



**INSURANCE
INFORMATION**
INSTITUTE

Insurance: Leading Through Disruption

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I.I.I. Mission Statement

Improving public understanding
of insurance...

...what it does and how it works

Insurance & Economic Leadership

Insurance & Economic Leadership

Sustainable Business Model

2010



Bank Failures: 157

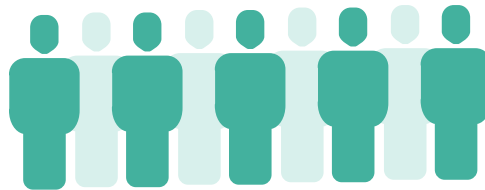


Insurance Impairments¹: 8

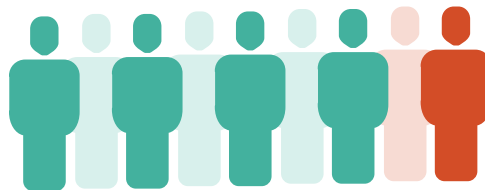
Policyholder Surplus:

\$700.9B ➔ End 2016

Strong Jobs Pool/Provider



2.8M Employed



**Need to Fill
400K+ by 2022²**

Economic Growth Promoter/Facilitator



2.7%
US GDP³

Premium Taxes Paid⁴ **\$19.2B**

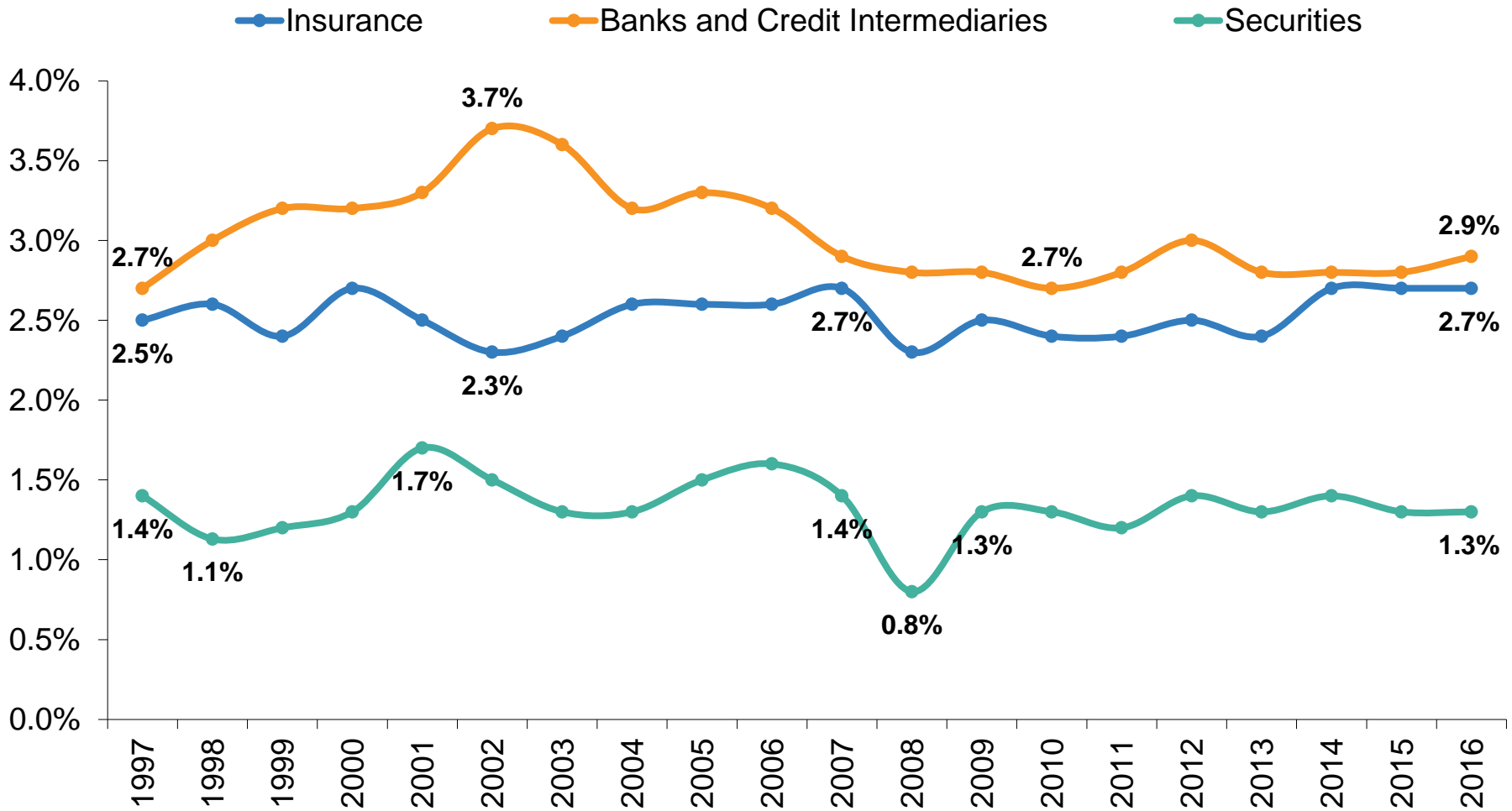
Bond Investment⁵ **\$489B**

Charity/Volunteerism⁶ **↑15%**



¹Life/Health and P/C Insurance; ²PC 360 <http://www.propertycasualty360.com/2013/04/17/insurance-industry-crisis-400000-positions-to-fill?slreturn=1476304299>; ³U.S. Bureau of Economic Analysis, 2016; ⁴U.S. Department of Commerce, 2015; ⁵Federal Reserve, 2015; ⁶2011–2014, Insurance Industry Charitable Foundation.

The Insurance Industry's Contribution to GDP Now Nearly Equals Banks'



Sources: US Bureau of Economic Analysis; Insurance Information Institute.

Insurance Industry Snapshot: By the Numbers



2.8 million

People in the U.S. employed, in a wide variety of careers, from human resource administrators to public relations managers to financial analysts



\$5.8 trillion

Assets under management at year-end 2016, including \$1.5 trillion for the property/casualty sector and \$3.7 trillion for the life sector



\$508 billion

Contributed to the U.S. gross domestic product in 2016, roughly 2.7% of the whole



\$40.0 billion

Federal and foreign income taxes paid in 2016, plus U.S. premium taxes paid

The Yearly Cash Flow to Rebuild Lives and Property is Substantial

Insurers annually pay over a trillion dollars in claims to rebuild lives, property, and businesses.

In 2016 alone, the industry paid

\$386.4 billion P/C incurred claims (L + LAE)

554.7 Life/Annuity benefits

560.9 Health Insurance benefits

= \$1.502 trillion

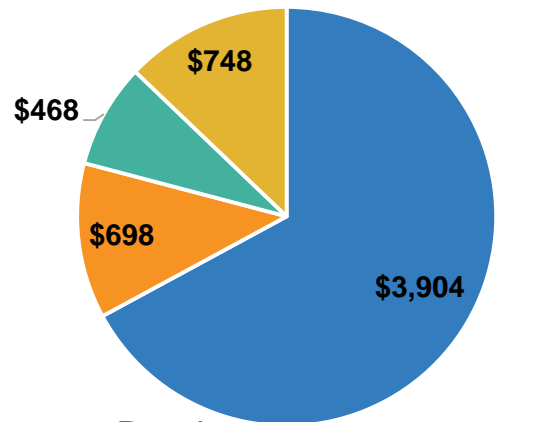
This is equivalent to \$125 billion per month.



Insurers Are Major Investors, 2015

Categories of investments (\$billions)

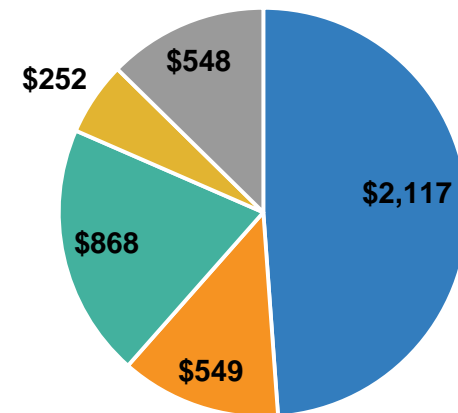
Total invested assets: \$5.8 trillion



- Bonds
- Stock
- Mortgages & Real Estate
- Other

Categories of bonds (\$billions)

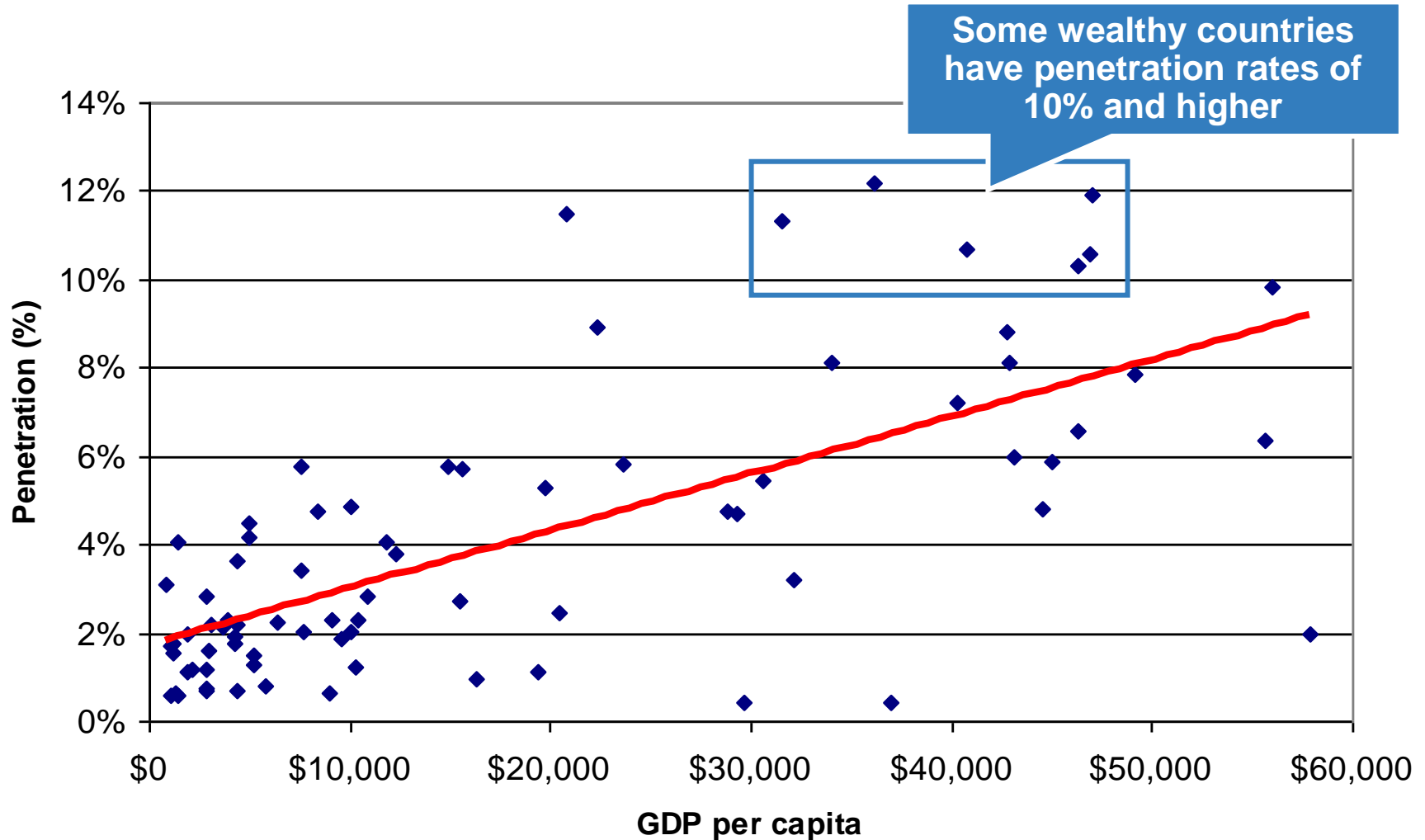
22% of corporate bonds outstanding
15% of municipal bonds outstanding



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



As Economies Grow Wealthier, Insurance Market Penetration (Premium as % of GDP) Also Grows

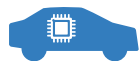


Source: A.M. Best.

