

Overview and Outlook for the P/C Insurance Industry

Trends, Challenges & Opportunities

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Insurance Information Institute



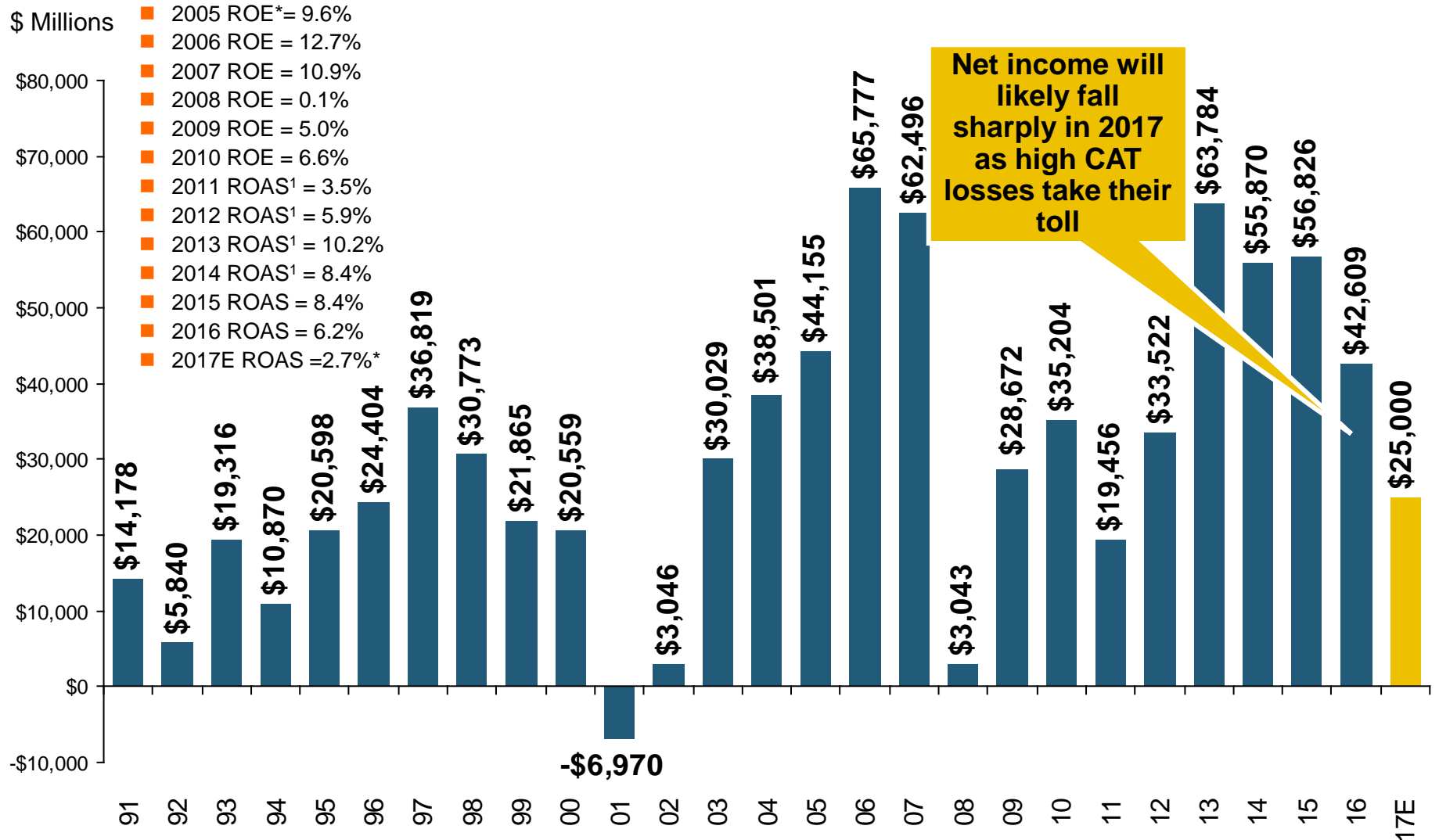
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SOUTH CAROLINA

Darla Moore School of Business

P/C Insurance Financial Update: An Overview and Outlook

Profitability, Growth, Investments

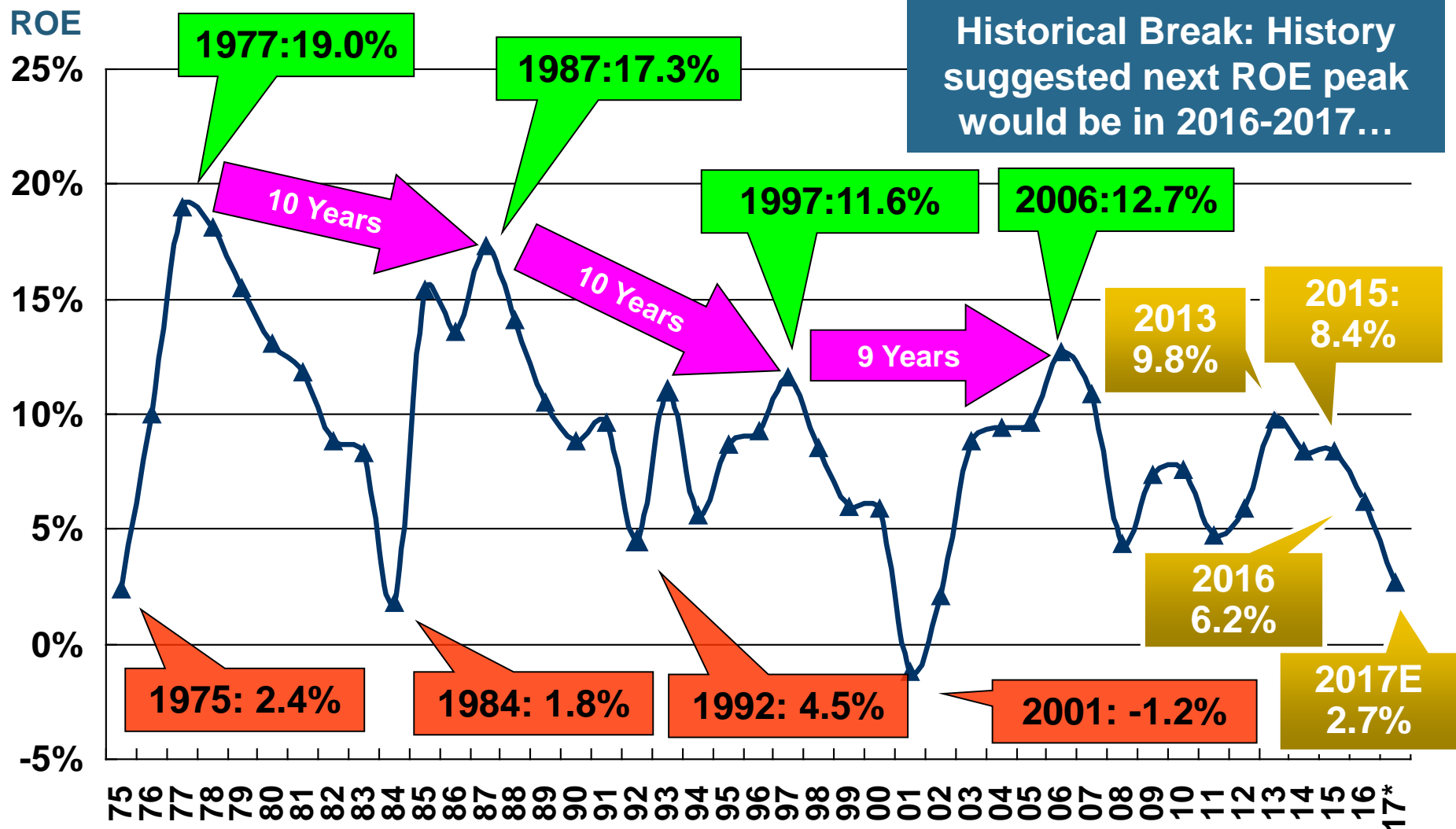
P/C Industry Net Income After Taxes 1991–2017E



*ROE figures are GAAP; ¹Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 8.2% ROAS in 2014, 9.8% ROAS in 2013, 6.2% ROAS in 2012, 4.7% ROAS for 2011, 7.6% for 2010 and 7.4% for 2009; 2016E is annualized figure based actual figure through Q3 of \$31.8B.

Sources: A.M. Best, ISO; USC RUM Center estimate (2017 based on actual NIAT of \$15.5B though Q2 and ROAS of 4.4%).

Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2017E

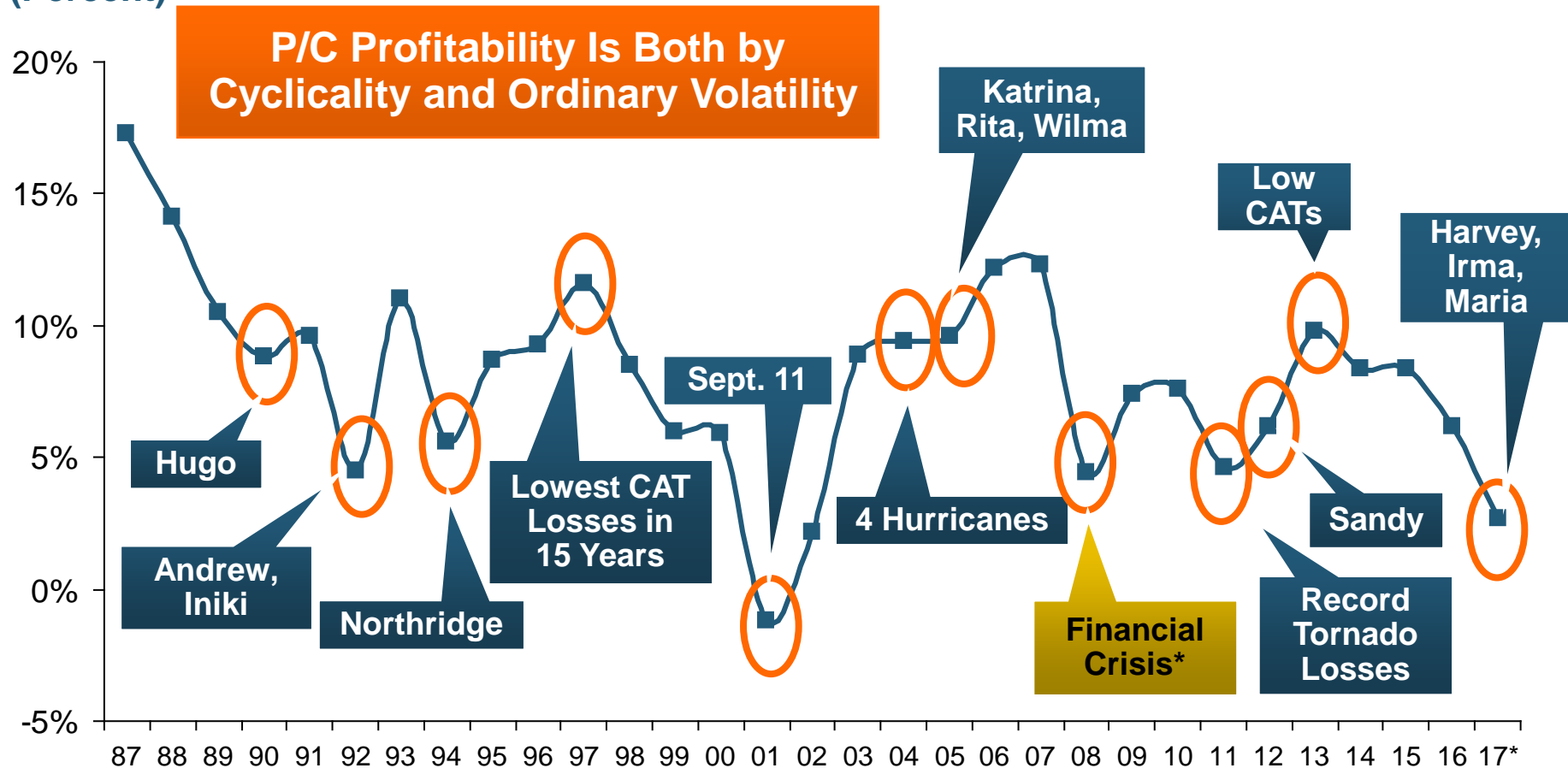


*Est. for 2017 based on actual ROAs of 4.45 through Q2; Profitability = P/C insurer ROEs. 2011-16 figures are estimates based on ROAS data. Note: Data for 2008-2014 exclude mortgage and financial guaranty insurers.

Source: NAIC, ISO, A.M. Best, Conning, USC RUM Center estimates.

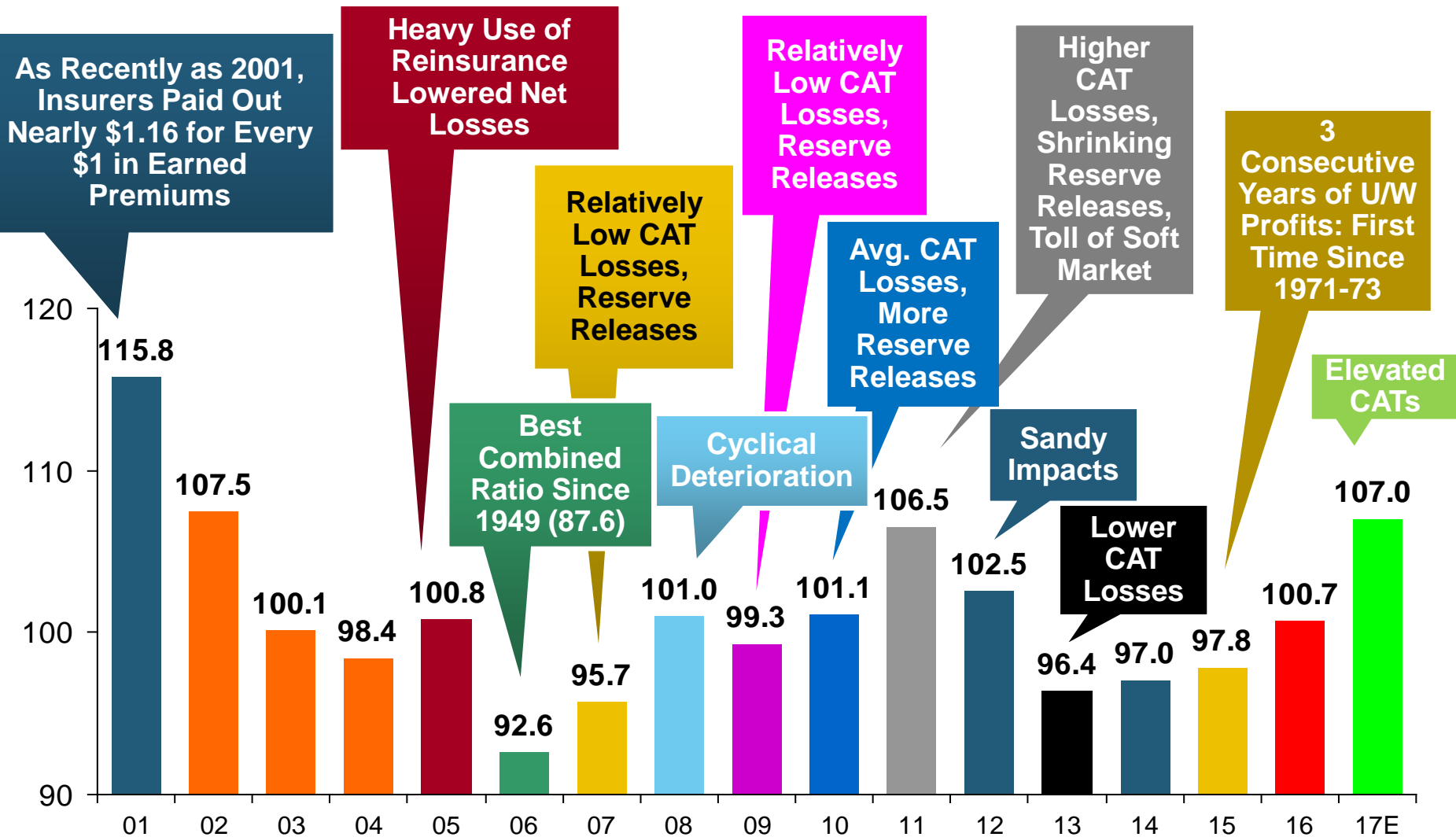
ROE: Property/Casualty Insurance by Major Event, 1987–2017E

(Percent)



*2017 Estimate based on actual ROAS through Q2 of 4.4%.
 Excludes Mortgage & Financial Guarantee in 2008 – 2014.
 Sources: ISO, *Fortune*; USC RUM Center.

P/C Insurance Industry Combined Ratio, 2001–2017E*

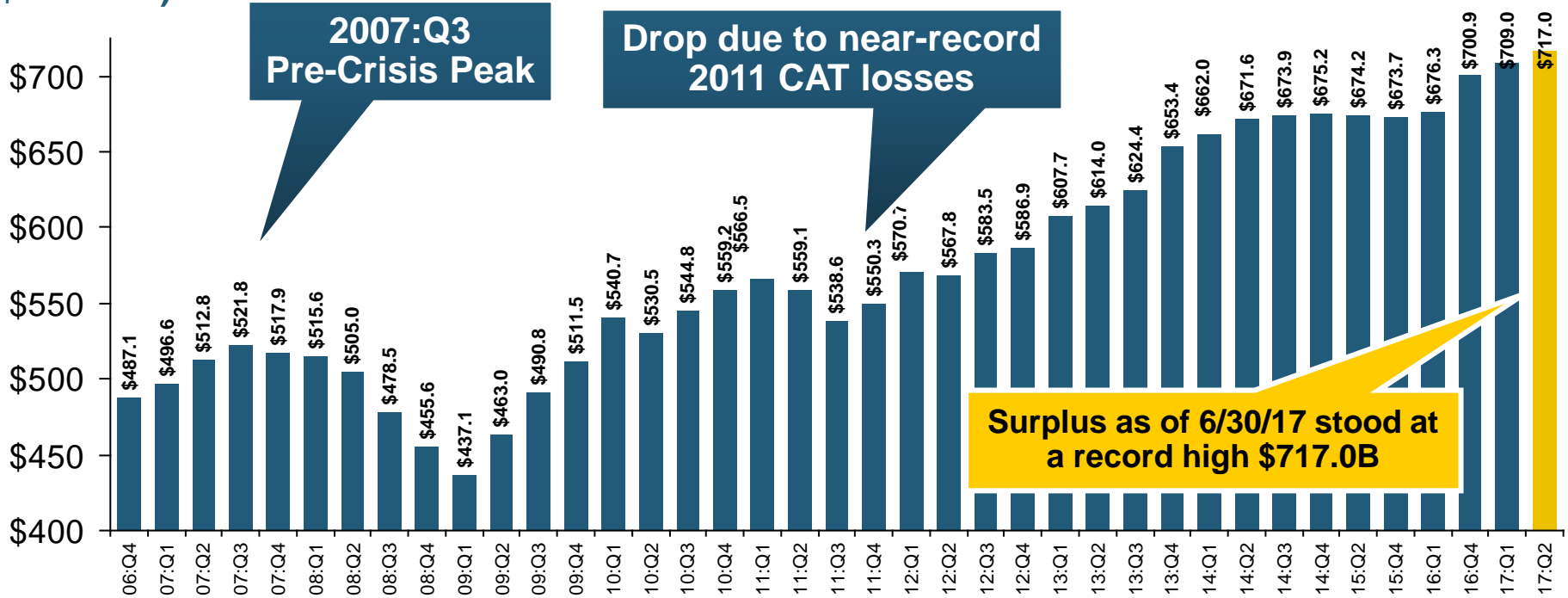


* Excludes Mortgage & Financial Guaranty insurers 2008--2014. Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012:=103.2; 2013: = 96.1; 2014: = 97.0.; 2017 (est.) based on actual 100.7 through Q2.

Sources: A.M. Best, ISO (2014-2015); Figure for 2010-2013 is from A.M. Best P&C Review and Preview, Feb. 16, 2016.

Policyholder Surplus, 2006:Q4–2017:Q2

(\$ Billions)



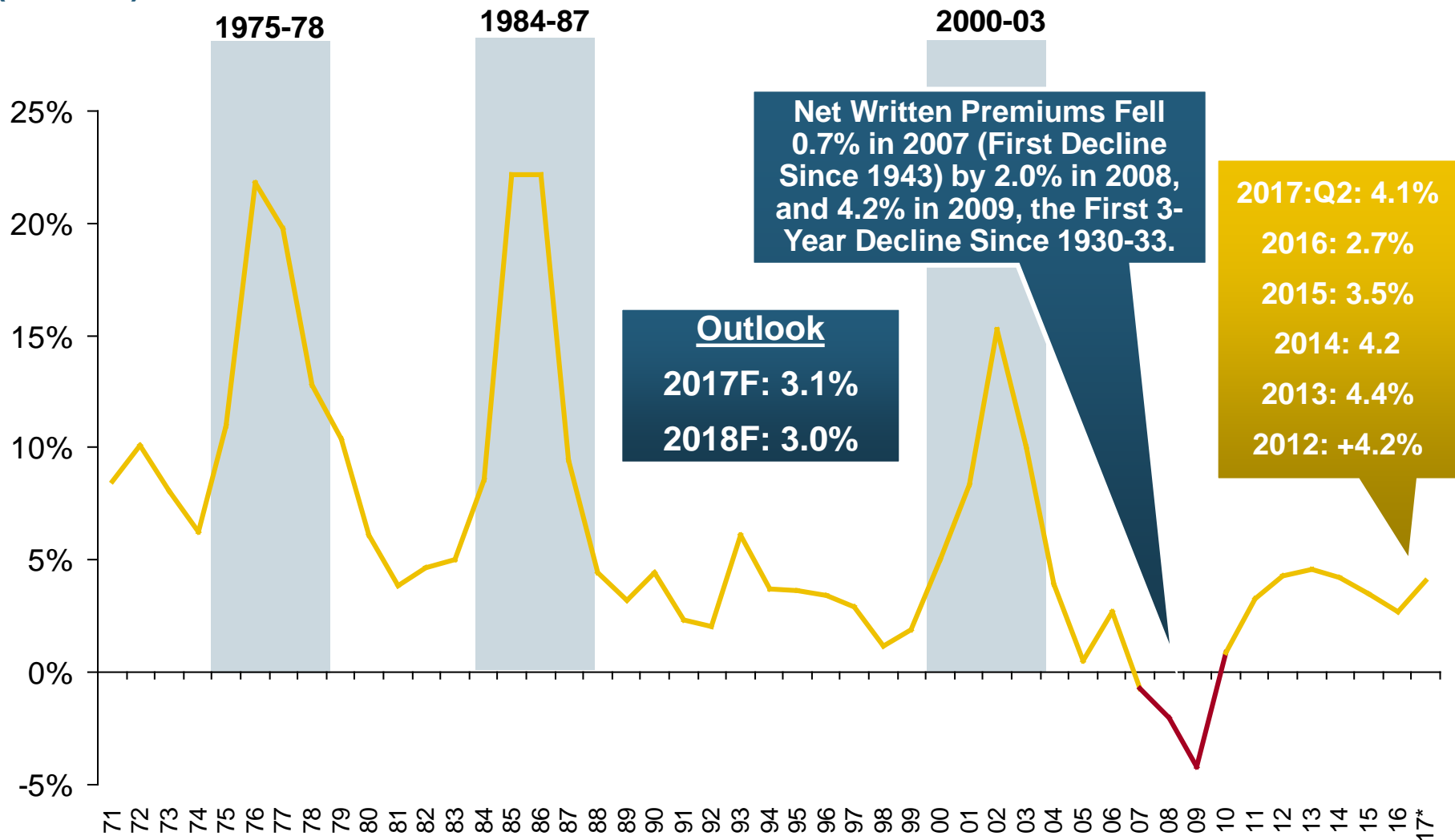
The industry now has \$1 of surplus for every \$0.74 of NPW, close to the strongest claims-paying status in its history.

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 2017 in very strong financial condition.

Net Premium Growth (All P/C Lines): Annual Change, 1971—2017:Q2

(Percent)

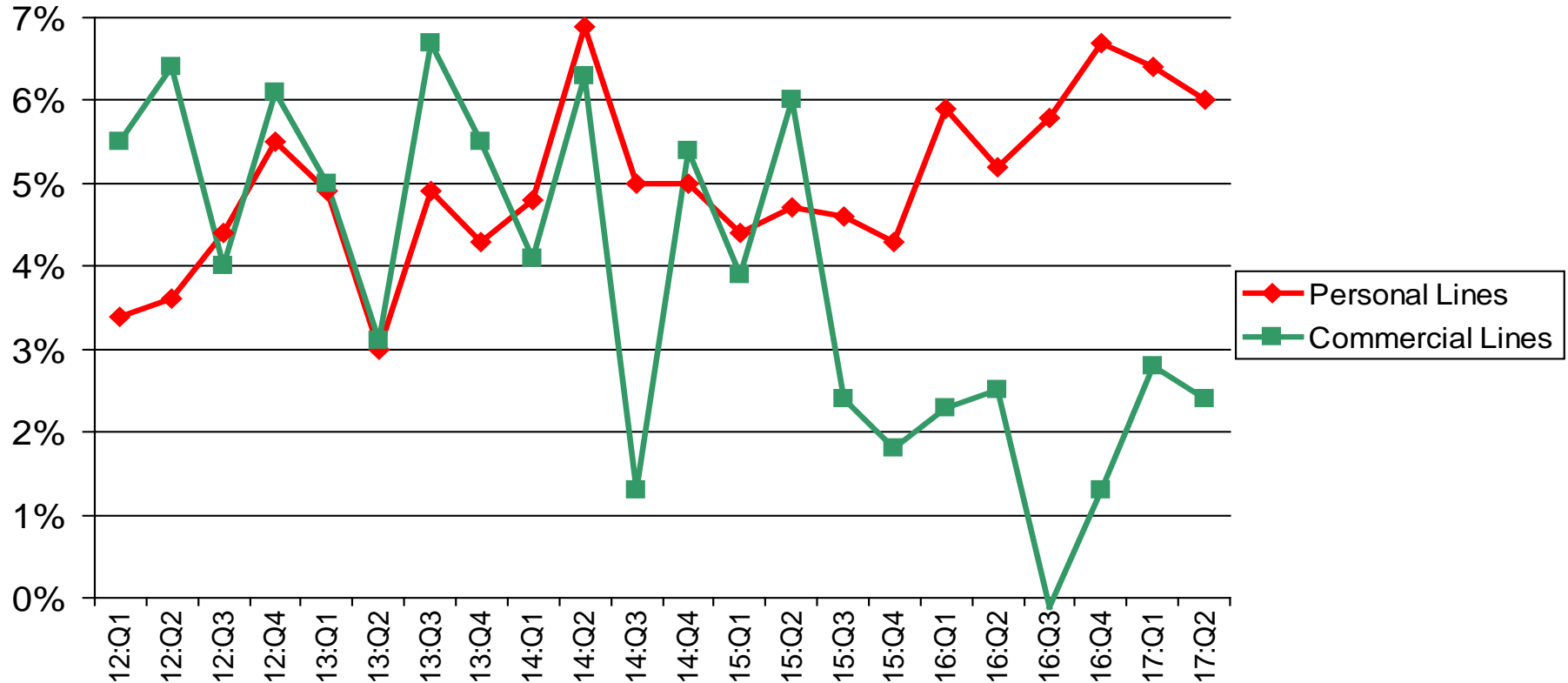


*Q2:2017 over Q2:2016. Shaded areas denote "hard market" periods

Sources: A.M. Best (1971-2013), ISO (2014-16).

Y-o-Y Growth Rates, Direct Premiums Written, Commercial vs. Personal Lines,

2012:Q4 - 2017:Q2



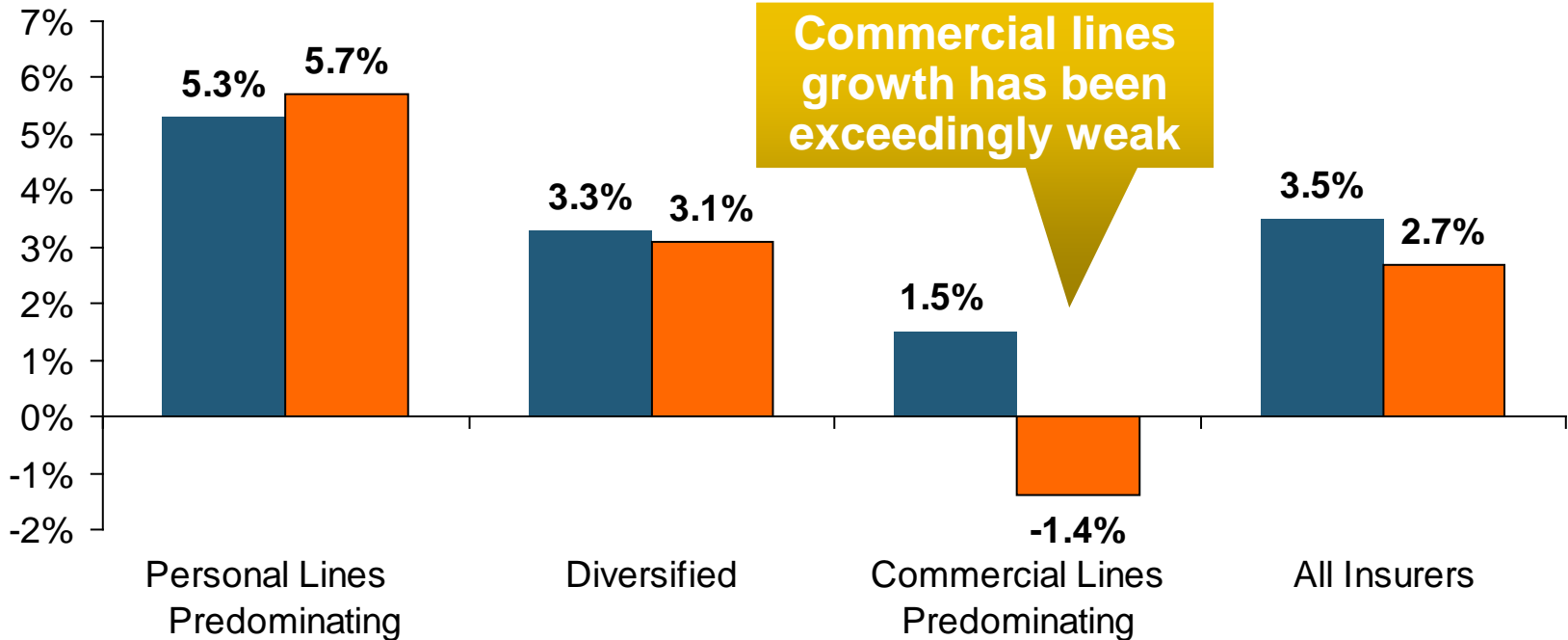
Since 2014, personal lines Direct Premiums Written have generally grown faster than commercial lines DPW, and that growth has been less volatile.

Sources: NAIC, via SNL Financial; ISO; Insurance Information Institute calculations.

2016 Growth in Net Written Premium: Personal vs. Commercial

Annual Change in NWP

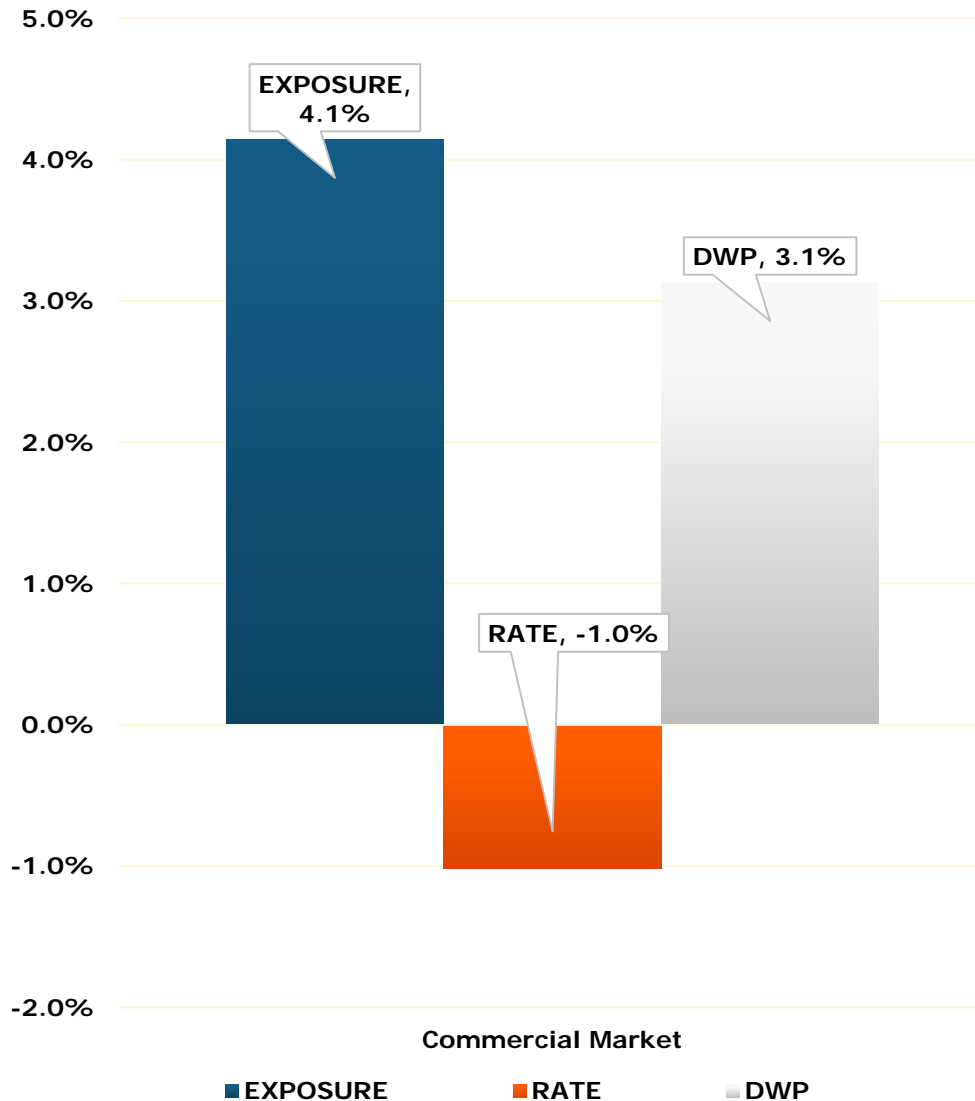
2015 2016



Commercial lines growth has been exceedingly weak

The divergence in growth between personal and commercial lines is large and is expanding rapidly

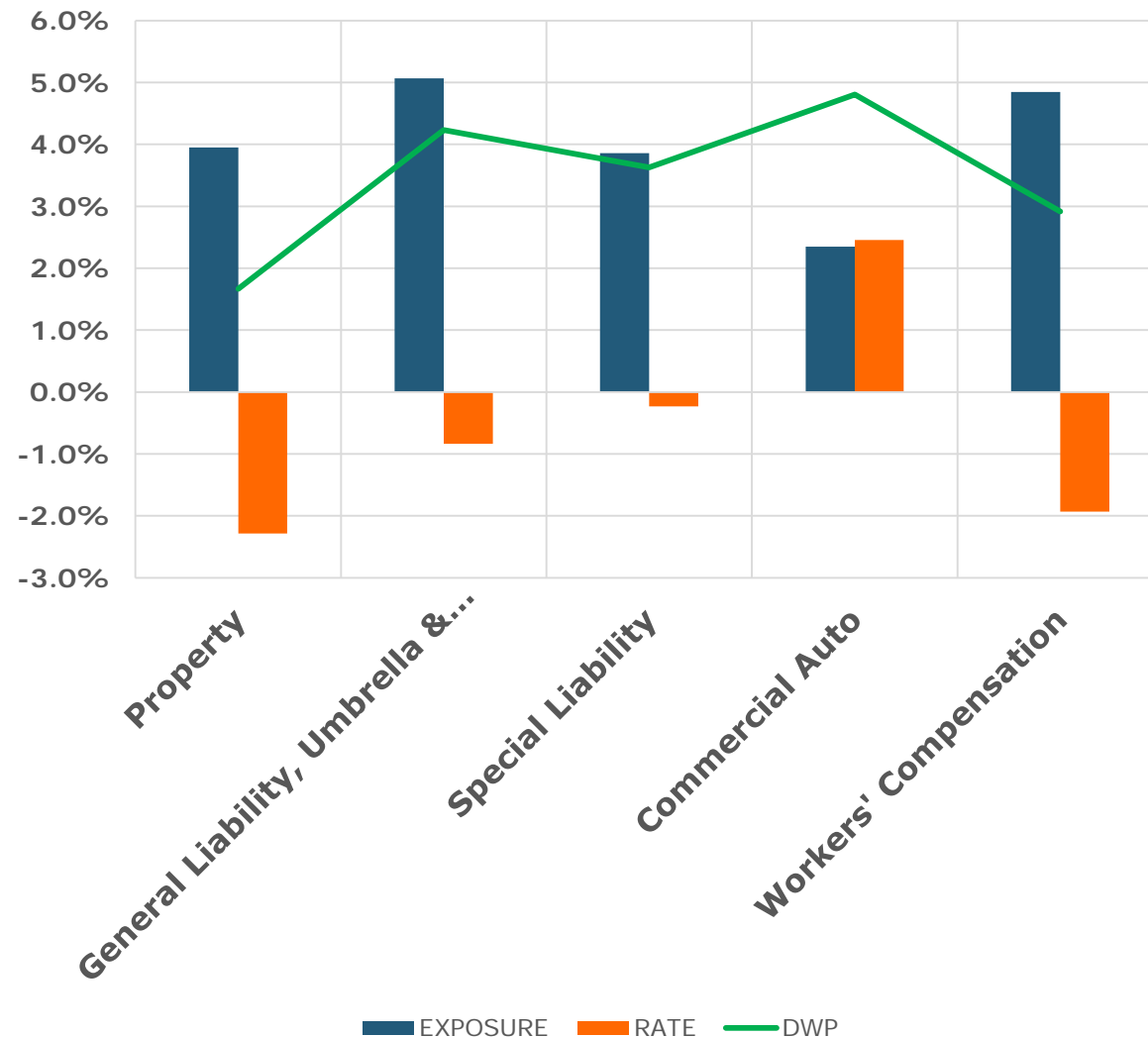
2016: Components of Commercial DWP Growth



- **Direct Written Premium (DWP) in US lines covered by ISO MarketStance grew 3.1 percent in 2016**
- **Soft market conditions counteracted moderate 4.1 percent exposure growth**
- **Anecdotal evidence: insureds spent rate reductions on new/broader coverages (CIAB, 2017).**



2016 Commercial Market Growth by Coverage



- Commercial auto rates increased as carriers reacted to ongoing challenges
- Property, Workers' Compensation under most severe rate pressures
- Umbrella, excess, specialty lines liability growth may have reflected trading price for quantity (i.e. demand elasticity)

INVESTMENTS: THE NEW REALITY

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

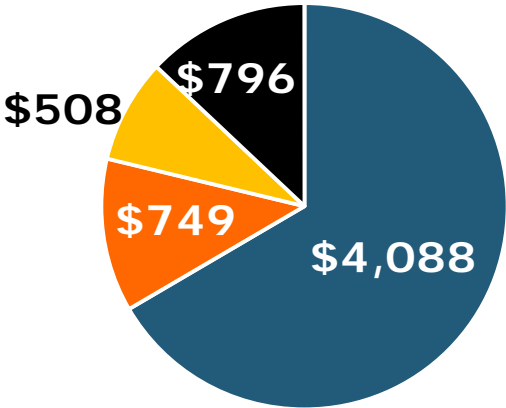
***The “Trump Bump” Has Lifted
Stock Markets and Interest Rates***

Will the Gains Help Insurers?

