



**INSURANCE
INFORMATION
INSTITUTE**

The Property/Casualty Landscape Challenges and Disruptions?

October 6, 2016

Download at www.iii.org/presentations

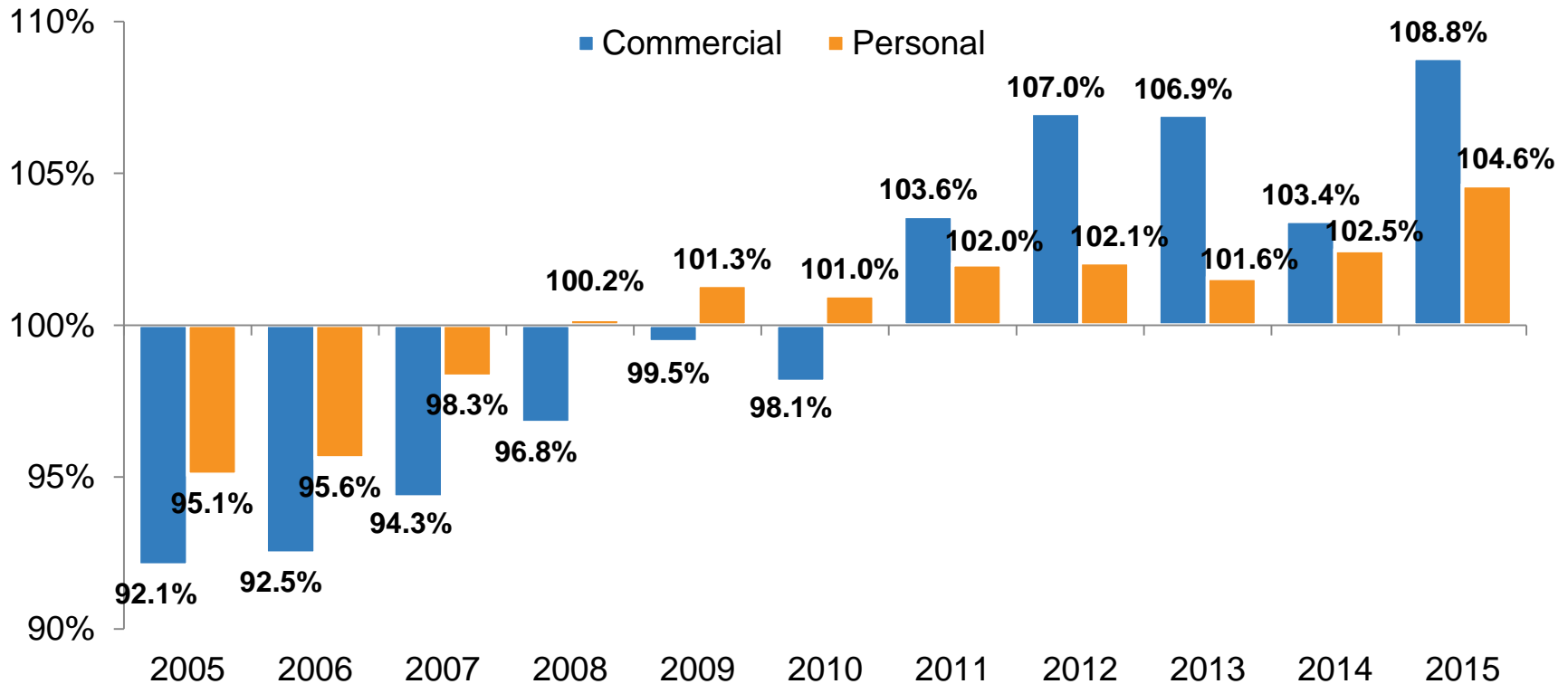
James Lynch, FCAS MAAA, Chief Actuary

Insurance Information Institute ♦ 110 William Street ♦ New York, NY 10038
Tel: 212.346.5533 ♦ jamesl@iii.org ♦ www.iii.org

Auto Insurance

Rising Frequency, Severity Pinching
the Largest P/C Line

Net Combined Ratio, 2005-2015



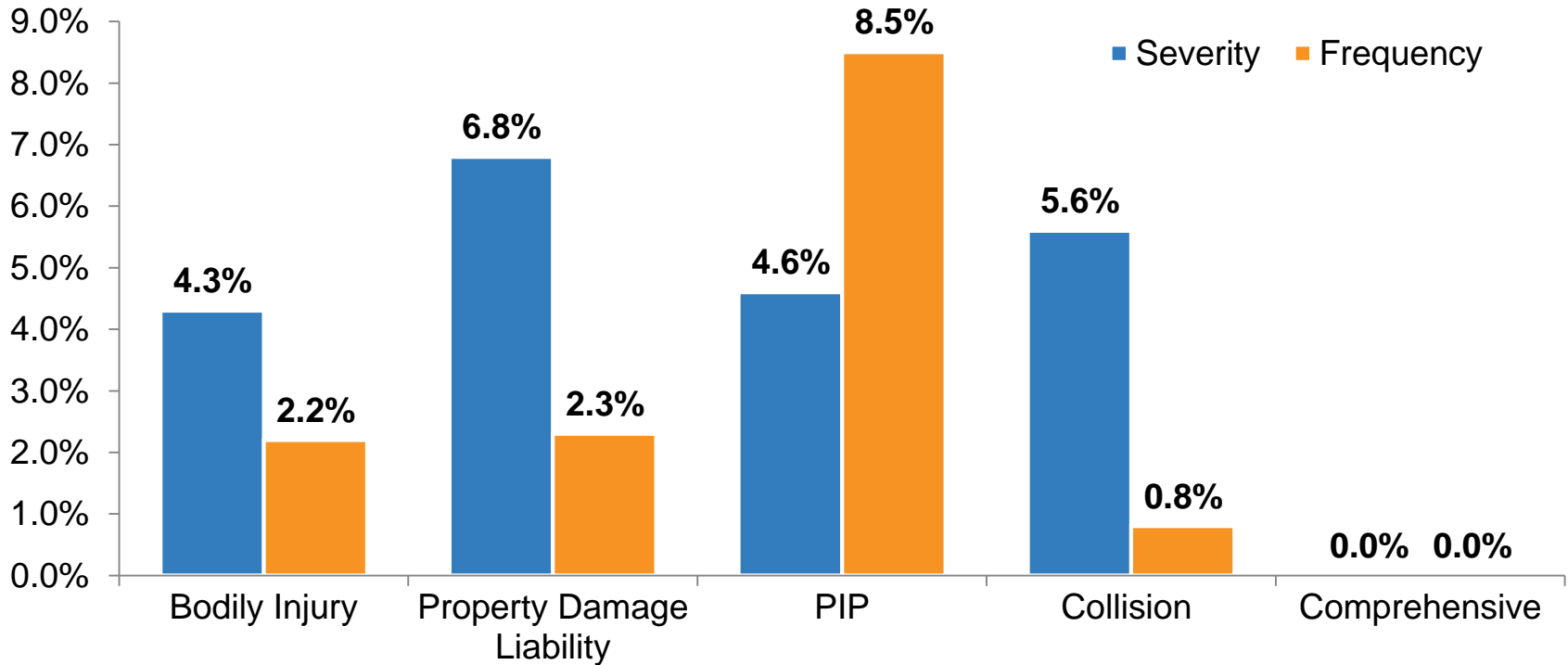
**Loss Ratios Have Been Rising for a Decade.
2015 Return on Net Worth is Likely Close to Zero or Negative.**



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

Why Personal Auto Loss Ratios are Rising: Severity & Frequency by Coverage, 2016 vs. 2015

Annual Change, 2016 Over 2015*



Across All Personal Coverage Types (Except Comprehensive) in 2015, Frequency and Severity Rose. This Pattern is Continuing in 2016.



*Four quarters ending in March.

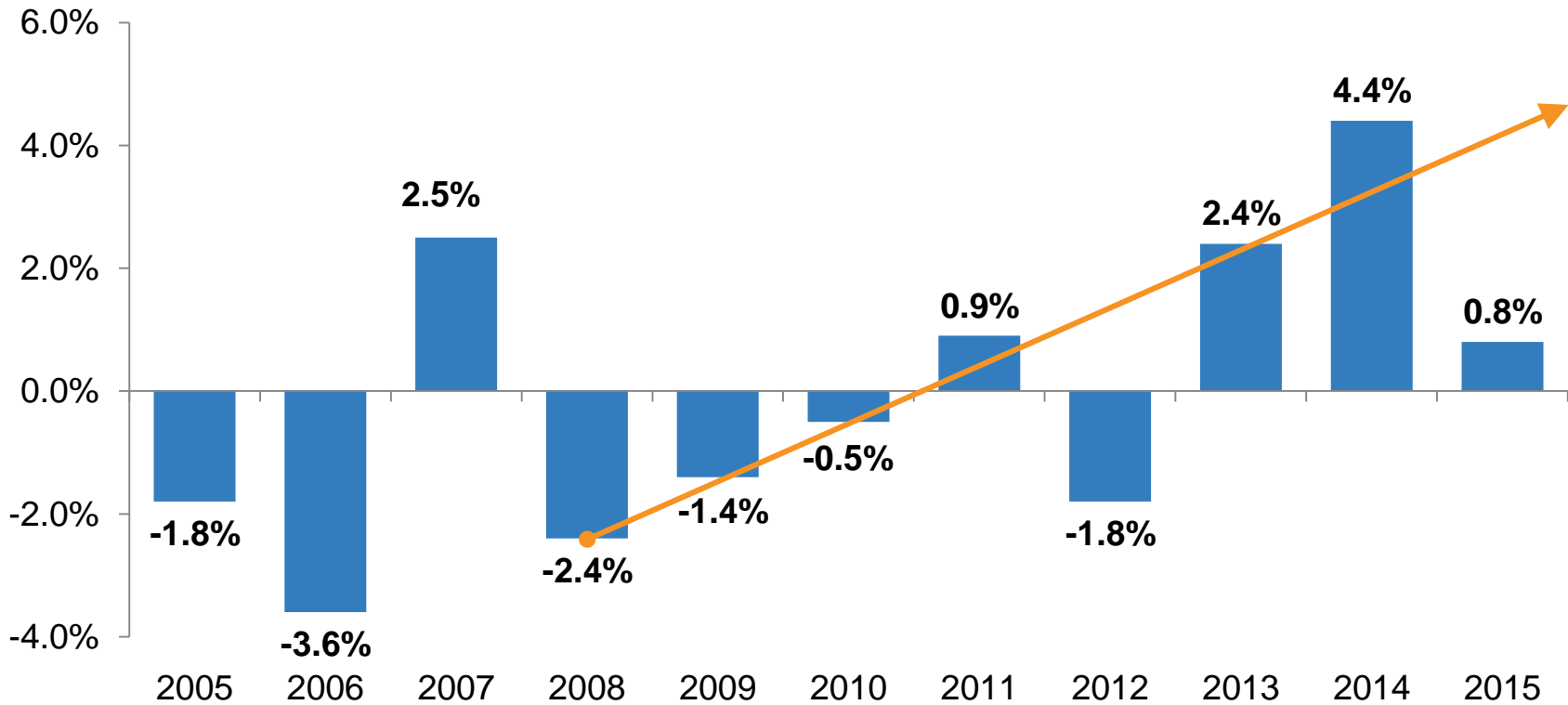
Source: ISO, a Verisk Analytics company; Insurance Information Institute.