Insurance Market Report

State of Insurance

Top Issues



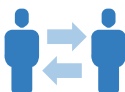
Autonomous Vehicles



P2P insurance



Cybersecurity



Sharing Economy



Workers Comp Regulation



Politics



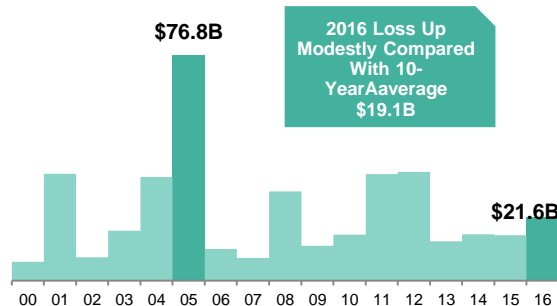
Overcapitalization (Reinsurance)

Catastrophe Costs

P/C Payouts / Property Losses¹

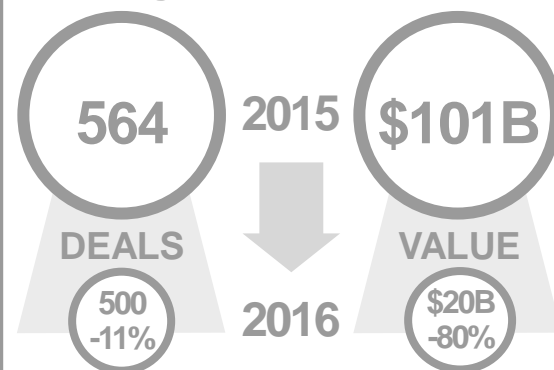


U.S. Insured Cat Losses



Consolidation/M&A

Insurance-related Deals Involving U.S. Firms²



\$6.3B



(JAPAN)

(BERMUDA)



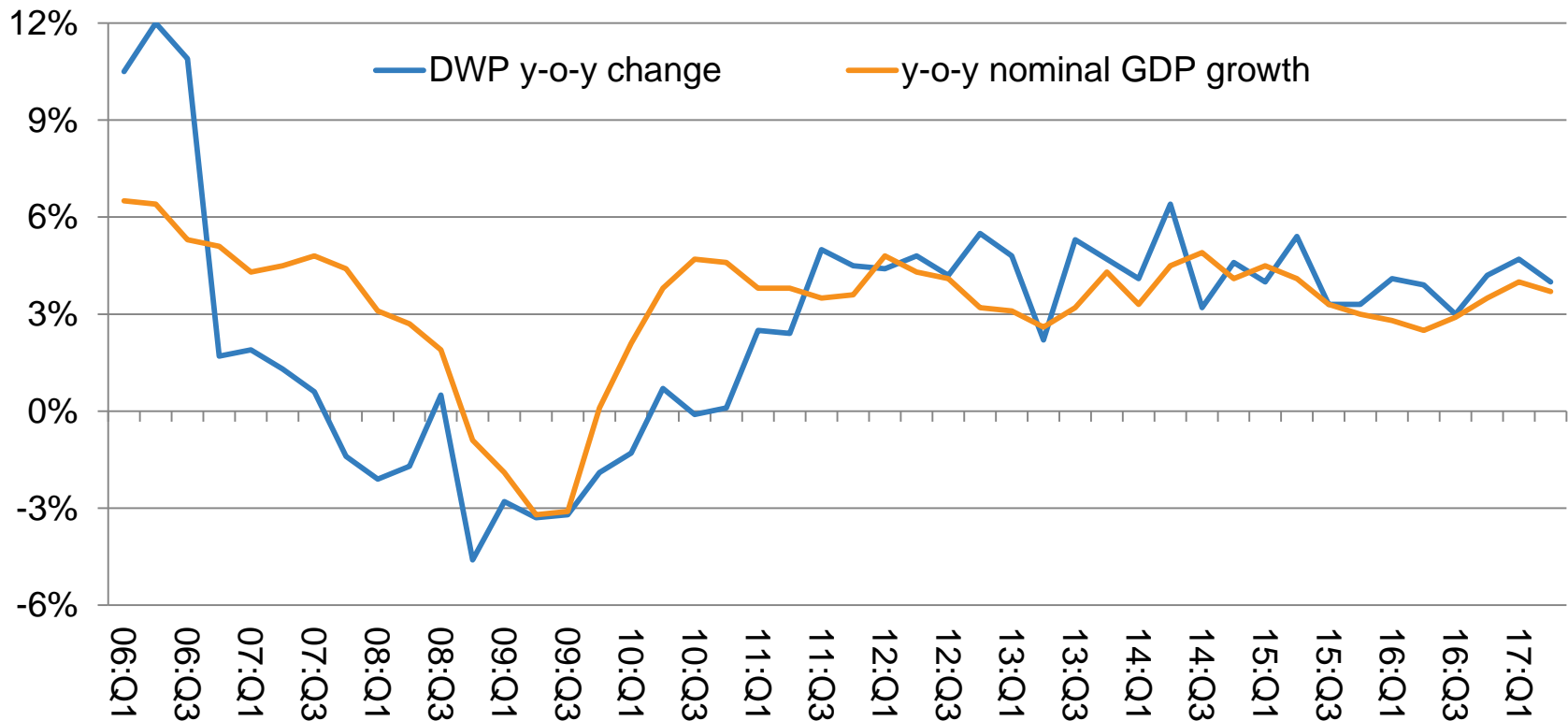
pending or completed M&As involving U.S. insurance companies (2017)³



¹PCS; ²Conning Research; ³S&P Financial.

The Economy Drives P/C Insurance Industry Premiums

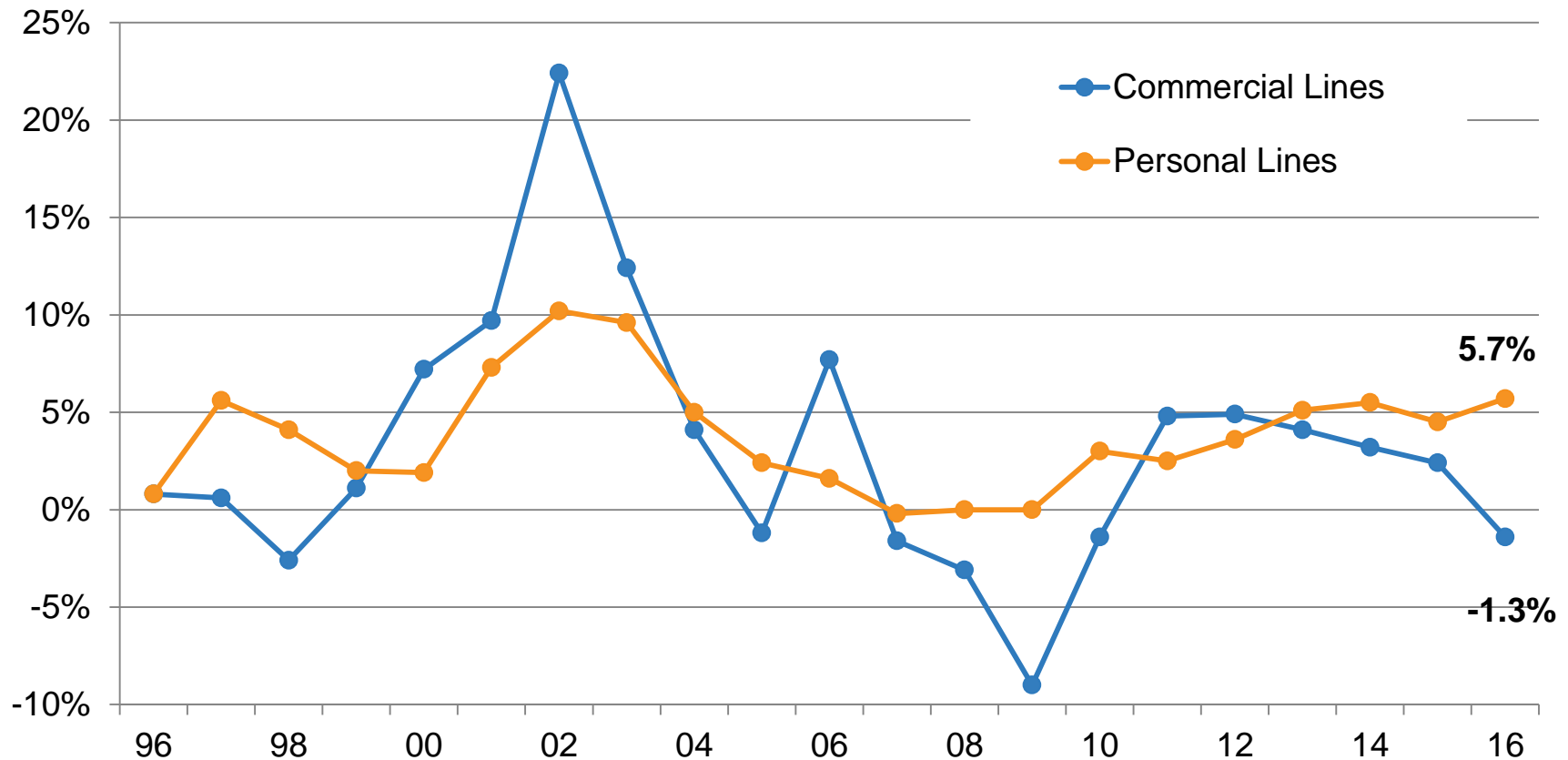
Direct Premium Growth (All P/C Lines) vs. Nominal GDP