Insurers Are Major Investors, 2016*

Categories of Investments (\$billions)

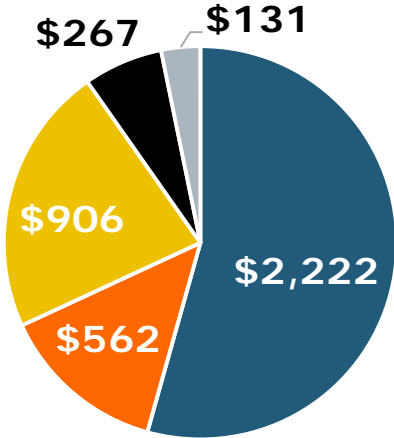
Total invested assets: \$6.1 trillion*



- Bonds
- Stock
- Mortgages & Real Estate
- Other

Categories of Bonds (\$billions)

22% of corporate bonds outstanding
15% of municipal bonds outstanding

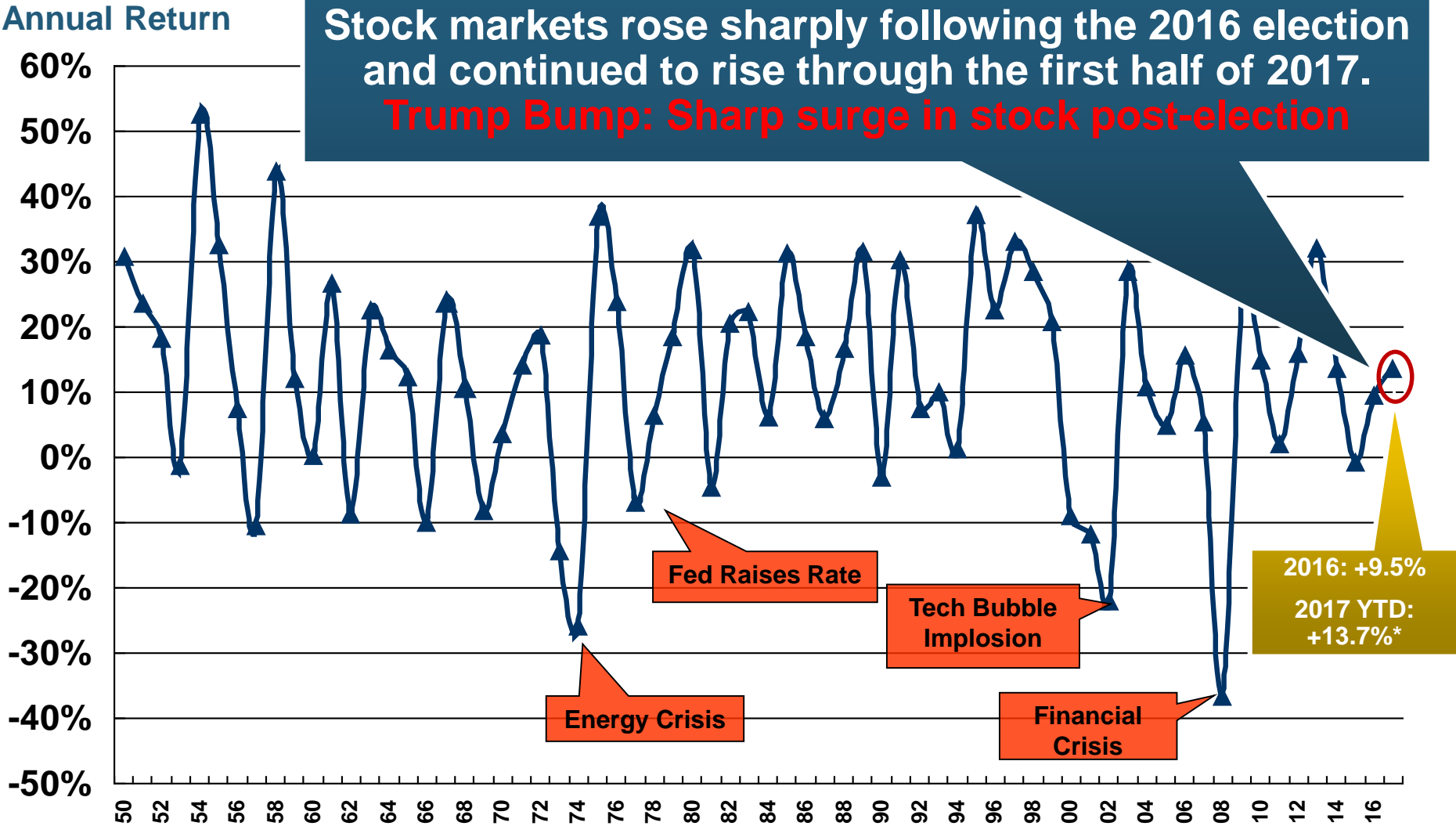


- Corporates
- Munis
- Mortgage & Asset-Backed
- US Gov't
- Other

*Includes affiliated and unaffiliated investments. All segments of the insurance industry.
Sources: NAIC (the Center for Insurance Policy and Research, August 24, 2017) via SNL Financial; I.I.I.

S&P 500 Index Returns, 1950 – 2017*

Stock markets rose sharply following the 2016 election and continued to rise through the first half of 2017.
Trump Bump: Sharp surge in stock post-election

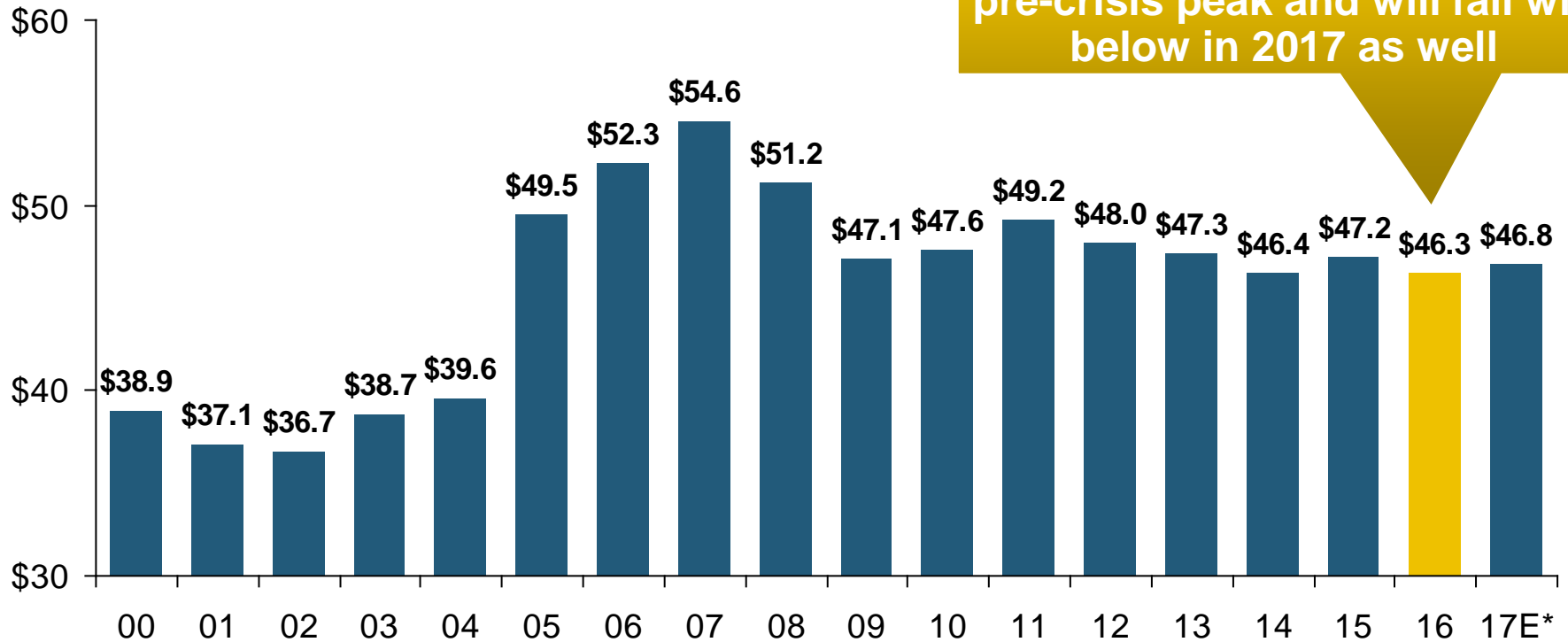


*Through Oct. 9, 2017.

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

Property/Casualty Insurance Industry Investment Income: 2000–2017E*

(\$ Billions)



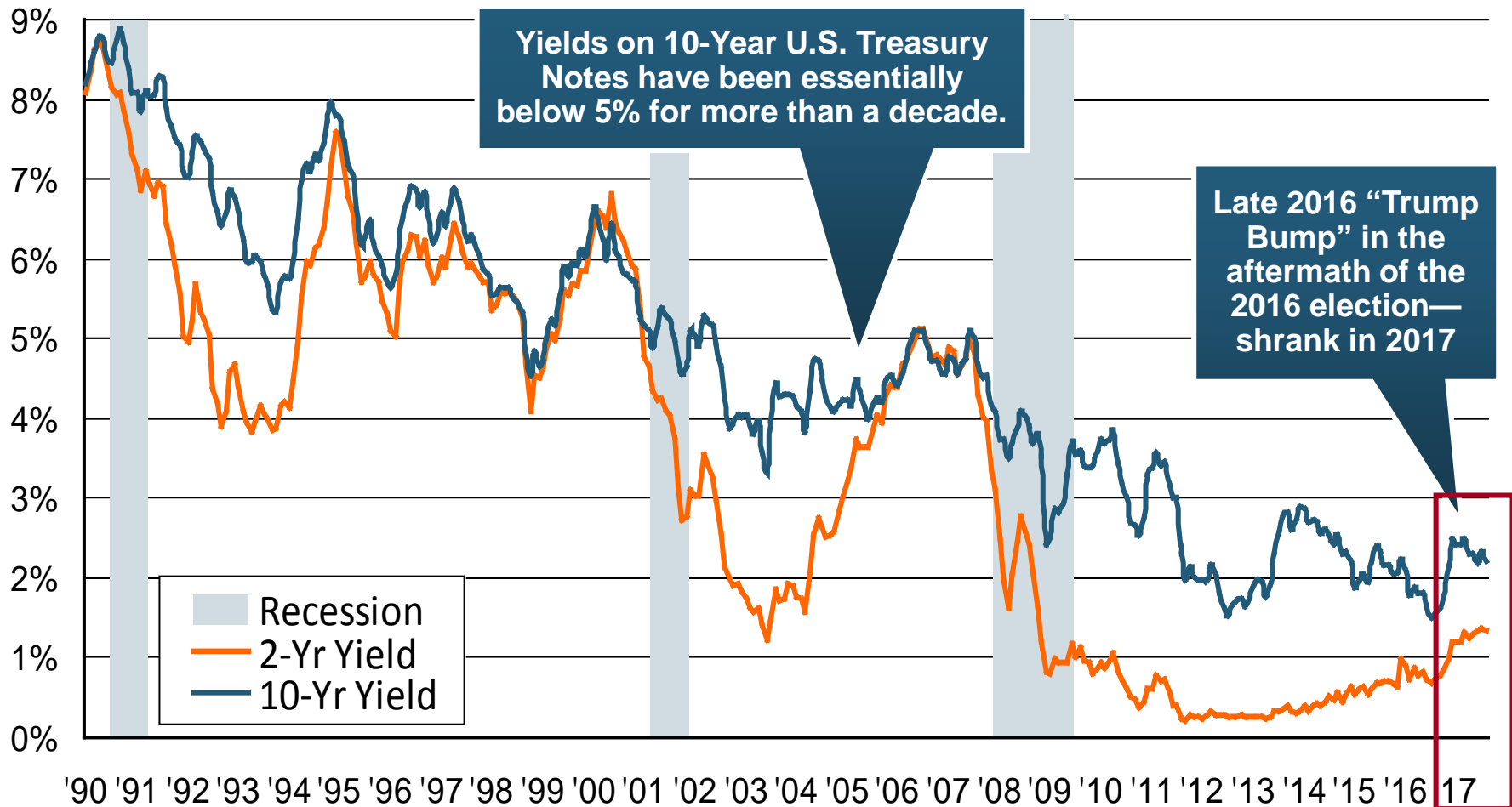
Investment earnings in 2016 were still 15% below their 2007 pre-crisis peak and will fall below in 2017 as well

Due to persistently low interest rates, investment income fell in 2012, 2013 and 2014 but showed a small (1.7%) increase in 2015—though 2016 experienced another decline.

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

*2017 estimate based on annualized \$23.4B actual figure for 1st Half 2017.

U.S. Treasury Security Yields: A Long Downward Trend, 1990–2017*



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 August 2017.

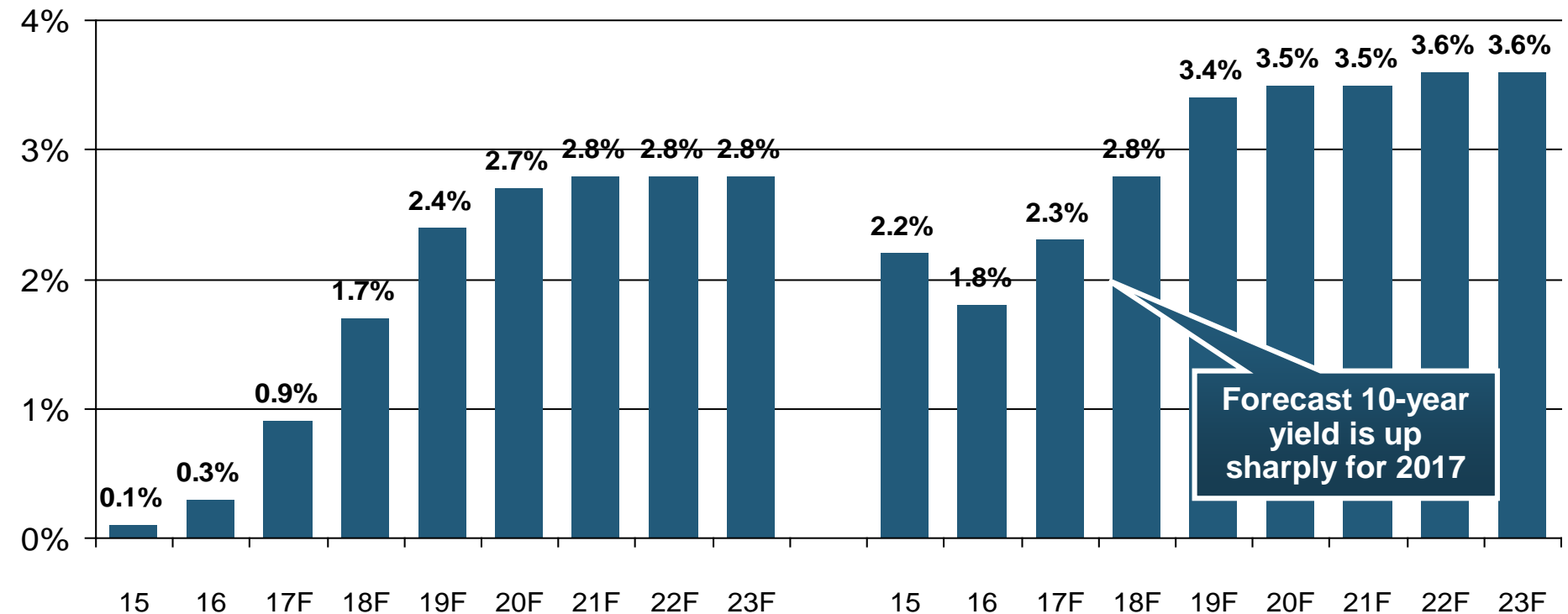
Sources: Federal Reserve Bank at <http://www.federalreserve.gov/releases/h15/data.htm>. National Bureau of Economic Research (recession dates); Insurance Information Institute.

Interest Rate Forecasts: 2017F – 2023F

Yield (%)

3-Month Treasury

10-Year Treasury

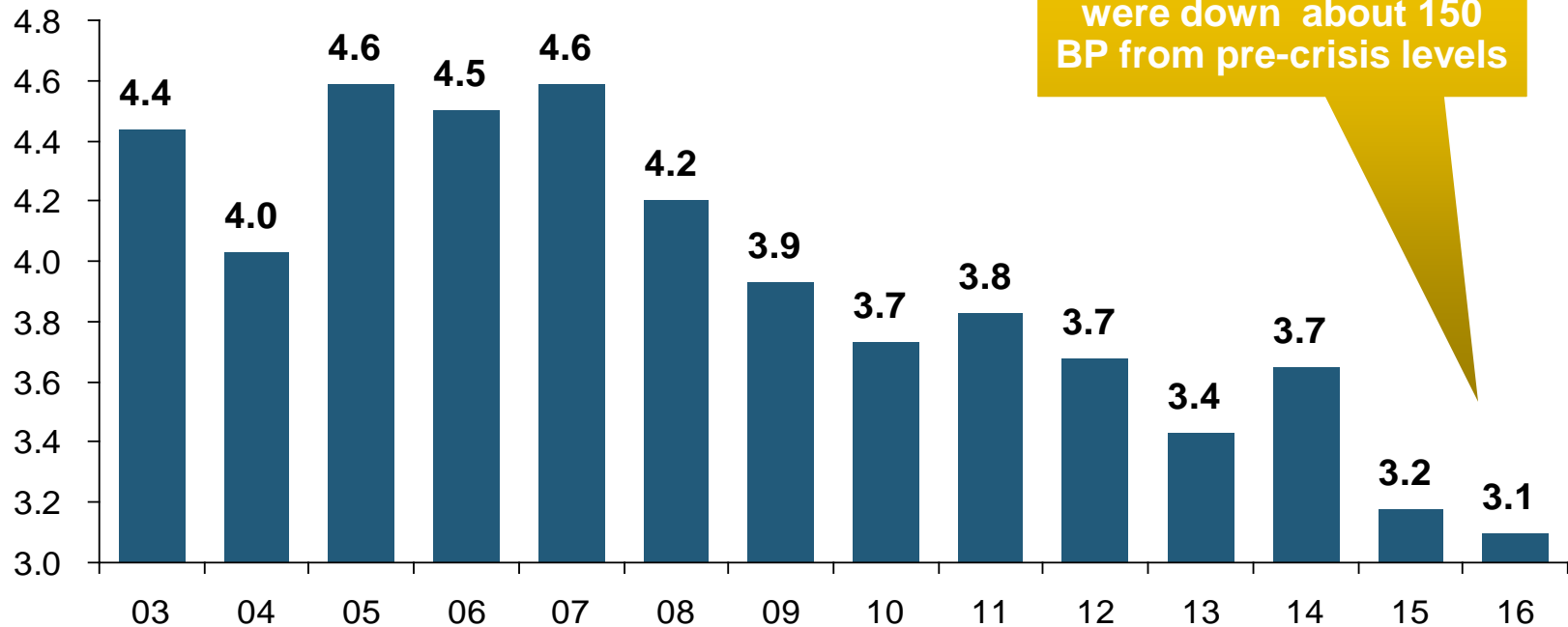


A full normalization of interest rates is unlikely until the early/mid-2020s, more than a decade after the onset of the financial crisis.

Sources: Blue Chip Economic Indicators (10/17 for 2017 and 2018; for 2019-2021 10/17 issue); Insurance Info. Institute.

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

(Percent)



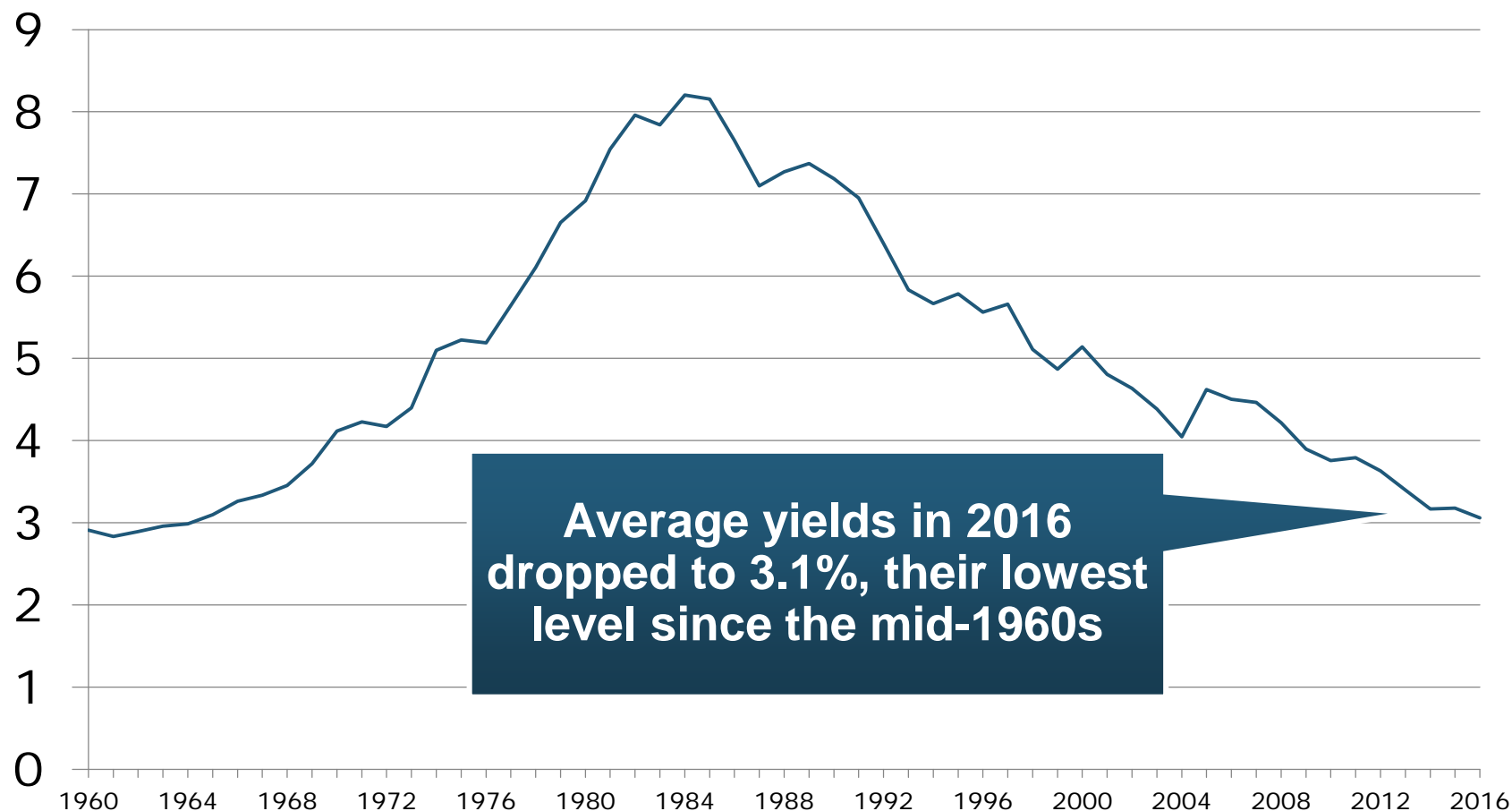
The yield on invested assets remains low relative to pre-crisis yields. Fed rate increases beginning in late 2015 have pushed up some yields, albeit quite modestly.



P/C Insurer Investment Yields: Lowest in Half a Century

Yield on average cash and investment assets, %

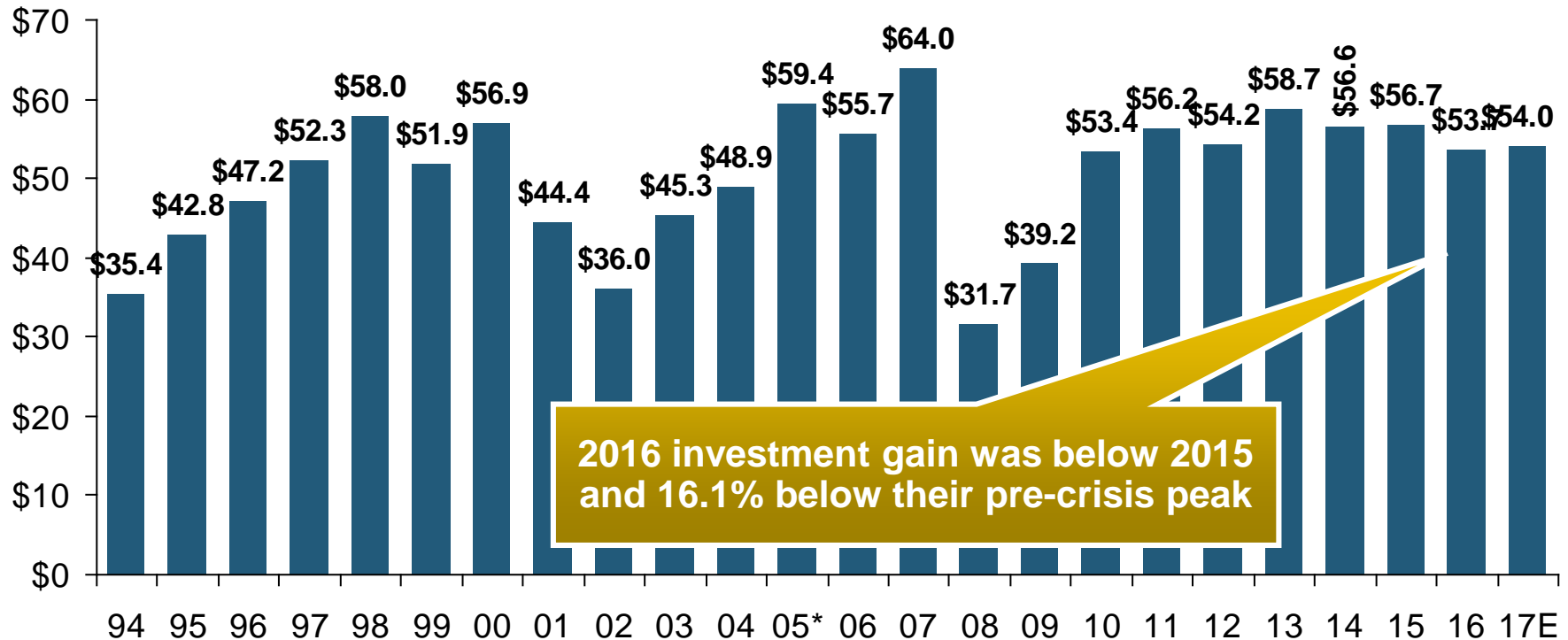
% Change



**Average yields in 2016
dropped to 3.1%, their lowest
level since the mid-1960s**

Property/Casualty Insurance Industry Investment Gain: 1994–2017E¹

(\$ Billions)



Total Investment Gains Were Down in 2016 as Both Investment Income and Realized Capital Gains Declined

¹ Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.

* 2017E figure based on 1st half actual of \$27.0B. 2005 figure includes special one-time dividend of \$3.2B;

Sources: ISO, SNL; Insurance Information Institute.

Insured Catastrophe Losses

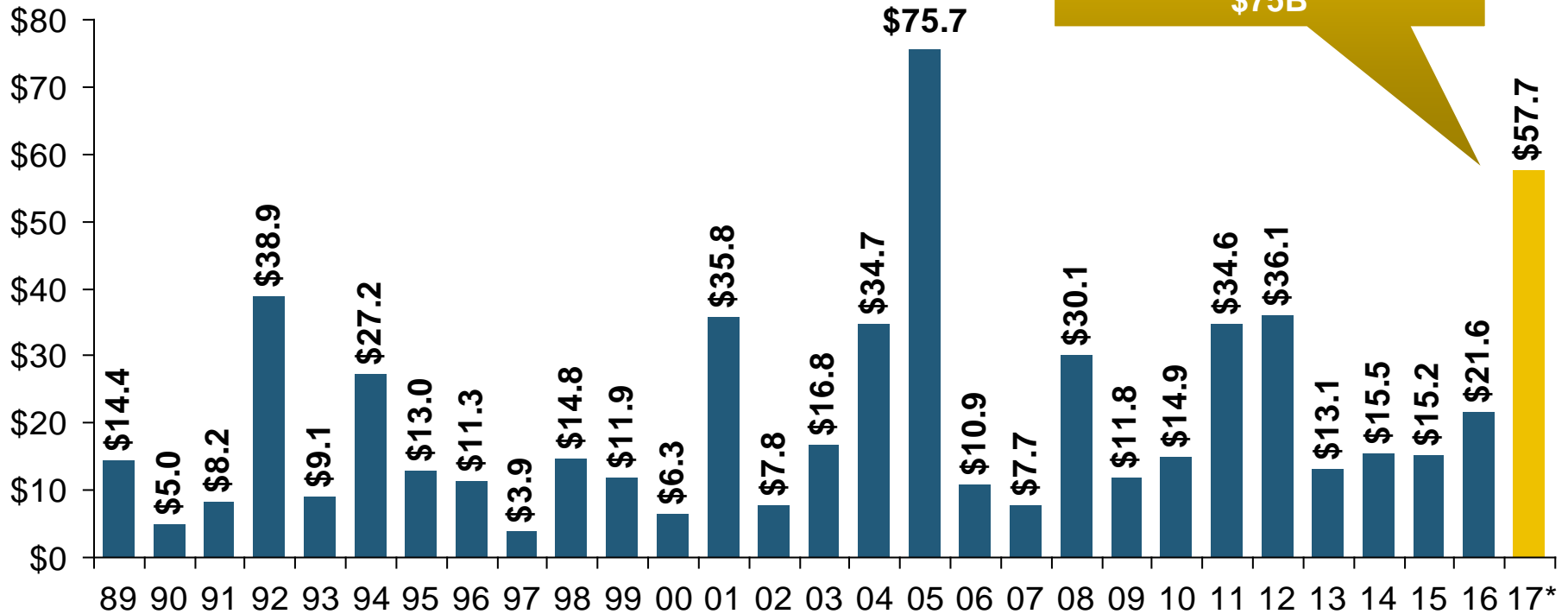
**2017 Will Become One of the Costliest
Years Ever for US Insurers**

***Hurricanes Harvey and Irma Exact
a Big Toll***

U.S. Insured Catastrophe Losses, 1989 – 2017E

2017 is likely to become the second most costly year ever for insured CAT losses, behind only 2005. Maria losses in PR could push this figure beyond \$75B

(\$ Billions, \$ 2015)

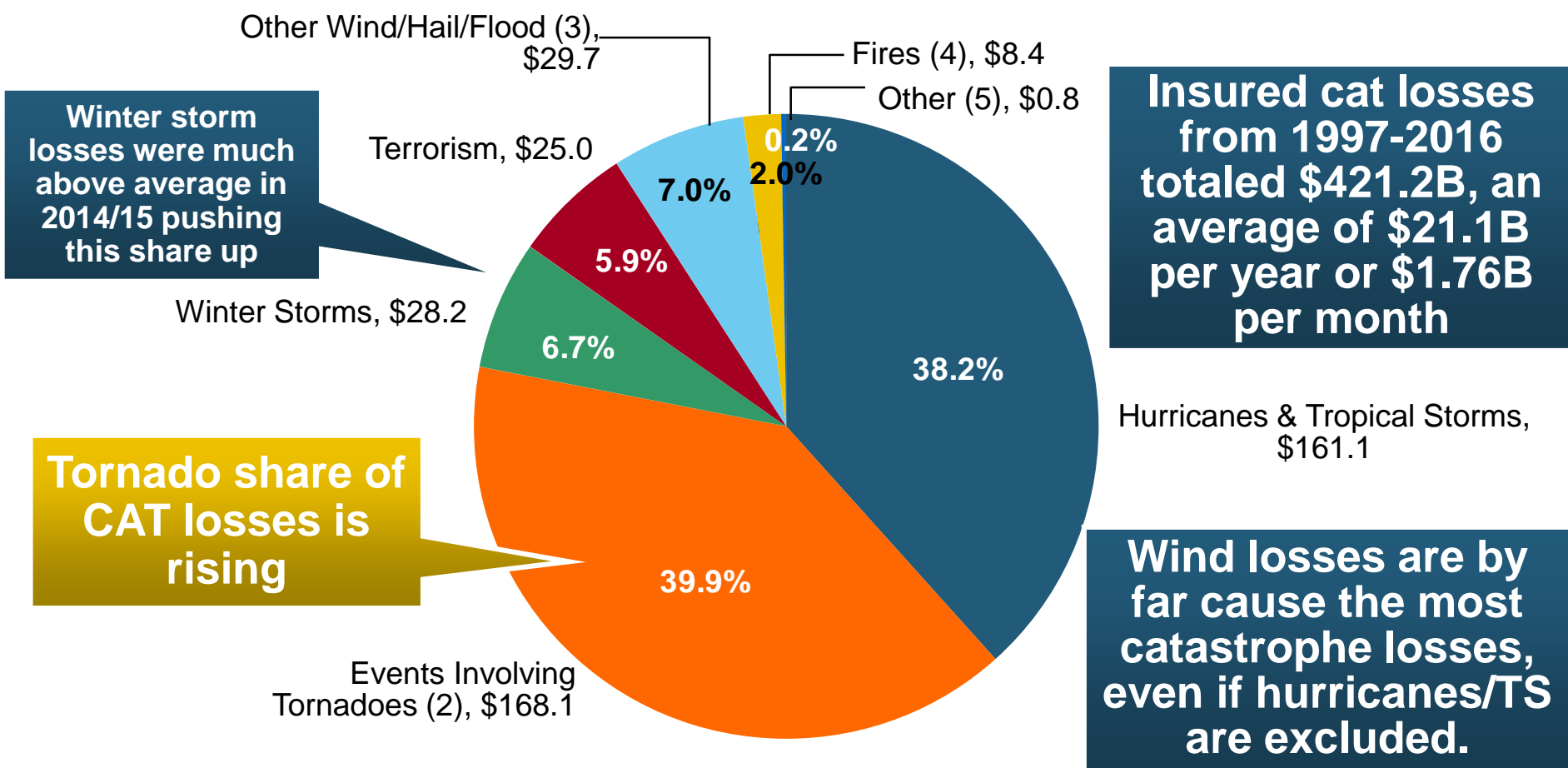


*Includes PCS H1 insured losses of \$17.7B, estimated Hurricane Harvey and Irma insured losses of \$20B and \$18B, respectively. Stated in 2017 dollars. Excludes NFIP losses.

Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01 (\$25.9B 2011 dollars). Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B (\$15.6B in 2011 dollars.)

Sources: Property Claims Service/ISO; Insurance Information Institute.

Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1997–2016¹



Winter storm losses were much above average in 2014/15 pushing this share up

Insured cat losses from 1997-2016 totaled \$421.2B, an average of \$21.1B per year or \$1.76B per month

Tornado share of CAT losses is rising

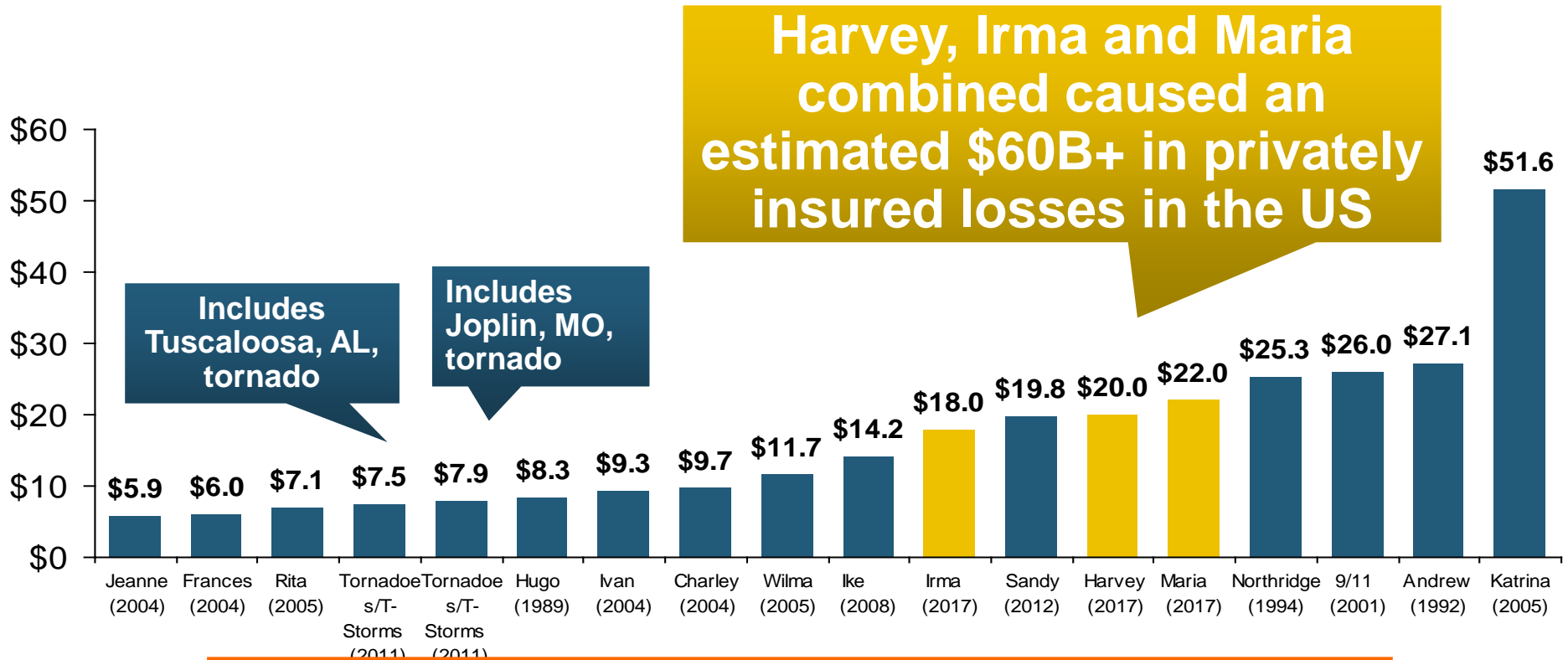
Wind losses are by far cause the most catastrophe losses, even if hurricanes/TS are excluded.

1. Catastrophes are defined as events causing direct insured losses to property of \$25 million or more in 2016 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 18 Most Costly Disasters in U.S. History—Katrina Still Ranks #1

(Insured Losses, 2017 Dollars, \$ Billions)*



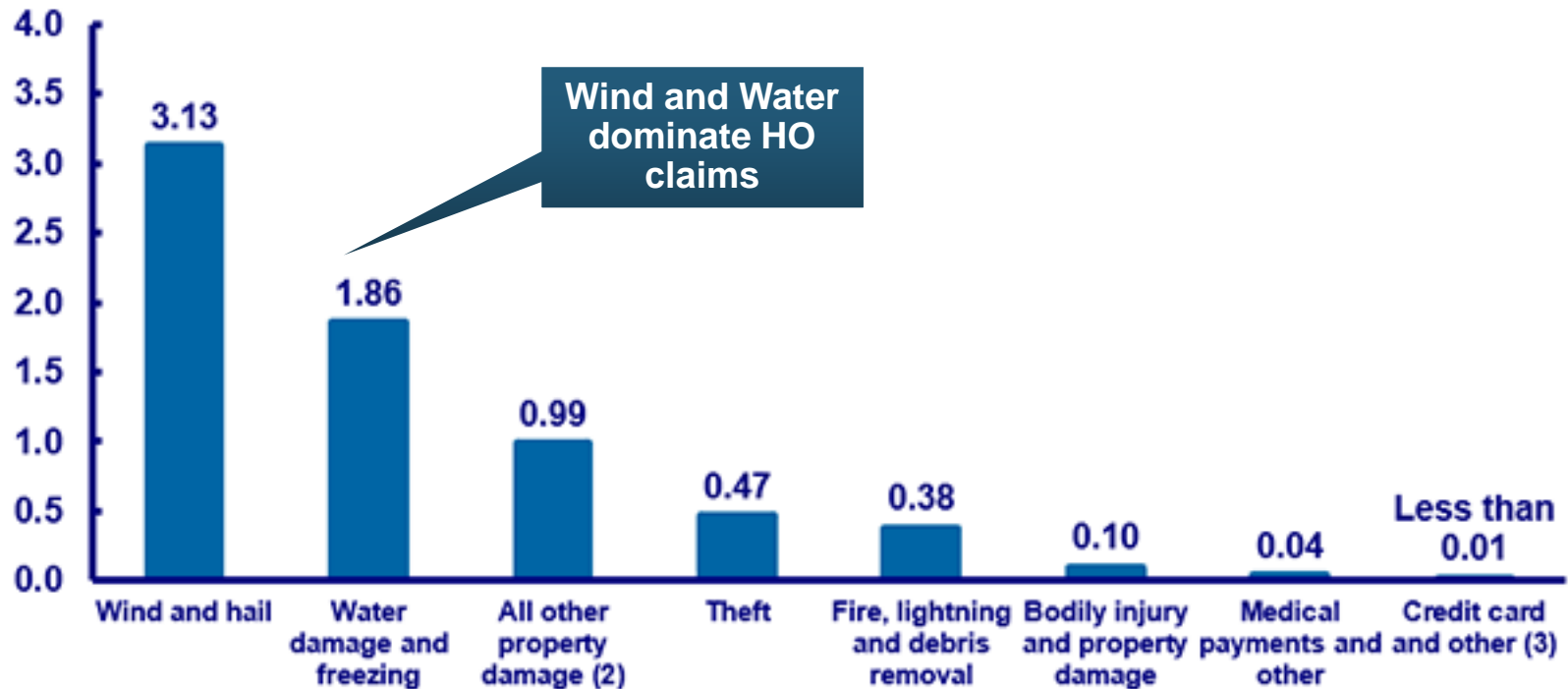
15 of the 18 Most Expensive Insurance Events in US History Have Occurred Since 2004—3 of those in 2017

*Adjusted to June 2017 values.

Sources: PCS, RMS, Karen Clark & Co; USC Center for Risk and Uncertainty Management adjustments to 2017 dollars using the CPI.

Homeowners Insurance Losses Ranked by Frequency: 2010 – 2014

Claims per 100 insured house years



(1) Claims per 100 house years (policies). For homeowners multiple peril policies (HO-2, HO-3, HO-5 and HE-7 for North Carolina). Excludes tenants and condominium owners policies.

Excludes Arkansas and Texas.

(2) Includes vandalism and malicious mischief.

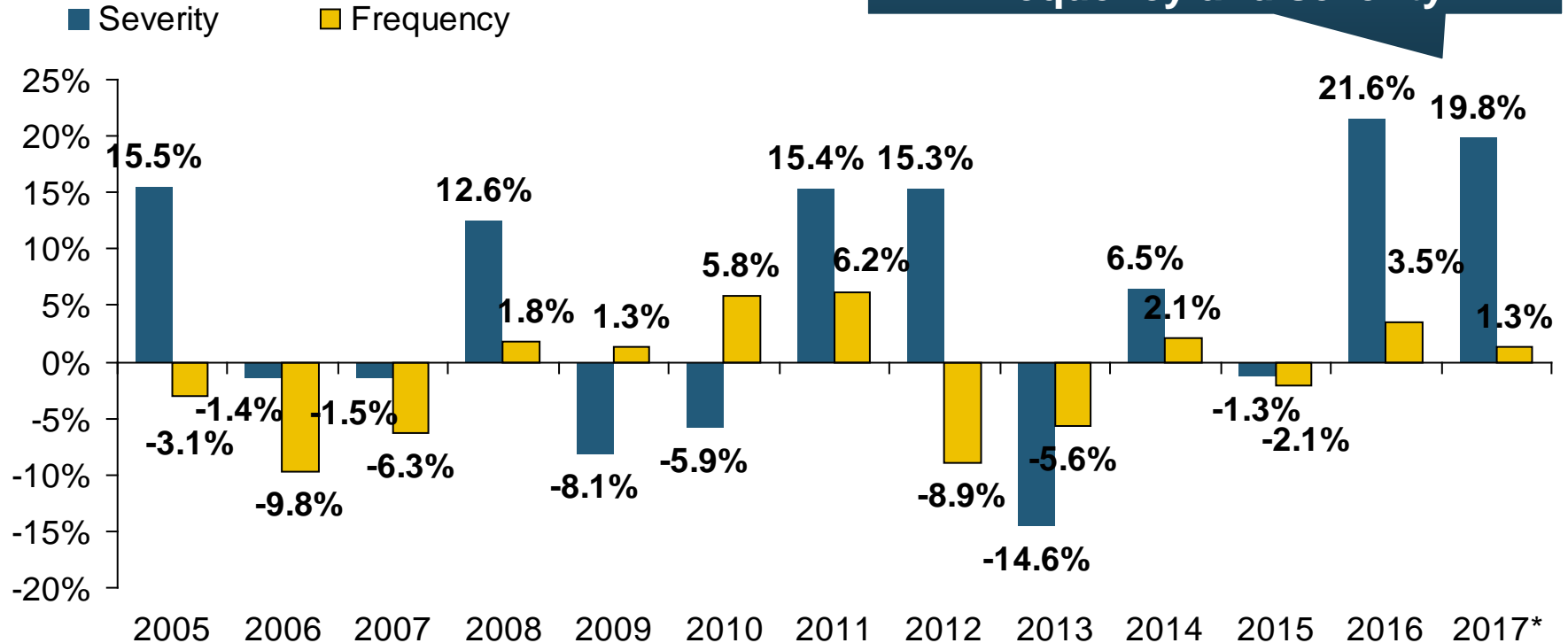
(3) Includes coverage for unauthorized use of various cards, forgery, counterfeit money and losses not otherwise classified.

Source: ISO/Verisk from Insurance Information Institute: http://www.iii.org/fact-statistic/facts-statistics-homeowners-and-renters-insurance?utm_source=I.I.I.%20Daily%20Newsletter&utm_campaign=38282dc1c5-EMAIL_CAMPAIGN_2017_08_23&utm_medium=email&utm_term=0_092139a76a-38282dc1c5-122044869

Comprehensive Coverage: Frequency and Severity Trends Are Volatile

Annual Change, 2005 through 2017*

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

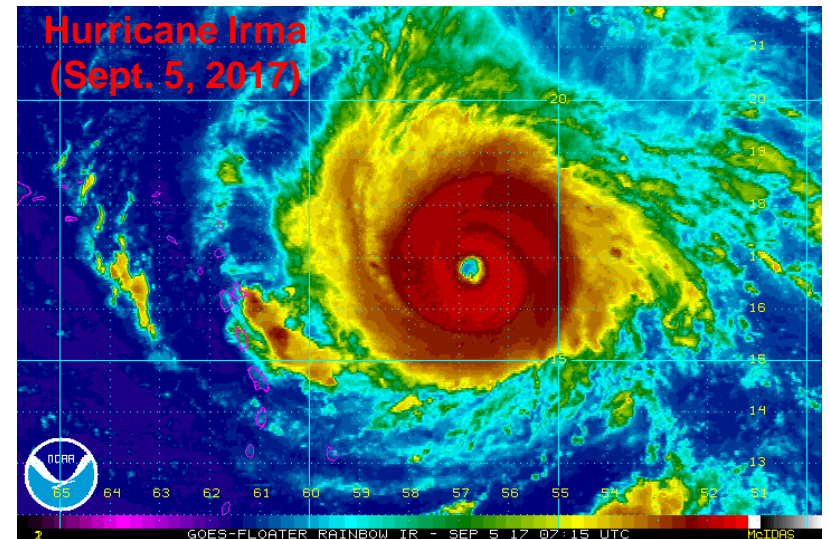


Weather Creates Volatility for Comprehensive Coverage. Enormous Comprehensive Losses Are Expected in Q3:2017 Due to Hurricanes Harvey and Irma. *Harvey ~\$4.75B insured auto losses!*

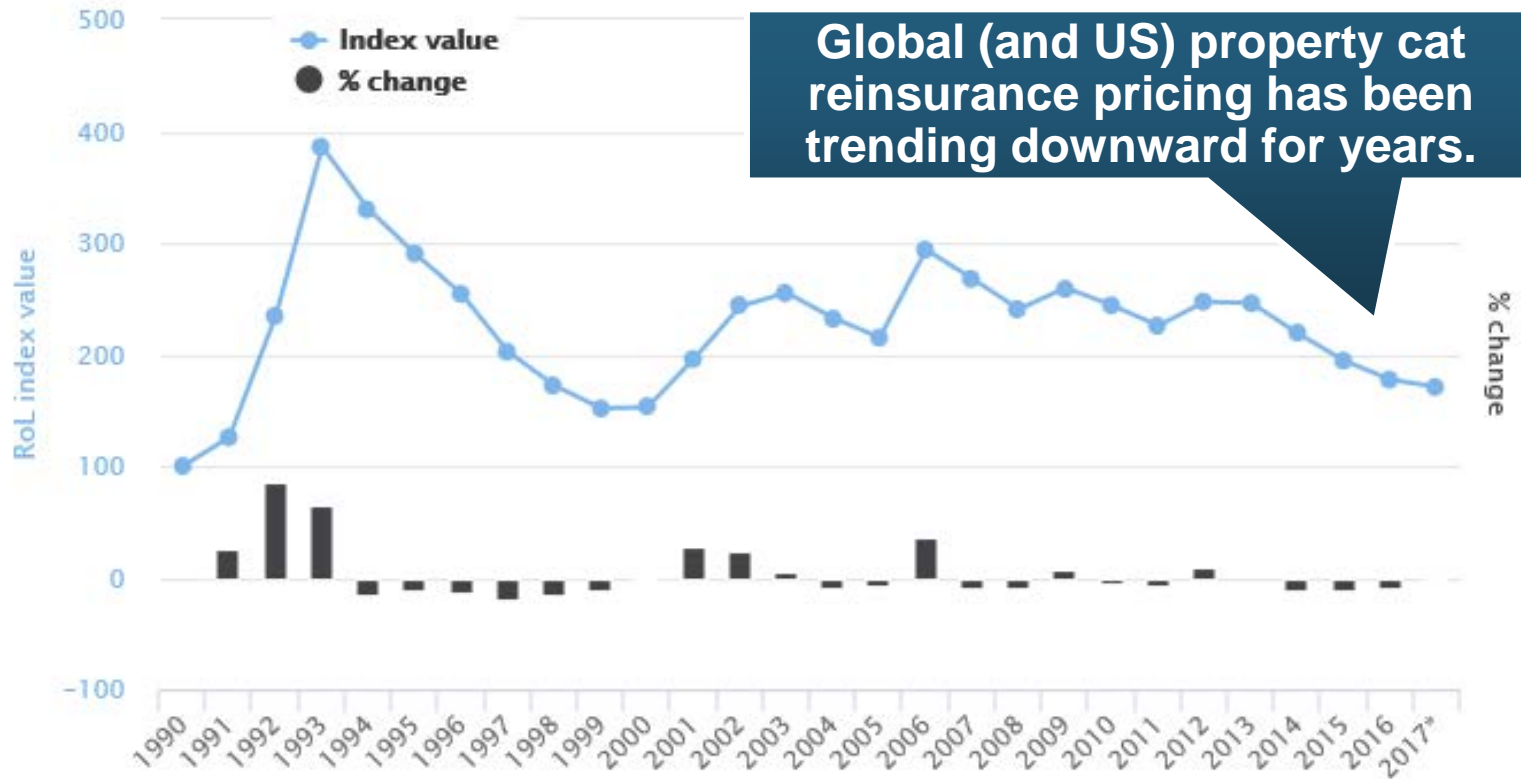
*2017 figure is for the 4 quarters ending with 2017:Q1.

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

Hurricane Harvey, Irma & Maria Will Make 2017 Among the Most CAT Years Ever



Global Property Catastrophe Rate-on-Line Index: 1990 – 2017*

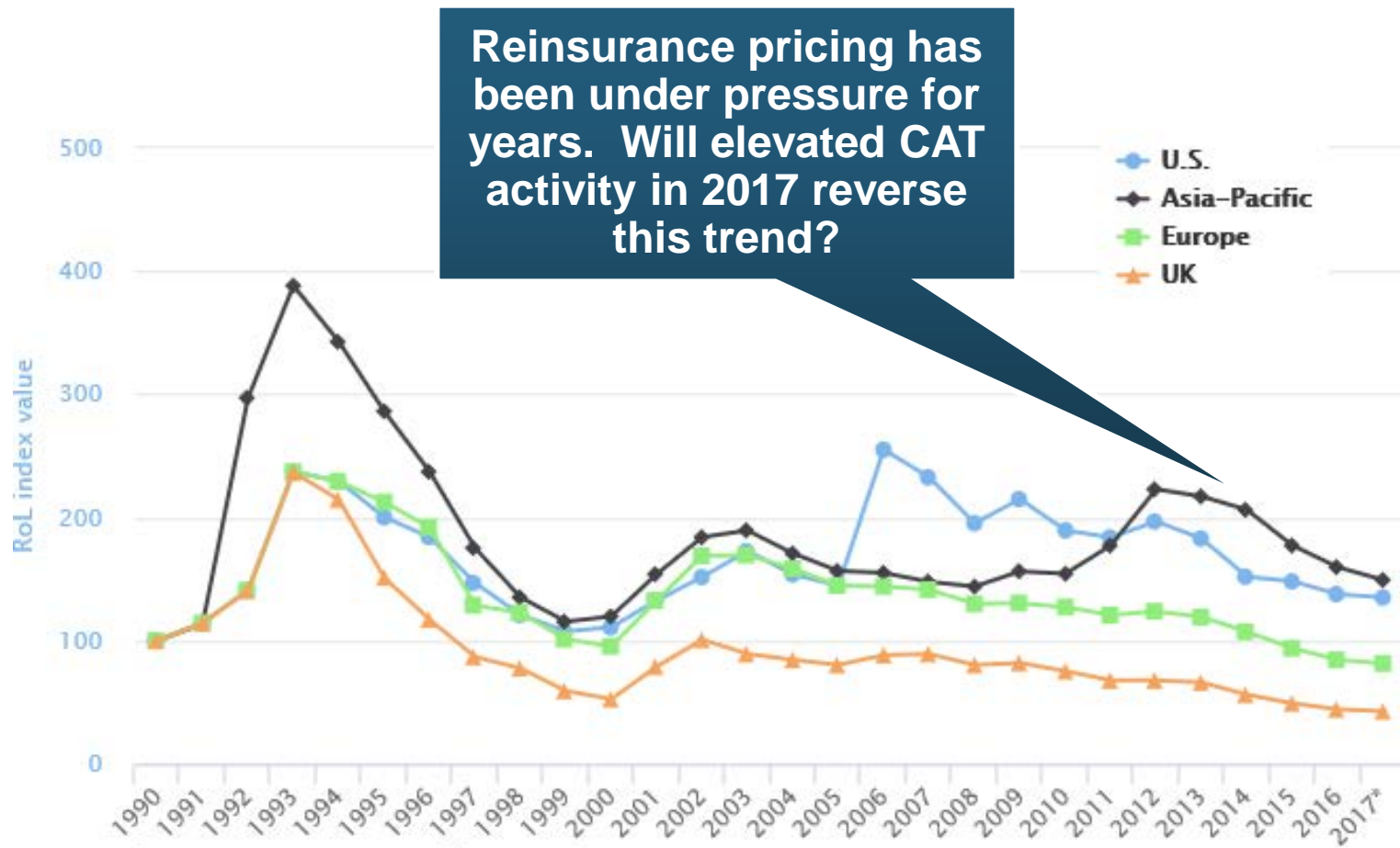


Record traditional capacity, alternative capital and low CAT activity have pressured reinsurance prices; ROEs are down only very modestly. High CATs in the US in 2017 will likely stabilize reinsurance pricing in impacted areas.

*As of January 1 each year.

Source: Guy Carpenter, accessed 9/18/17 at: <http://www.artemis.bm/indices/global-property-cat-rate-on-line-index.html>

Regional Property Catastrophe ROL Index: 1990 – 2017*



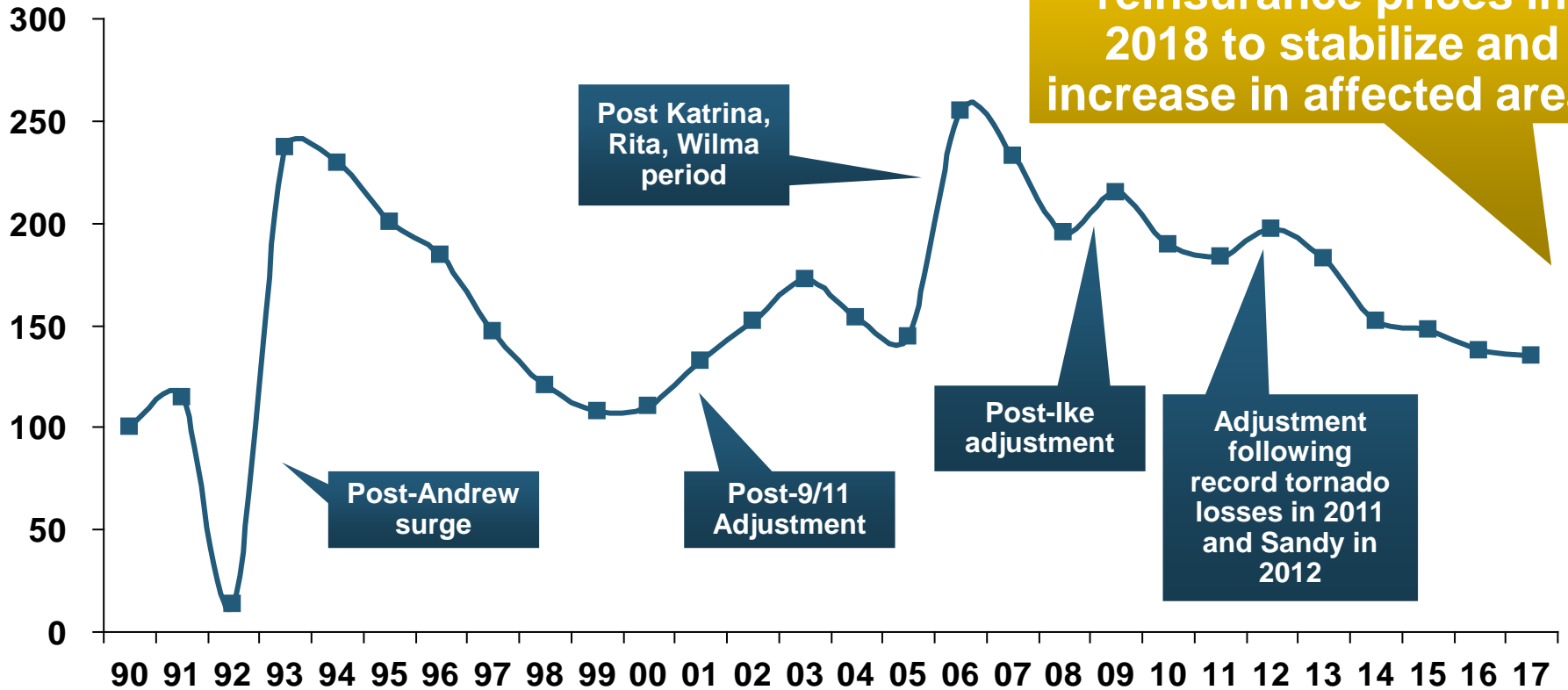
Record traditional capacity, alternative capital and low CAT activity have pressured reinsurance prices; ROEs are down only very modestly

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Source: Guy Carpenter; Artemis.bm accessed at: <http://www.artemis.bm/indices/regional-property-cat-rate-on-line-index.html>

US Property Catastrophe Rate-on-Line Index: 1990 – 2017*

(Percent)



Harvey and Irma will likely lead US reinsurance prices in 2018 to stabilize and increase in affected areas

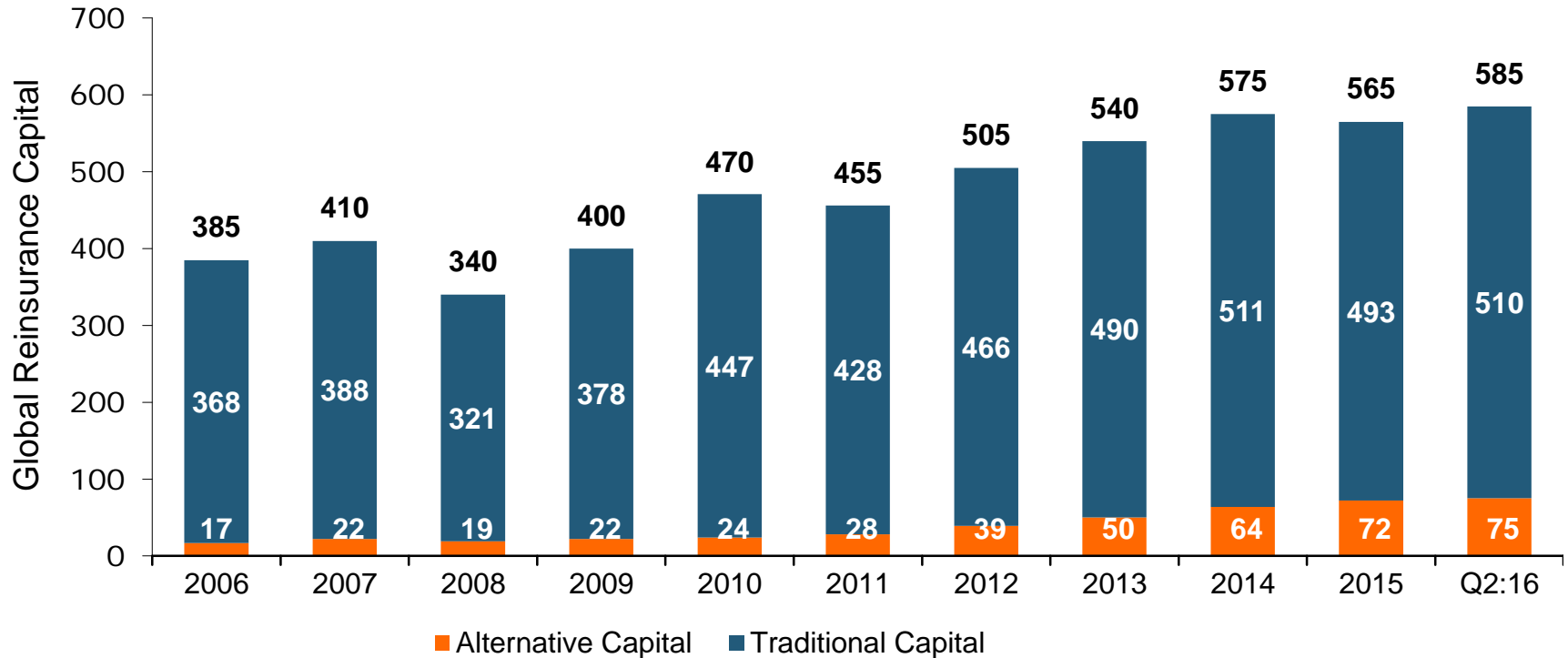
US Reinsurance Pricing Is Sensitive to CAT Activity, but Volatility Has Been Subdued with Low CATs, Record Capacity in Recent Years

*As of January 1 each year.

Source: Guy Carpenter; Artemis.bm accessed at: <http://www.artemis.bm/indices/regional-property-cat-rate-on-line-index.html>

Alternative Capital Potentially Disrupting the Bank Account

(Billions of USD)



Alternative capacity has grown 263% since 2008. It has more than tripled in the past six years.

Flood Risk

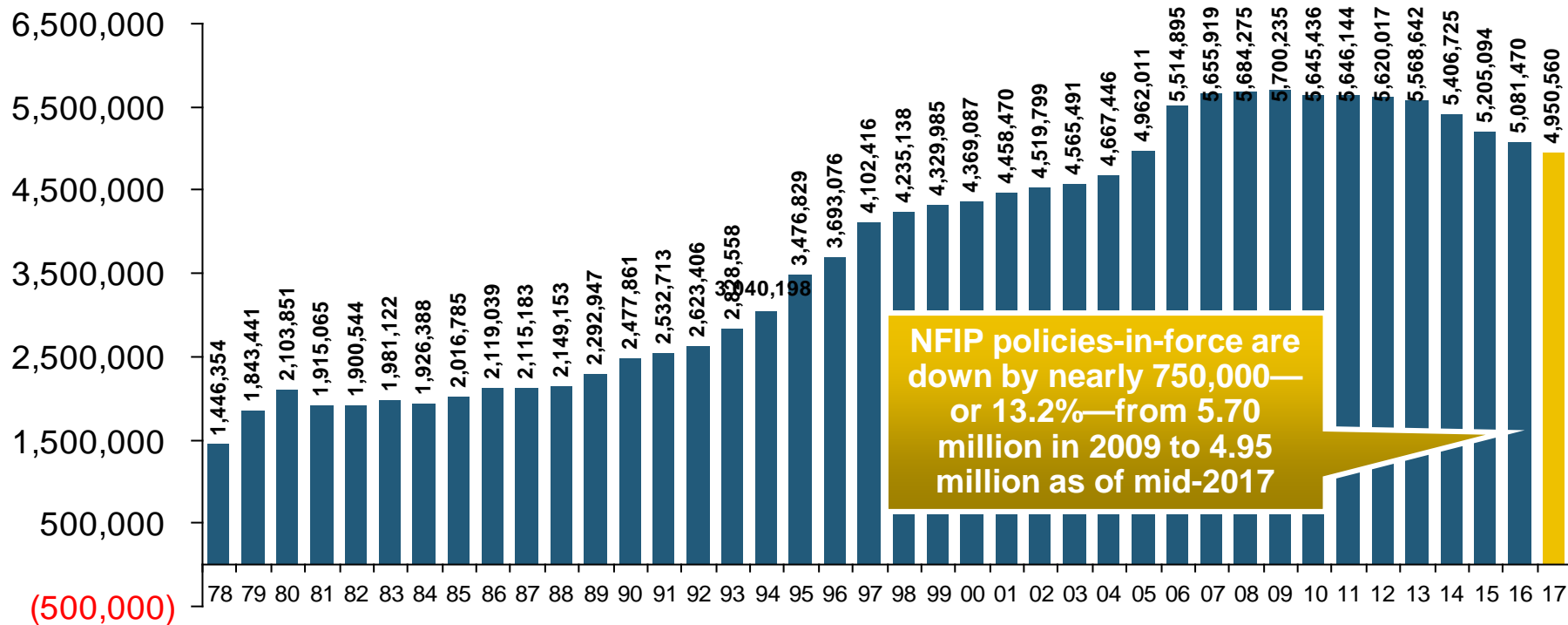
**2017 Is Another Disastrous Year
for the NFIP**

***How Will the NFIP Be Reformed During the
Countdown to Reauthorization?***

NFIP Policies in Force, 1979 – 2017*

Before Harvey and Irma, the NFIP was already \$24.9B in debt. Harvey NFIP claims are expected total \$7-\$10B with Irma adding to this total. NFIP will need to borrow, likely pushing its debt load well above \$35B

(Policies in Force)

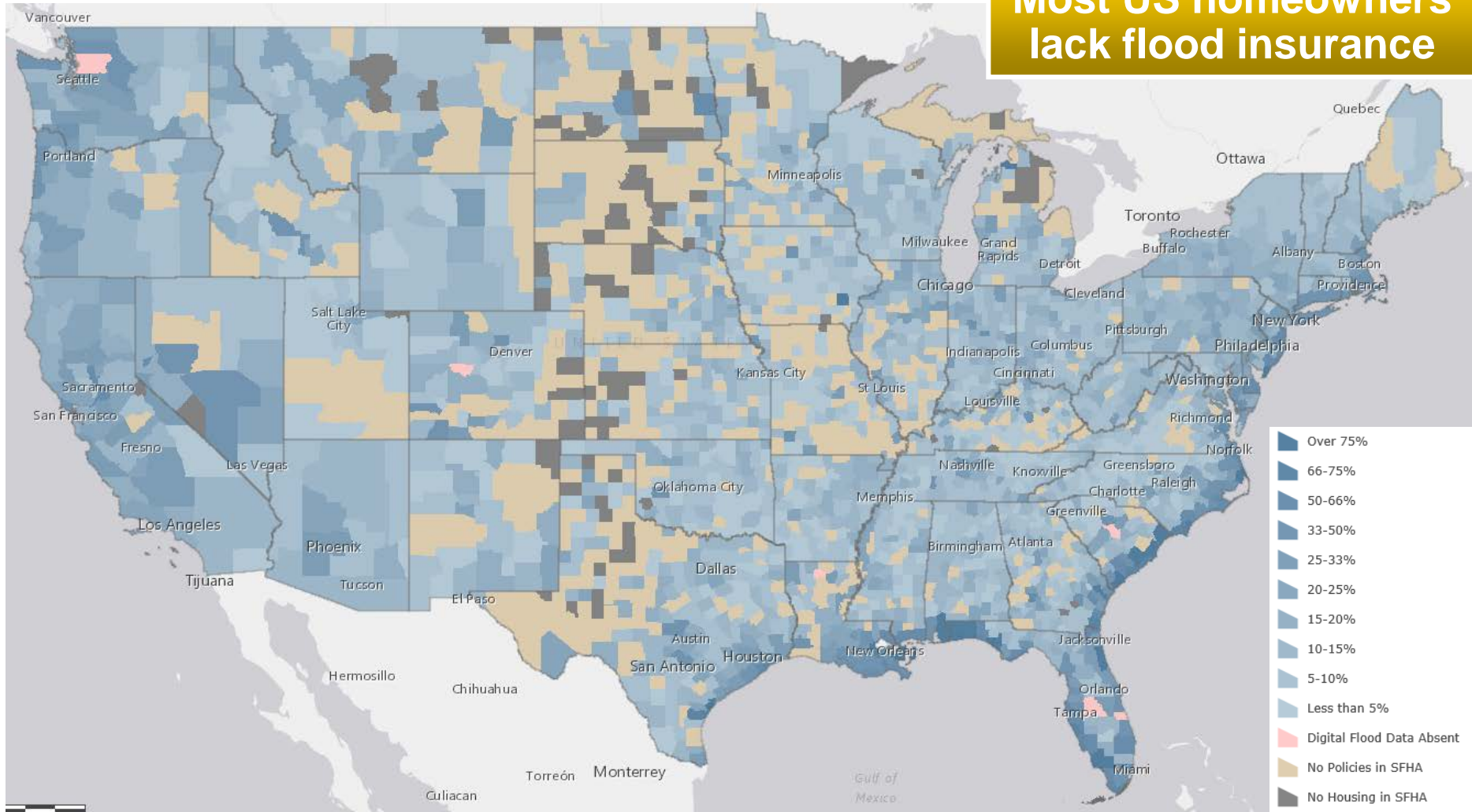


*As of June 30, 2017

Sources: NFIP/FEMA accessed 9/18/17 at: <https://www.fema.gov/total-policies-force-calendar-year>; USC Risk and Uncertainty Management Center.

