

INSURANCE INDUSTRY *Financial Update & Outlook*

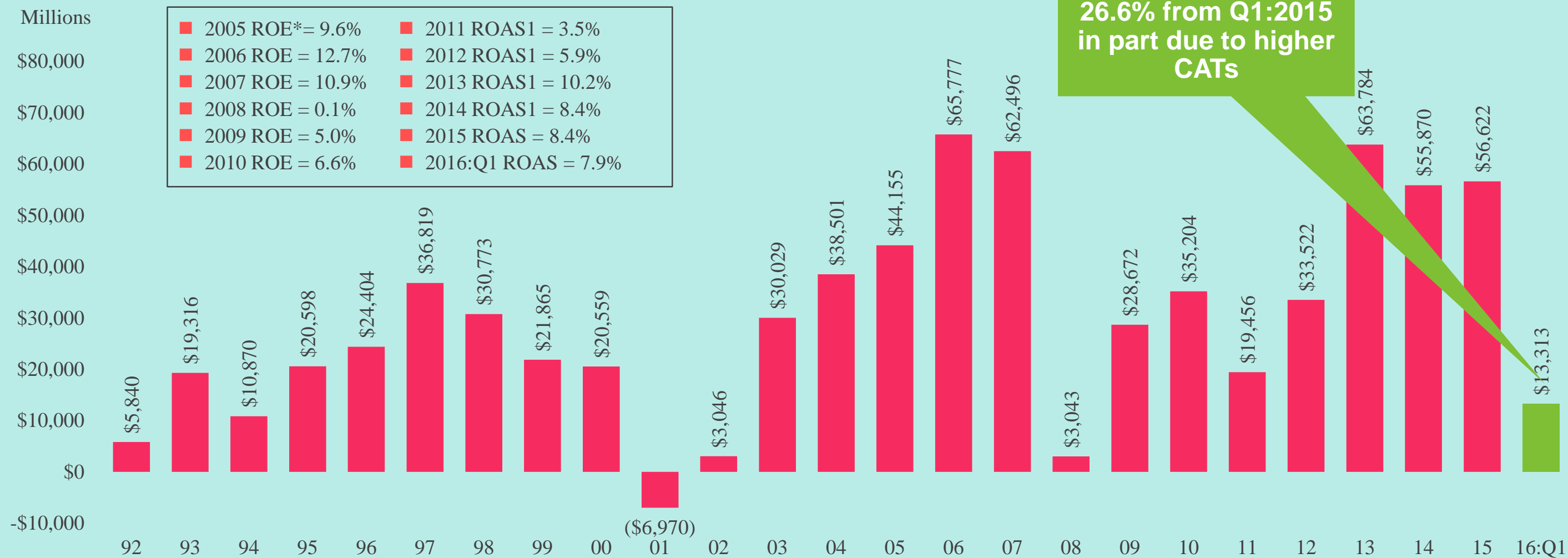
ROBERT P. HARTWIG, PH.D., CPCU

President & Economist
Insurance Information Institute

2016 PHC



P/C INDUSTRY *Net Income After Taxes* 1991-2016:Q1

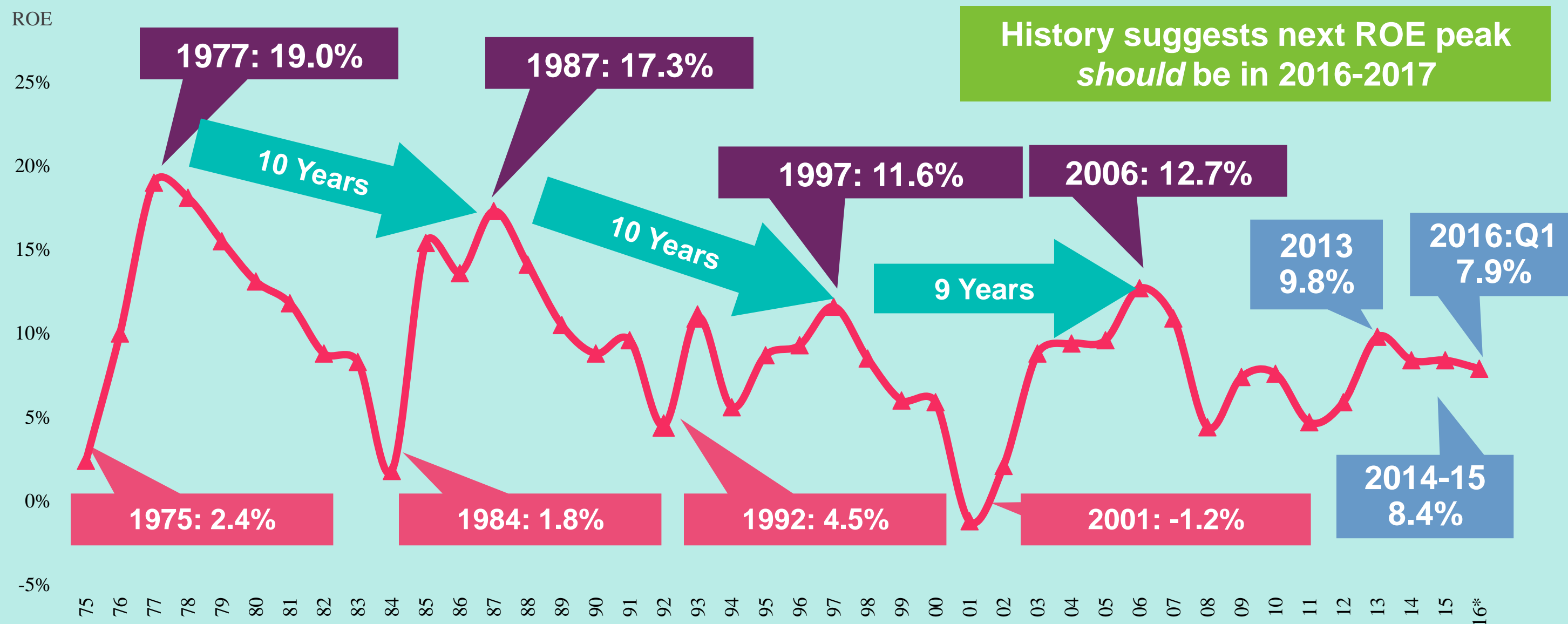


ROE figures are GAAP; 1Return on avg. surplus. 2016 data are for Q1. Excluding Mortgage & Financial Guaranty insurers yields a 8.2% ROAS in 2014, 9.8% ROAS in 2013, 6.2% ROAS in 2012, 4.7% ROAS for 2011, 7.6% for 2010 and 7.4% for 2009; 2015E is annualized figure based actual figure through Q3 of \$44.0

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

PROFITABILITY PEAKS & TROUGHS *in the P/C Insurance Industry*

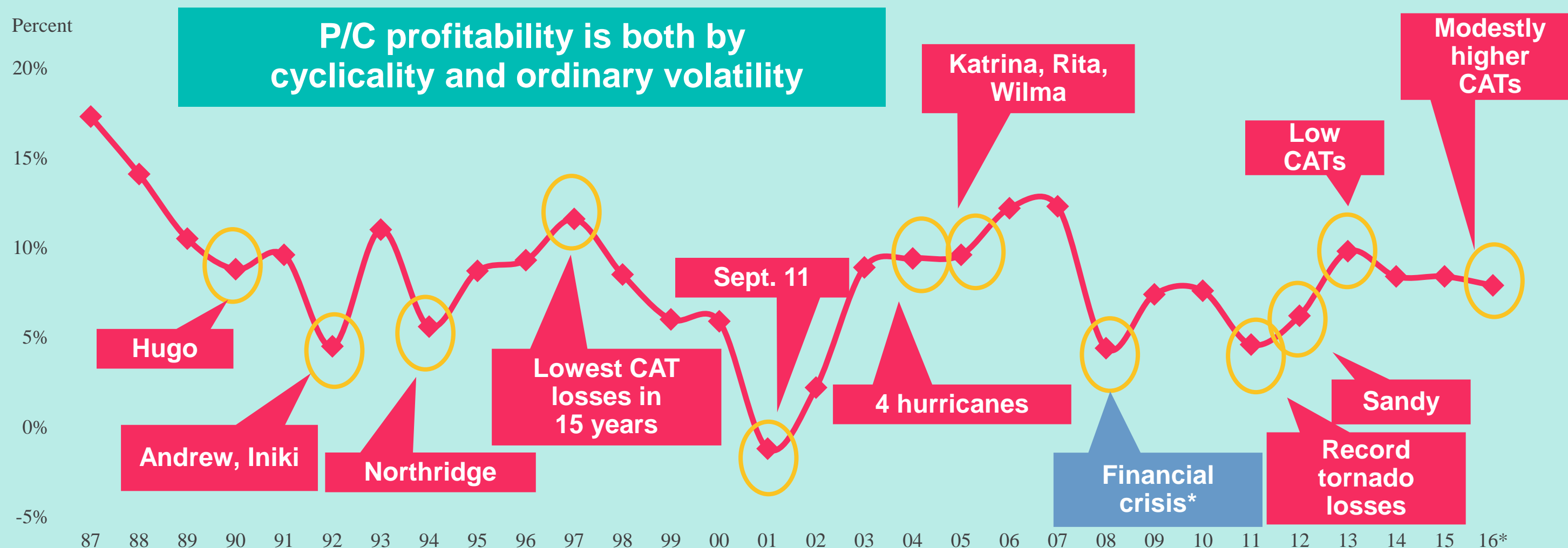
1975 – 2016*



*2016 data through Q1. Profitability = P/C insurer ROEs. 2011-15 figures are estimates based on ROAS data. Note: Data for 2008-2014 exclude mortgage and financial guaranty insurers.
Source: Insurance Information Institute; NAIC, ISO, A.M. Best, Conning

ROE Property/Casualty Insurance by Major Event

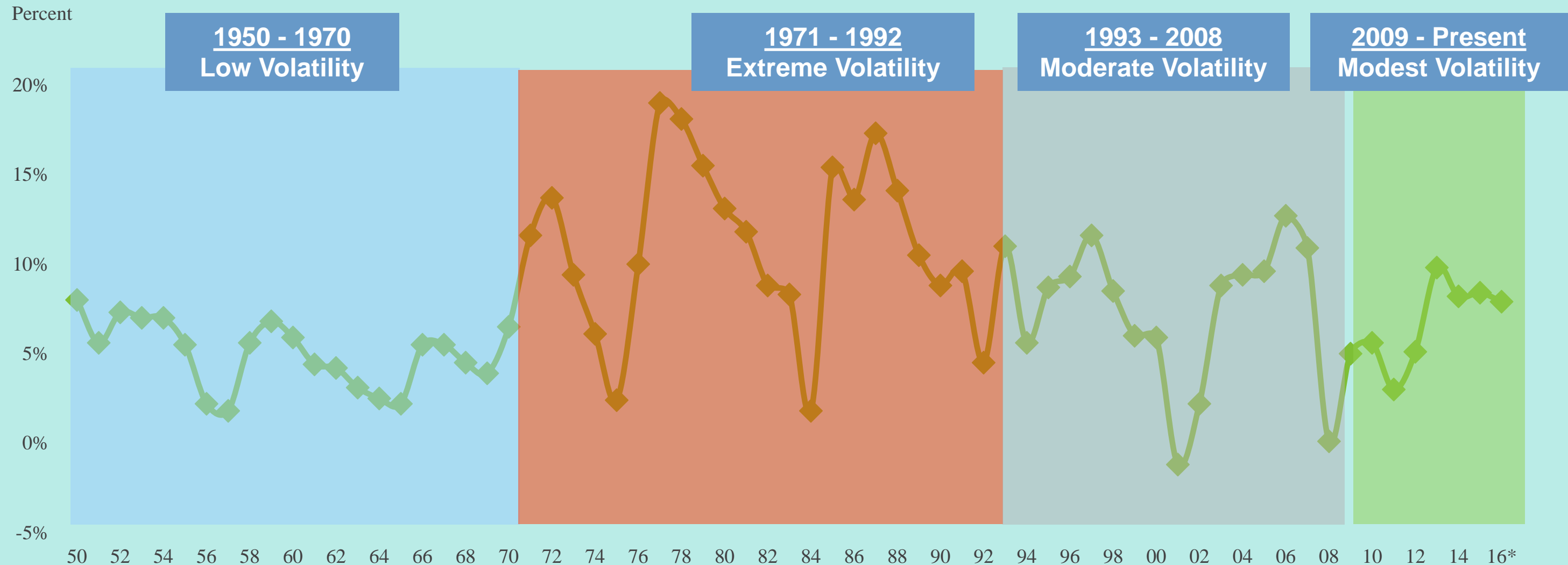
1987-2016:Q1



* Data for 2016 through Q1. Excludes Mortgage & Financial Guarantee in 2008 – 2014
 Sources: ISO, Fortune; Insurance Information Institute

P/C INSURANCE INDUSTRY ROE *Magnitude of Cyclicality, Volatility Changes Over Time*

1950-2016:Q1

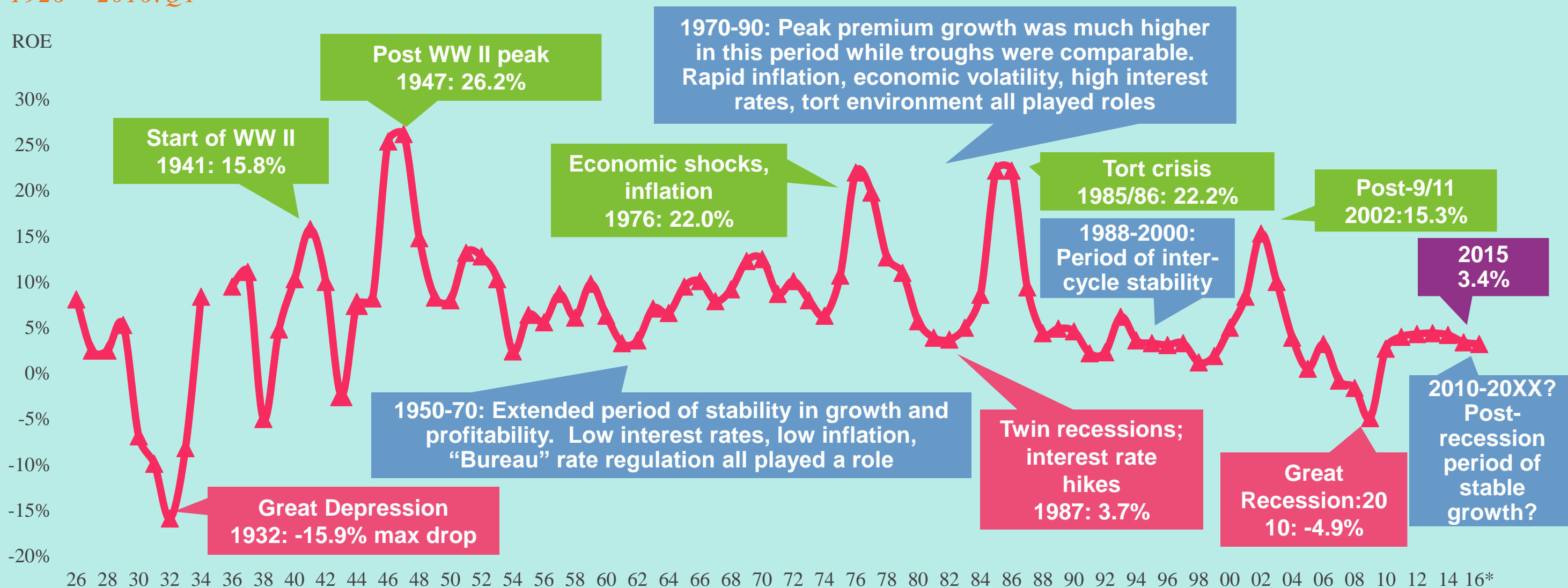


*Through Q1 2016.

