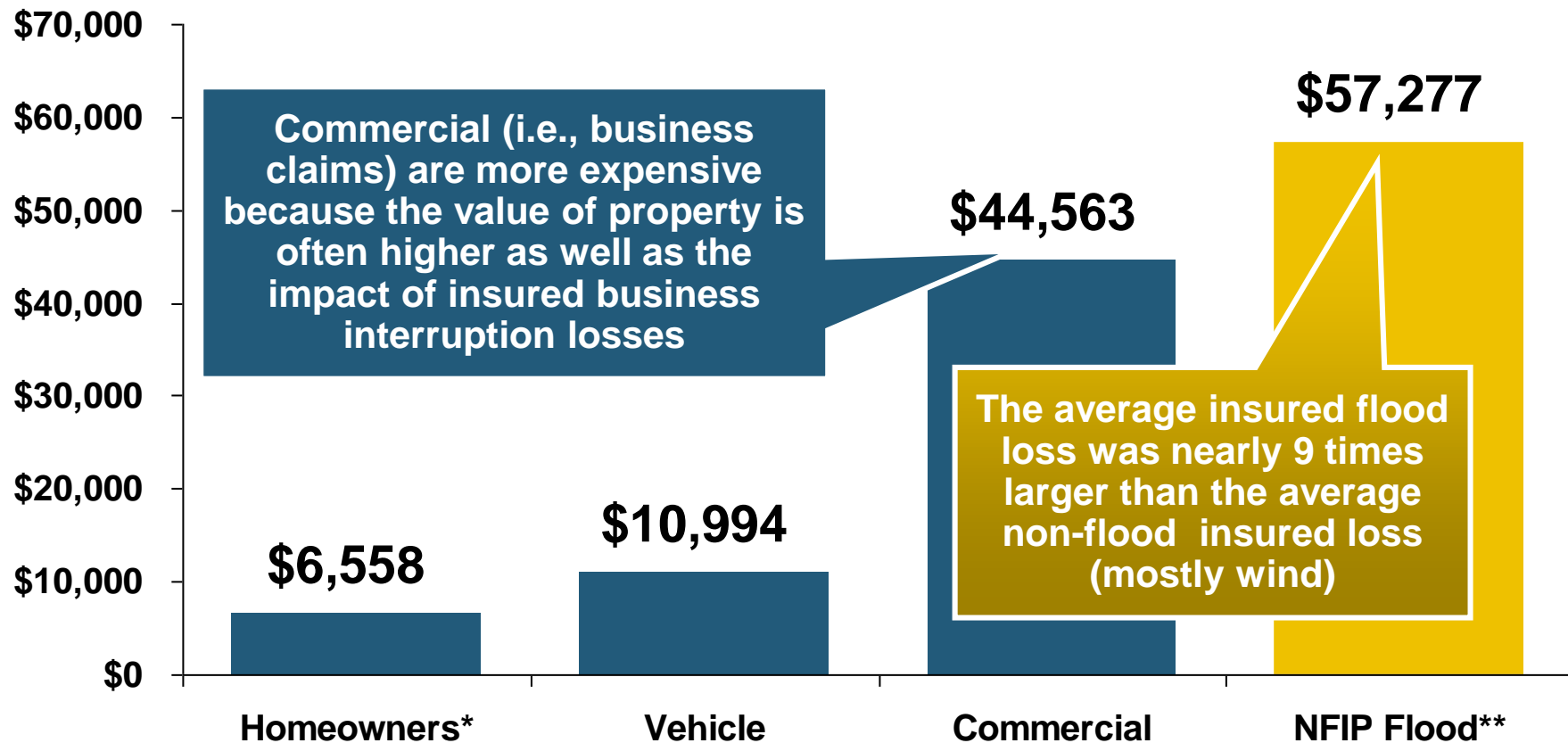
In the 23-year period between 1990 and 2012, the total number of policies in-force in the residual market (FAIR & Beach/Windstorm) Plans has more than tripled.

U.S. Residual Market Exposure to Loss (1990-2012) (\$ Billions)



In the 23-year period between 1990 and 2012, total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from \$54.7 billion in 1990 to \$818.1 billion in 2012.

Hurricane Sandy: Average Claim Payment by Type of Claim



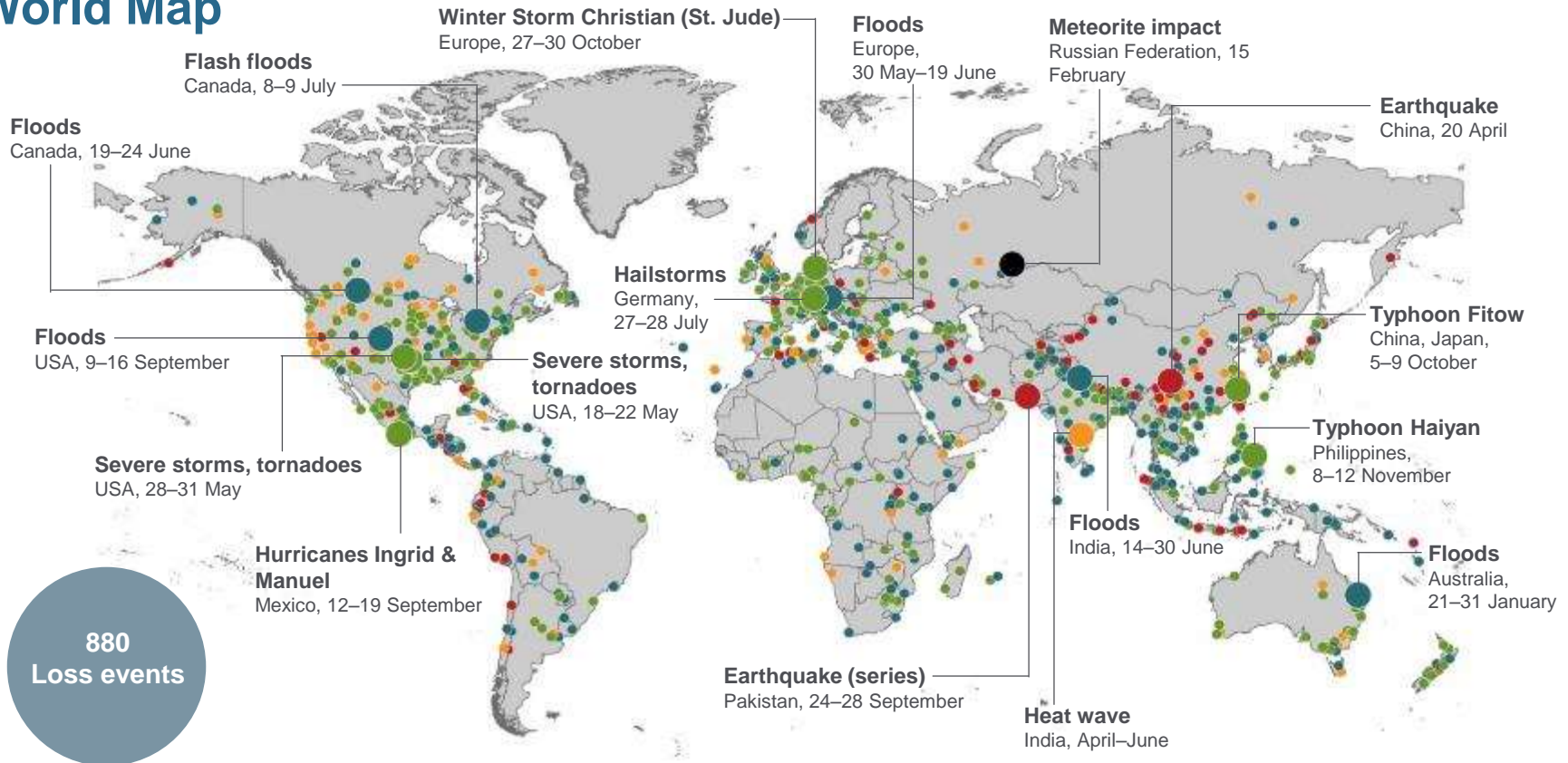
Post-Sandy, the I.I.I. worked very hard to make help media, consumers and regulators understand the distinction between a flood claim and a standard homeowners claim. *NFIP is \$24B in debt.*

*Includes rental and condo policies (excludes NFIP flood). **As of Oct. 31, 2013.

Sources: Catastrophe loss data is for Catastrophe Serial No. 90 (Oct. 28 – 31, 2012) from PCS as of March 2013; Insurance Information Institute.

Natural Loss Events: Full Year 2013

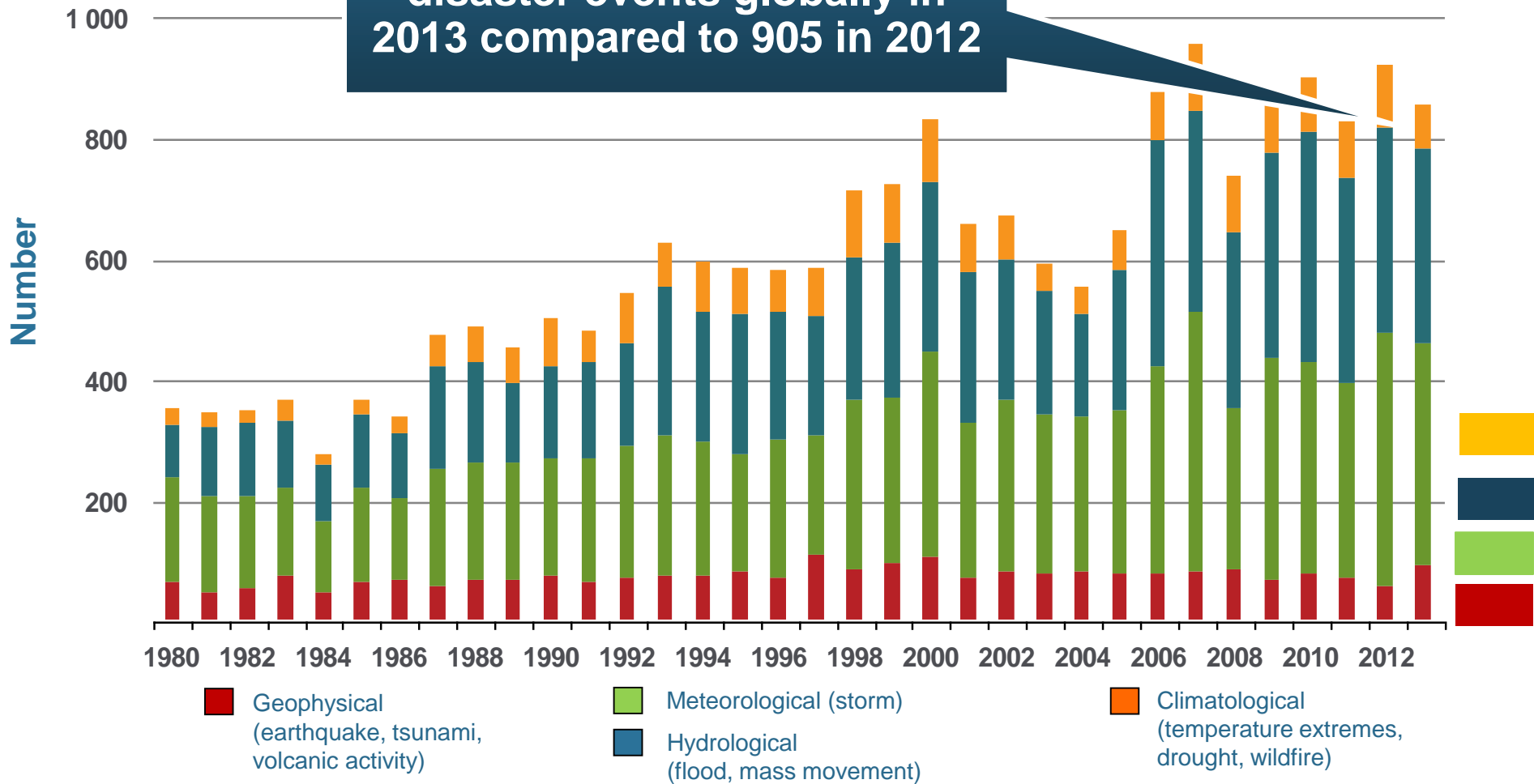
World Map



- **Natural catastrophes**
- **Selection of significant Natural catastrophes**
- **Geophysical events**
(earthquake, tsunami, volcanic activity)
- **Meteorological events**
(storm)
- **Hydrological events**
(flood, mass movement)
- **Climatological events**
(extreme temperature, drought, wildfire)
- **Extraterrestrial events**
(Meteorite impact)

Natural Disasters Worldwide, 1980 – 2013 (Number of Events)

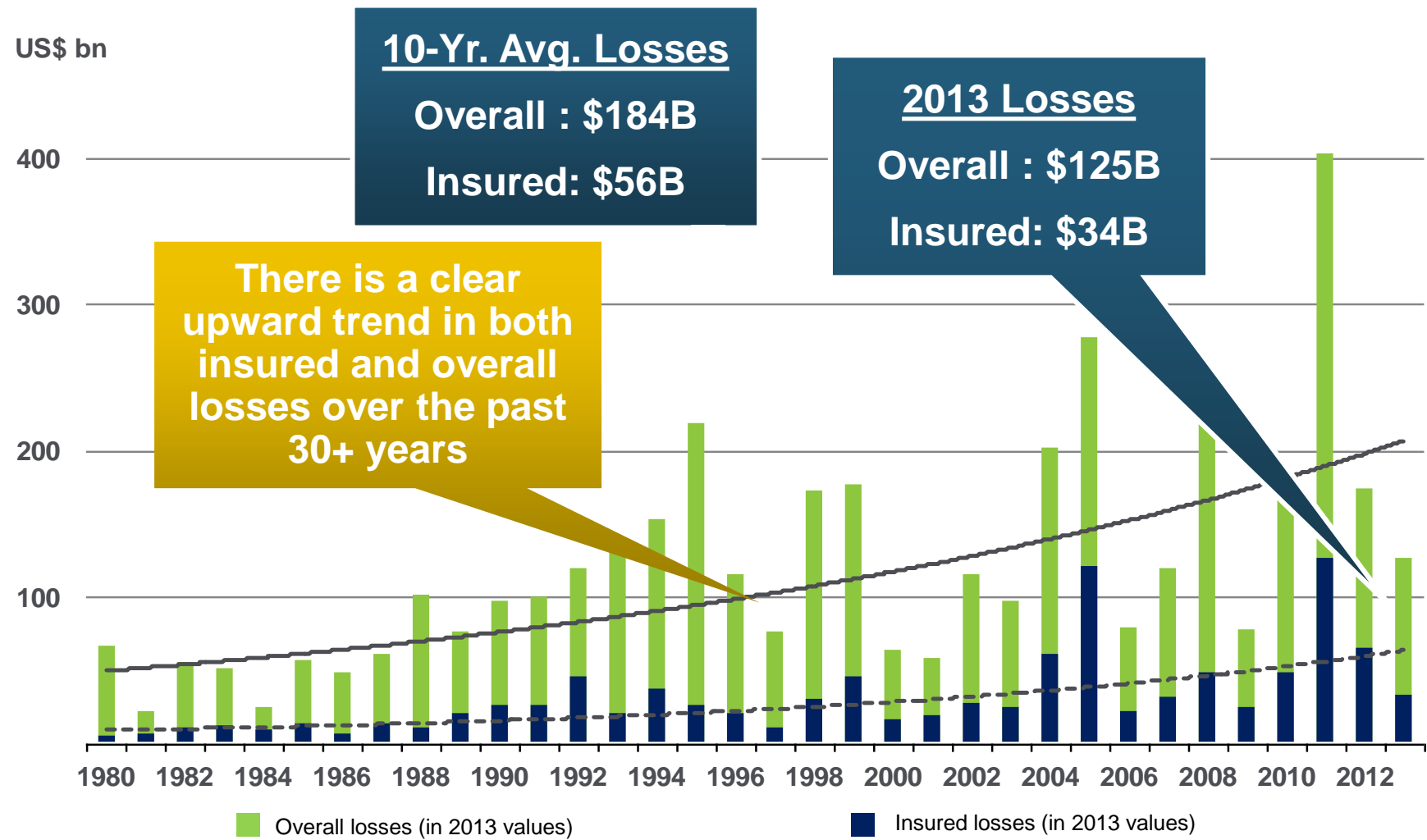
There were 880 natural
disaster events globally in
2013 compared to 905 in 2012



Losses Due to Natural Disasters Worldwide, 1980–2013 (Overall & Insured Losses)

(Overall and Insured Losses)

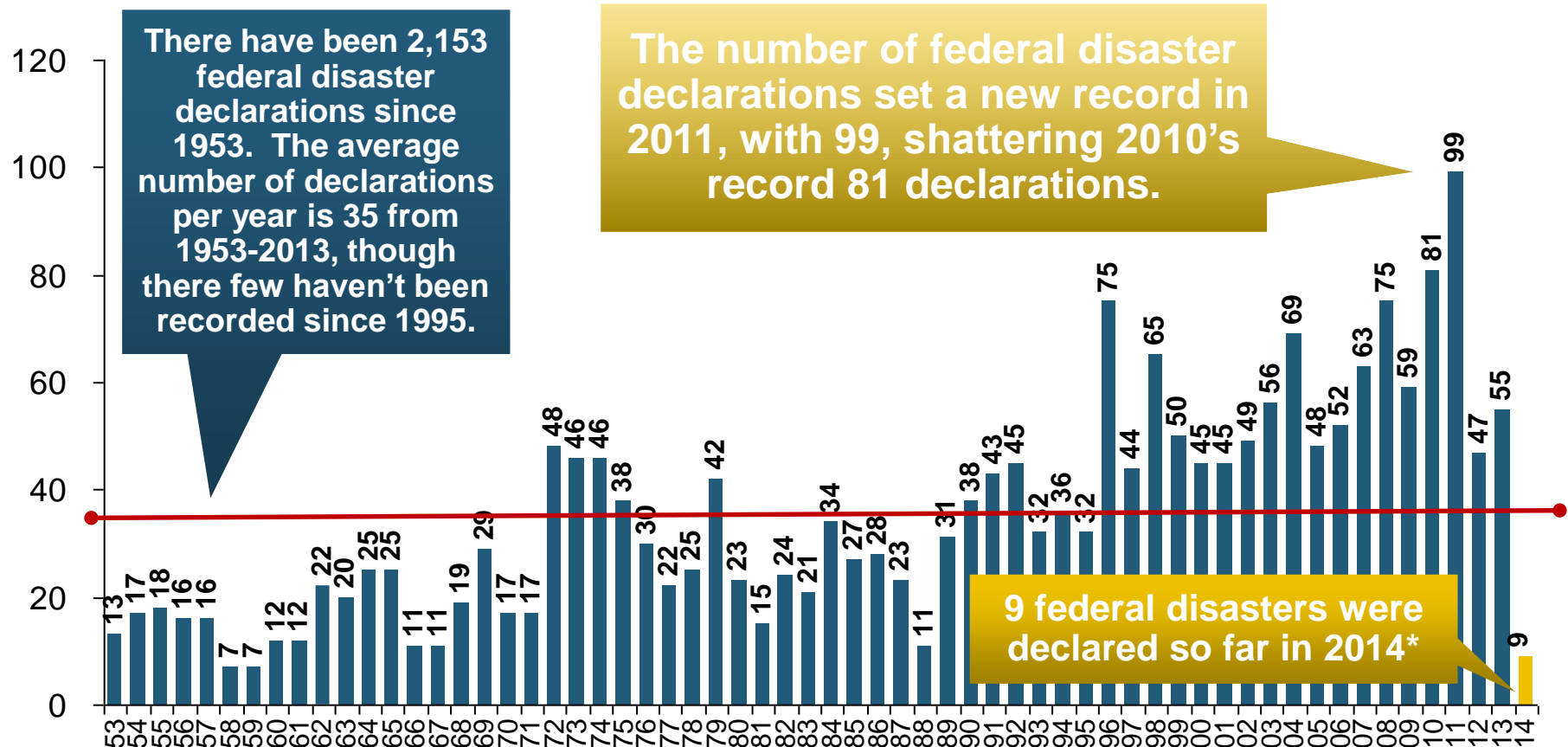
(2013 Dollars, \$ Billions)



Federal Disaster Declarations Patterns: 1953-2014

**Disaster Declarations Set New
Records in Recent Years**

Number of Federal Major Disaster Declarations, 1953-2014*

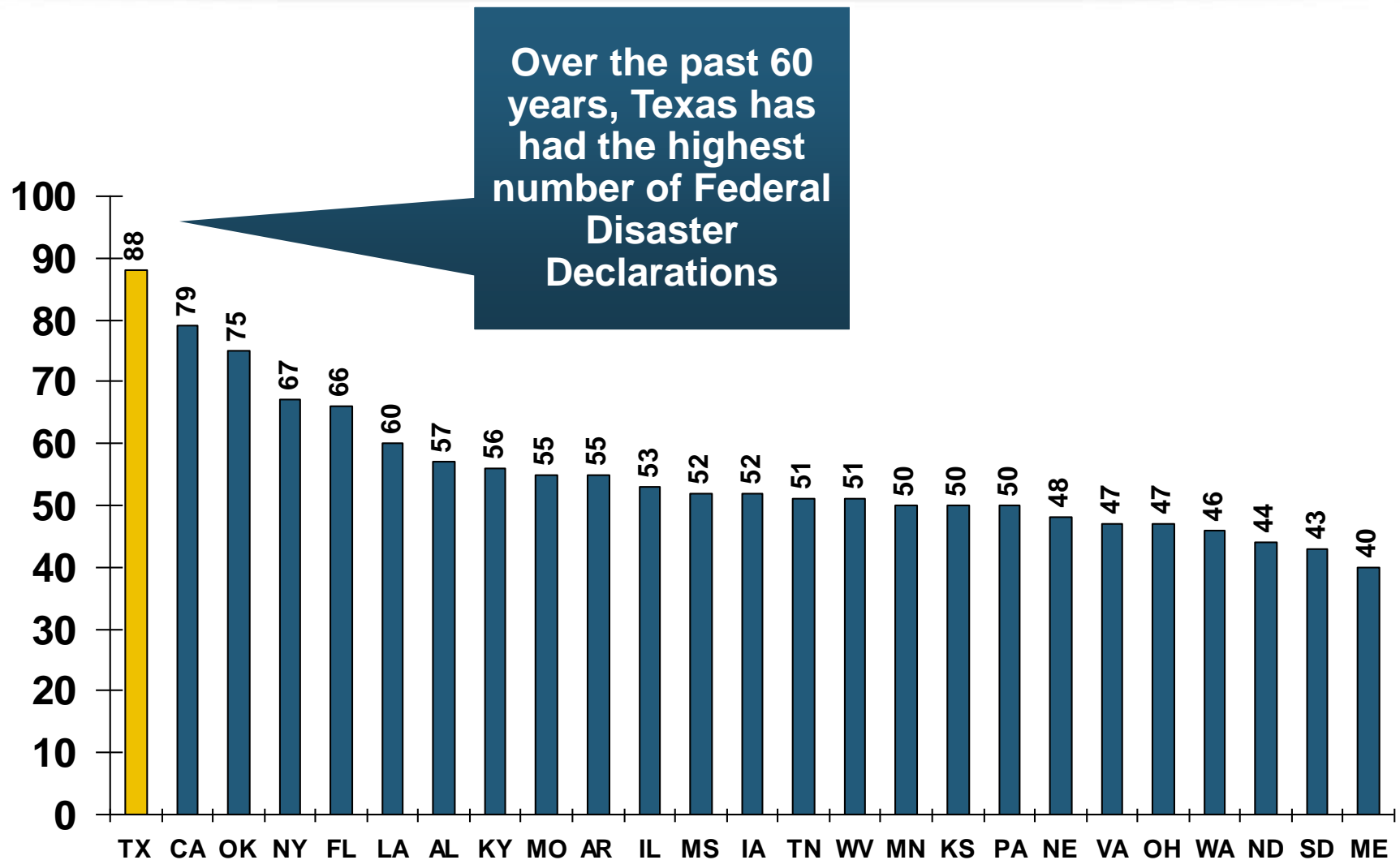


The Number of Federal Disaster Declarations Is Rising and Set New Records in 2010 and 2011 Before Dropping in 2012/13

*Through March 2, 2014.

Source: Federal Emergency Management Administration; <http://www.fema.gov/disasters>; Insurance Information Institute.

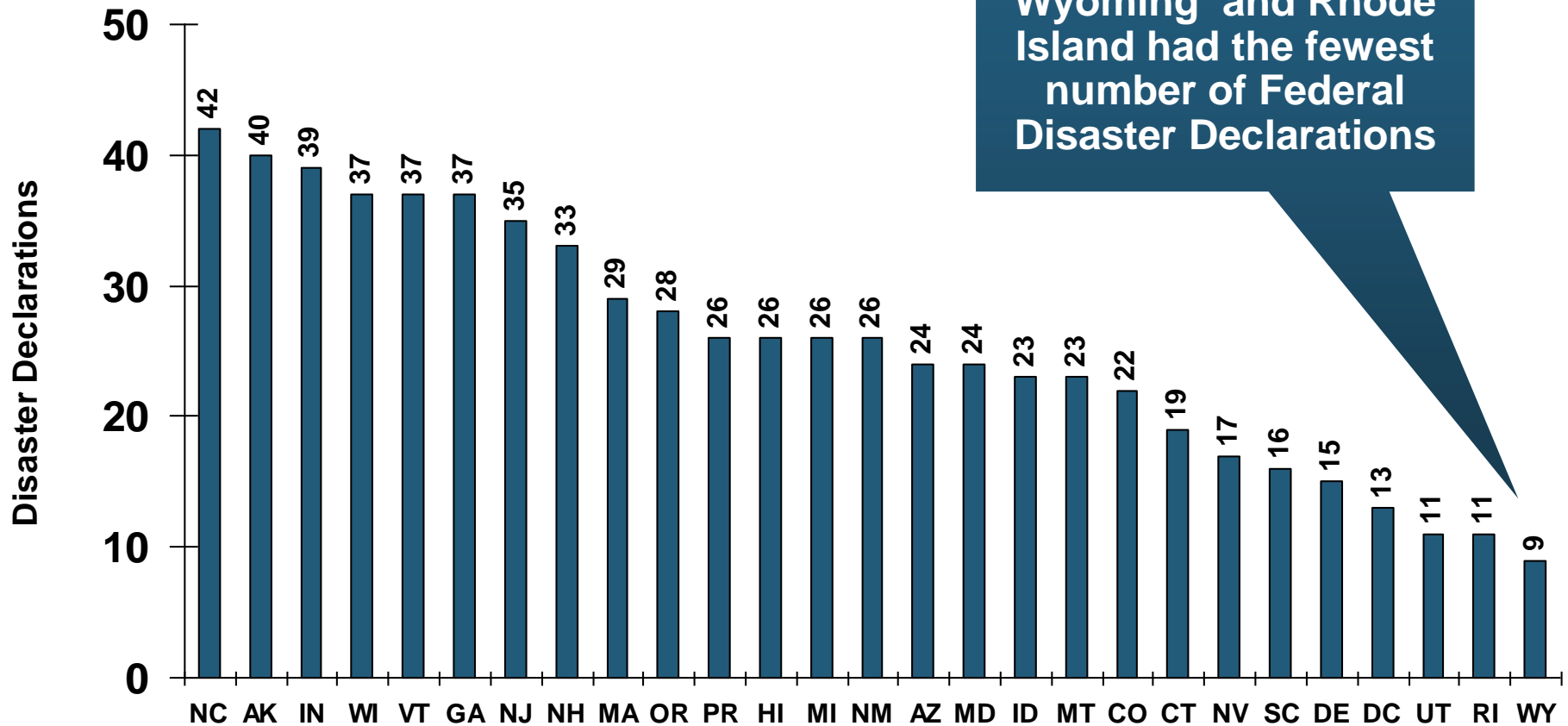
Federal Disasters Declarations by State, 1953 – 2014: Highest 25 States*



*Through March 2, 2014. Includes Puerto Rico and the District of Columbia.

Source: FEMA: http://www.fema.gov/news/disaster_totals_annual.fema; Insurance Information Institute.

Federal Disasters Declarations by State, 1953 – 2014: Lowest 25 States*



*Through March 2, 2014. Includes Puerto Rico and the District of Columbia.

Source: FEMA: http://www.fema.gov/news/disaster_totals_annual.fema; Insurance Information Institute.

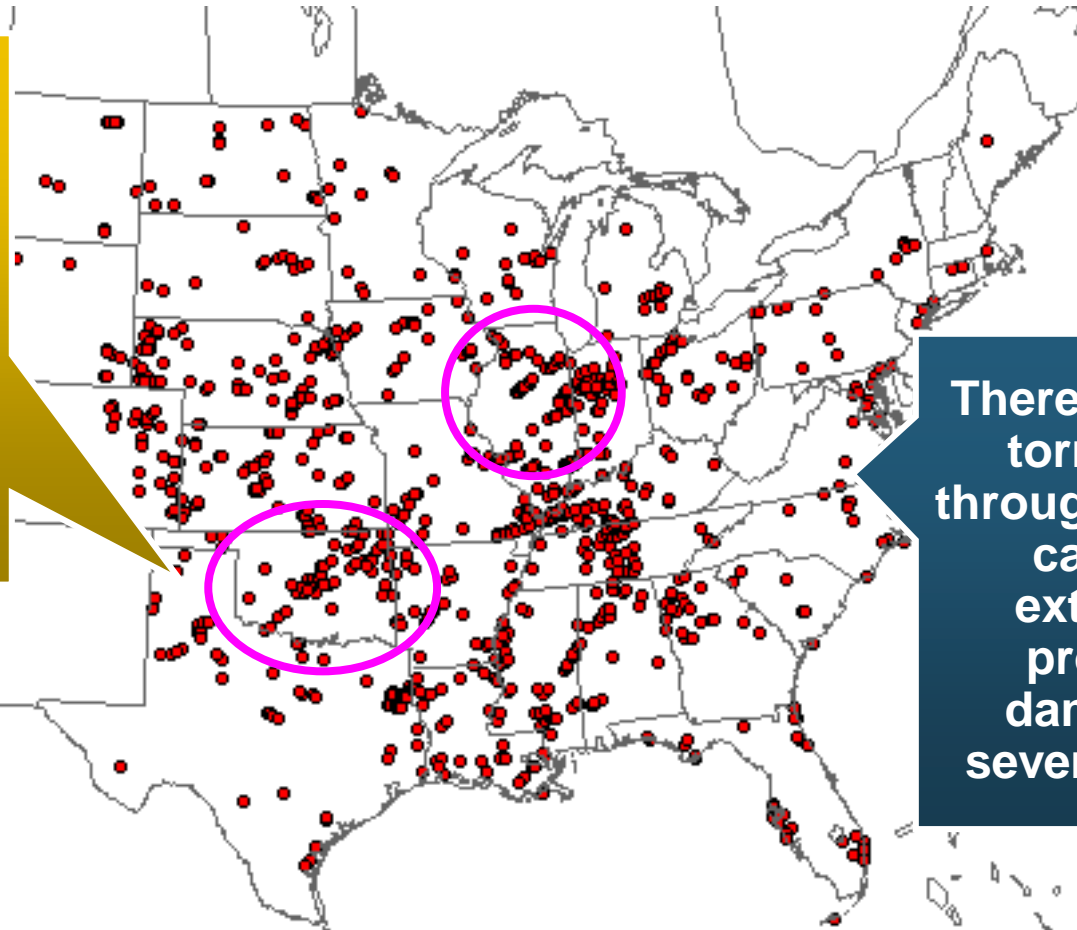


SEVERE WEATHER REPORT UPDATE: 2013

*Damage from Tornadoes, Large Hail
and High Winds Keep Insurers Busy*

Location of Tornado Reports in 2013

A deadly EF-5 tornado in May in Moore, OK, produced insured losses of \$1.575 billion. November tornadoes in the Midwest like produced \$1B in insured losses.



There were 943 tornadoes through Dec. 31, causing extensive property damage in several states



PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

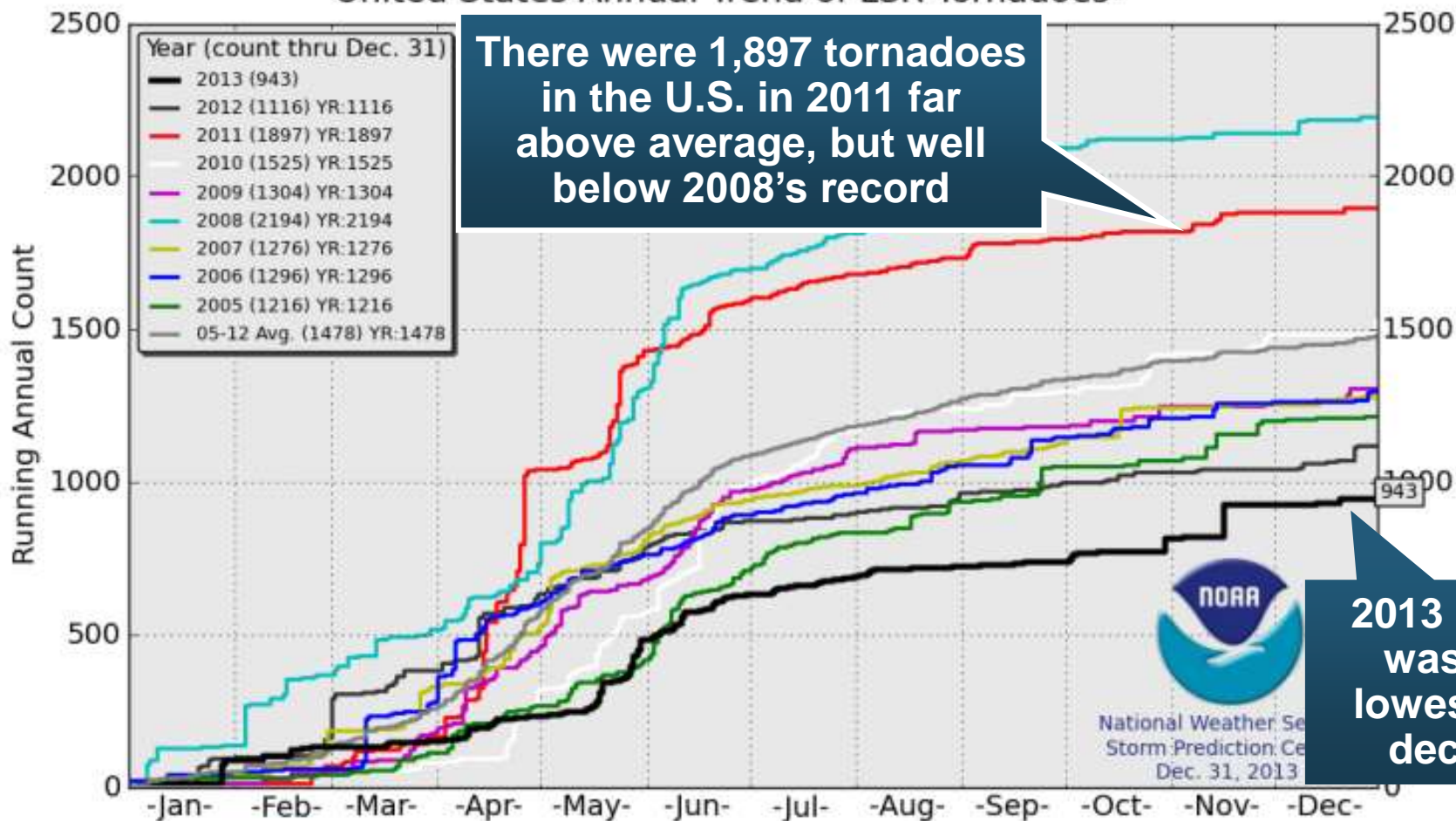
NOAA/Storm Prediction Center Norman, Oklahoma