Claim Trends by Coverage

Focus on Collision

Collision Claims: Frequency Trending Higher in 2015

Annual Change, 2005 through 2015



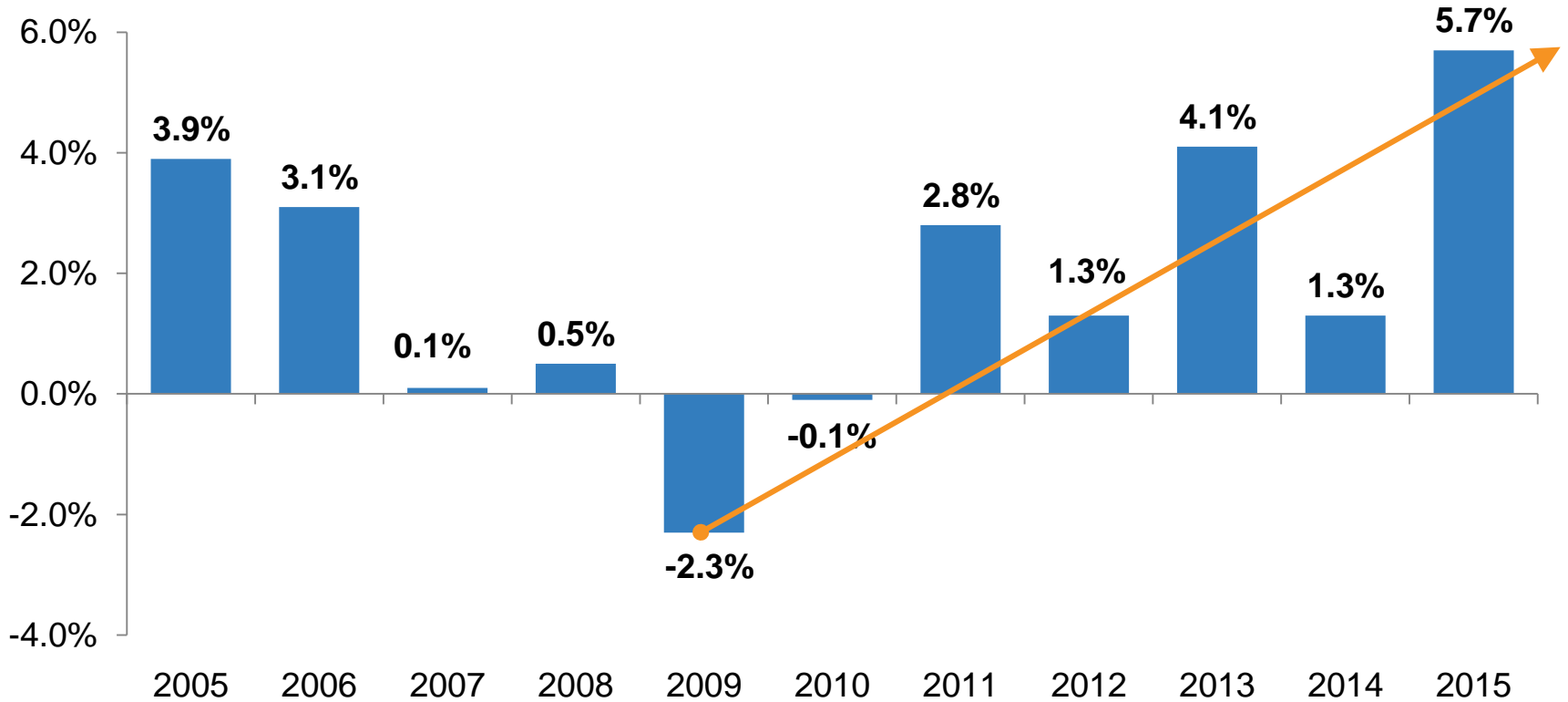
For a Long Time, Claim Frequency Was Falling, But Since 2010 This Trend Seems to Have Reversed.



Source: ISO, a Verisk Analytics company; Insurance Information Institute.

Collision Claims: Severity Trending Higher in 2009-2015

Annual Change, 2005 through 2015



The Great Recession and High Fuel Prices Helped to Temper Claim Severity, But These forces Have Clearly Reversed, Consistent with Experience from Past Recoveries.



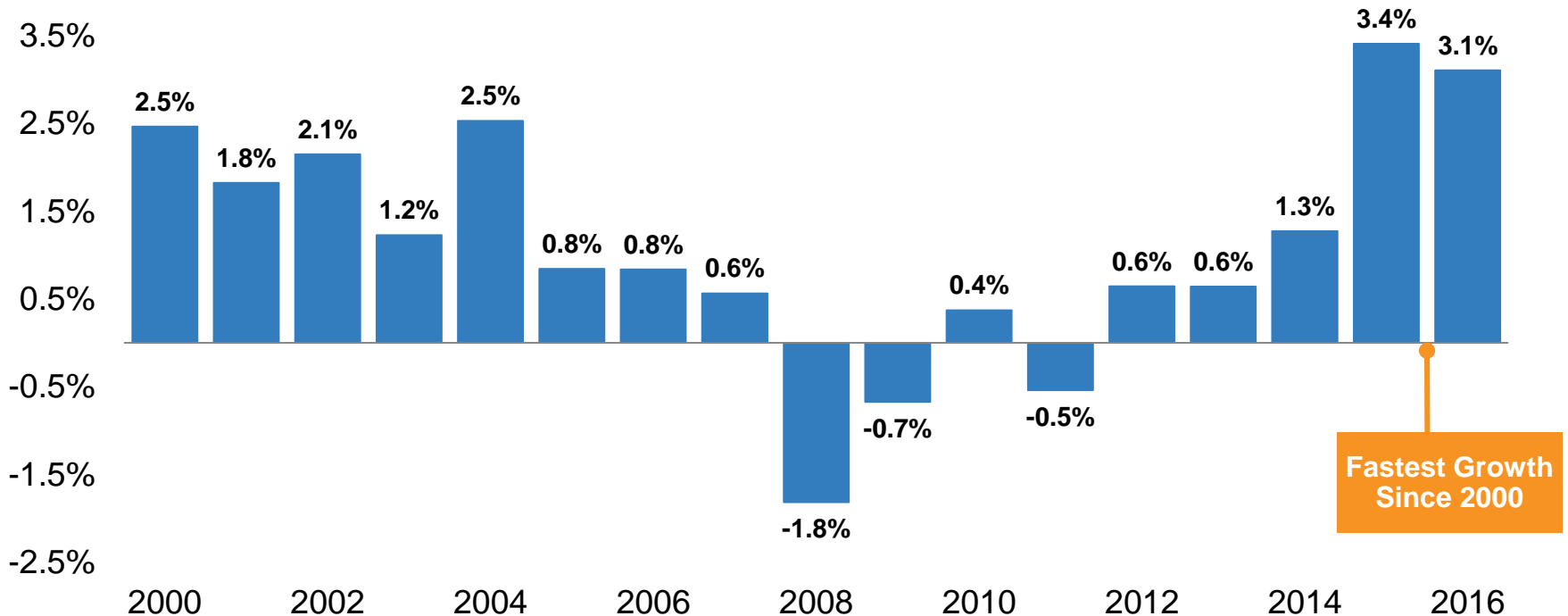
Source: ISO, a Verisk Analytics company; Insurance Information Institute.

What's Driving These Trends?