Source: Insurance Information Institute

NPW PREMIUM GROWTH *Peaks & Troughs in the P/C Insurance Industry*

1926 – 2016:Q1



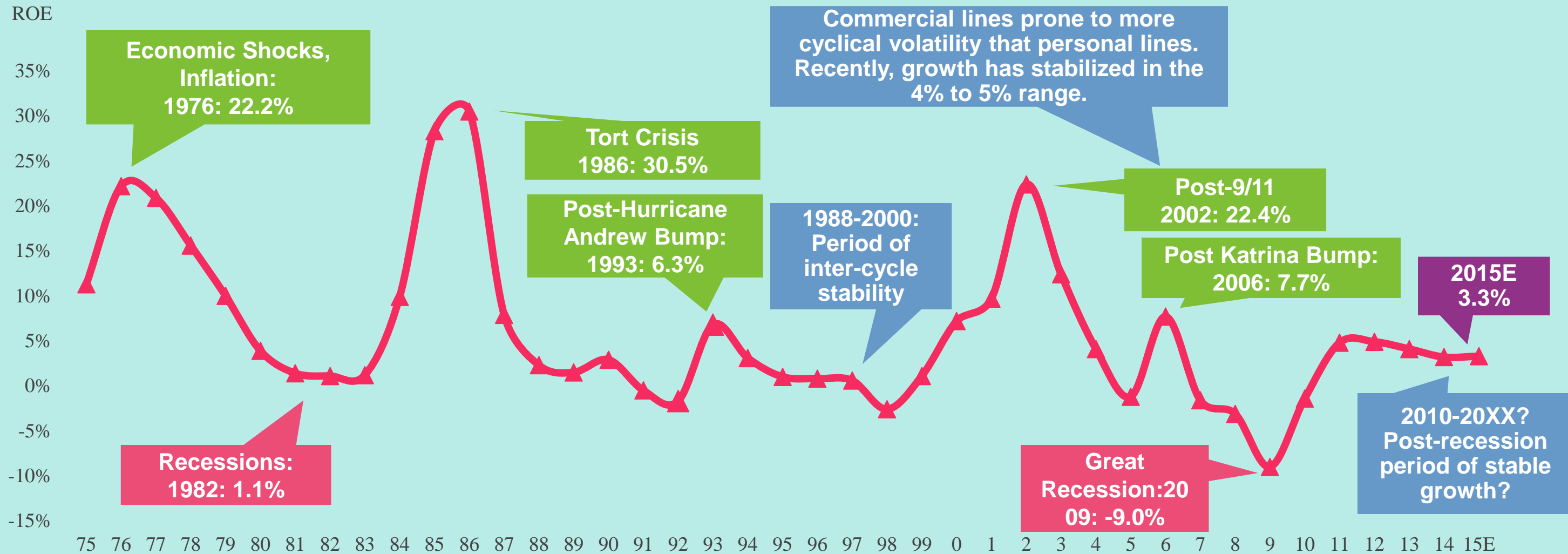
*Q1 data.

Note: Data through 1934 are based on stock companies only. Data include state funds beginning in 1998.

Source: A.M. Best; Insurance Information Institute

COMMERCIAL LINES NPW Premium Growth

1975 – 2015E

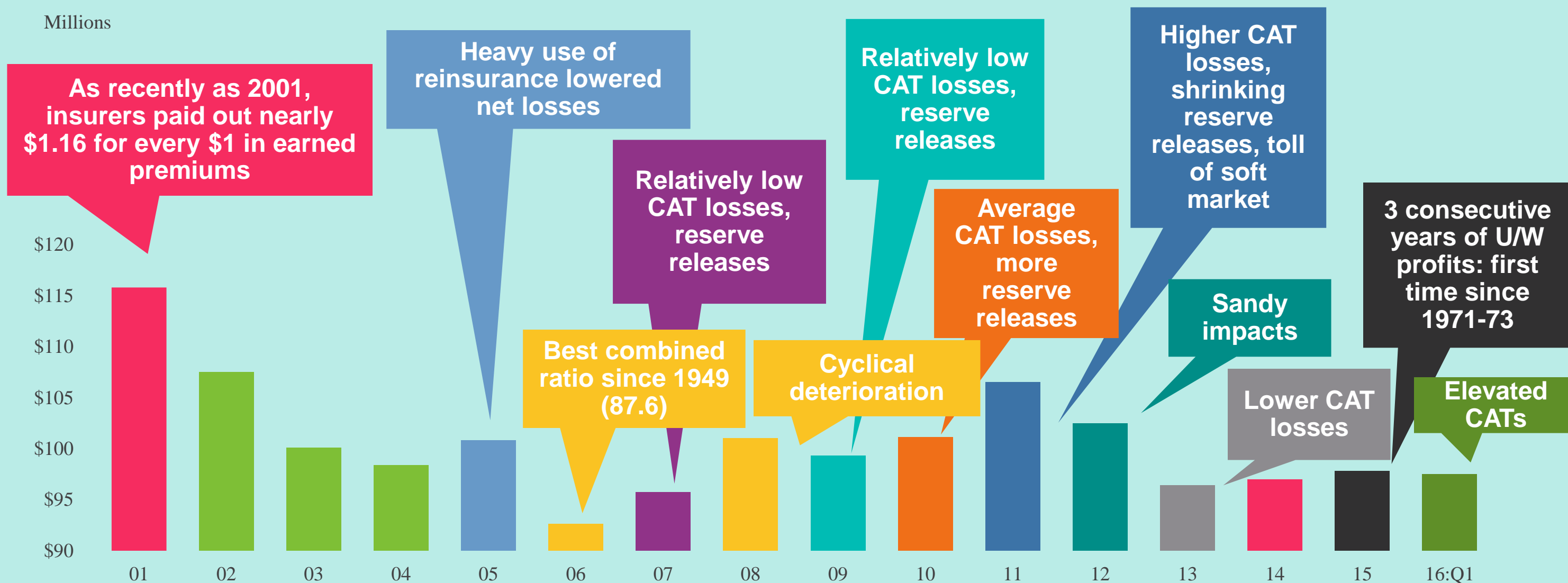


Note: Data include state funds beginning in 1998.
Source: A.M. Best; Insurance Information Institute

P/C INSURANCE INDUSTRY Combined Ratio

2001-2016:Q1*

Millions



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

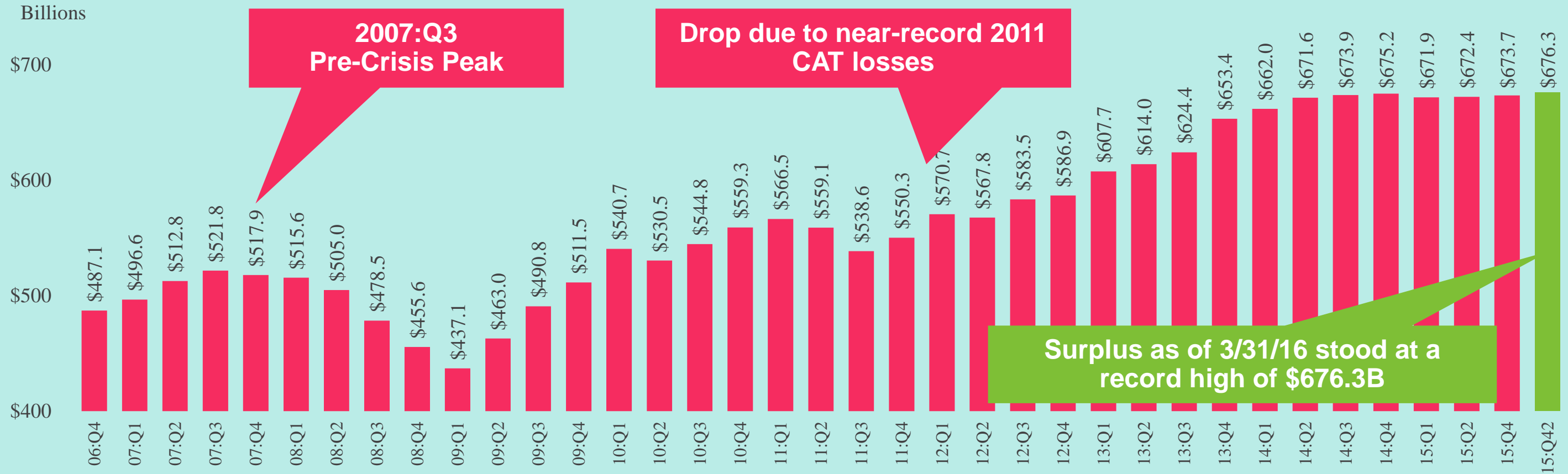
Sources: 2016 figure from ISO/Verisk; A.M. Best, ISO (2014-2015); Figure for 2010-2013 is from A.M. Best P&C Review and Preview, Feb. 16, 2016.

CAPITAL/CAPACITY

CAPACITY/INDUSTRY CAPITAL REMAINS
AT RECORD HIGHS BUT HAS
STABILIZED

POLICYHOLDER SURPLUS 2016

Q4-2016:Q1



The industry now has \$1 of surplus for every \$0.77 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 .

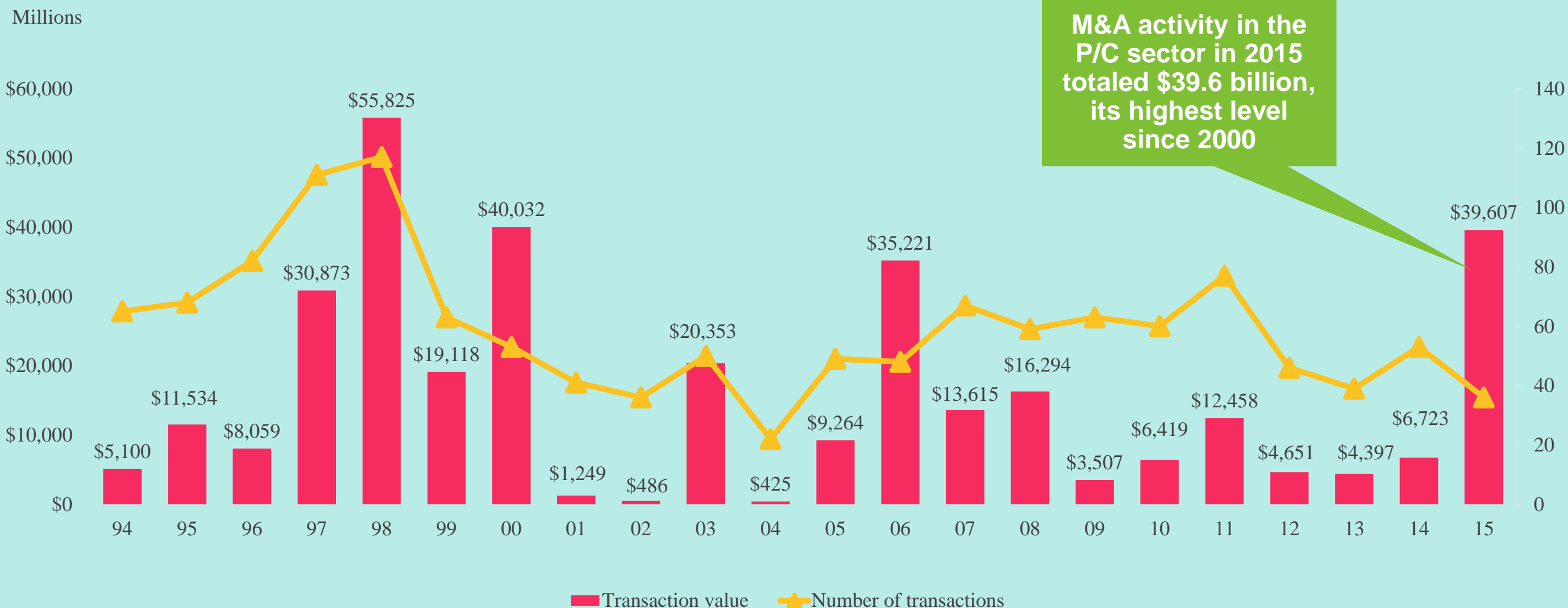
Sources: ISO, A.M .Best

The P/C insurance industry entered 2016 in very strong financial condition

ARE CAPITAL ACCUMULATION,
DRIVE FOR GROWTH AND SCALE
STIMULATING M&A ACTIVITY?

US INSURANCE MERGERS AND ACQUISITIONS *P/C Sector*

1994-2015 (1)

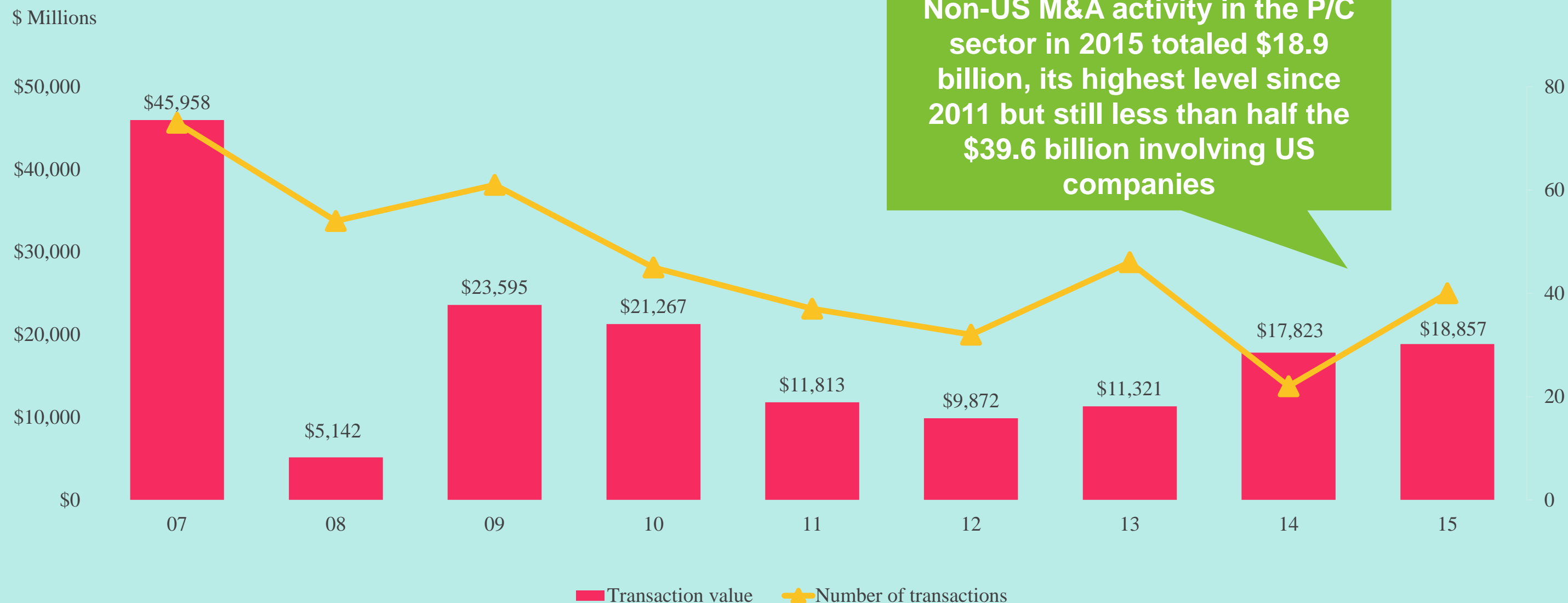


(1) Includes transactions where a U.S. company was the acquirer and/or the target.

Source: Conning proprietary database

NON-US INSURANCE MERGERS AND ACQUISITIONS *P/C Sector*

2007-2015 (1)



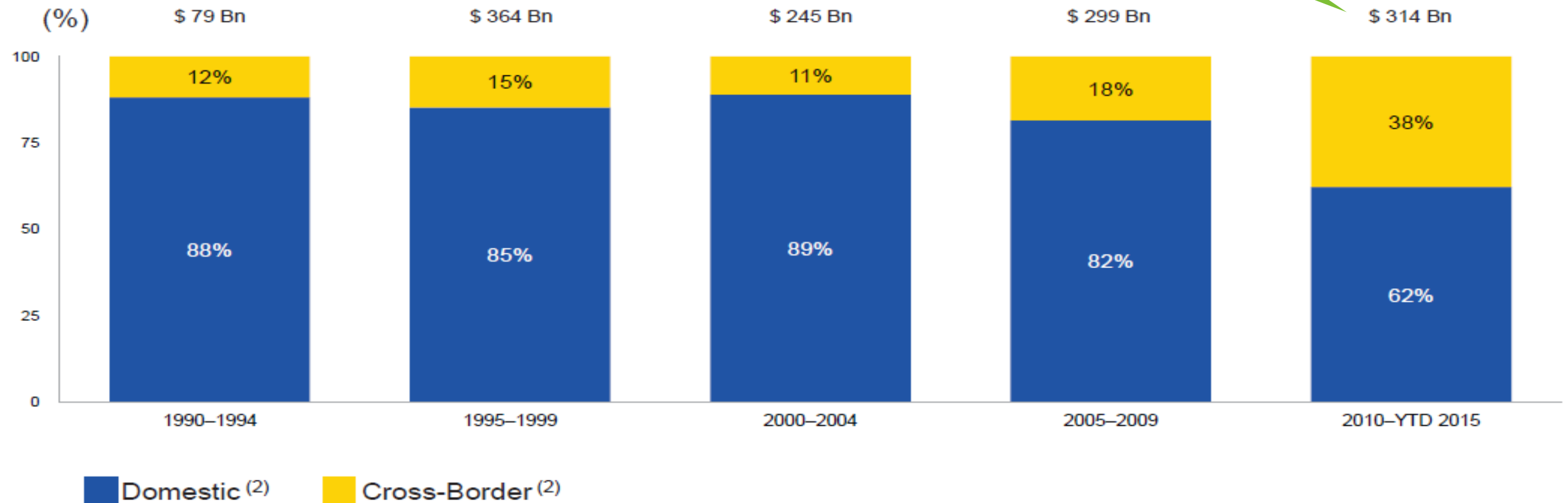
(1) Includes transactions where a non-U.S. company was the acquirer and the target.
Source: Conning proprietary database

HUGE SHIFT FROM DOMESTIC M&A ACTIVITY TO CROSS-BORDER

The share of M&A deal volume that was cross-border more than doubled in 2015

Insurance M&A Volumes

Deals of value > \$100M (Since 1990)