Tornado Reports
January 01, 2013 - December 31, 2013

Updated: Tuesday December 31, 2013 16:17 CT

U.S. Tornado Count, 2005-2013*

United States Annual Trend of LSR Tornadoes*

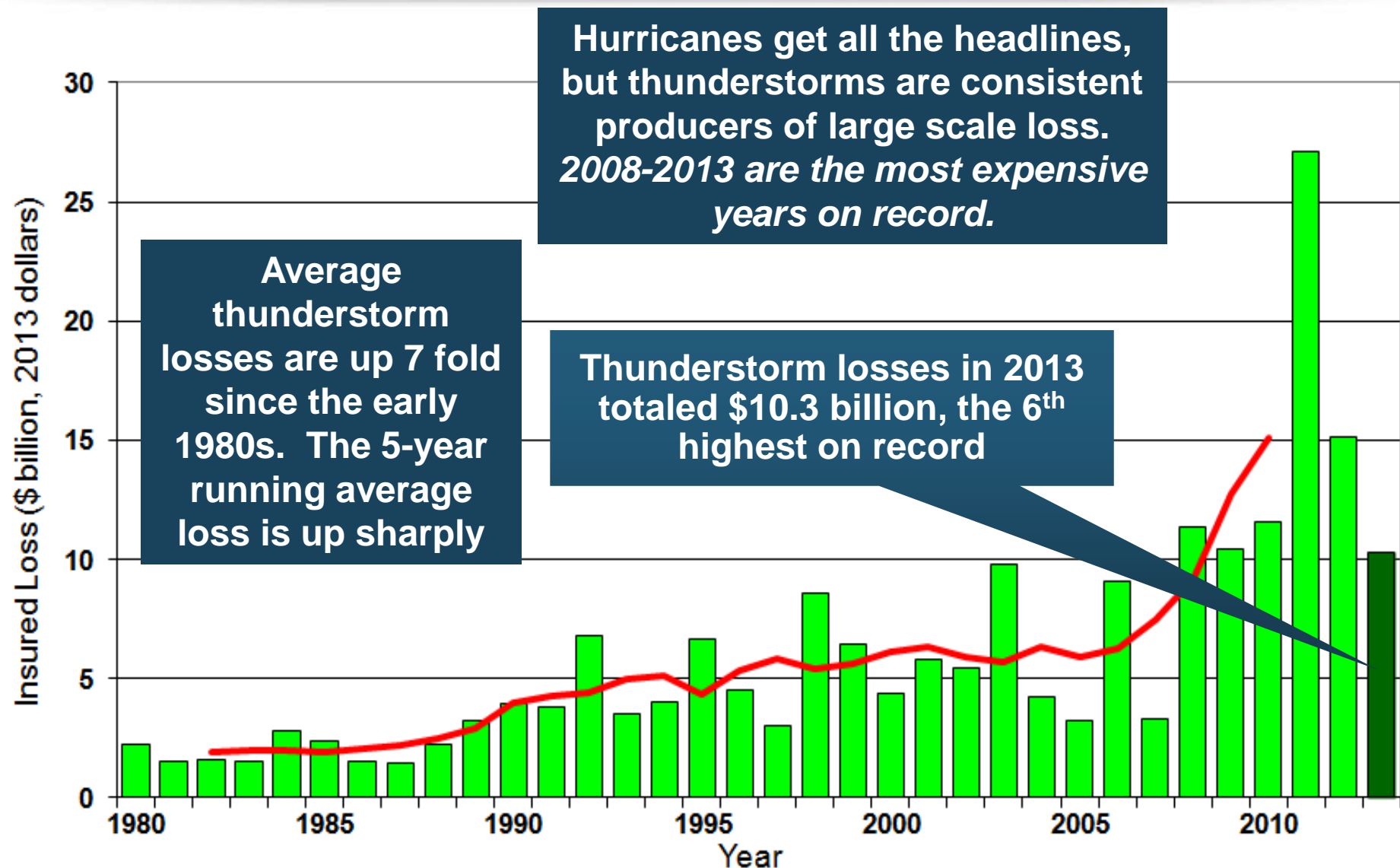


*Preliminary tornadoes from NWS Local Storm Reports (LSRs)
Annual average is based on preliminary LSRs, 2005-2012

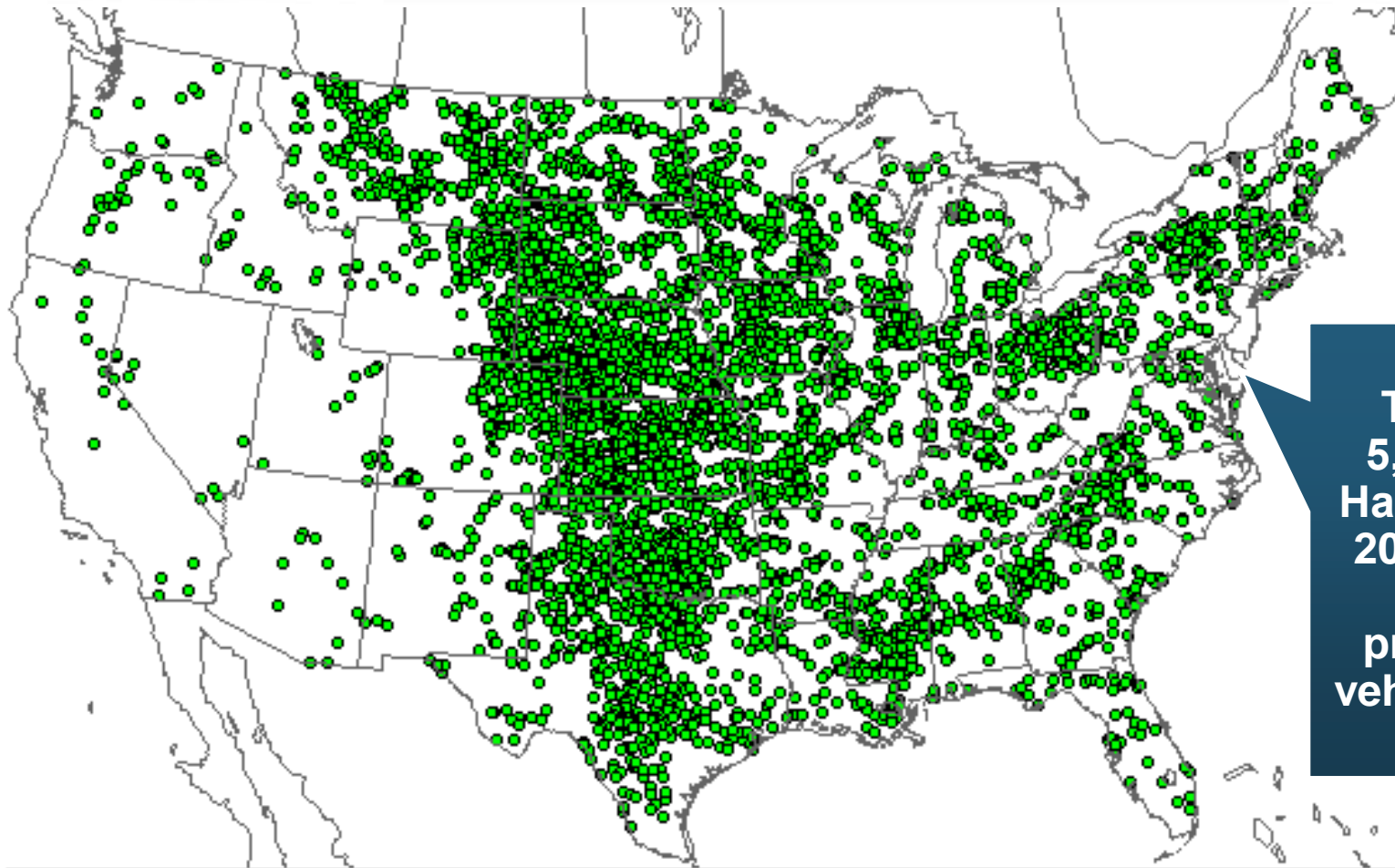
*Through Dec. 31, 2013.

Source: <http://www.spc.noaa.gov/wcm/>.

U.S. Thunderstorm Insured Loss Trends, 1980 – 2013



Location of Large Hail Reports: 2013



There were
5,457 “Large
Hail” reports in
2013, causing
extensive
property and
vehicle damage



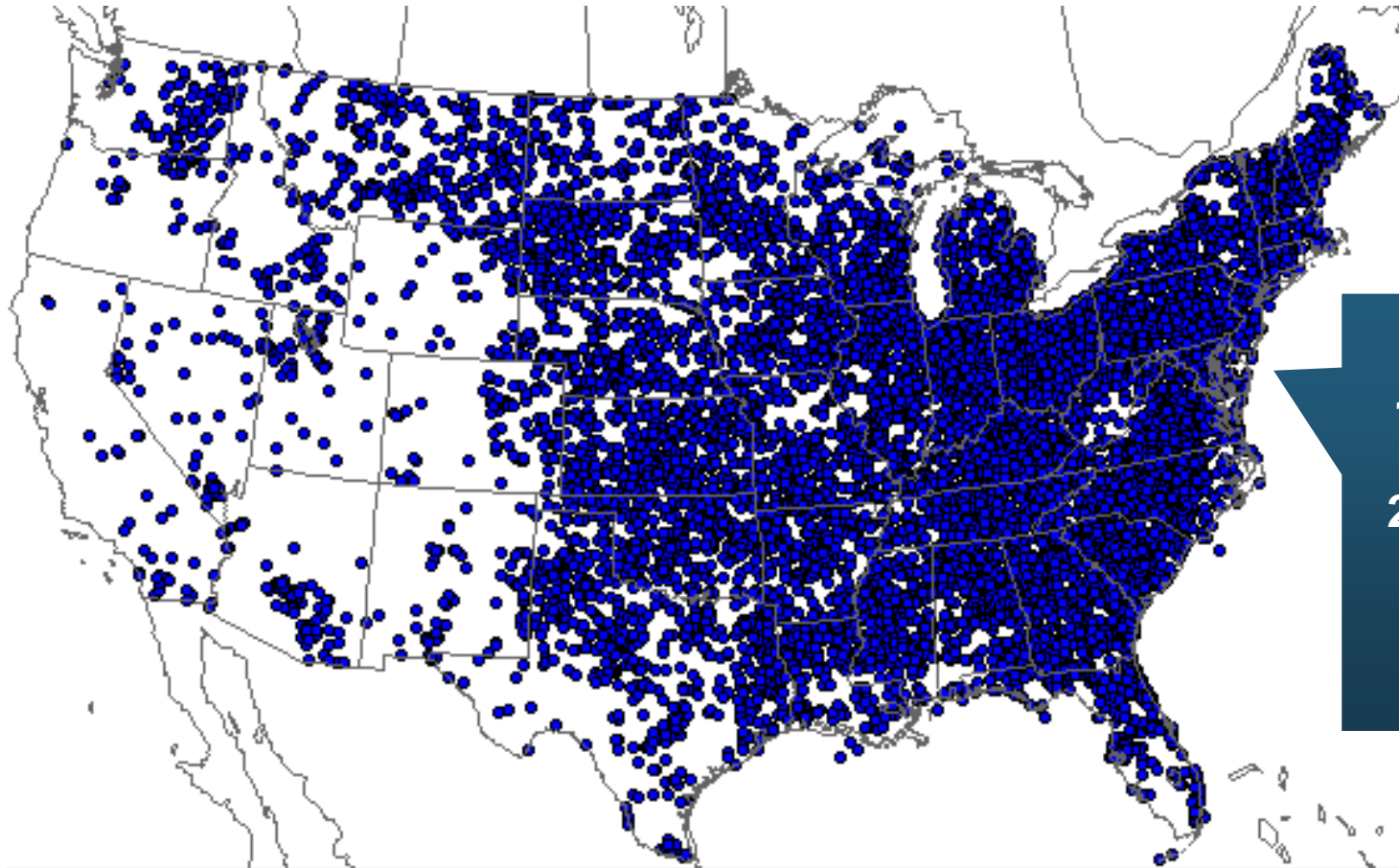
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Hail Reports
January 01, 2013 - December 31, 2013

Updated: Tuesday December 31, 2013 16:17 CT

Location of High Wind Reports: 2013



There were
12,942 “Wind
Damage” in
2013, causing
extensive
property
damage



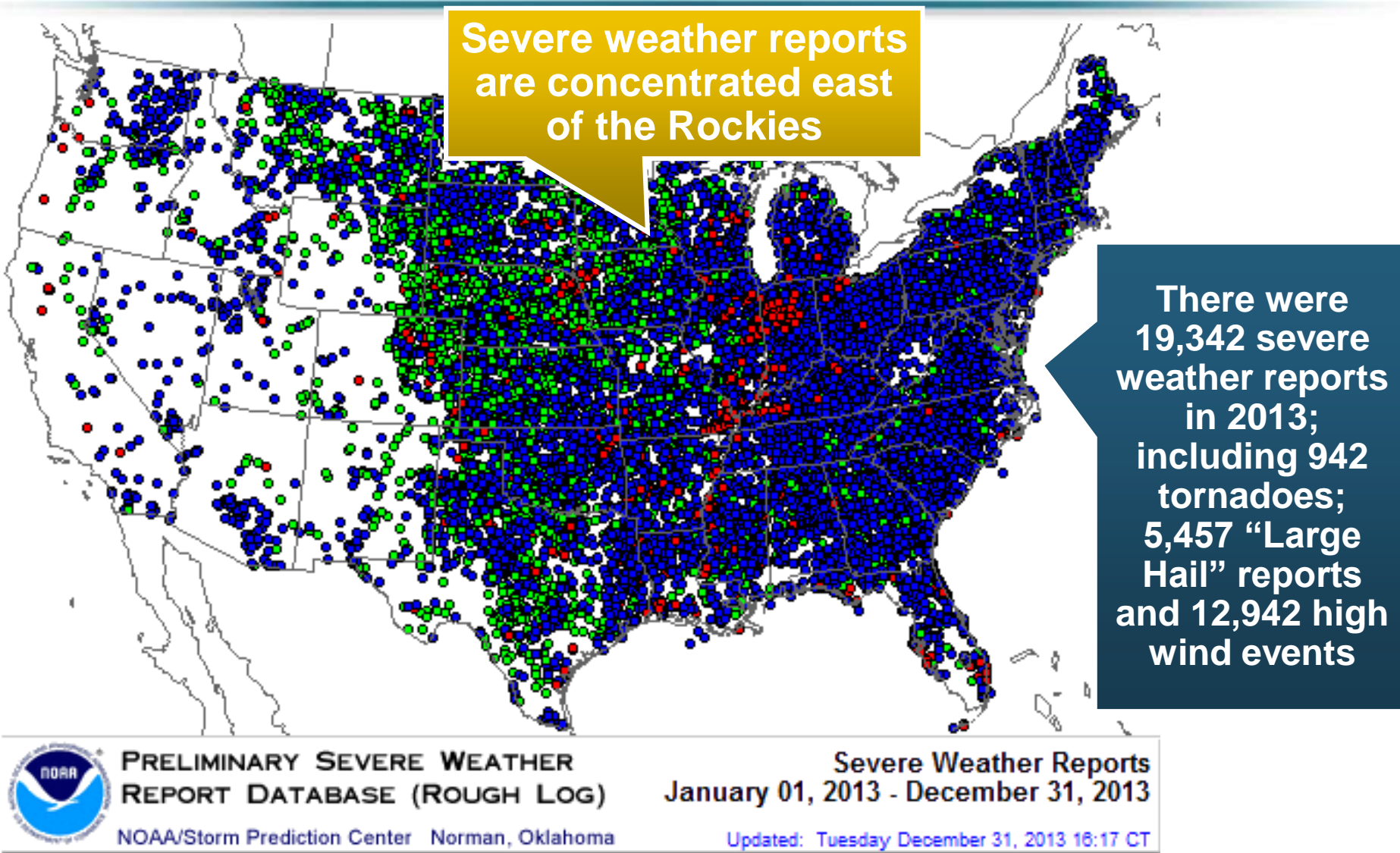
PRELIMINARY SEVERE WEATHER
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Wind Reports
January 01, 2013 - December 31, 2013

Updated: Tuesday December 31, 2013 16:17 CT

Severe Weather Reports: 2013



Insurers Making a Difference in Impacted Communities



Destroyed home in Tuscaloosa. Insurers will pay some 165,000 claims totaling \$2 billion in the Tuscaloosa/Birmingham areas alone.



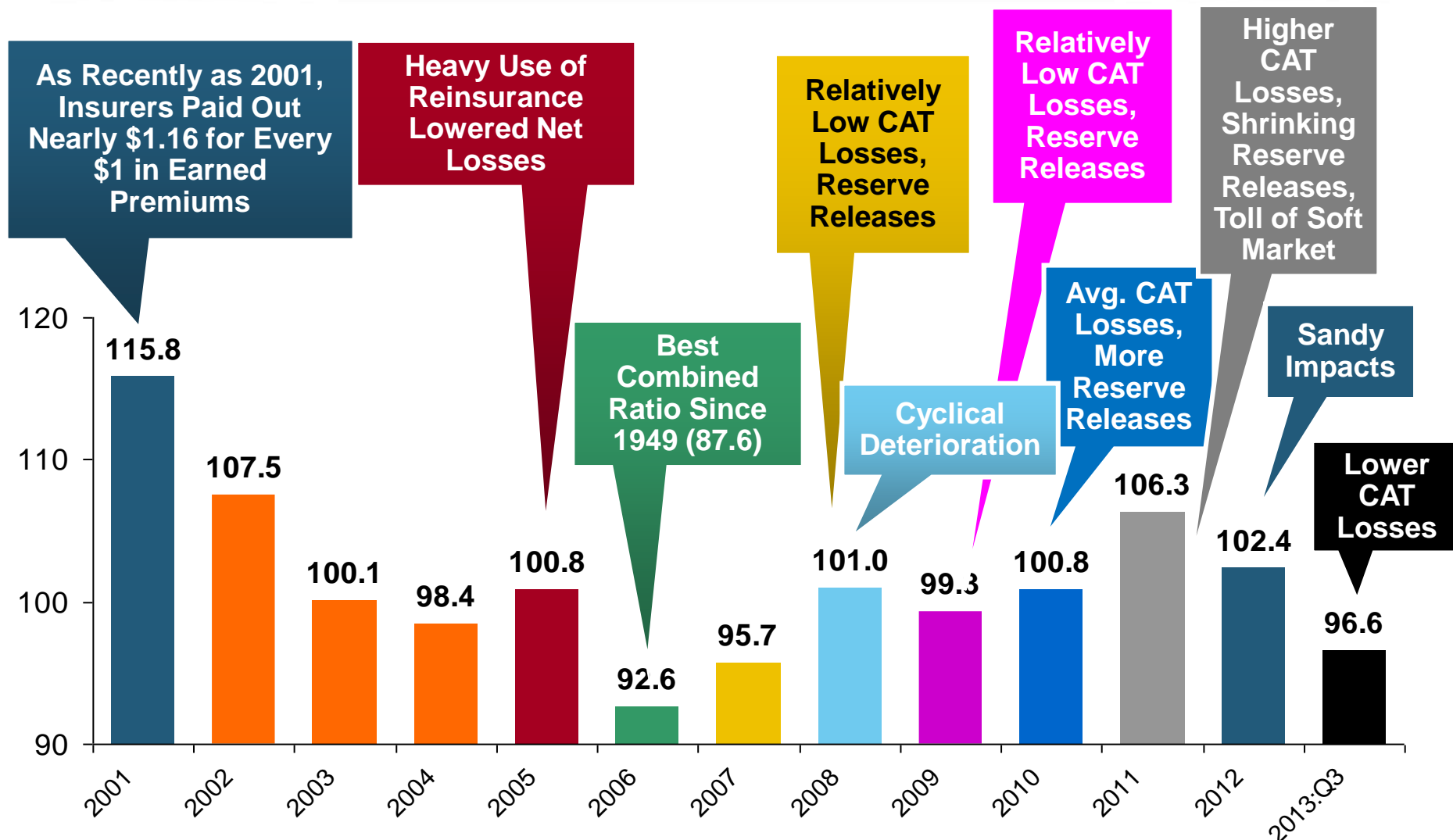
Presentation of a check to Moore, OK, Public School Relief Fund



Presentation of a check to Tuscaloosa Mayor Walt Maddox to the Tuscaloosa Storm Recovery Fund

Underwriting Trends: Lower Catastrophes Contributed Better Results in 2013

P/C Insurance Industry Combined Ratio, 2001–2013:Q3*

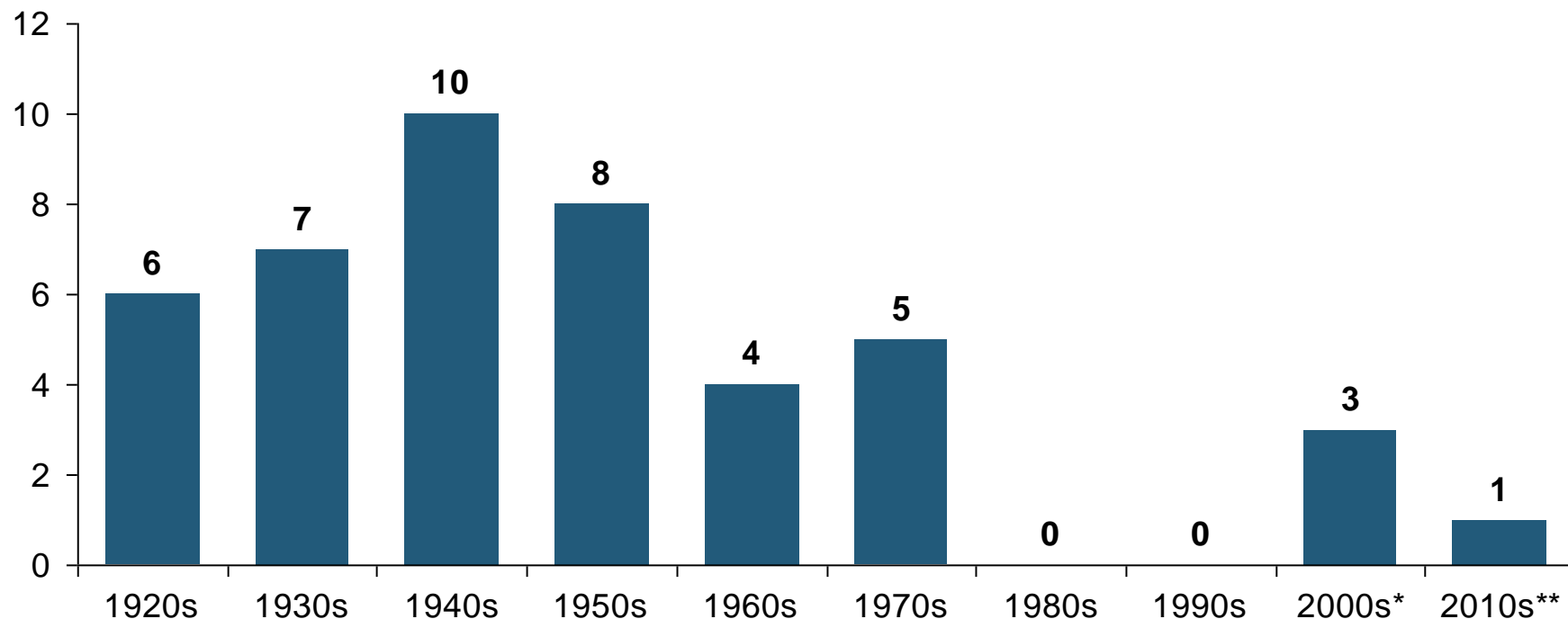


* Excludes Mortgage & Financial Guaranty insurers 2008--2012. Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1, 2012=103.2; 2013:Q3 = 95.8.

Sources: A.M. Best, ISO.

Number of Years with Underwriting Profits by Decade, 1920s–2010s

Number of Years with Underwriting Profits



**Underwriting Profits Were Common Before the 1980s
(40 of the 60 Years Before 1980 Had Combined Ratios Below 100) –
But Then They Vanished. Not a Single Underwriting Profit Was
Recorded in the 25 Years from 1979 Through 2003**

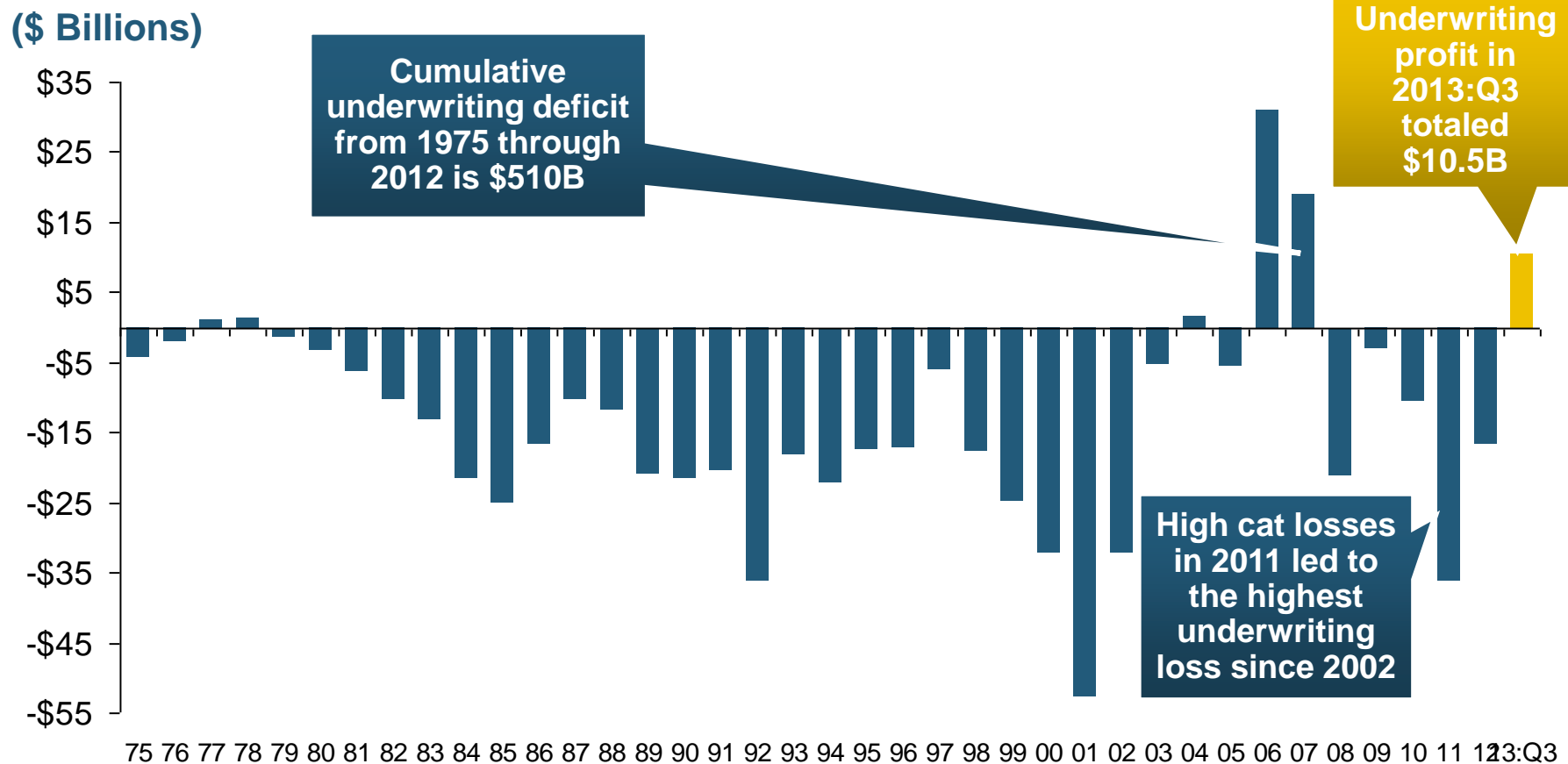
* 2009 combined ratio excl. mort. and finl. guaranty insurers was 99.3, which would bring the 2000s total to 4 years with an u/w profit.

**Data for the 2010s is for the period 2010 through 2013.

Note: Data for 1920–1934 based on stock companies only.

Sources: Insurance Information Institute research from A.M. Best Data.

Underwriting Gain (Loss) 1975–2013:Q3*

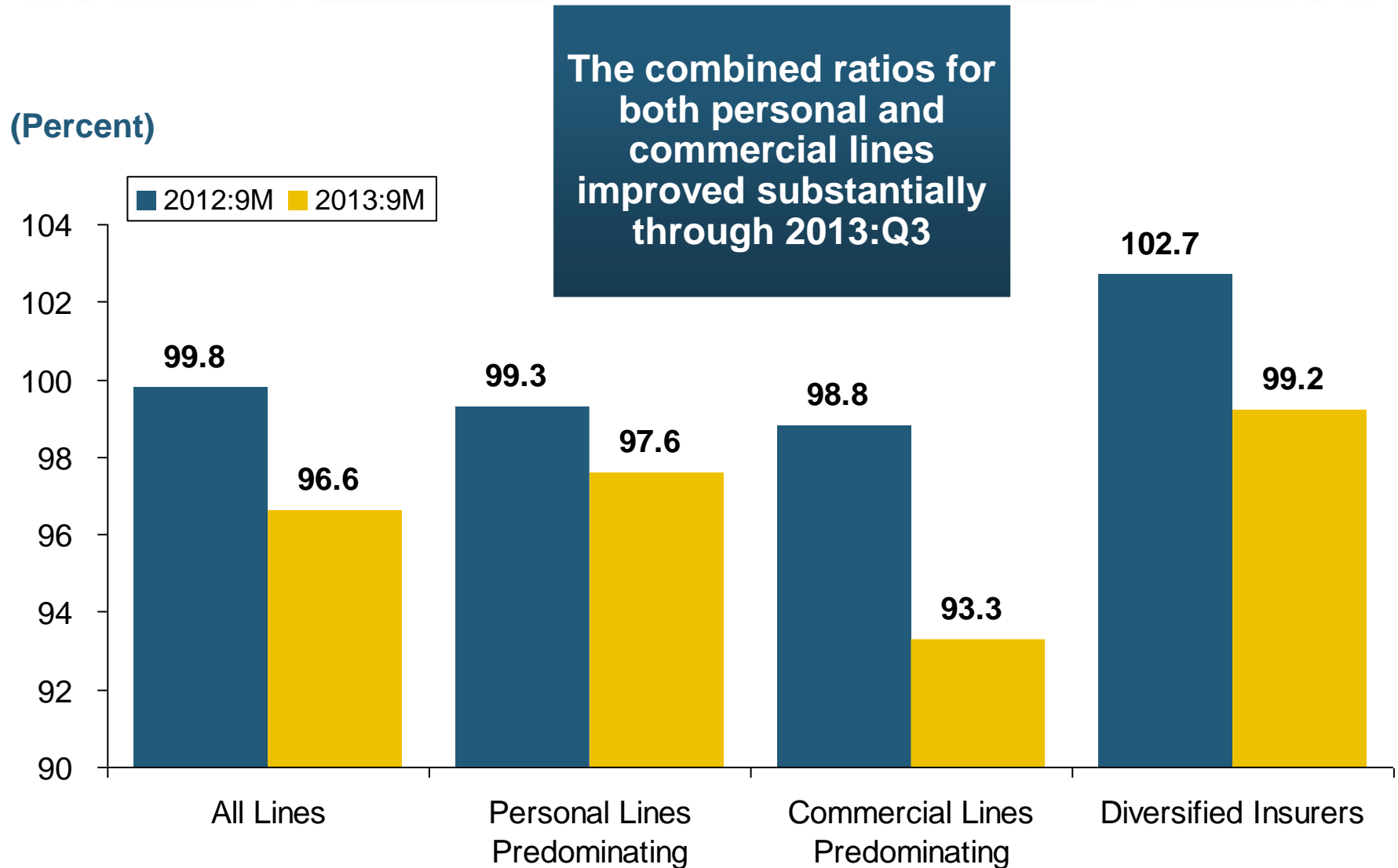


**Large Underwriting Losses Are *NOT* Sustainable
in Current Investment Environment**

* Includes mortgage and financial guaranty insurers in all years.

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

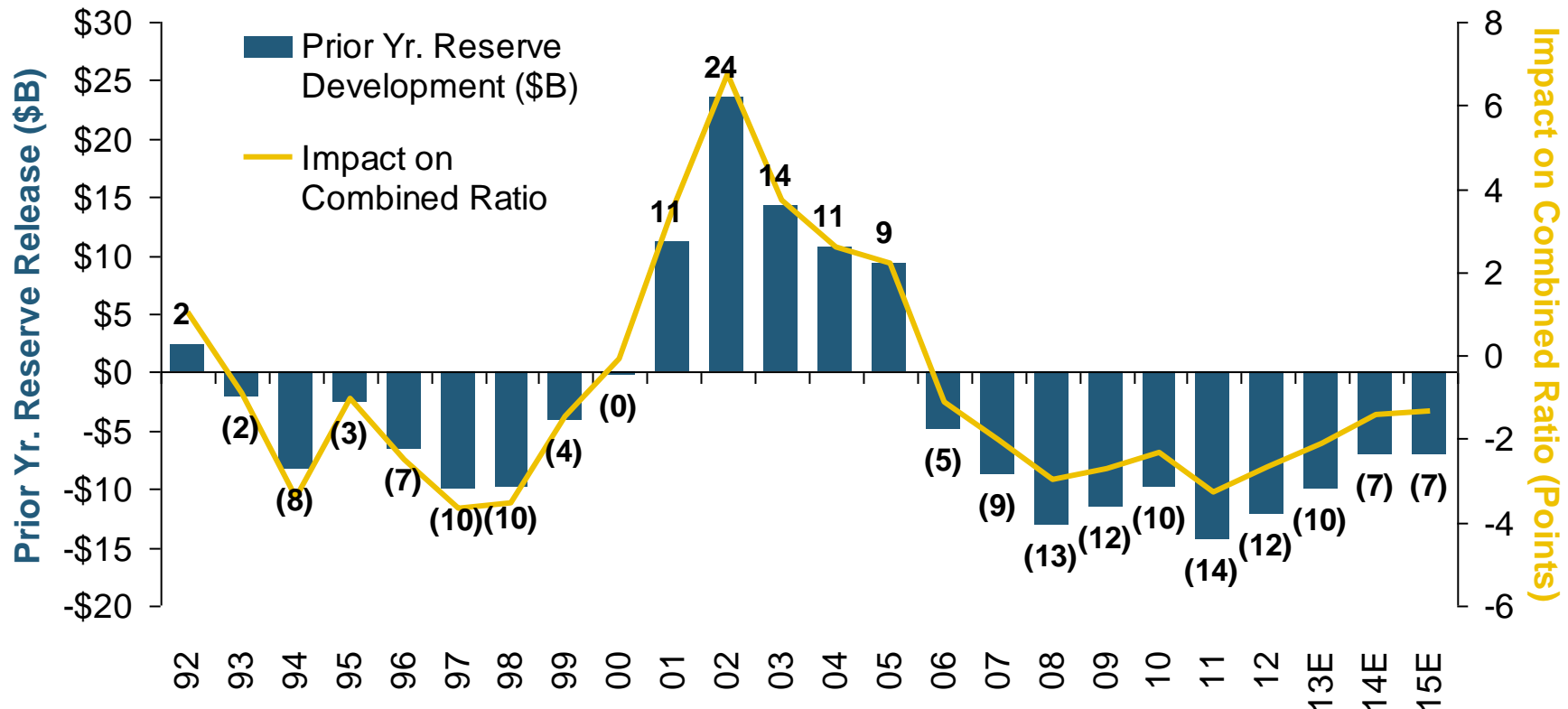
Combined Ratios by Predominant Business Segment, 2013:9M vs. 2012:9M*



*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute

P/C Reserve Development, 1992–2015E



Note: 2005 reserve development excludes a \$6 billion loss portfolio transfer between American Re and Munich Re. Including this transaction, total prior year adverse development in 2005 was \$7 billion. The data from 2000 and subsequent years excludes development from financial guaranty and mortgage insurance.

Sources: A.M. Best, ISO, Barclays Research (estimates).