Residential NFIP Penetration Rates, August 2016

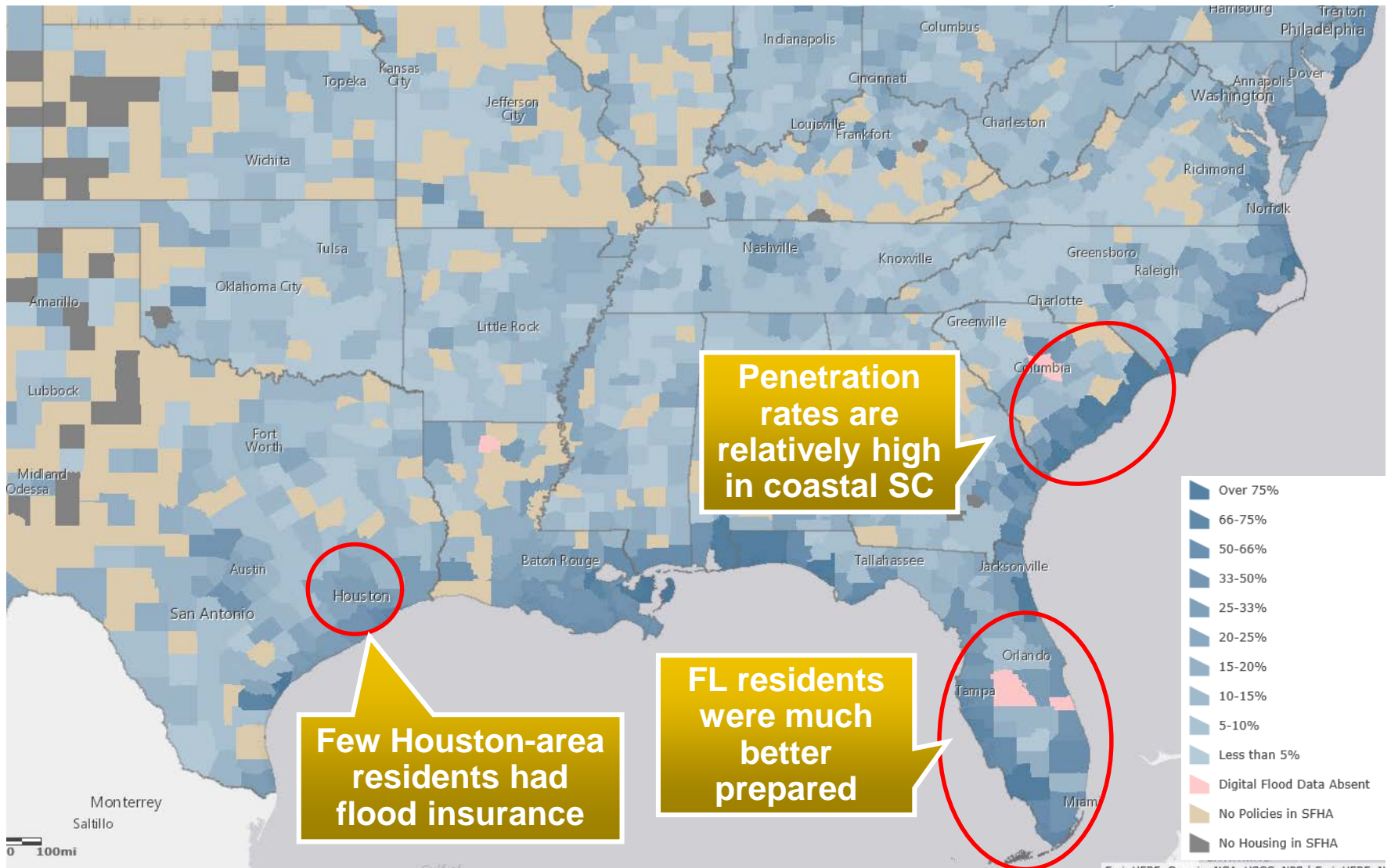
Most US homeowners lack flood insurance



Source: NFIP accesses 9/18/17 at:

<https://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=3d76edf9bd0642109b60ffaceead76fd>

Residential NFIP Penetration Rates, August 2016



Source: NFIP accesses 9/18/17 at:
<https://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=3d76edf9bd0642109b60ffaceead76fd>

Proposed Reforms to the NFIP

■ **HR 1422: Flood Insurance Modernization Act of 2017**

- ◆ Would clarify that flood policies written by private insurers satisfy the mandatory purchase requires (i.e., are viewed as on par with NFIP policies) for federally-backed mortgages

■ **HR 2874: 21st Century Flood Reform Act**

- ◆ Focuses on enhancing financial stability of NFIP
- ◆ Eliminates prohibition against private insurers participating in WYO programs from also offering private flood insurance
- ◆ Would prohibit NFIP from offering policies after 1/1/2021 on new structures in flood hazard zones

■ **HR 1558: Repeatedly Flooded Communities Preparation Act**

- ◆ Requires accountability from communities with repeat flooding problems (1% of claims account for 25% - 30% of losses)
- ◆ Communities must develop mitigation plans

THE ECONOMY

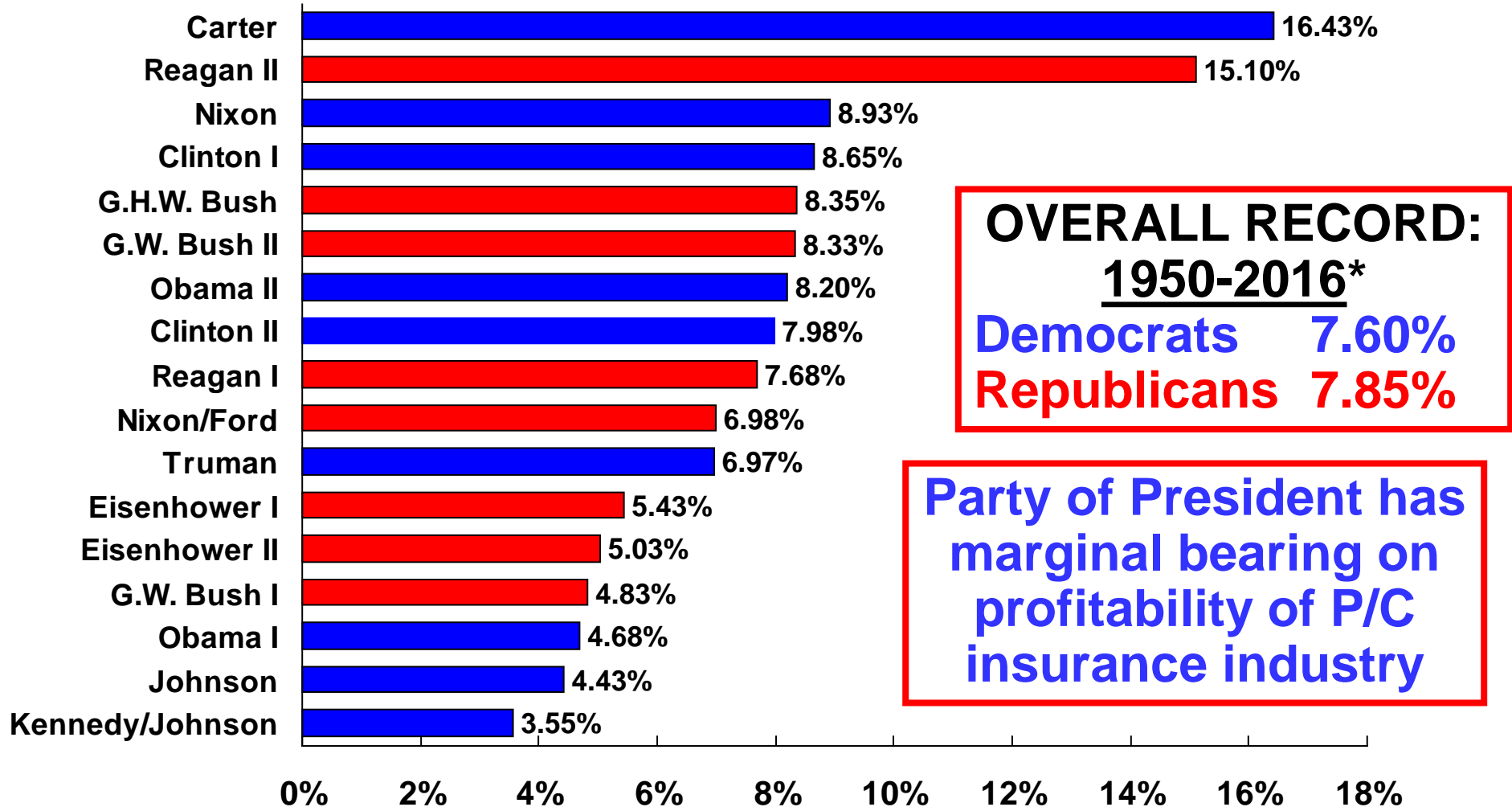
**The Strength of the Economy Will Greatly
Influence Insurer Exposure Base
Across Most Lines**

***How Will “Trumponomics” Impact
the Industry?***

Profitability & Politics

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

P/C Insurance Industry ROE by Presidential Administration, 1950-2016*



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

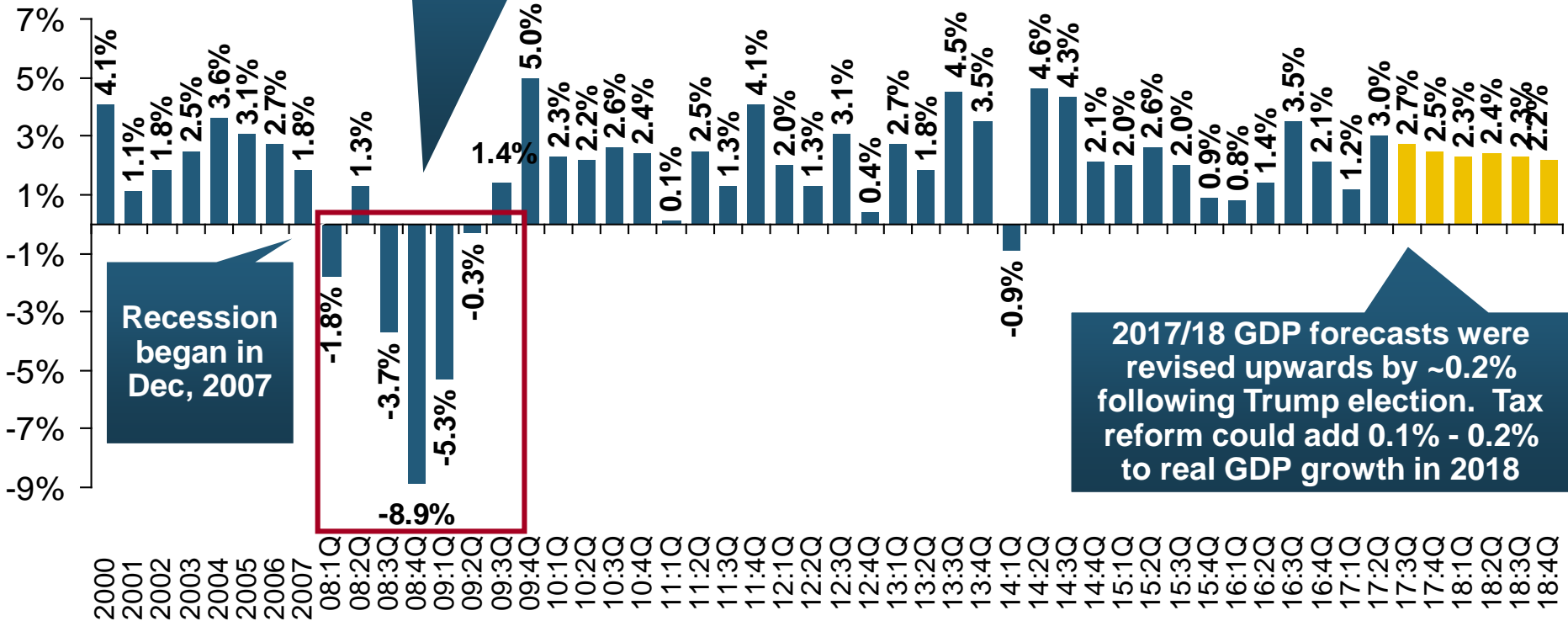
Awakening America's “Animal Spirits”

Economic Policy and the Insurance Industry

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

US Real GDP Growth*

Real GDP Growth (%)



Demand for Insurance Should Increase in 2017-18 as GDP Growth Continues at a Steady, Albeit Moderate Pace and Gradually Benefits the Economy Broadly

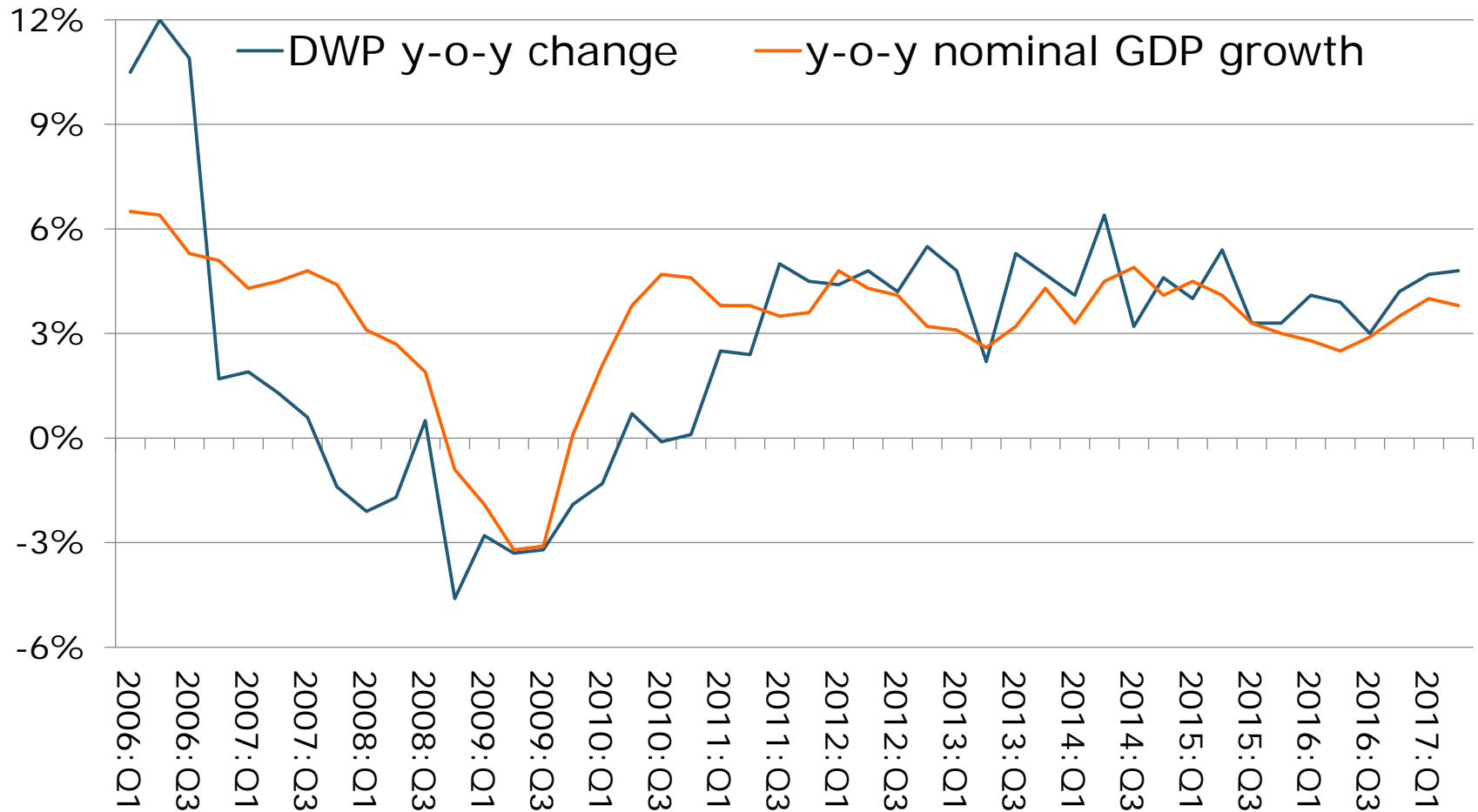
* Estimates/Forecasts from Blue Chip Economic Indicators.

Source: US Department of Commerce, Blue Economic Indicators 9/17; Insurance Information Institute.

The Economy Drives P/C Insurance

Industry Premiums: 2006:Q1 – 2017:Q2

Direct Premium Growth (All P/C Lines) vs. Nominal GDP: Quarterly Y-o-Y Pct. Change



Direct Written Premiums track Nominal GDP—not quarter by quarter but overall fairly well.

Animal Spirits: Unleashed from the Oval Office?



Donald J. Trump [@realDonaldTrump](#) · 5h

Great optimism in America – and the results will be even better!



Optimism Among U.S. CEOs Shows Biggest Increa...

Optimism among chief executive officers of some of the largest U.S. companies jumped in the first quarter by the most since the economy was emerging from the last ...

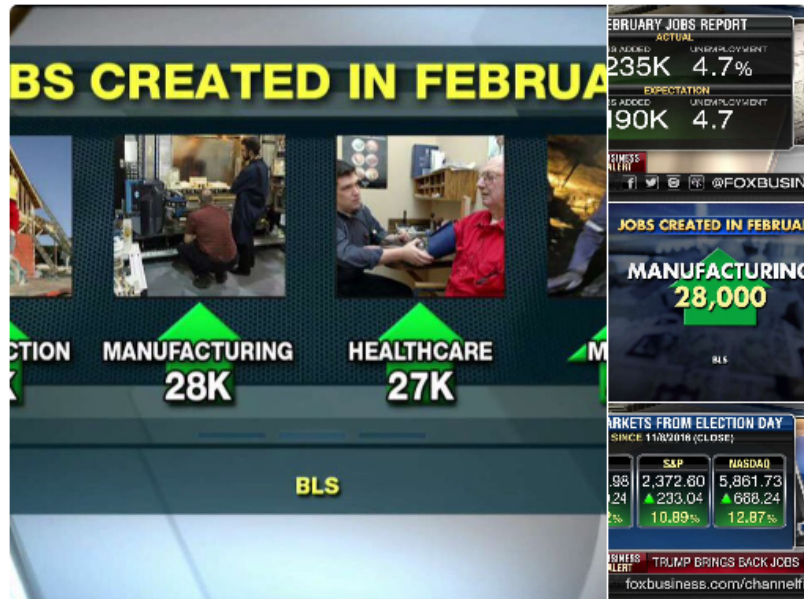
[bloomberg.com](#)

7.2K 5.5K 26K



Donald J. Trump [@realDonaldTrump](#) · 6h

JOBS, JOBS, JOBS!



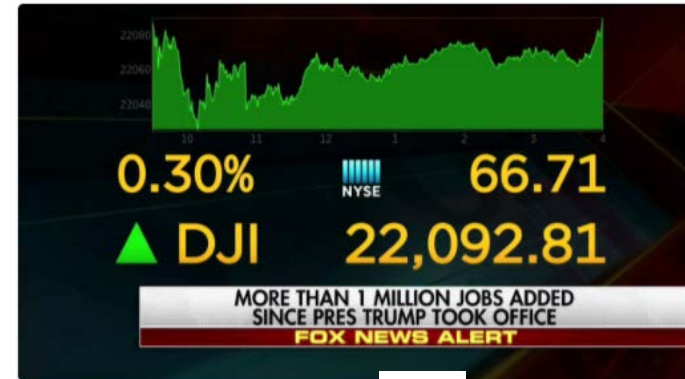
12K 14K 53K

Donald J. Trump Retweeted



Fox News [@FoxNews](#) · Aug 4

More than 1 million jobs added since @POTUS took office. [bit.ly/2ffker3](#)



6.7K 11K 35K



ACCOMPLISHMENTS UNDER TRUMP

- ▶ Toyota, Mazda building \$1.6B plant
- ▶ FoxConn spending \$10B on WI factory
- ▶ More than 1M jobs added last 6 mths
- ▶ Jobless claims at lowest pt in 28 years

FOX BUSINESS NETWORK

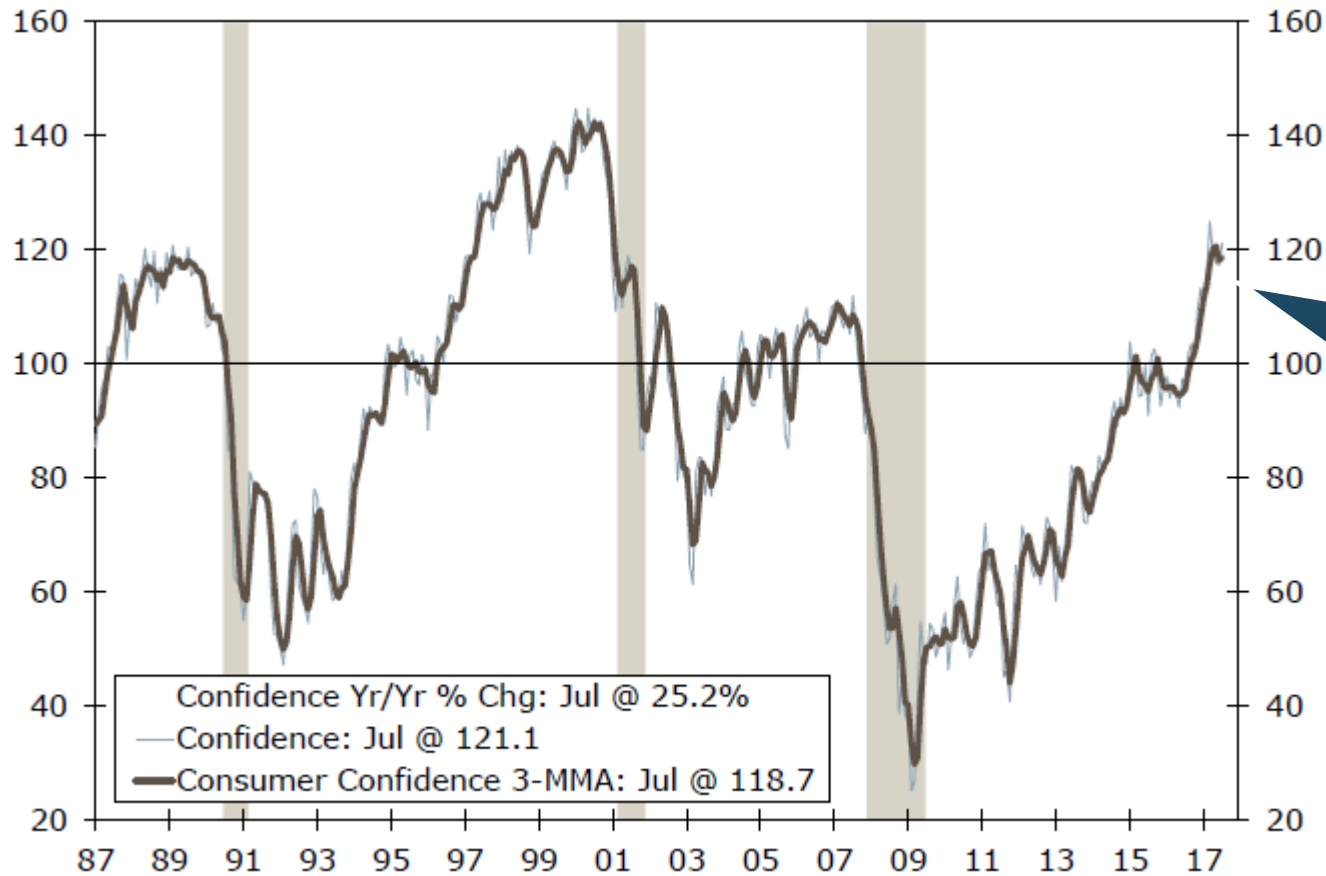
CAVUTO COAST-TO-COAST

[foxbusiness.com/channelfinder](#)

23K 34K 113K



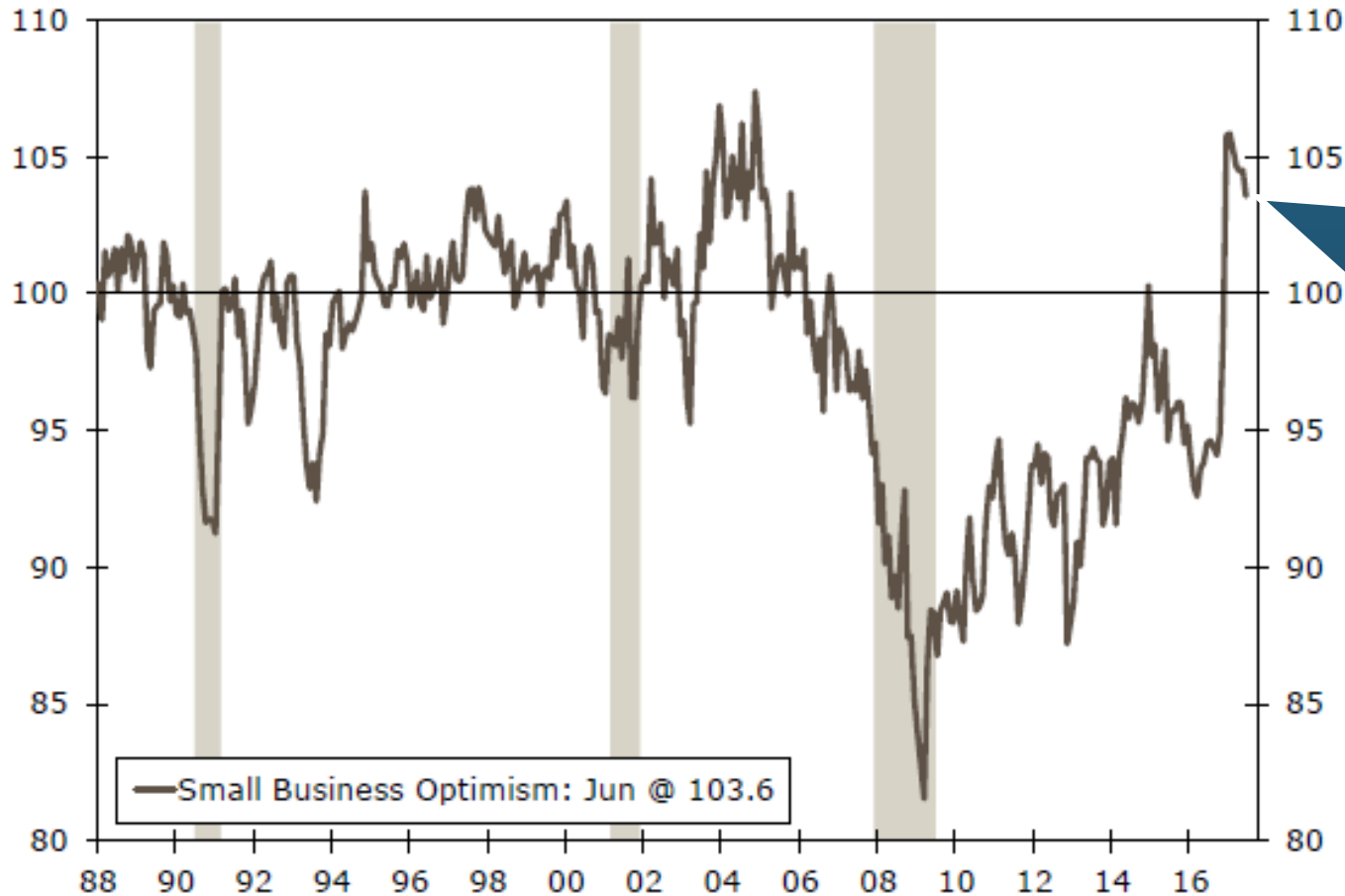
Consumer Confidence Index: Jan. 1987 – July 2017



The Conference Board's Consumer Confidence Index stood at 121.7 in July, close to its post-recession high

Outlook: Consumers are optimistic about the future, which is consistent with expectations for stronger economic growth (consumers account for nearly 70% of all spending in the economy). Should positively influence business investment.

NFIB Small Business Optimism Index: Jan. 1988 – June 2017

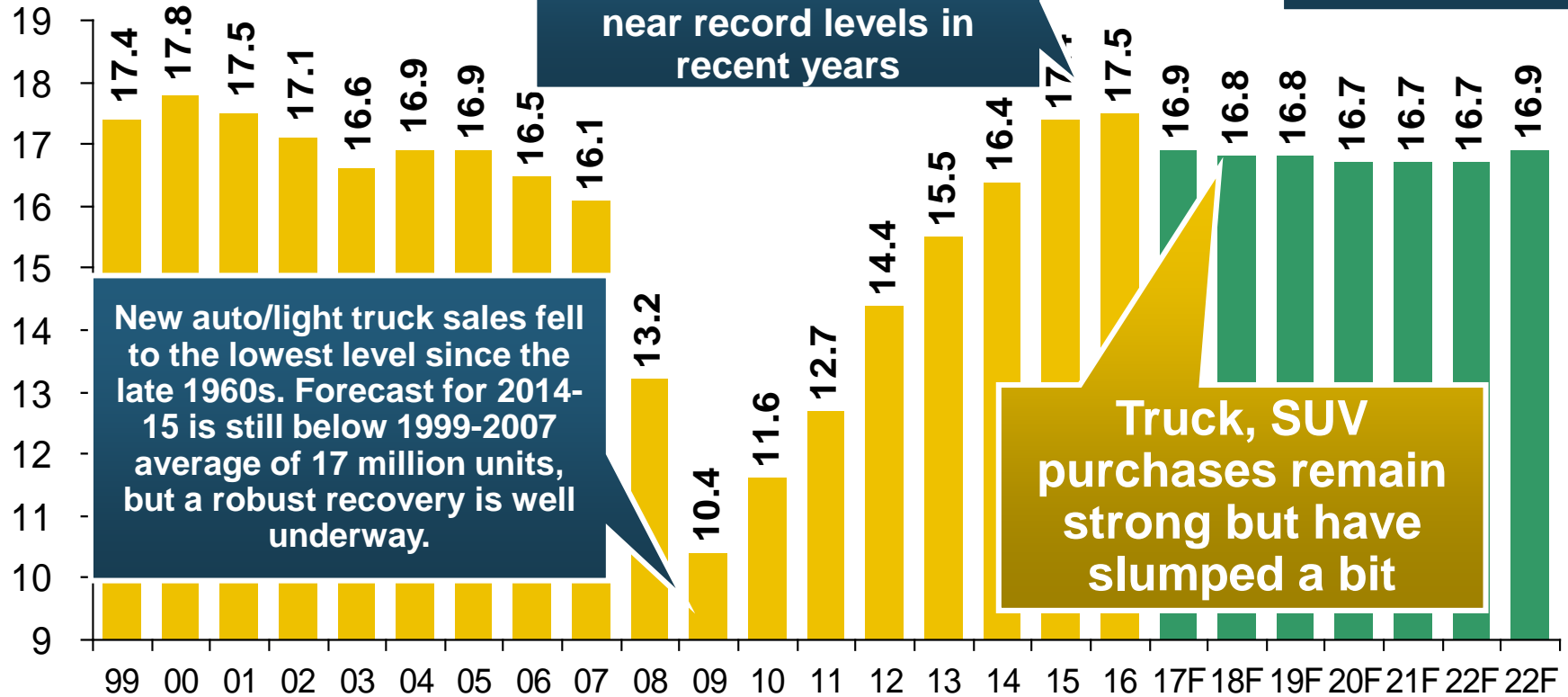


The NFIB's Index of Small Business Optimism remains near recent highs, but slipped in June as hopes for significant regulatory and tax reform fade

Outlook: Small businesses are much more optimistic about the future

Auto/Light Truck Sales, 1999-2023F

(Millions of Units)



Job growth and improved credit market conditions boosted auto sales to near record levels in recent years

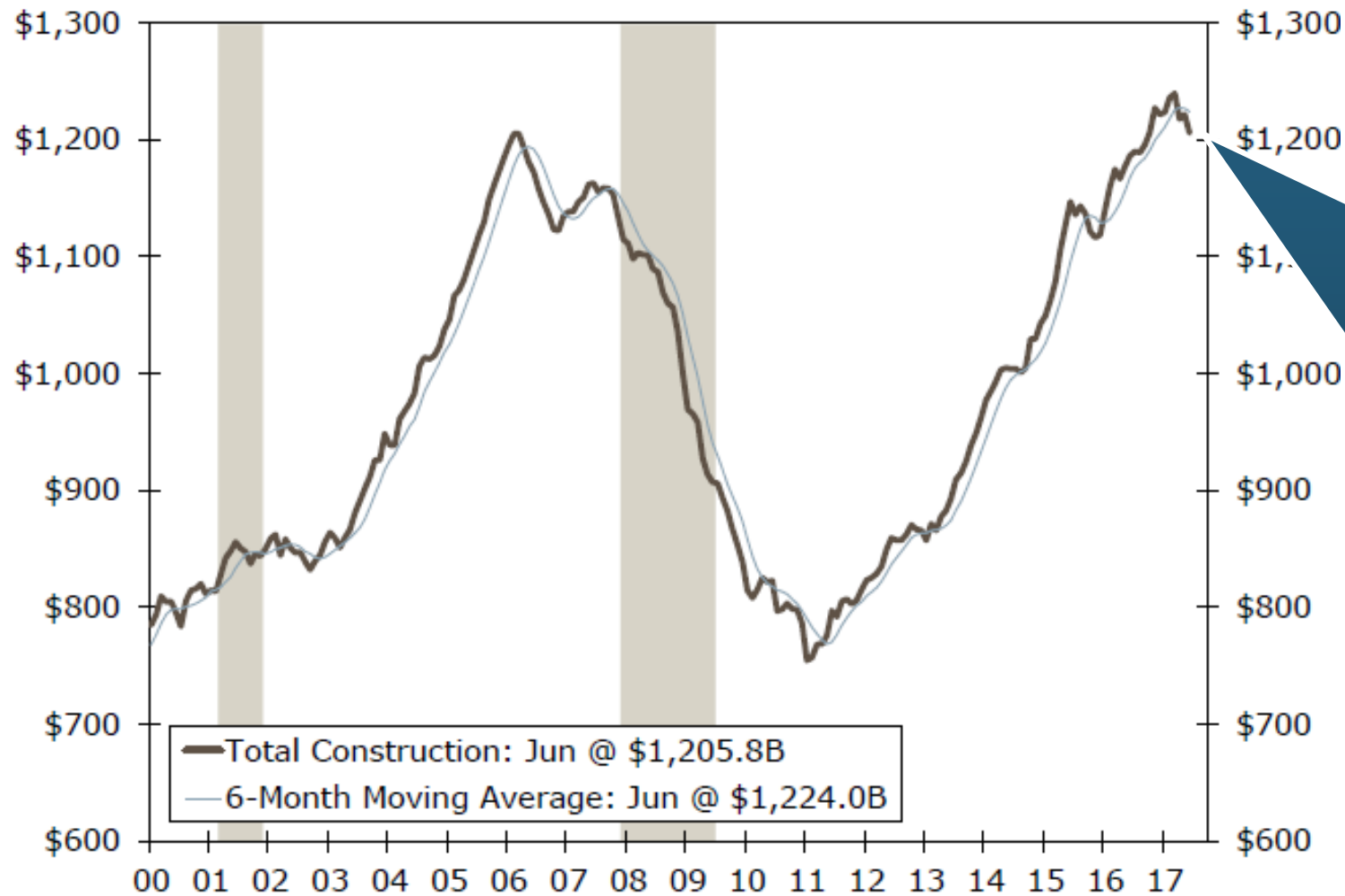
Sales have returned to pre-crisis levels

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

Truck, SUV purchases remain strong but have slumped a bit

Yearly car/light truck sales are slowing slightly, as demand tapers following the recovery from the recession. PP Auto premium might grow by 3.5% - 5%.