Frequency; Severity

America is Driving More Again: 2000-2016

Percent Change, Miles Driven*



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

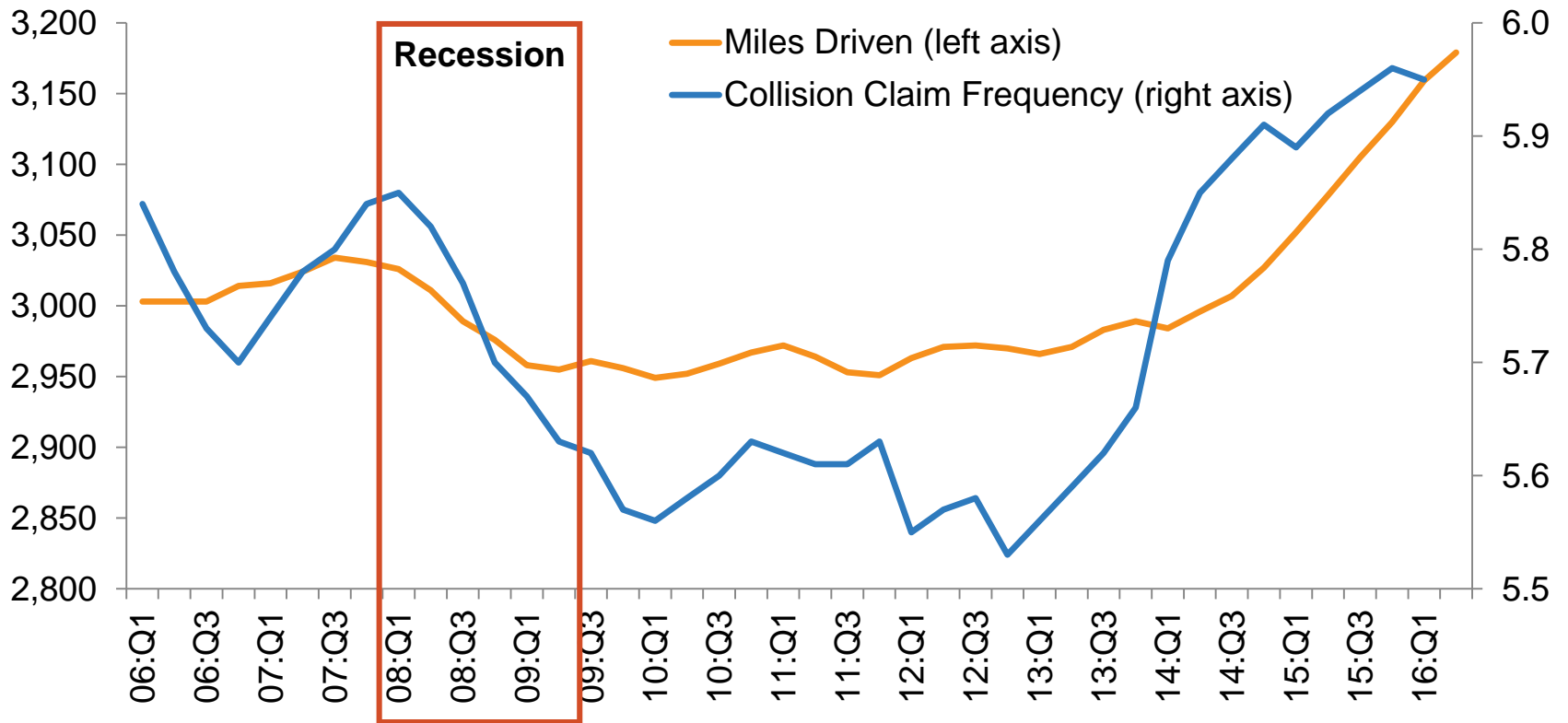


*2000-2015: Moving 12-month total vs. prior year. 2016 data through July 2016, the latest available, vs. July 2015.
Sources: [Federal Highway Administration](#); National Bureau of Economic Research (recession dates); Insurance Information Institute.

More Miles Driven => More Collisions, 2006-2016

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.

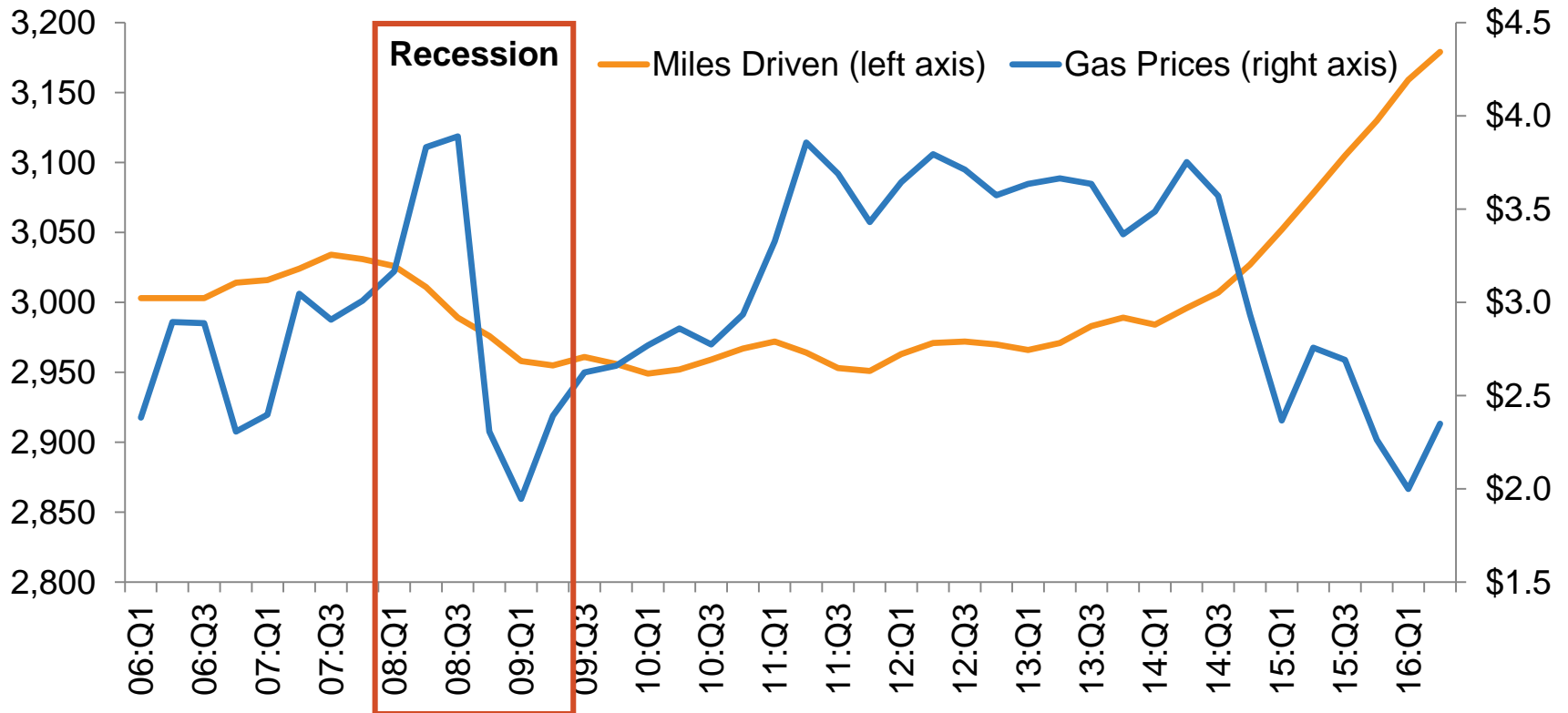


Sources: [Federal Highway Administration](#); Rolling four-quarter average frequency from ISO, a Verisk Analytics company; Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Cheap Gas?

Billions of Miles Driven in Prior Year

Average Price Per Gallon



Gas Prices Don't Seem Correlated With Miles Driven.

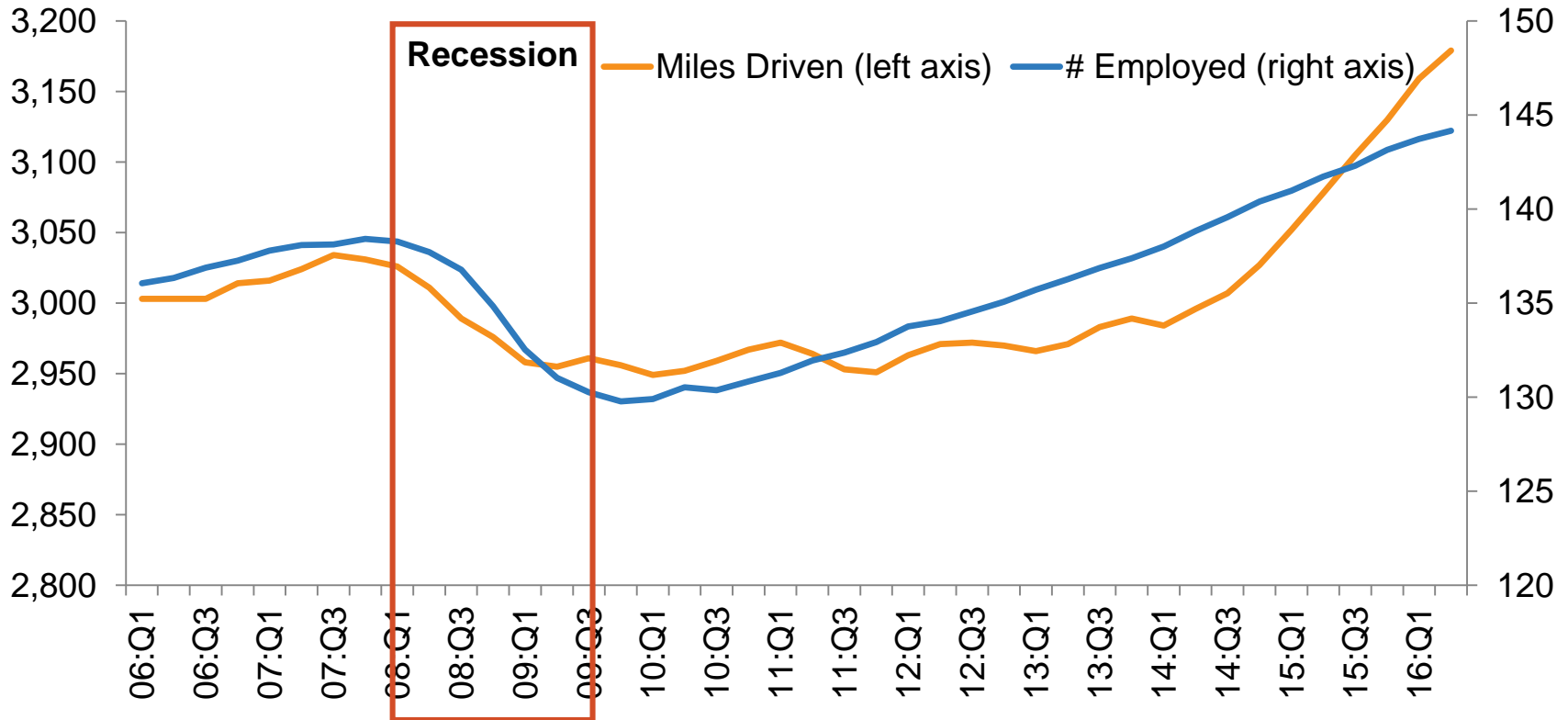


Sources: [Federal Highway Administration](#); [Energy Information Administration](#) (All Grades All Formulations Retail Gasoline Prices- quarterly average); Insurance Institute for Highway Safety; Insurance Information Institute.