P/C Estimated Loss Reserve Deficiency/ (Redundancy), Excl. Statutory Discount

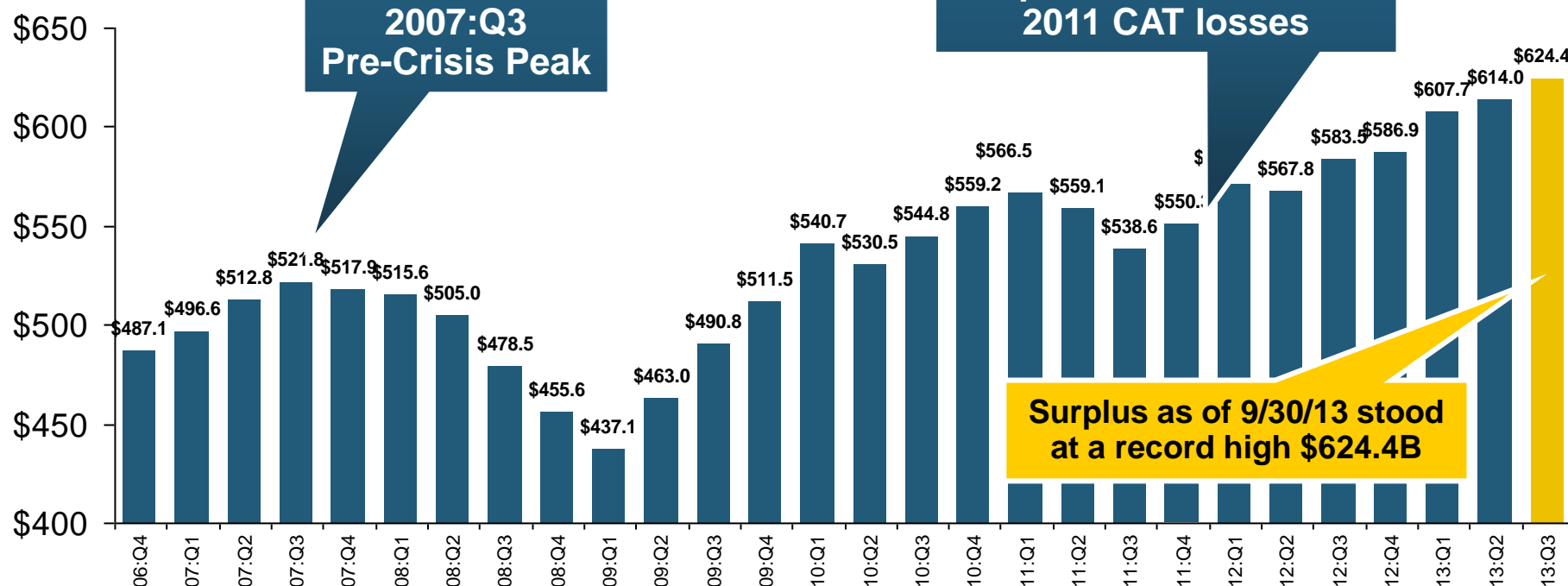
| Line of Business | 2012 |
|------------------------------|----------------|
| Personal Auto Liability | -\$3.9B |
| Homeowners | -\$0.4 |
| Other Liab (incl. Prod Liab) | \$7.5 |
| Workers Compensation | \$11.1 |
| Commercial Multi Peril | \$1.9 |
| Commercial Auto Liability | \$0.7 |
| Medical Malpractice | -\$3.5 |
| Reinsurance—Nonprop Assumed | \$1.0 |
| All Other Lines* | -\$4.6 |
| Total Core Reserves | \$9.8 |
| Asbestos & Environmental | \$11.2 |
| Total P/C Industry | \$21.0B |

SURPLUS/CAPITAL/CAPACITY

**2013 Recorded Yet Another
Record High**

Policyholder Surplus, 2006:Q4–2013:Q3

(\$ Billions)



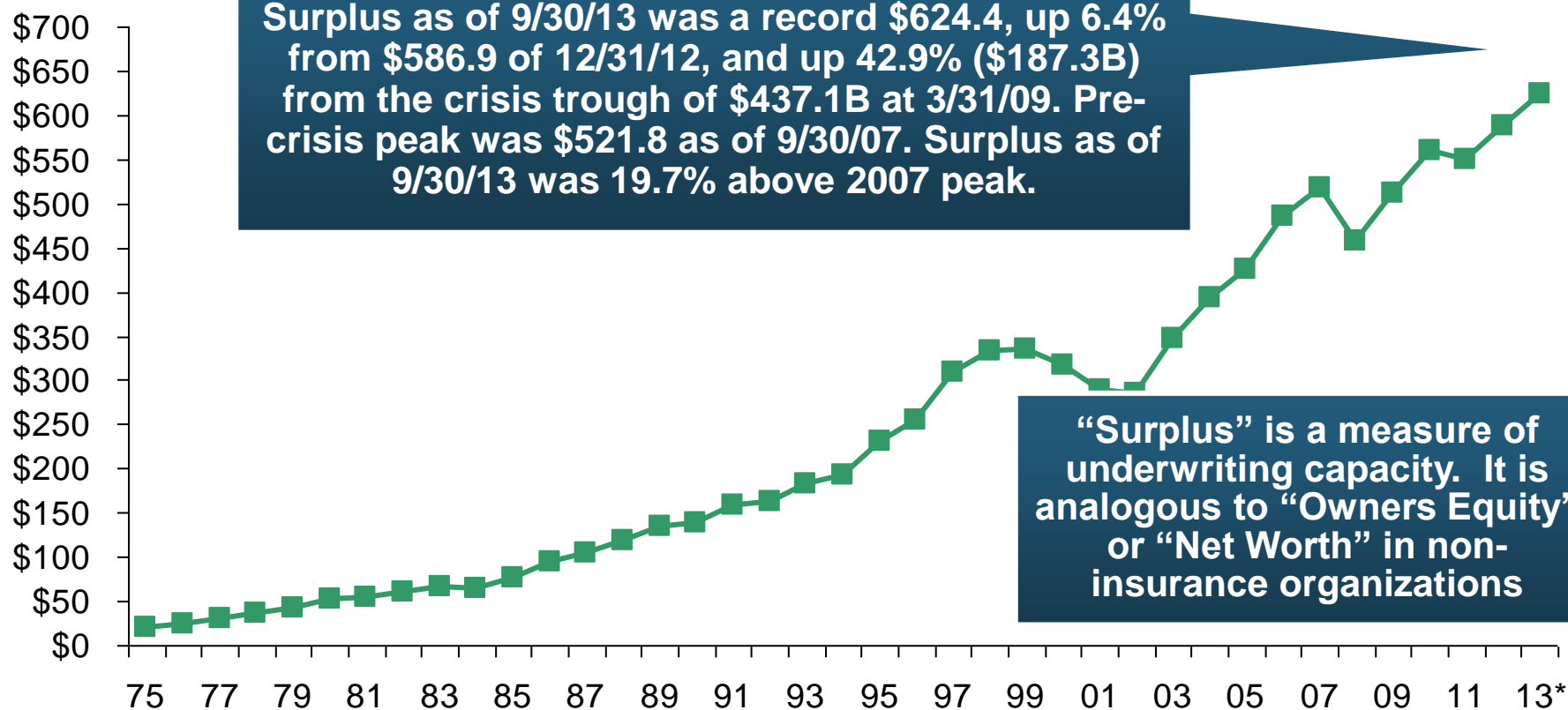
The industry now has \$1 of surplus for every \$0.78 of NPW, close to the strongest claims-paying status in its history.

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 2014 in very strong financial condition.

US Policyholder Surplus: 1975–2013*

(\$ Billions)



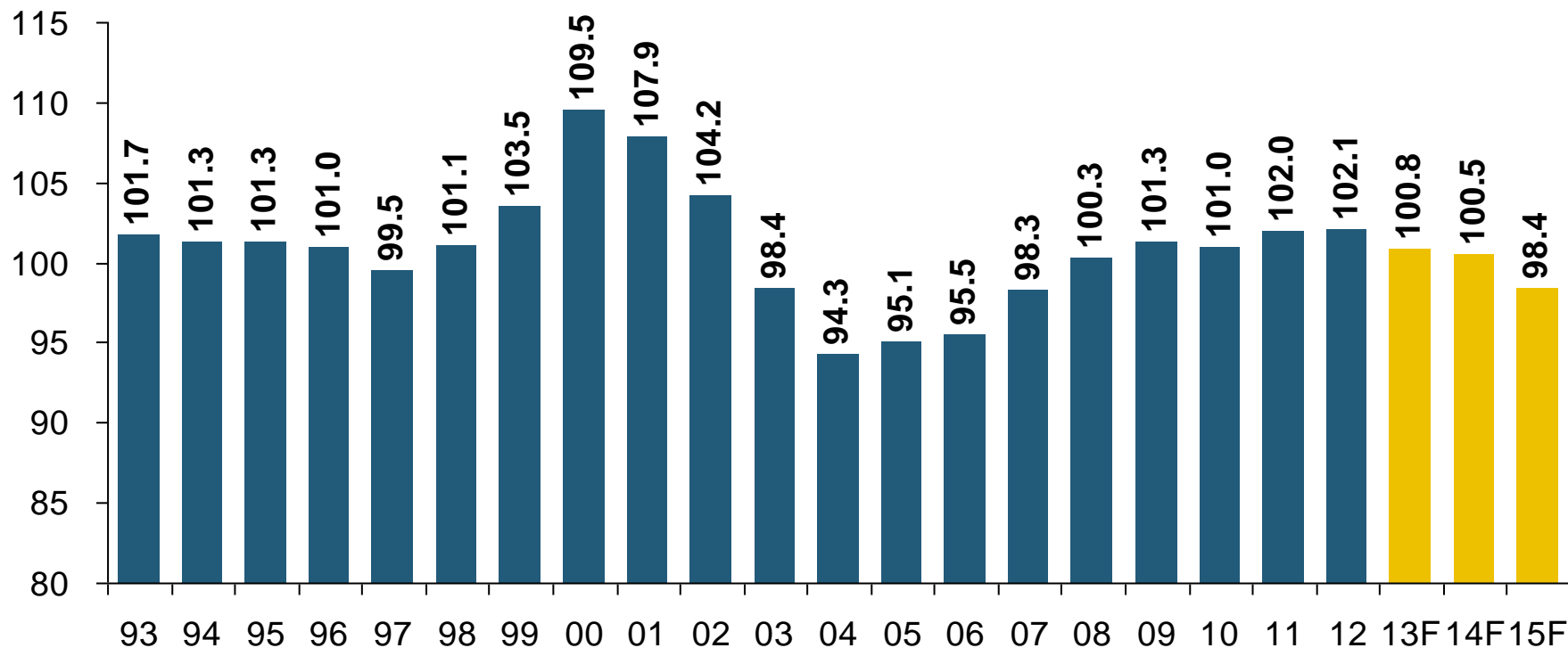
The Premium-to-Surplus Ratio Stood at \$0.78:\$1 as of 9/30/13, a Near Record Low (at Least in Recent History)*

* As of 9/30/13.

Source: A.M. Best, ISO, Insurance Information Institute.

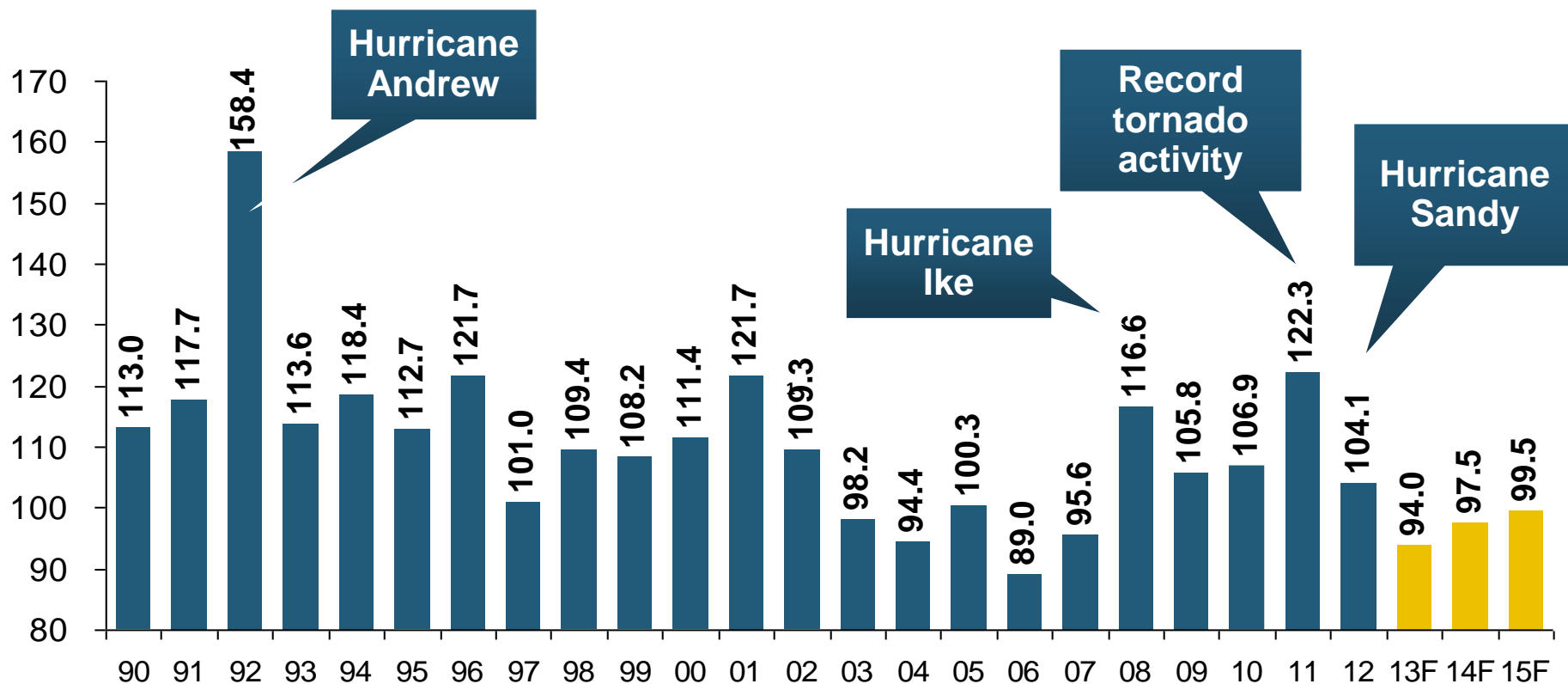
Performance by Segment: Personal Lines

Private Passenger Auto Combined Ratio: 1993–2015F



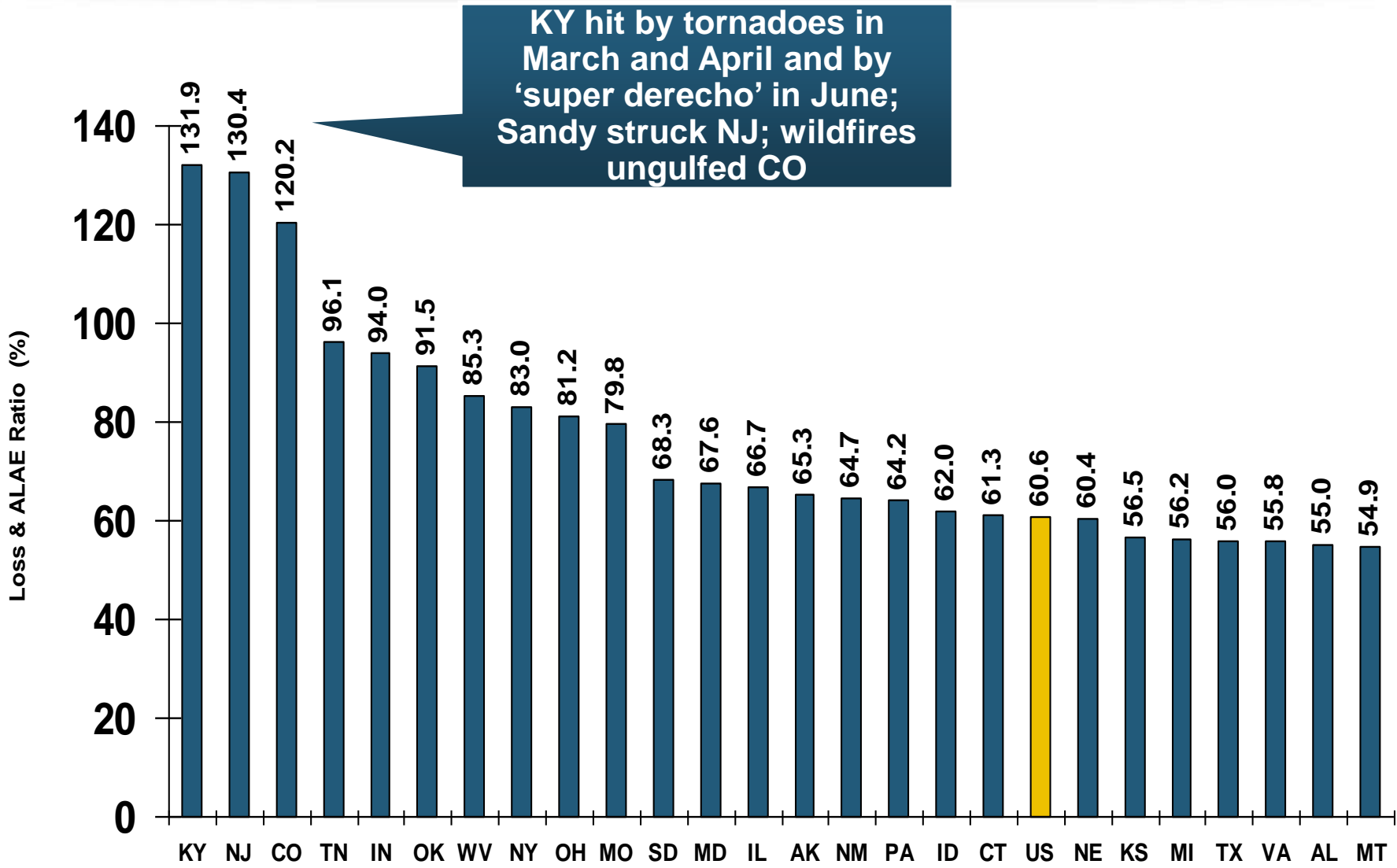
Private Passenger Auto Accounts for 34% of Industry Premiums and Remains the Profit Juggernaut of the P/C Insurance Industry

Homeowners Insurance Combined Ratio: 1990–2015F

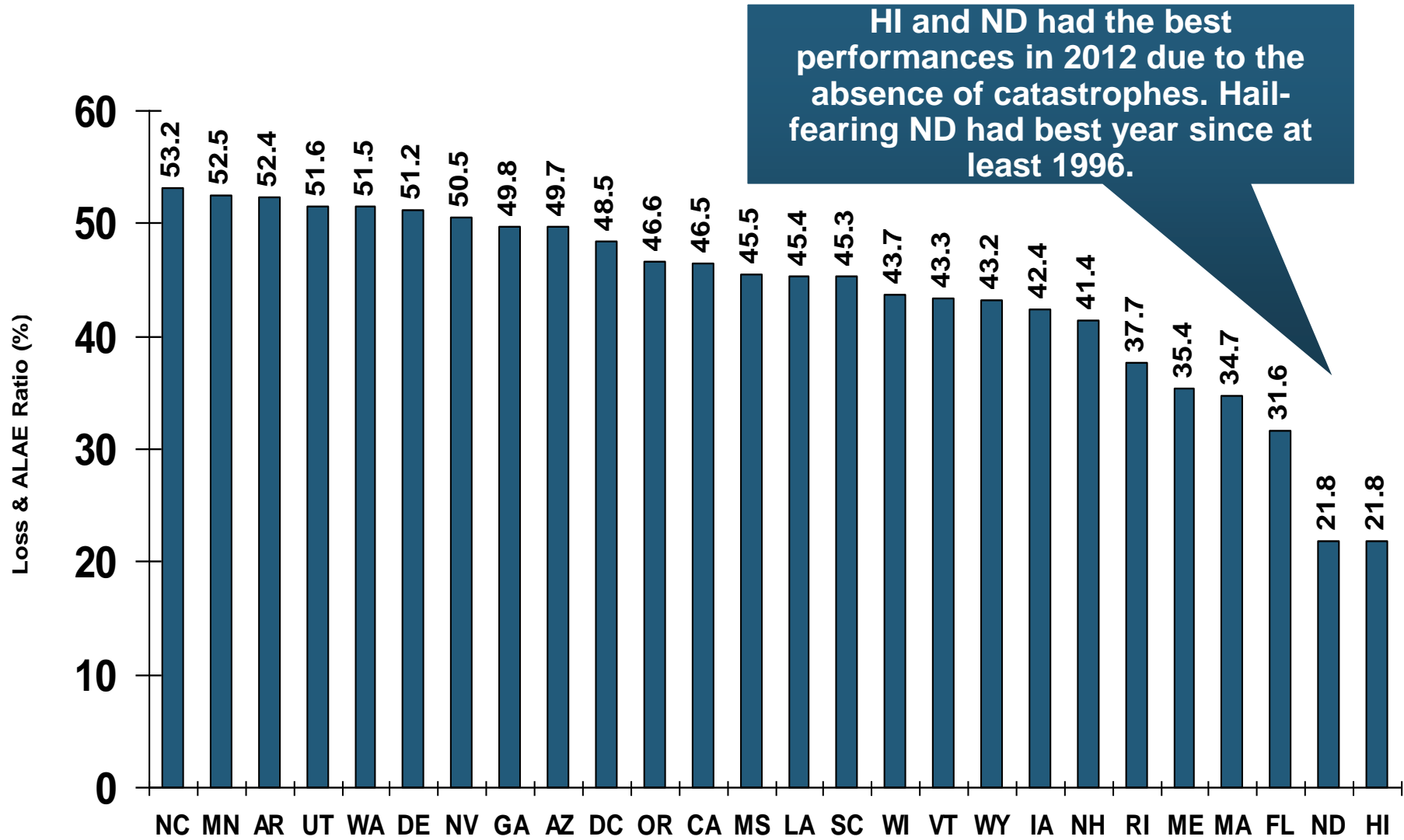


Homeowners Performance in 2011/12 Impacted by Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity

Homeowners Multi-Peril Loss & ALAE Ratio, 2012: Highest 25 States



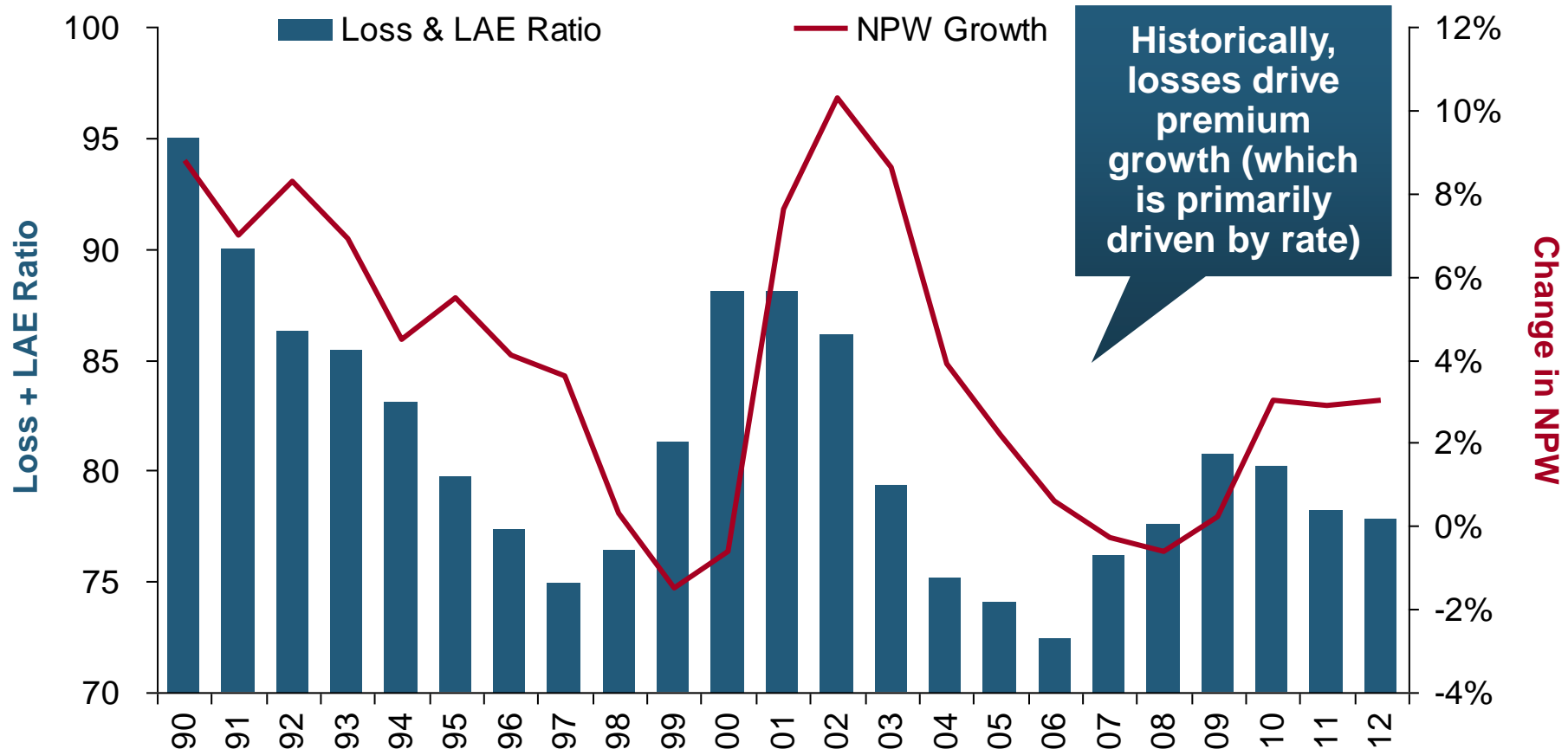
Homeowners Multi-Peril Loss & ALAE Ratio, 2012: Lowest 25 States and DC



Cycle Drivers

The Role of Losses and Reserves in the Underwriting Cycle

PP Auto Liability: Loss and LAE vs. Net Premiums Written, 1990-2012



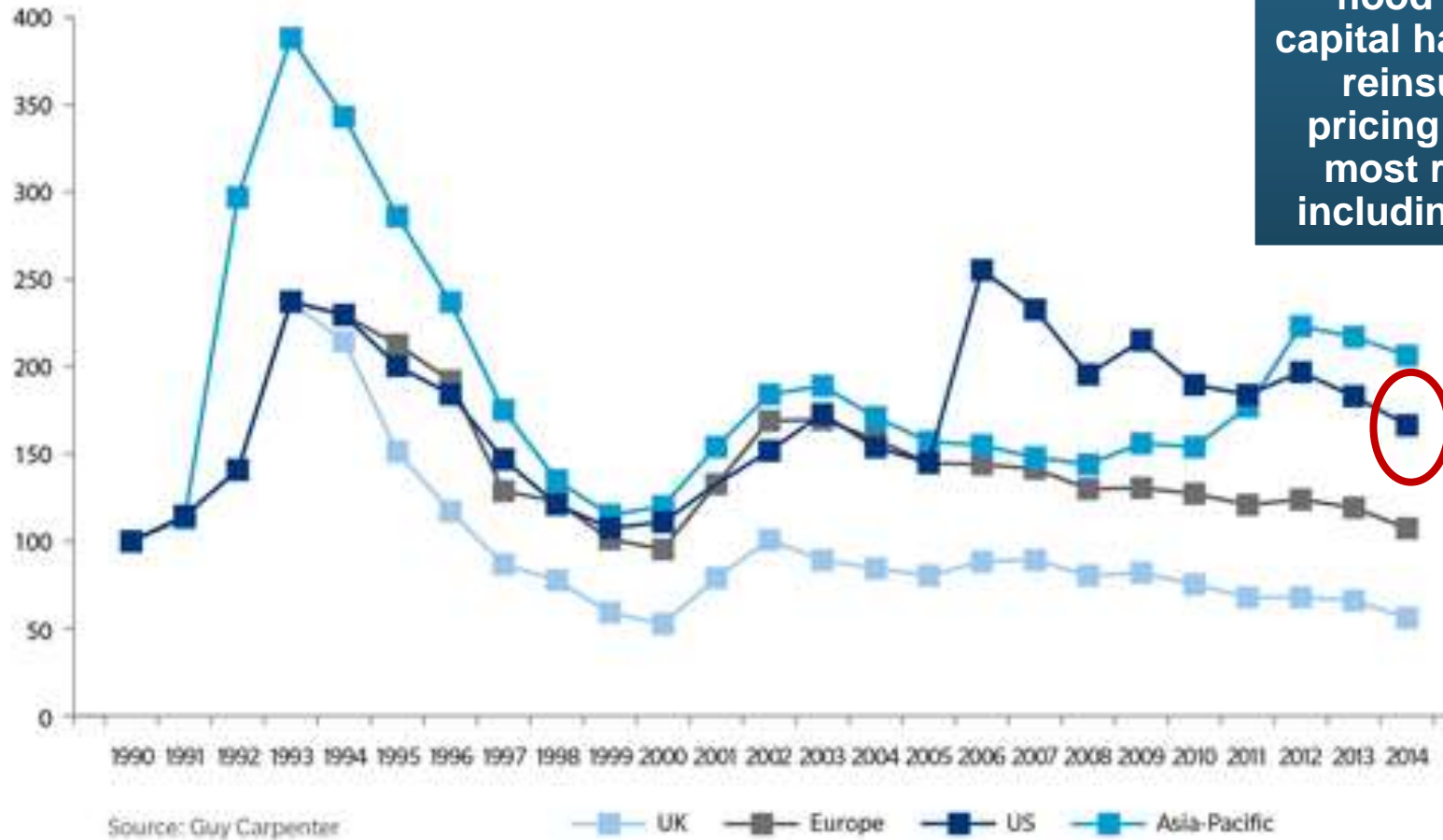
While Premium Growth Decelerated, the Driver Was Primarily Lower Losses, Allowing Auto Insurers to Maintain Strong Margins

REINSURANCE MARKET CONDITIONS

**Ample Capacity as
Alternative Capital is
Transforming the Market**

Reinsurance Pricing: Rate-on-Line Index by Region, 1990 – 2014*

F-10 | REGIONAL PROPERTY CATASTROPHE ROL INDEX – 1990 TO 2014



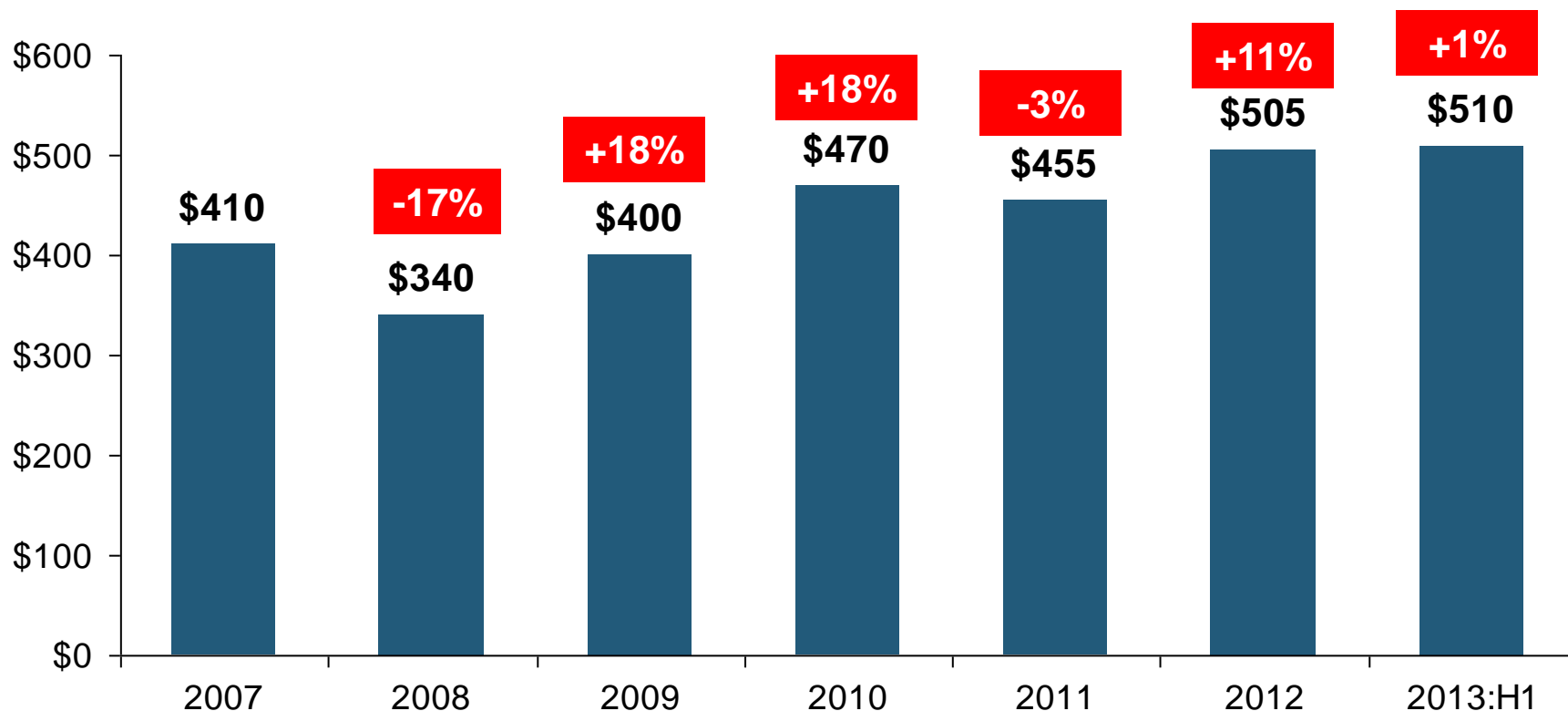
Lower CATs and a flood of new capital has pushed reinsurance pricing down in most regions, including the US

*As of Jan. 1.

Source: Guy Carpenter

Global Reinsurer Capital, 2007-2013:H1*

(\$ Billions)

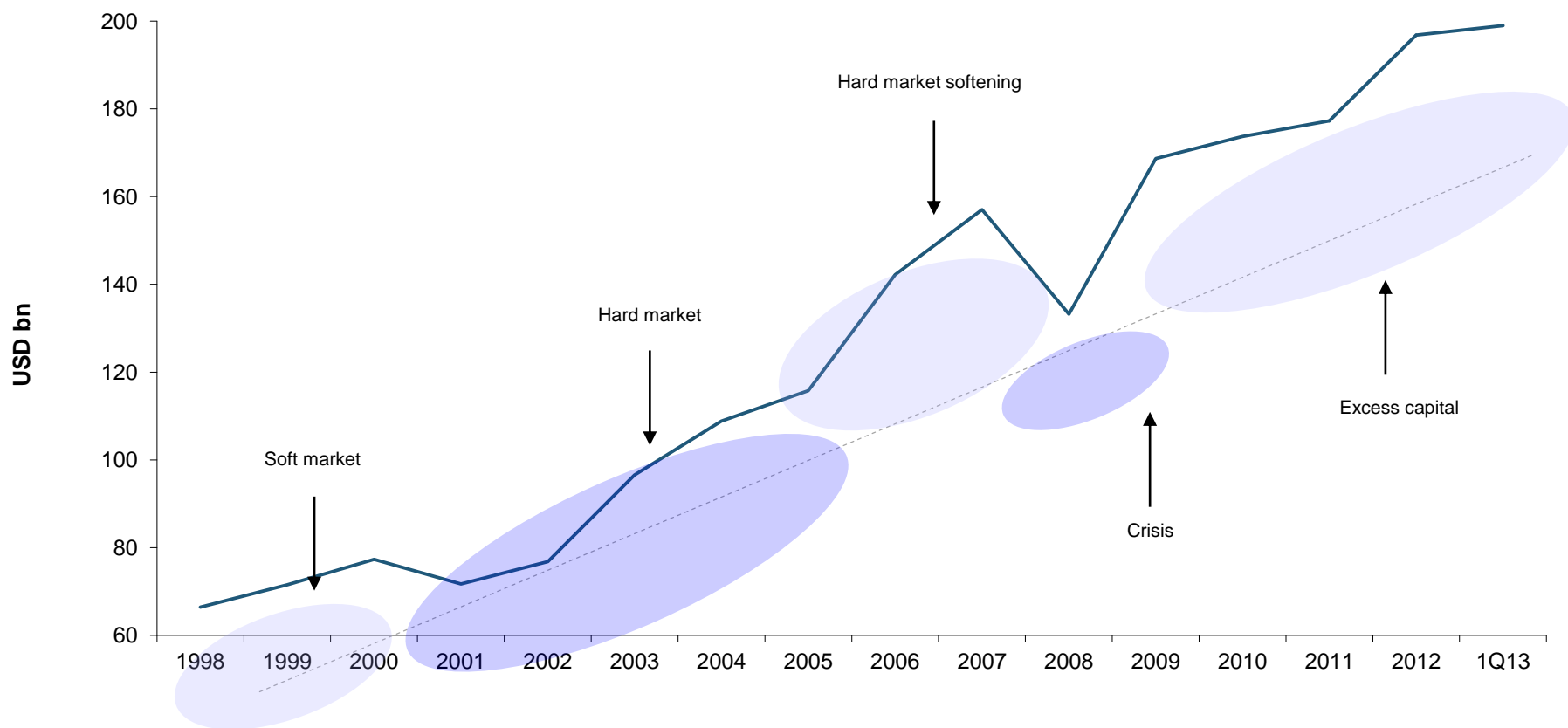


Global Reinsurance Capital Has Been Trending Generally Upward Since the Global Financial Crisis, a Trend that Seems Likely to Continue

*Includes both traditional and non-traditional forms of reinsurance capital.

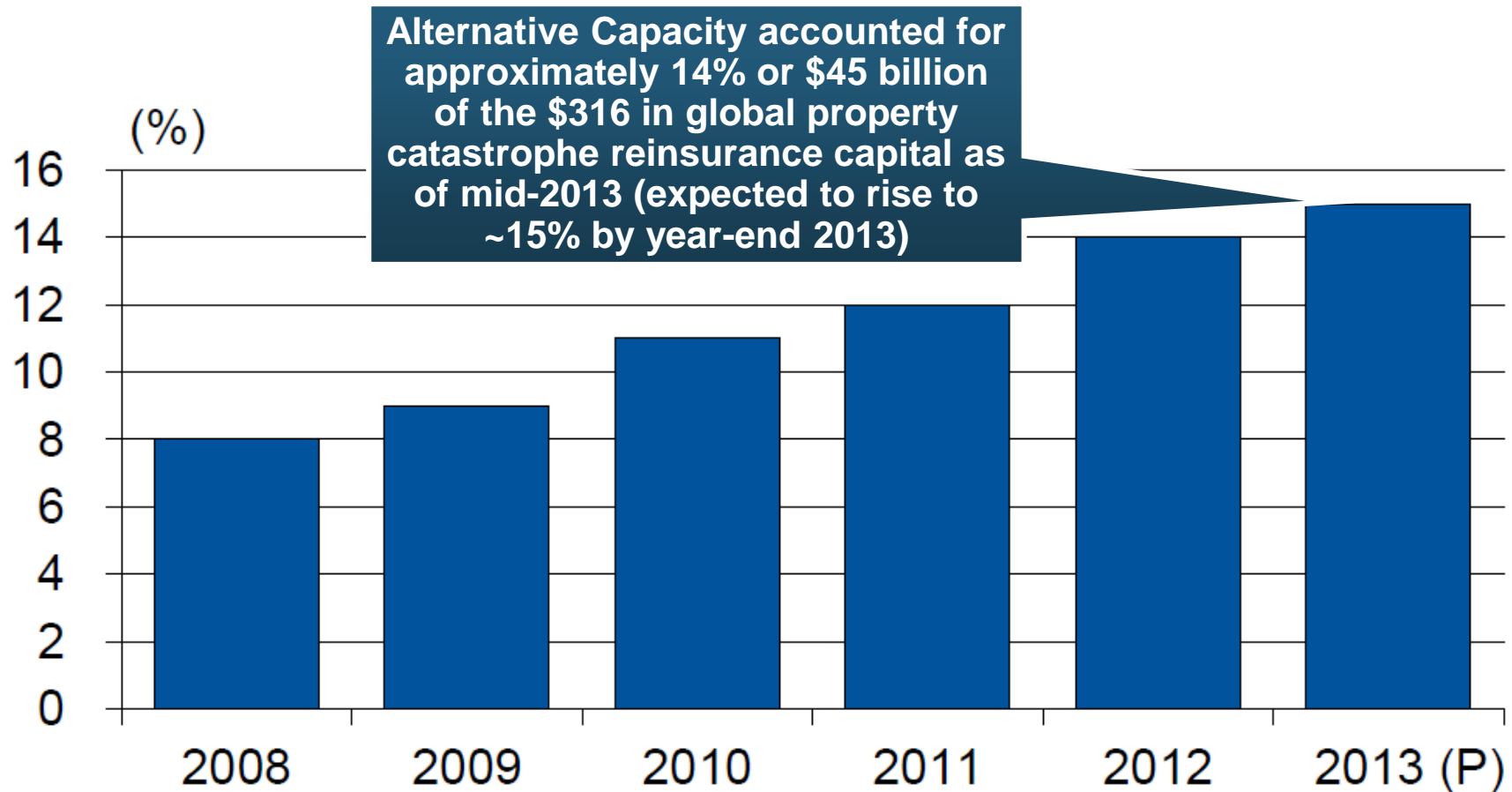
Source: Aon Benfield Aggregate study for the 6 months ending June 2013; Insurance Information Institute.