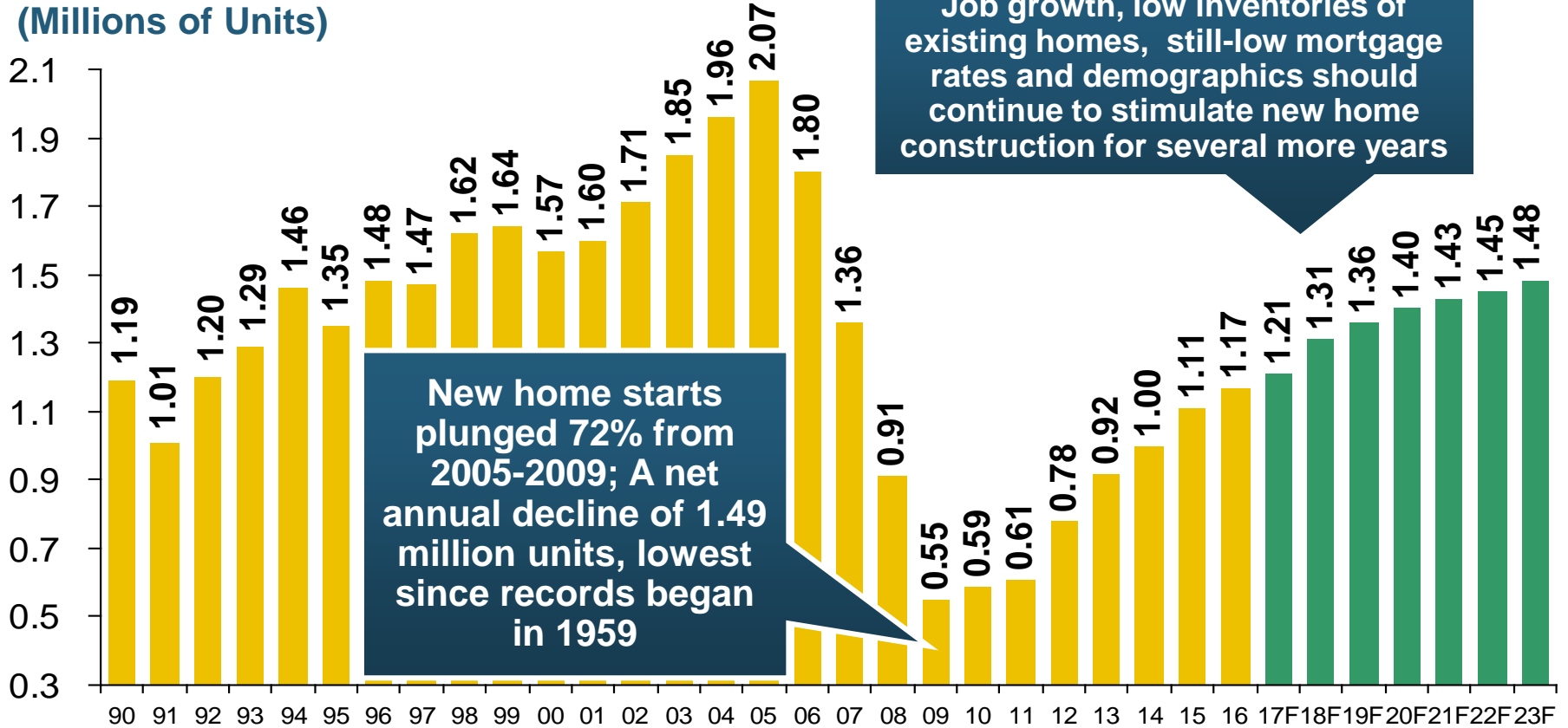
Construction Spending: Jan. 1990 – July 2017 (\$ Bill)



Private (but not public) construction spending remains relatively strong. Public construction spending could benefit from a boost in infrastructure investment

New Private Housing Starts, 1990-2023F

(Millions of Units)

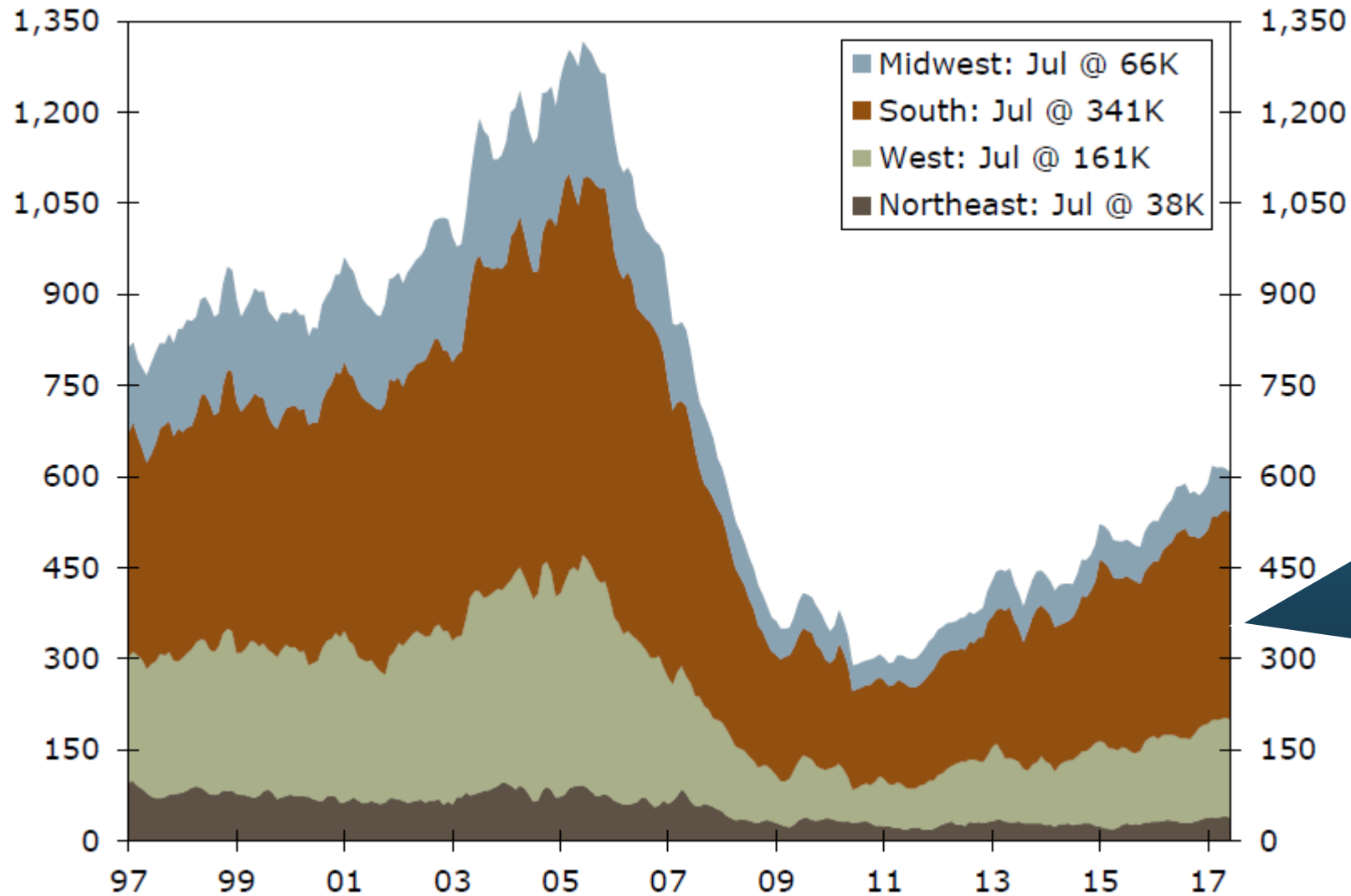


Insurers Are Continue to See Meaningful Exposure Growth in the Wake of the “Great Recession” Associated with Home Construction: Construction Risk Exposure, Surety, Commercial Auto; Potent Driver of Workers Comp Exposure

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (19/17 for 2017-18; 10/17 for 2018-23F; Insurance Information Institute.

New Home Sales: By Region

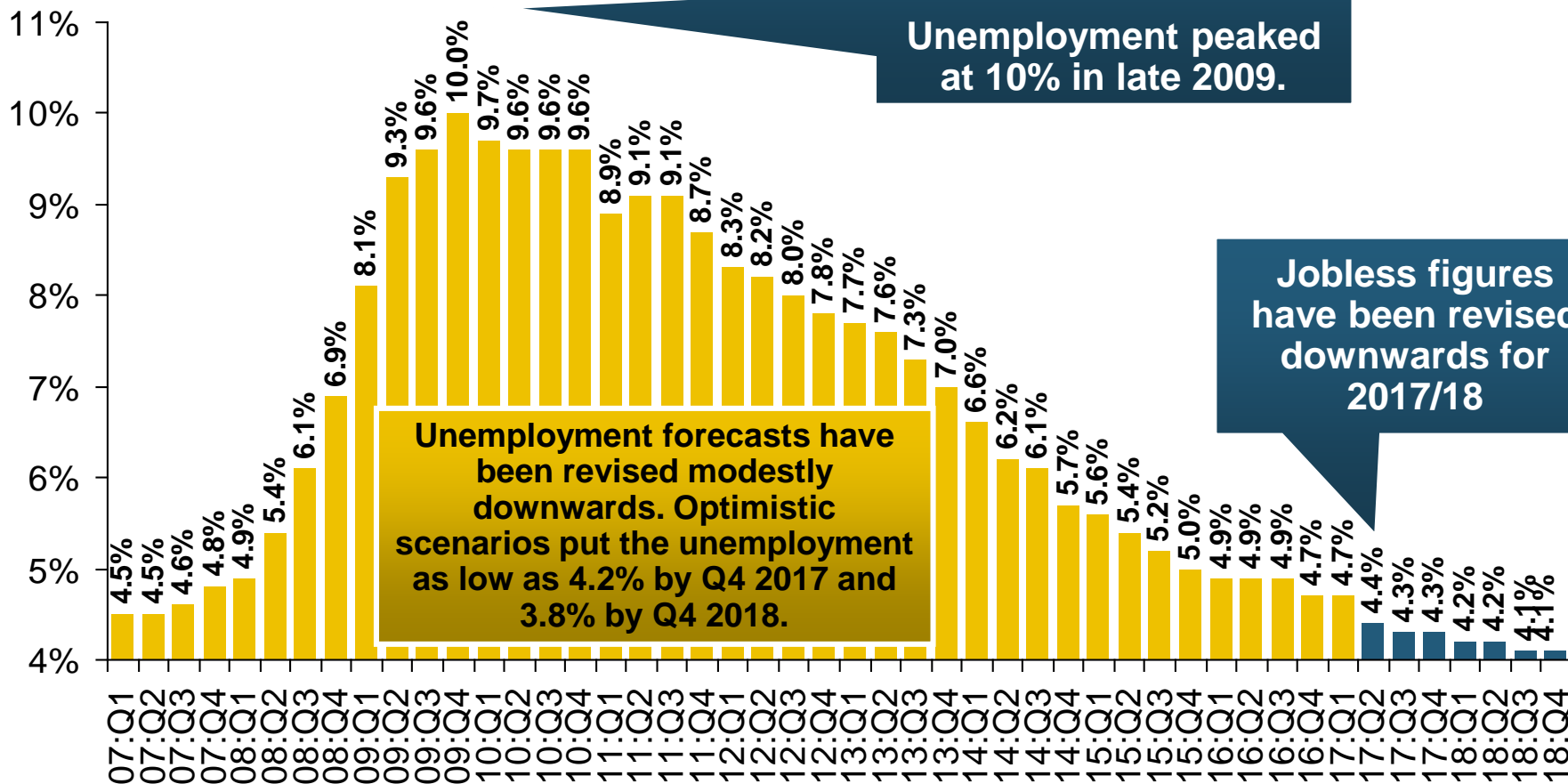
Jan. 1989 – July 2017 (thousands, annual rate)



New home sales are strongest in the South, West

US Unemployment Rate Forecast

2007:Q1 to 2018:Q4F*

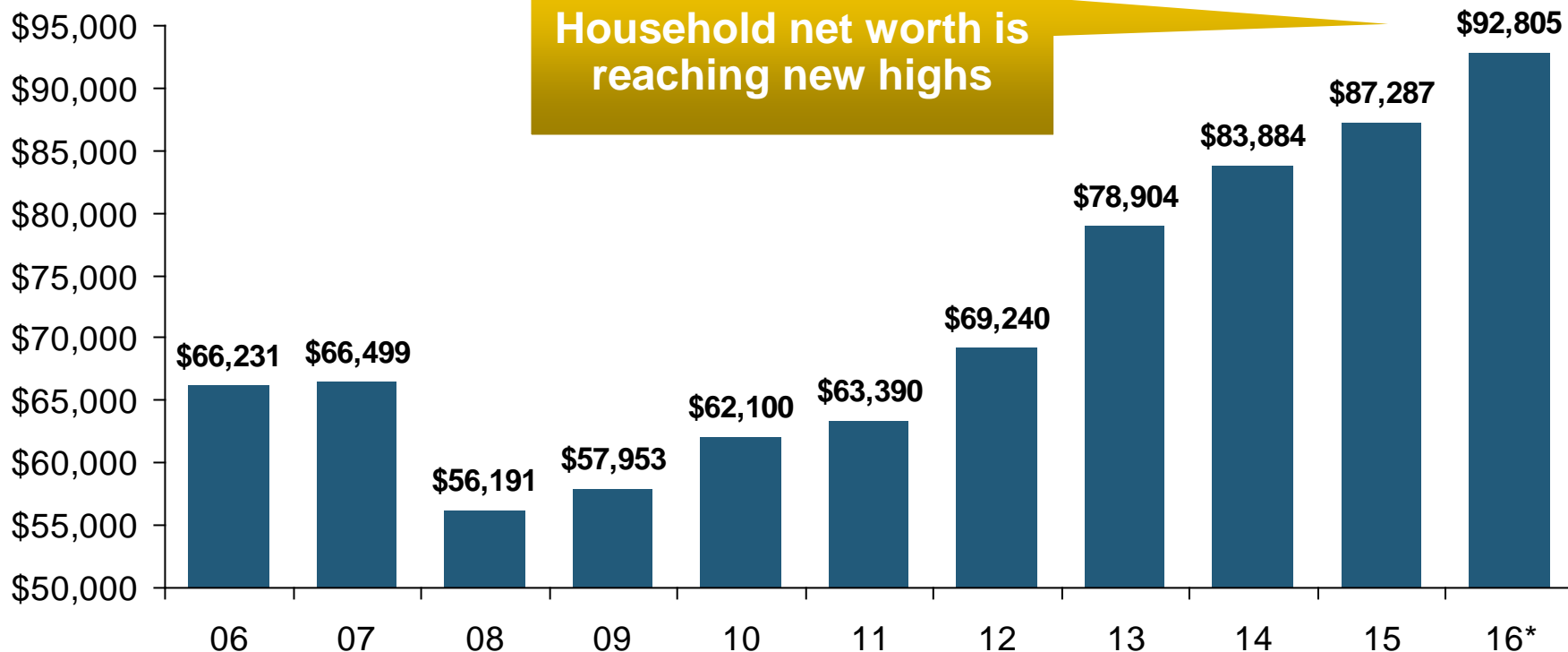


* ■ = actual; ■ = forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (10/17 edition); Insurance Information Institute.

Household Net Worth: 2006–2016

(\$ Billions)



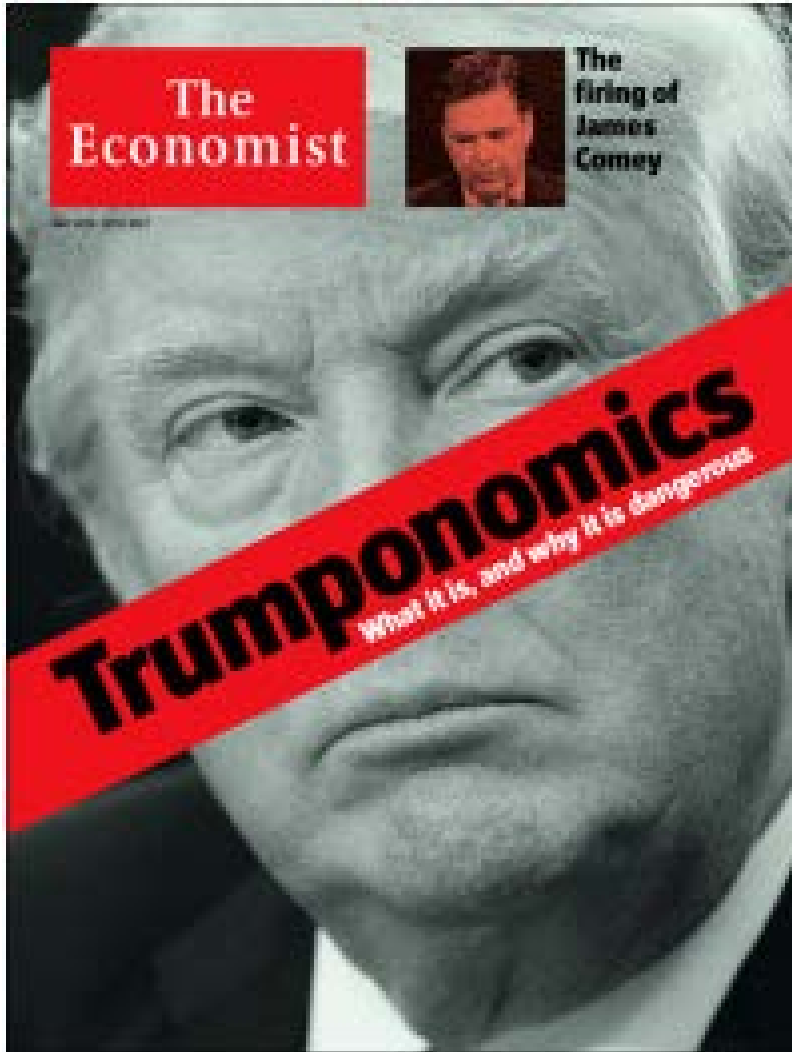
Household net worth continues to recover from the Great Recession and could accelerate. This would expand the “wealth effect” which is more pronounced among higher income households.

¹ Annualized and seasonally adjusted figure.
Sources: Federal Reserve; Insurance Information Institute.

Trumponomics, Insurance and Politics

***How Might the Trump Presidency
Impact the Insurance Industry?***

Trumponomics: The Essential Elements



■ 5 Elements

- ◆ Fair Trade
 - ◆ Deregulation
 - ◆ Tax Reform
 - ◆ Infrastructure Investment
 - ◆ Immigration Reform/Enforcement
- **Most of these have direct impacts for insurers**

Trump Administration: Likely Issues Impacting Insurers

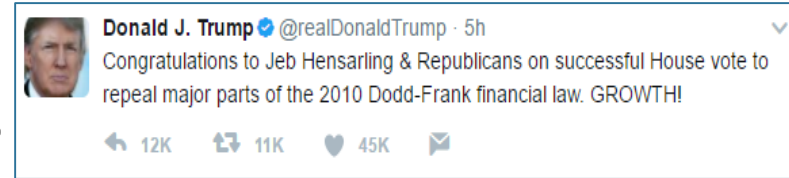
■ Dodd-Frank

◆ TRUMP DODD-FRANK QUOTES

- Dodd-Frank is a “*disaster*”
- Vowed to “*do a big number*” on the Act

◆ **NEW:** Financial CHOICE Act (June 2017 in House)

- Ends authority of the FSOC to designate non-bank SIFIs
 - MetLife, Prudential and even AIG’s SIFI designations rescinded
- Repeal Volker Rule
- Some loosening of liquidity requirements for well-capitalized financial institutions; Less frequent stress tests
- Weaken Consumer Financial Protection Bureau
- NOTE: No mention of FIO, but Office of Financial Research would be eliminated



Trump Administration: Likely Issues Impacting Insurers

■ **Climate, Energy and Environmental**

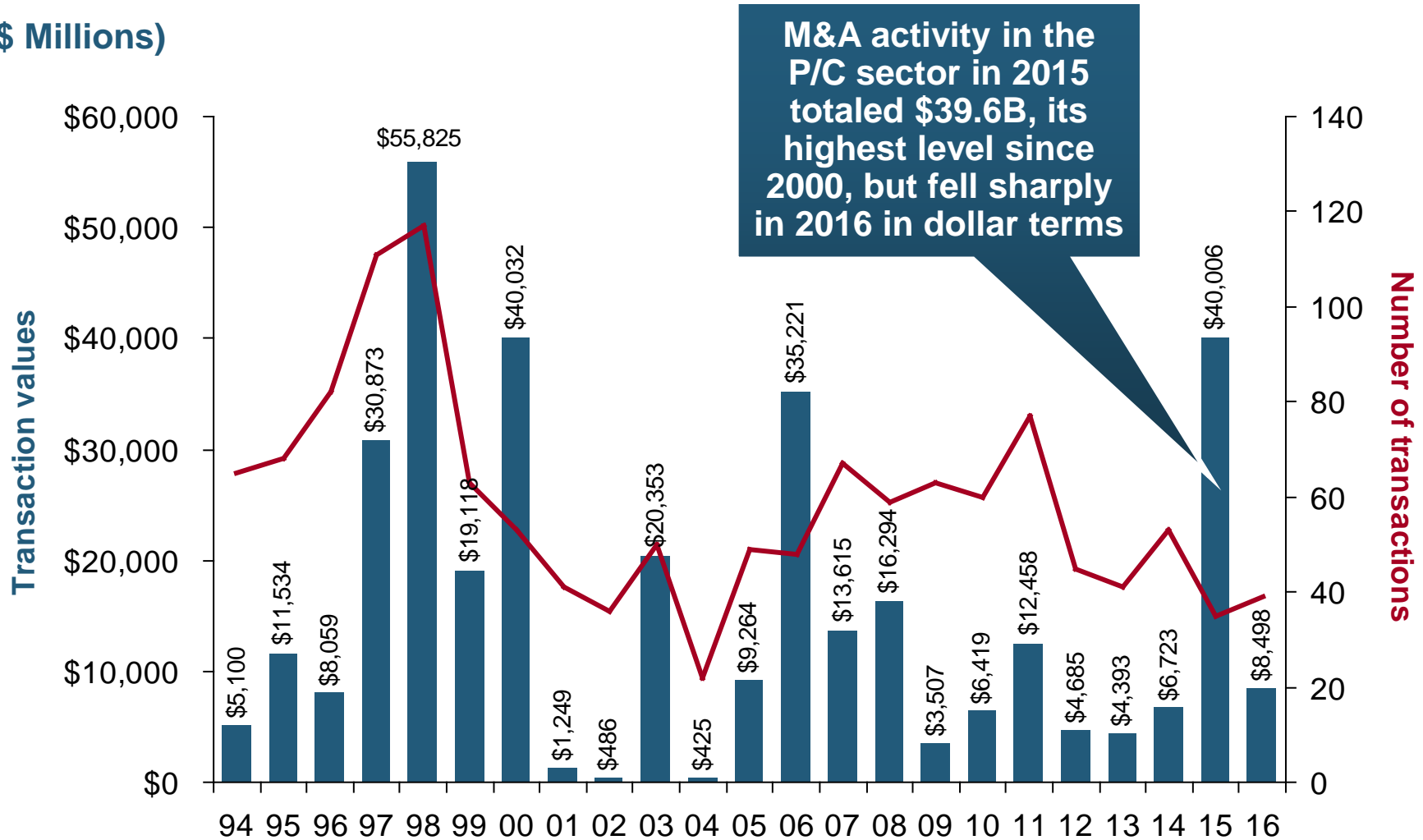
- ◆ **Withdrawal from Paris Accord demonstrates that climate change no longer a priority**
- ◆ **Personal Lines: Diminished subsidies for green energy (solar in homes), electric vehicles, etc.**
- ◆ **Carbon-based and carbon emitting industries will benefit from reduced pressure on climate issue**
- ◆ **Investment in energy infrastructure now easier**
- ◆ **US energy exports are rising**
- ◆ **Rollback/moratoria on a wide range of environmental regulations that will benefit many sectors of the economy**

M&A Trends

**Consolidation Among P&C
(Re)Insurers and Within
Distribution Channels Will
Likely Continue**

U.S. INSURANCE MERGERS AND ACQUISITIONS, P/C SECTOR, 1994-2016 (1)

(\$ Millions)

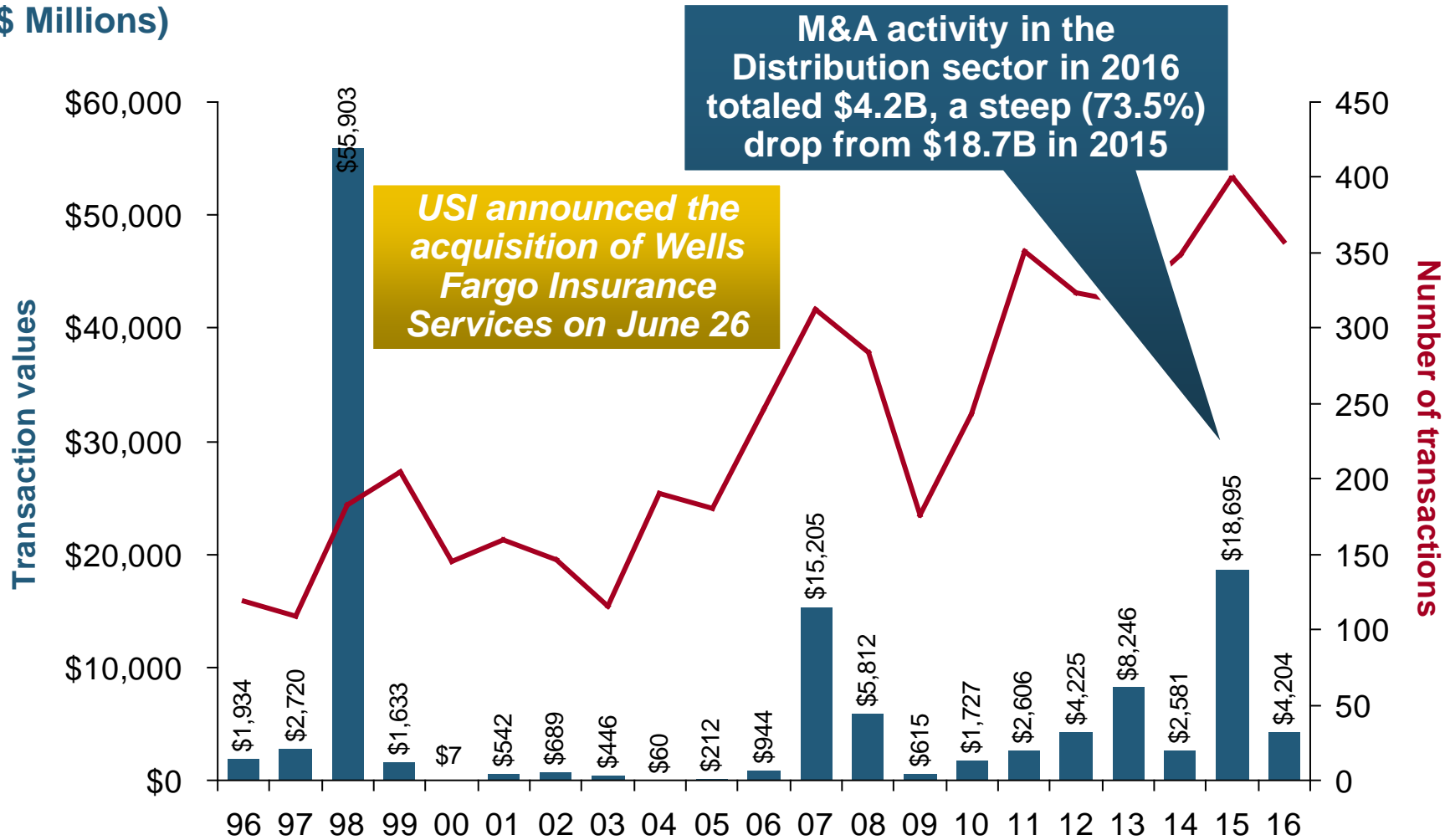


(1) Includes transactions where a U.S. company was the acquirer and/or the target.

Source: Conning proprietary database.

U.S. INSURANCE MERGERS AND ACQUISITIONS, DISTRIBUTION, 1996-2016 (1)

(\$ Millions)



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

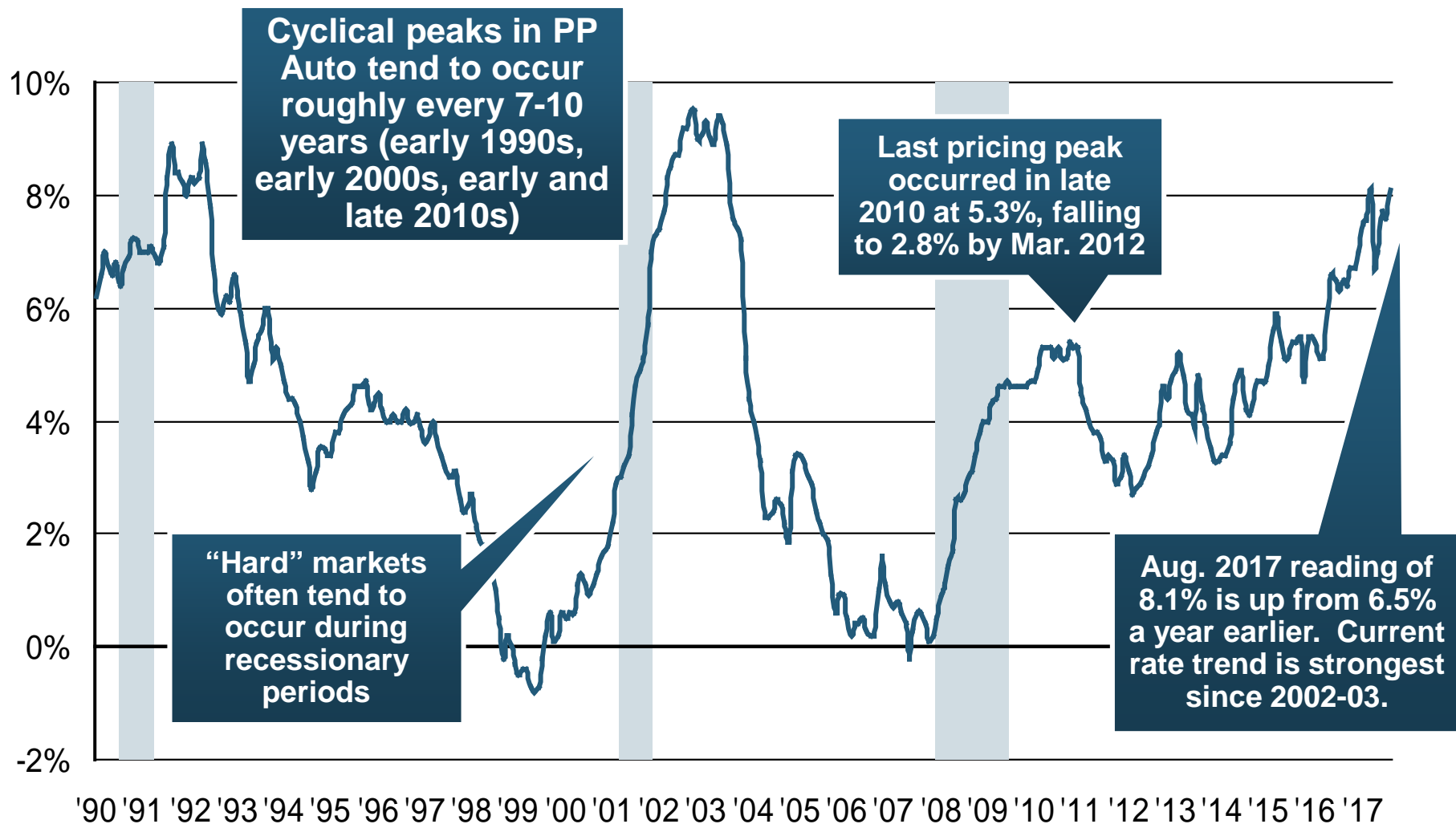
Drivers of M&A Activity

P/C Insurers	Distribution Segment
<p>Soft Market Conditions/Limited Organic Growth Opportunities: Mostly commercial lines and reinsurance</p>	<p>Slow Growth: Acquisition provides surest and fastest path to growth</p>
<p>Expense Ratios: Desire to lower ERs via realization of economies of scale</p>	<p>Diverse Universe of Buyers: Agencies, brokerages, MGAs/MGUs, insurers, private equity firms, banks</p>
<p>Interest Rates: Low yields continue to pressure longer-tailed lines but can encourage debt-financed M&A</p>	<p>Lack of Succession: Avg. age of an insurance agent is now 59 and rising. Difficulty attracting younger generation of talent.</p>
<p>Capital Management/Valuations: Prevalence of excess capital even after share repurchases; View that M&A may be more accretive to earnings than share repurchases</p>	<p>Scale and Efficiency: Need/desire to improve efficiency; New InsurTech start-ups active in the distribution segment.</p>

Personal Lines Growth Drivers

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

Monthly Change in Auto Insurance Prices, 1991–2017*

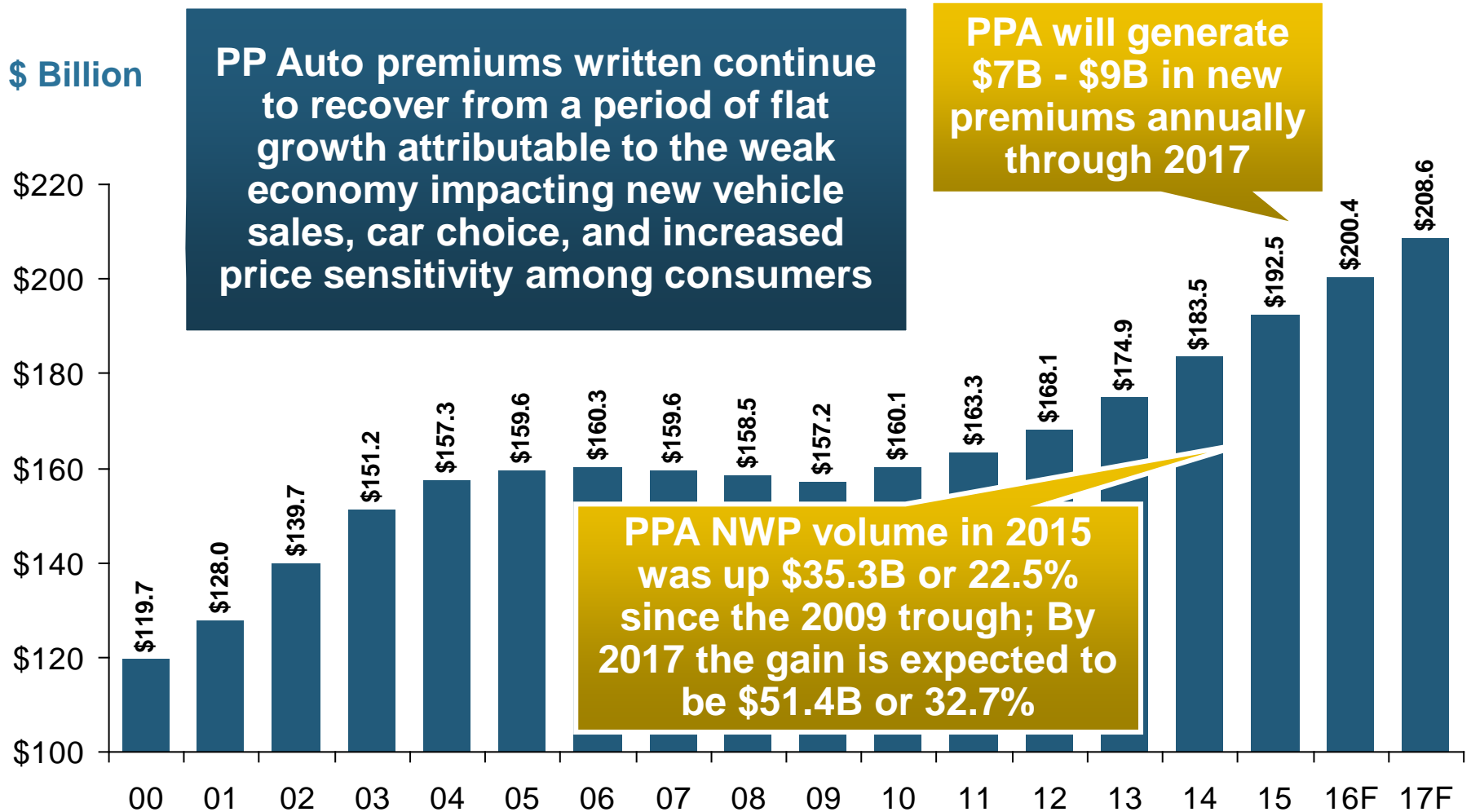


*Percentage change from same month in prior year; through Aug. 2017; seasonally adjusted

Note: Recessions indicated by gray shaded columns.