**Direct written premiums track nominal GDP—
not quarter by quarter but overall fairly well.**



Commercial & Personal Lines NPW Growth

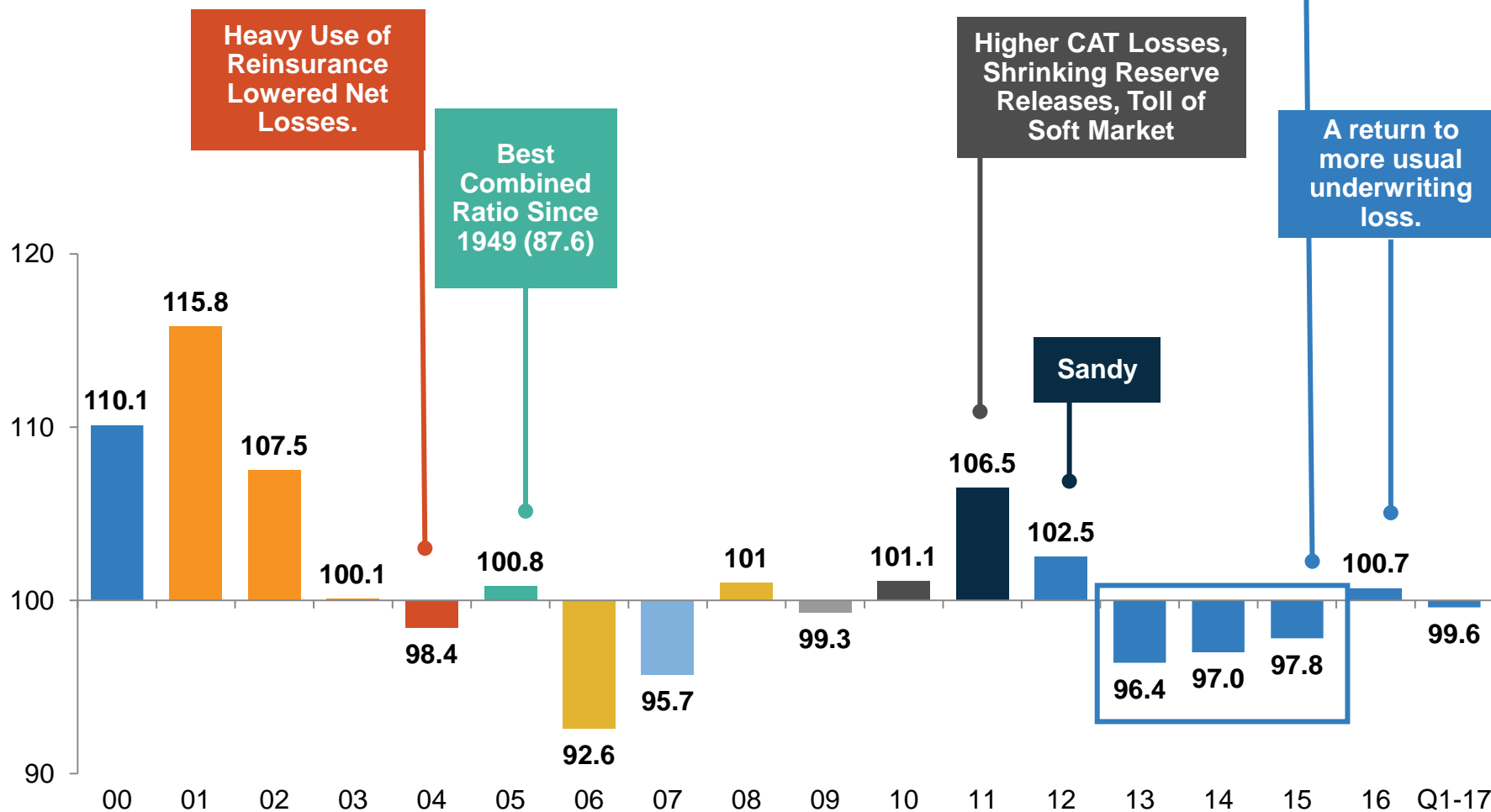


Commercial lines is prone to much more cyclical volatility than personal lines.



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

P/C Insurance Industry Combined Ratio, 2000-2017*



*Excludes Mortgage & Financial Guaranty insurers 2008-2014.

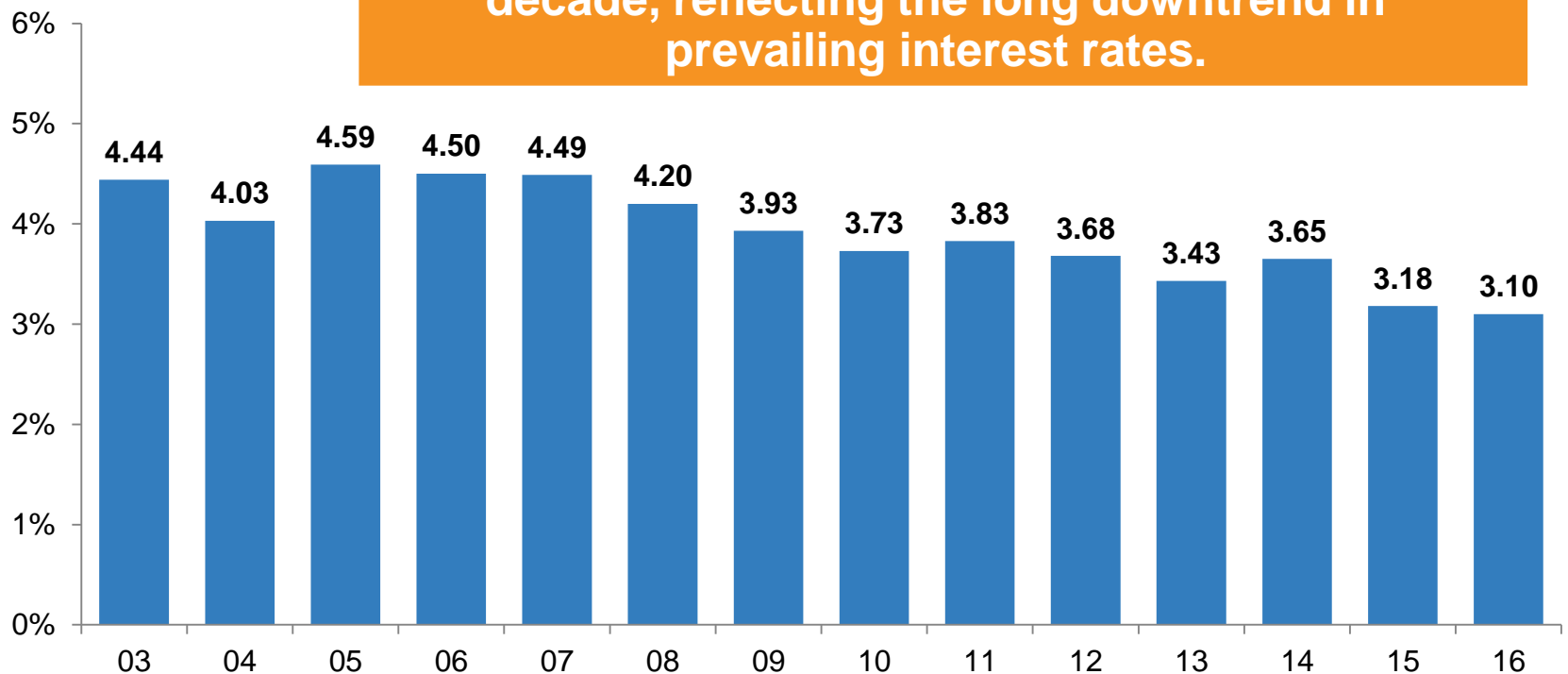
Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012=103.2; 2013= 96.1; 2014= 97.0.

Sources: A.M. Best; ISO, a Verisk Analytics company; I.I.I.



P/C Insurer Portfolio Yields, 2003-2016

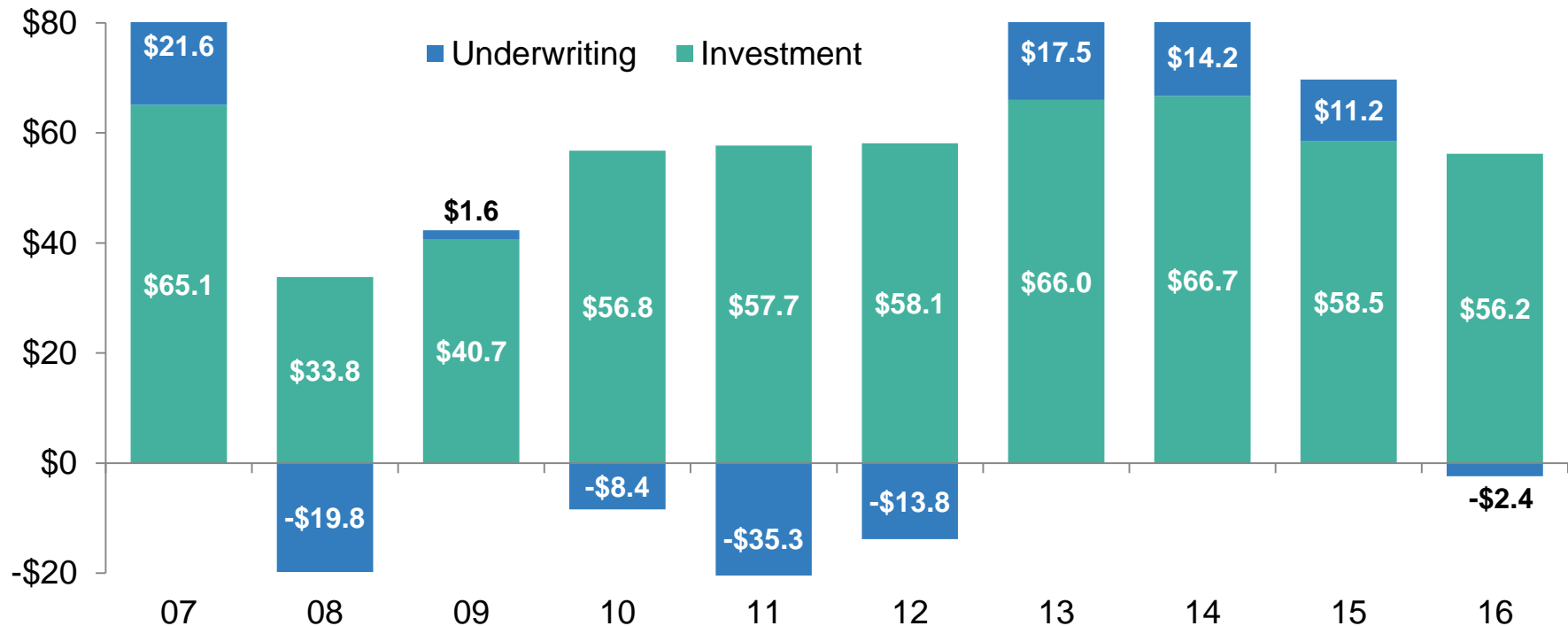
P/C carrier yields have been falling for over a decade, reflecting the long downtrend in prevailing interest rates.



Even as prevailing rates rise in the next few years, portfolio yields are unlikely to rise quickly, since low yields of recent years are “baked in” to future returns.