Long-Term Evolution of Shareholders' Funds for the Guy Carpenter Global Reinsurance Composite



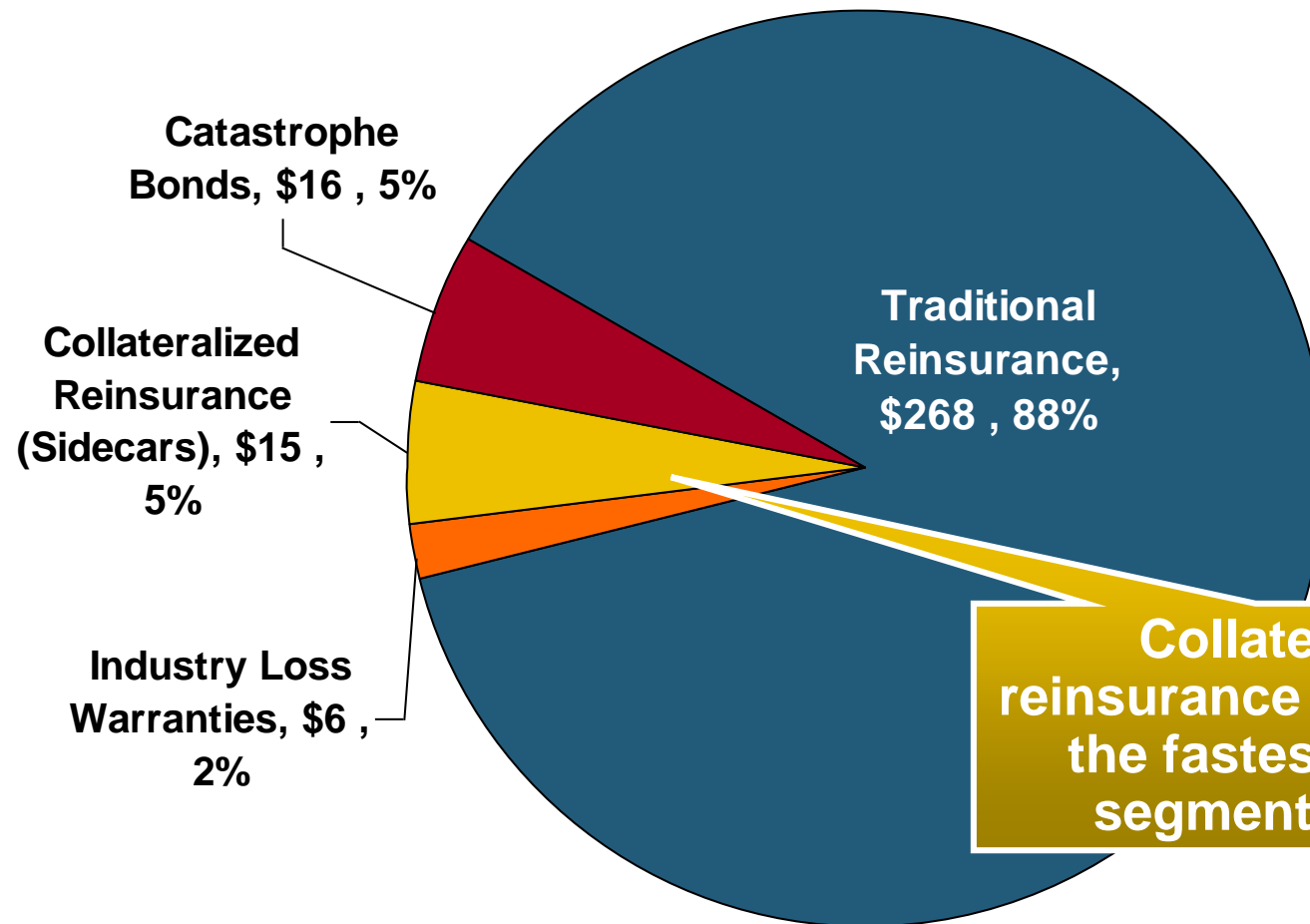
Alternative Capacity as a Percentage of Global Property Catastrophe Reinsurance Limit

(As of Year End)



Property Catastrophe Reinsurance Capacity by Source as of Mid-2013 (\$ Bill)

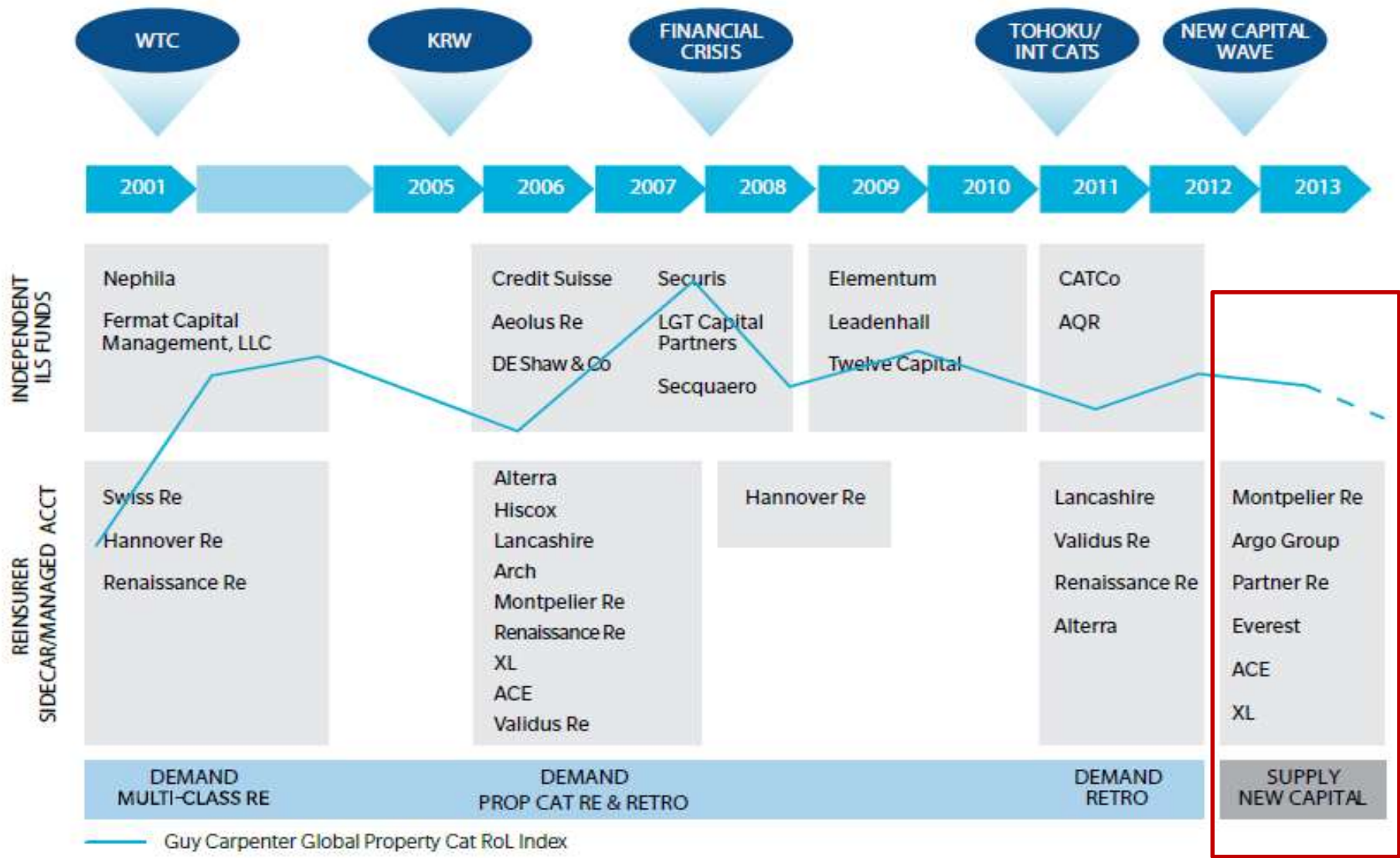
Total = \$316 Billion*



“Convergence Capital” accounted for an estimated \$45B or 14% or total property catastrophe reinsurance capacity as of mid-2013, up \$10B over the past 18 months (since 1/1/12). Penetration of this type of capacity is growing

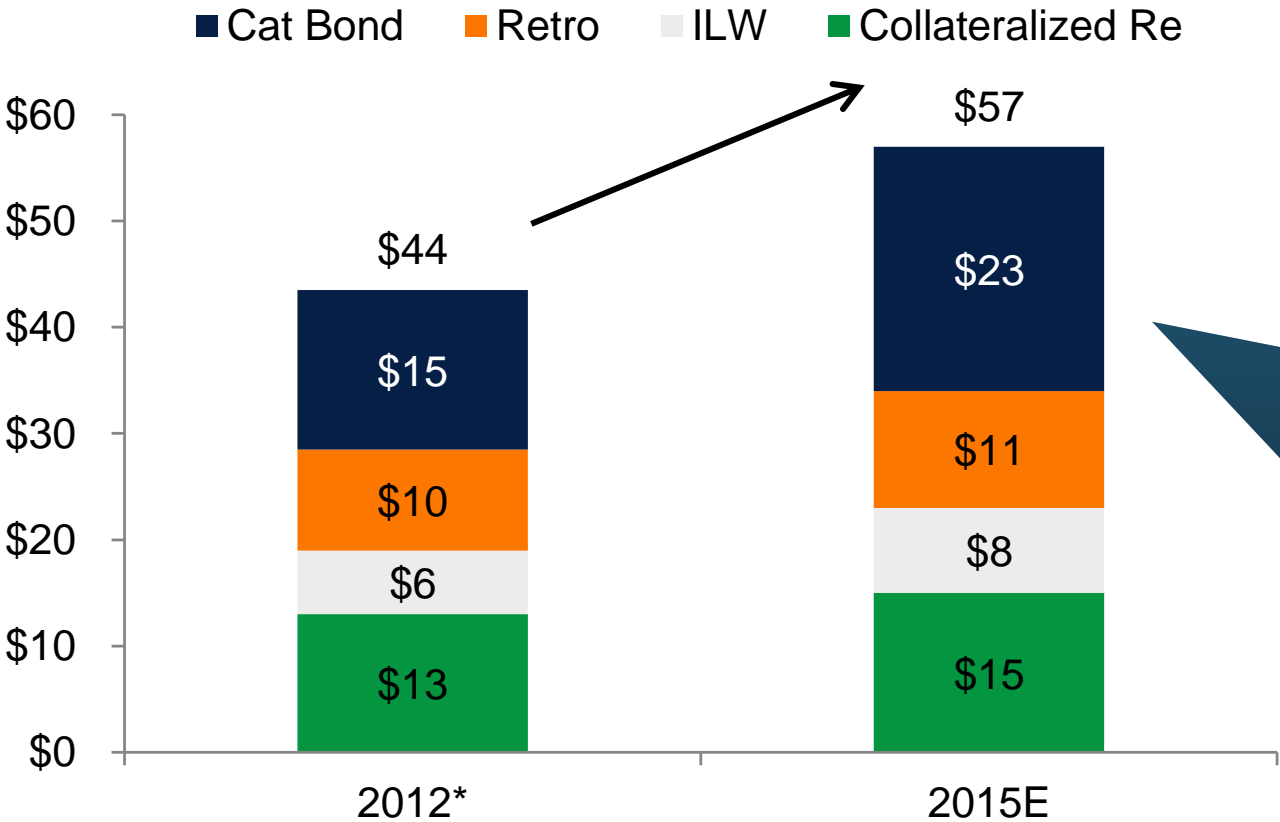
Collateralized reinsurance (sidecars) is the fastest growing segment recently

Alternative Capacity Development, 2001—2013:H1



Non-Traditional Property Catastrophe Limits by Type, YE 2012 vs. YE 2015E

NON-TRADITIONAL P/CAT LIMITS BY TYPE

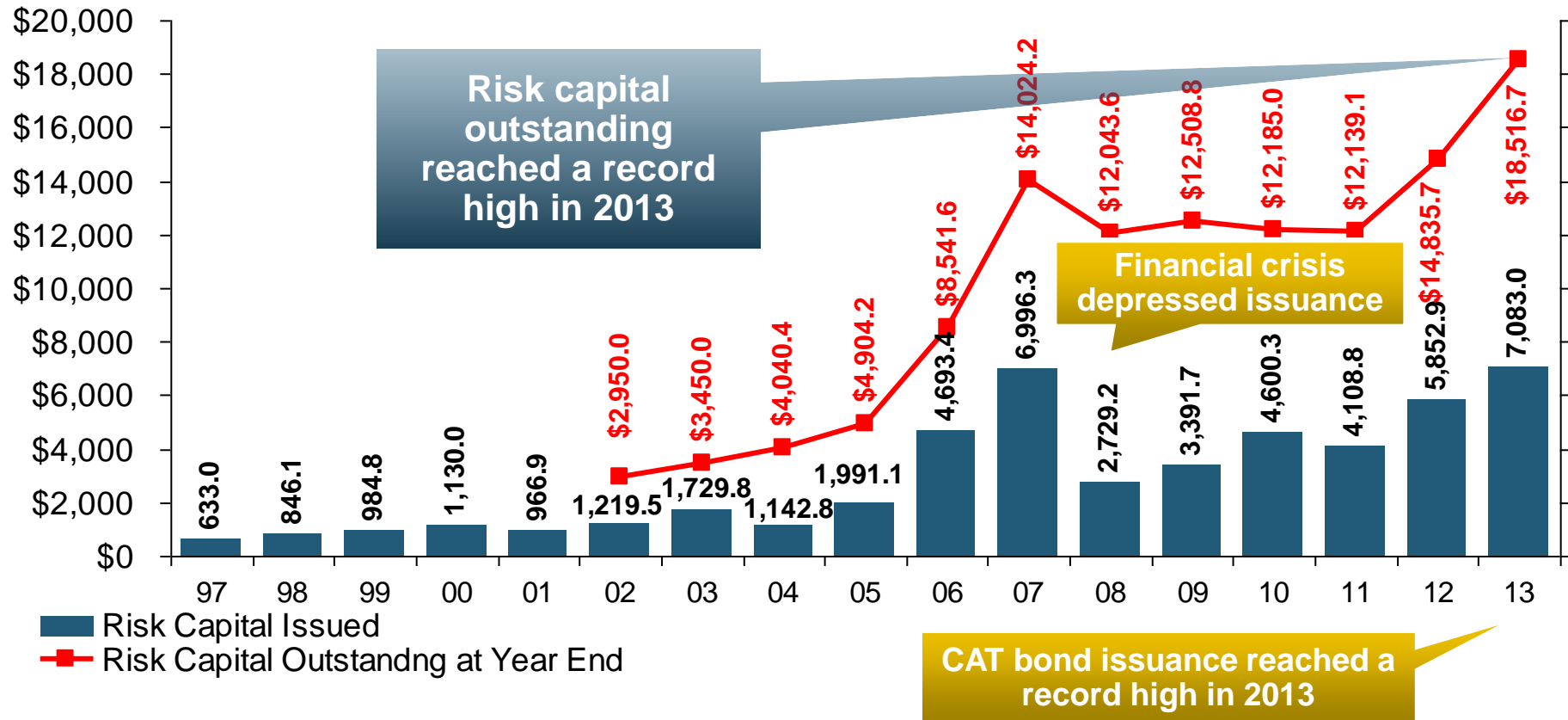


Alternative capital is expected to rise by 30% by YE 2015 and will ultimately account for 20-30% of total reinsurance spend, according to Guy Carpenter

Source: Guy Carpenter; *As Of Mar-2013

Catastrophe Bonds: Issuance and Outstanding, 1997- 2013*

Risk Capital Amount (\$ Millions)



Catastrophe Bond Issuance Is Approaching Pre-Crisis Levels While Risk Capital Outstanding Stands at an All-Time Record

*Through Dec. 31, 2013.

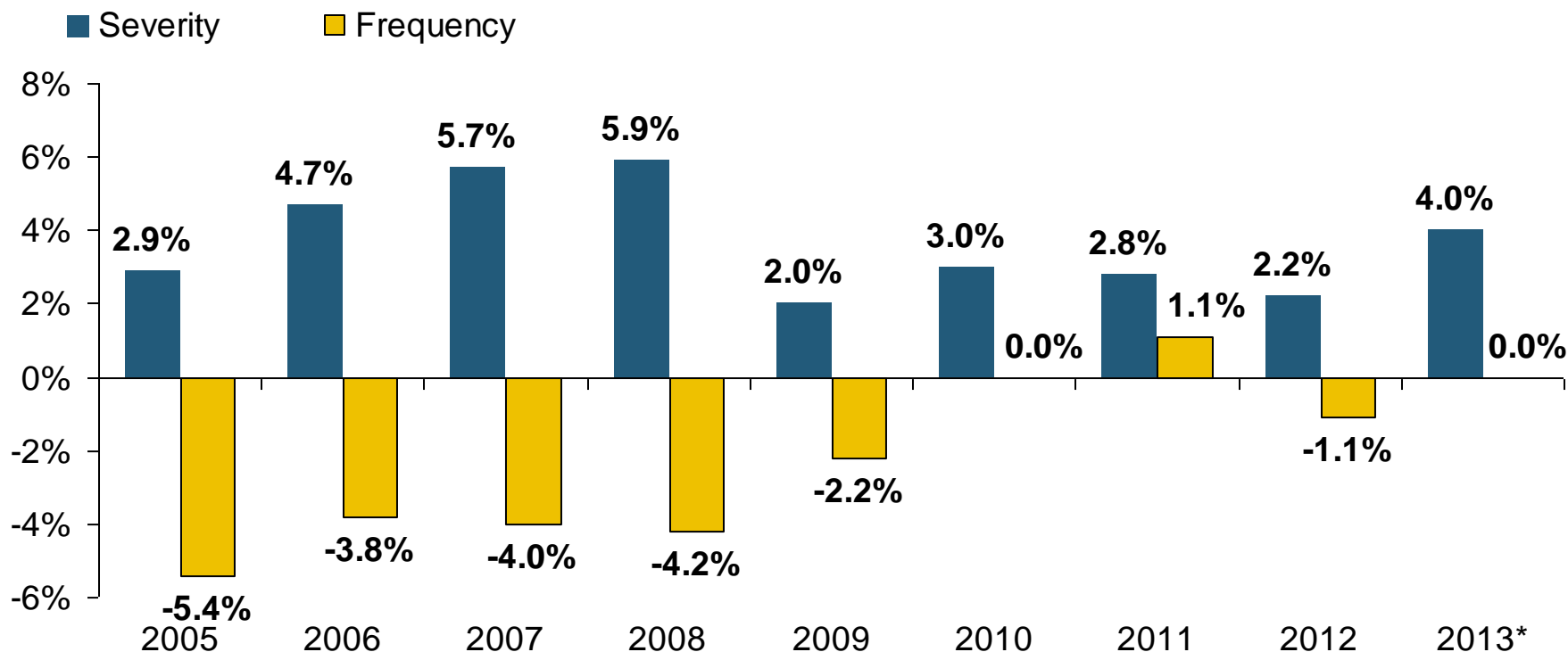
Source: Guy Carpenter; Insurance Information Institute.

Claim Trends in Auto Insurance

**Rising Costs Held in Check by
Falling Frequency:
Can That Pattern Be Sustained?**

Bodily Injury: Severity Trend Is Up, Frequency Decline Ended and Is Now Flat

Annual Change, 2005 through 2013*



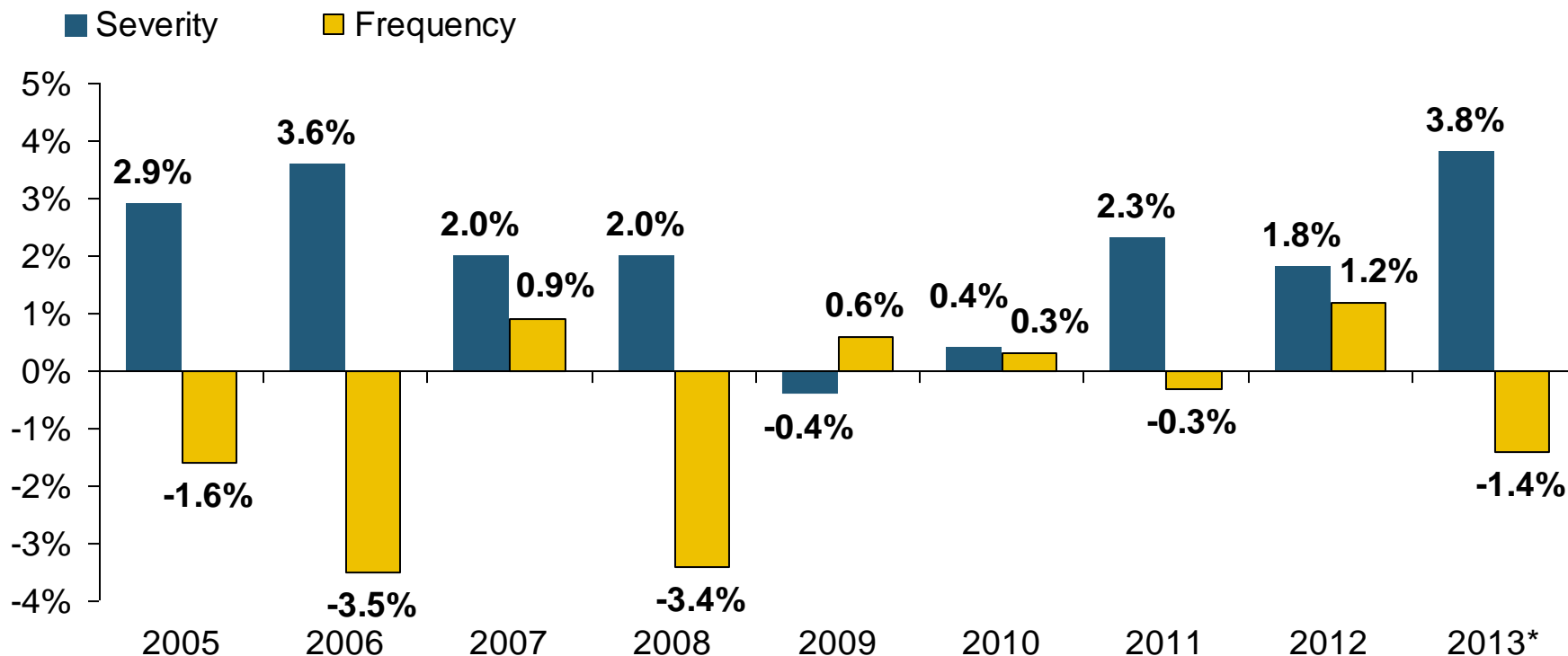
Cost Pressures Will Increase if BI Severity Increases Continue or Frequency Ticks Up

*2013 figure is for the 4 quarters ending with 2013:Q3.

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

Property Damage Liability: Severity is Up, Frequency Nearly Flat Since 2008

Annual Change, 2005 through 2013*



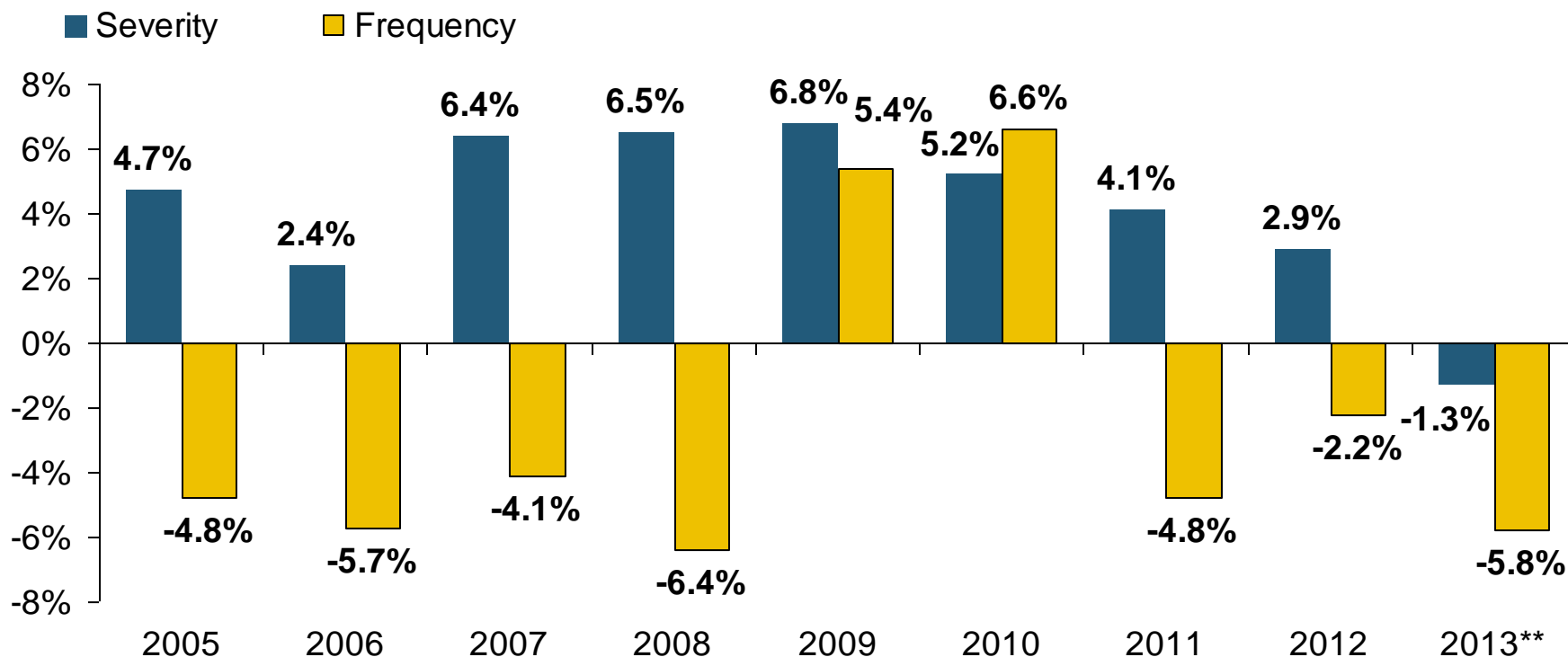
Severity/Frequency Trends Have Been Volatile, But Rising Severity since 2011 Is a Concern

*2013 figure is for the 4 quarters ending with 2013:Q3.

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

No-Fault (PIP) Liability: Adverse Trends May Be Moderating*

Annual Change, 2005 through 2013**



Multiple States Have Experienced Severe Fraud and Abuse Problems in their No-Fault Systems, Especially FL, MI, NY and NJ

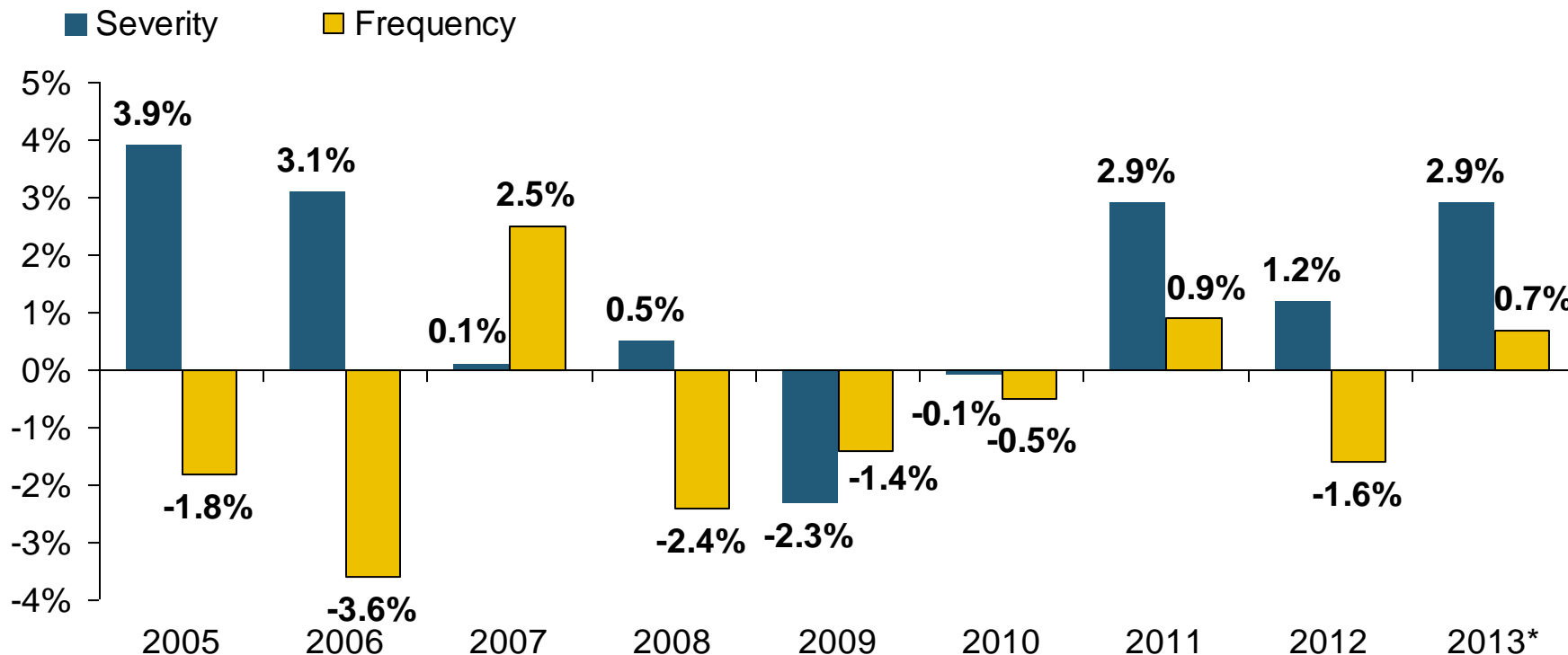
*No-fault states included are: FL, HI, KS, KY, MA, MI, MN, NY, ND and UT.

**2013 figure is for the 4 quarters ending in 2013:Q3.

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

Collision Coverage: Severity & Frequency Trends Are Both Higher in 2013*

Annual Change, 2005 through 2013*



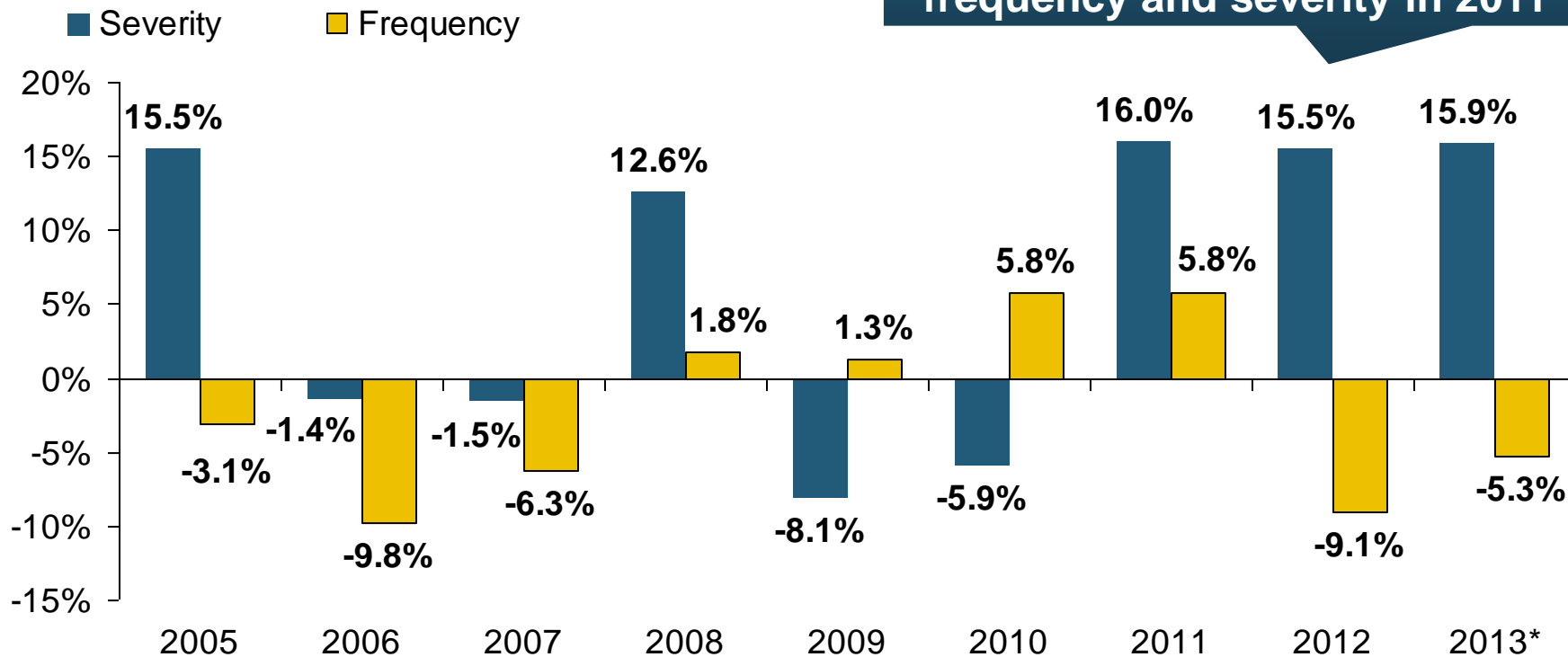
The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Will Likely Be Reversed Based on Evidence from Past Recoveries

*2013 figure is for the 4 quarters ending with 2013:Q3.

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

Comprehensive Coverage: Severity Trends Are Unfavorable

Annual Change, 2005 through 2013*



Weather Creates Volatility for Comprehensive Coverage

*2013 figure is for the 4 quarters ending with 2013:Q3.