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

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

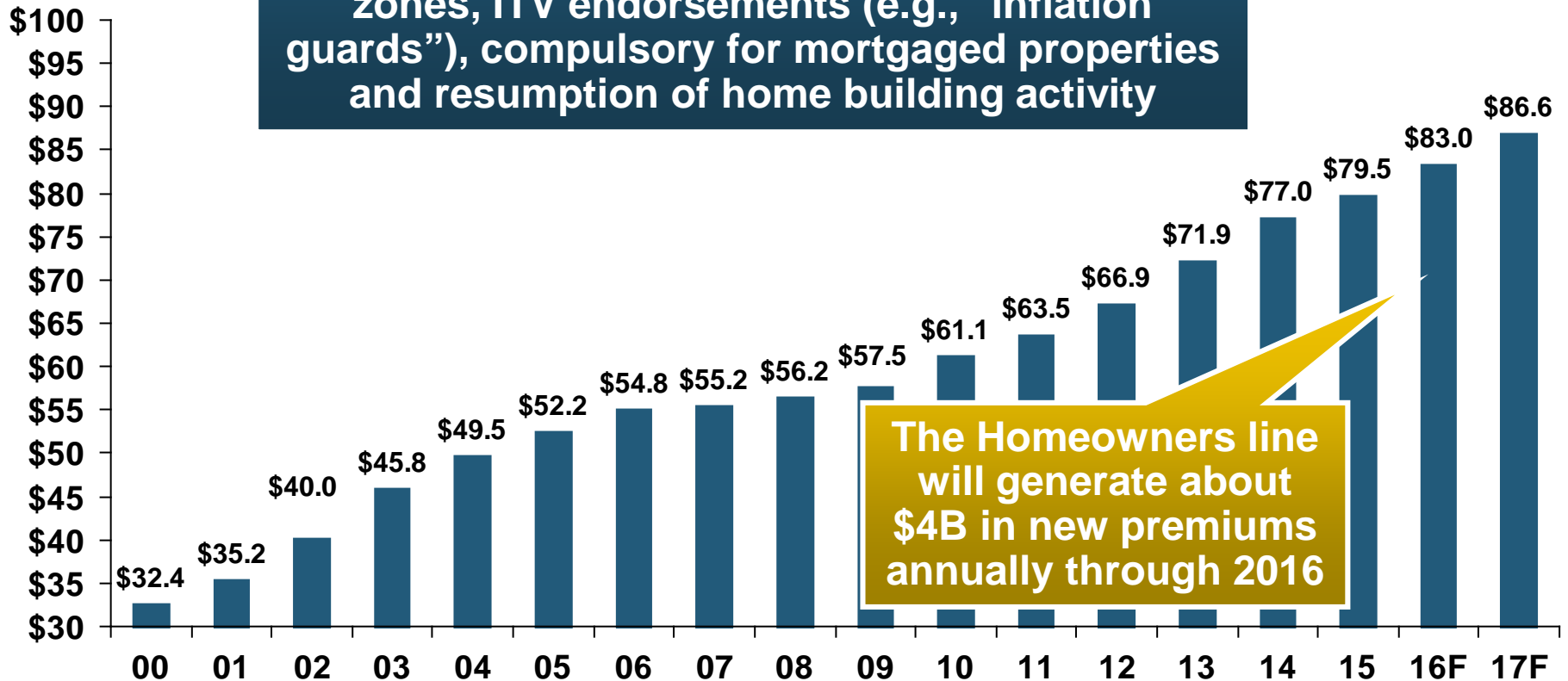


Sources: A.M. Best (1990-2014); Insurance Information Institute (2015-17F).

Homeowners Insurance Net Written Premium, 2000–2017F

\$ Billions

Homeowners insurance NWP continues to rise (up 167% 2000-2017F) despite very little unit growth during the real estate crash. Reasons include rate increases, especially in coastal zones, ITV endorsements (e.g., “inflation guards”), compulsory for mortgaged properties and resumption of home building activity

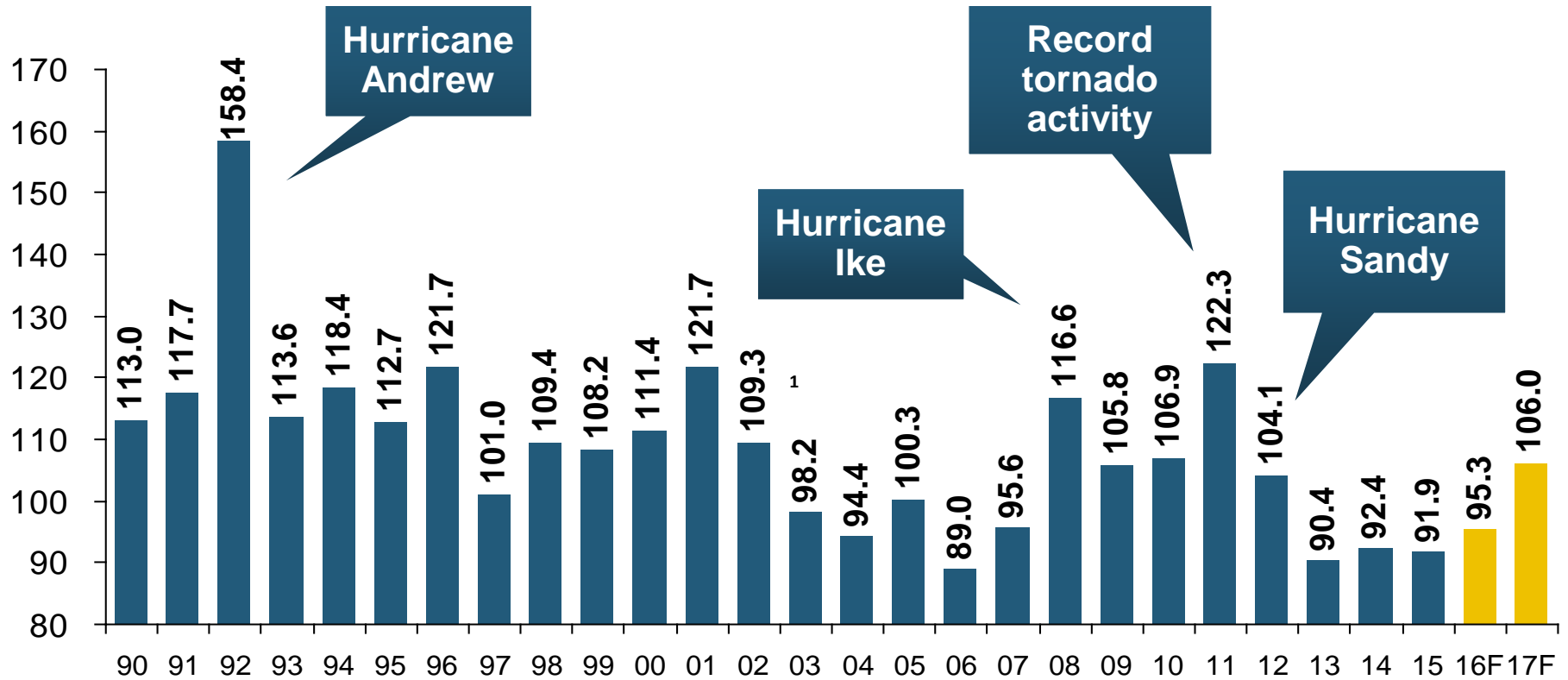


Auto & Home Insurance: State of the Personal Lines Market

**Auto Frequency and Severity Are an
Immediate Challenge**

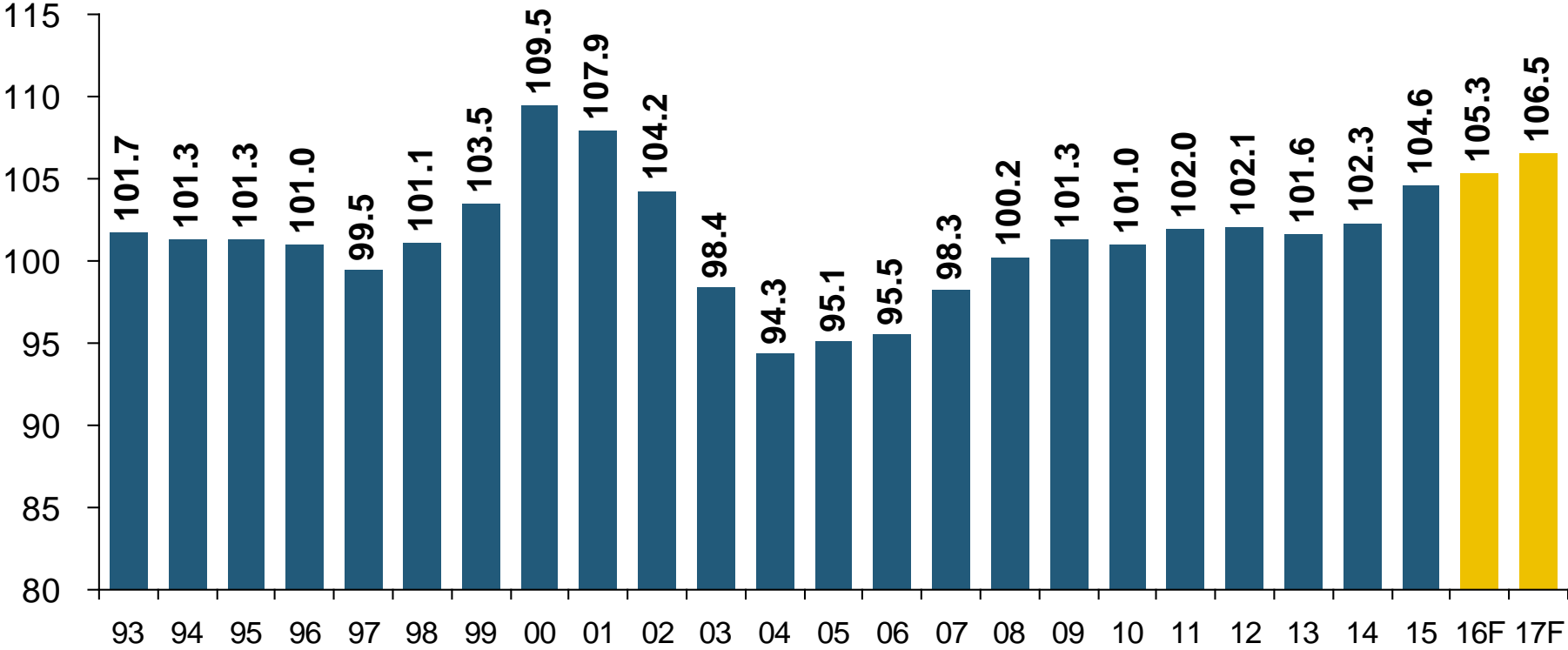
***Dearth of Major CATs (Until Recently),
Pricing Discipline Has Helped Home***

Homeowners Insurance Combined Ratio: 1990–2017F



Homeowners Performance Has Improved Markedly Since the 2011/12's Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity. Results in 2016 Will Be Impacted by Severe Spring Weather

Private Passenger Auto Combined Ratio: 1993–2017F



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

Sources: A.M. Best (1990-2015); USC RUM Center (2016E-17F).

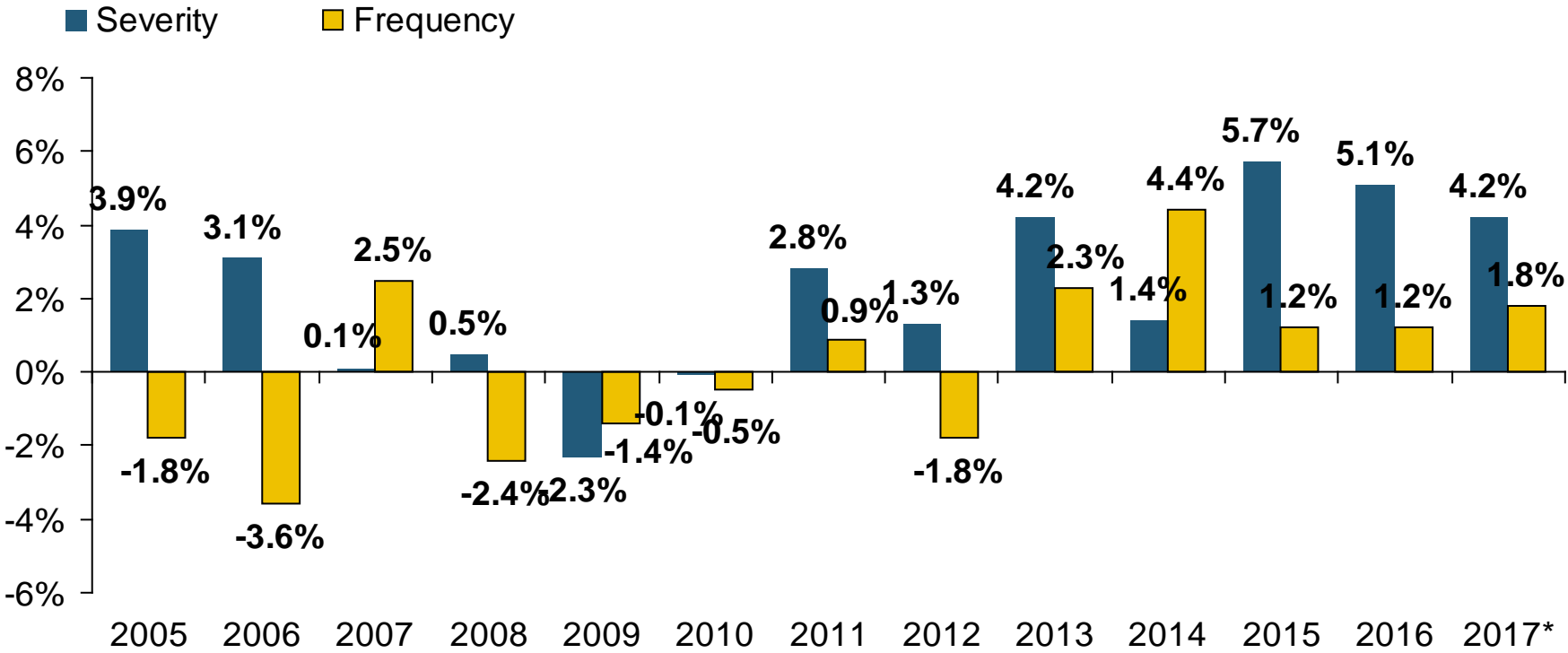
Claim Trends in Private Passenger Auto Insurance

**Rising Frequencies and Severities
in Many Coverages**

Will that Pattern Be Sustained?

Collision Coverage: Severity & Frequency Trends Are Both Higher in 2017*

Annual Change, 2005 through 2017*



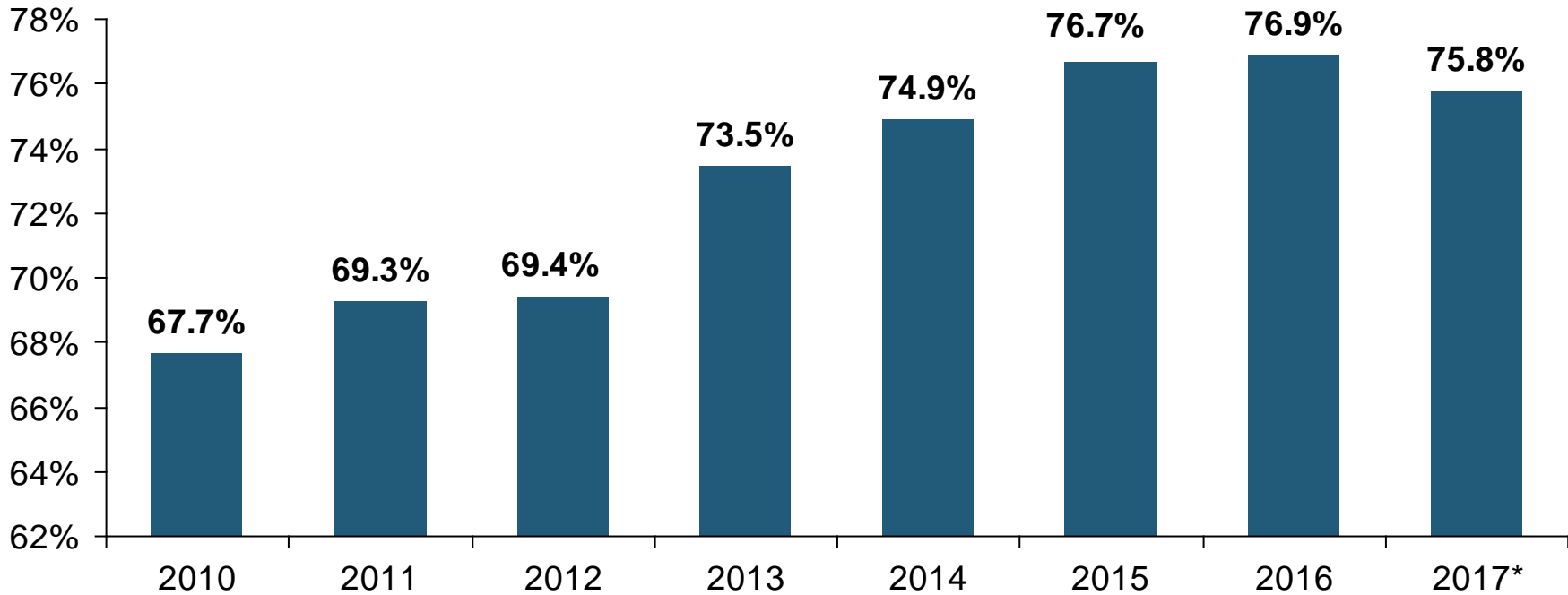
The Recession, High Fuel Prices Helped Temper Frequency and Severity, But this Trend Has Clearly Reversed, Consistent with Experience from Past Recoveries

*Four quarters ending with 2017 Q1.

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

Collision Loss Ratio Trending Upward: Private Passenger Auto, 2010 – 2017*

Loss Ratio

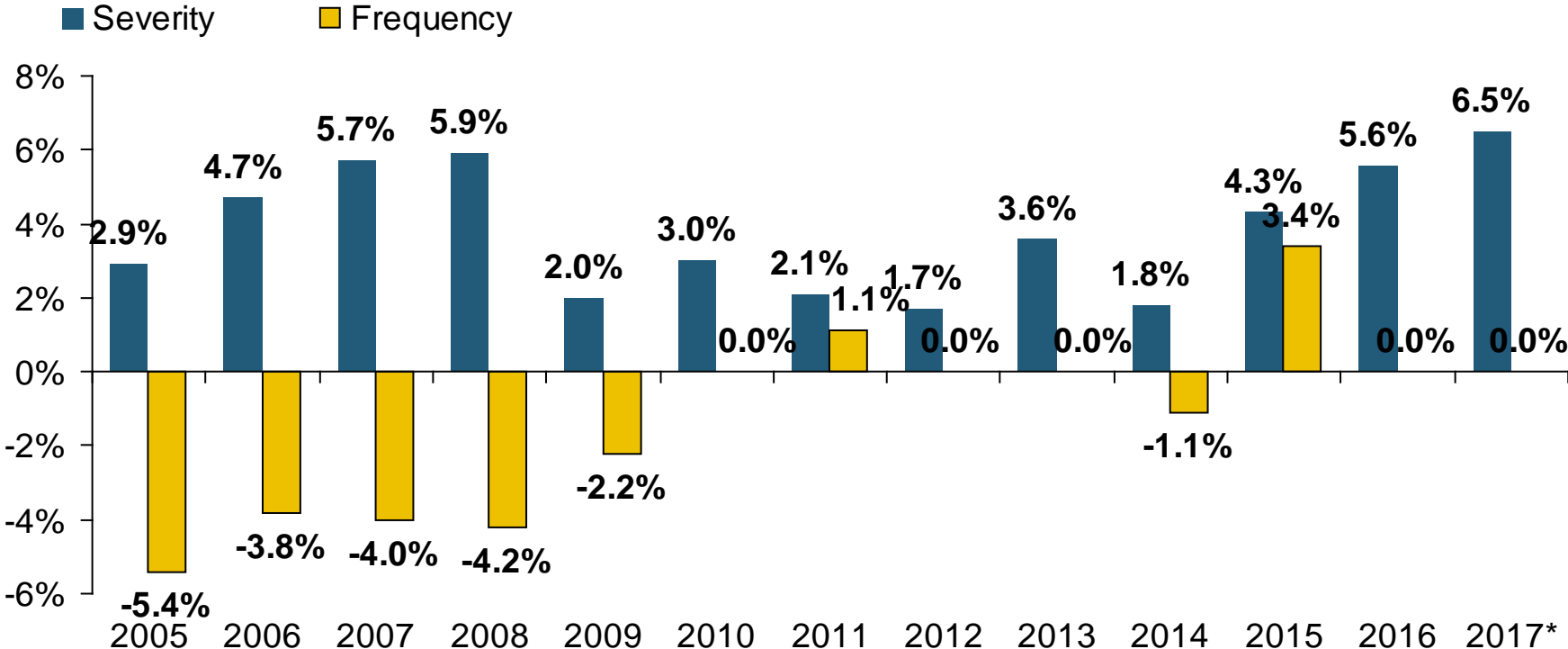


Collision Loss Ratios are Trending Steadily Upward

*2017 figure is for the 4 quarters ending in 2017:Q1
Source: ISO/PCI *Fast Track* data; Insurance Information Institute

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

Annual Change, 2005 through 2017*

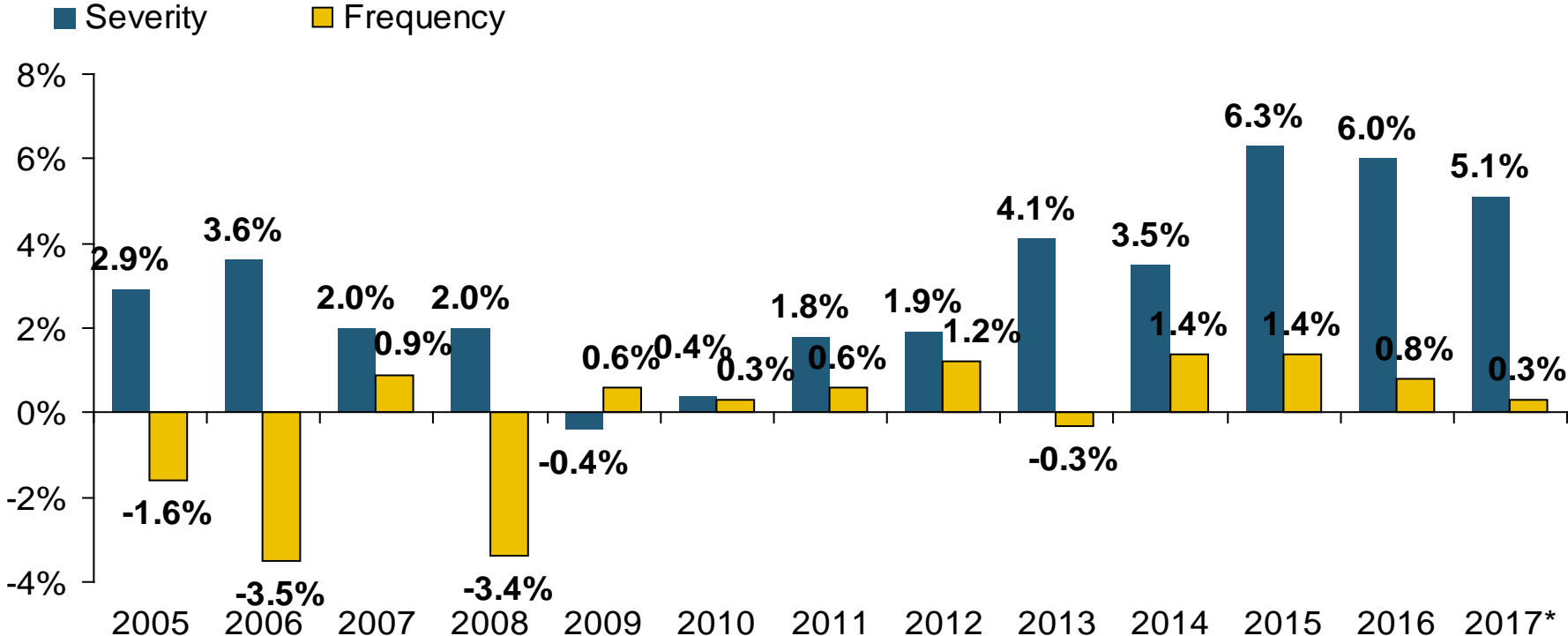


Cost Pressures Will Increase if BI Frequency and Severity Trends Persist

*2017 figure is for the 4 quarters ending 2017:Q1.
 Source: ISO/PCI *Fast Track* data; Insurance Information Institute

Property Damage Liability: Severity and Frequency Are Up

Annual Change, 2005 through 2017*



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

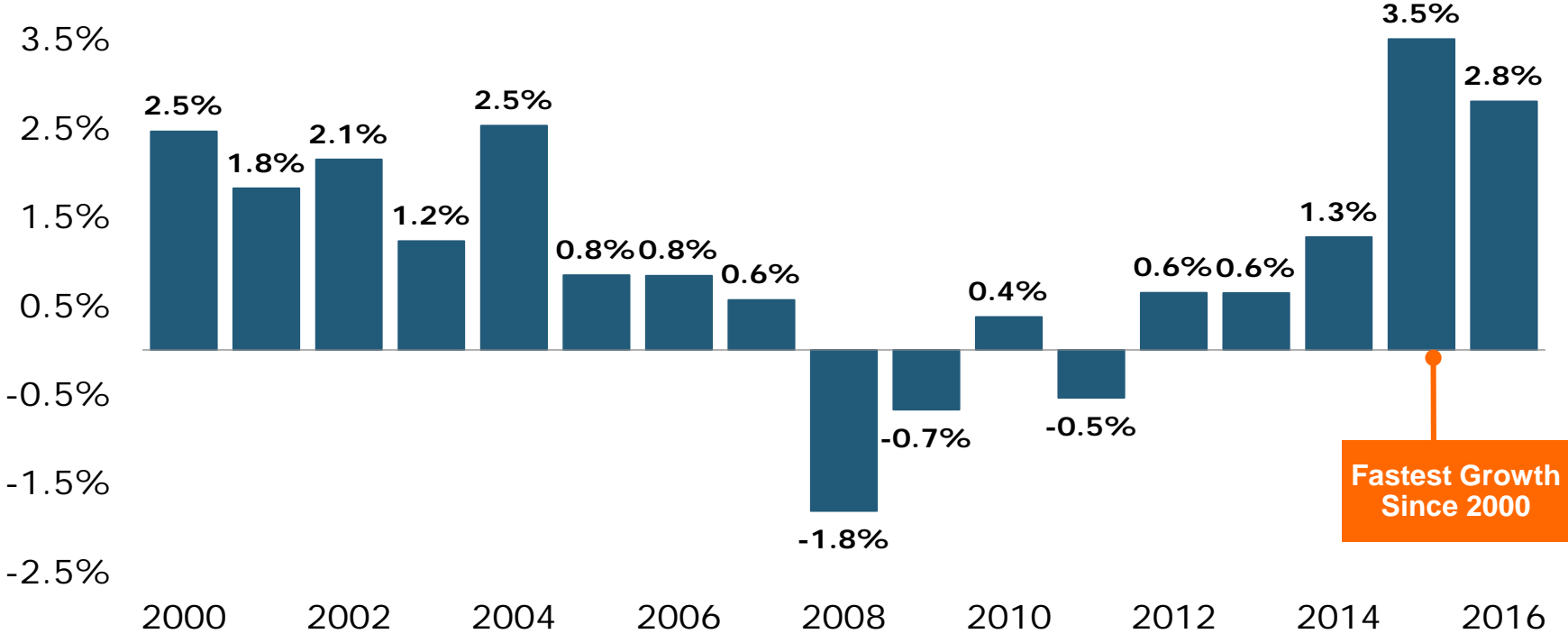
*2017 figure is for the 4 quarters ending 2017:Q1.
 Source: ISO/PCI *Fast Track* data; Insurance Information Institute

A Few Factors Driving Adverse Private Passenger Auto Loss Trends

More Jobs, Better Economy, More People Driving, Lower Gas Prices, More Expensive Cars, Higher Speed Limits...

America is Driving More Again: 2000-2016

Percent Change, Miles Driven*



Fastest Growth Since 2000

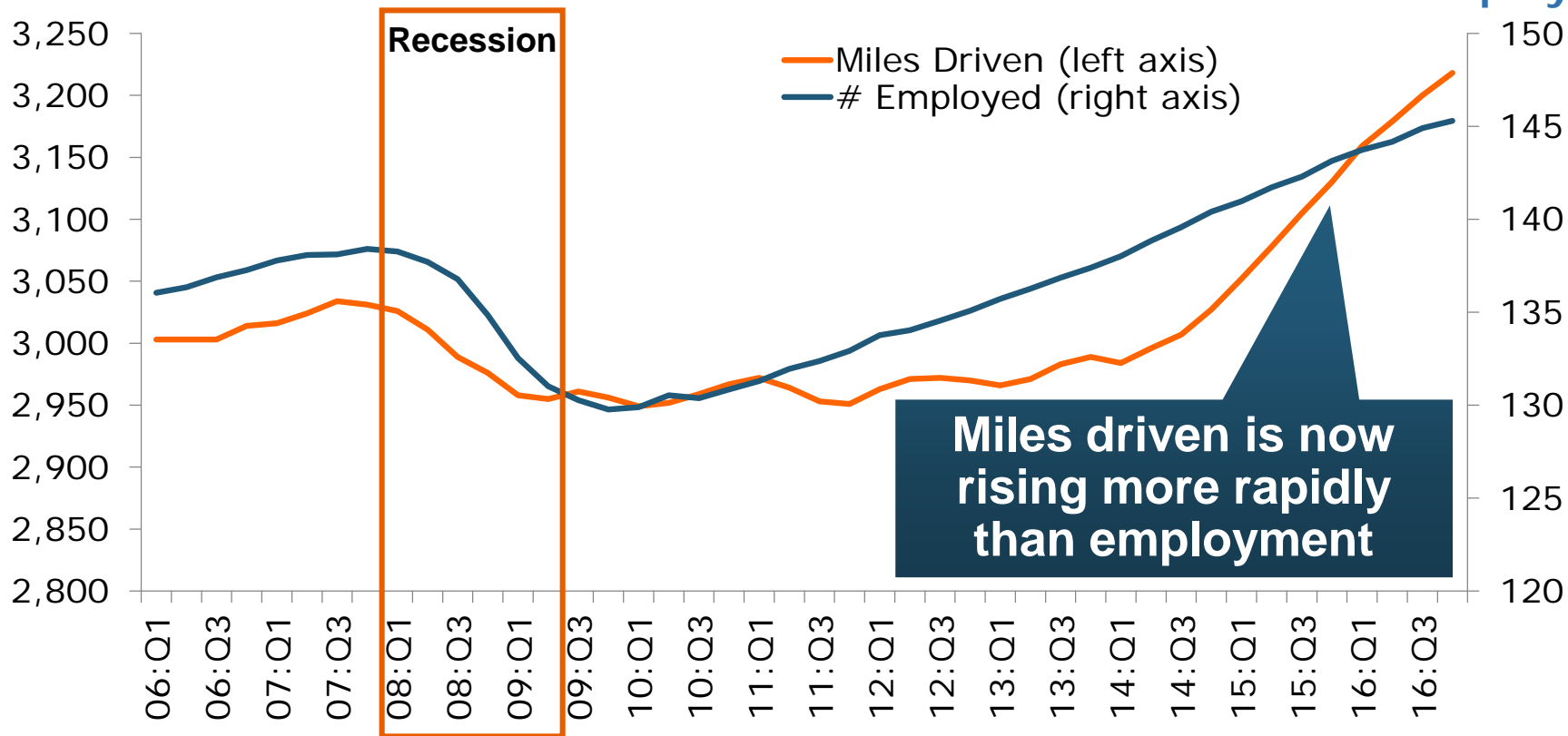
Tremendous Growth In Miles Driven. The More People Drive, The More Frequently They Get Into Accidents.

*2000-2015: Moving 12-month total vs. prior year. 2016 data through Dec. 2016, the latest available, vs. Dec. 2015.
Sources: [Federal Highway Administration](#); National Bureau of Economic Research (recession dates); Insurance Information Institute.