Sources of P/C Insurer Profits, 2007-2016

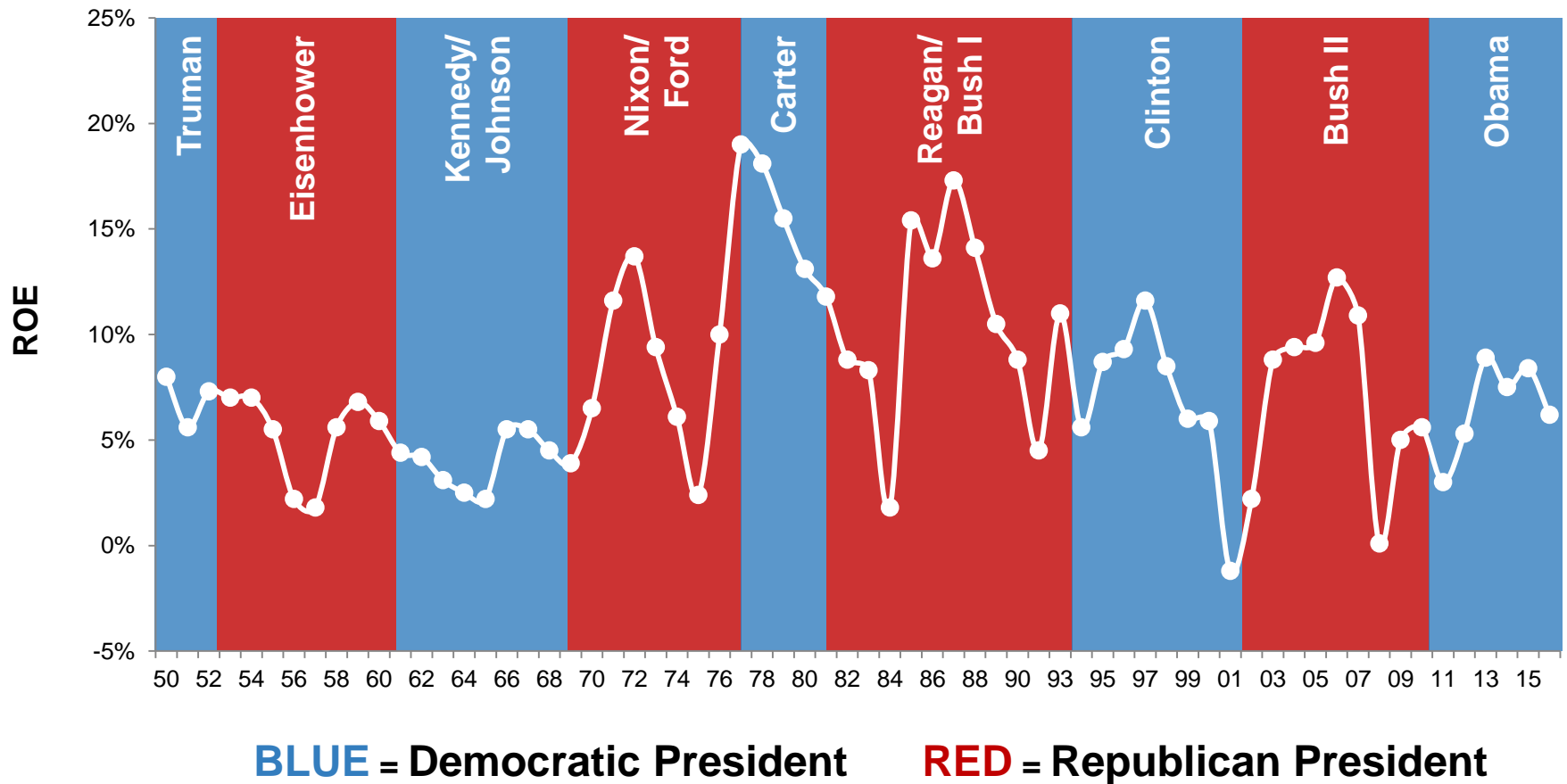


Insurer gains from investments vary from year to year (they plunged in 2008-09) but in the last decade, excluding the effect of the Great Recession, ranged between \$55 billion and \$65 billion each year. In contrast, net underwriting gains have not exceeded \$21 billion in any year and were actual losses in five of the 10 years.



P/C Insurance Industry ROE by Presidential Party Affiliation

1950-2016*

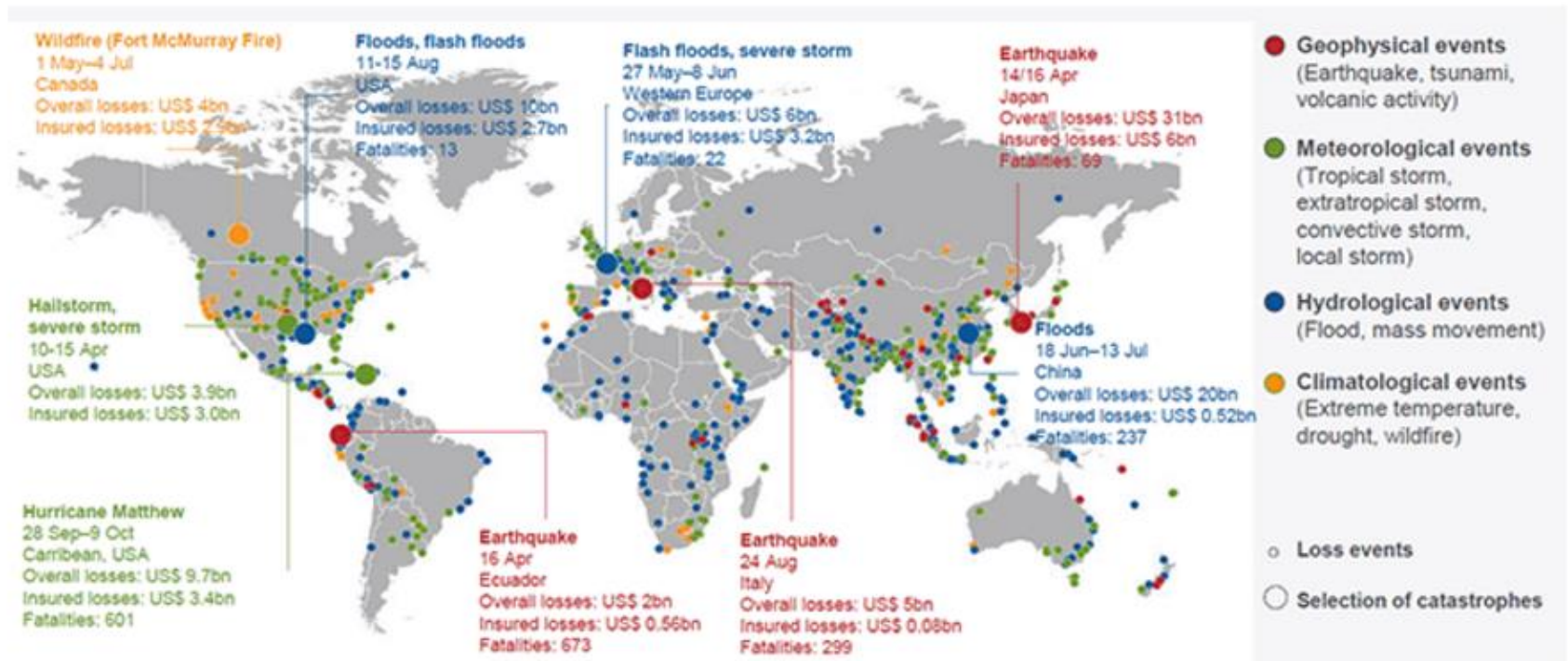


*2016 data is through Q3. Source: Insurance Information Institute.