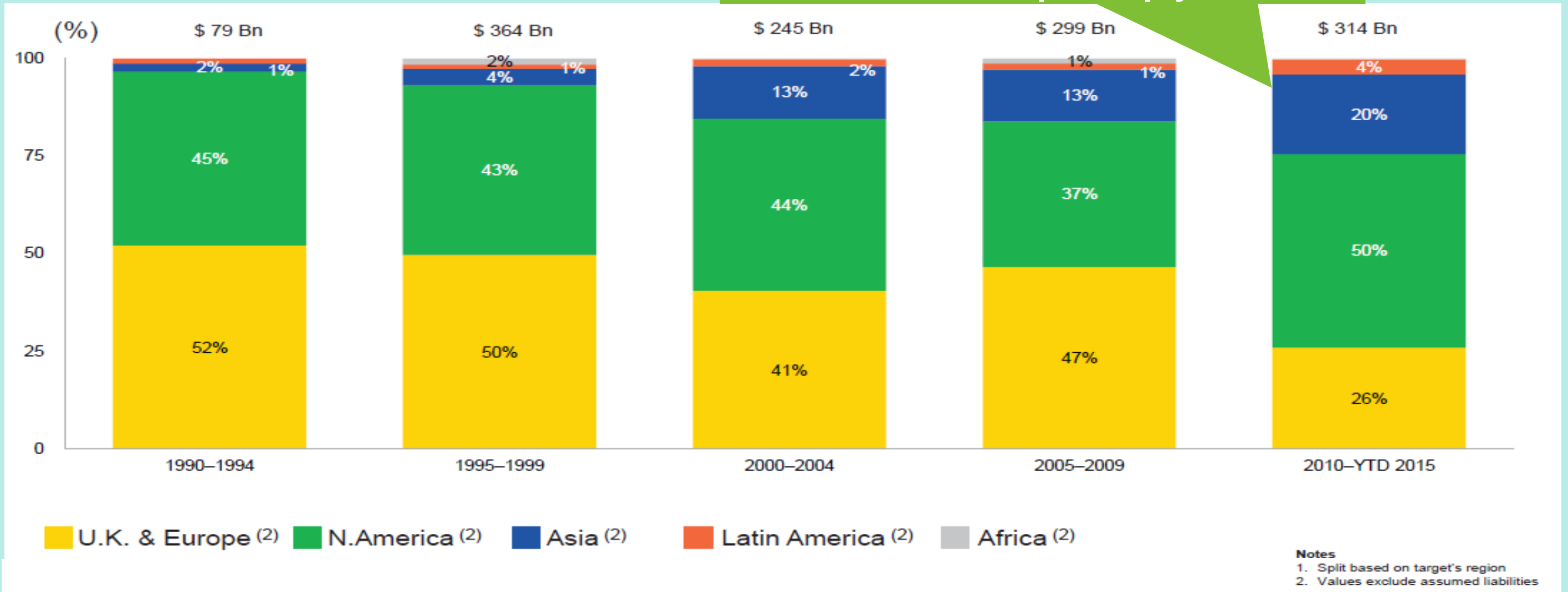
Notes

1. Split based on target's region
2. Values exclude assumed liabilities

Source: Thomson Reuters as of Oct. 2015 from Geneva Association Newsletter *Insurance and Finance*, Jan. 2016, presentation "Facts vs. Sentiment: Deals in the Insurance Sector," by Aviva CEO Mark Wilson.

M&A ACTIVITY HAS SHIFTED AWAY FROM EUROPE AND TOWARDS ASIA AND NORTH AMERICA

Asian, North American deal volumes were up sharply in 2015



Source: Thomson Reuters as of Oct. 2015 from Geneva Association Newsletter *Insurance and Finance*, Jan. 2016, presentation “Facts vs. Sentiment: Deals in the Insurance Sector,” by Aviva CEO Mark Wilson.

INVESTMENT PERFORMANCE IS A KEY
DRIVER OF PROFITABILITY

DEPRESSED YIELDS WILL NECESSARILY
INFLUENCE UNDERWRITING & PRICING

P/C INSURANCE INDUSTRY *Investment Income*

2000–2016:Q1



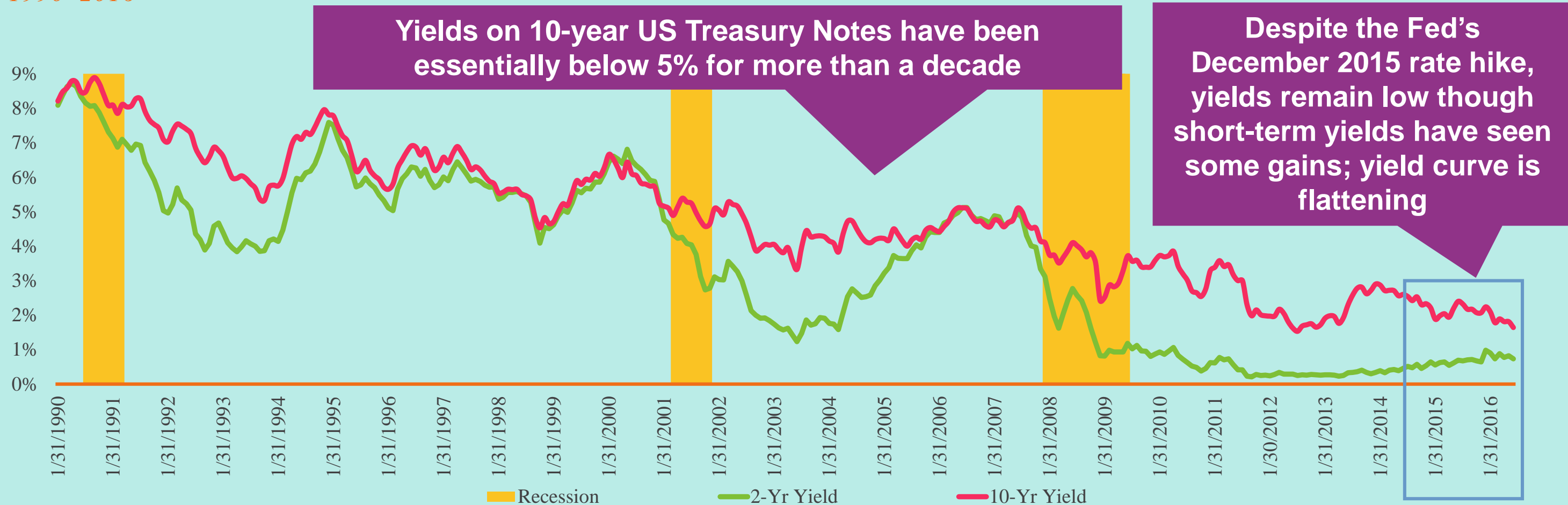
Due to persistently low interest rates, investment income fell in 2012, 2013 and 2014 but showed a small (1.9%) increase in 2015—another drop in 2016 seems likely

1 Investment gains consist primarily of interest and stock dividends.

*2014 figure is estimated based on annualized data through Q3.

Sources: ISO; Insurance Information Institute

US TREASURY SECURITY YIELDS *A Long Downward Trend* 1990–2016*



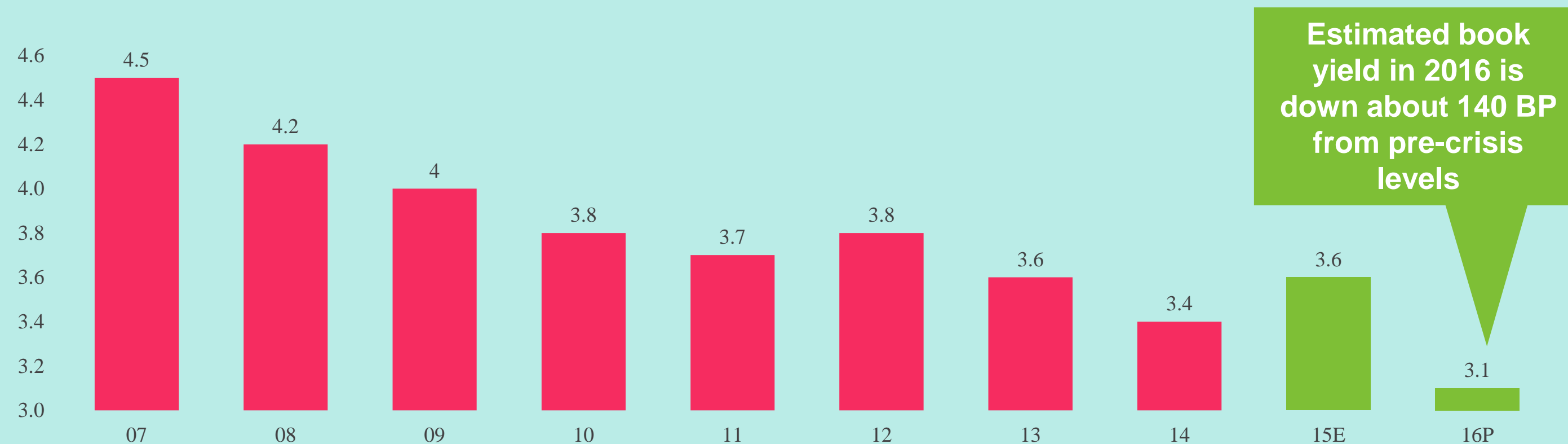
Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come

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

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

NET INVESTMENT YIELD ON P/C INSURANCE *Invested Assets* 2007–2016P*

Percent



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

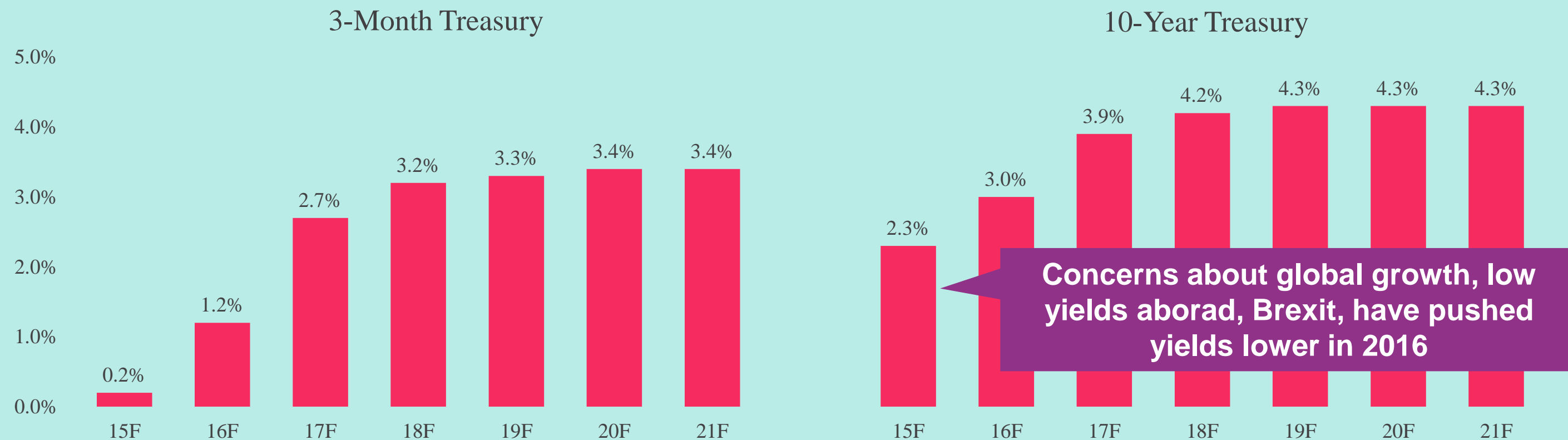
*2015 figure is the average of the four quarters ending in 2015:Q1.

Sources: SNL Financial; Insurance Information Institute

INTEREST RATE FORECASTS

2016–2021

Yield %



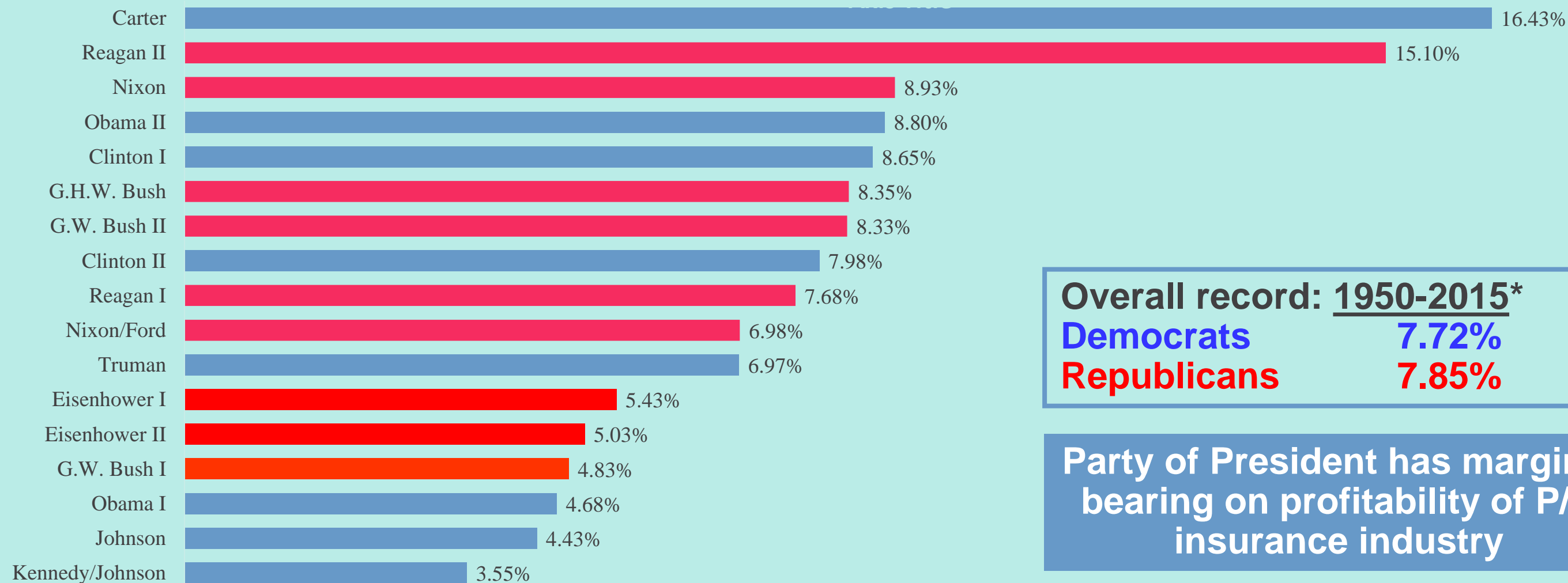
A full normalization of interest rates is unlikely until 2019, more than a decade after the onset of the financial crisis

Sources: Blue Chip Economic Indicators (6/16 for 2016 and 2017; for 2018-2021 3/16 issue); Insurance Information Institute.

PROFITABILITY & POLITICS

HOW IS PROFITABILITY AFFECTED BY
THE PRESIDENT'S POLITICAL PARTY?

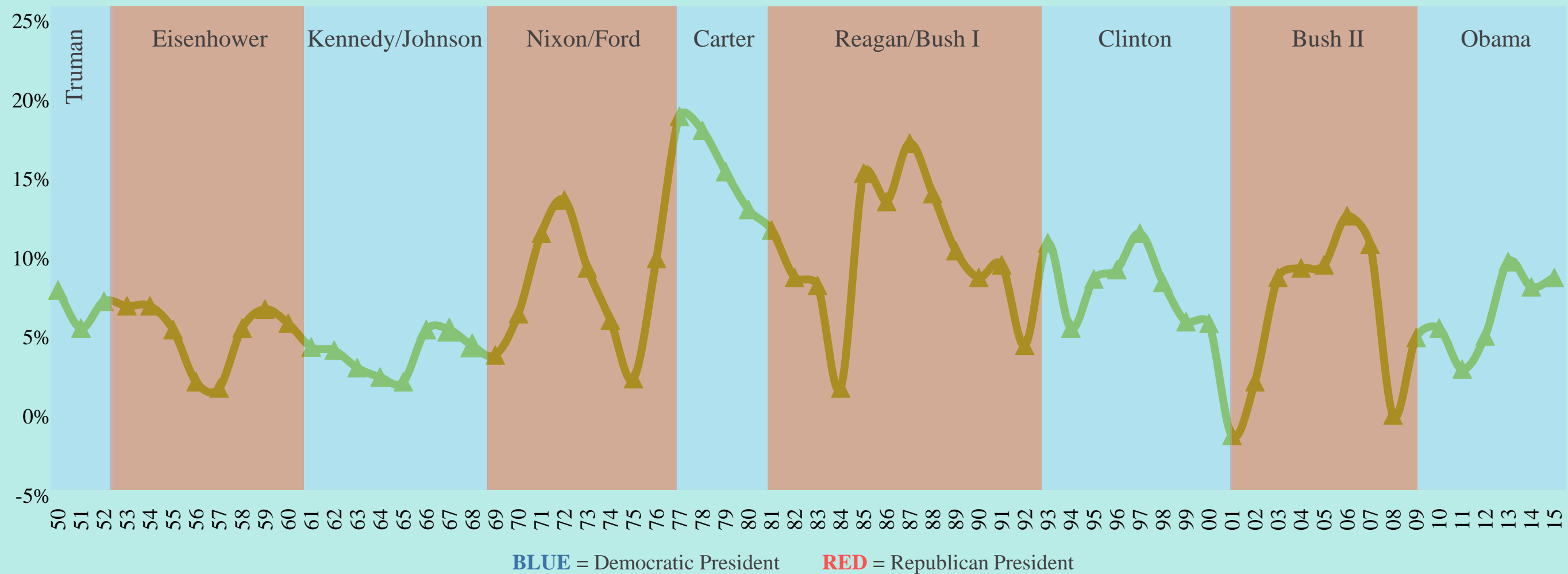
P/C INSURANCE INDUSTRY ROE by Presidential Administration 1950-2015*



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

P/C INSURANCE INDUSTRY ROE by Presidential Party Affiliation

1950-2015*



*2015 data is through Q3.