Why Are People Driving More Miles? Jobs?

Billions of Miles Driven in Prior Year

Millions Employed



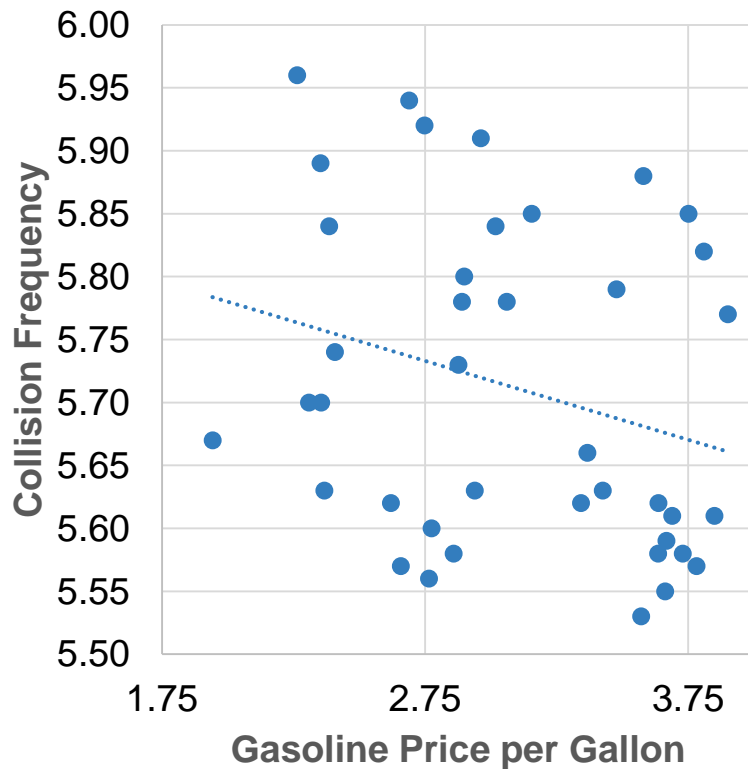
**People Drive to and from Work and Drive to Entertainment.
Out of Work, They Curtail Their Movement.**



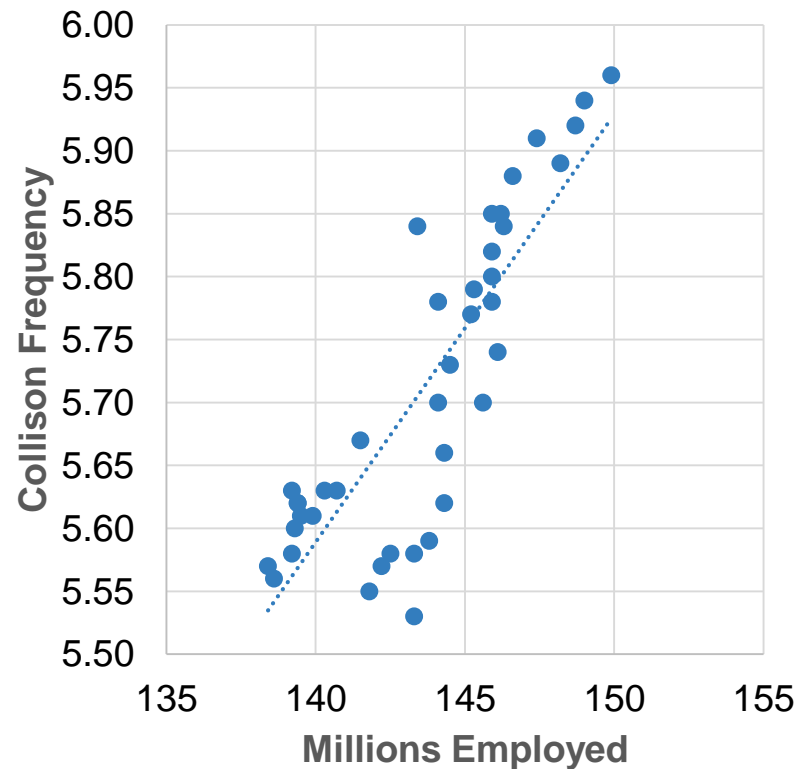
Sources: [Federal Highway Administration](#); Seasonally Adjusted Employed from Bureau of Labor Statistics (Series ID CES0000000001); Insurance Institute for Highway Safety; Insurance Information Institute.

Comparing Gas Prices, Employment on Collision Frequency Through 2015

Gas Price vs. Collision Frequency



Number Employed vs. Collision Frequency

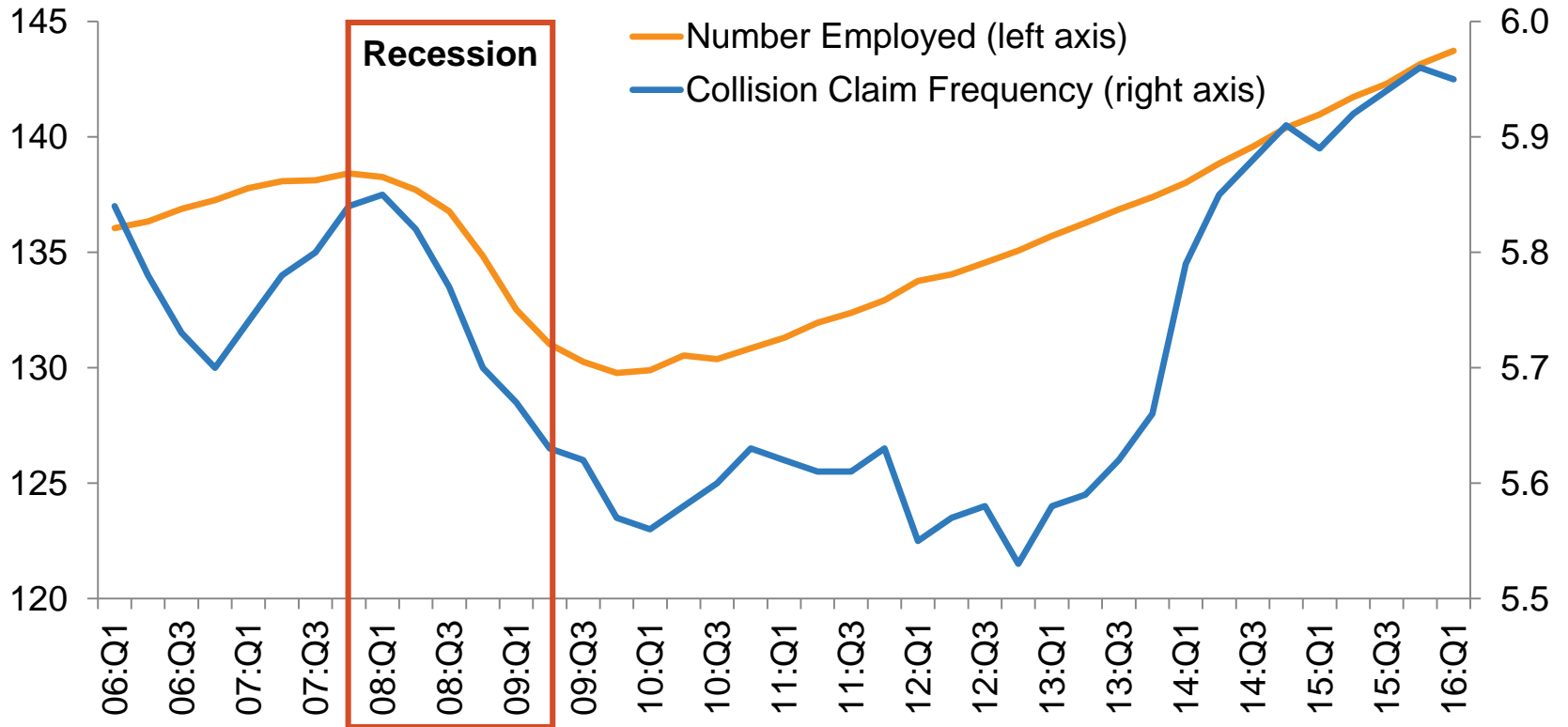


Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Energy Information Administration; Rolling Four-Qtr Avg. Frequency from Insurance Services Office; Insurance Information Institute.