Catastrophe Change

Natural Catastrophe Losses Totaled \$175 Billion, Up From \$103 Billion in 2015

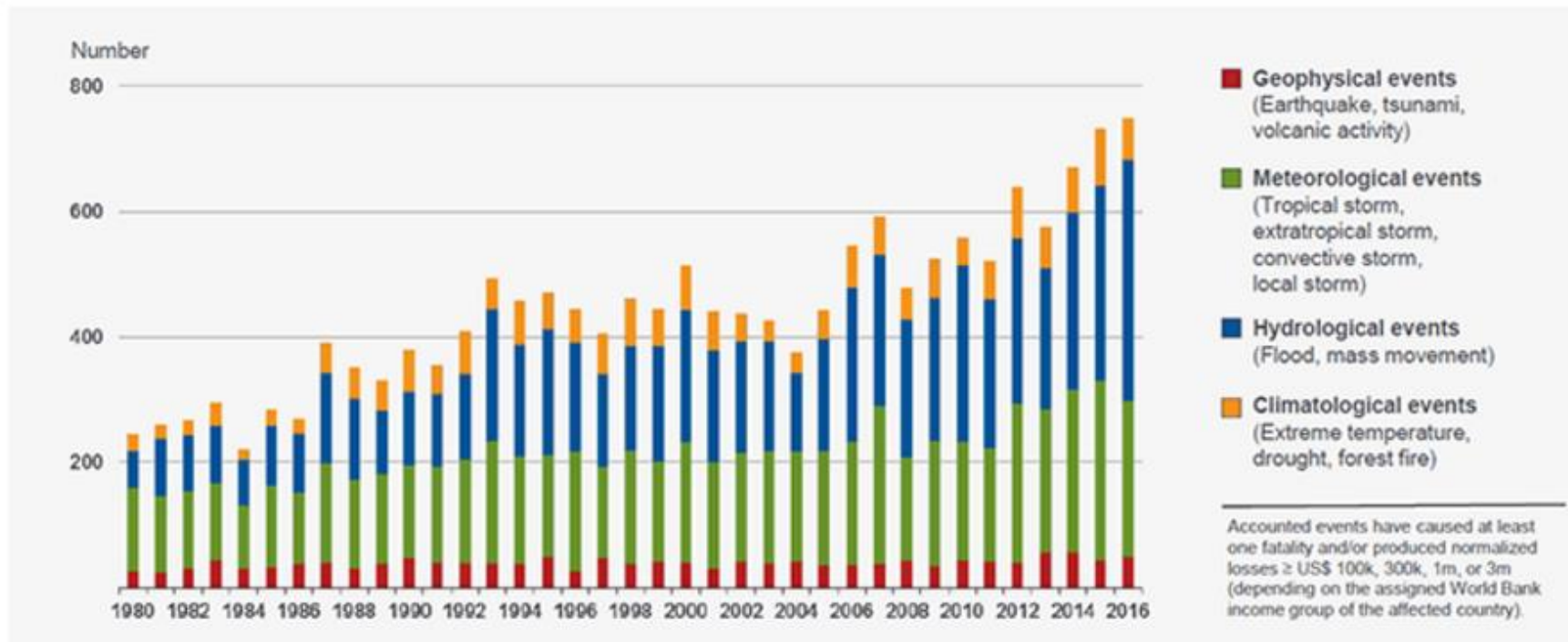
World Natural Catastrophes, 2016



The Frequency of Extreme Weather Events Is Rising

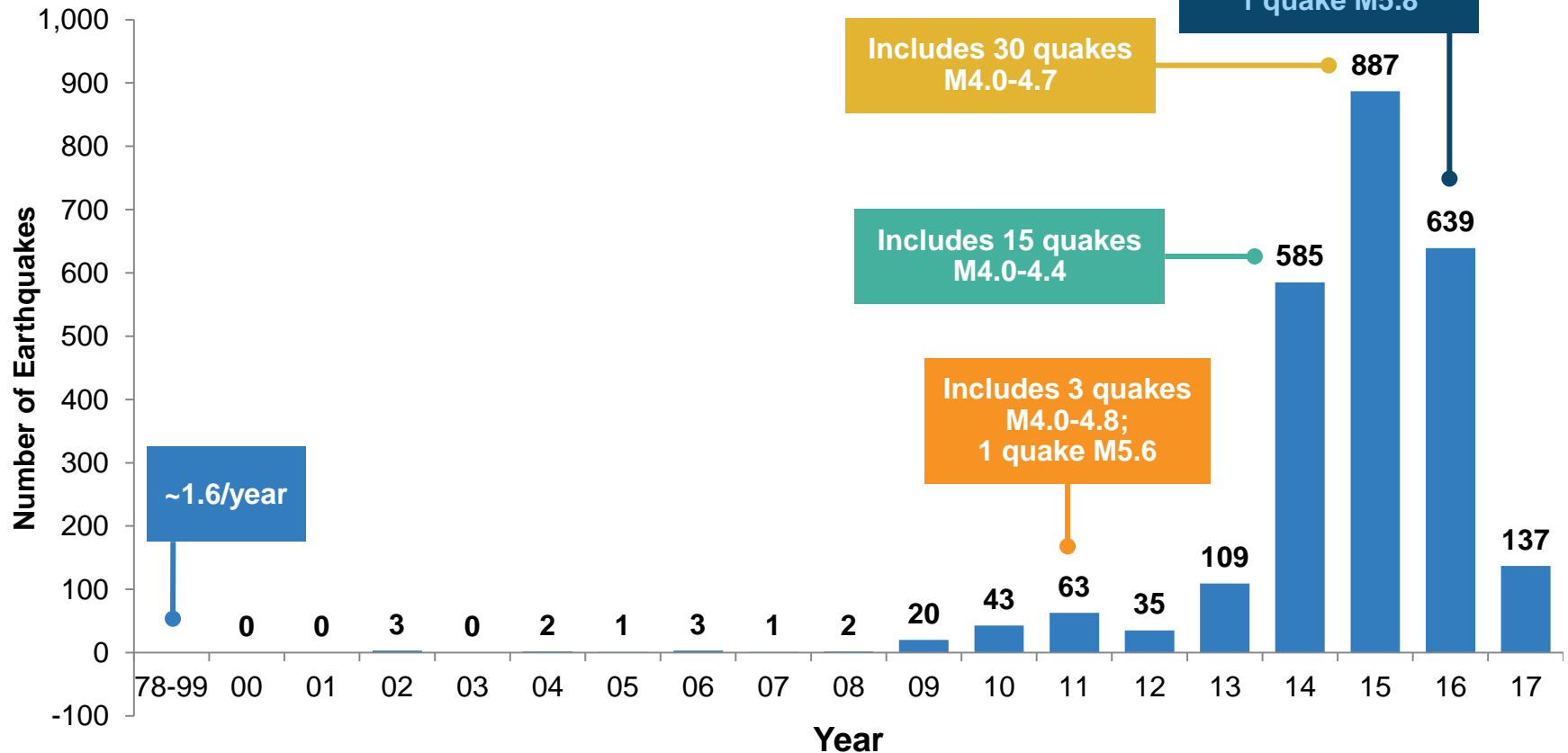
Number of World Natural Catastrophes, 1980-2016

(Number of relevant events by peril)



Induced Earthquakes

Oklahoma Earthquakes Magnitude 3.0 and Greater

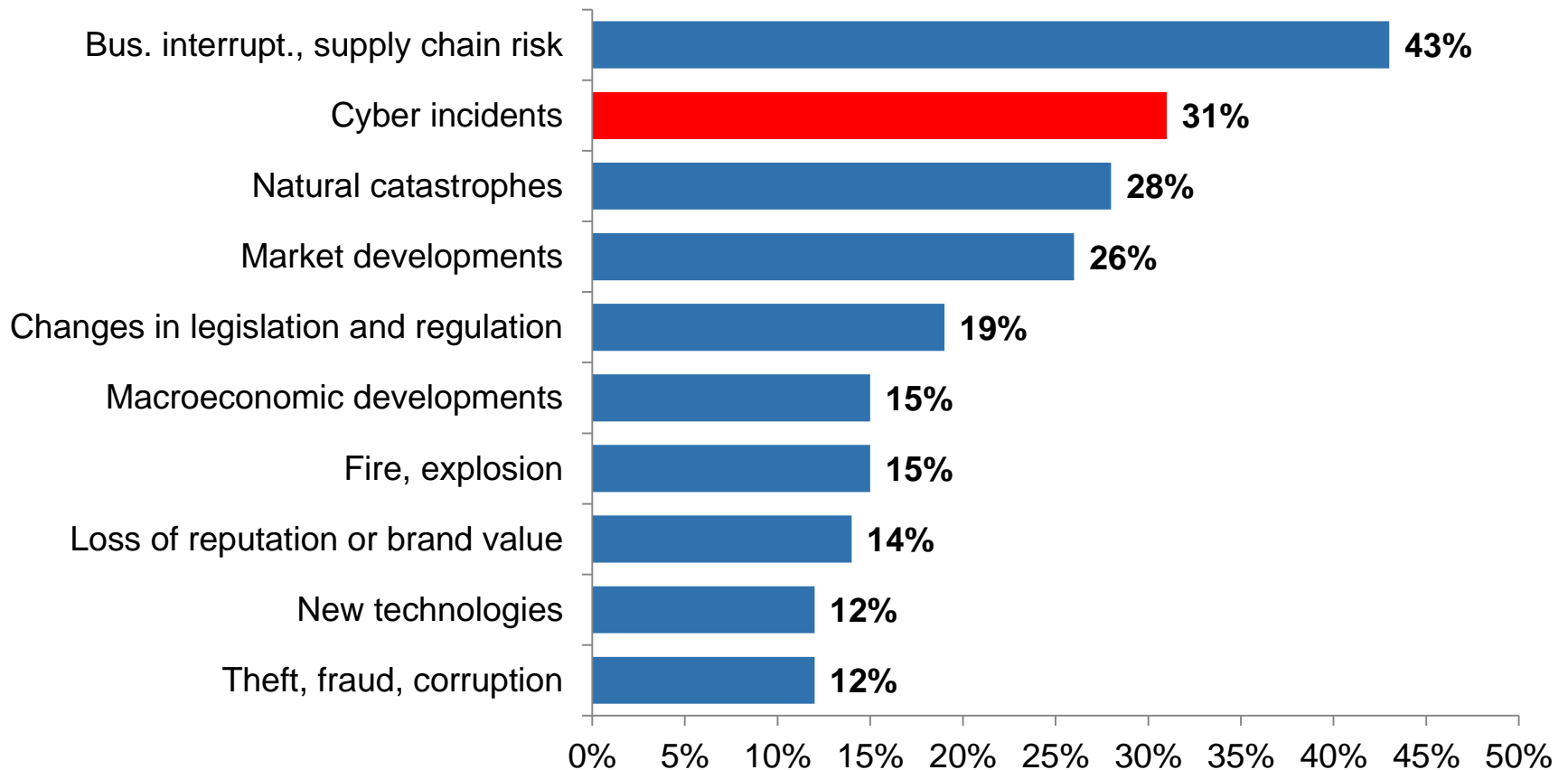


Earthquake insurance take-up rates increased by over 300 percent from 2006 to 2015 in Oklahoma.

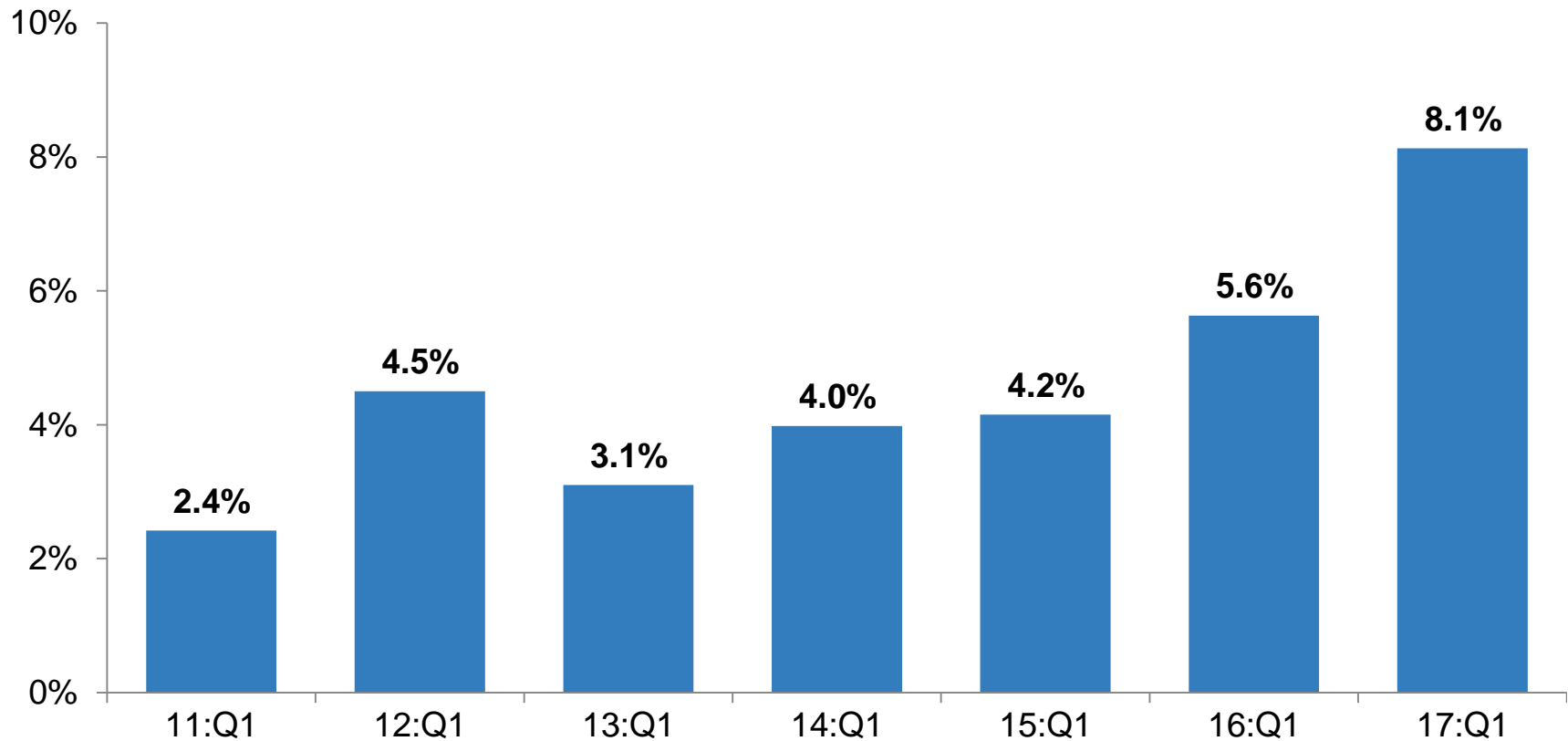


Source: USGS-NEIC ComCat & Oklahoma Geological Survey; preliminary as of July 4, 2017.