Source: Insurance Information Institute

TRUMP VS. CLINTON

Issues that Matter to P/C Insurers

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

TRUMP VS. CLINTON *Differences on Energy Policy Are Large, but Energy Is Not a Major Issue this Election Cycle*

TRUMP

- “America First” energy plan: *“American energy dominance will be declared a strategic economic and foreign policy goal of the United States.”*
- Supports fracking, coal, nuclear, XL / Keystone pipeline
- Not a big supporter of “green” energy...but renewables are okay so long as they’re not to the exclusion of other forms of energy
- Climate change not one of our “big problems”

CLINTON

- Views green / renewable energy investment as job stimulus
- Staunch supporter of Obama climate change initiatives
- “Utilities should not be allowed to penalize consumers with retroactive rule changes that cause financial hardship and slow the transition to a clean energy economy” – Feb. 12, 2016
- Speaks frequently about a “bridge” to clean energy
- Suggests a pragmatic, gradual approach

COMMERCIAL LINES

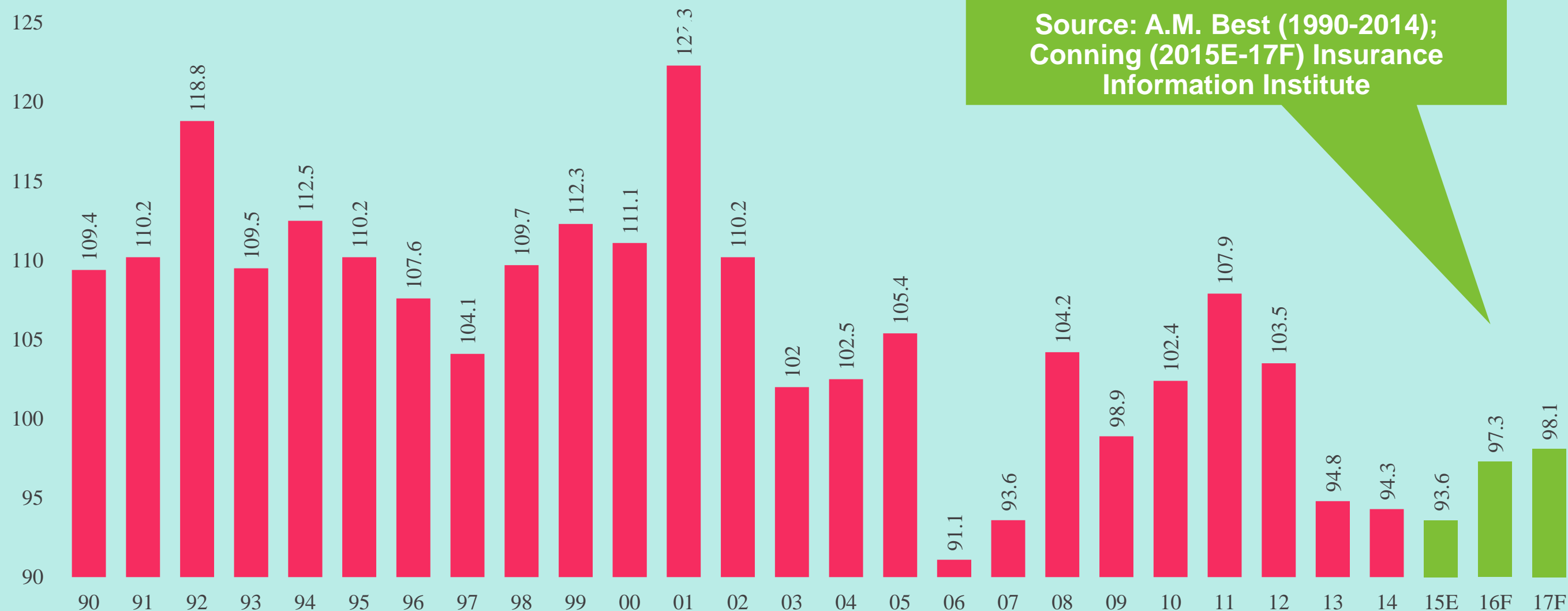
UNDERWRITING PERFORMANCE

2016 PHC



COMMERCIAL LINES *Combined Ratio*

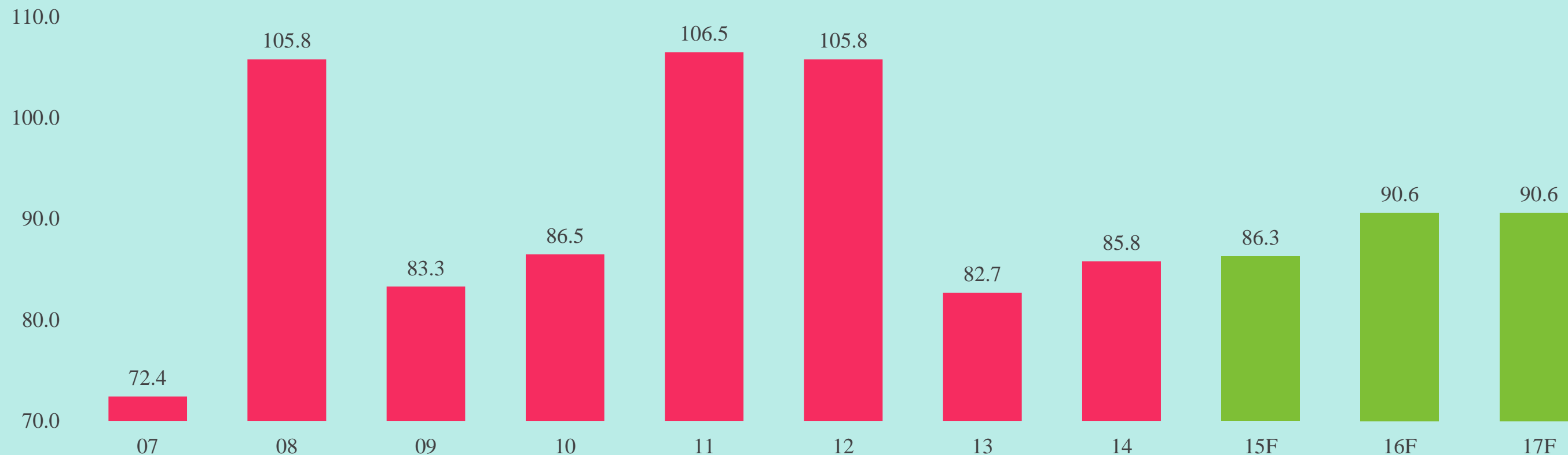
1990-2017F*



*2007-2012 figures exclude mortgage and financial guaranty segments.
Source: A.M. Best (1990-2014); Conning (2015E-17F) Insurance Information Institute.

COMMERCIAL PROPERTY *Combined Ratio*

2007–2017F



**Commercial property underwriting performance has improved
in recent years, largely due to diminished CAT activity**

Source: Conning Research and Consulting

GENERAL LIABILITY *Combined Ratio*

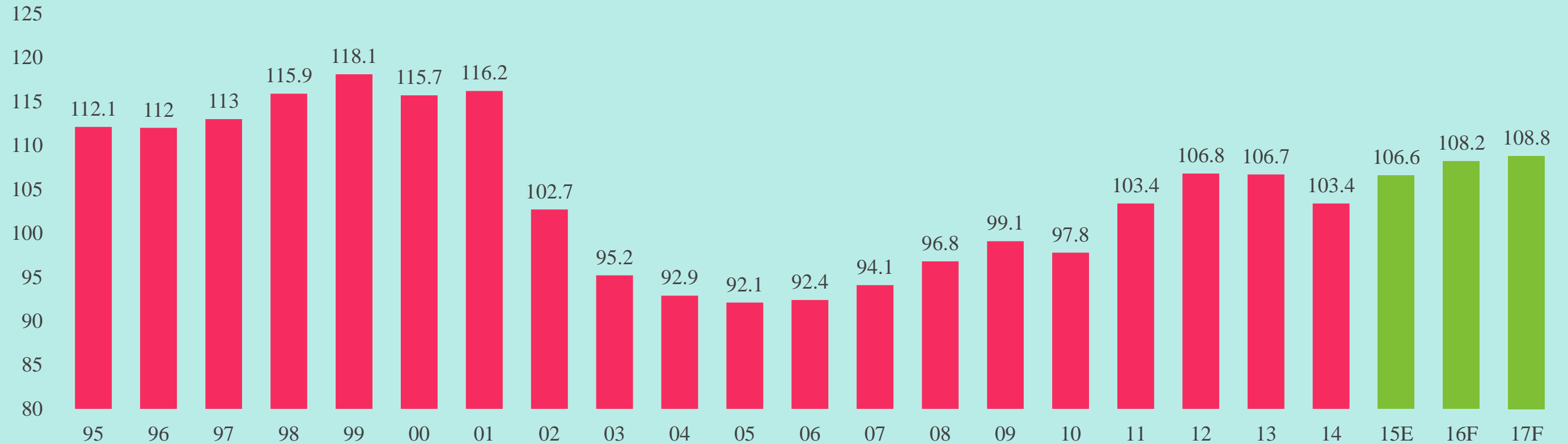
2005–2017F



Commercial general liability underwriting performance has been volatile in recent years

Source: Conning Research and Consulting

COMMERCIAL AUTO *Combined Ratio* 1993–2017F

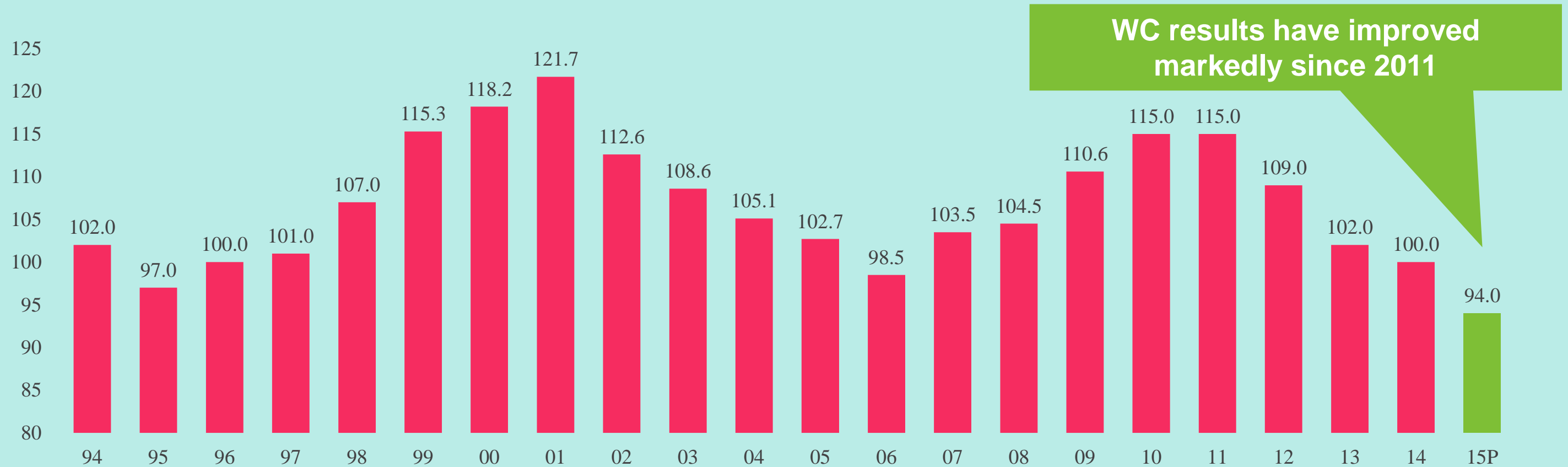


Commercial auto results are challenged as rate gains barely have yet to offset adverse frequency and severity trends

Sources: A.M. Best (1990-2014); Conning (2015E-2017F); Insurance Information Institute

WORKERS COMPENSATION *Combined Ratio*

1994–2015P



Workers' comp results began to improve in 2012. Underwriting results deteriorated markedly from 2007-2010/11 and were the worst they had been in a decade.

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

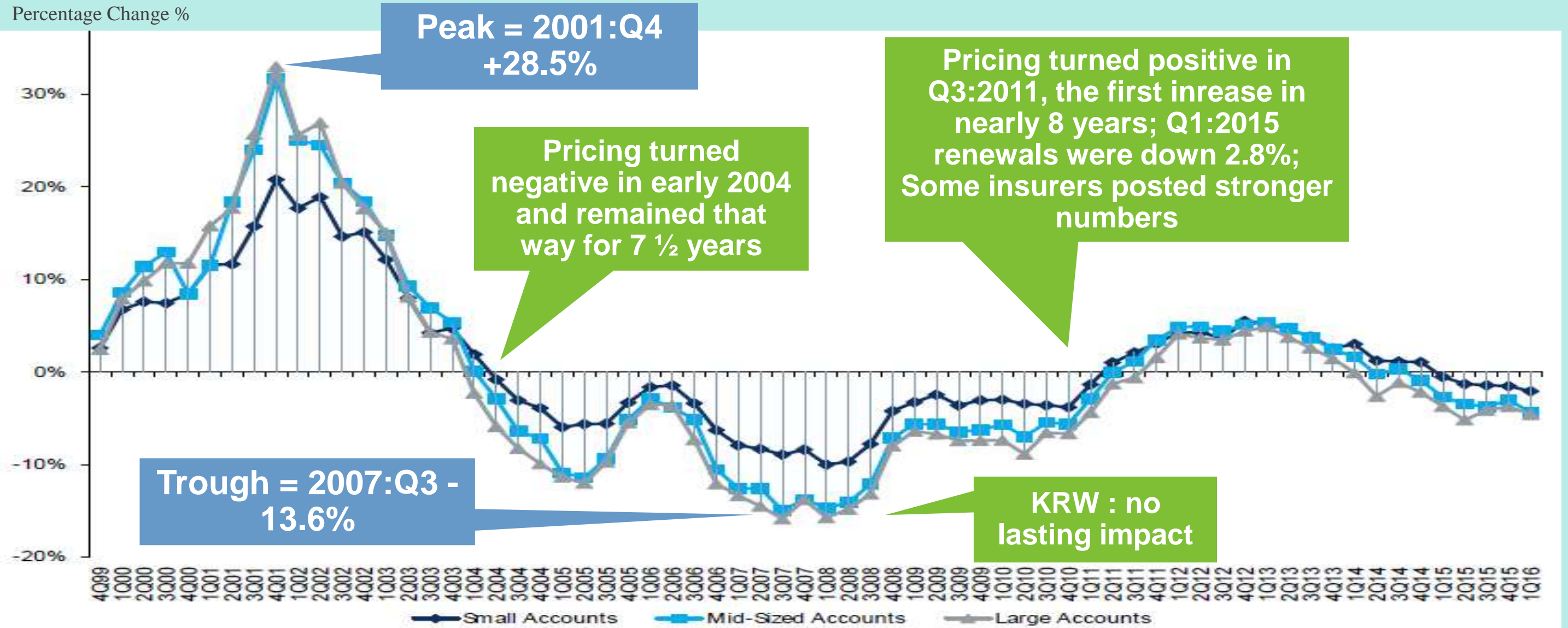
COMMERCIAL LINES

PRICING TRENDS

SURVEY RESULTS SUGGEST COMMERCIAL
PRICING HAS FLATTENED OUT

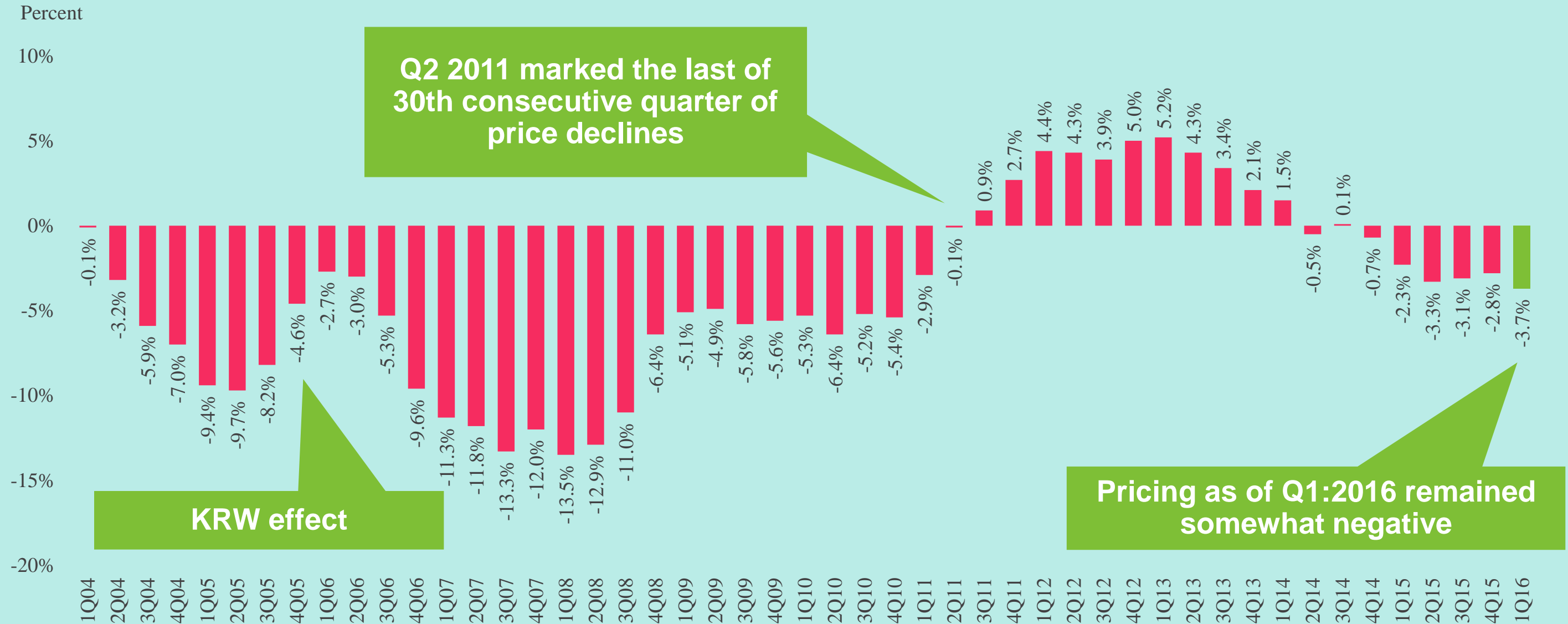
CHANGE IN COMMERCIAL RATE RENEWALS *by Account Size*