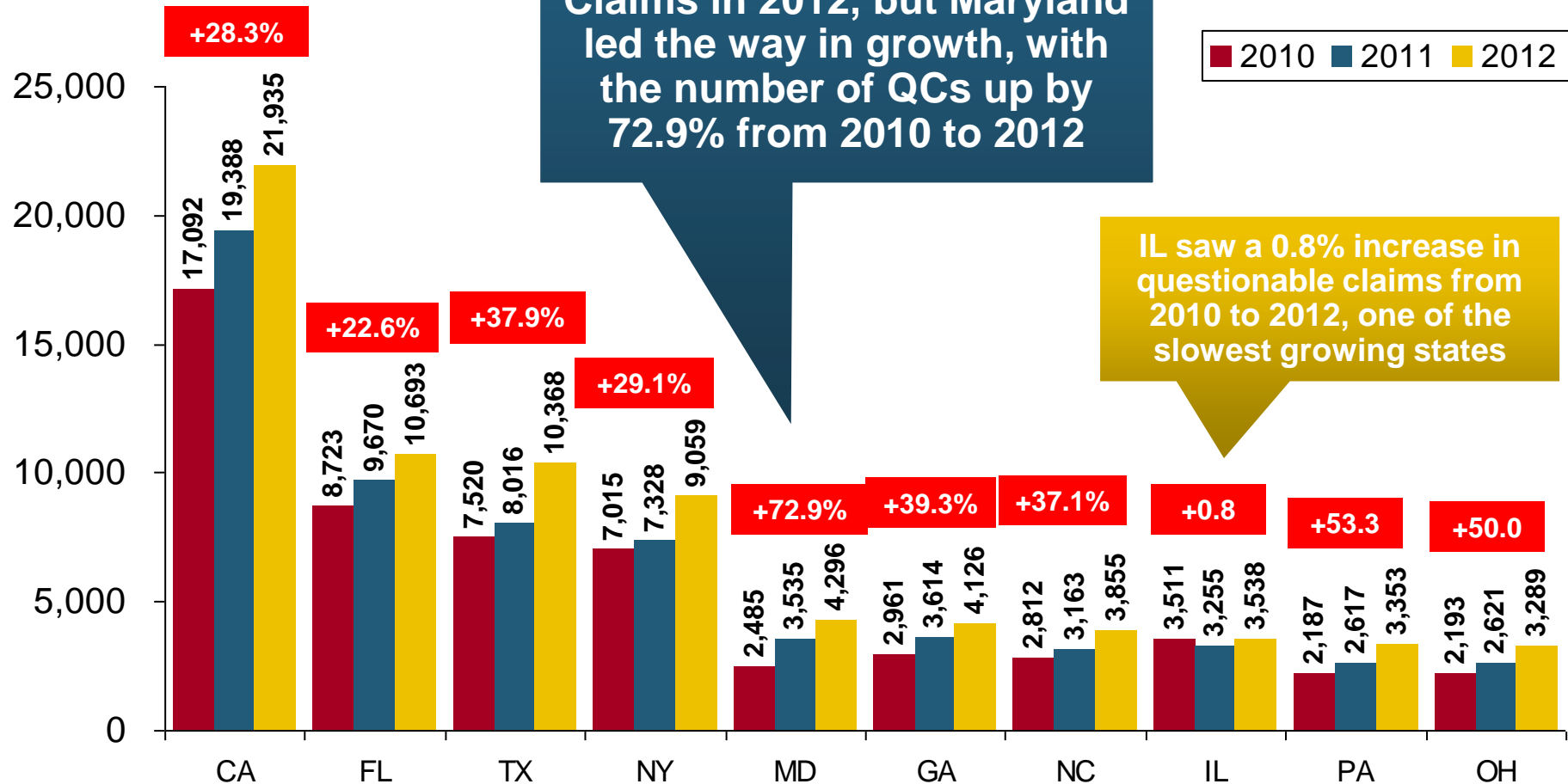
Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Questionable Claims: On the Rise

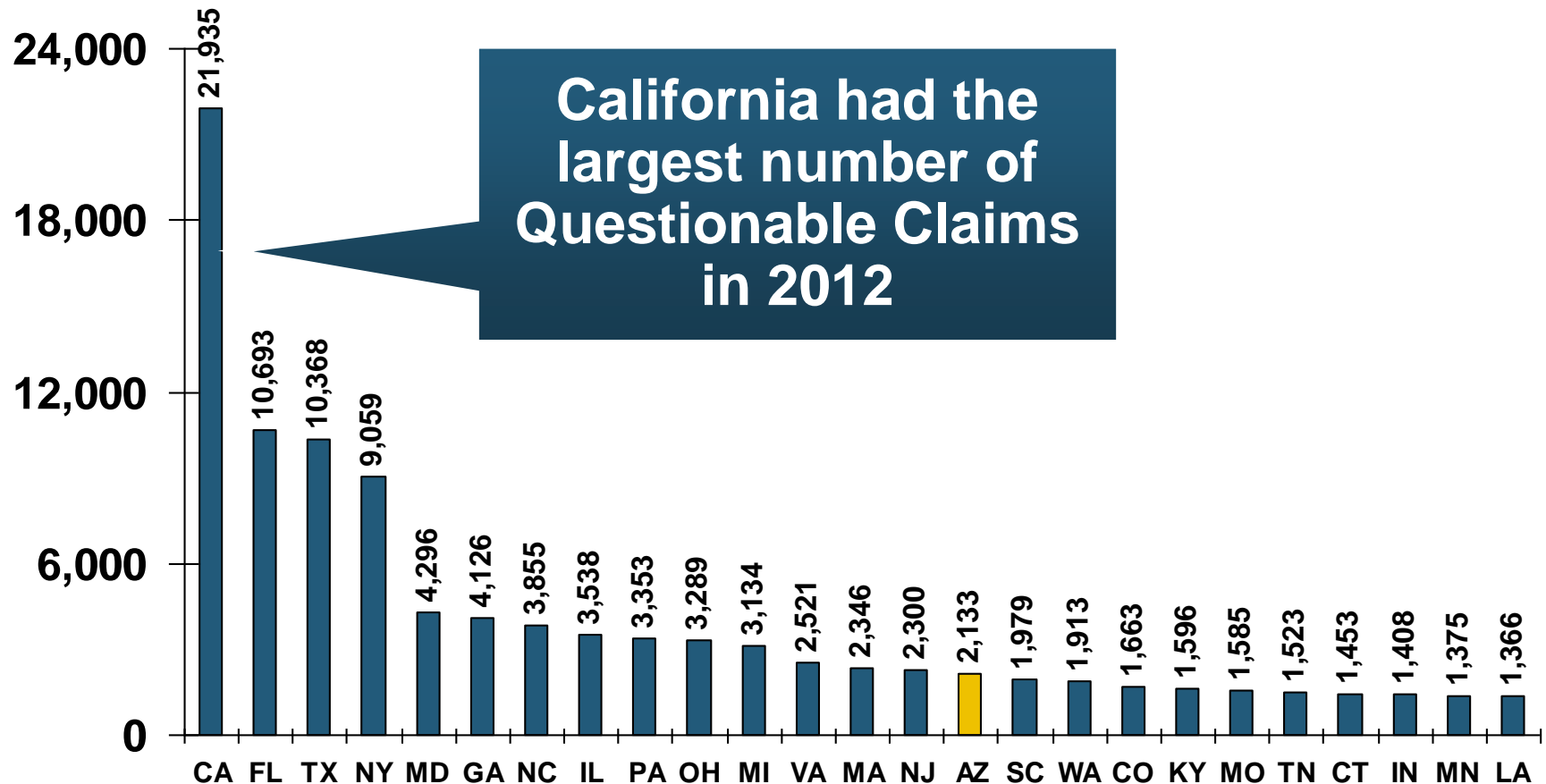
**Fraud Concerns:
More Questionable Claims in
Most State and Across Most
Lines of Insurance**

Questionable Claims, Top 10 Loss States, All Lines: 2010–2012

(Number of
Questionable Claims)

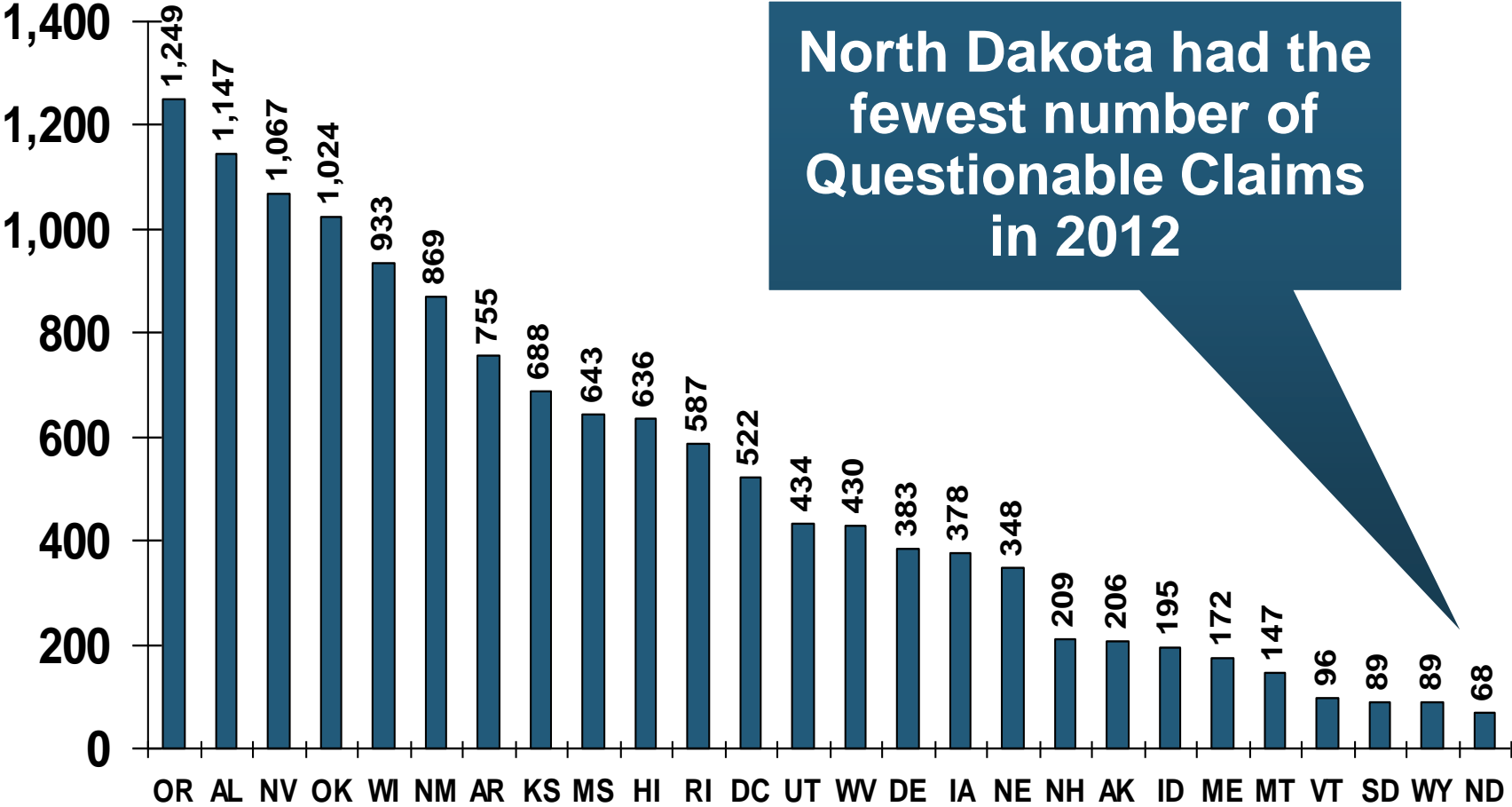


Total Number of Questionable Claims by State, 2012: Highest 25 States



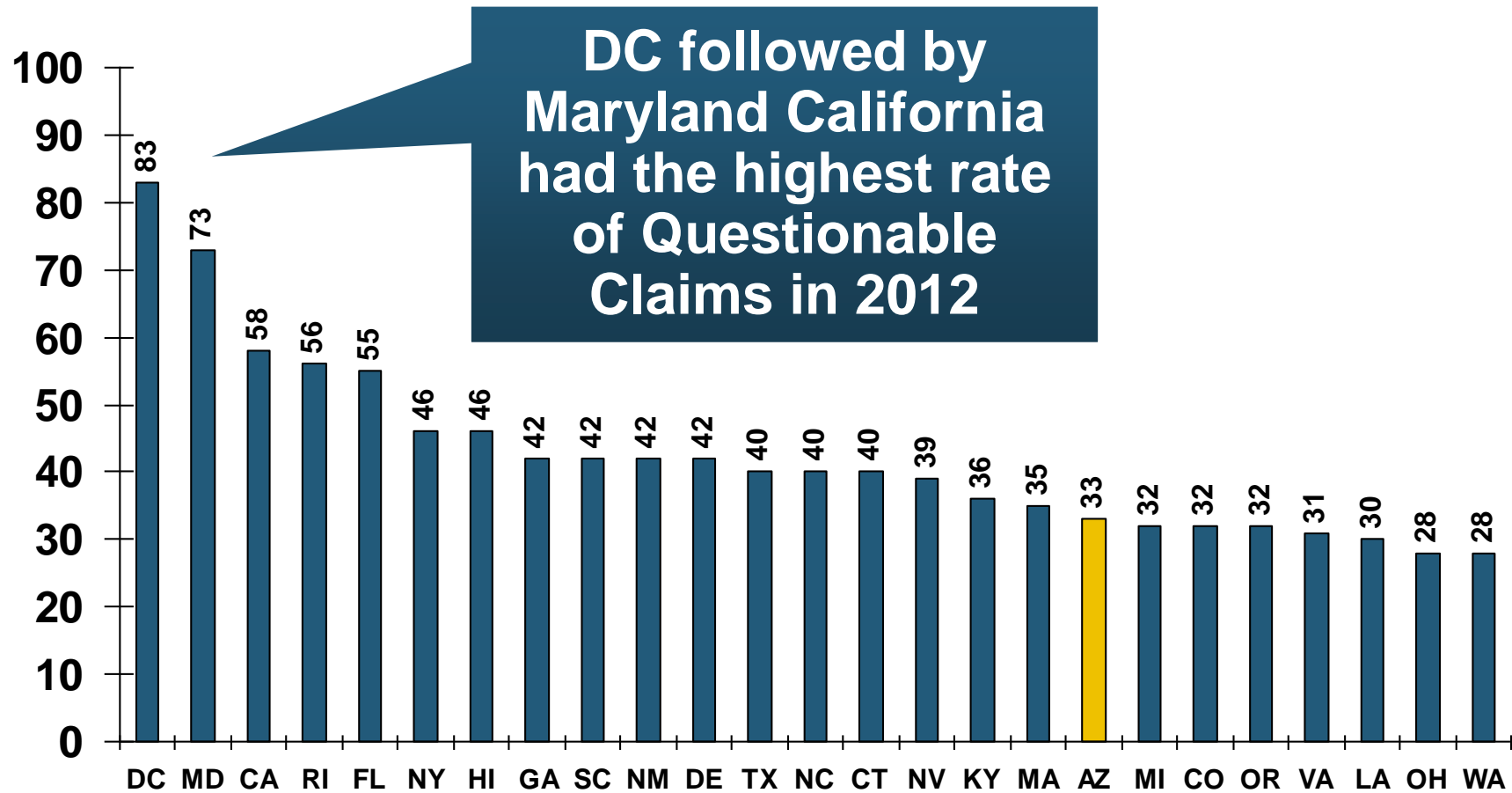
Total Number of Questionable Claims by State, 2012: Highest 25 States

North Dakota had the fewest number of Questionable Claims in 2012

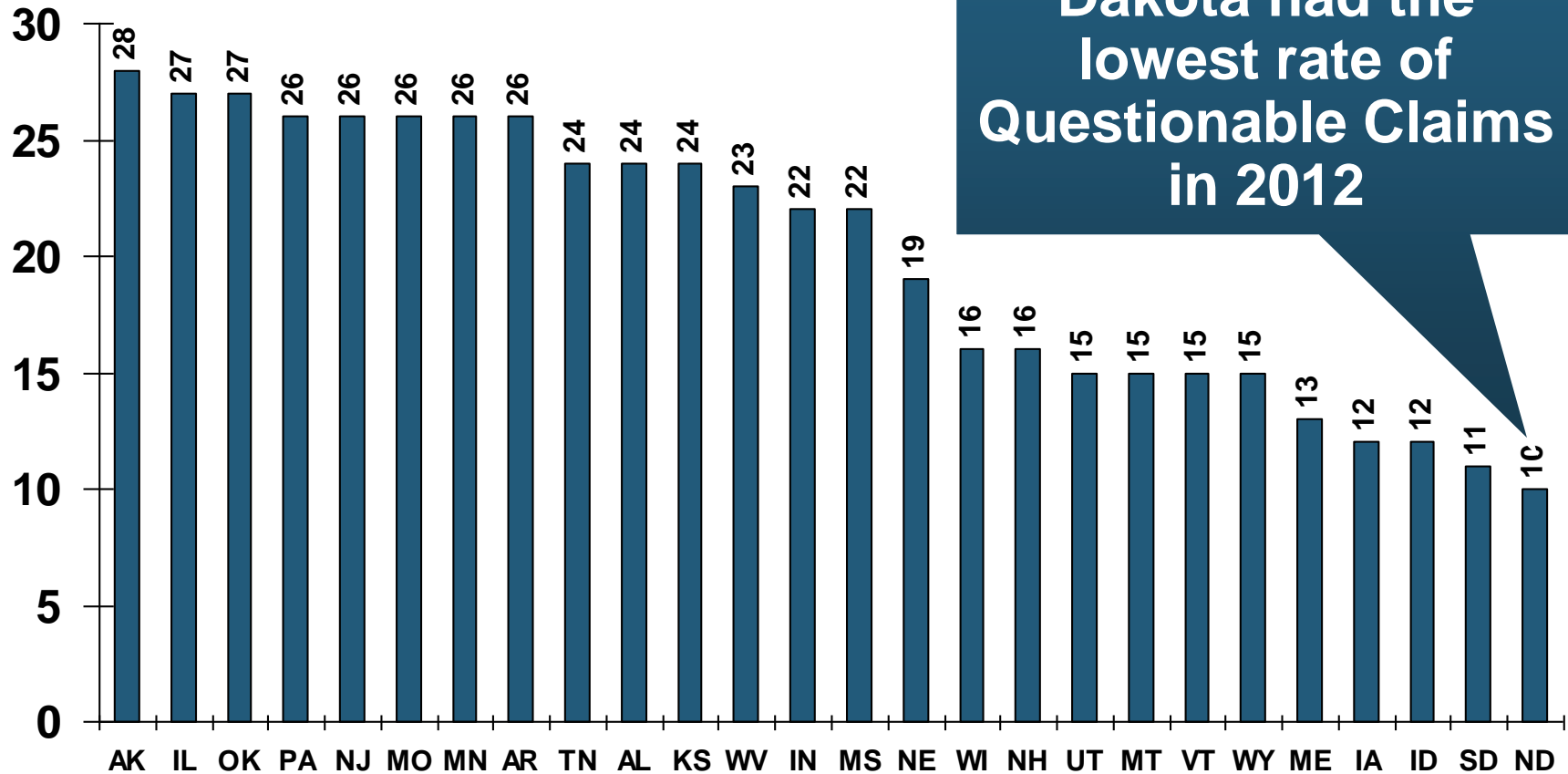


Sources: NICB; Insurance Information Institute.

Total Number of Questionable Claims by State, per 100K Persons, 2012: Highest 25 States

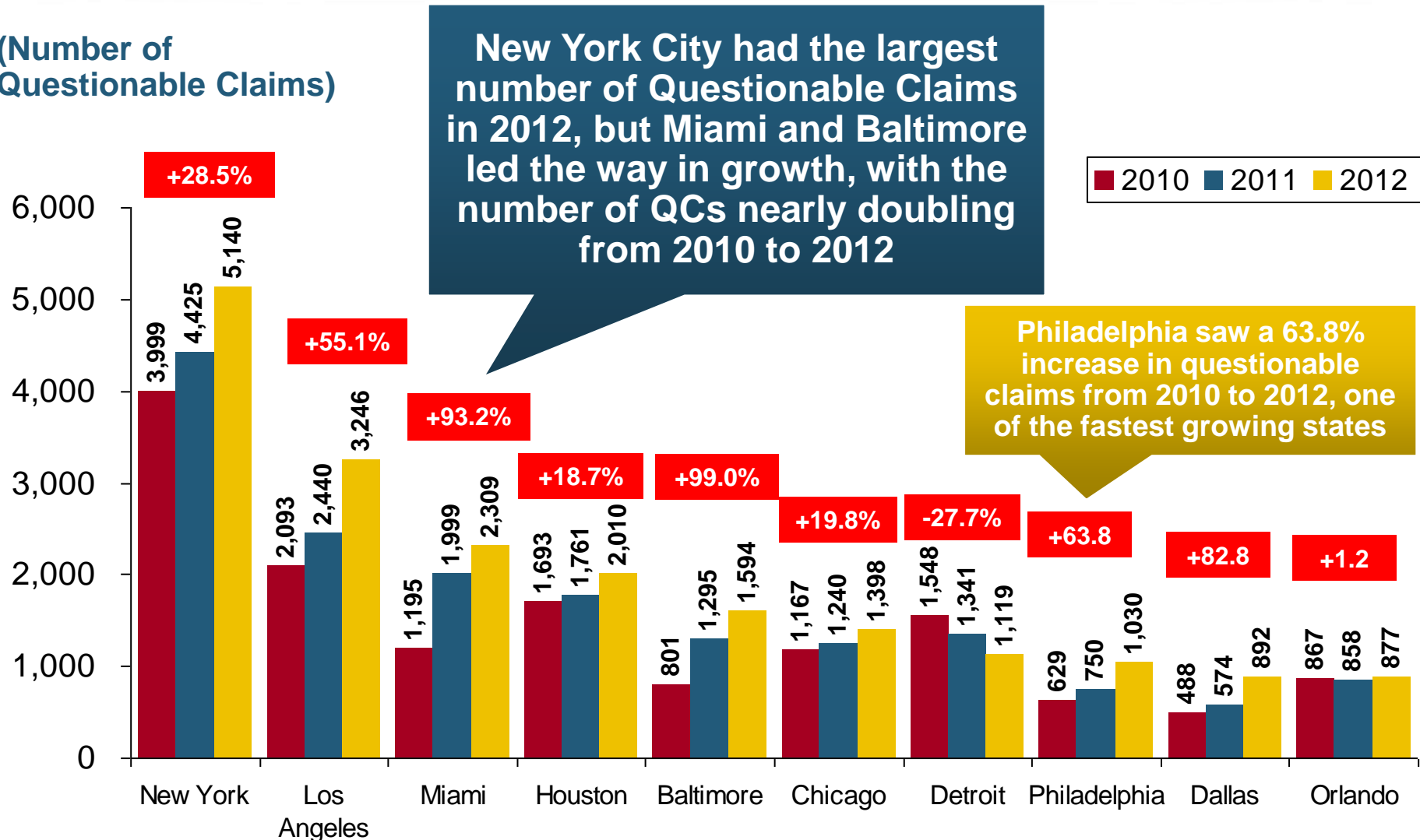


Total Number of Questionable Claims by State, per 100K Persons, 2012: Lowest 25 States



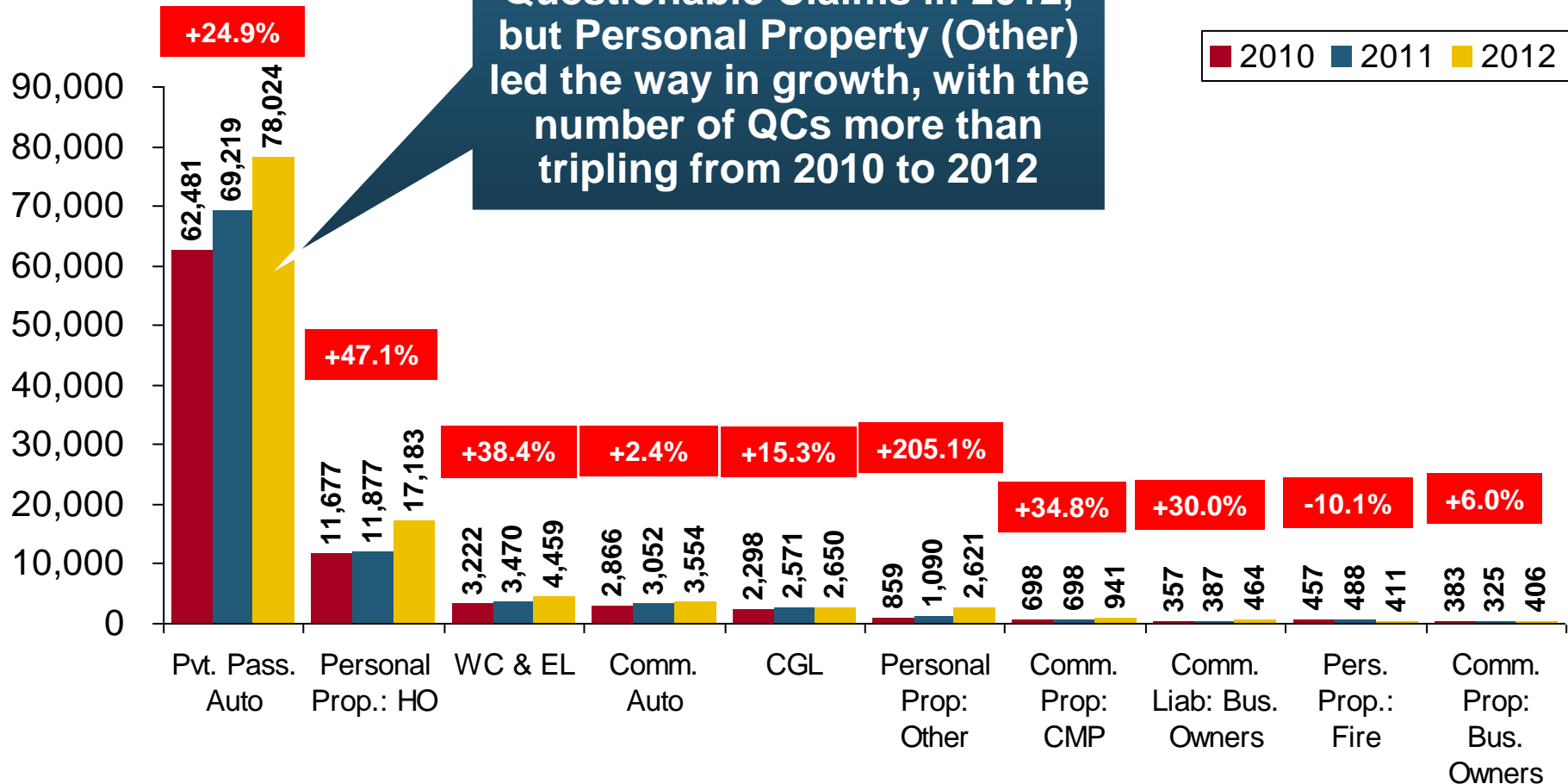
Questionable Claims, Top 10 Loss Cities, All Lines: 2010–2012

(Number of
Questionable Claims)



Questionable Claims, Top 10 Policy Types: 2010–2012

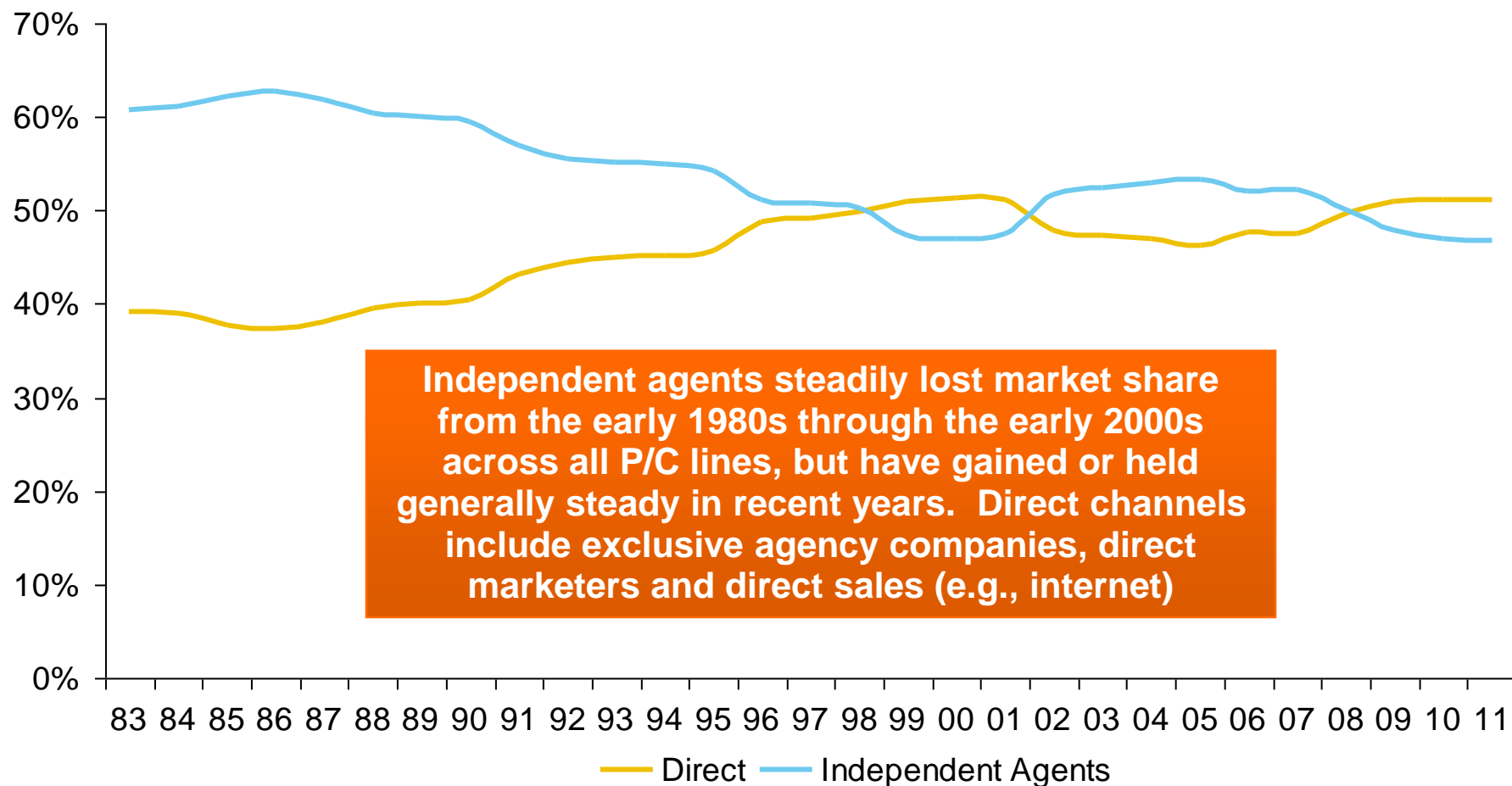
(Number of
Questionable Claims)



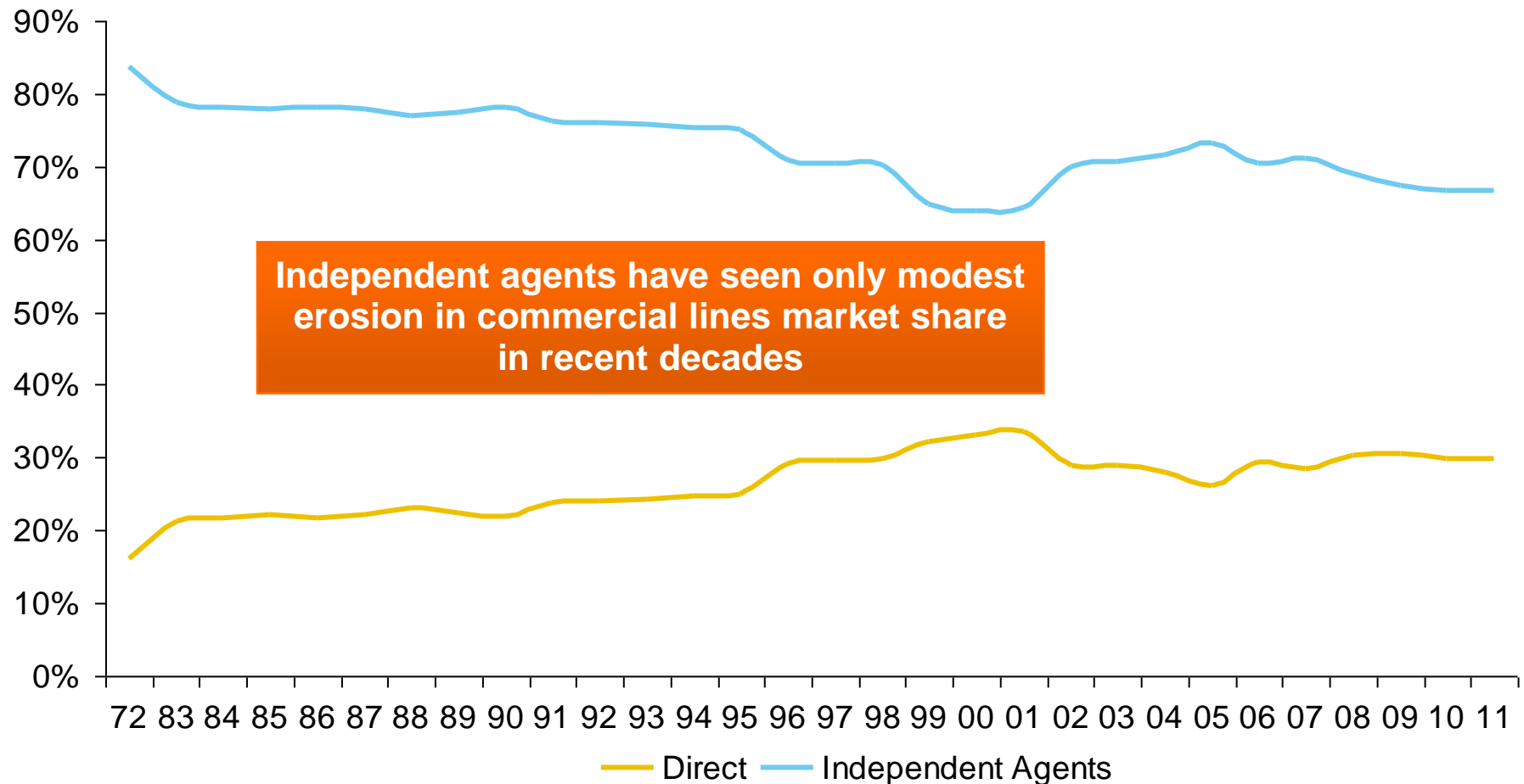
Distribution Trends

Distribution by Channel Type Continues to Evolve

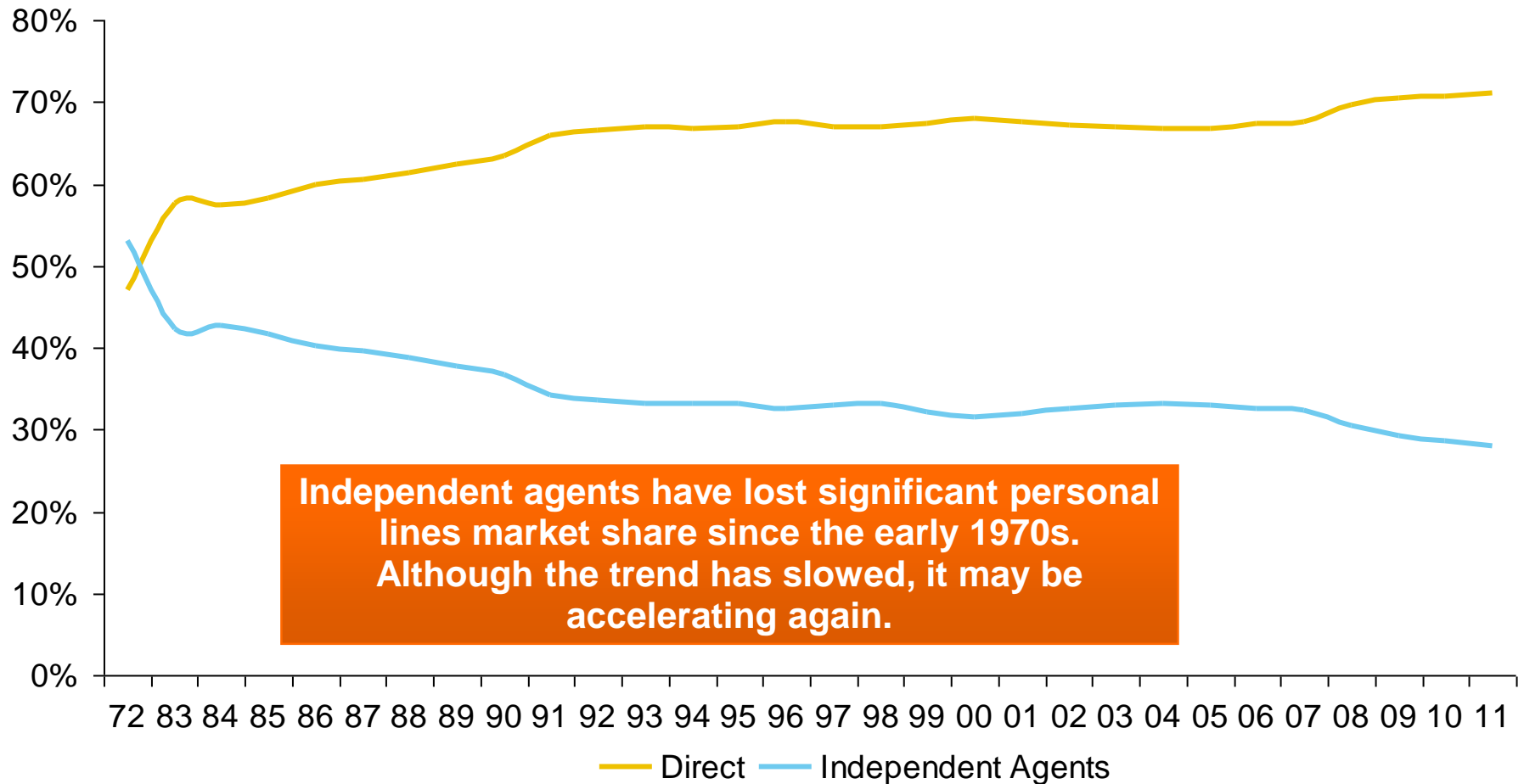
All P/C Lines Distribution Channels, Direct vs. Independent Agents



Commercial P/C Distribution Channels, Direct vs. Independent Agents



Personal Lines Distribution Channels, Direct vs. Independent Agents

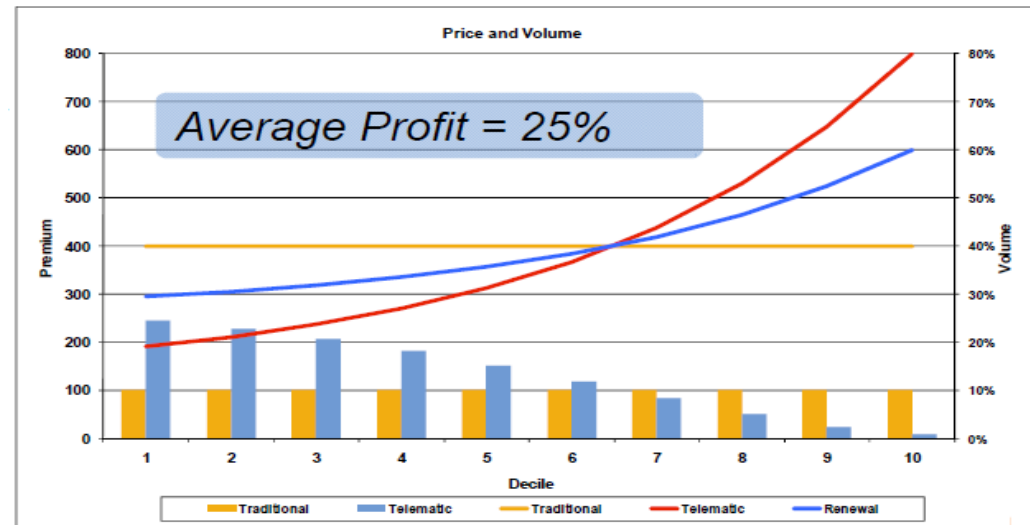


Usage-Based Insurance (UBI): Telematics

**UBI Is Catching On Among
Insurers and Consumers**

Driving Behavior Data Is Very Predictive

- Provides significant lift above current rating plan
 - ♦ Early programs had discounts of up to 61% and surcharges of 9%, but most companies are not giving such significant rate variation
 - ♦ Difference between indication and selection can help fund technology while still providing marketing effect
 - ♦ Must be matched with policy and claims data to develop predictive models and define lift



Smart implementation helps justify the technology cost

Why Is UBI Game-Changing?