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

Number Employed, Millions

Overall Collision Claims Per 100 Insured Vehicles



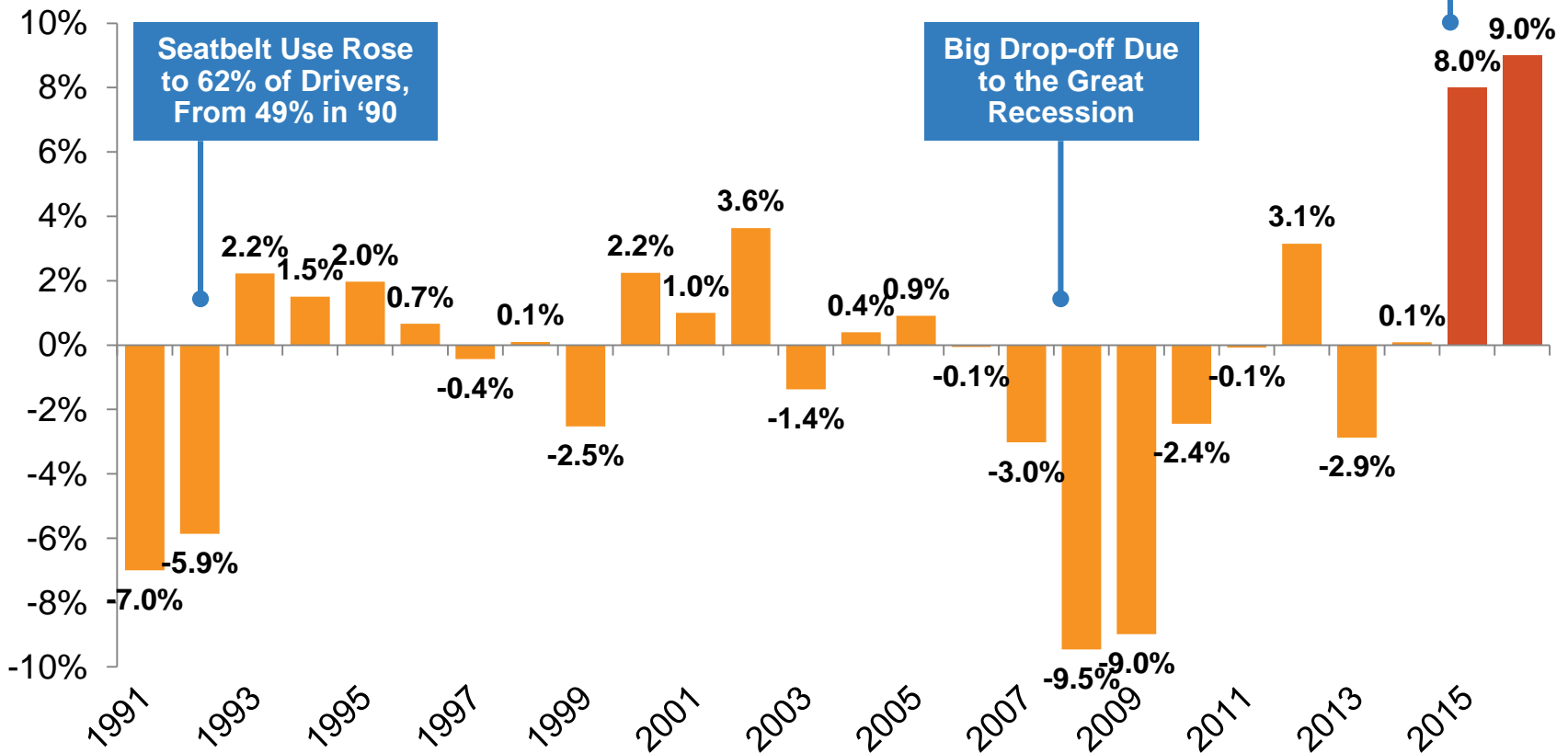
When People are Out of Work, They Drive Less. When They Get Jobs, They Drive to Work, Helping Drive Claim Frequency Higher.



Sources: Seasonally Adjusted Employed from Bureau of Labor Statistics; Rolling four-quarter average frequency from ISO, a Verisk Analytics company; 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.



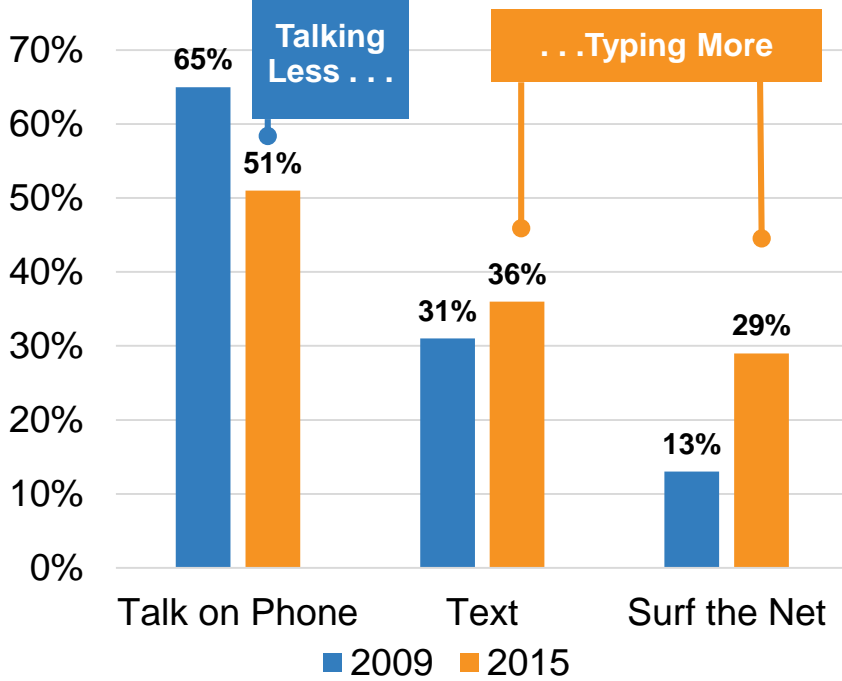
Sources: National Safety Council, Insurance Information Institute.

What About Distractions?

It's A Problem. Is It Growing?

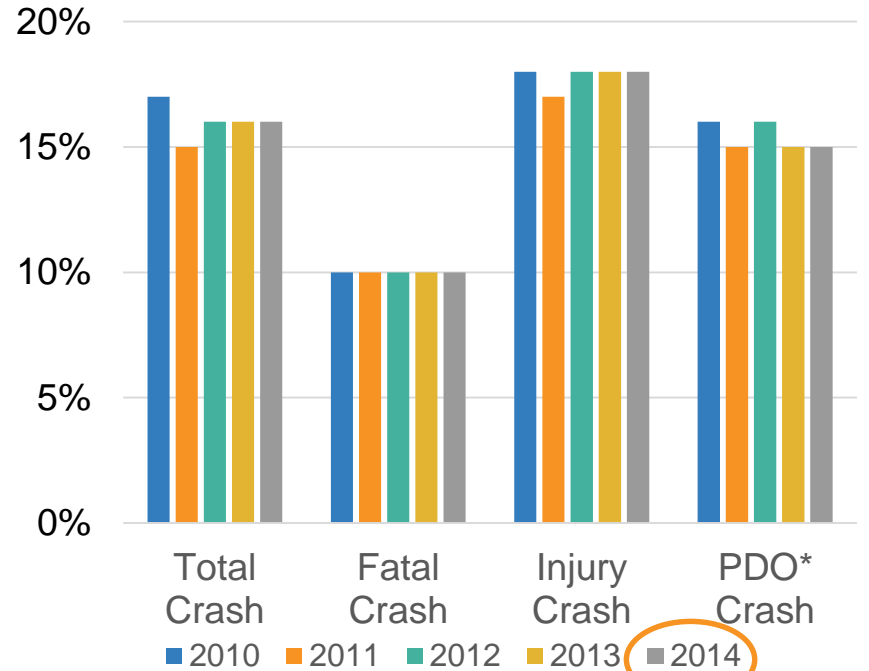
What We Do Behind The Wheel

Percentage of Drivers Who . . .



But Impact Is Not Clear

Percentage of Crashes Involving Distraction



Most Recent Year



* Property Damage Only.

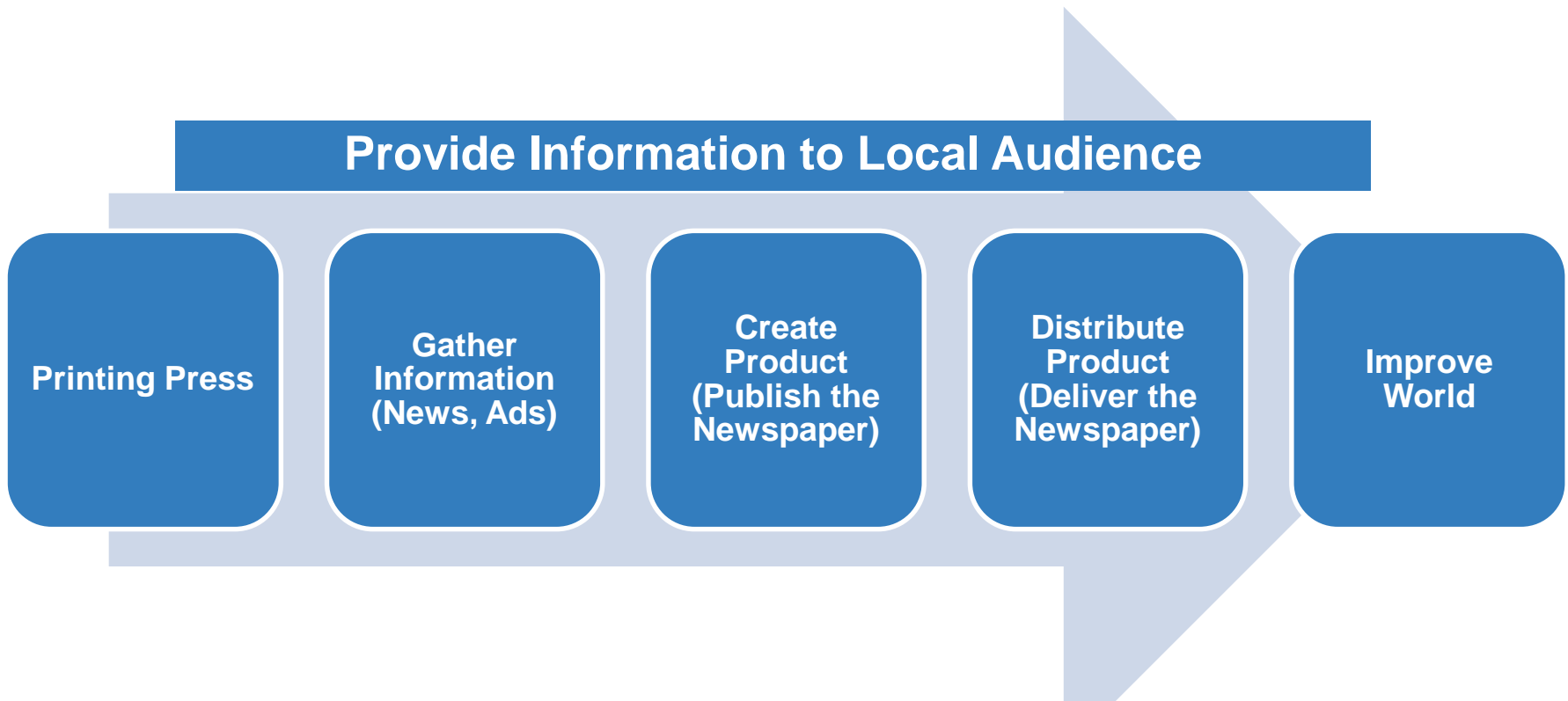
SOURCES: State Farm, National Highway Transportation Safety Administration (distraction.gov)

On the Horizon

Sharing Economy and Disruption

What Is A Value Chain?