Why Are People Driving More Miles? Is it Jobs? 2006-2016:Q4

Billions of Miles Driven
in Prior Year

Millions
Employed



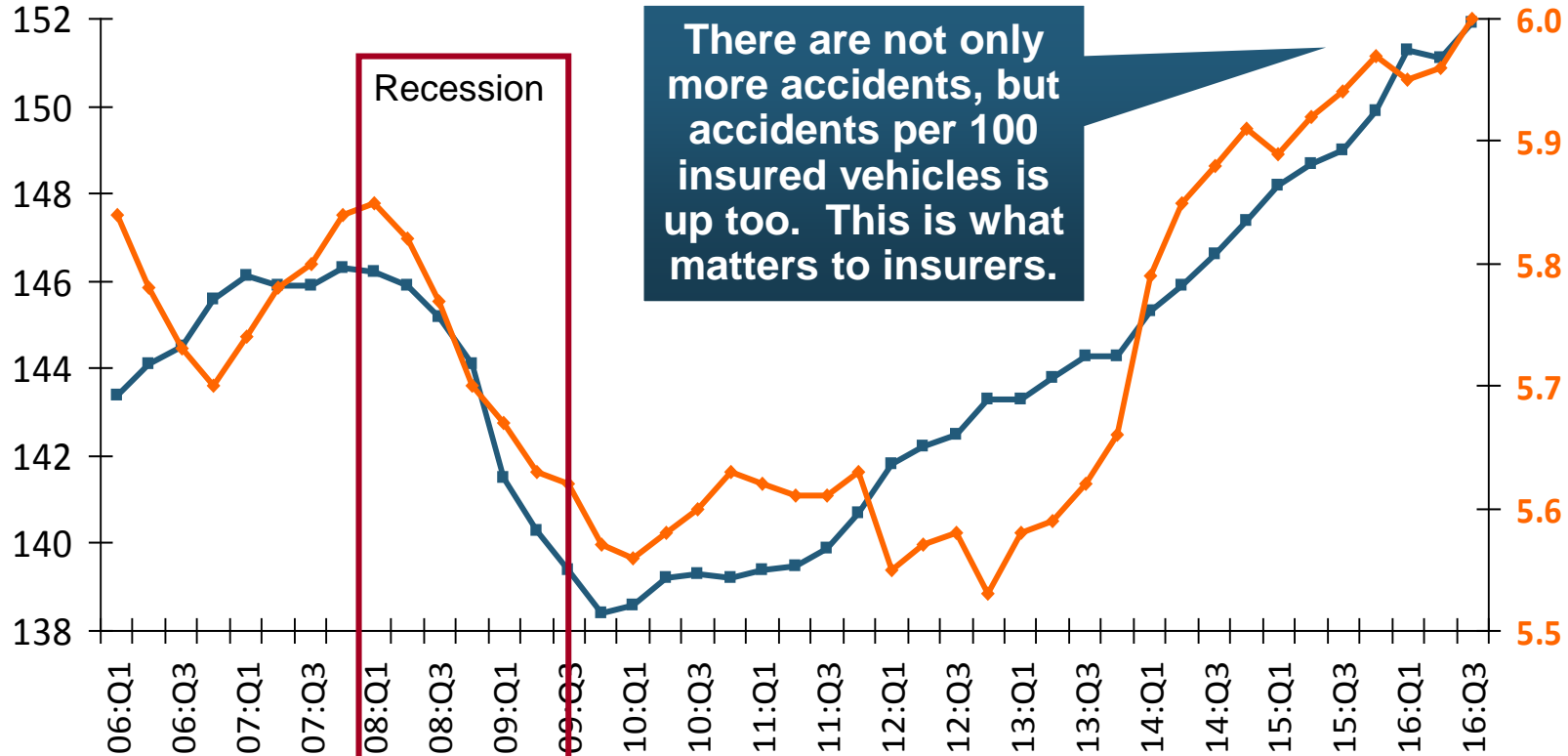
**People Drive to and from Work and Drive to Entertainment.
Out of Work, They Curtail Their Movement.**

More People Working and Driving => More Collisions, 2006-2016:Q3

Number
Employed,
Millions

Number Employed (left scale) Collision Claim Frequency (right scale)

Overall
Collision Claims
Per 100 Insured
Vehicles



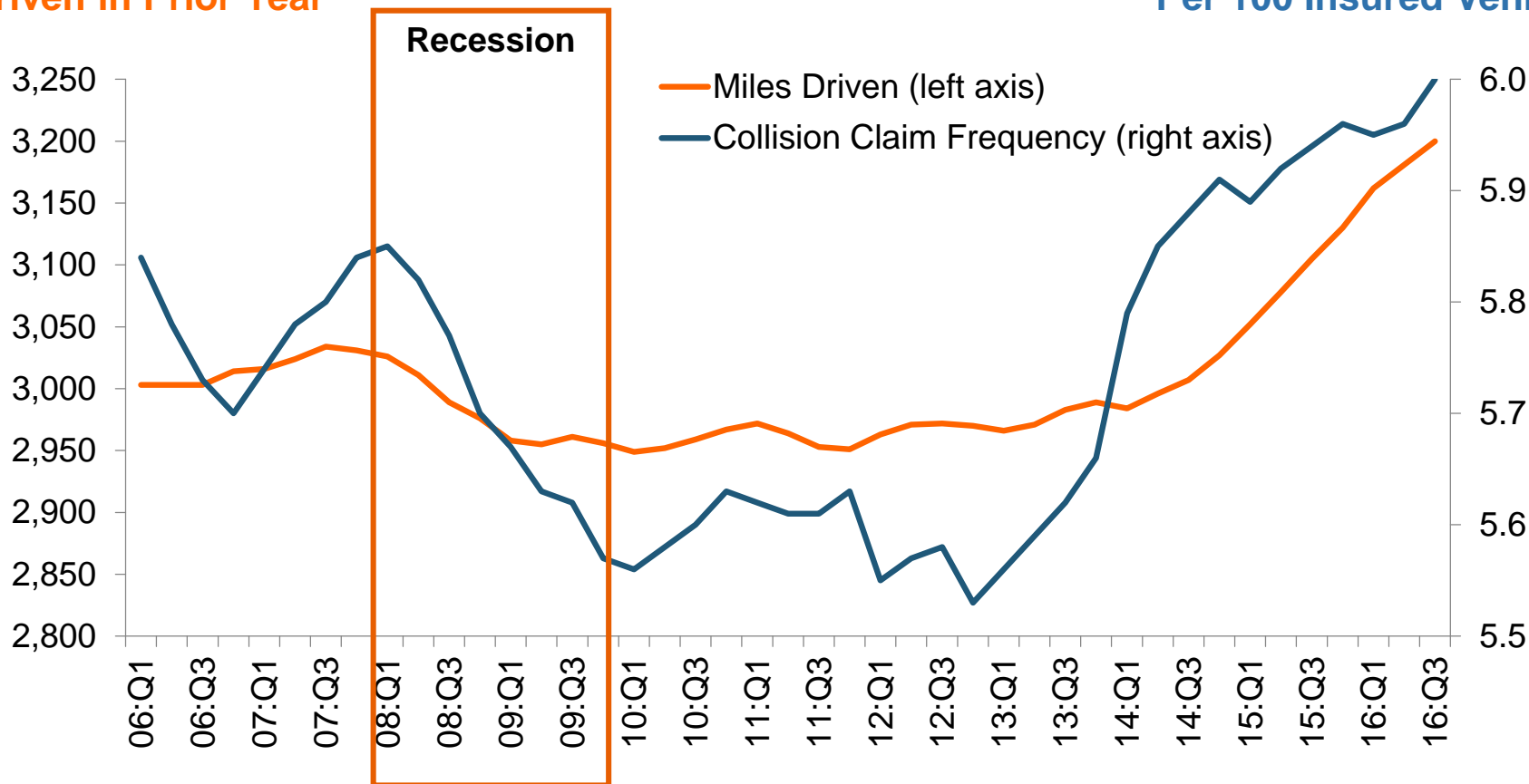
When people are out of work, they drive less. When they get jobs, they drive to work, helping drive claim frequency higher.

Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Rolling 4-Qtr. Avg. Frequency from Insurance Services Office; Insurance Information Institute.

More Miles Driven → More Collisions, 2006-2016:Q3

Billions of Miles
Driven in Prior Year

Overall Collision Claims
Per 100 Insured Vehicles

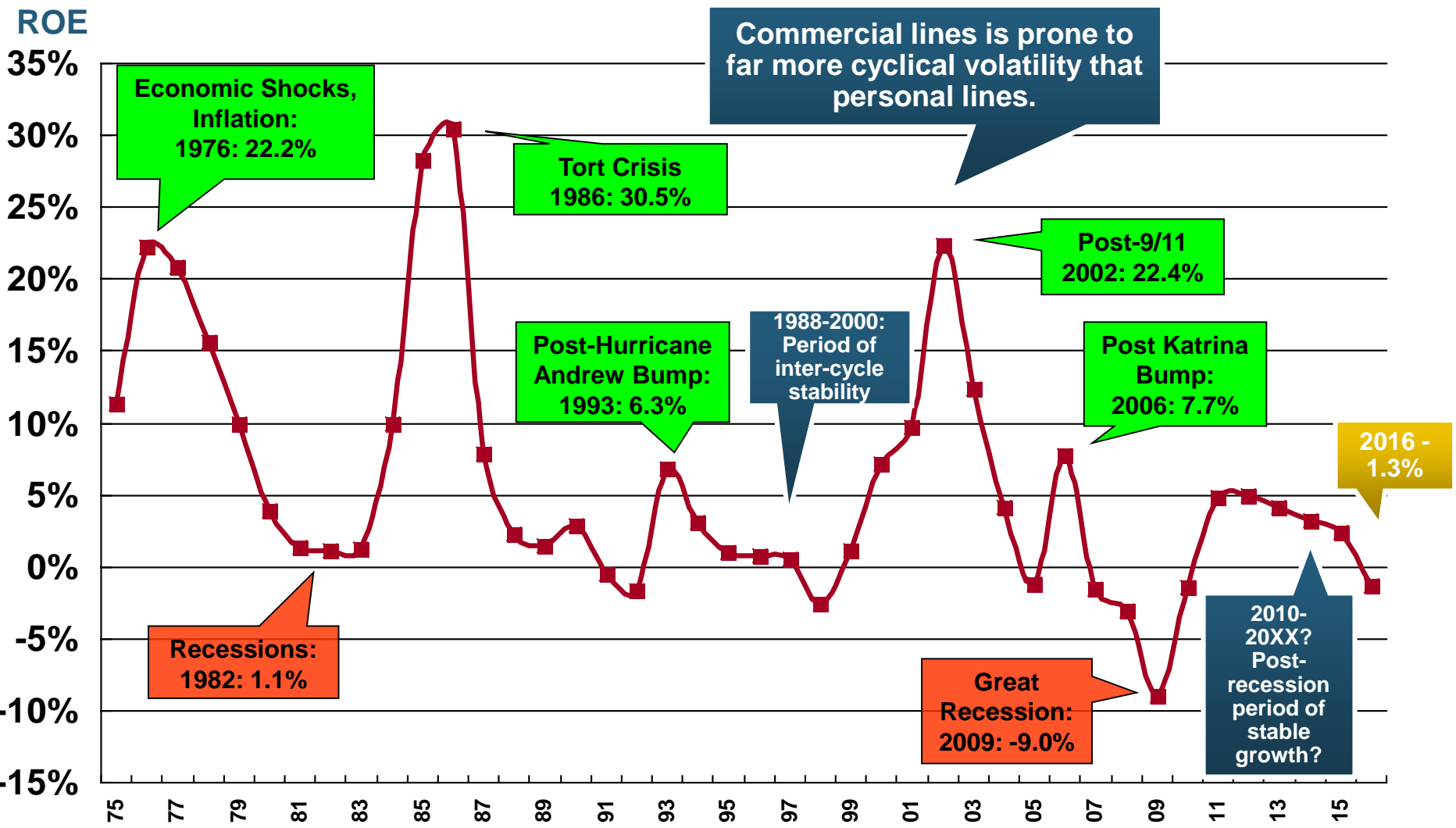


The More Miles People Drive, the More Likely They are to Get in an Accident, Helping Drive Claim Frequency Higher.

Commercial Lines Performance

**Survey Results Suggest
Commercial Pricing Has
Flattened Out, with Impacts
on Growth**

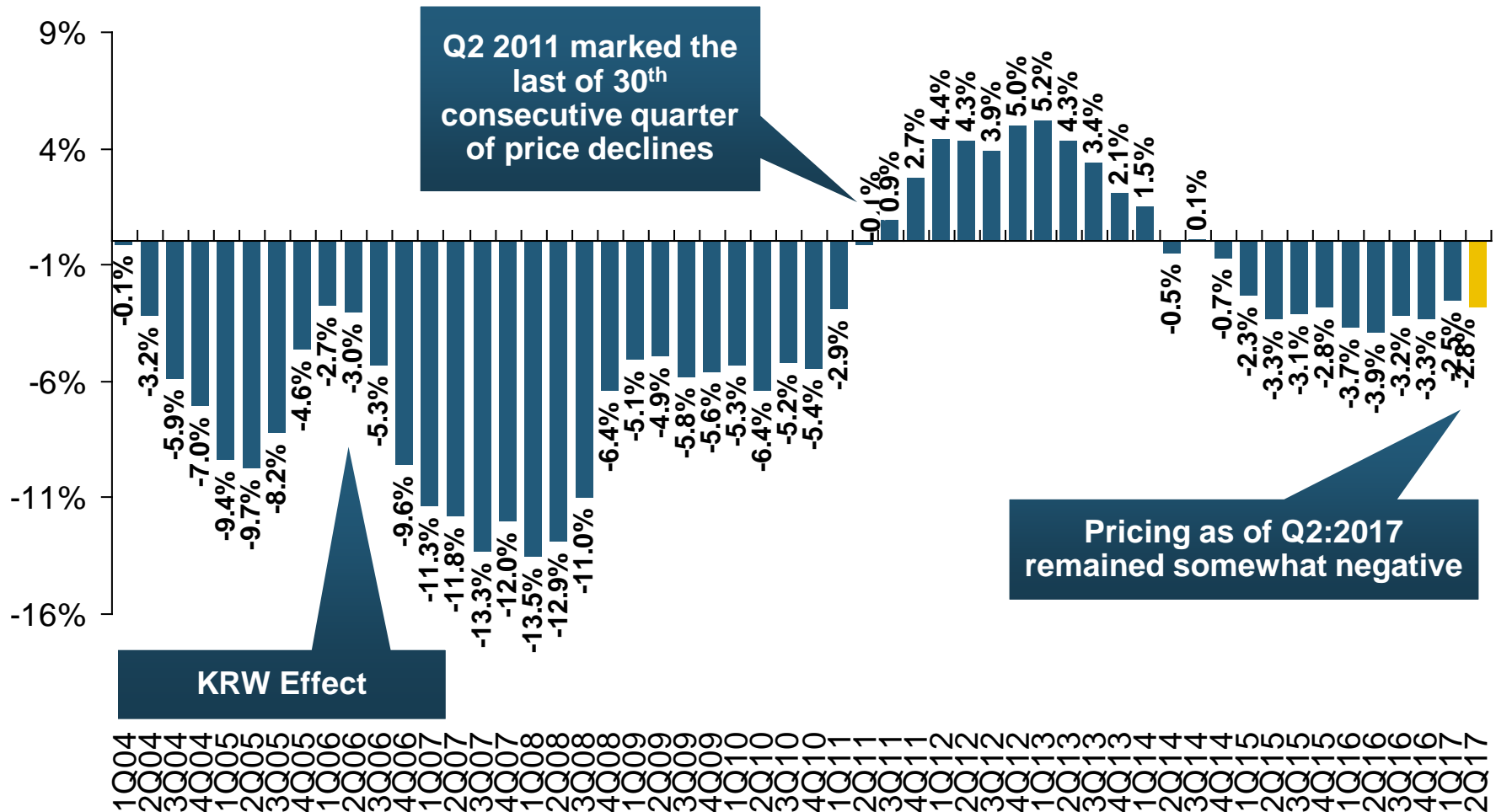
Commercial Lines NPW Premium Growth: 1975 – 2016



Note: Data include state funds beginning in 1998.
 Source: A.M. Best; Insurance Information Institute.

CIAB: Average Commercial Rate Change, All Lines, (1Q:2004–2Q:2017)

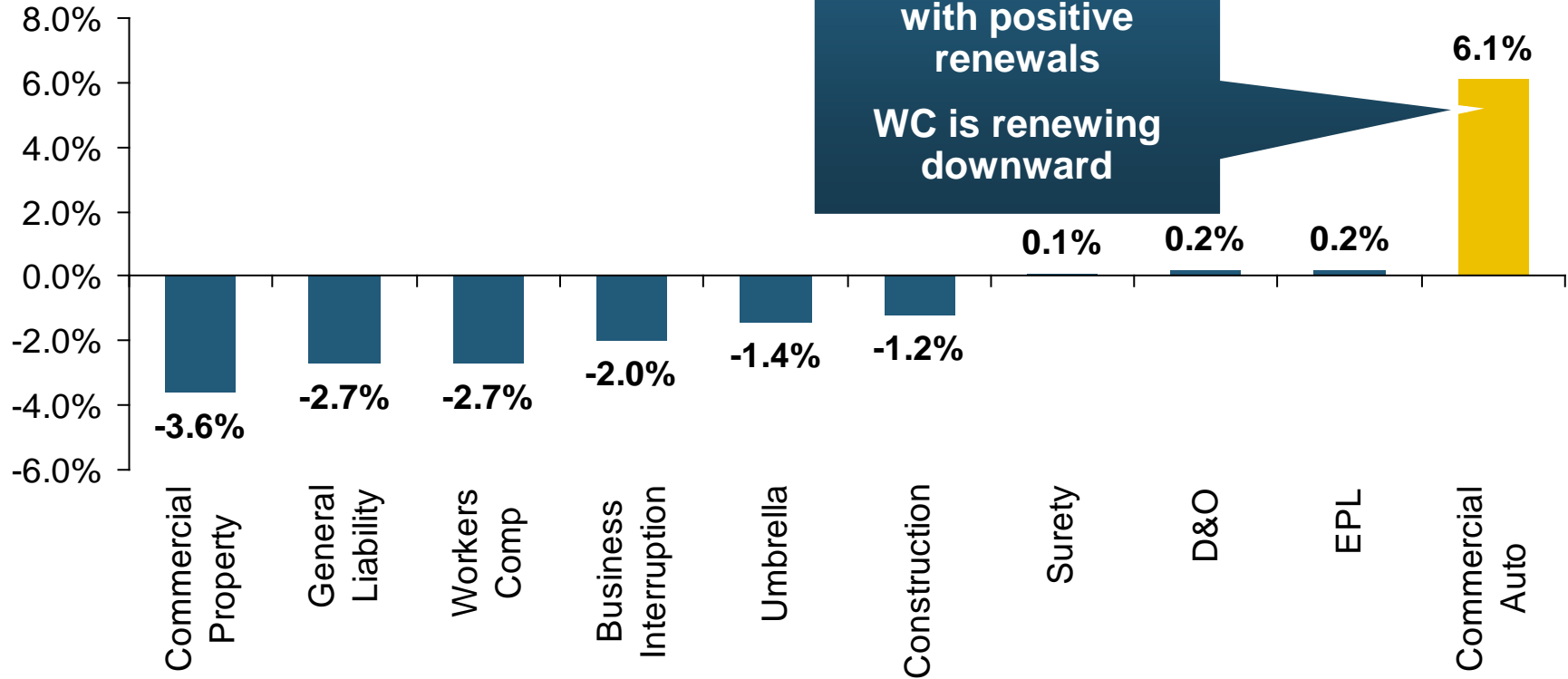
(Percent)



Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.
 Source: Council of Insurance Agents & Brokers; Insurance Information Institute

Change in Commercial Rate Renewals, by Line: 2017:Q2

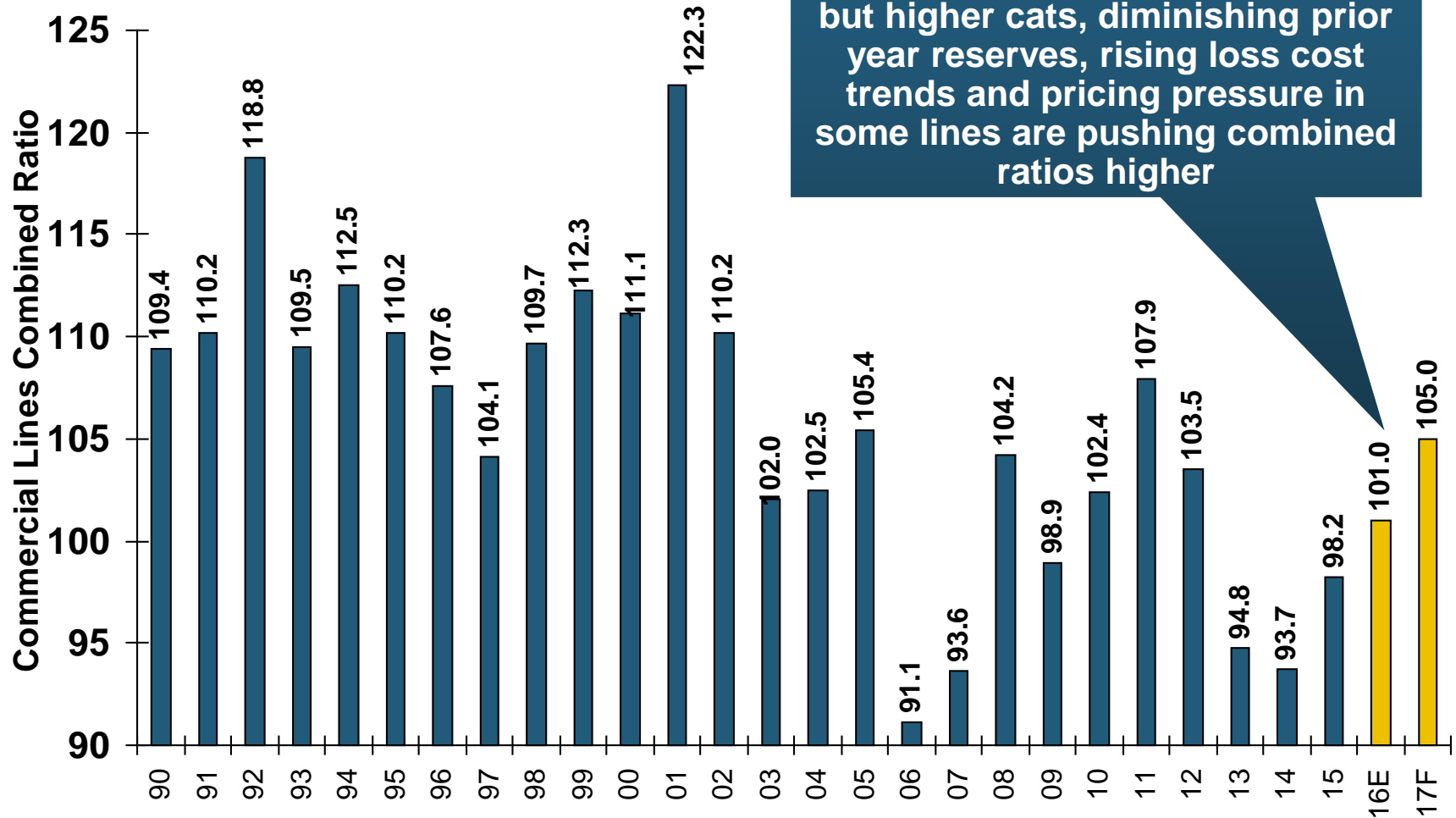
Percentage Change (%)



Major Commercial Lines Renewals Were General Down in Q2:2017; Only Commercial Auto Saw Material Gains

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Insurance Information Institute.

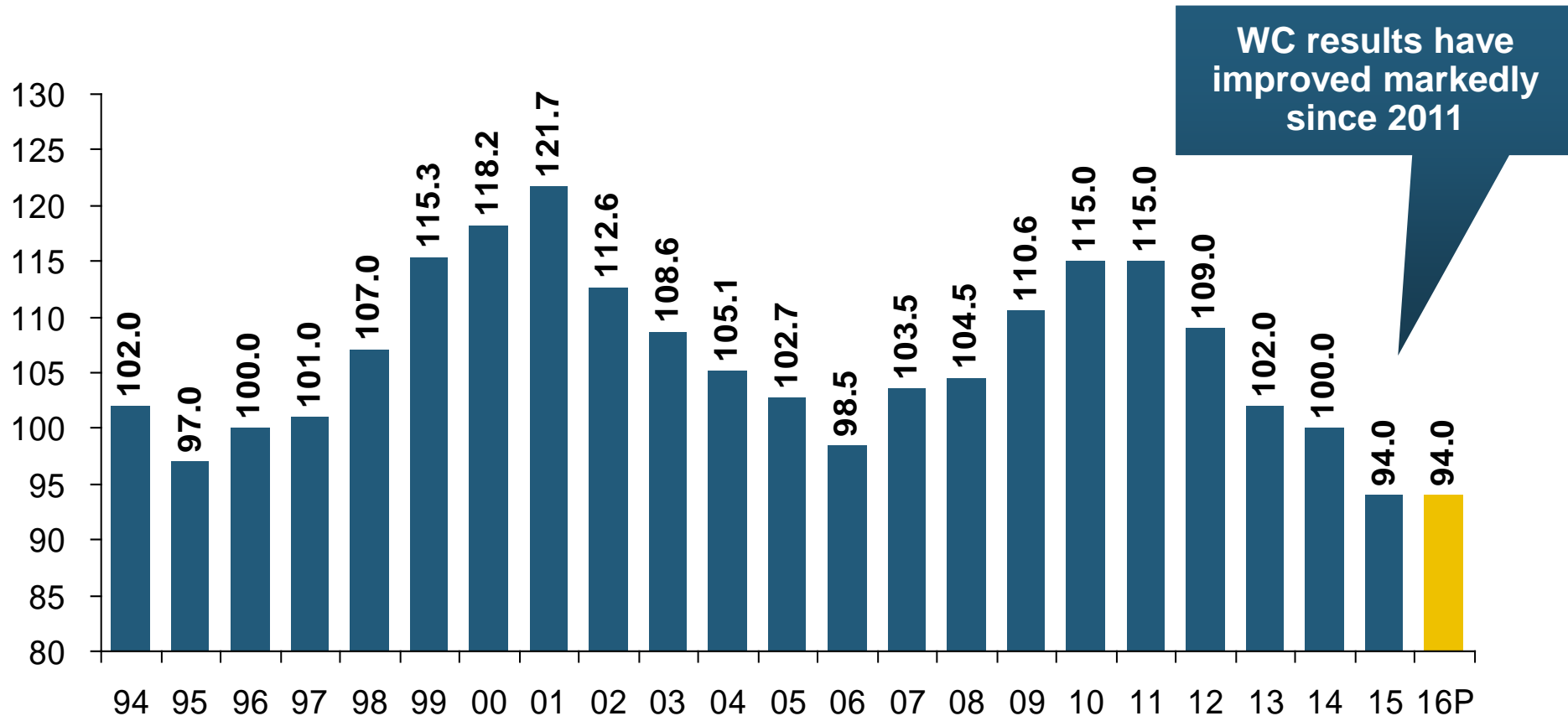
Commercial Lines Combined Ratio, 1990-2017F*



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

Source: A.M. Best (1990-2015); USC RUM Center (2016E-17F).

Workers Compensation Combined Ratio: 1994–2016P



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

INDUSTRY DISRUPTORS

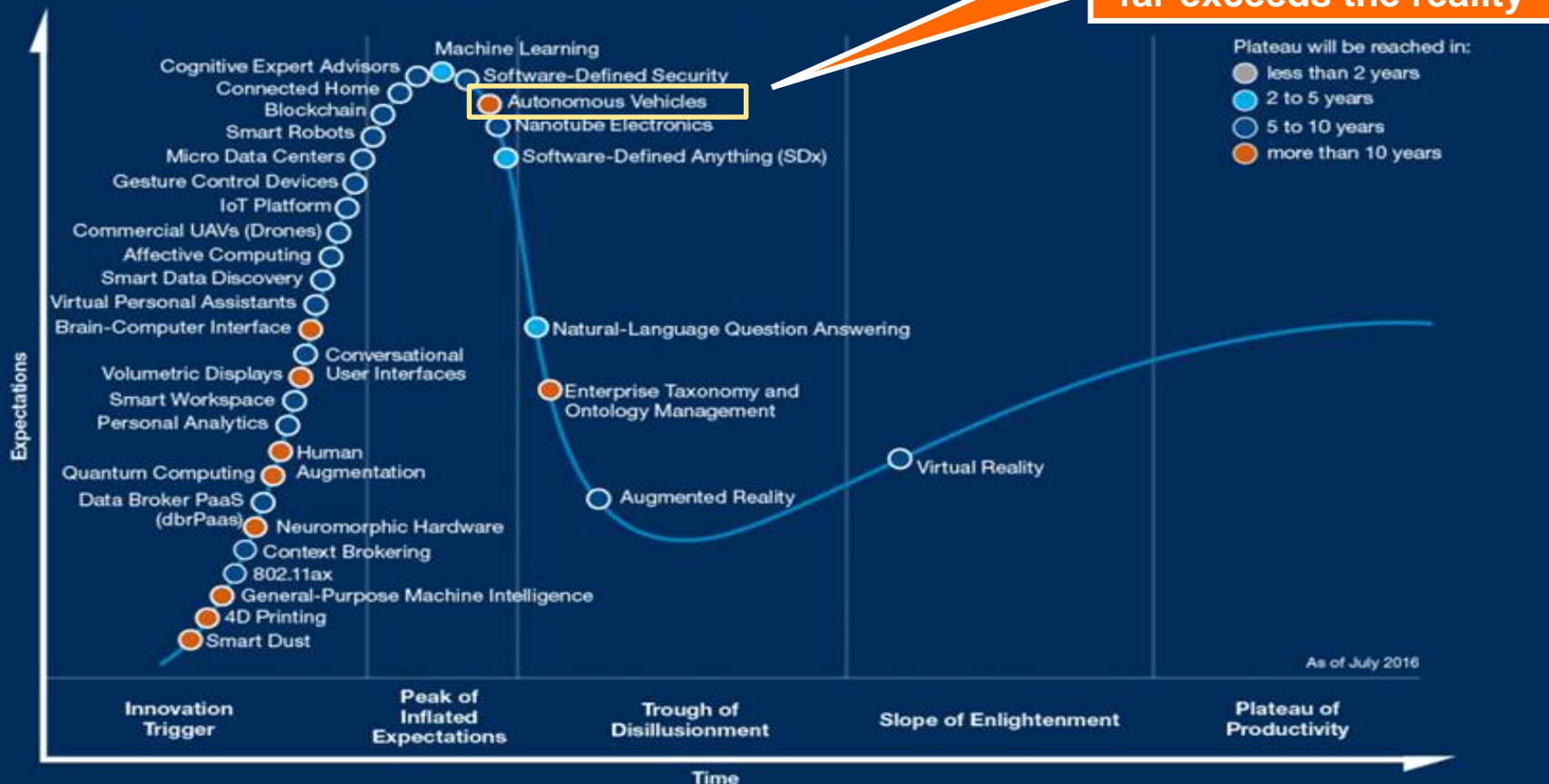
**Technology, Society and
the Economy Are All
Changing at a Rapid Pace**

***Reality vs. Drinking the
Silicon Valley Kool Aid***

The Sharing Economy Has Grown— And Attracted Political Scrutiny

There's no question that the hype around autonomous vehicles far exceeds the reality

Emerging Technology Hype Cycle for 2016

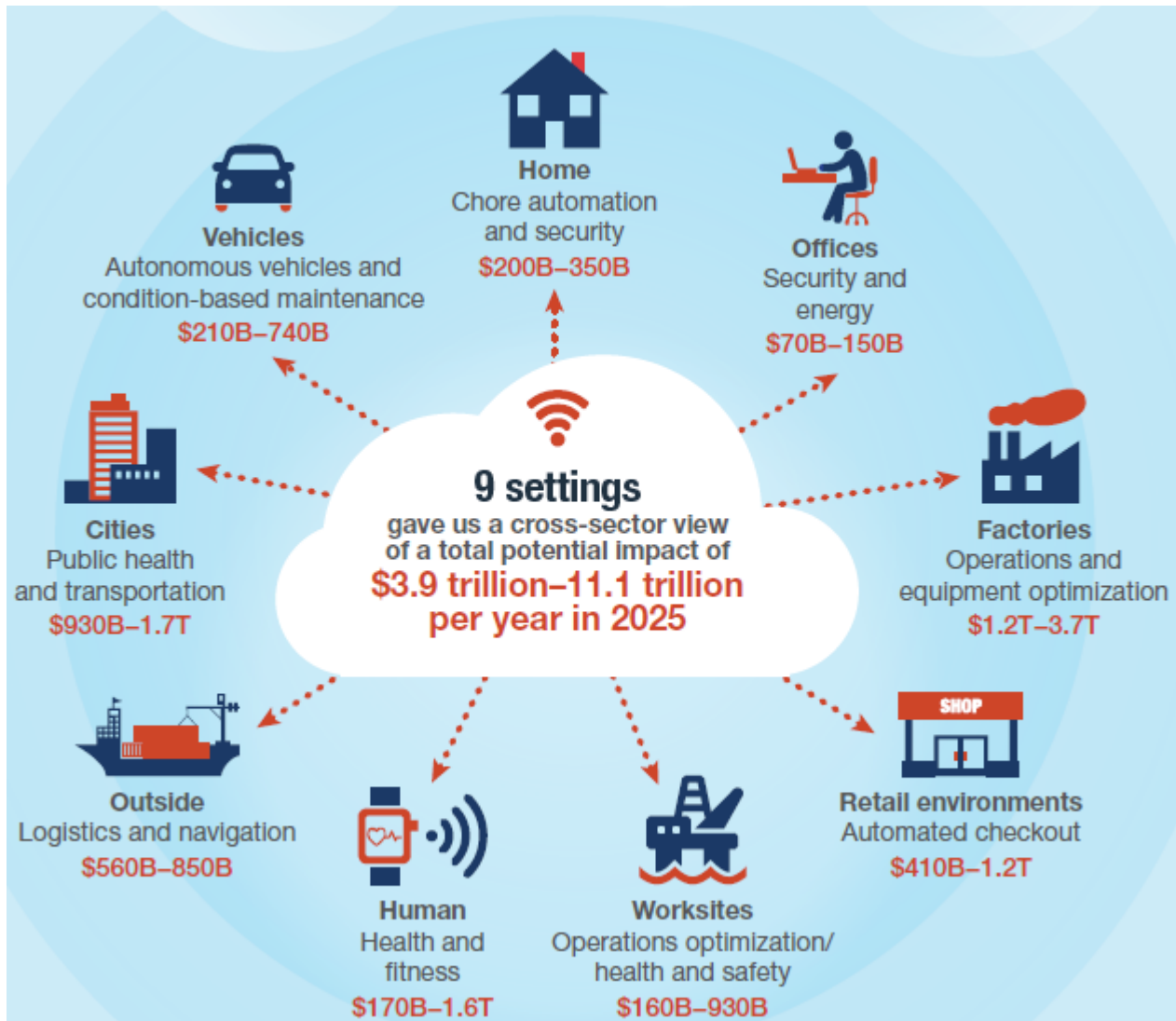


Source: Gartner
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THE 'INTERNET OF THINGS'

Capturing Economic Value Amid a Shifting Insurer Value Chain

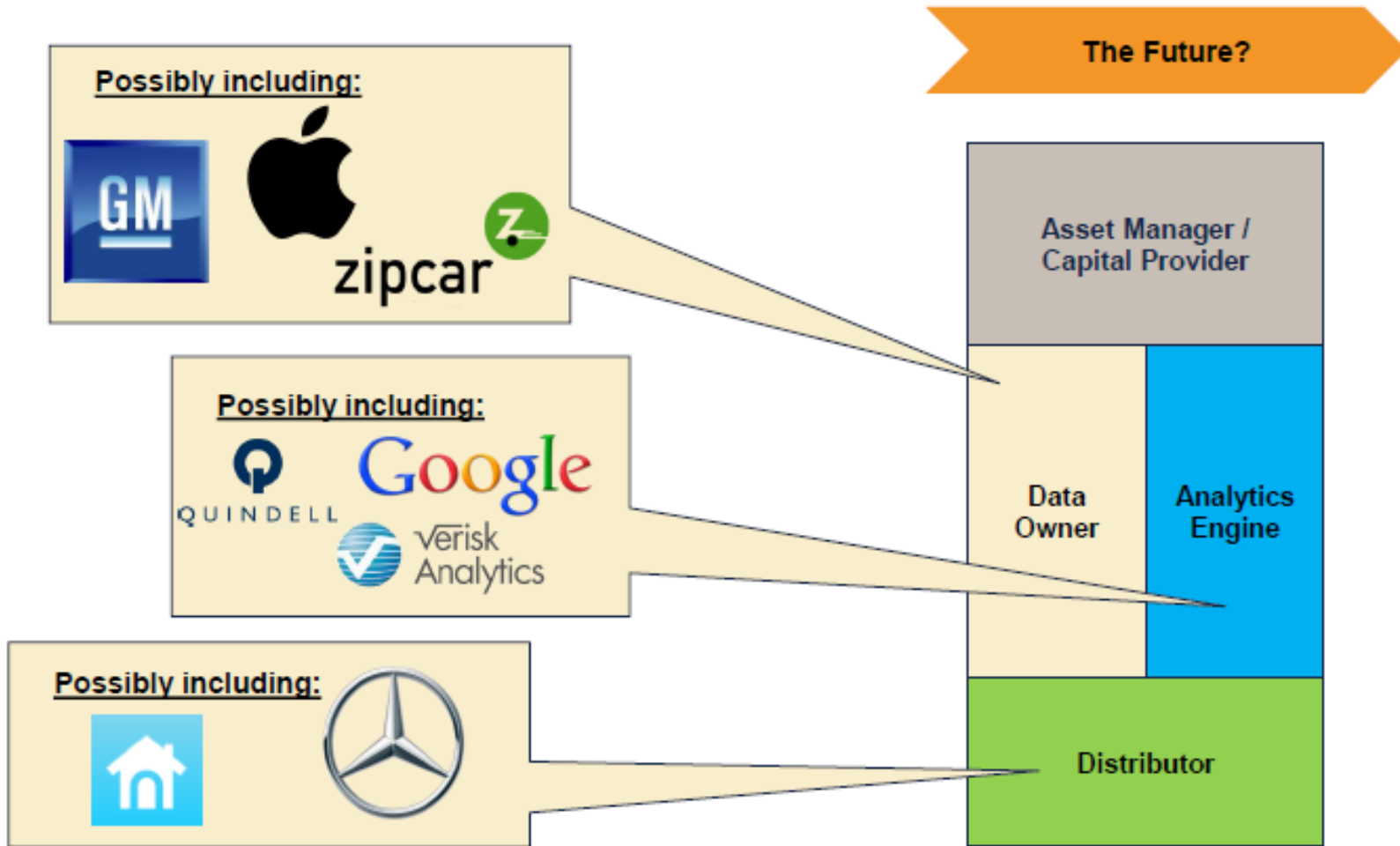
The Internet of Things and the Insurance Industry