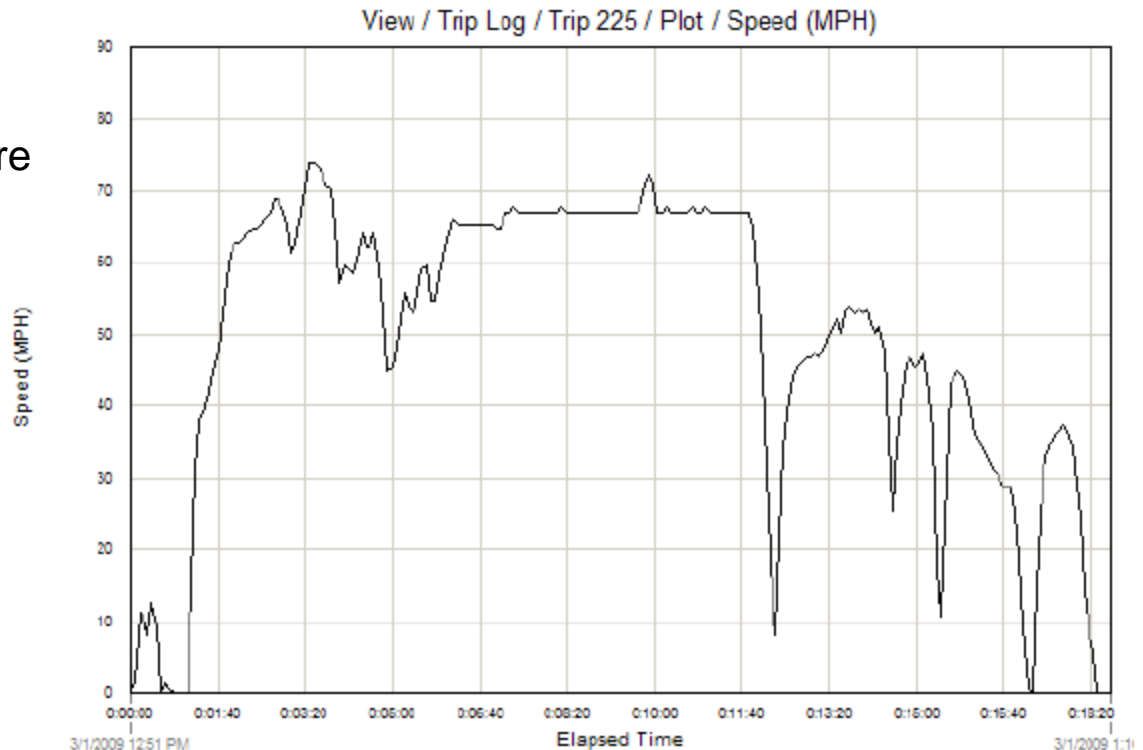
- Differentiates product offering by offering additional services
- Significantly increases pricing accuracy
- Appeals to consumers as it makes sense, is controllable and minimizes reliance on controversial proxies
- Attracts lower-risk insureds via self-selection
- Allows customers to understand and eliminate risky behaviors, actually reducing accident frequency
- May improve claims handling

Can improve retention and profits



Appeals To The “Right” Consumers

- Improves driving behavior
- Controllable and enables potentially large premium savings
- Makes sense and reduces reliance on proxies
 - ◆ Insurance credit scores
 - ◆ Driver assignment
 - ◆ Charges for relatively rare accidents, convictions
- Ancillary services



Current Market Landscape

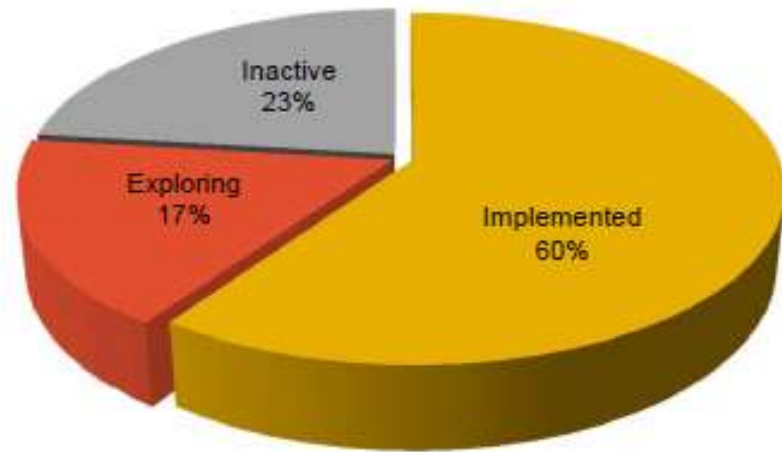
UBI In Personal Auto Around The Globe



Source: Towers Watson presentation at Casualty Actuarial Society PRM Conference, March 20, 2012: *Usage-Based Insurance: Are You Ready?* by Robin Harbage, FCAS, MAAA.

Top 50 U.S. Private Passenger Auto Companies

- At least seven top 10 personal auto insurers have implemented programs to insureds in at least one state
- U.S. companies representing over 75% of the market already have programs or are actively pursuing them



“UBI device sales rocketing from \$50 million in 2011 to approximately \$2.6 billion by 2015.” — FC Business Intelligence

- Inherited Safeco's 'Teensurance' program for drivers up to age 25
- 15% discount
- Participants pay \$15 a month for a satellite-tracking service
- Parents can track vehicle location and disable the car remotely if
 - ◆ driven outside set boundaries
 - ◆ exceeds a preset speed limit
 - ◆ drives past a curfew
- Launched 'OnBoard Advisor' to provide driver coaching
- 'Rewind' introduced which provides forgiveness of violation surcharge with telematics monitoring



Teen programs were extremely popular for early adopters

Example Consumer Proposition – U.S.

1-800-PROGRESSIVE

Snapshot
Discount

Our **BIGGEST**
discount ever!

Start saving up to 30% more with Snapshot™

Zip Code Auto

[Quote & Enroll](#)



PROGRESSIVE



Snapshot DiscountSM

With Snapshot, Progressive's Pay As You Drive® (PAYD) program, you can turn your good driving into huge savings on car insurance. Your Snapshot Discount could be as much as 30 percent!SM

Why pay the going rate?

Good drivers can save big—up to 30%—with our free Snapshot program.

➤ How it works



Find out—fast

Get detailed answers to your questions—about enrolling, saving & more.

➤ [View all FAQs](#)

See who's saving!

"Just earned a 22% discount on my car insurance from participating in the Snapshot program—how cool is that!"



—Chad H., Dayton, OH
via Twitter

Source: Progressive website

- Optional program with customer selecting which vehicles to enroll
- Wireless device plugged into OBD II port records time, speed and harsh braking
- Discount calculated based on first 30 days, then applied for remainder of term
- Device removed after first term and discount is fixed until significant endorsement
- Maximum discount of 30% and no surcharge in most states
- Approved in 39 states and Washington D.C.



40k to 50k new vehicles per month, quickly building market share

- **Drive Wise** launched in Illinois in January 2011 and followed with Ohio and Arizona
- 10% initial discount
 - ◆ Up to 36% at renewal
 - ◆ No surcharges
- \$10 technology fee semi-annually
- Driver score based on driving behaviors
 - ◆ Mileage
 - ◆ Hard brakes
 - ◆ Speeding (80+ mph)
 - ◆ Time of day



- Existing Drive Safe & Save Program with OnStar in five states
- In-Drive® for IL in “September with more states to be added in 2012”
- Discount up to 50% based on mileage, turns, acceleration, braking, speed and time of day
- \$10 initial fee with \$5 to \$14.99/month upgrade for additional features
 - ◆ Emergency response
 - ◆ Stolen vehicle location assistance
 - ◆ Vehicle diagnostic alerts and maintenance reminders
 - ◆ Speed alerts
 - ◆ Website and smartphone app for remote and mobile access

Building a comprehensive product offering with many consumer options



Data Availability

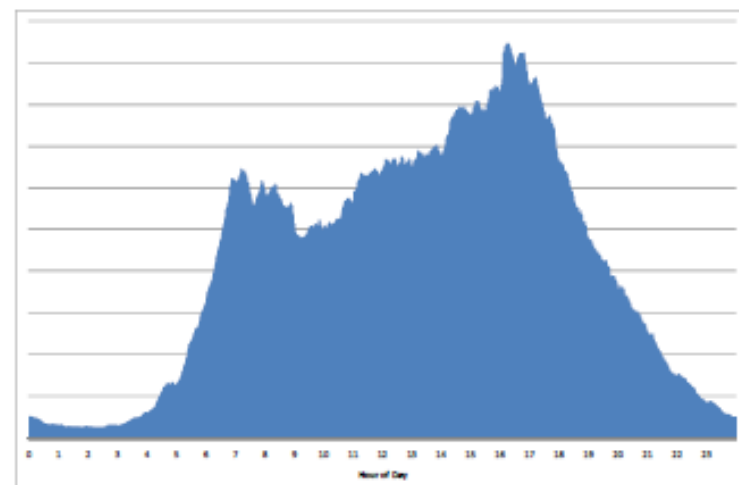
UBI Data Is Unlike Typical Insurance Data

Challenges

- Defining data requirements and ensuring quality
- Managing data size and transmission costs
- Identifying and fixing data errors
- Developing usable database of credible data

| | Without Telematics | With Telematics |
|--------------------|--------------------|--------------------------------|
| Update frequency | Annual | Real time, trip, daily |
| Data quality | Renewal UW | Daily scrubbing |
| Variables | Pre Defined | Manufactured |
| Records per policy | Few | A Million per Year |
| Data size* | Gigabytes | Terabytes (when uncompressed*) |

Trip Distribution by Time of Day

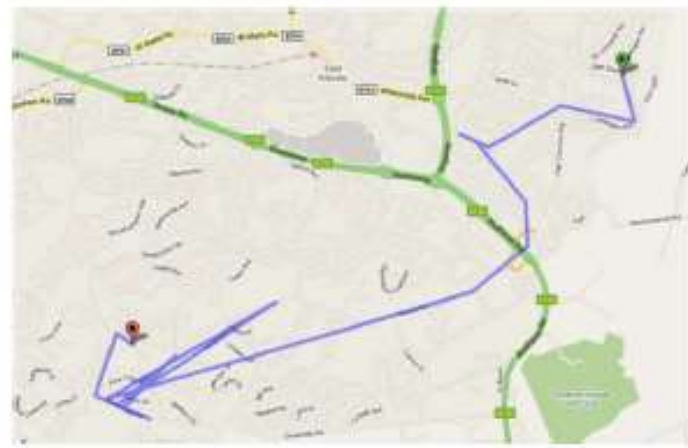


Source: Towers Watson presentation at Casualty Actuarial Society PRM Conference, March 20, 2012: *Usage-Based Insurance: Are You Ready?* by Robin Harbage, FCAS, MAAA.

Data Must Be Scrubbed

- Telematics data can have errors and must be checked
- Granular data is critical to data scrubbing
 - ◆ Without it can get phantom events
 - ◆ With it can cross-check using several sources and/or external data to determine real versus phantom events
- Imperative to automate as much of the validation as possible to facilitate ongoing scrubbing

| | feed_trip | start_time | distance | road_type | horizontal | road_spec |
|---|-----------|------------------|----------|-----------|------------|-----------|
| r | 942 | 17/08/2010 01:58 | 0.0621 | Fourth | 95.69 | 20 |
| r | 936 | 17/08/2010 00:41 | 0 | Fourth | 80.16 | 20 |
| r | 183 | 07/07/2010 12:25 | 0.7456 | Fourth | 78.91 | 20 |
| r | 429 | 21/08/2010 16:31 | 1.0563 | Fourth | 77.05 | 20 |
| r | 399 | 17/08/2010 20:06 | 1.0563 | Fourth | 72.7 | 20 |
| r | 936 | 17/08/2010 00:38 | 0 | Fourth | 67.73 | 20 |
| r | 936 | 17/08/2010 00:39 | 0 | Fourth | 67.73 | 20 |
| r | 936 | 17/08/2010 00:37 | 0 | Fourth | 67.73 | 20 |
| r | 942 | 17/08/2010 01:57 | 0.0621 | Fourth | 65.24 | 20 |
| r | 957 | 17/08/2010 04:27 | 0 | Fourth | 116.2 | 30 |
| r | 522 | 26/07/2010 14:36 | 0.3107 | Fourth | 114.95 | 30 |
| r | 595 | 02/08/2010 13:53 | 0 | Fourth | 108.12 | 30 |
| r | 595 | 02/08/2010 13:52 | 0.0621 | Fourth | 108.12 | 30 |
| r | 520 | 26/07/2010 13:08 | 0.0621 | Fourth | 96.93 | 30 |
| r | 527 | 26/07/2010 15:39 | 0.2485 | Tertiary | 85.75 | 30 |
| r | 599 | 02/08/2010 15:11 | 0.0621 | Fourth | 83.26 | 30 |
| r | 586 | 01/08/2010 22:11 | 0.1243 | Fourth | 80.78 | 30 |
| r | 520 | 26/07/2010 13:07 | 0 | Fourth | 78.91 | 30 |



Overcoming Challenges

UBI Implementation Challenges

- UBI projects are extremely complex and require cross-functional teams
- Product must appeal to your market while still being profitable
- Managing the legal and regulatory hurdles
- Determining which of the multitude of devices available will best meet the needs of the program
- Extensive IT infrastructure required to collect driving data, to integrate UBI scores with the current system and to give driving feedback
- No publicly available data to jump-start a program
- Danger of wasting time and money collecting the wrong data
- Driving data is much different than traditional experience data and requires special data scrubbing and analysis techniques

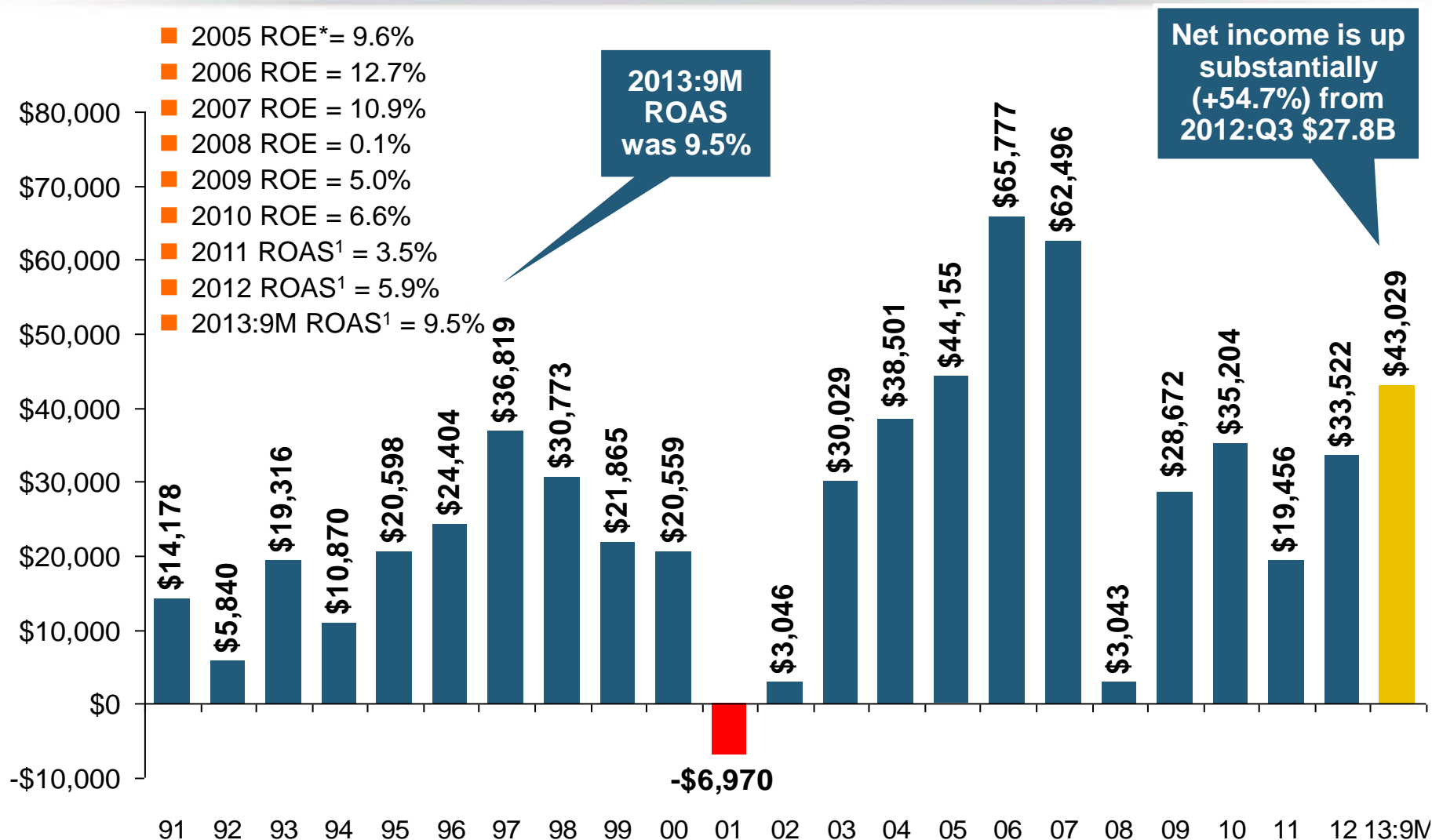


P/C Insurance Industry Financial Overview

**2013: Best Year in the
Post-Crisis Era**

**Performance Improved with
Lower CATs, Strong Markets**

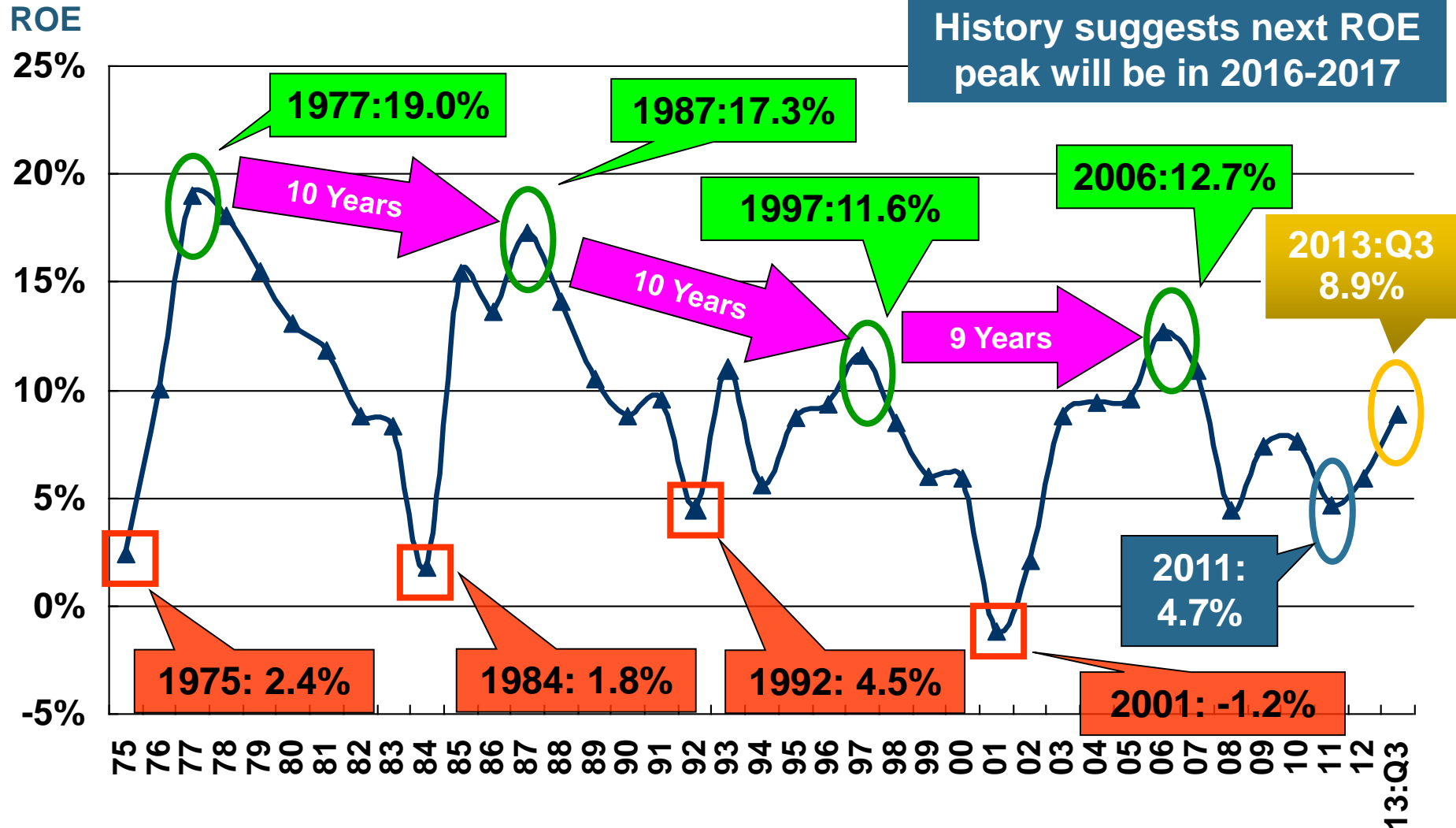
P/C Net Income After Taxes 1991–2013:Q3 (\$ Millions)



*ROE figures are GAAP; ¹Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 8.9% ROAS through 2013:Q3, 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

Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2013:Q3*



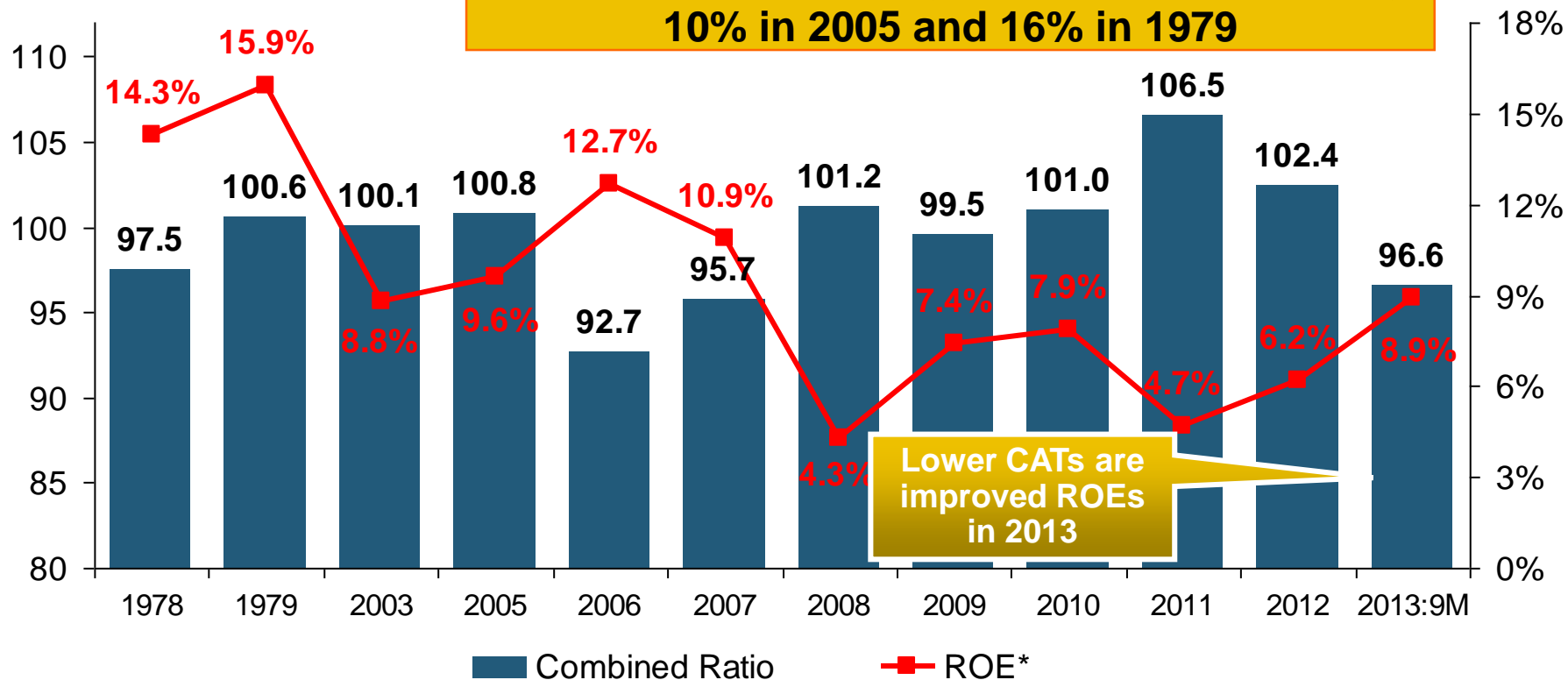
*Profitability = P/C insurer ROEs. 2011-13 figures are estimates based on ROAS data. Note: Data for 2008-2013 exclude mortgage and financial guaranty insurers.

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

A 100 Combined Ratio Isn't What It Once Was: Investment Impact on ROEs

Combined Ratio / ROE

A combined ratio of about 100 generates an ROE of ~7.0% in 2012, ~7.5% ROE in 2009/10, 10% in 2005 and 16% in 1979



Lower CATs are improved ROEs in 2013

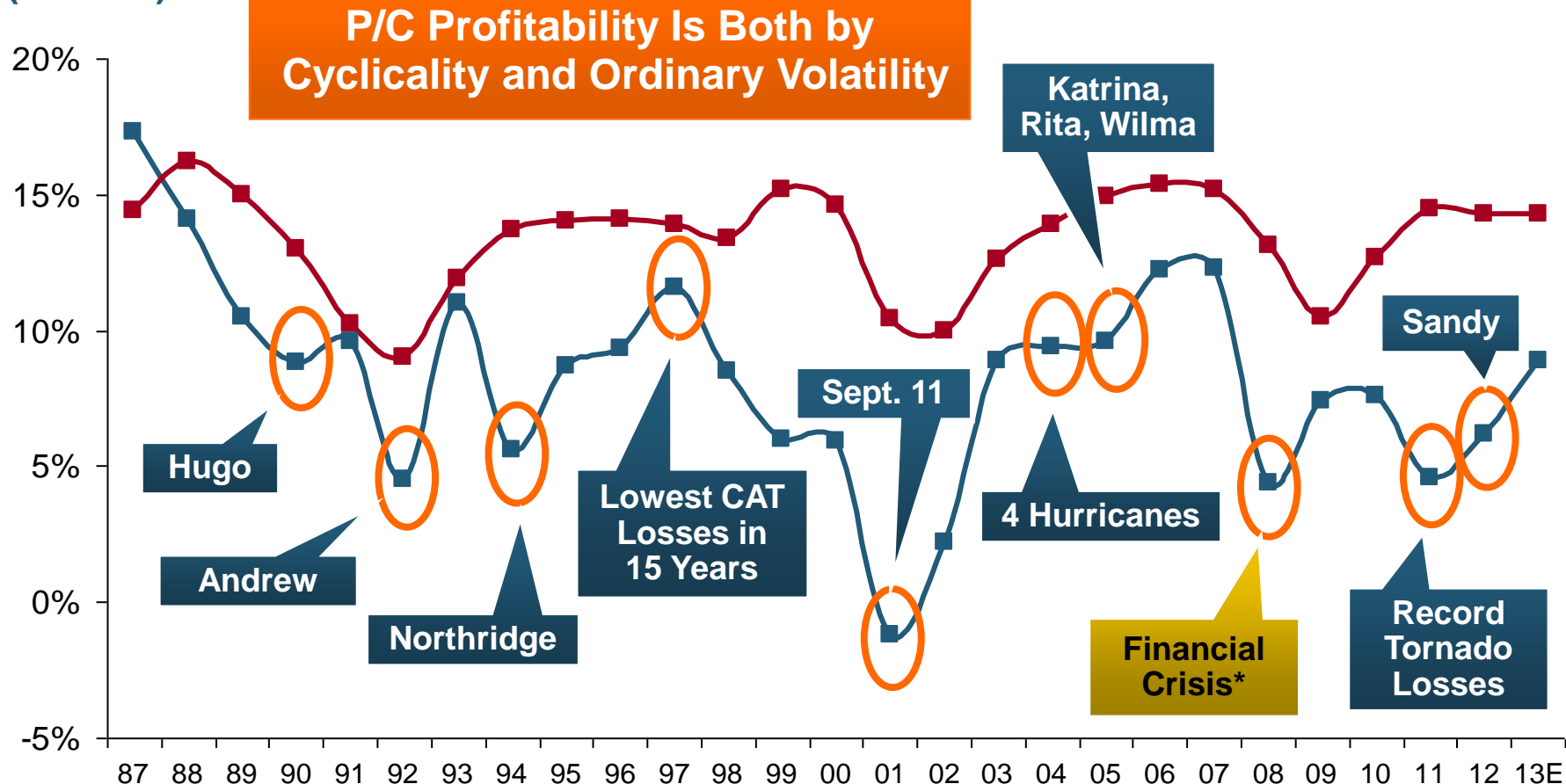
Combined Ratios Must Be Lower in Today's Depressed Investment Environment to Generate Risk Appropriate ROEs

* 2008 -2013 figures are return on average surplus and exclude mortgage and financial guaranty insurers. 2013:9M combined ratio including M&FG insurers is 95.8; 2012 =103.2, 2011 = 108.1, ROAS = 3.5%.

Source: Insurance Information Institute from A.M. Best and ISO Verisk Analytics data.

ROE: Property/Casualty Insurance vs. Fortune 500, 1987–2013E*

(Percent)

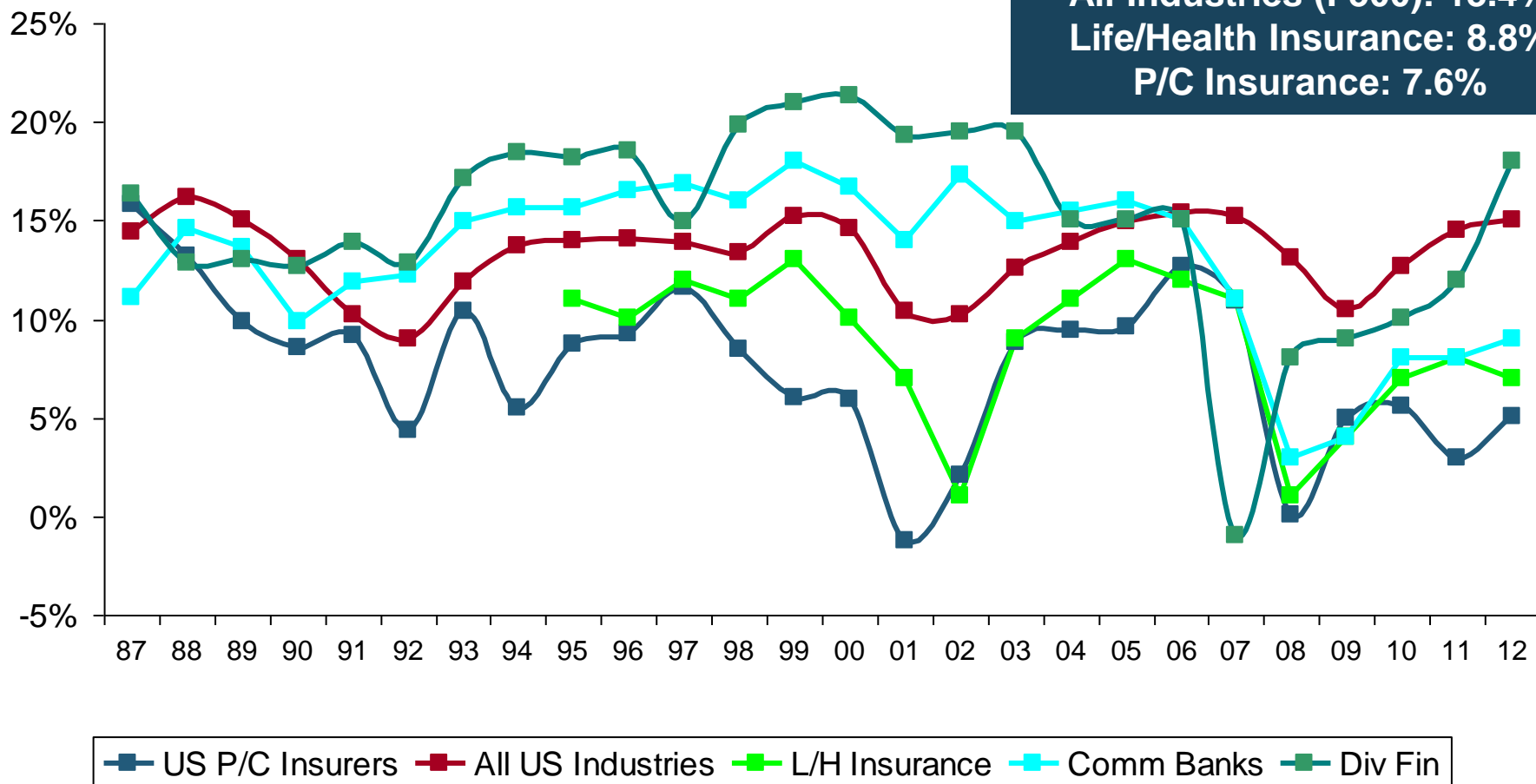


* Excludes Mortgage & Financial Guarantee in 2008 – 2013E. 2013 P/C ROE is through 2013:Q3.

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

ROE: ROEs by Industry vs. Fortune 500, 1987–2012*

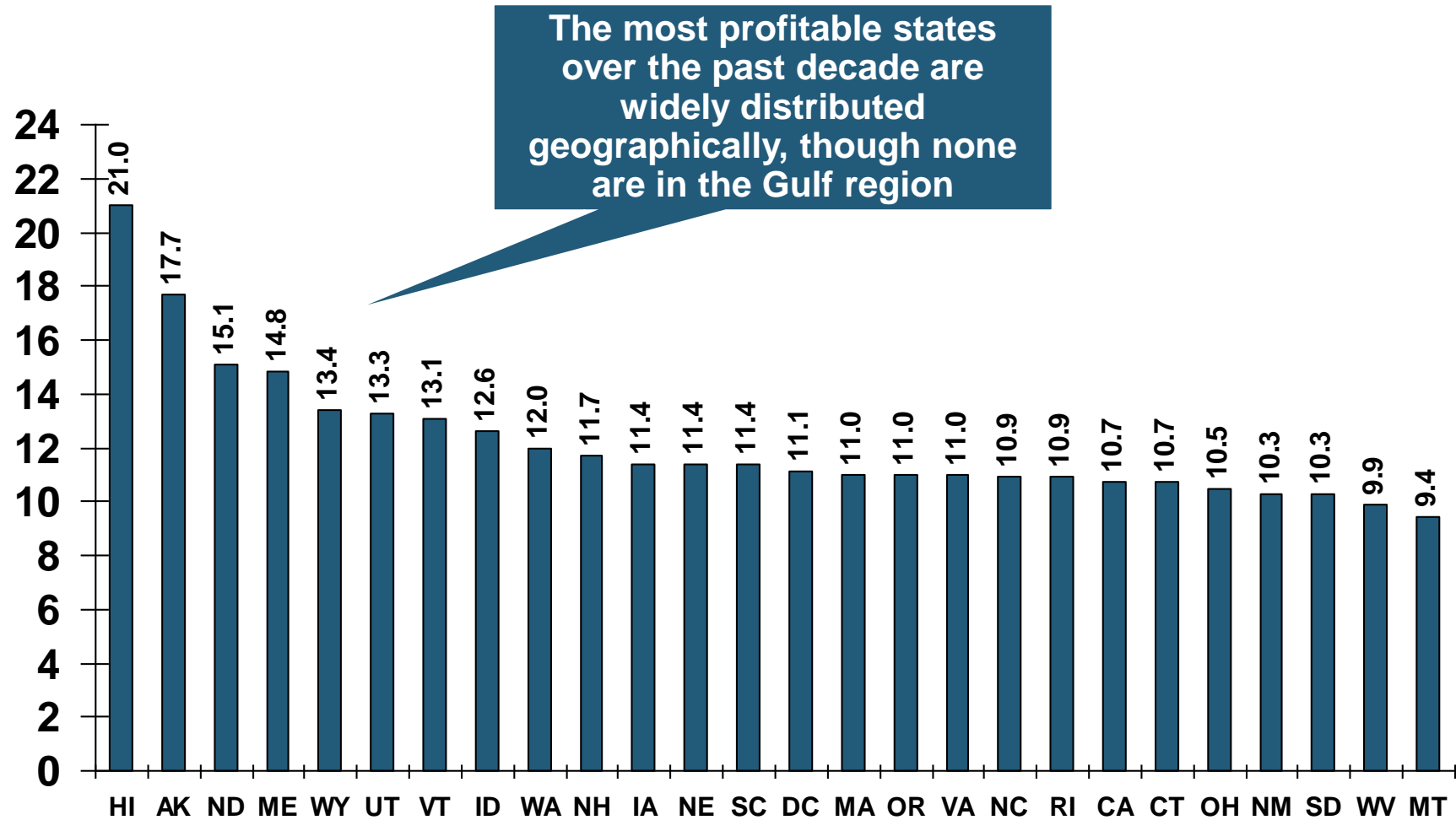
(Percent)



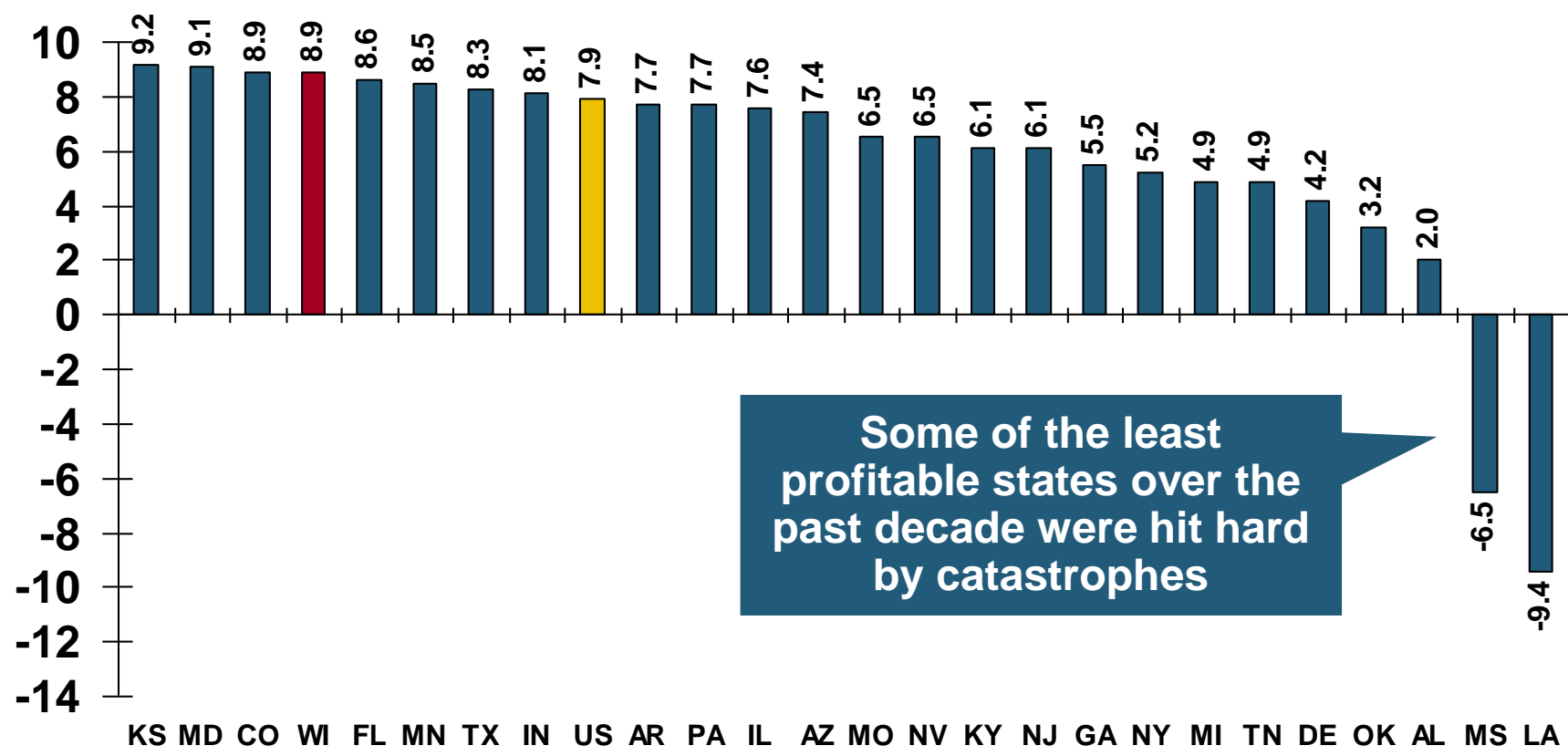
* All figures are GAAP.