Example: Local Newspapers

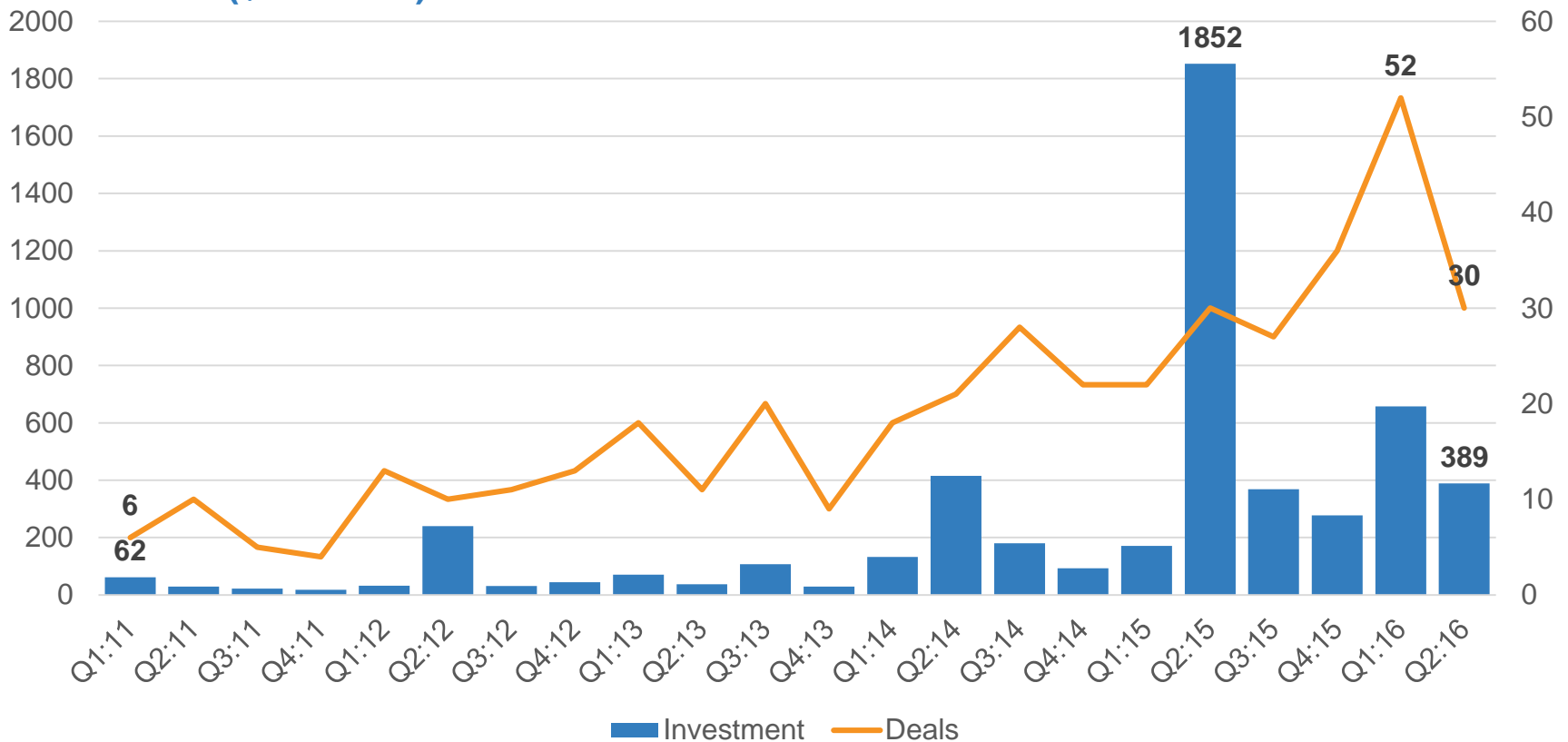


This Industry Was Radically Disrupted by the Internet. Its Barriers to Entry Were Destroyed. Is Insurance Next?



Insurance Technology Financing – Change Is Coming

Investment (\$ Millions)



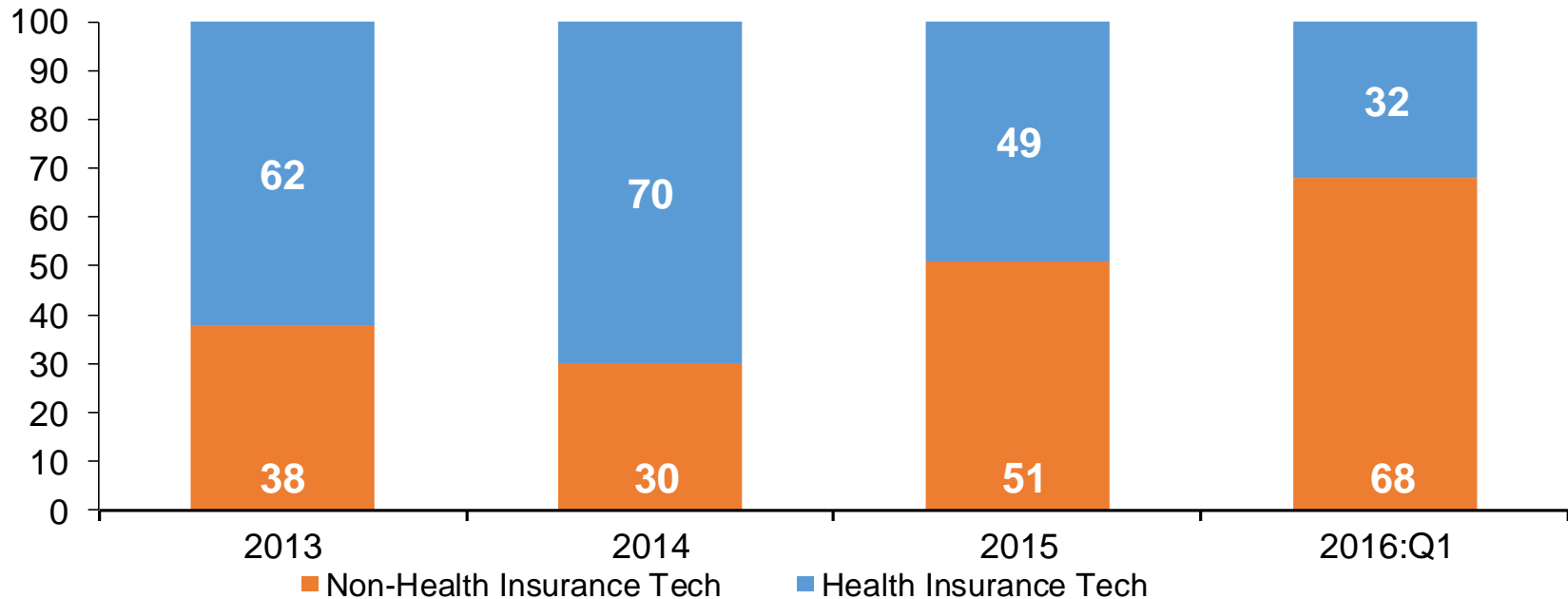
Investment In Insurance Tech Is Rising. Number of Deals Reached A Record in First Quarter.