Cyber Attacks – No. 2 Global Risk



CAT Claims as a Percent of Total Claims*, First Quarter, 2011-2017

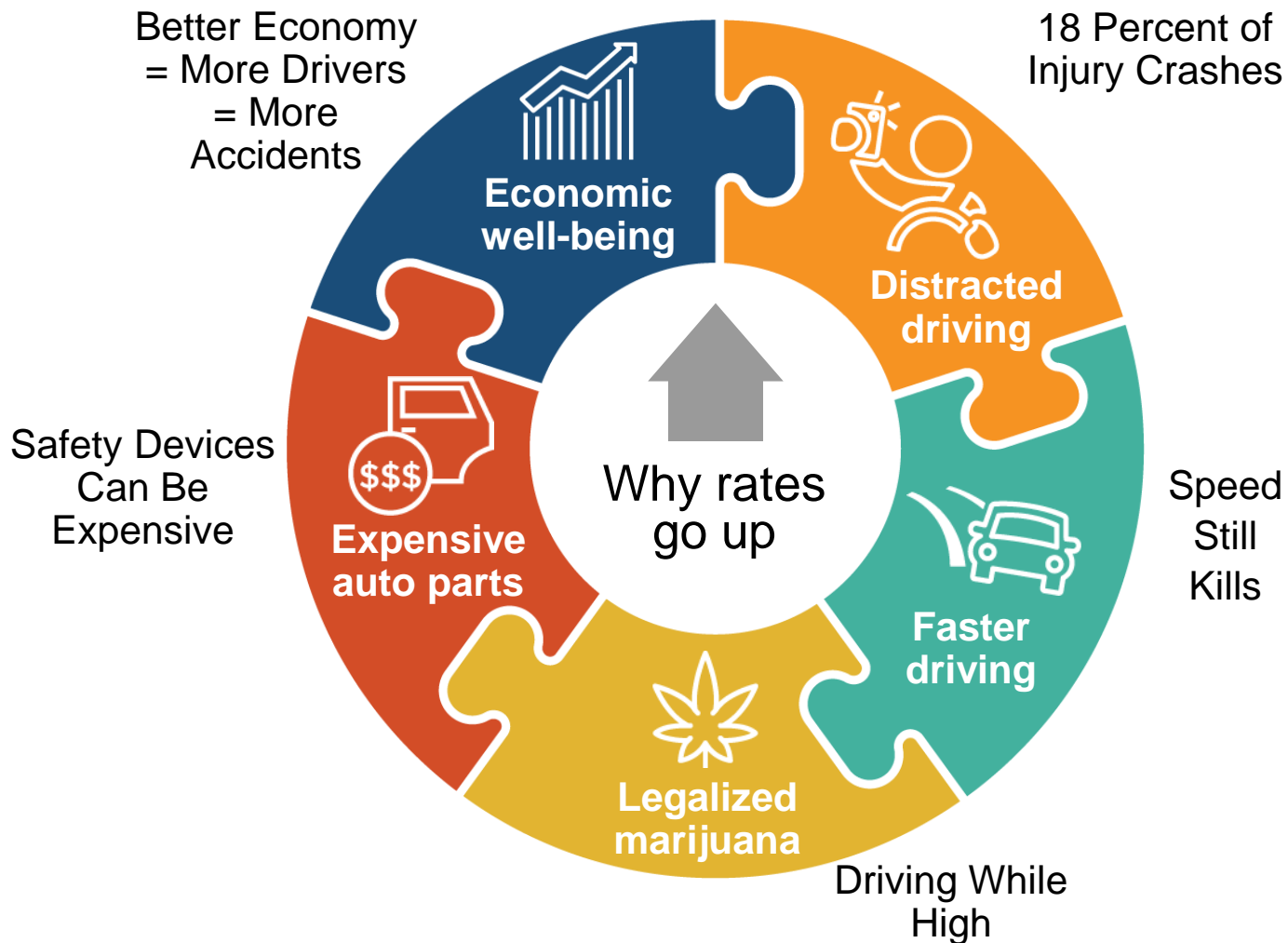


CAT claims are normally a small part of total claims in the first quarter, but that wasn't true in 2017. Moreover, although it's a small sample, the trend seems to be rising.



*Net of reinsurance and including Loss Adjustment Expenses
Sources: ISO PCS; Insurance Information Institute calculations.

Road Safety



Insurance and the Fourth Industrial Revolution

Insurance Disruption Technology / Digitalization

Fundamental Changes

- ▲ Future of Auto
- ▲ Future of Reduced Risk Pools

Opportunities

- ▲ Automation / Efficiencies
- ▲ New Product Lines (Cyber)
- ▲ Emerging Technologies

Challenges

- ▲ Consumer Trust – Demonstrate the Societal Value
- ▲ Big Data vs. Individual Privacy

New Market Entrants “Uber of Insurance”?

- ▲ Lemonade
 - ◆ Offered in CA, IL, NJ, NY

Regulatory Opportunities/Threats

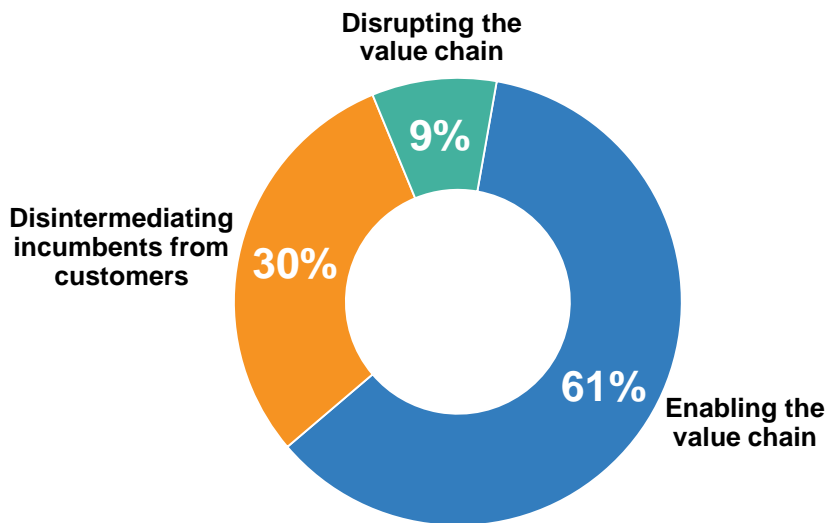
- ▲ Barrier to Entry
- ▲ US vs. Other Less Regulated Regions
- ▲ Trust Pull-back – the Sandbox Approach

InsurTech Disruption: Threat or Opportunity?

Automation efficiencies can have powerful impact on industry

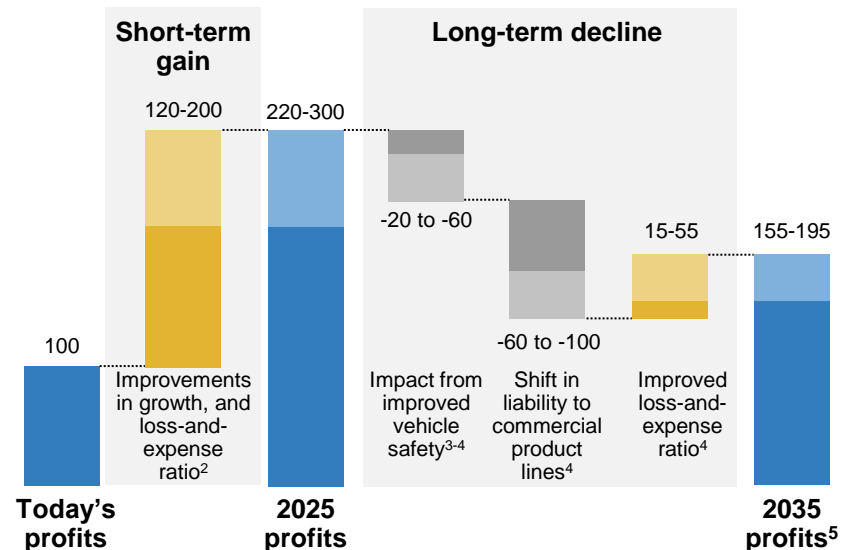
Focus of InsurTech in the insurance value chain¹, %

Only nine percent of InsurTechs aim to oust incumbents



Future profits as a % of today's profits

Digitizing the business, auto insurance example































¹Insurtechs are insurance businesses, usually startups, that use technologically innovative apps, processes, or business models; 2016 data based on some 500 commercially well-known cases. ²Assumes a 3 to 5 percentage point improvement in loss ratio, a 2 to 4 percentage point improvement in operating expenses, and a 6 to 8 percentage point improvement in direct sales conversions. ³Includes growth in investment income as well premiums. Investment income modeled as a flat percentage of premium in each year. ⁴Includes impact of semi- and fully autonomous vehicles. ⁵Assumes a 25 percent reduction in premiums as a result of telematics and sensors and a 50 percent risk transfer to commercial product liability.

Source: Panorama by McKinsey; Digital and Auto Insurers Value at Stake Analysis, McKinsey, 2016.



InsurTech Startups Have Broad Range...BUT...

Risk		Health	
Insurance Marketplace			
			
			
Digital Brokers			
			
Peer to Peer		Health Navigators	
			
			
Micro-duration Coverage			
			
			
Telematics			
			
			



Source: Aon.

...With Broad Incumbent Support

metromile



\$205M

CoverHound



\$57M

ONE, INC.



\$37M

policygenius



\$21M

Slice



\$4M



Note: Total funding.
Source: Aon.

Successful Digital Transformation → Holistic Approach



THANK YOU

Q&A

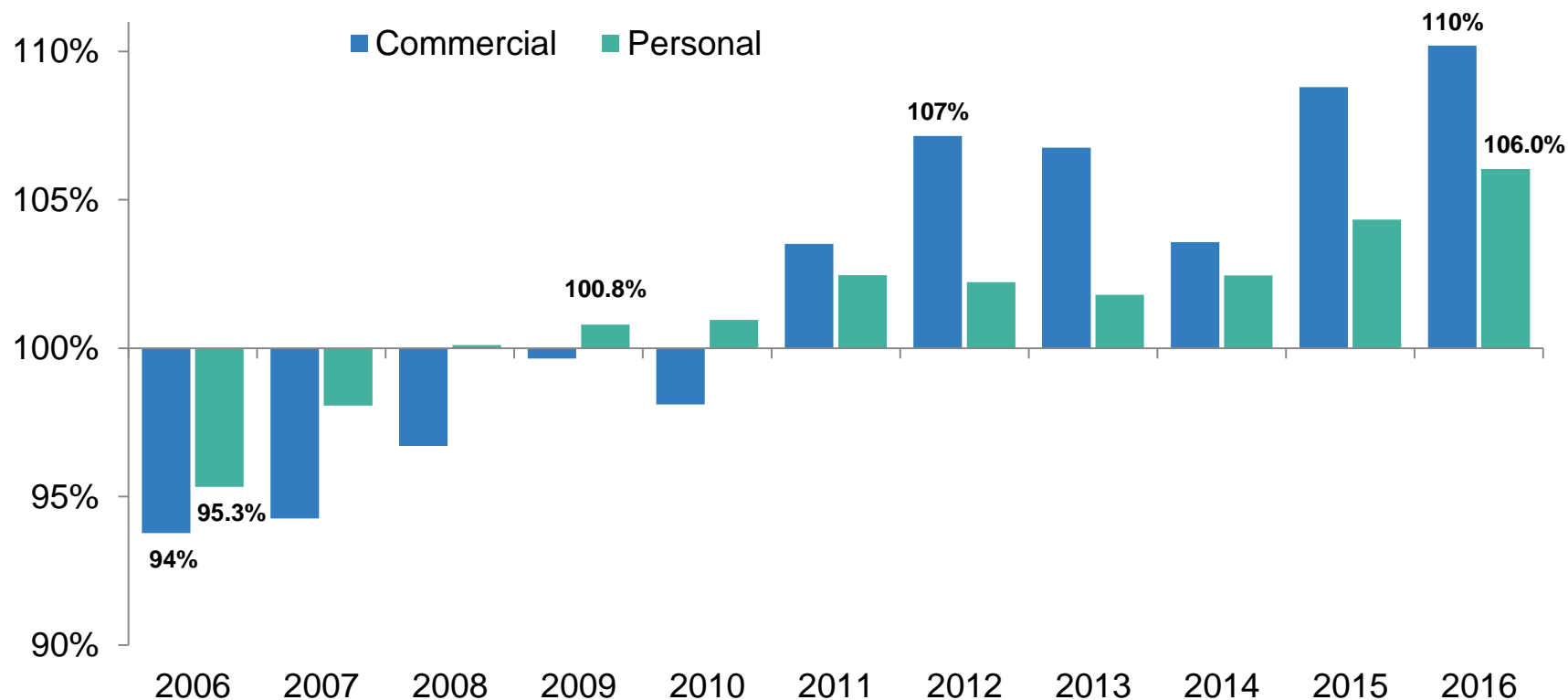
APPENDIX



Rising Auto Costs

A force to be reckoned with...