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

RNW All Lines by State, 2003-2012 Average: Highest 25 States



RNW All Lines by State, 2003-2012 Average: Lowest 25 States

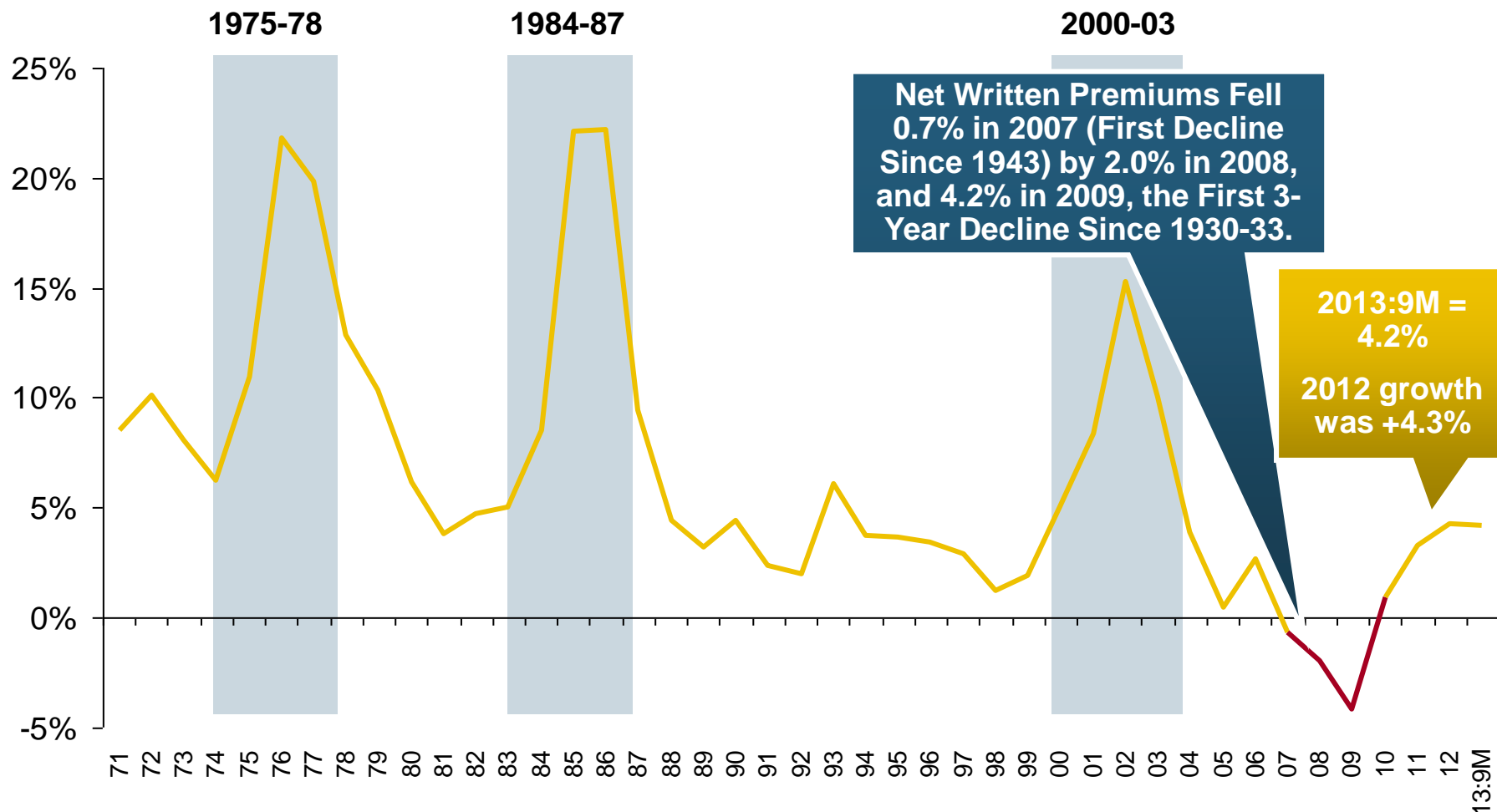


P/C Premium Growth Cycles

**Cyclicalities are Driven Primarily by
the Industry's Own Underwriting
Cycle, Not the Economy**

Net Premium Growth: Annual Change, 1971—2013:Q3

(Percent)



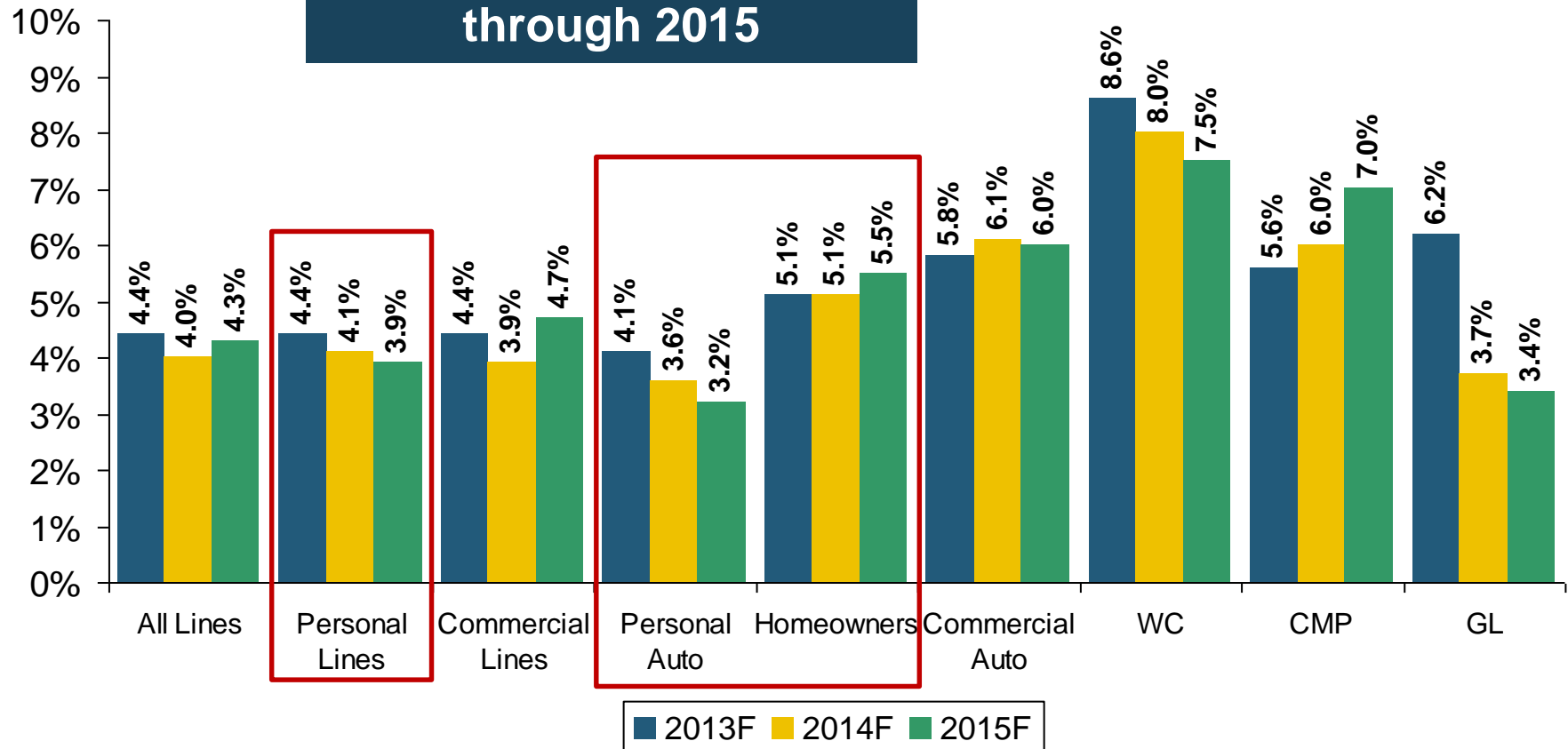
Shaded areas denote "hard market" periods

Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.

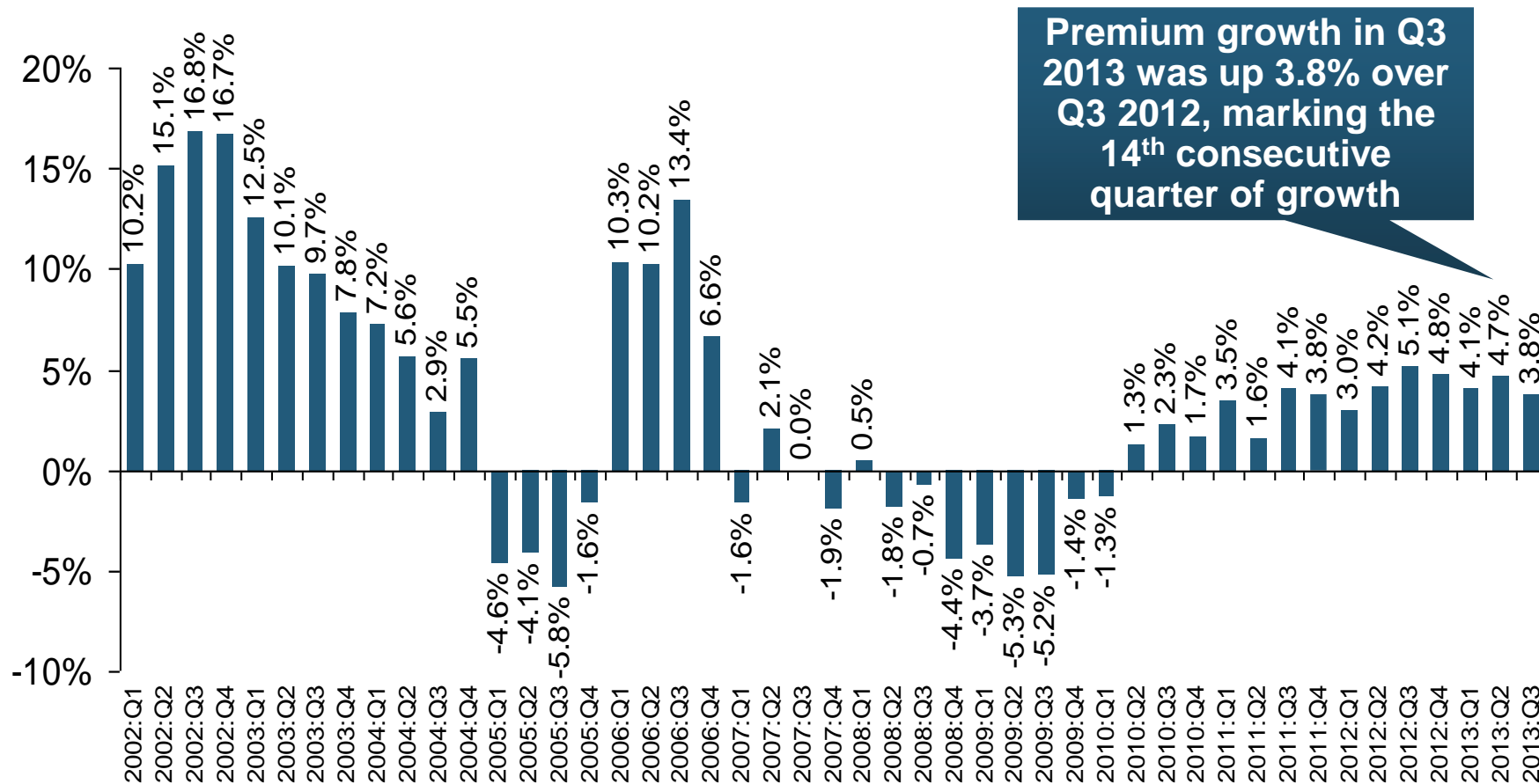
Growth in Direct Written Premium by Line, 2013-2015F*

(Percent)

**P/C growth is expected
to remain fairly stable
through 2015**



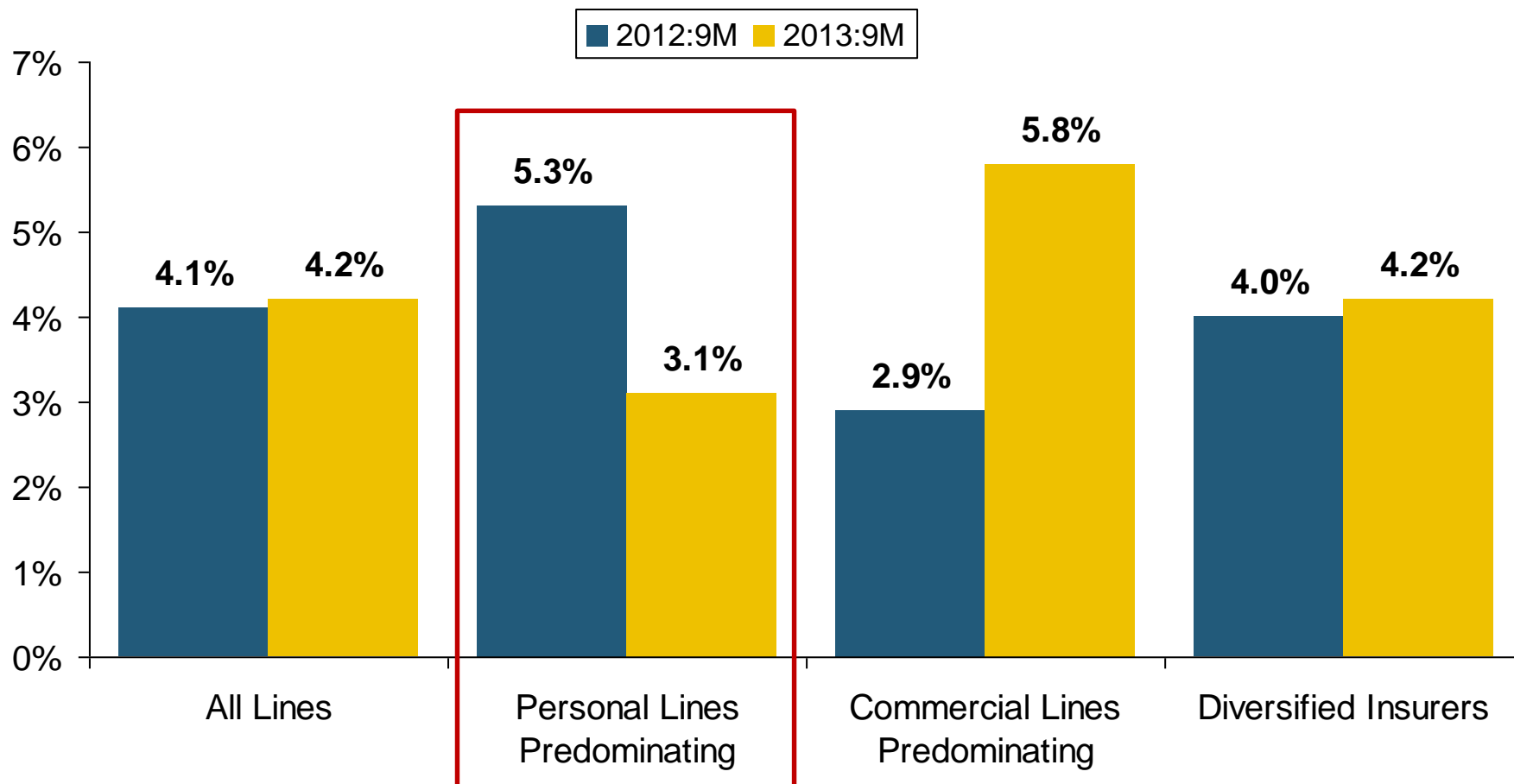
P/C Net Premiums Written: % Change, Quarter vs. Year-Prior Quarter



**Sustained Growth in Written Premiums
(vs. the same quarter, prior year) Will Continue into 2014**

Growth in Net Written Premium by Segment, 2013:9M vs. 2012:9M*

(Percent)



*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute

INVESTMENTS: THE NEW REALITY

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

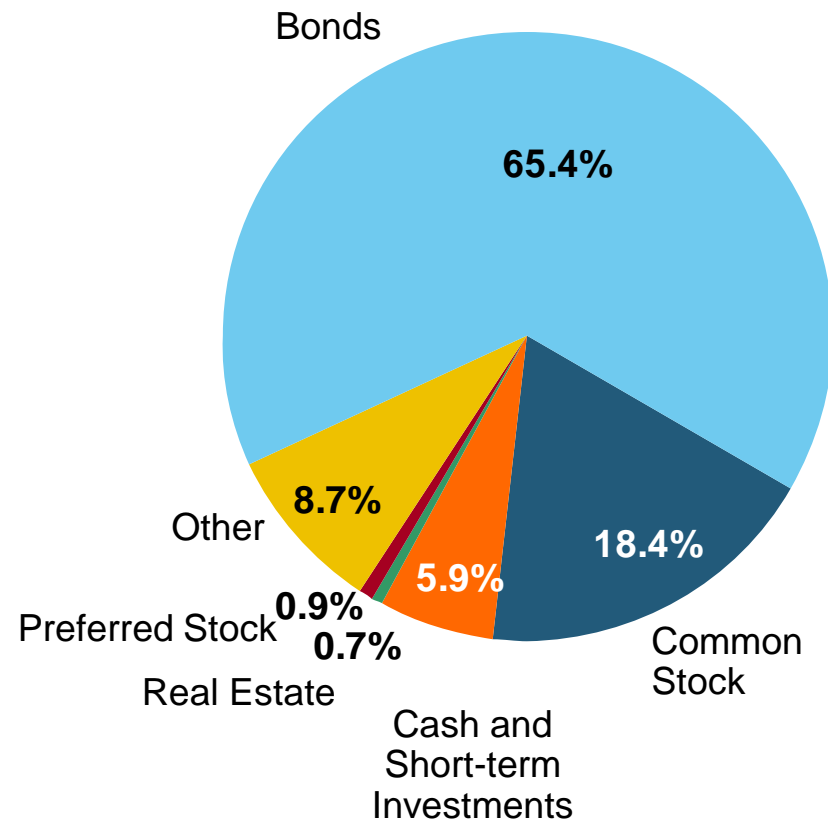
***Depressed Yields Will Necessarily
Influence Underwriting & Pricing***

Distribution of P/C Insurance Industry's Investment Portfolio

Portfolio Facts

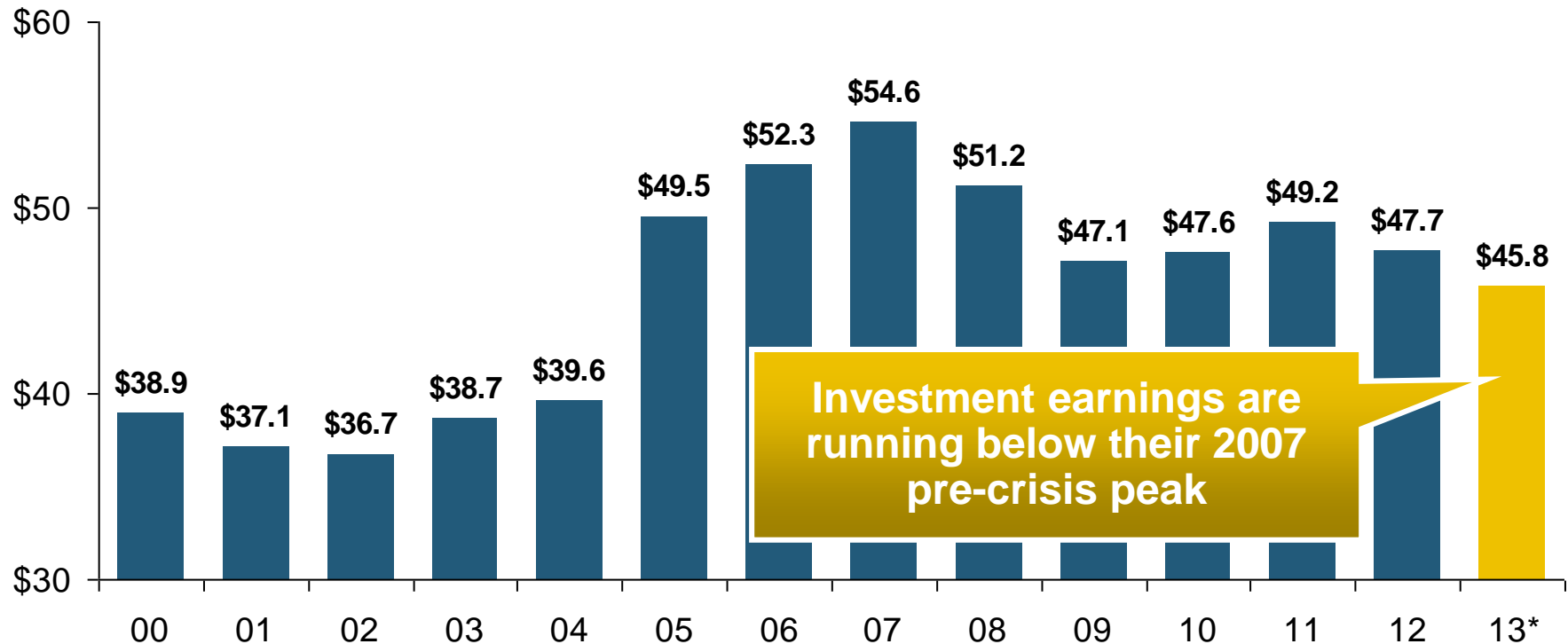
- Invested assets totaled \$1.383 trillion as of 12/31/12
- Insurers are generally conservatively invested, with nearly 2/3 of assets invested in bonds as of 12/31/12
- Only about 18% of assets were invested in common stock as of 12/31/12
- The portfolio is very conservative and returns are impacted by low interest rates.

As of December 31, 2012



Property/Casualty Insurance Industry Investment Income: 2000–2013*¹

(\$ Billions)



Investment Income Fell in 2012 and is Falling in 2013 Due to Persistently Low Interest Rates, Putting Additional Pressure on (Re) Insurance Pricing

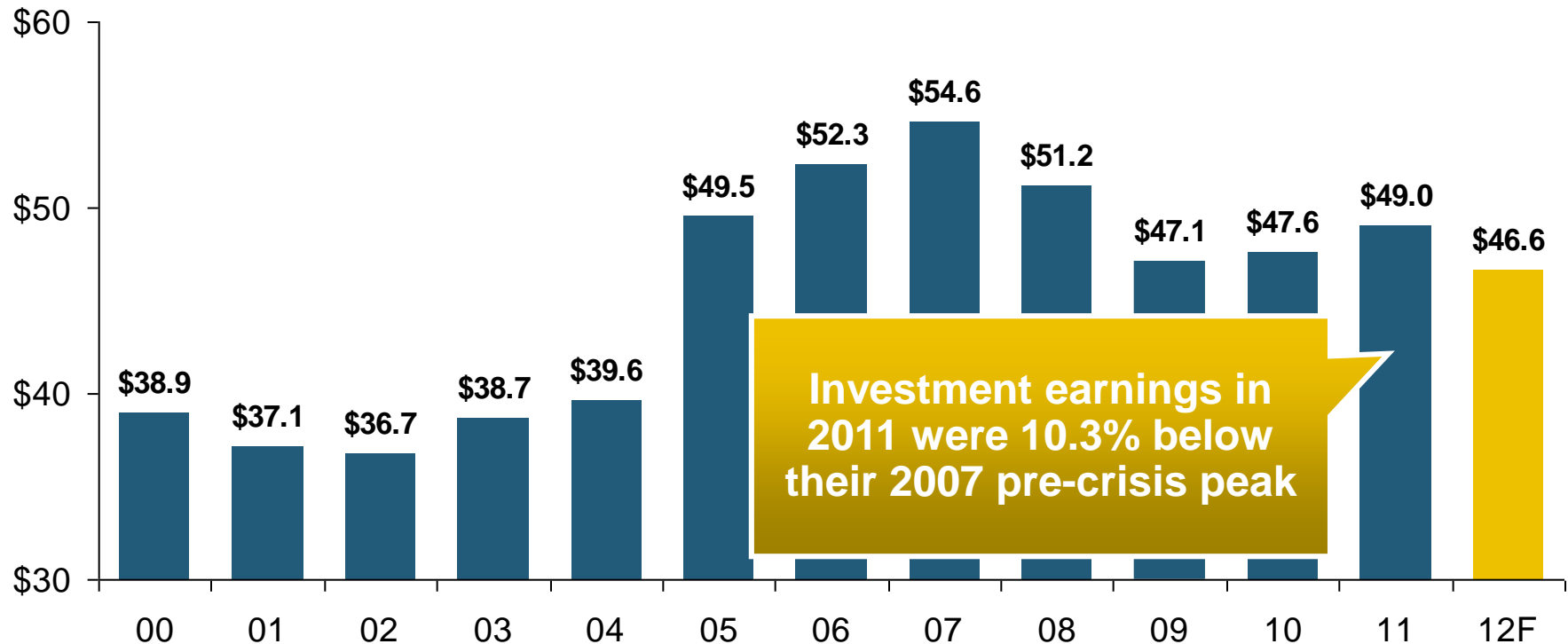
¹ Investment gains consist primarily of interest and stock dividends..

*Estimate based on annualized actual 9M:2013 investment income of \$34.338B.

Sources: ISO; Insurance Information Institute.

Property/Casualty Insurance Industry Investment Income: 2000–2012F¹

(\$ Billions)



Investment Income in 2011 Was Surprisingly Strong, Though Investment Income Is Likely to Weaken in 2012 Due to Persistently Low Interest Rates

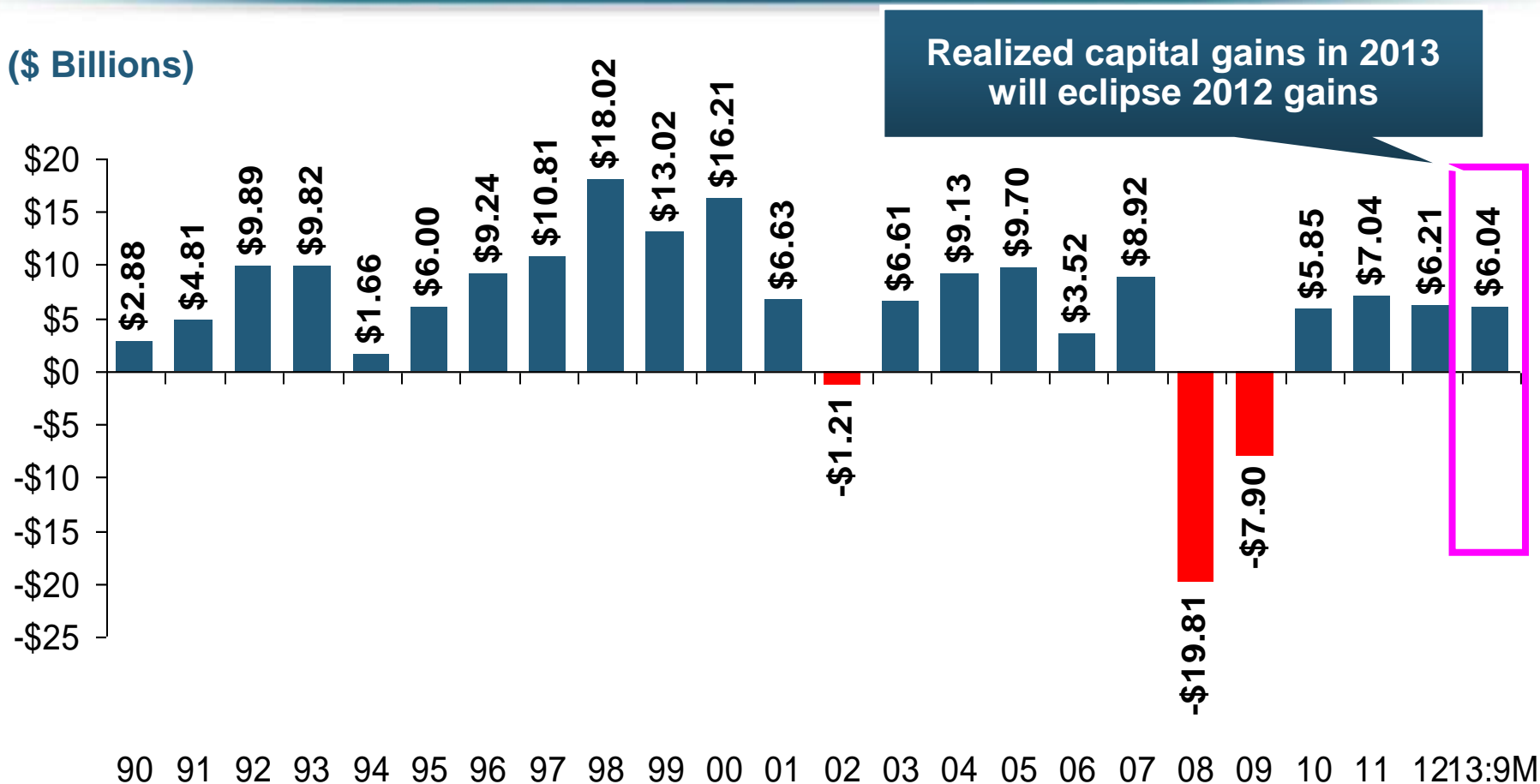
¹ Investment gains consist primarily of interest and stock dividends.

*2012F is based on annualized Q1:2012 actual figure of \$11.656B.

Sources: ISO; Conning Research & Consulting; Insurance Information Institute.

P/C Insurer Net Realized Capital Gains/Losses, 1990-2013:Q3

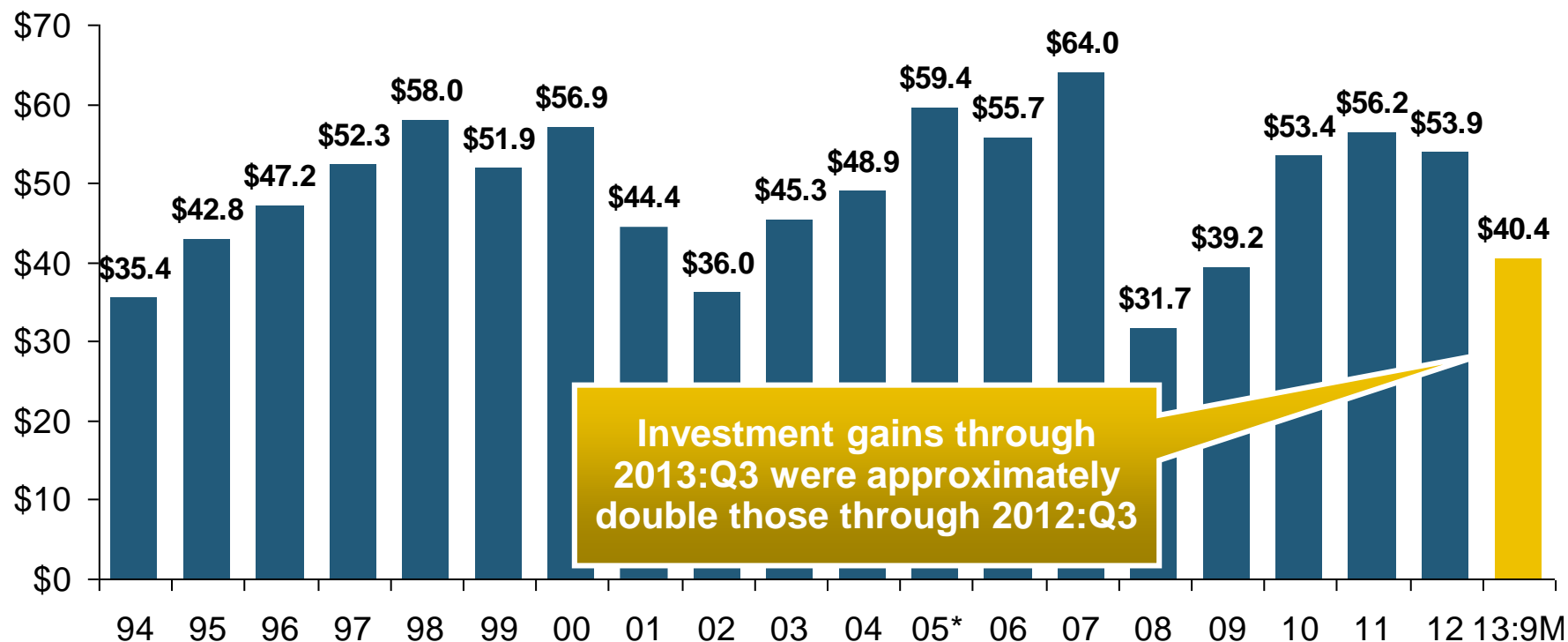
(\$ Billions)



Insurers Posted Net Realized Capital Gains in 2010, 2011 and 2012 Following Two Years of Realized Losses During the Financial Crisis. Realized Capital Losses Were the Primary Cause of 2008/2009's Large Drop in Profits and ROE

Property/Casualty Insurance Industry Investment Gain: 1994–2013:Q3¹

(\$ Billions)



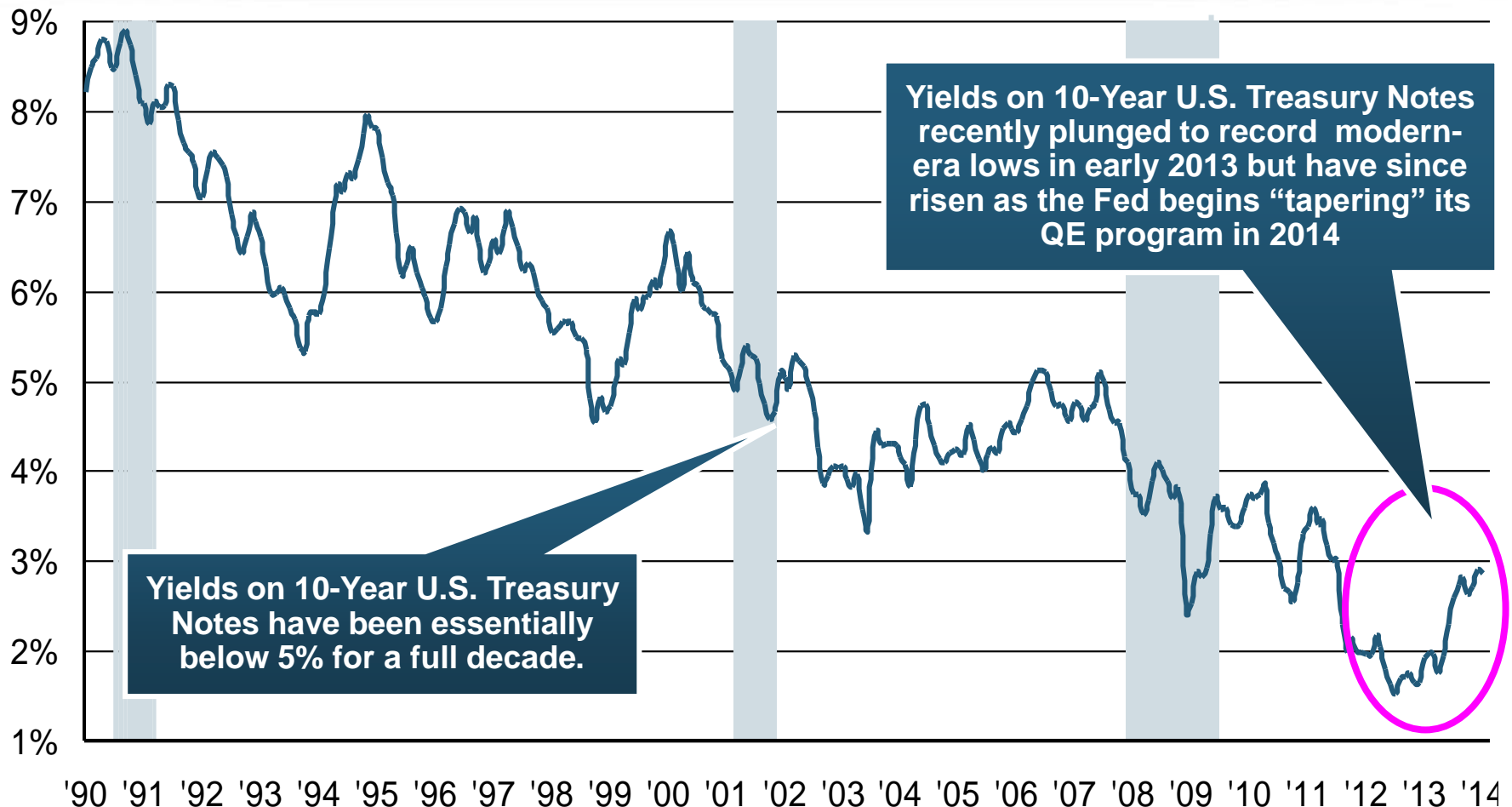
Investment Income Continued to Fall in 2013 Due to Low Interest Rates but Realized Investment Gains Were Up Sharply; The Financial Crisis Caused Investment Gains to Fall by 50% in 2008

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;

Sources: ISO; Insurance Information Institute.