1999:Q4 to 2016:Q1



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; Barclay's Capital; Insurance Information Institute

CIAB Average Commercial Rate Change, All Lines 1Q:2004–1Q:2016

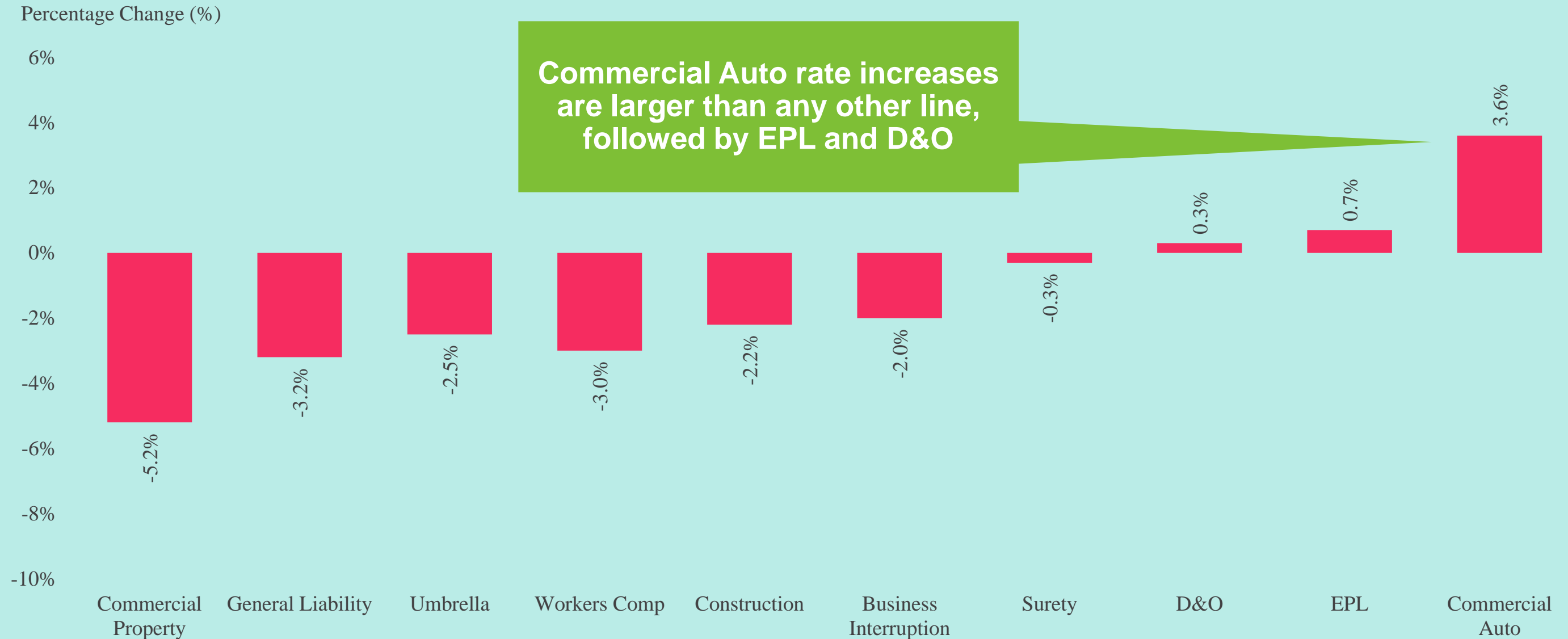


Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

Source: Council of Insurance Agents & Brokers; Insurance Information Institute

CHANGE IN COMMERCIAL RATE RENEWALS *by Line*

2016:Q1



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

INSURED CATASTROPHE LOSSES

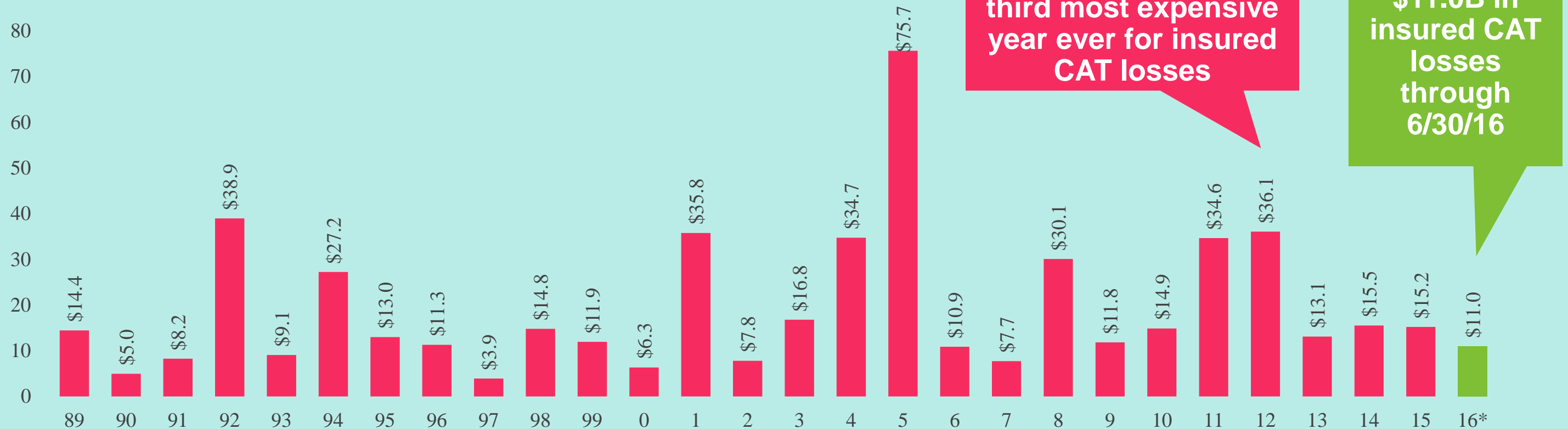
2013/14/15 EXPERIENCED BELOW
AVERAGE CAT ACTIVITY AFTER VERY
HIGH CAT LOSSES IN 2011/12

2016 CAT LOSSES YTD RUNNING HIGHER

US INSURED CATASTROPHE LOSSES

1989–2016

\$ Billions, \$2015



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

\$11.0B in insured CAT losses through 6/30/16

2013/14/15 were welcome respites from 2011/12, among the costliest years for insured disaster losses in us history. 2016 is off to a costlier start.

*Through 6/30/16. 2016 figure stated in 2016 dollars.

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

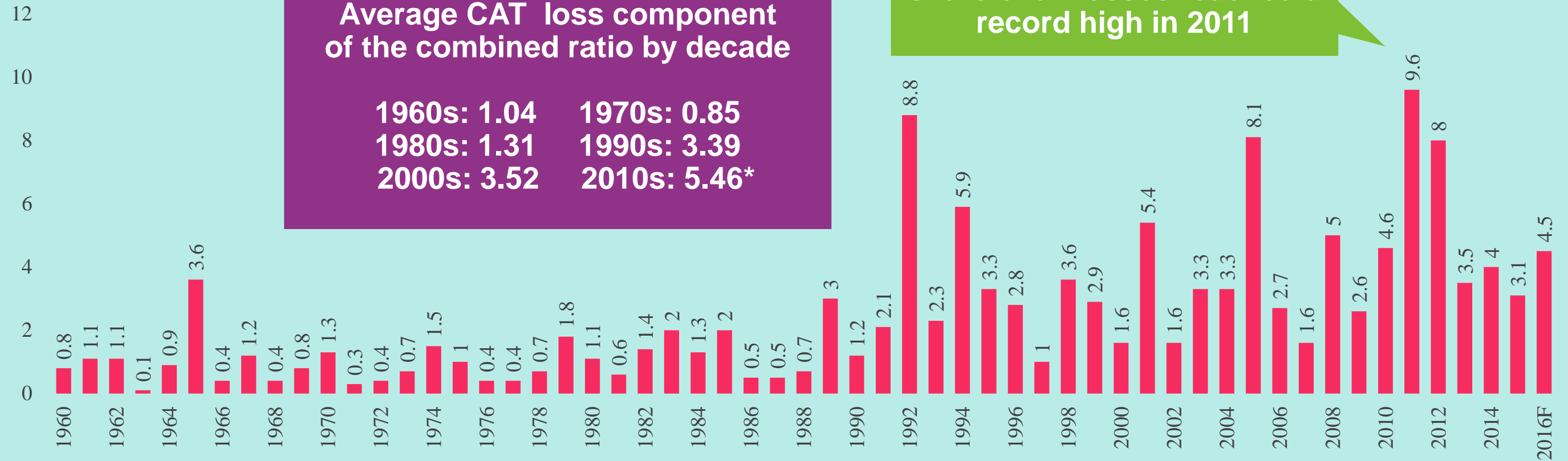
Non-prop/BI losses = \$12.2B (\$15.6B in 2011 dollars.)

Sources: Property Claims Service/ISO; Insurance Information Institute

COMBINED RATIO POINTS ASSOCIATED WITH CATASTROPHE LOSSES

1960 – 2016F*

Combined Ratio Points



The catastrophe loss component of private insurer losses has increased sharply in recent decades

*2010s represent 2010-2015E.

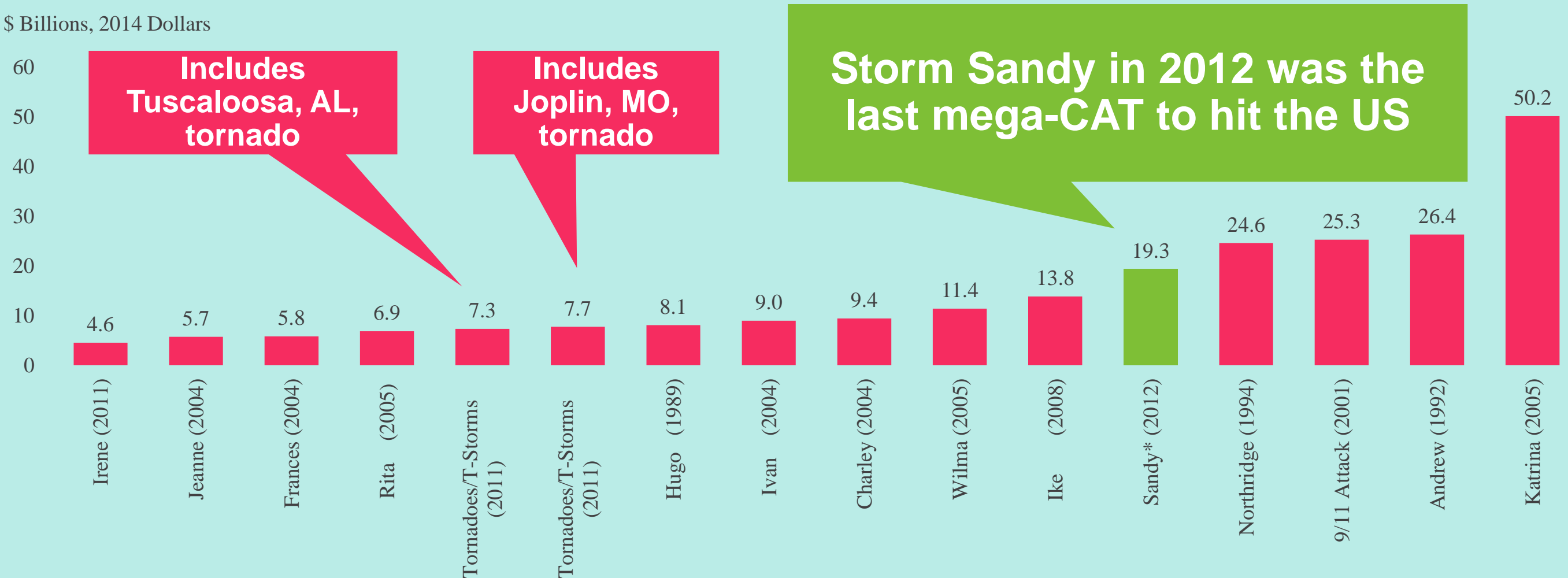
Notes: Private carrier losses only. Excludes loss adjustment expenses and reinsurance reinstatement premiums. Figures are adjusted for losses ultimately paid by foreign insurers and reinsurers.

Source: ISO (1960-2009); A.M. Best (2010-15E) Insurance Information Institute (2016F).

TOP 16 MOST COSTLY DISASTERS IN US HISTORY *Katrina Still Ranks #1*

Insured Losses

\$ Billions, 2014 Dollars



12 of the 16 Most expensive events in US history have occurred since 2004

Sources: PCS; Insurance Information Institute inflation adjustments to 2014 dollars using the CPI.

INFLATION ADJUSTED US CATASTROPHE LOSSES *by Cause of Loss*

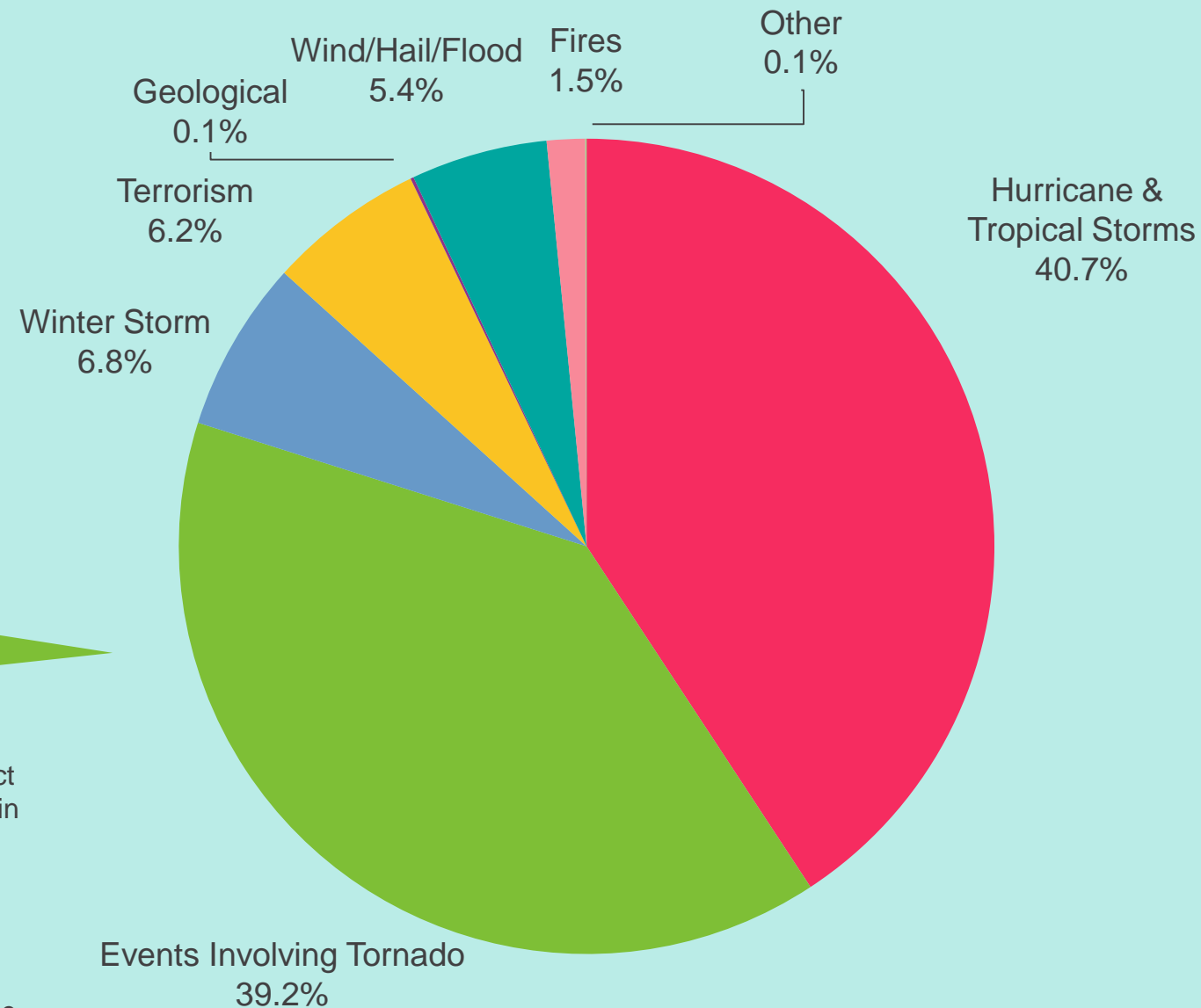
1995–2014¹

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

Tornado share of CAT losses is rising

1. Catastrophes are defined as events causing direct insured losses to property of \$25 million or more in 2014 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses
4. Includes wildland fires
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO's Property Claim Services Unit.