Net Combined Ratio, 2005-2016



**Loss ratios have been rising for a decade.
2015 return on net worth is likely close to zero or negative.**



Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

State Issues

Auto Insurance

Increase in Loss Costs, 2015:Q1–2017:Q1



Bodily Injury

15.3%



Property
Damage

15.0%



Personal Injury
Protection

14.1%



Collision

13.2%

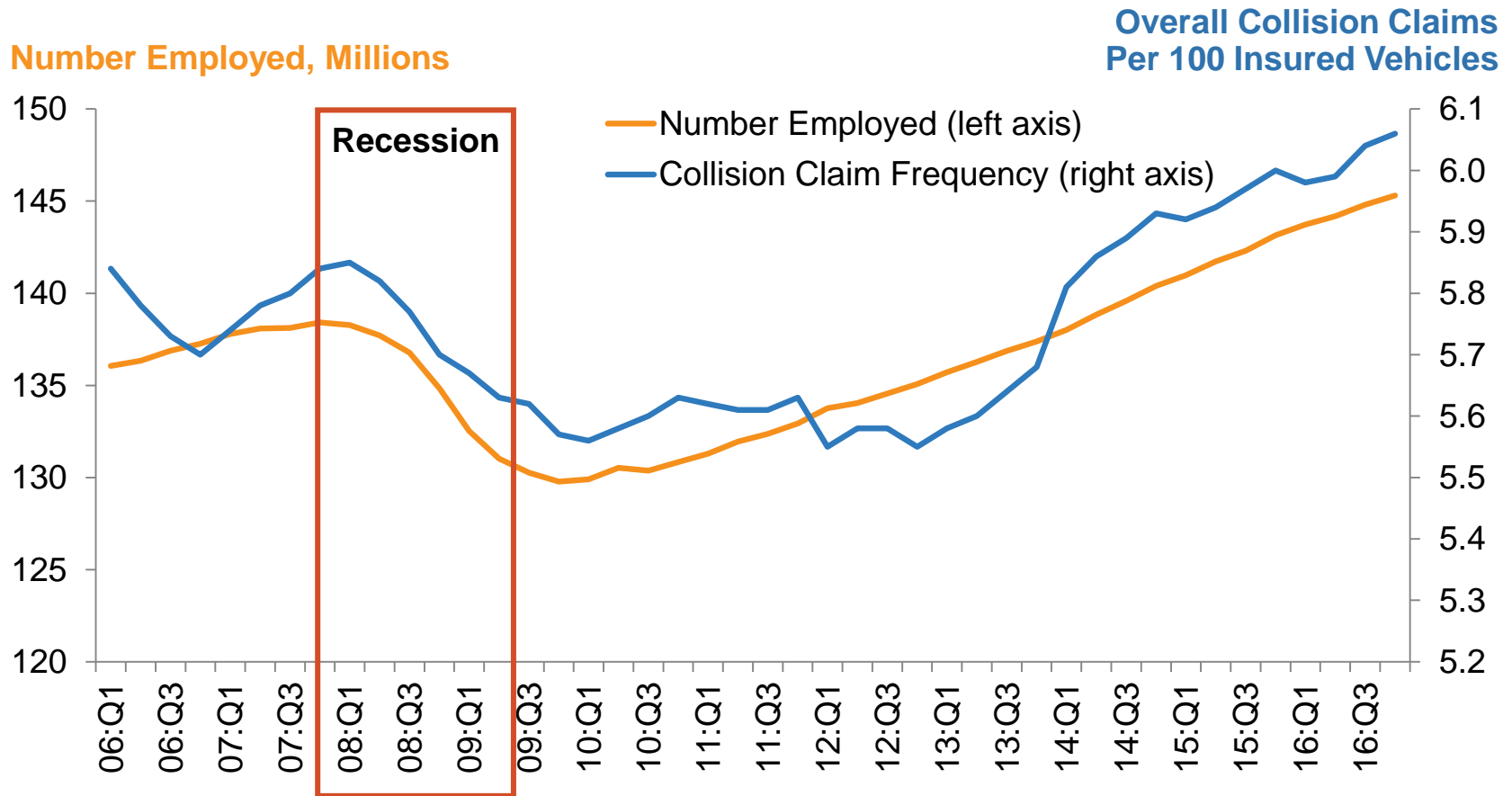


Comprehensive

22.5%

From 2015 to 2017, the cost of accidents has risen dramatically. By contrast, consumer prices overall rose 3.9 percent during 2014 and 2015.

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



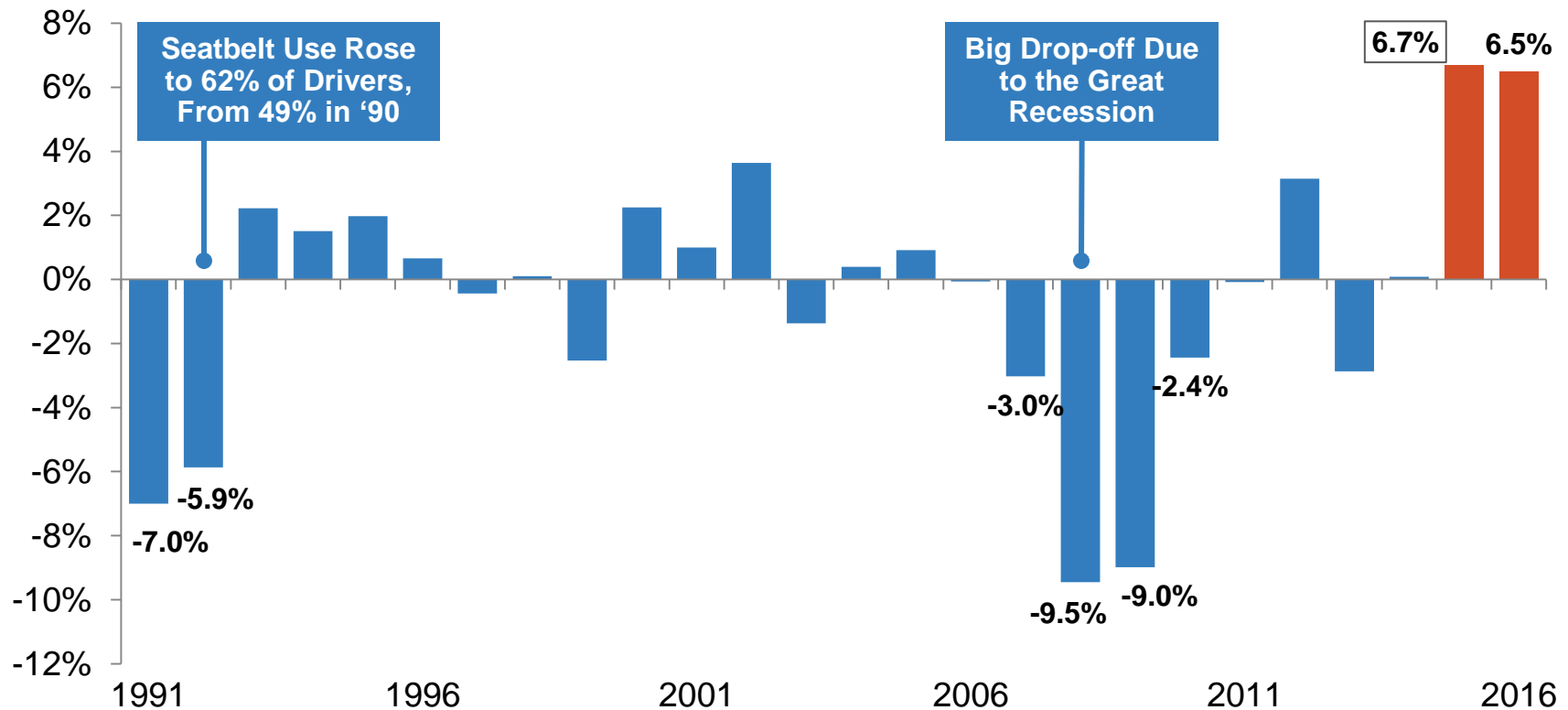
When people are out of work, they drive less. When they get jobs, they drive to work, helping drive claim frequency higher.



Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Rolling four-quarter average frequency from Fast Track Monitoring System; Insurance Information Institute.

Severity: Driving Fatalities Are Rising

Annual Change in Motor Vehicle Deaths



Driving has been getting safer for decades, but recent trend is discouraging—38,300 deaths in 2015.

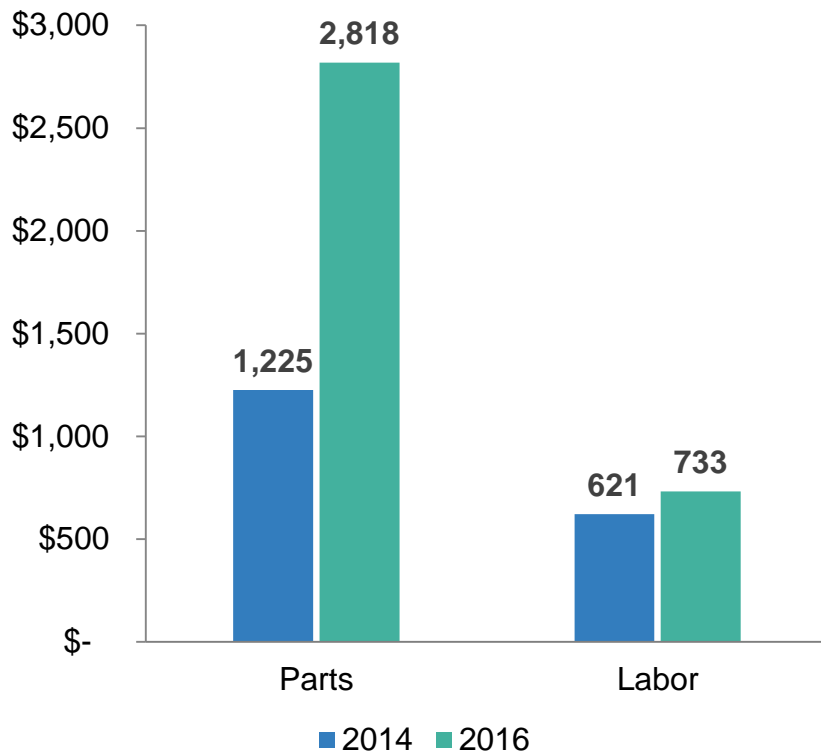


Sources: National Safety Council, Insurance Information Institute.

Fixing a Bumper

...On an Entry-Level Luxury Car (~\$35K)

2014 Cost vs. 2016 Cost



What Has Changed?