U.S. 10-Year Treasury Note Yields: A Long Downward Trend, 1990–2014*



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.

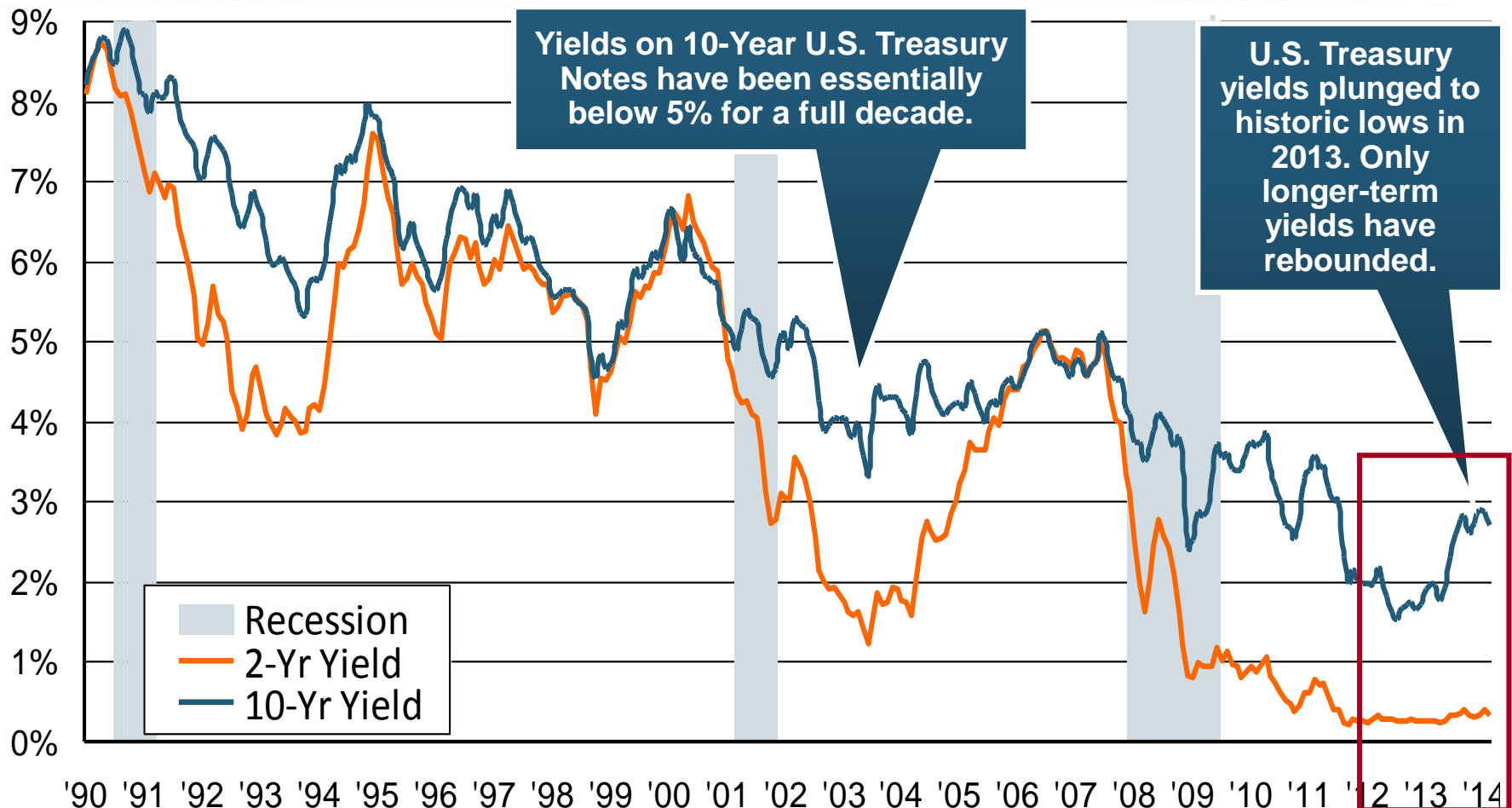
*Monthly, through January 2014.

Note: Recessions indicated by gray shaded columns.

Sources: Federal Reserve Bank at <http://www.federalreserve.gov/releases/h15/data.htm>.

National Bureau of Economic Research (recession dates); Insurance Information Institutes.

U.S. Treasury Security Yields: A Long Downward Trend, 1990–2014*



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.

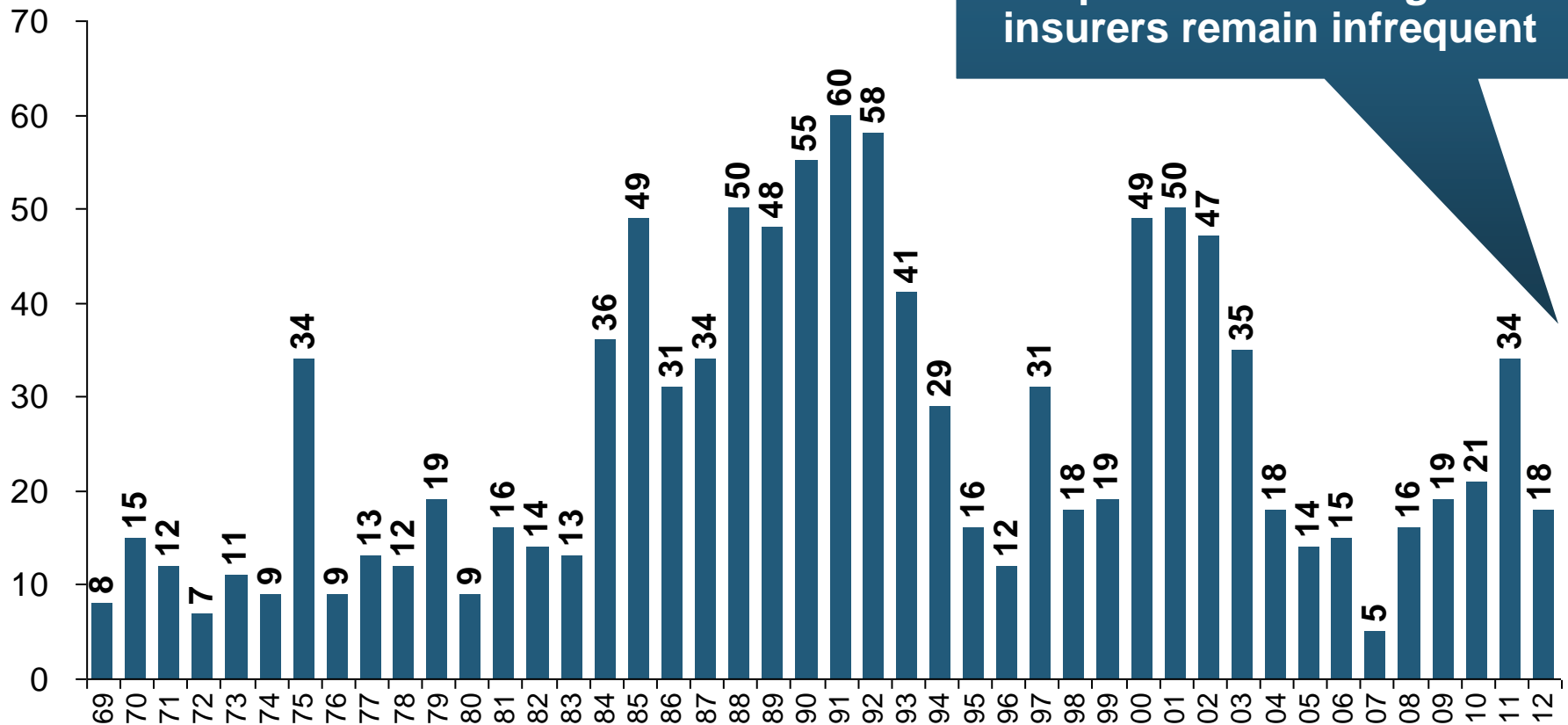
*Monthly, constant maturity, nominal rates, through February 2014.

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

Financial Strength & Underwriting

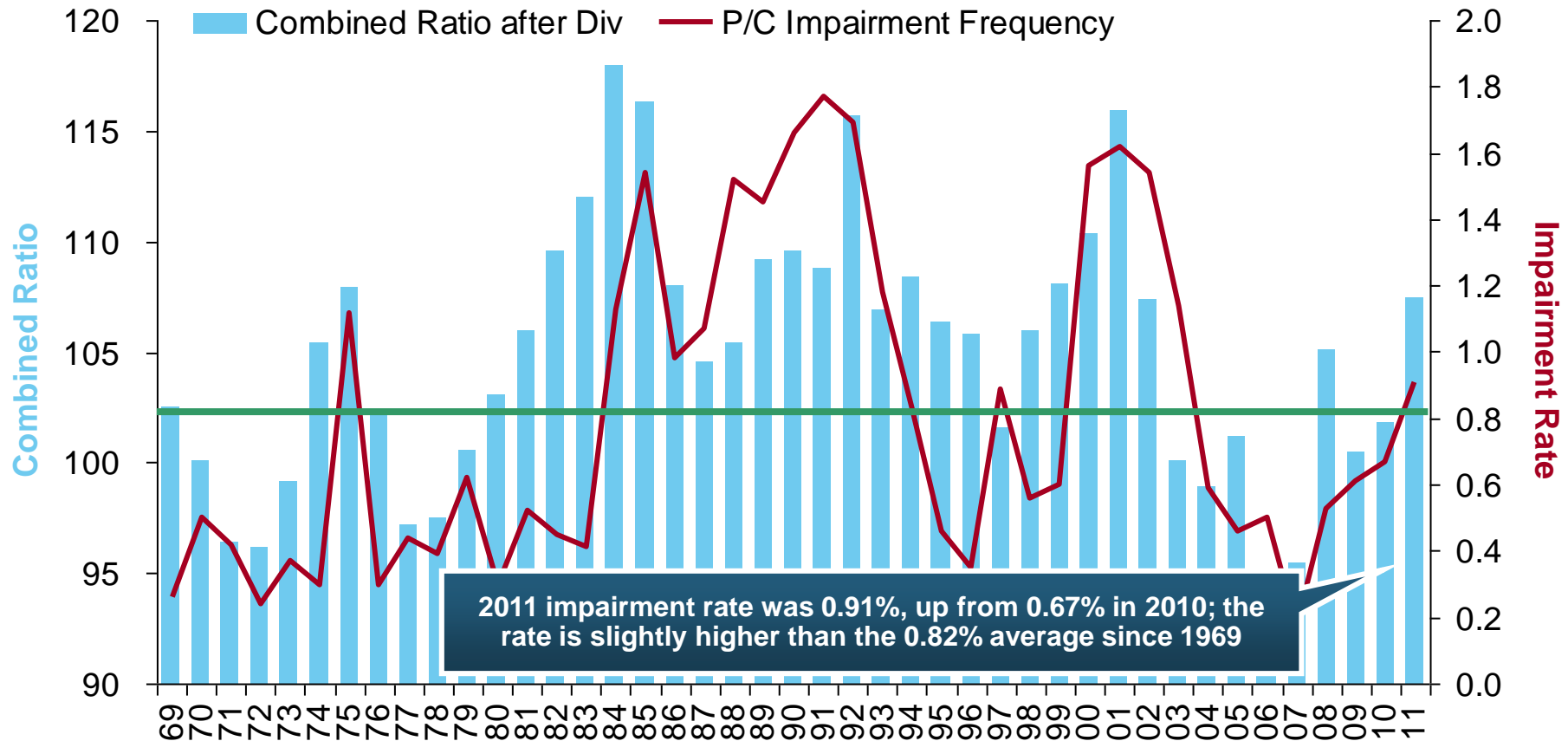
**Cyclical Pattern is P-C Impairment
History is Directly Tied to
Underwriting, Reserving & Pricing**

P/C Insurer Impairments, 1969–2012



The Number of Impairments Varies Significantly Over the P/C Insurance Cycle, With Peaks Occurring Well into Hard Markets

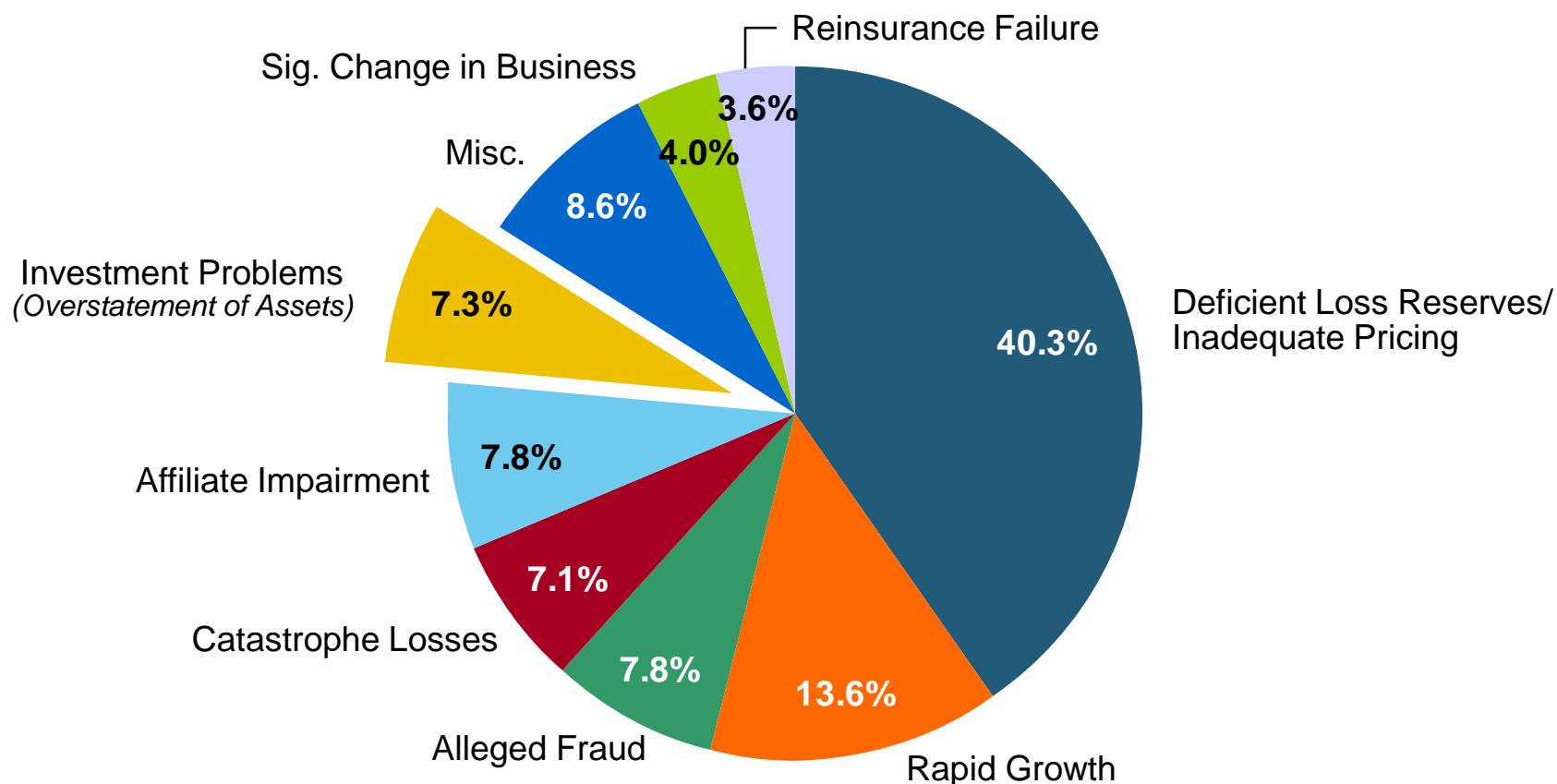
P/C Insurer Impairment Frequency vs. Combined Ratio, 1969-2011



Impairment Rates Are Highly Correlated With Underwriting Performance and Reached Record Lows in 2007; Recent Increase Was Associated Primarily With Mortgage and Financial Guaranty Insurers and Not Representative of the Industry Overall

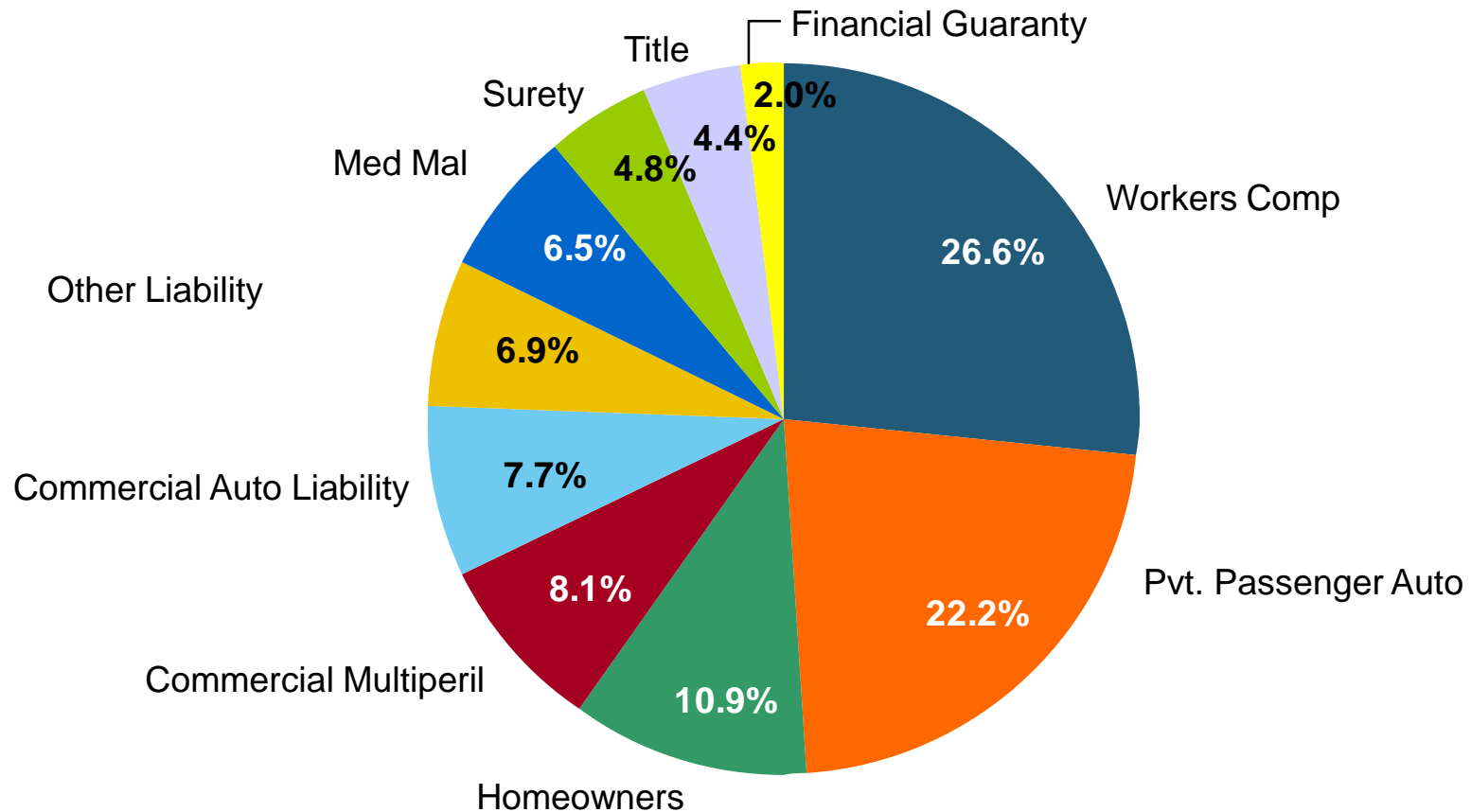
Reasons for US P/C Insurer Impairments, 1969–2010

Historically, Deficient Loss Reserves and Inadequate Pricing Are By Far the Leading Cause of P-C Insurer Impairments. Investment and Catastrophe Losses Play a Much Smaller Role



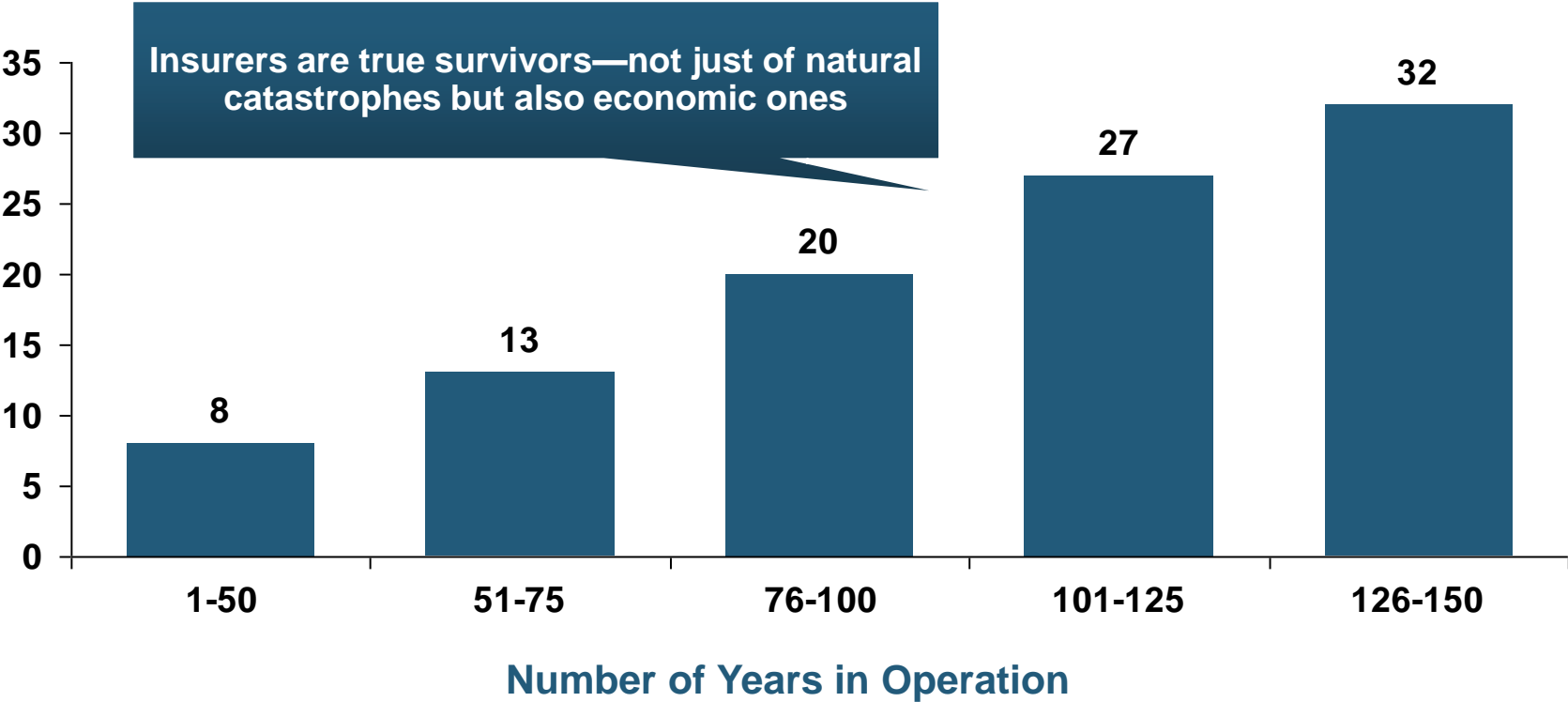
Top 10 Lines of Business for US P/C Impaired Insurers, 2000–2010

Workers Comp and Pvt. Passenger Auto Account for Nearly Half of the Premium Volume of Impaired Insurers Over the Past Decade



Number of Recessions Endured by P/C Insurers, by Number of Years in Operation

Number of Recessions Since 1860



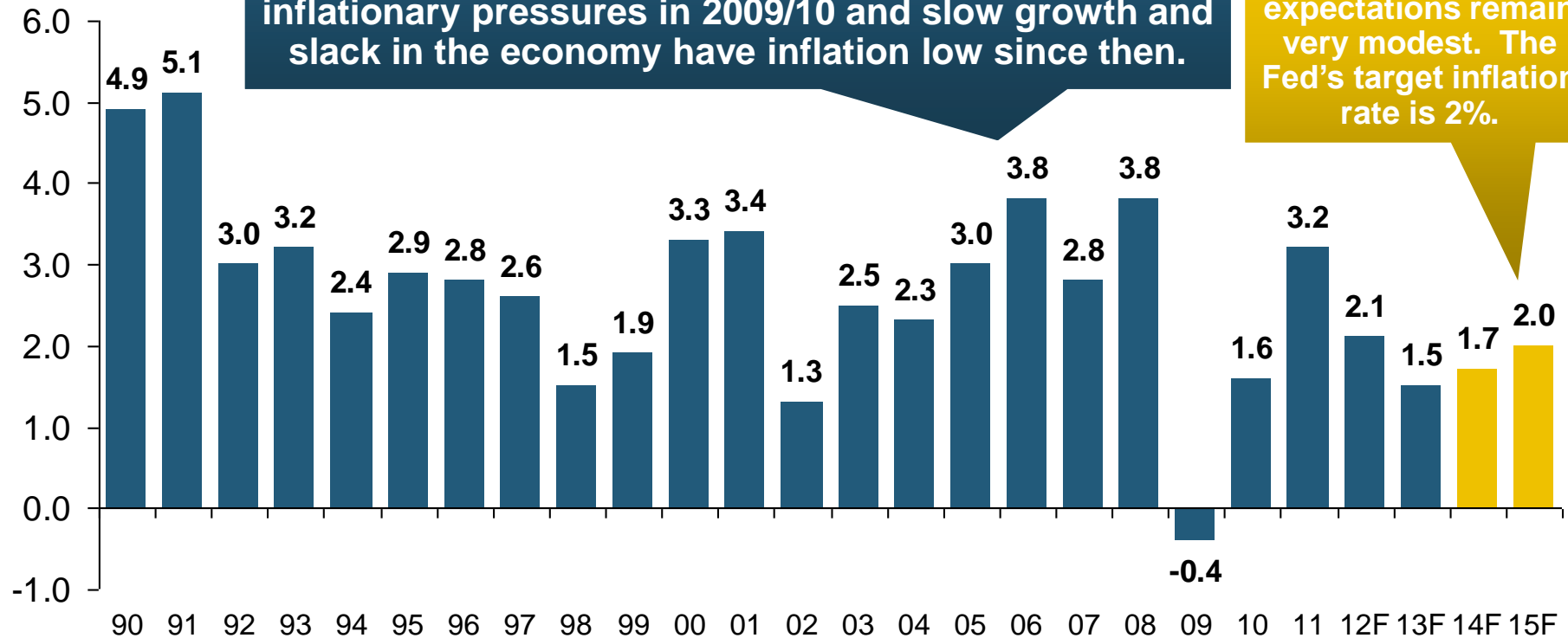
Many US Insurers Are Close to a Century Old or Older

Inflation

**Is it a Threat to Claim Cost
Severities?**

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

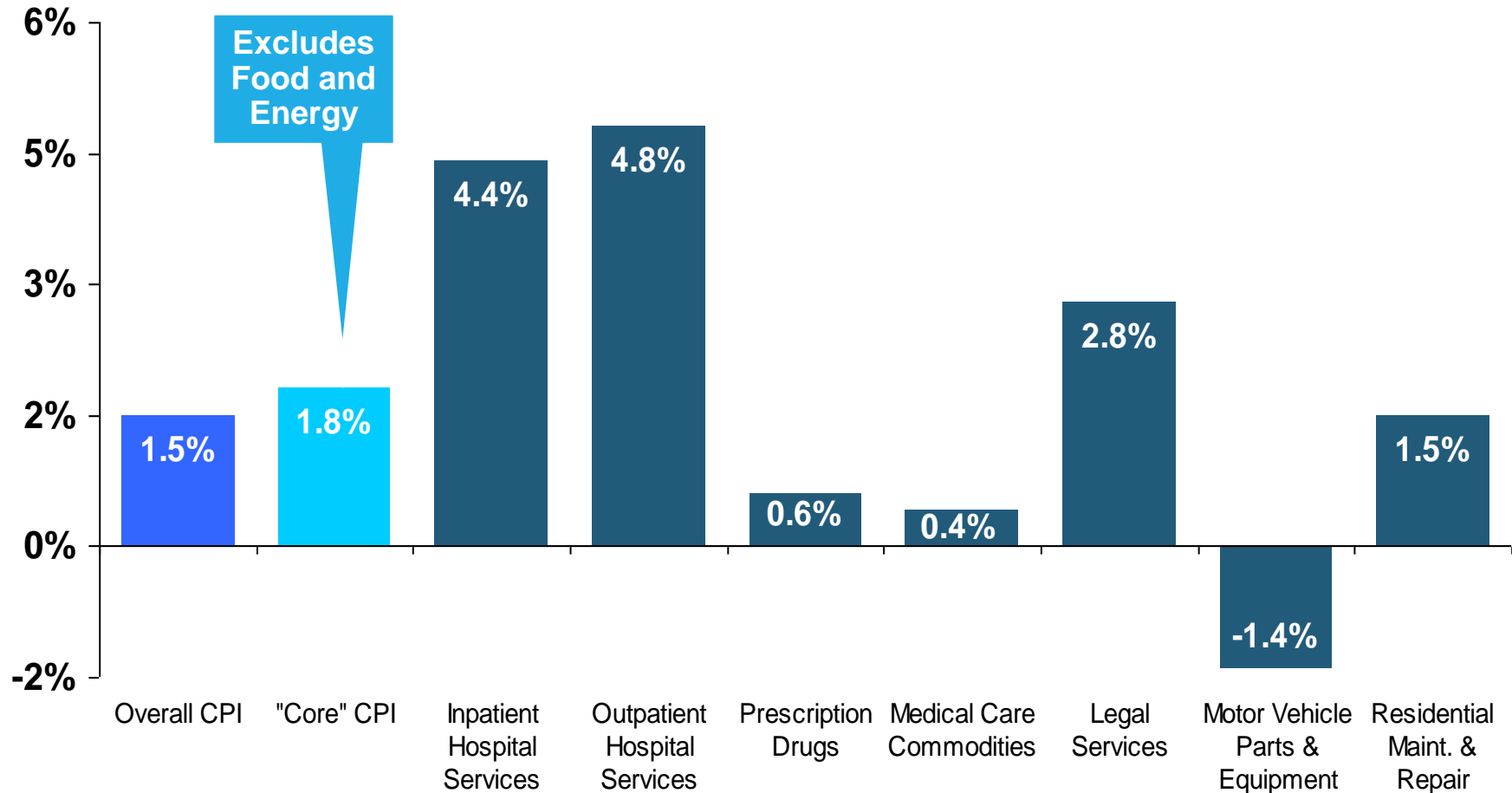
Annual Inflation Rates (%)



The slack in the U.S. economy suggests that inflationary pressures should remain subdued for an extended period of times.

Hospital-Related Personal Insurance Claim Cost Drivers Grow Faster Than CPI Suggests

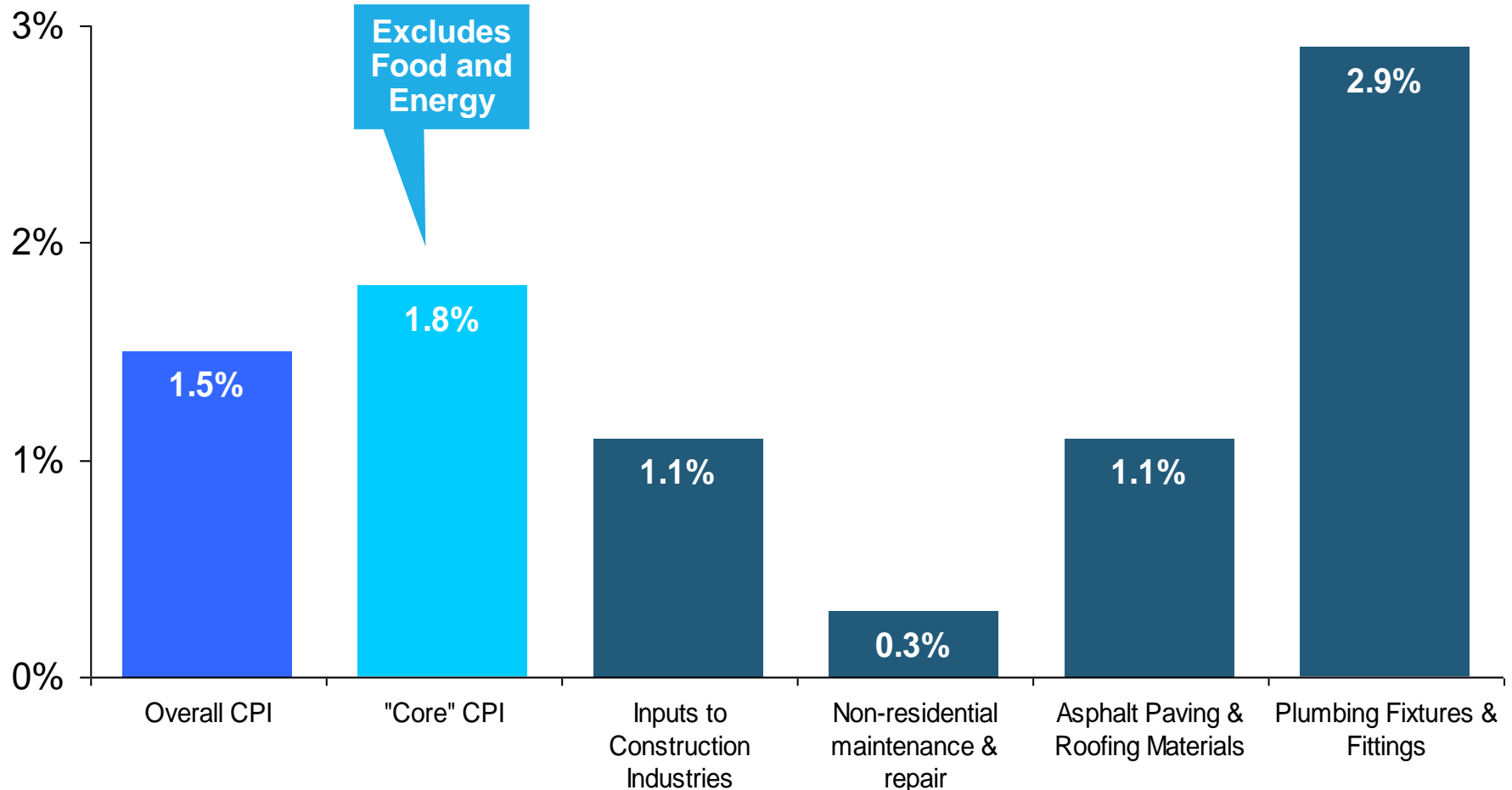
Price Level Change: 2013 vs. 2012



Healthcare costs are a major liability, med pay, and PIP claim cost driver. They are likely to grow faster than the CPI for the next few years, at least

P/C Commercial Property Insurance Claim Cost Drivers Climb at About Rate of CPI

Price Level Change: 2013 vs. 2012



Copper prices spiked and retreated in 2011. In July its price was 33% higher than a year earlier; by November it cost 8% less than in November 2010.

Insurance Information Institute Online:

www.iii.org

*Thank you for your time
and your attention!*

Twitter: twitter.com/bob_hartwig