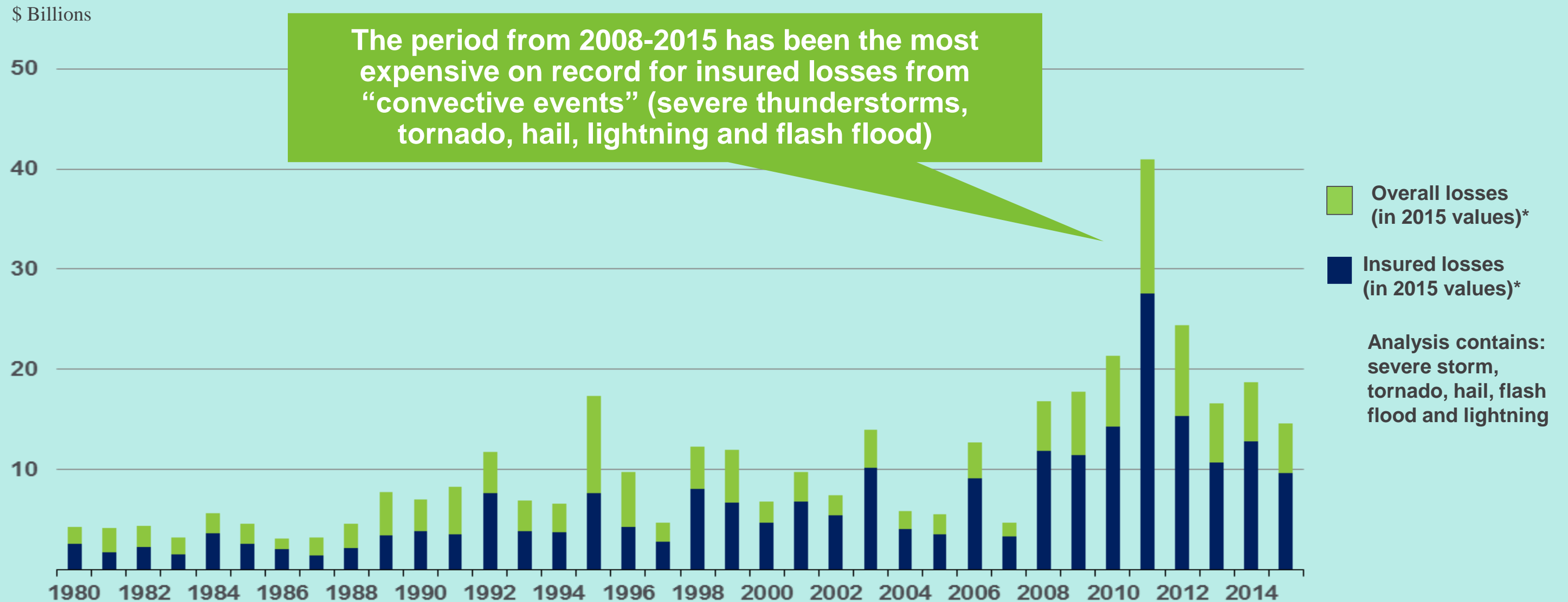


Insured CAT losses from 1995-2014 totaled \$395.6 billion, an average of \$19.8 billion per year or \$1.65 billion per month

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

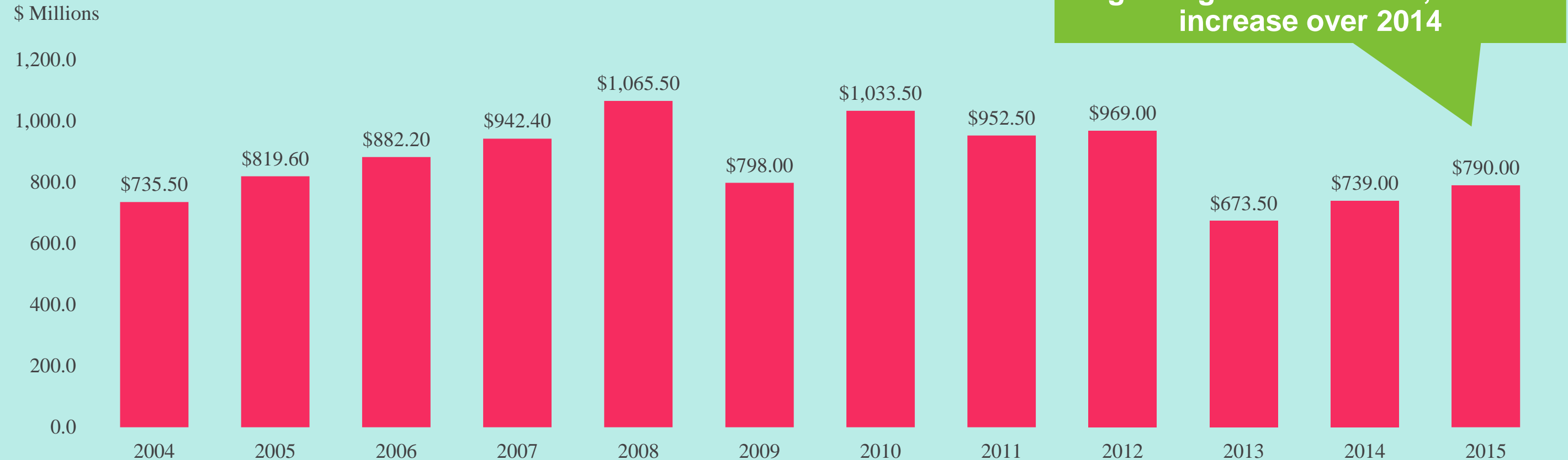
CONVECTIVE LOSS EVENTS IN THE US *Overall and Insured Losses*

1980–2015



*Losses adjusted to inflation based on CPI
Source: Geo Risks Research, NatCatSERVICE

INSURED HOMEOWNERS LOSSES *Due to Lightning* 2004 - 2015

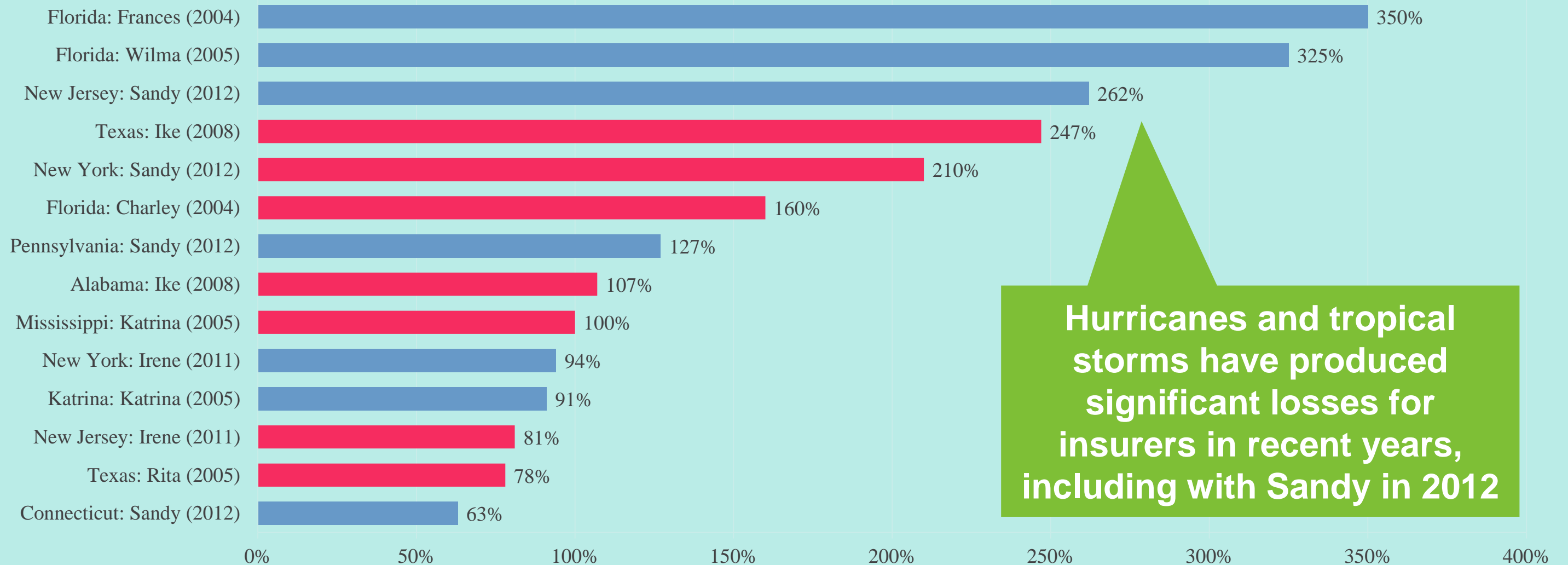


The increased number and value of expensive electronic devices in homes has pushed total lightning claim costs to about \$1 billion in many years even as the number of lightning claims falls

Sources: Insurance Information Institute

SELECTED LARGE OUTAGES ASSOCIATED WITH TROPICAL SYSTEMS *by State*

Millions of Customers

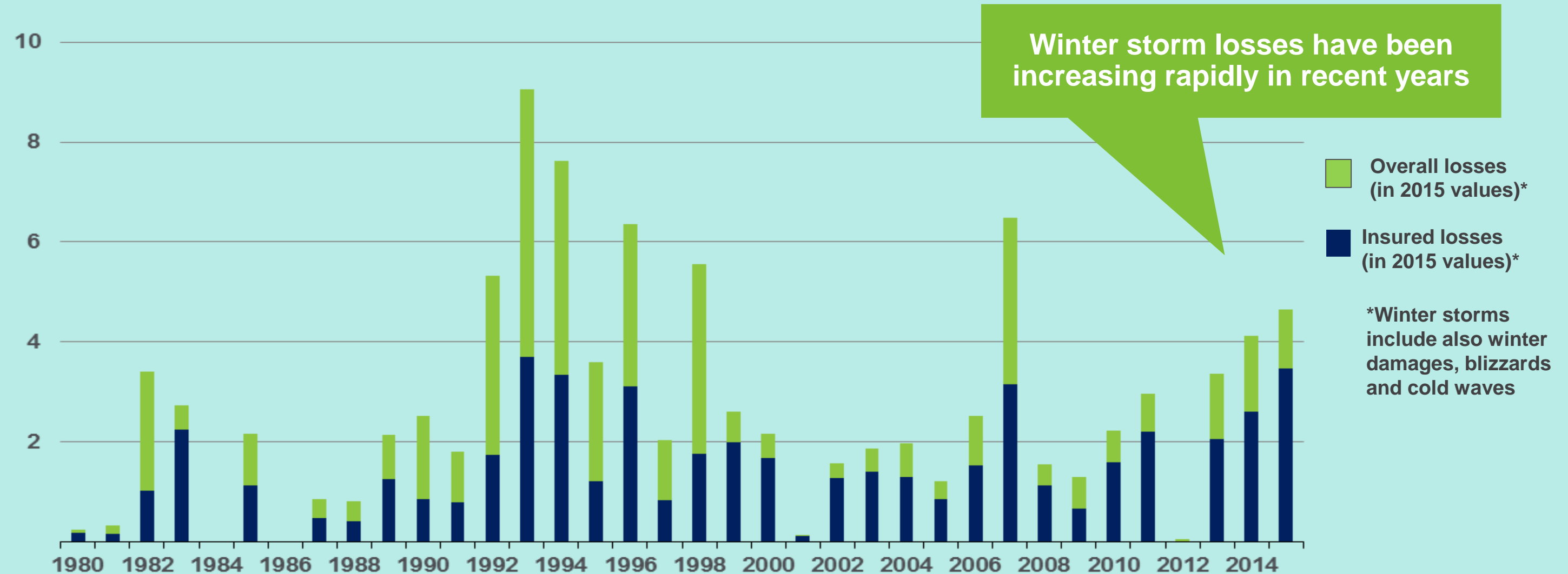


Sources: US Dept. of Energy, Vertyx, AP analysis; Insurance Information Institute

WINTER STORM LOSSES IN THE US *Overall and Insured Losses**

1980–2015

\$ Billions



*Losses adjusted to inflation based on CPI.
Source: Property Claim Services, MR NatCatSERVICE

FIRST HALF 2016 CAT LOSSES *by Type*

Severe Thunderstorms Lead the Way

Severe thunderstorms and hail drove up losses in the first half of 2016

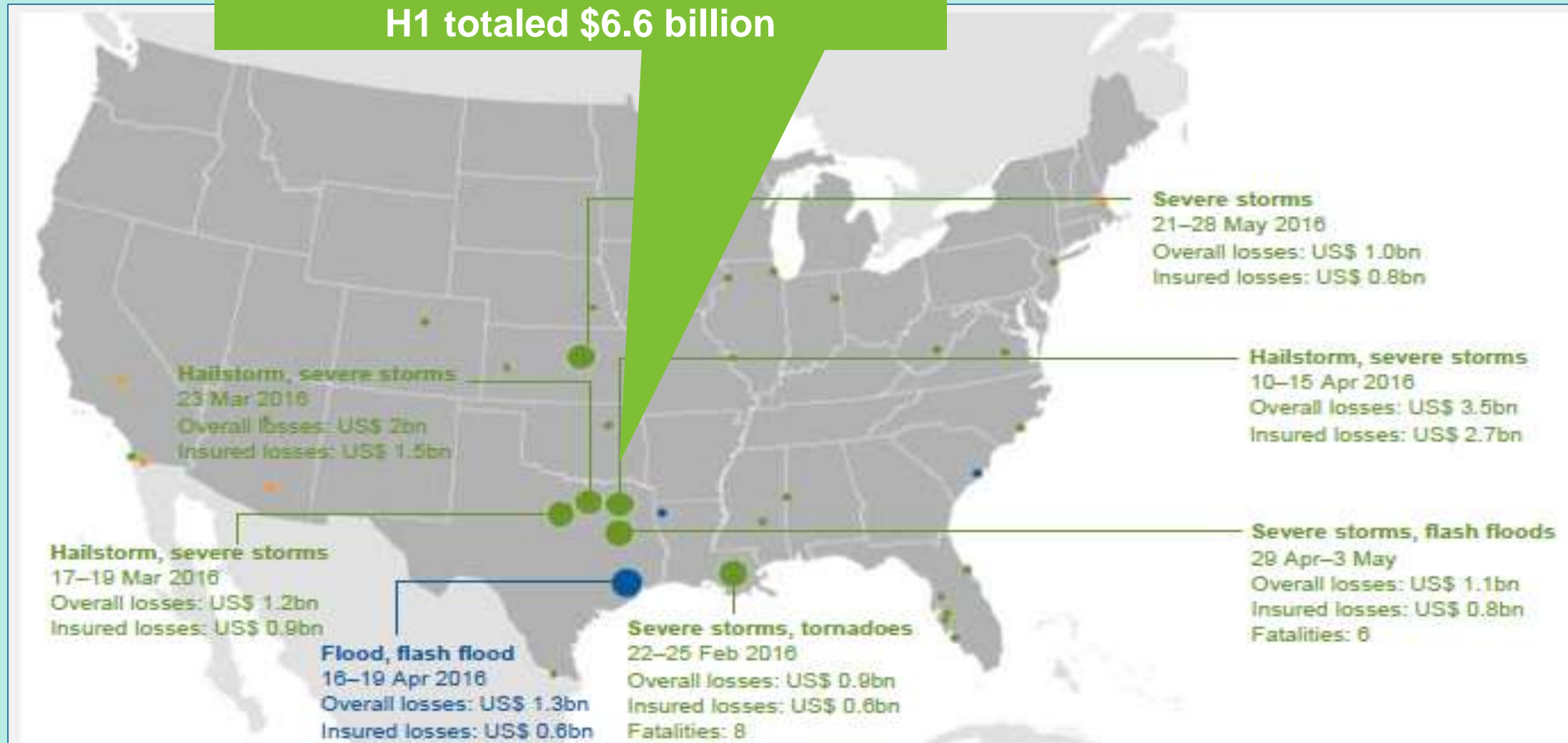
As of July 12, 2016	Number of Events	Fatalities	Estimated Overall Losses (US \$million)	Estimated Insured Losses (US \$million)*
Severe Thunderstorm	21	25	11,600	8,500
Winter Storms & Cold Waves	8	55	2,300	1,500
Flood, Flash Flood	60	3,300	3,300	1,000
Earthquake & Geophysical	-	-	-	-
Tropical Cyclone	-	-	-	-
Wildfire, Heat Waves & Drought (ongoing drought conditions without loss estimation for half the year)	5	10	200	Minor Losses
Totals	40	150	17,4000	11,000