Insurance Tech Activity by Area of Interest, 2013 – 2016:Q1

With the ACA in the rear view window, non-health insurance tech accounts for the majority of investment

(Percent)



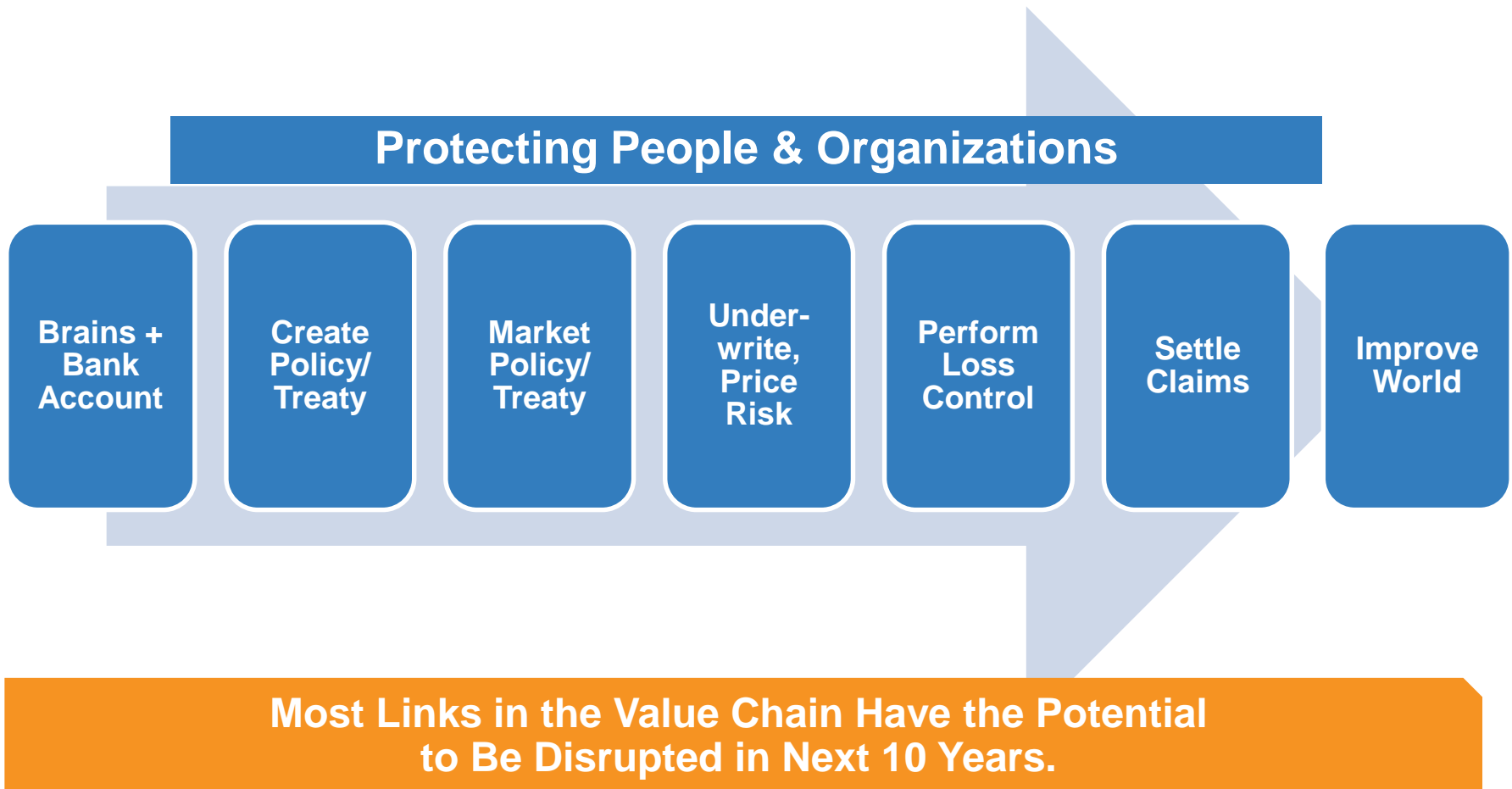
Silicon Valley, Venture Capitalists Have Insurance Industry in Their Sights. Most Will Fail. Some Will Succeed.



Source: CB Insights at <https://www.cbinsights.com/blog/insurance-tech-overview-q1-2016/>; Insurance Information Institute.

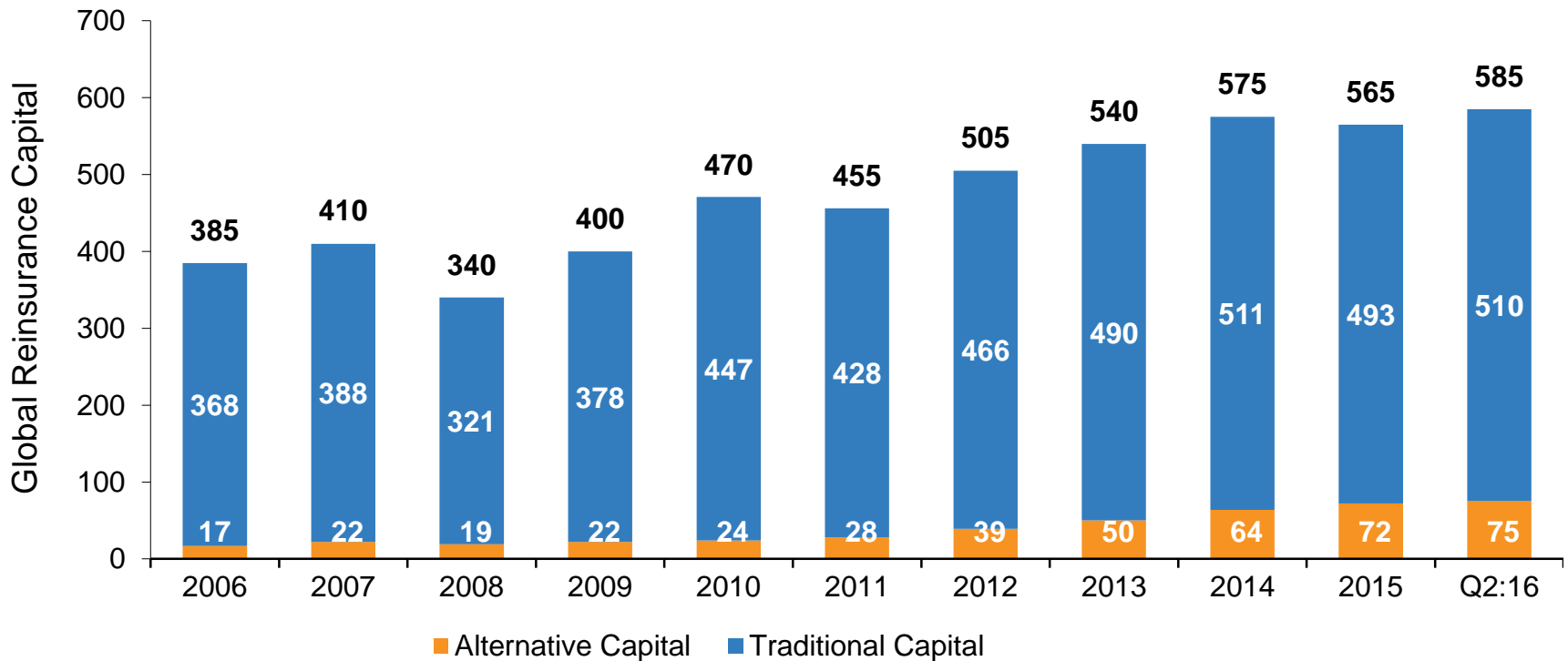
The (Re)Insurance Value Chain

Where Could Disruption Lie?



Alternative Capital Potentially Disrupting the Bank Account

(Billions of USD)



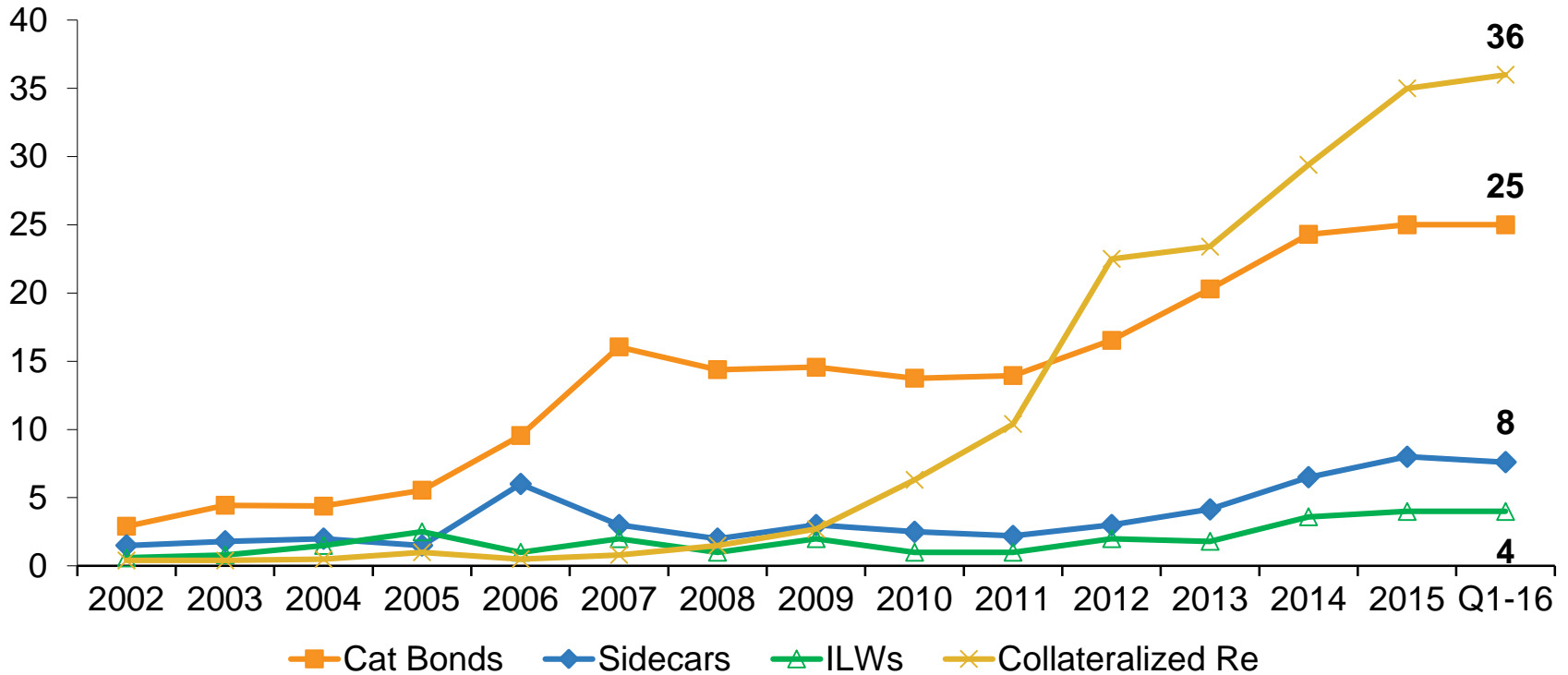
Alternative capacity has grown 263% since 2008. It has more than tripled in the past six years.