	2014	2016
Grille: Distance Sensor	\$0	\$2,818
Headlamp Assembly	394	918
Mechanical Labor	0	108

Fewer Accidents, Higher Costs

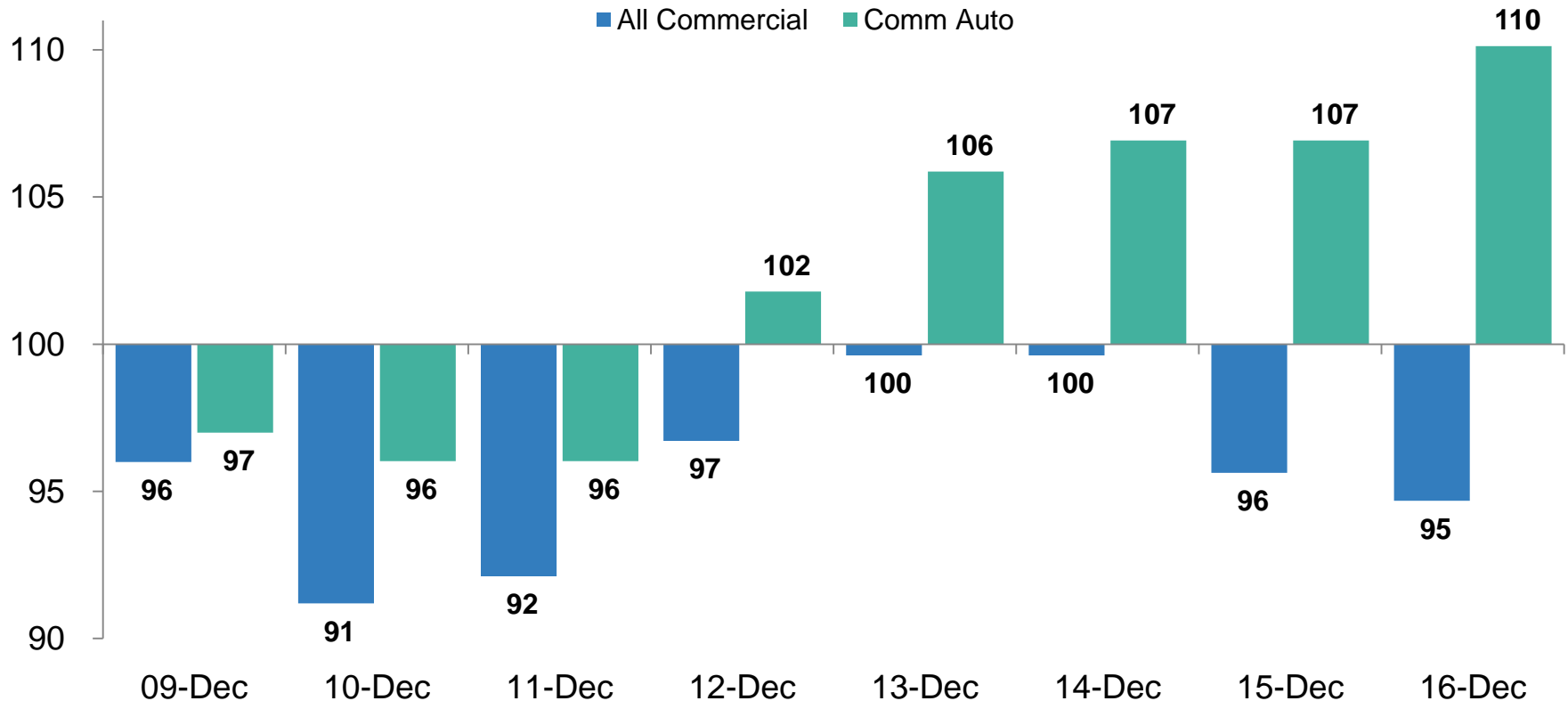
- ▲ Parts: 130% Higher
- ▲ Labor: 18% Higher
- ▲ Total cost: \$1,705 higher



2016 vehicle has LED headlights and adaptive cruise control.
Source: Liberty Mutual Insurance.

Commercial Auto Rates Since Late 2008

(Rate Index: December 2008 = 100)



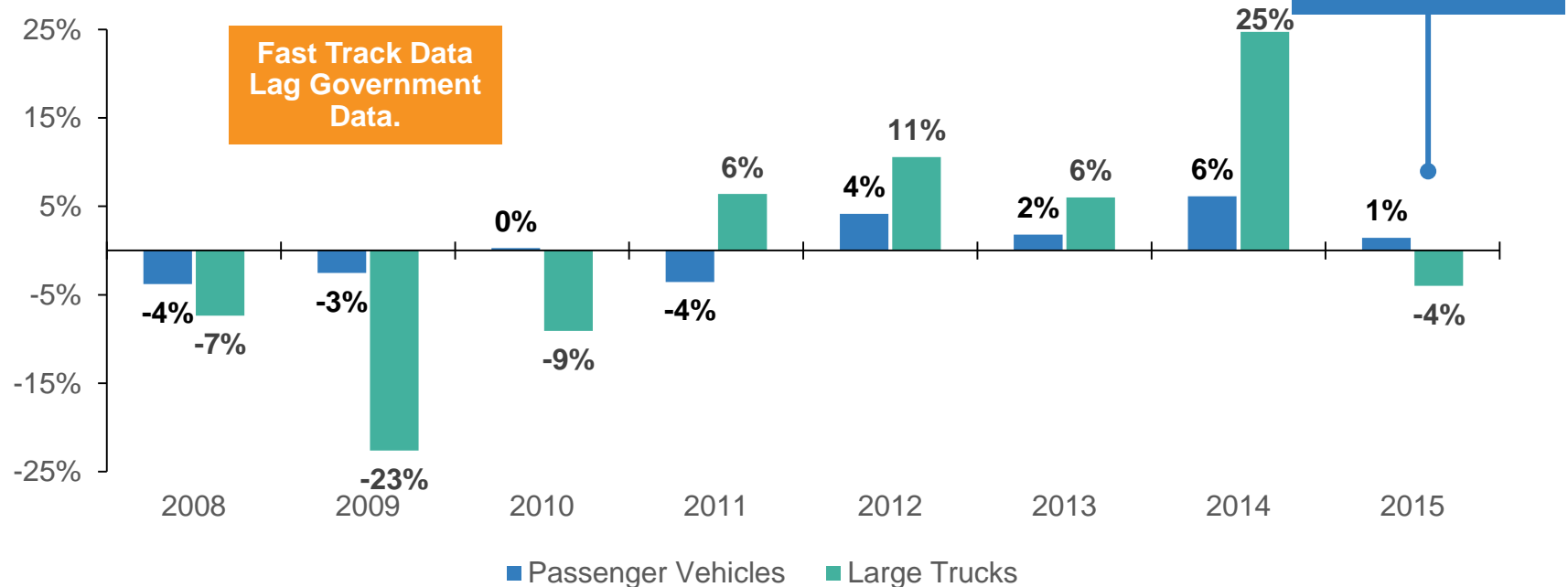
Commercial auto rates fell less in soft cycle and have risen more than overall property/casualty market.



Sources: MarketScout, Insurance Information Institute.

Vehicles in Crashes Per 100 Registered Vehicles (Government Data)

(% Change From Year Earlier)



Commercial Auto Claim Frequency Began Growing Before Personal Auto.



Property Damage Only (PDO) claims involving passenger vehicles and large trucks, respectively. Large trucks: GVW > 10,000 lbs.
Sources: Federal Highway Administration, National Highway Traffic Safety Administration, Insurance Information Institute.

Insurance As An Economic Growth Driver

Major Construction Projects Don't Start Without Insurance



- ▲ An example: Boston's "Big Dig." At \$14 billion, the project was...
 - ◆ Larger than the original Panama Canal
 - ◆ More expensive than the "Chunnel" connecting France and England
 - ◆ Among the carriers who were winning bidders were AIG, Lexington, Zurich-American and Kemper Environmental.
 - ◆ Workforce included 150 general contractors, 600 construction companies
 - ◆ Worst fear: that a building within 50 feet of the excavation would collapse

As Financial Intermediaries, Insurers Expand the Funds Available to Grow the Economy

As financial intermediaries, insurers convert short-term funds into longer-term investments



- ▲ In 2015, the industry converted \$71 billion in premium income that was not needed for immediate claims payments into new long-term investments (bonds, mortgages, common and preferred stock, and owned real estate)

Insurance Contributes to Growth by Speeding Recovery

- ▲ Insurers are “financial first responders”
 - ◆ Insurance claims administration and payment is the most efficient way to achieve rapid recovery
 - ◆ Insurers perform this function more quickly and reliably than government or other aid organizations
 - ◆ This effect benefits not just those directly affected but also the wider community
 - ◆ After SuperStorm Sandy, 93% of claims were closed within 6 months



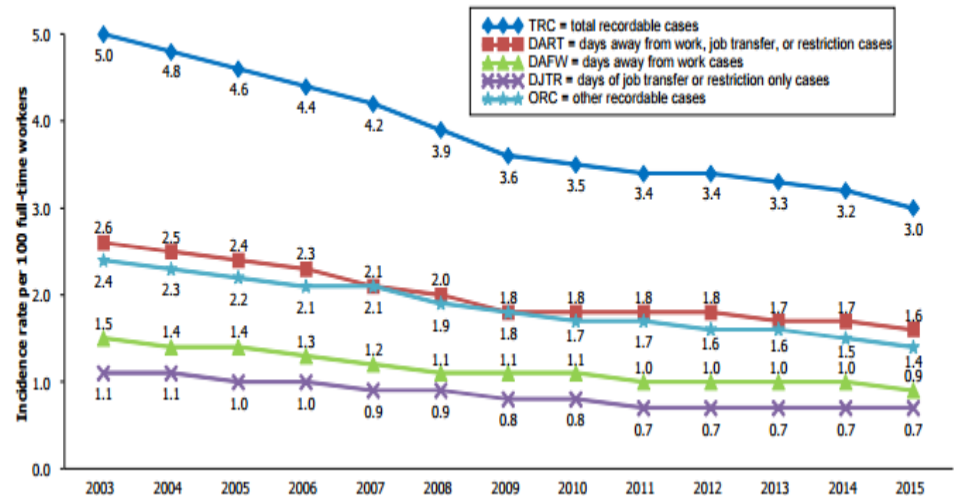
Insurance Is an Instrument of Social Policy

Mandated auto liability insurance



Workers compensation insurance

Chart 1. Nonfatal occupational injury and illness incidence rates by case type, private industry, 2003-2015



Since 1959 (when IIHS was founded), over half a million deaths in auto crashes avoided

In just the last dozen years, Workers Comp insurers have continued to help reduce injury and illness rates in the workplace.



Source for chart: U.S. Dept. of Labor, Bureau of Labor Statistics, "Employer-Reported Workplace Injuries and Illnesses—2015," released October 27, 2016. Source for IIHS calculation: Robert Hartwig speech at IIHS 50th Anniversary, September 9, 2009.

Insurance Supports New Ventures

SCIENCE JAN 2 2017, 6:01 PM ET

SpaceX Explains September Explosion, Says It'll Try Again Sunday



Barely three months after one of its rockets blew up on the launchpad — destroying a \$200 million Facebook satellite with it — SpaceX said Monday that it plans to try again this weekend.

- ▲ Insurance enables individuals and organizations to take new risks.
- ▲ In the case of the Falcon 9 launches, insurance is needed for potential damages to
 - ◆ The launch pad
 - ◆ Nearby government property
 - ◆ Nongovernment property
 - ◆ The rocket and [\$200 million] satellite



Sources: Art: Cover of *Contingencies* magazine, May-June 2017 issue; headline: <http://www.nbcnews.com/science/space/spacex-explains-september-explosion-says-it-ll-try-again-sunday-n702421>

For the Economy, Insurance Is Growing in Importance



- ▲ This is because economic activity is increasingly interdependent
 - ◆ This translates to an increase in the need for, and the cost of, activities that ensure the functioning of production and consumption (e.g., transportation, information)
 - ◆ With modern technology, the vulnerability of these systems and interdependencies increases