Source: ISO's Property Claims Services (PCS) Unit

FIRST HALF 2016 CAT LOSSES

Everything Is Bigger in Texas

**Insured CAT losses in Texas in 2016
H1 totaled \$6.6 billion**

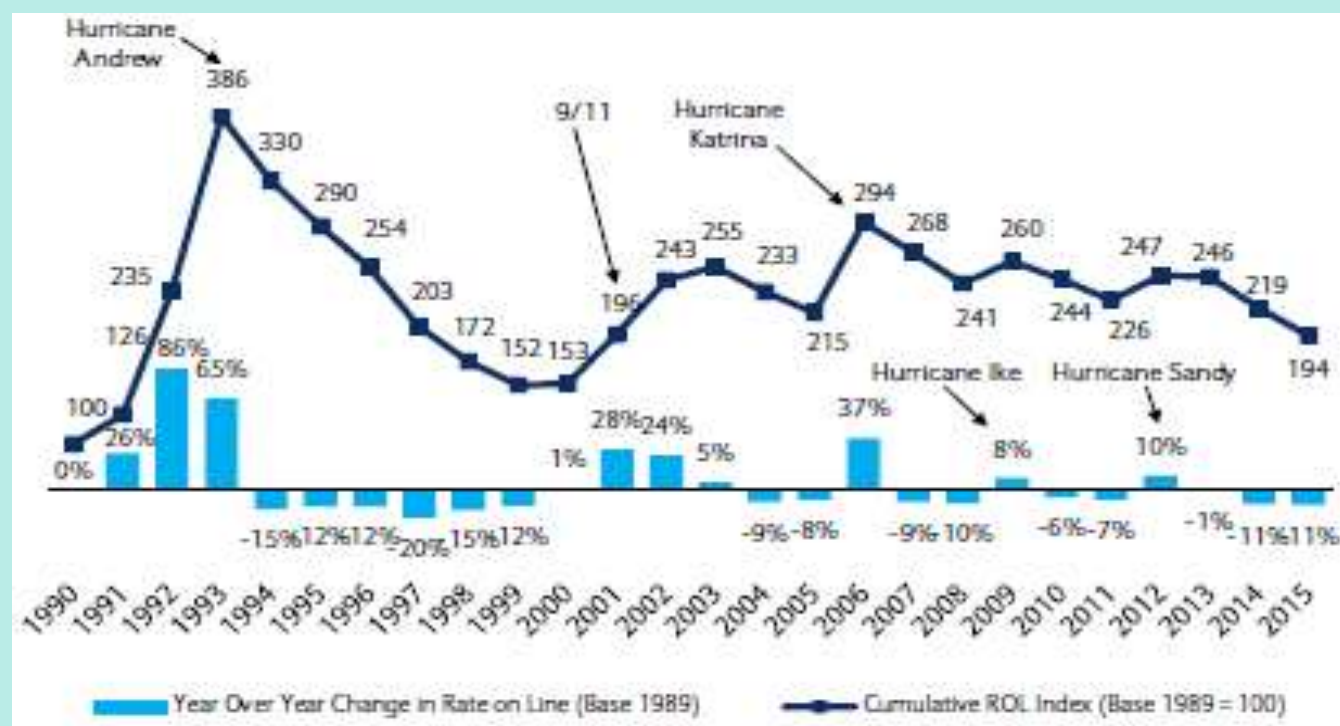


- **Geophysical events**
(Earthquake, tsunami, volcanic activity)
- **Meteorological events**
(Tropical storm, extratropical storm, convective storm, local storm)
- **Hydrological events**
(Flood, mass movement)
- **Climatological events**
(Extreme temperature, drought, forest fire)

Source: Munich Re

US PROPERTY CAT RATE *on Line Index* & Global Reinsurance ROE

US Property CAT ROL



Global Reinsurance ROE

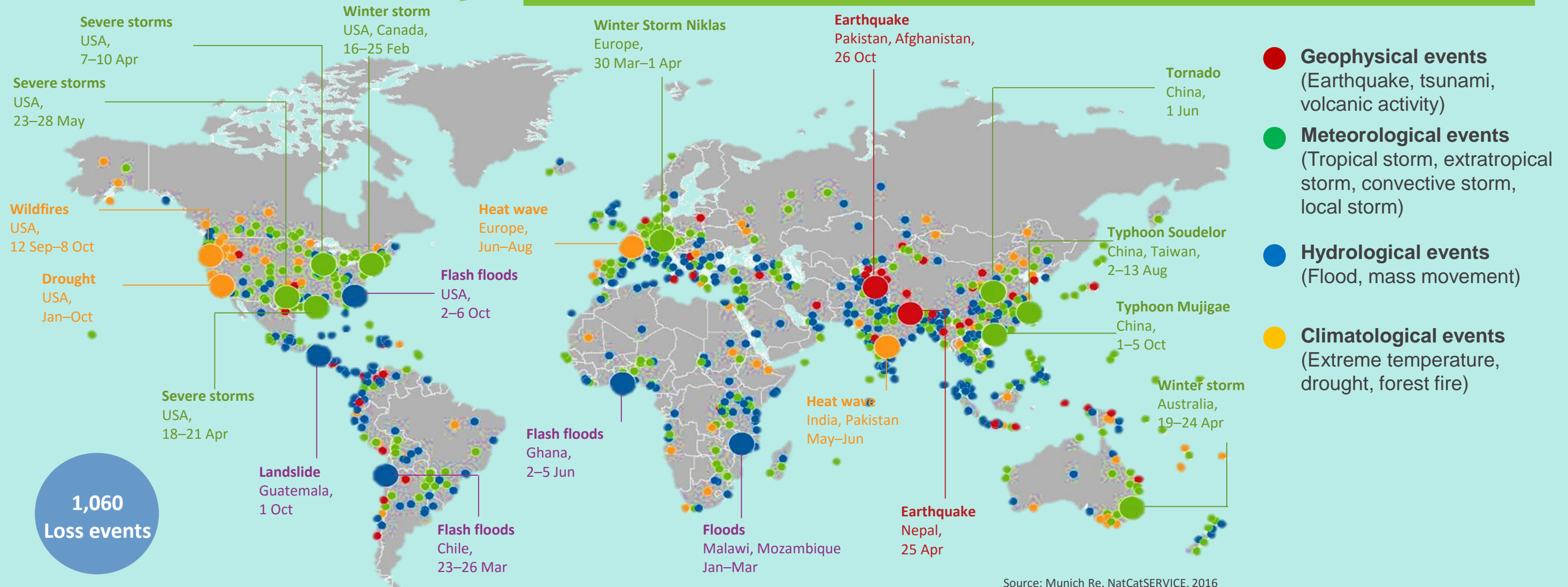


Record traditional capacity, alternative capital and low CAT activity have pressured reinsurance prices; ROEs are down only very modestly

Source: Barclays PLC from Guy Carpenter; Insurance Information Institute

LOSS EVENTS *Worldwide* 2015

Global insured CAT losses totaled \$27 billion in 2015, 21% below the \$31 billion average over the past 30 years (1985-2014, adj. for inflation)



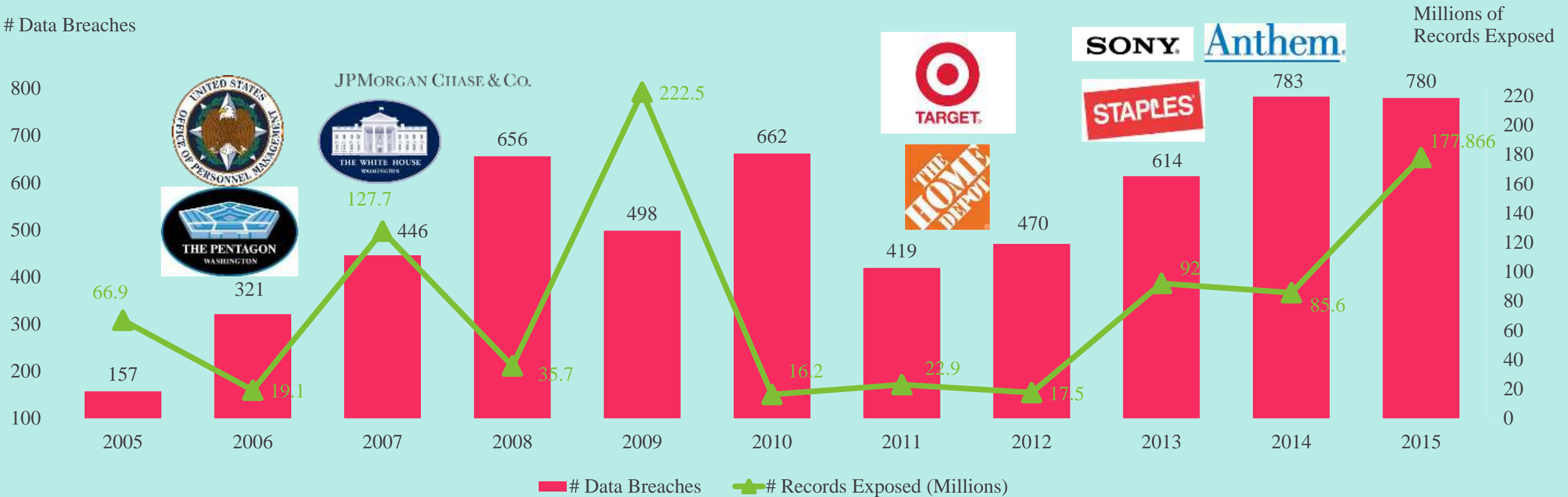
Source: Munich Re.

CYBER RISK & CYBER INSURANCE

CYBER RISK IS A RAPIDLY EMERGING
EXPOSURE FOR BUSINESSES LARGE
AND SMALL IN EVERY INDUSTRY

DATA BREACHES *by Number of Breaches and Records Exposed* 2005–2015

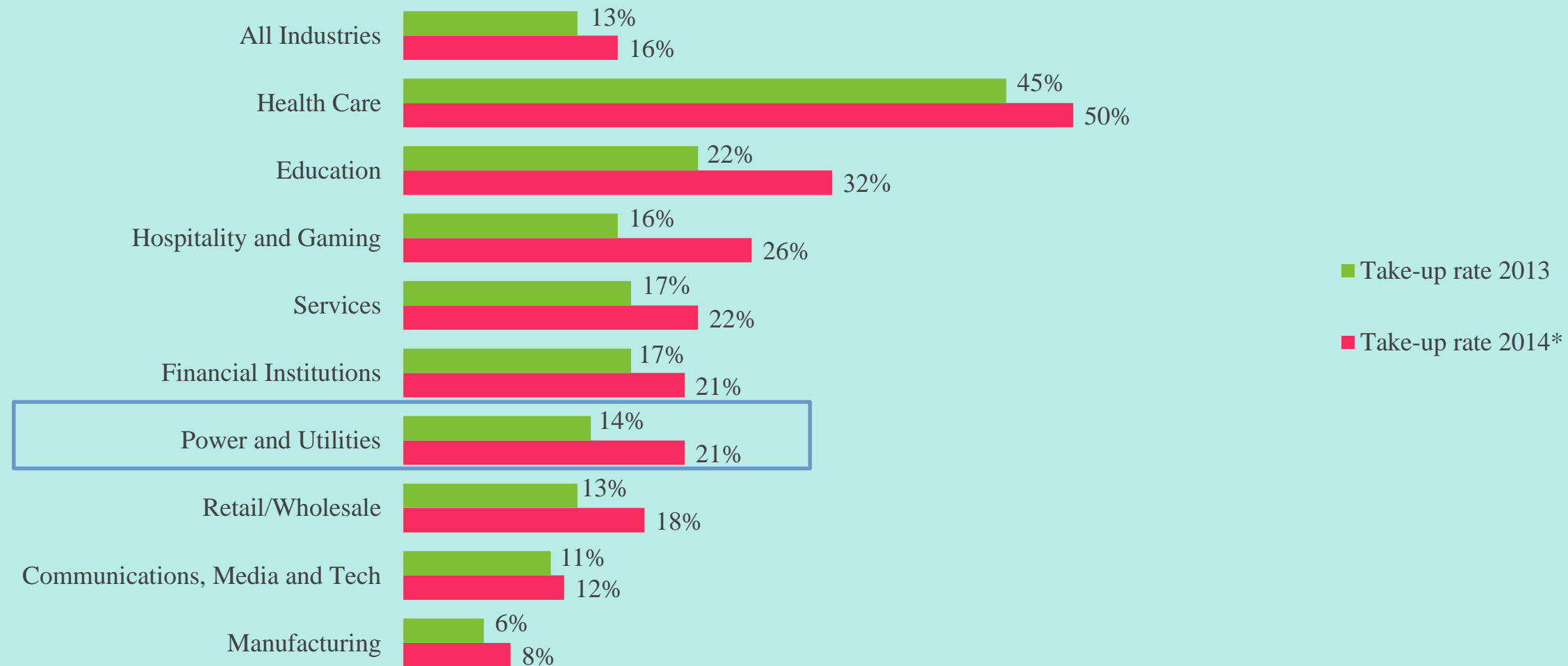
Data Breaches



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

Source: Identity Theft Resource Center,
<http://www.idtheftcenter.org/images/breach/ITRCBreachReport2015.pdf>
 *2007-2012 figures exclude mortgage and financial guaranty segments.

MARSH *Percentage of US Companies Purchasing Cyber Insurance Increased in 2014*

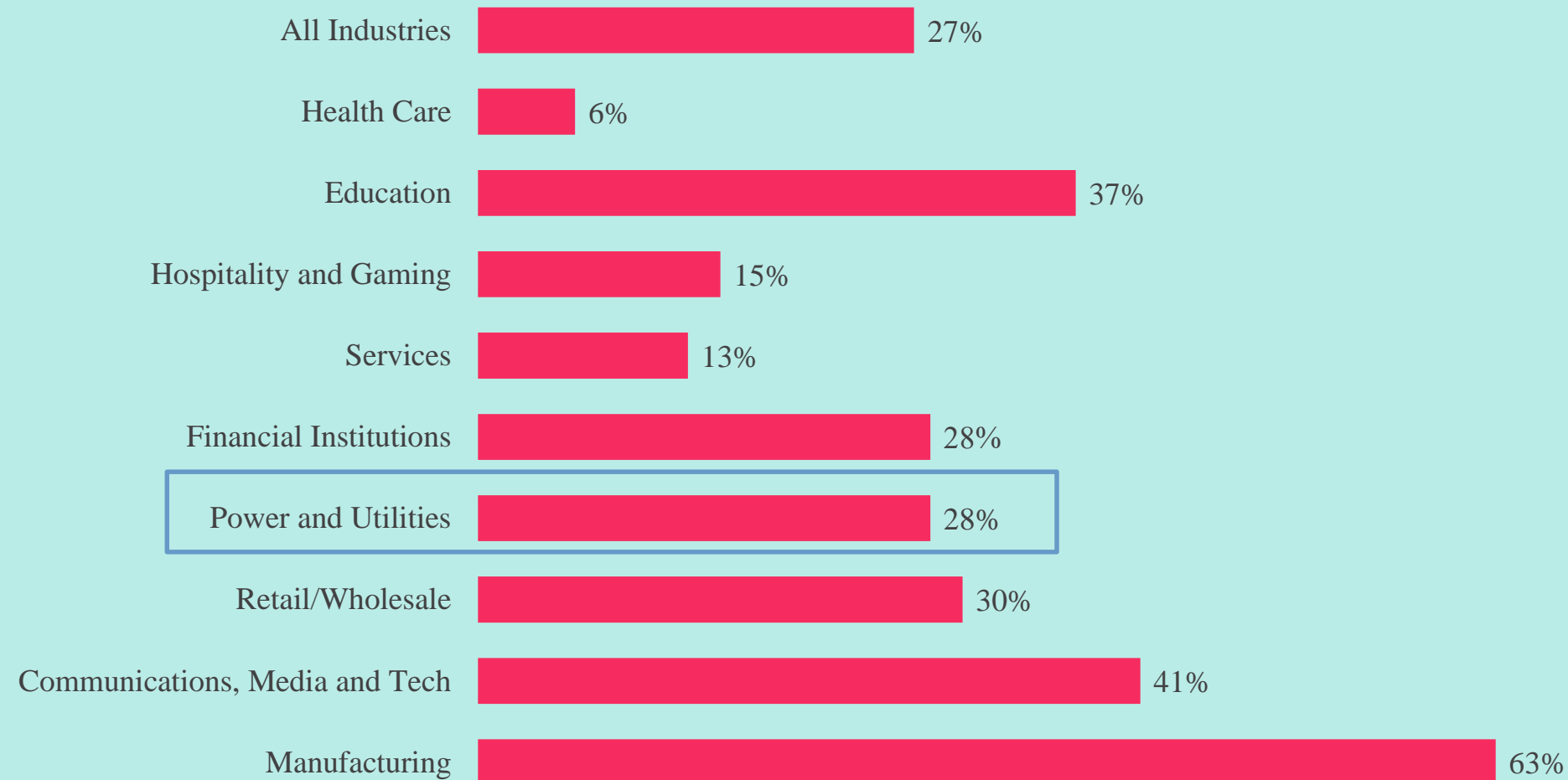


Ever larger numbers of insureds seek financial protection via cyber insurance. The percentage of US companies buying cyber insurance rose to 16 percent in 2014.