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

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

The Internet of Things and the Insurance Industry Value Chain



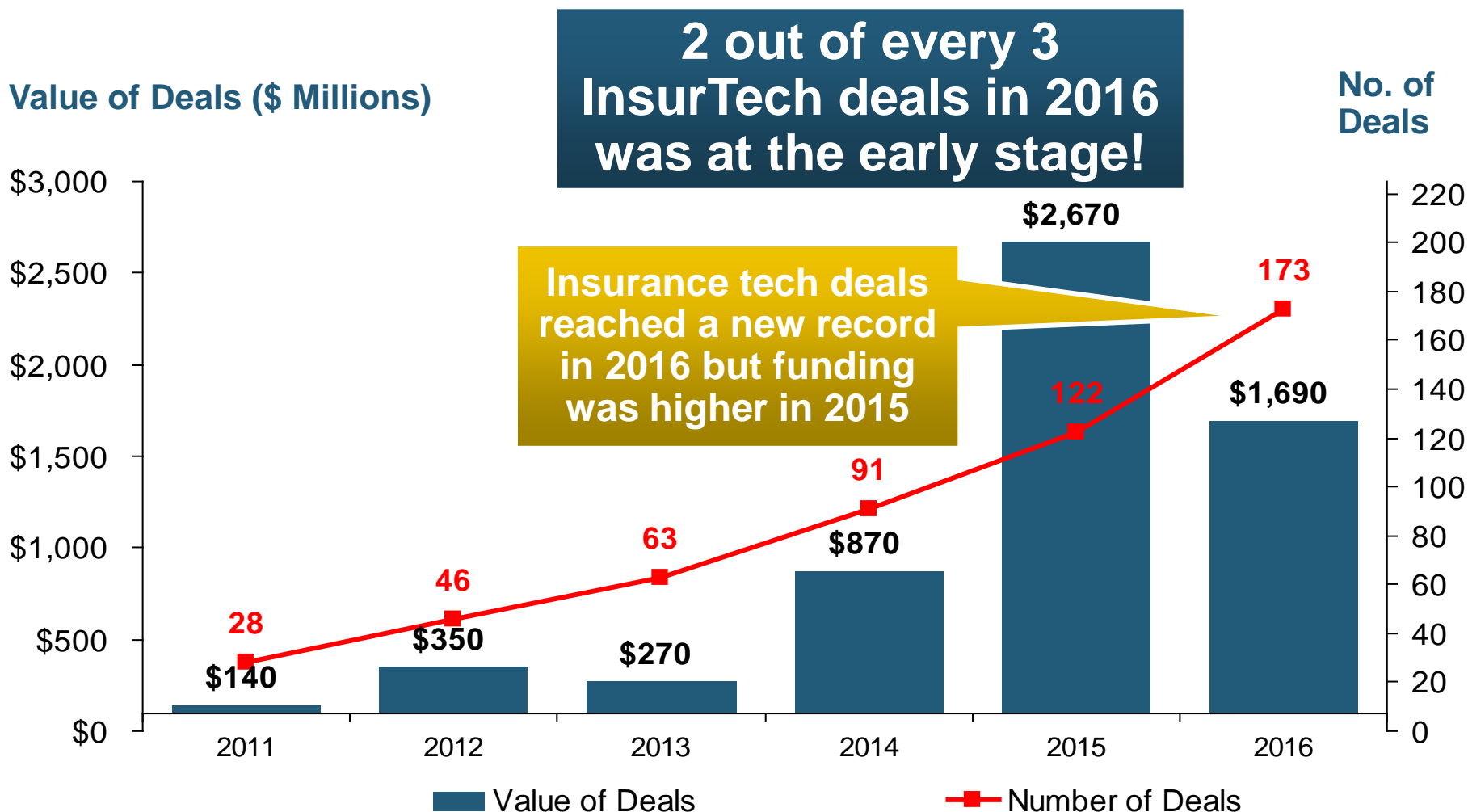
**Who owns the data? Where does it flow? Who does the analytics?
Who is the capital provider?**

INSURANCE TECHNOLOGY: *FIN TECH ZEROES IN*

Number and Value of Deals Is Increasing

In Search of the Elusive Insurance 'Unicorn'

InsurTech Annual Financing, 2011 – 2016



Early Stage InsurTech Financing (Seed/Series A), 2011 – 2016

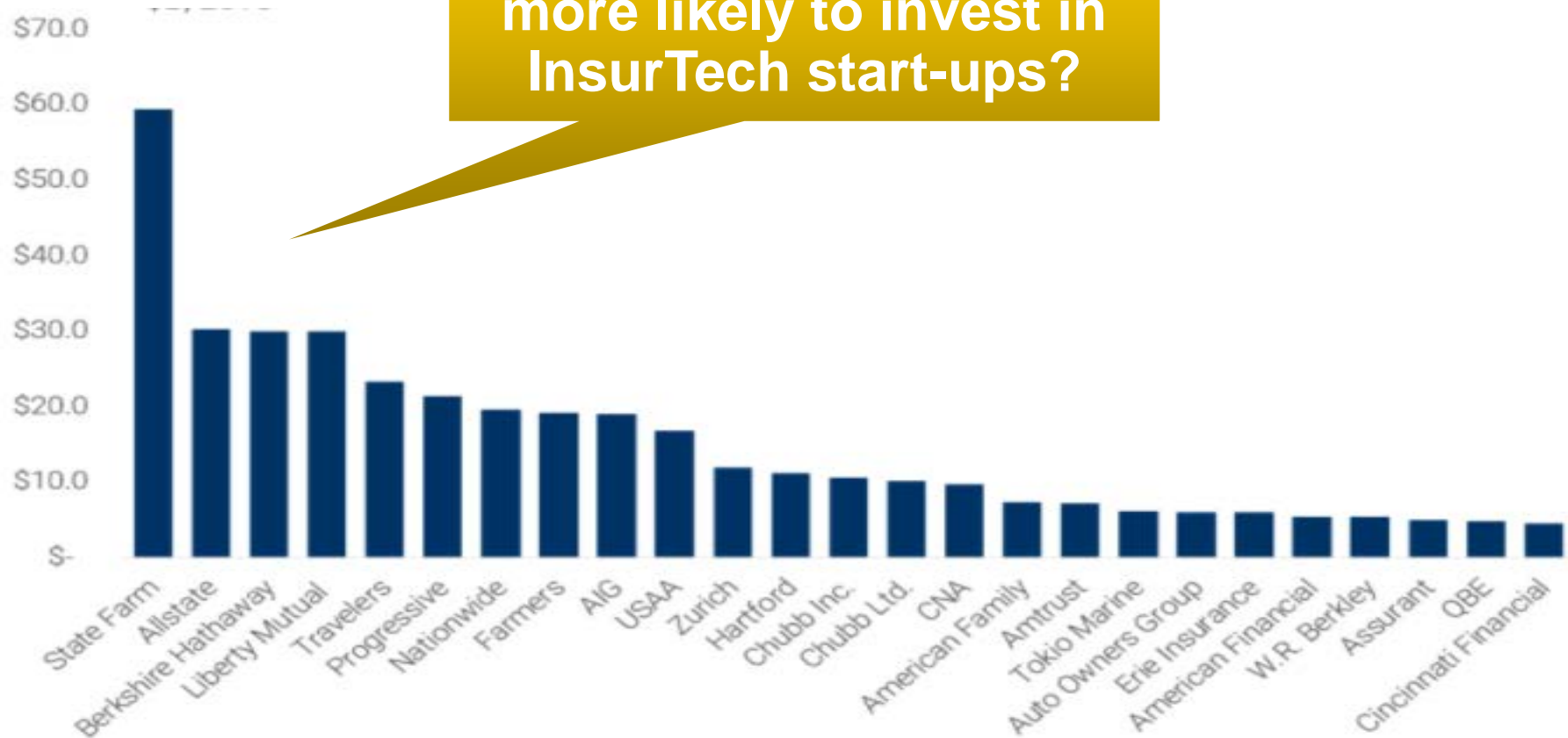
There was a sharp increase in early stage InsurTech financing in 2016, increasing to \$508 million, a 56% increase over 2015.

2 out of every 3 InsurTech deals in 2016 was at the early stage!



Top 25 P/C Insurers by Direct Written Premium, 2015

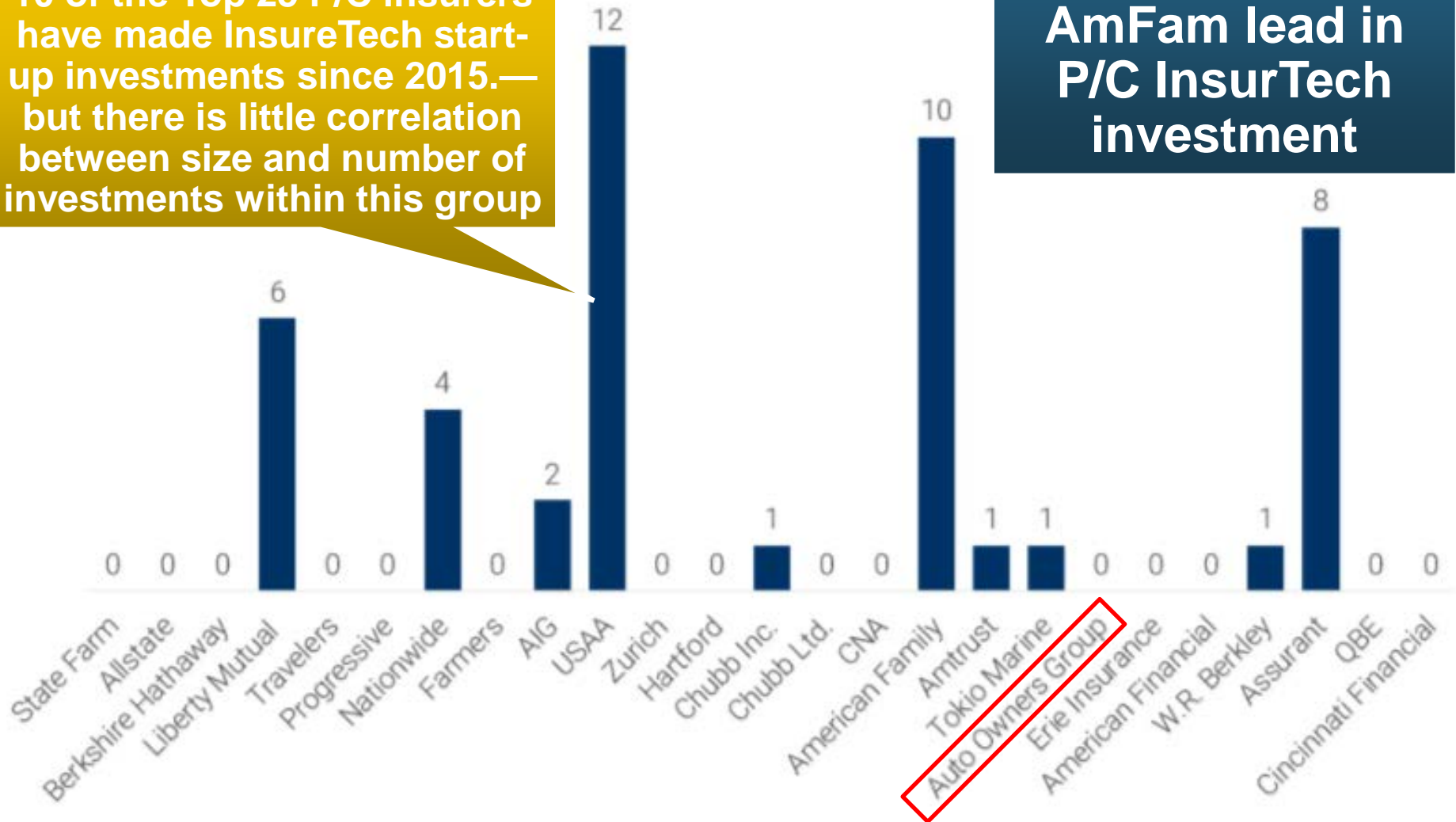
Are large P/C insurers more likely to invest in InsurTech start-ups?



Start-Up InsurTech Investments by Top 25 P/C Insurers, 2015 - 2017*

10 of the Top 25 P/C insurers have made InsureTech start-up investments since 2015.— but there is little correlation between size and number of investments within this group

USAA and AmFam lead in P/C InsurTech investment



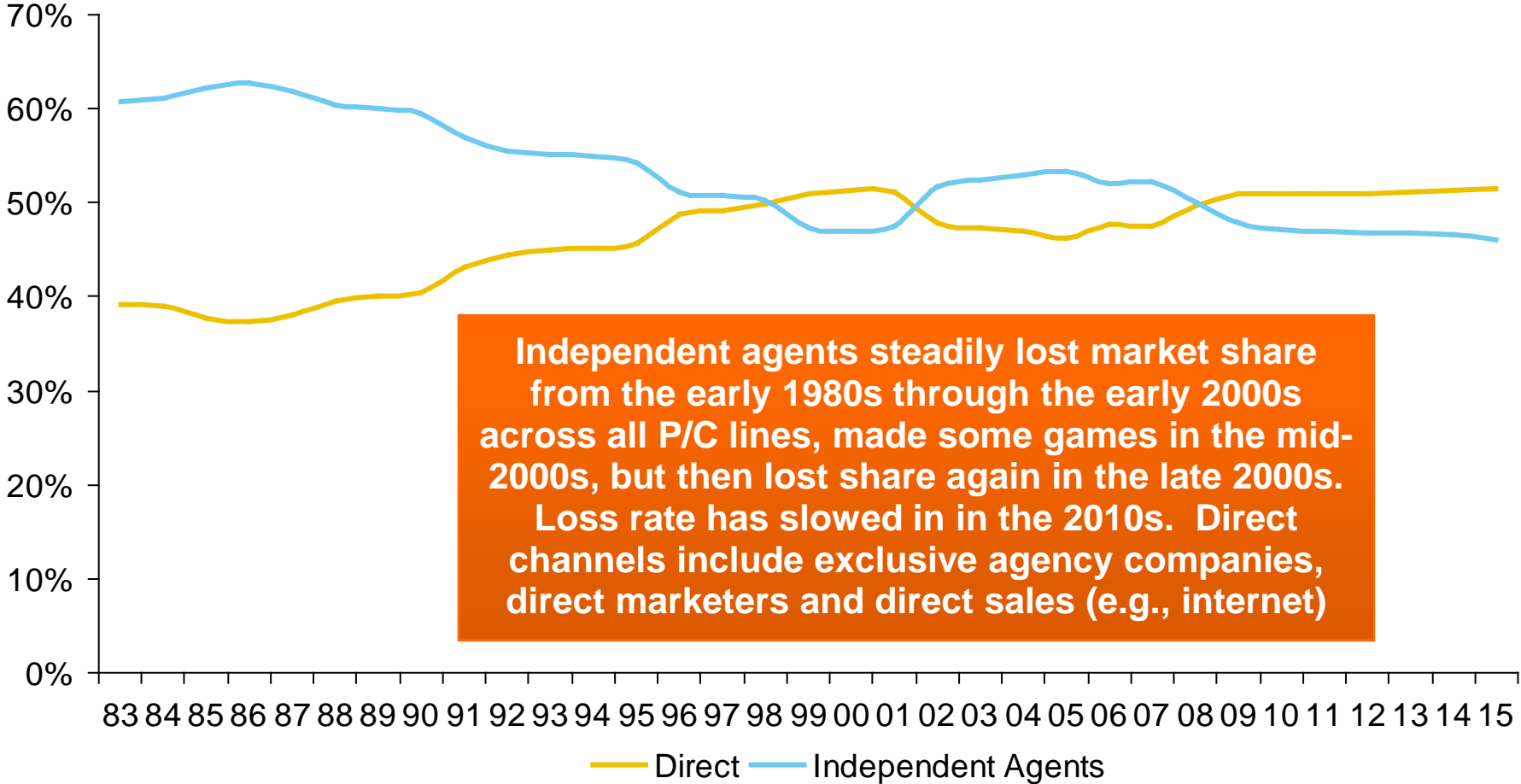
*As of June 23, 2017.

Sources: NAIC from CB Insights at <https://www.cbinsights.com/blog/largest-pc-insurers-rank-startup-investments/>

Distribution Trends

**Distribution by Channel Type
Continues to Evolve Around
the World**

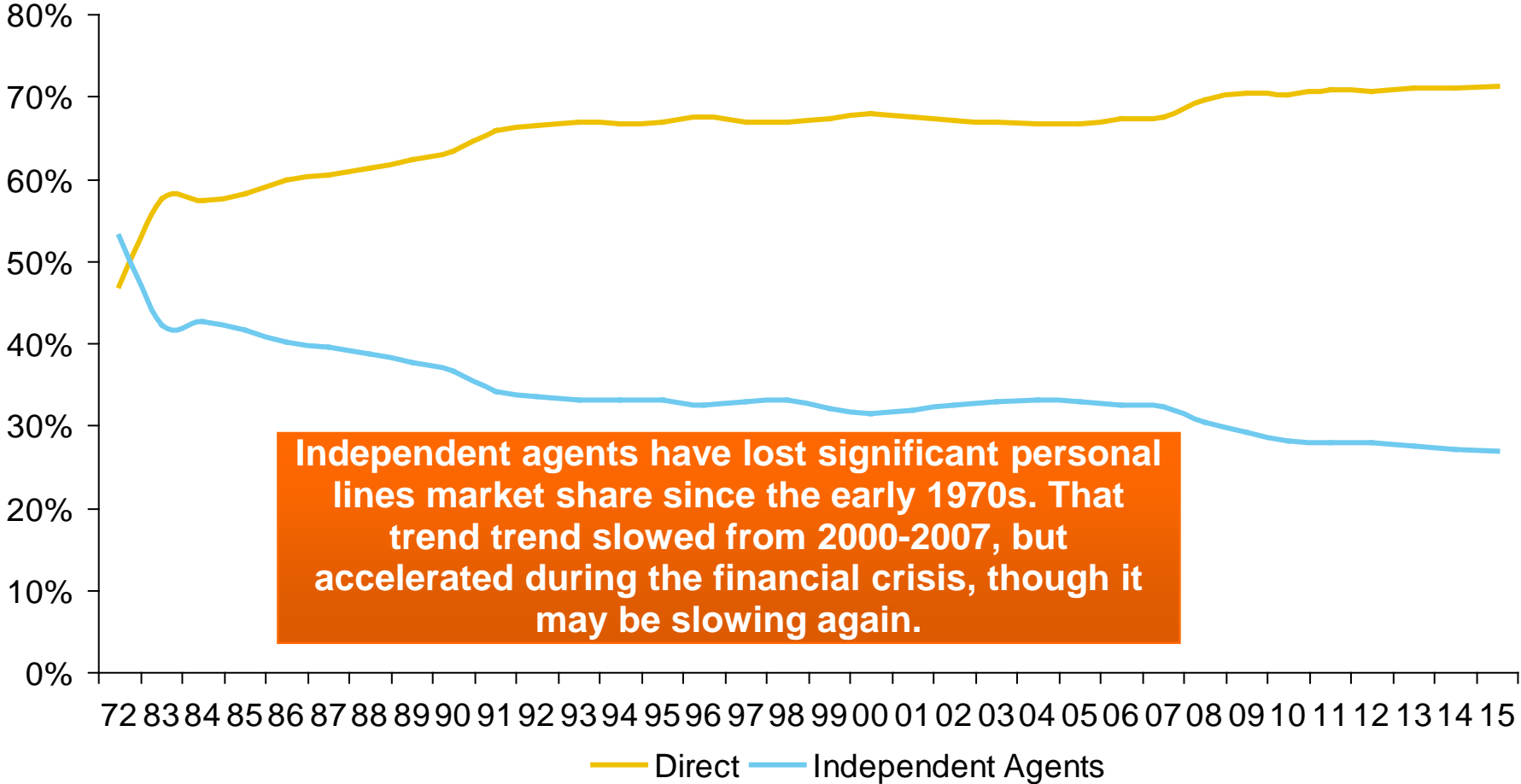
All P/C Lines Distribution Channels, Direct vs. Independent Agents, 1983-2015



Independent agents steadily lost market share from the early 1980s through the early 2000s across all P/C lines, made some gains in the mid-2000s, but then lost share again in the late 2000s. Loss rate has slowed in the 2010s. Direct channels include exclusive agency companies, direct marketers and direct sales (e.g., internet)

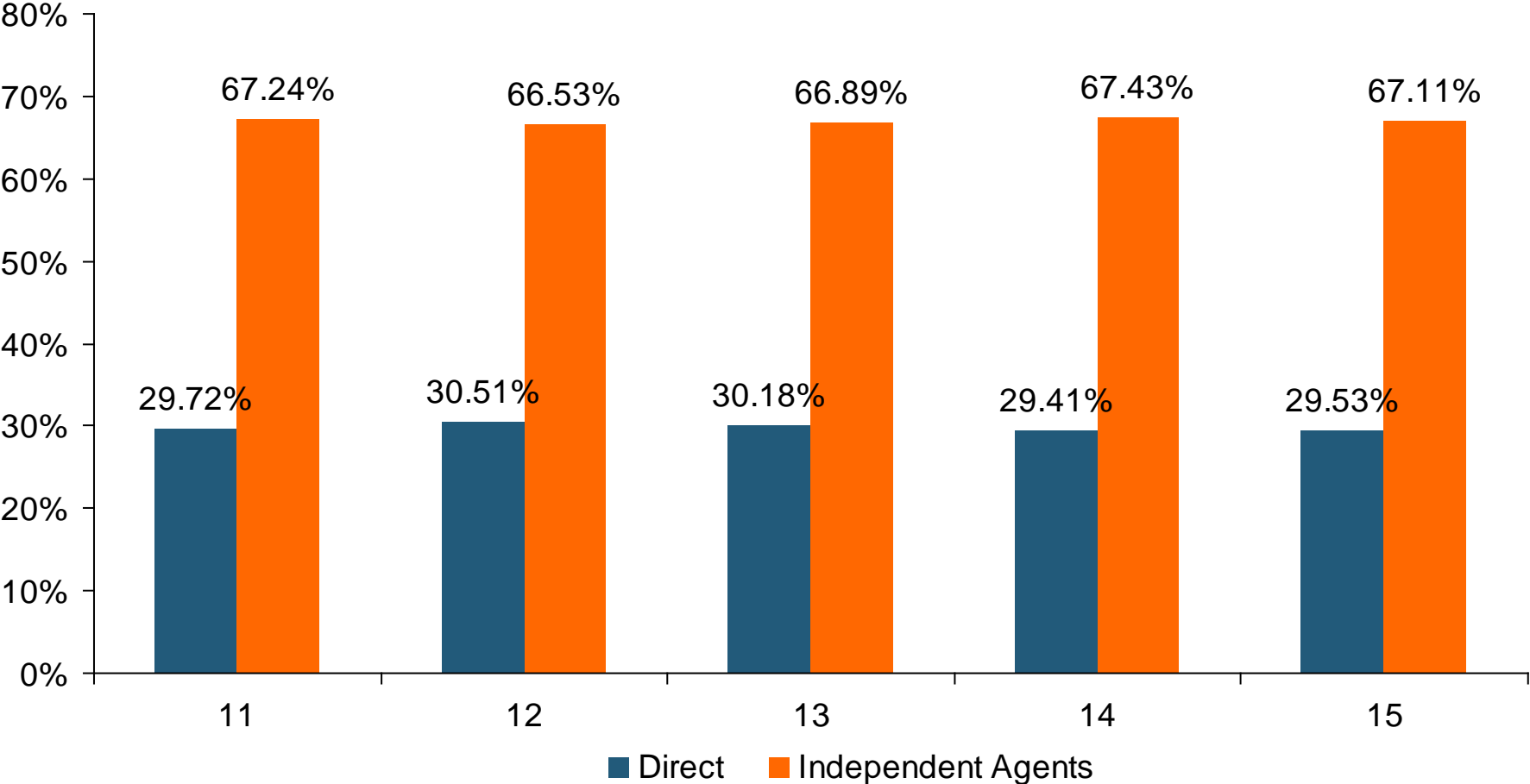
Source: Insurance Information Institute; based on data from Conning and A.M. Best.

Personal Lines Distribution Channels, Direct vs. Independent Agents, 1972-2015



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

Commercial Lines Distribution Channels, Direct vs. Independent Agents, 2011-2015



Independent agent market share in commercial lines has held steady in recent years

Source: Calculations based on data from A.M. Best.

Insurance Industry Employment Trends

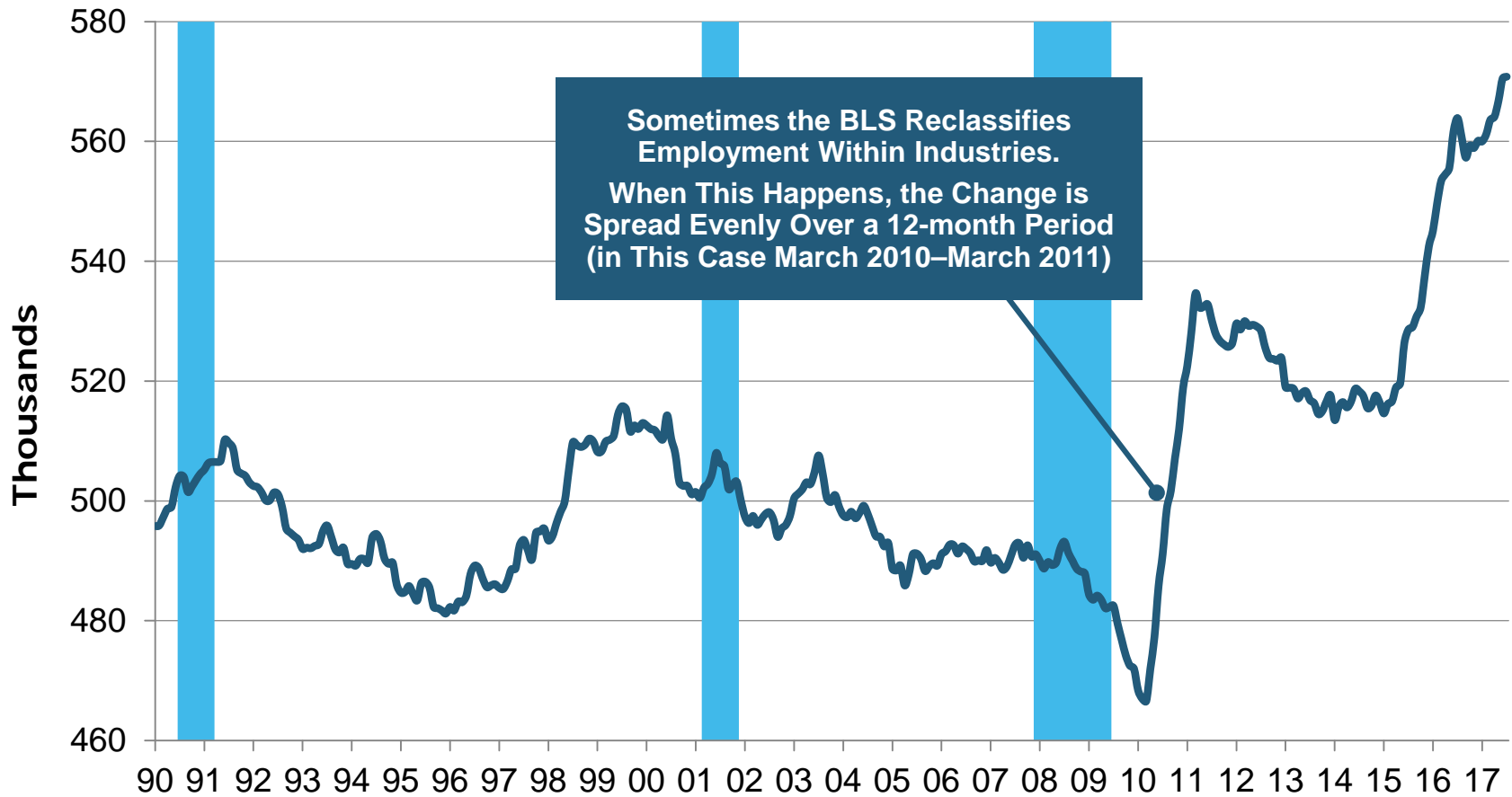
**Can the Industry Close the
Talent Gap?**

Overview of Insurance Sector Employment Changes*

Insurance Subsector	June 2017 Employment	July 2017 Employment	Change
Carriers			
P-C Direct	570,500	570,800	+300
Life Direct	352,600	351,700	-900
Health/Medical Direct	475,100	476,400	+1,300
Title & Other Direct	94,300	95,100	+800
Reinsurers	25,000	25,500	+500
Others			
Agents/Brokers	781,700	785,200	+3,500
Third-Party Administration	187,400	186,900	-500
Claims Adjusters	58,200	57,200	-100

*Data are through July 2017 and are preliminary (i.e., subject to later revision); not seasonally adjusted.
Source: U.S. Bureau of Labor Statistics; III

U.S. Employment in the Direct P/C Insurance Industry: 1990–2017*

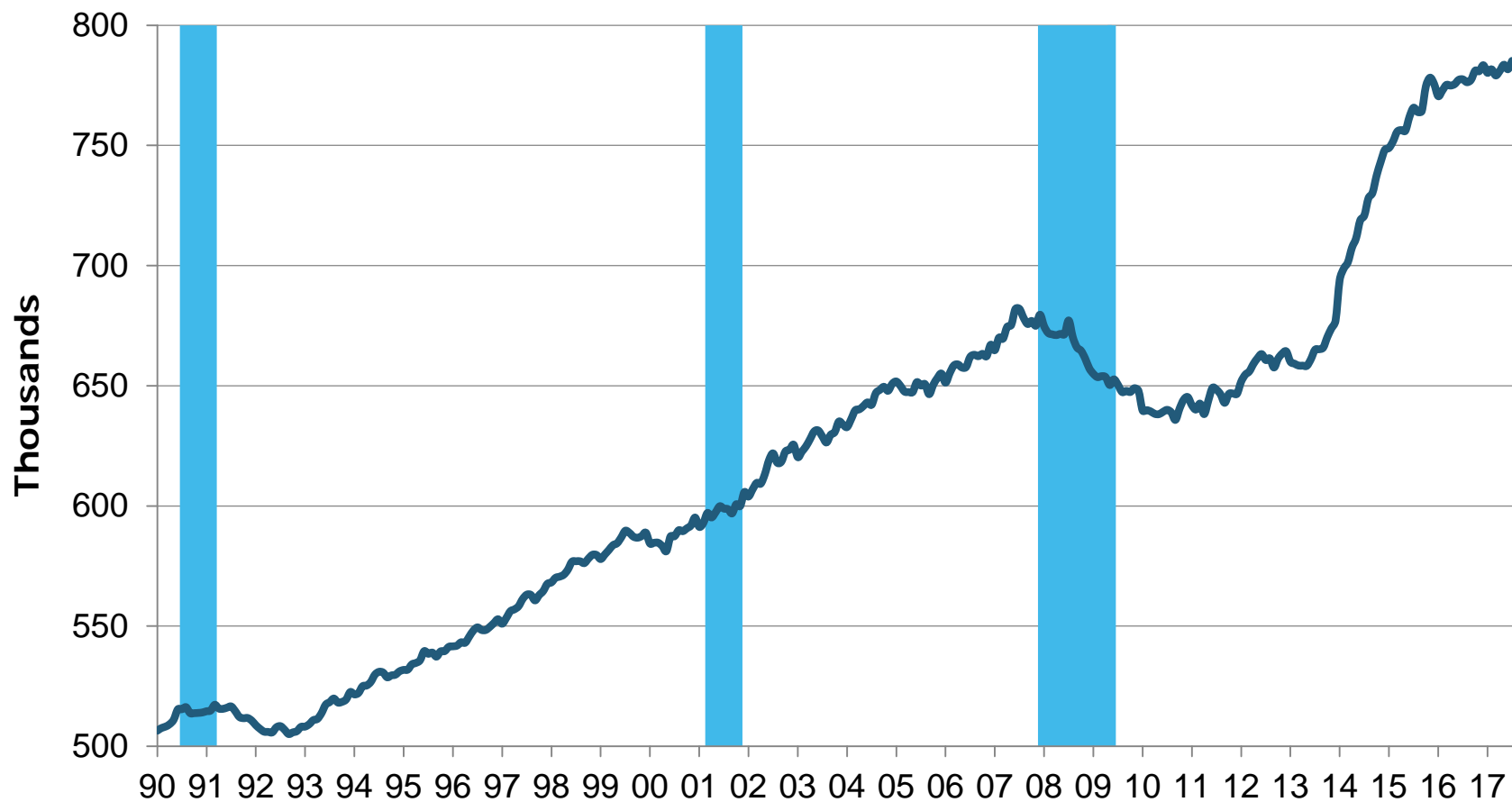


*As of July 2017; not seasonally adjusted; Does not include agents & brokers.

Note: Recessions indicated by gray shaded columns.

Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institute.

U.S. Employment in Insurance Agencies & Brokerages: 1990–2017*



*As of July 2017; not seasonally adjusted. Includes all types of insurance.

Note: Recessions indicated by gray shaded columns.

Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institute.

An Update from the Front Lines of the Insurance Industry Talent Wars

**Hearing, Seeing and Doing →
Believing**

The Insurance Industry “Talent Wars”

- **The insurance industry needs to hire some 400K workers over the next few years**
- **Should be able to meet that goal**
- **Industry has ramped up recruiting efforts**
- **Awareness is increasing of career opportunities**
 - ◆ **Moving beyond perception that most of the industry consists of sales jobs**
 - ◆ **Curriculum updates to reflect increased importance of data analytics, IT**
 - ◆ **Most students (at USC) double major (e.g., Finance, Acctg.)**
- **More universities offering RMI courses**
- **More internships, scholarships**

Some Recent Hiring Trends at USC

■ Hiring of new grads was strong in 2016/17

■ USC RMI Grads in 2016/17 Were Hired by:

- ◆ National/Global and super regional carriers (p/c and life)
- ◆ National/Global and regional brokers
- ◆ Specialty insurers
- ◆ Health insurers
- ◆ Consulting firms
- ◆ Banks (national, regional, investment)
- ◆ Tech firms
- ◆ Mutual funds
- ◆ Pension funds
- ◆ Industrial firms

Some Recent Hiring Trends at USC

■ Positions 2016/2017 Grads Hired Into:

- ◆ Underwriting (personal, commercial (now including cyber))
- ◆ Claims
- ◆ Actuarial
- ◆ Data Analytics
- ◆ Software Development, IT, Information Systems
- ◆ Risk Management (e.g., for manufacturing firms)
- ◆ Financial Risk Management, Internal Audit
- ◆ Investment/Portfolio Analyst/M&A Analyst
- ◆ Broker
- ◆ Consulting
- ◆ Government
- ◆ Grad School (mostly Law School)

Where Can Insurers Do Better?

- **More internships**
 - ◆ Including those between sophomore and junior year
 - ◆ Semester internships (basically part-time jobs during the school year)
 - ◆ Job shadowing (day or two)
- **Communicate career paths better; Turn them on!!!**
- **Communicate what you do to facilitate professional growth→Articulate your investment in them**
- **Emphasize the many different career opportunities within the insurer and how those who excel are introduced to many of them**
- **International opportunities (or around the US)**
- **Discuss tech opportunities**
- **Visit campuses, students sooner**
- **Visits from successful alumni**



UNIVERSITY OF
SOUTH CAROLINA

Darla Moore School of Business

*Thank you for your time
and your attention!*

Twitter: twitter.com/bob_hartwig

*For a copy of this presentation, email
me at robert.hartwig@moore.sc.edu*