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

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

CYBER INSURANCE *Growth Rates by Industry* 2015



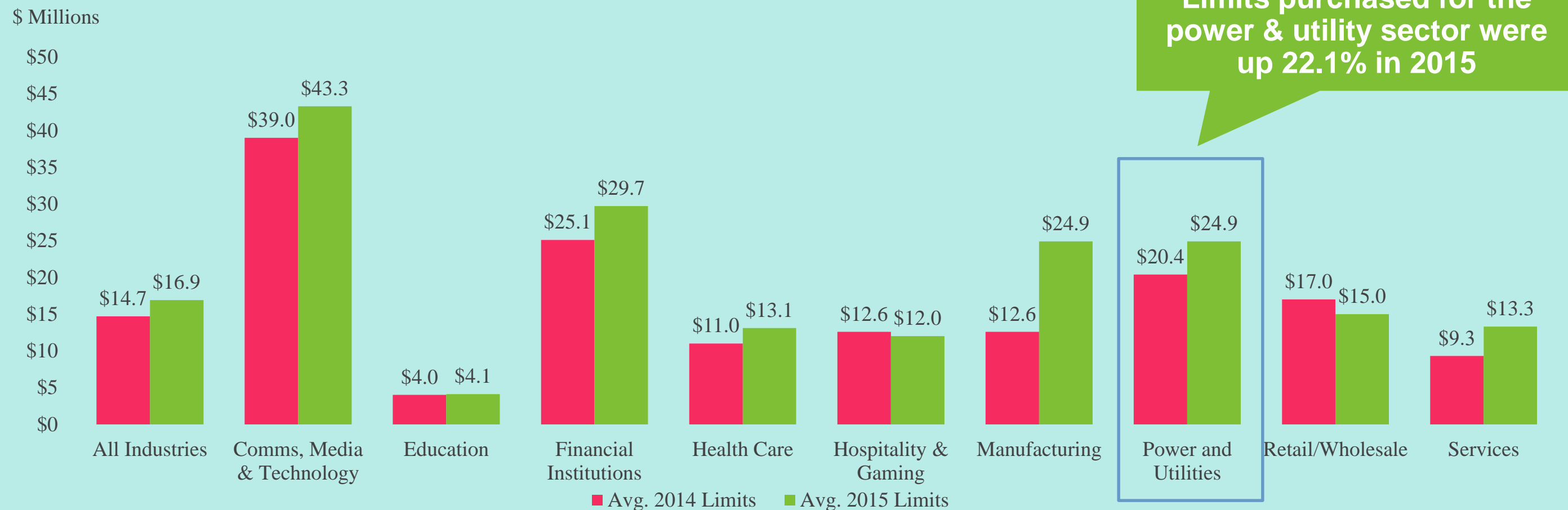
**Ever larger numbers of insureds seek financial protection via cyber insurance.
The growth rate in cyber premiums written was 27% percent in 2015.***

*Marsh clients.

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

MARSH Total Limits Purchased, by Industry – Cyber Liability

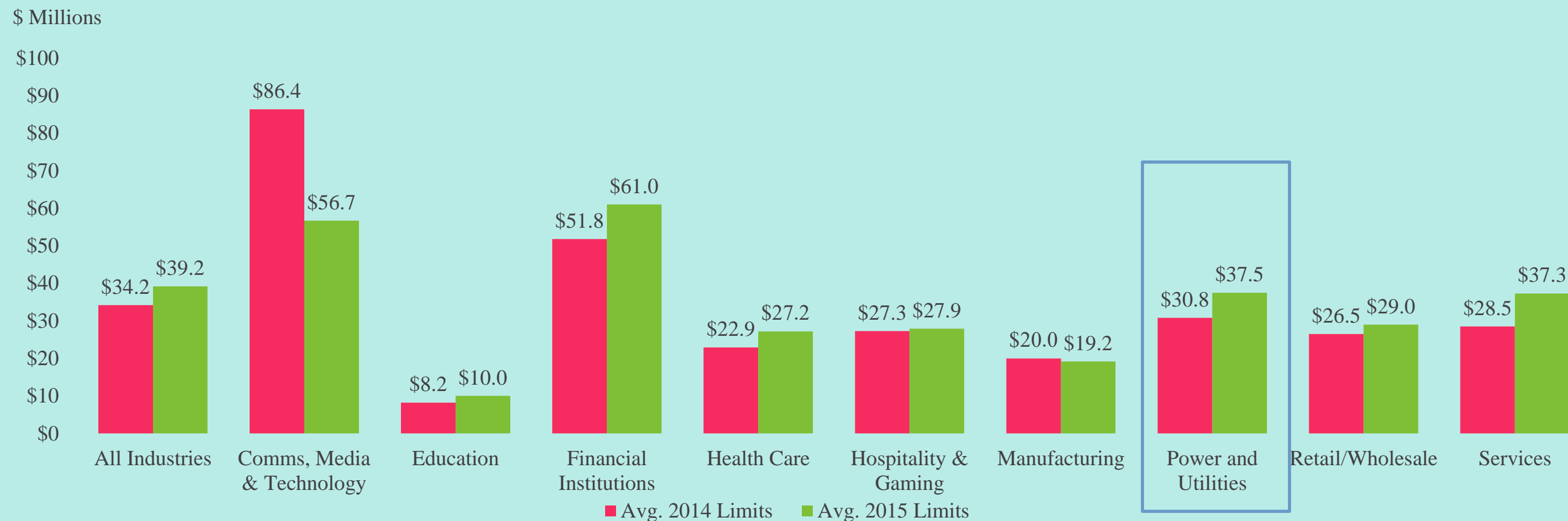
All Revenue Size



Average limits purchased for cyber risk rose 15% to \$16.9 million for all industries and all company sizes in 2015. Power and utility companies witnessed a sharper percentage increase in average limits, at 22 percent.

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

MARSH Total Limits Purchased, by Industry – Cyber Liability Revenue > \$1 Billion

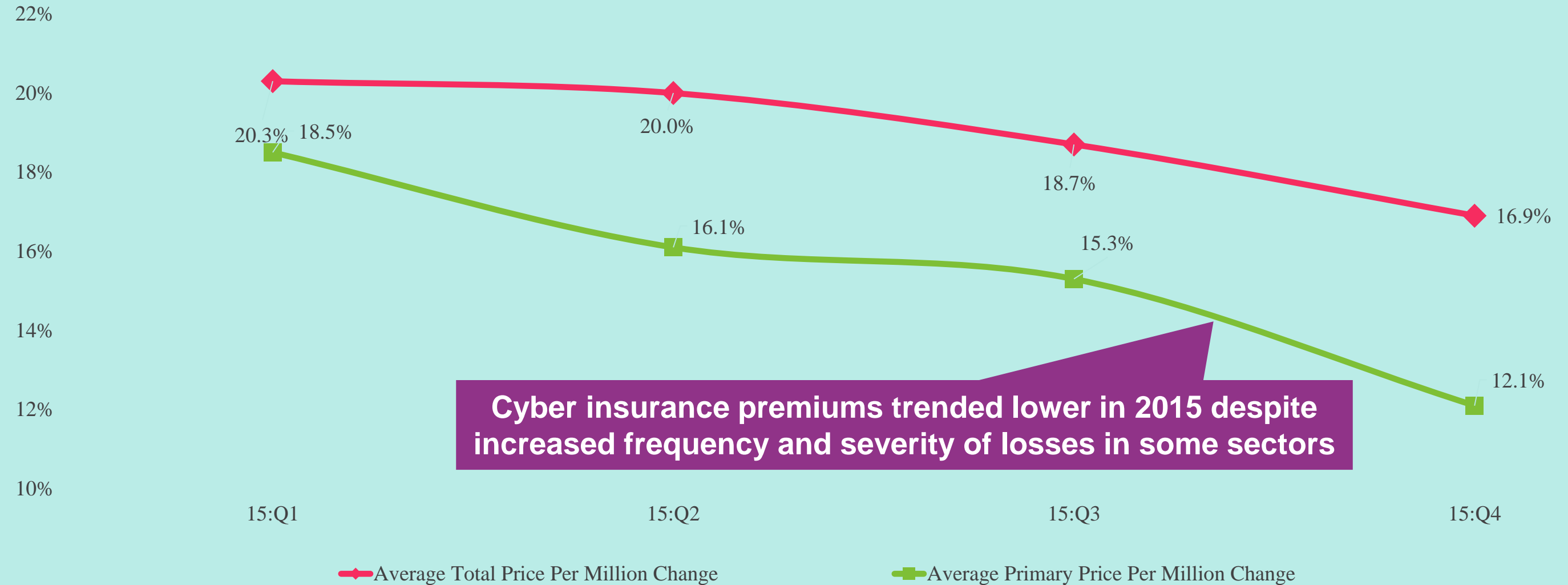


Among larger companies, average cyber insurance limits purchased increased by 14.6 percent to \$39.2 million in 2015, from \$34.2 million in 2014; Power and Utility purchases were up 21.8%

Source: Benchmarking Trends: Operational Risks Drive Cyber Insurance Purchases, Marsh Management Research Briefing, March 2016.

CYBER LIABILITY *Historical Rate Changes*

Price per Million

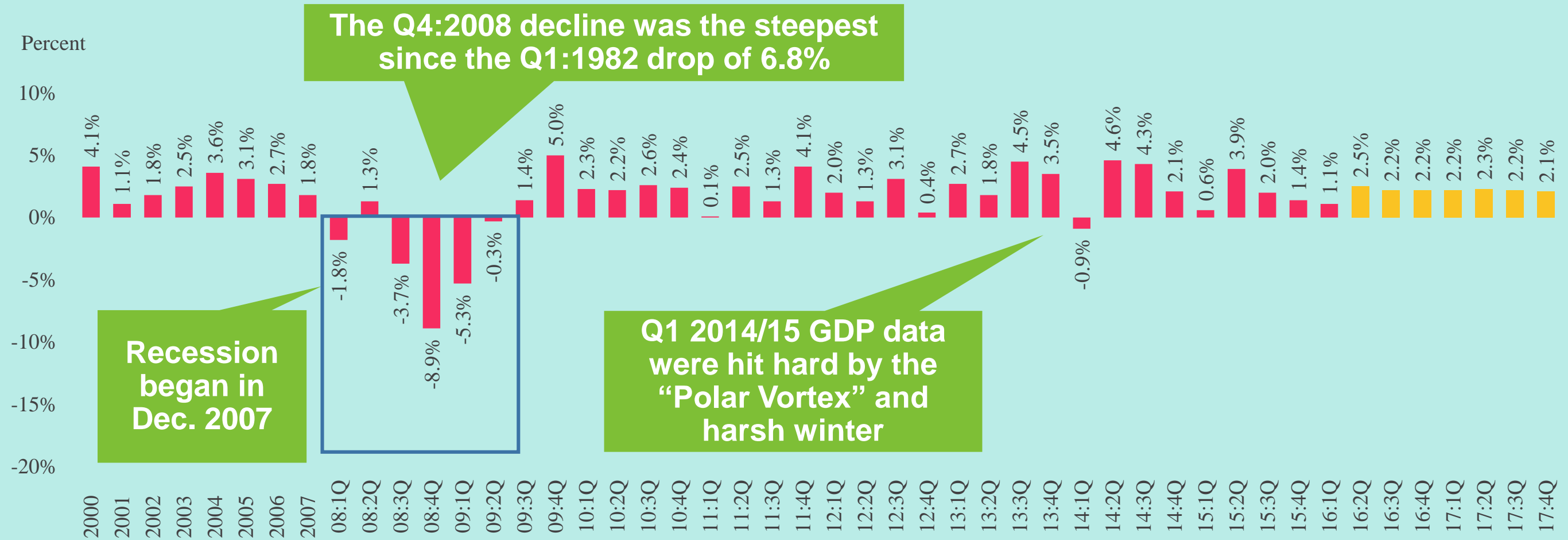


Source: Benchmarking Trends: Operational Risks Drive Cyber Insurance Purchases, Marsh Management Research Briefing, March 2016.

THE ECONOMY

THE STRENGTH OF THE ECONOMY
WILL GREATLY INFLUENCE INSURER
EXPOSURE BASE AND DRIVE ENERGY
DEMAND

US REAL GDP GROWTH*



Demand for energy should increase in 2016-17 as GDP growth continues at a steady, albeit moderate pace and gradually benefits the economy broadly

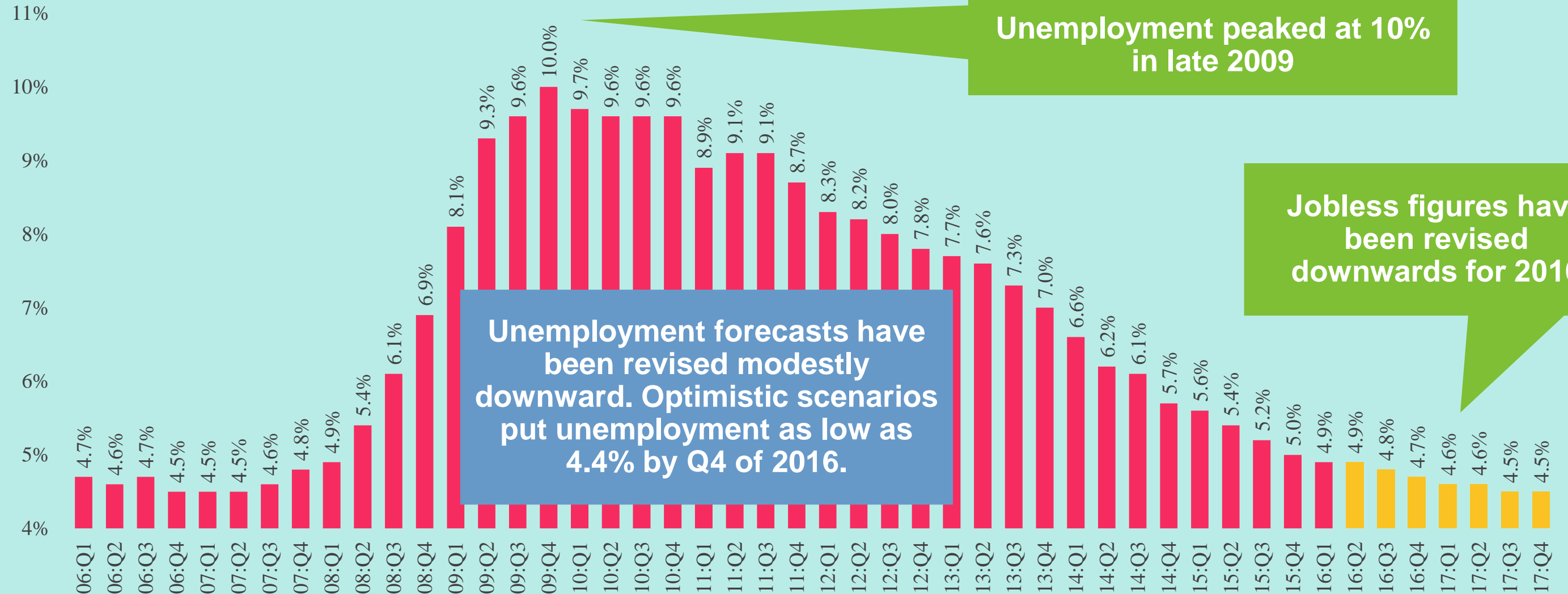
* Estimates/Forecasts from Blue Chip Economic Indicators.

Source: US Department of Commerce, Blue Economic Indicators 7/16; Insurance Information Institute

US UNEMPLOYMENT RATE FORECAST

2007:Q1 to 2017:Q4F*

Percent



* = actual; = forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (7/16 edition); Insurance Information Institute

BREXIT *Potential Impacts on the Global (Re)insurance Industry*

- Brexit is a net negative for the global (re)insurance industry
- Fundamentally, Brexit is a protectionist measure and antithetical to free trade; economic negatives:
 - Dollar appreciates weakening US exports
 - Delays Fed rate hikes
 - Uncertainty
- Free flow of financial capital, human capital and coordinated regulatory policy across EU states is on net good for Europe's economy
- Concern that UK's action could initiate a domino effect
- Economic integration is the cornerstone of keeping (most of) Europe free of war
- Does Brexit weaken Solvency II and efforts to implement European-like regulations in the US?



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AND YOUR ATTENTION!

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