Source: Aon Benfield Analytics; Insurance Information Institute.

Alternative Capital Potentially Disrupting the Bank Account

(Billions of USD)



Collateralized Reinsurance and Catastrophe Bonds Currently Dominate the Alternative Capital Market.



Source: Aon Benfield Analytics; Insurance Information Institute.

The Internet

Will It Disrupt Marketing?

▲ Lead Generators

- ◆ InsWeb, NetQuote, Insurance.com
- ◆ Site allows comparison shopping, sells lead to insurer

▲ Call Center Agencies

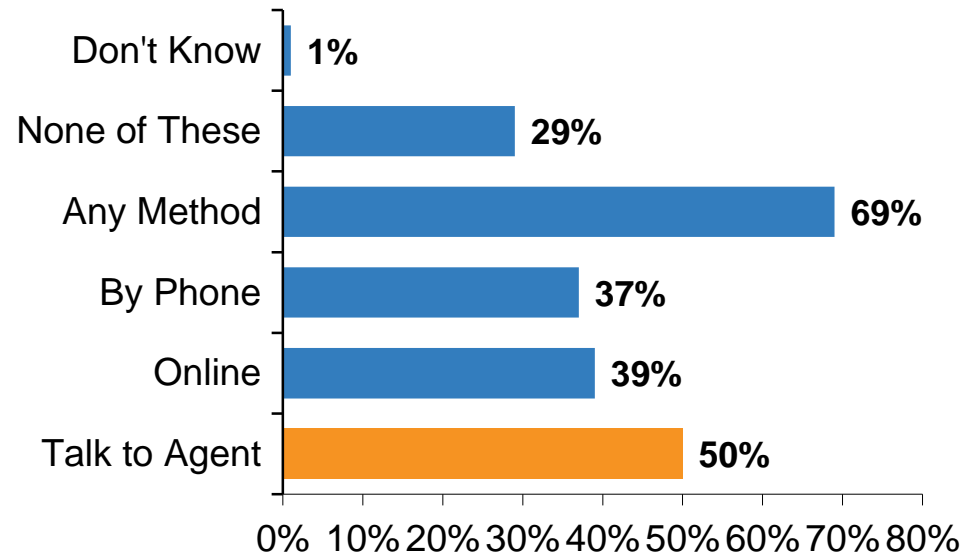
- ◆ SelectQuote, Goji
- ◆ Call center employs agents

▲ Digital agencies

- ◆ Esurance, Policy Genius
- ◆ Quote and buy online

But Customers Still Like Agents

▲ Did You Compare Prices When Your Auto Policy Was Up for Renewal?



Pricing Disruptor: The Fragmented Risk

- ▲ The Insurance Contract Is Being Split into Tiny Pieces.
 - ◆ By-peril HO insurance – Rate Water, Theft, Liability Risk Separately
 - ◆ The Sharing/“On-Demand” Economy – Personal Exposures Become Commercial Exposures, Then Switch Back
 - ◆ Pay By Mile Insurance – Exposure Basis for Auto – Vehicle-Mile Replaces Vehicle-Year
- ▲ Expect More As
 - ◆ Computers Get Stronger
 - ◆ Data Storage Gets Cheaper
 - ◆ Information Collection Grows



The Internet of Things

▲ Gathering Big Data Affects

- ◆ Underwriting
- ◆ Pricing

▲ Monitoring Could Affect

- ◆ Loss Control
- ◆ Pricing?



Apple iWatch



fitbit

Swiss Re InsurTech Accelerator
Disrupt the world of Re/Insurance. Come be a part of InsurTech Accelerator

The Insurers Investing in Internet of Things Startups

Insurer	Internet of Things Startup Investments
AIG	humancondition SAFETY
AMERICAN FAMILY VENTURES	ring KEEN Wireless Registry revolv. (Acquired) carvoyant SNUPI TECHNOLOGIES (Acquired)
AXA Strategic Ventures	ArtzM NEURA BIOBEATS
AVIVA	cocoon
[intact]	metromile
Marsh McLennan	HELIUM AUGURY waygum
USAA	PRECISION-HAWK roost AUTOMATIC
Liberty Mutual	eugust notion
MassMutual VENTURES	FWME EXPRESS
中国平安 创新 PING AN VENTURES	CliniCloud
X-Insights	notion



SOURCE: F6S.com, CB Insights.

As For The Future...



IoT Could Disrupt UW, Claims, Loss Control



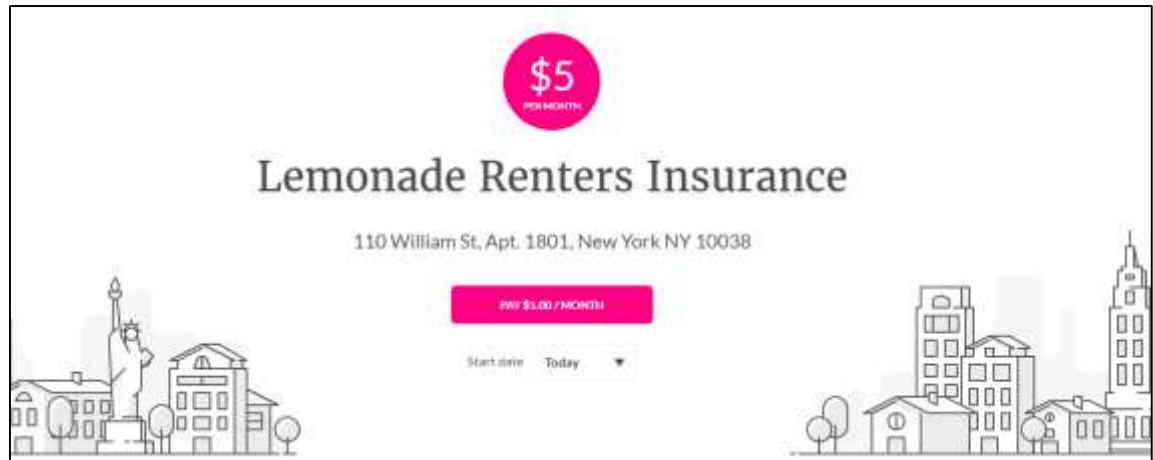
Image sources, clockwise: [Nest](#), [Jawbone](#), [Automatic](#), [Lumo](#), [Apple](#), [PSFK](#)

Peer-to-Peer (P2P) Insurance

Taking on the Entire Value Chain

The Business Model

- ▲ Resembles Mutuals/ Reciprocals
- ▲ 20% of Premium to Expenses, 80% to Cover Risk.
- ▲ Risk Pool for Each Charity
- ▲ Leftover Pool Money Goes to Charity.
- ▲ May Deter Fraud – You Wouldn't Cheat Your Favorite Charity!



Chief Behavioral Officer

- ▲ Dan Ariely: “If you tried to create a system to bring out the worst in humans, it would look a lot like the insurance of today.”



Lemonade's P2P Model

Example: Renters' Insurance (HO-4)

- Attractive Graphics, Simple Explanations of a Basic ISO Form

What's Covered



FIRE AND SMOKE

A faulty Christmas light or your attempt at deep frying can cause some smoke and fire damage. We cover you for both.



BAD WEATHER

Wind, lightning, and hail are scary. You're covered for all of them. Flood insurance isn't part of the basic policy.

Coverage Amounts



PROPERTY AND VALUABLES

If your stuff is stolen or damaged, this is the maximum amount you can claim. This includes basic coverage for jewelry, watches, and artwork. If you own luxury items, you might want to increase their coverage below. If you have family members living with you, we recommend setting \$10,000 per person.

\$10,000



LEGAL EXPENSES AND LIABILITY

If someone gets hurt on your property and decides to take legal action, this is the maximum amount we'll pay to cover legal expenses and medical costs.

\$100,000

HOMEOWNERS
HO 00 04 05 11

HOMEOWNERS 4 – CONTENTS BROAD FORM

AGREEMENT

We will provide the insurance described in this policy in return for the premium and compliance with all applicable provisions of this policy.

DEFINITIONS

A. In this policy, "you" and "your" refer to the "named insured" shown in the Declarations and the spouse if a resident of the same household. "We", "us" and "our" refer to the Company providing this insurance.

2. "Bodily injury" means bodily harm, sickness or disease, including required care, loss of services and death that results.

3. "Business" means:

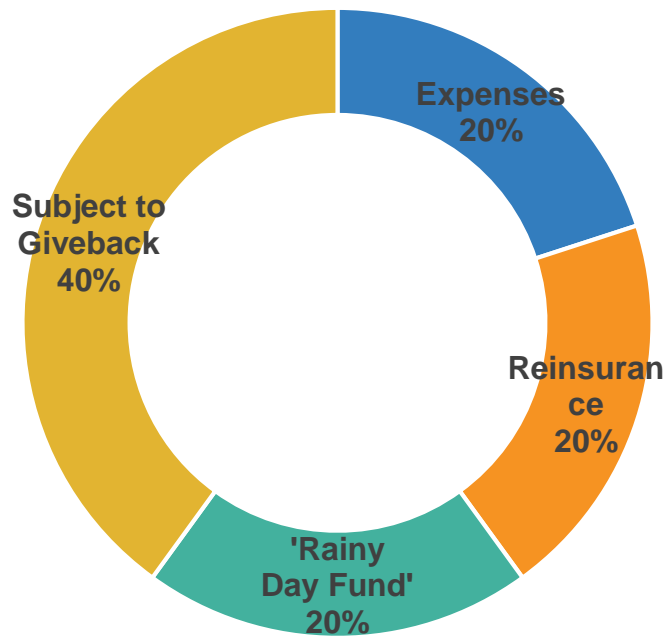
- a.** A trade, profession or occupation engaged in on a full-time, part-time or occasional basis; or
- b.** Any other activity engaged in for money or other compensation, except the following:
 - (1)** One or more activities not described in



Lemonade's P2P Model

Questions

Who Holds the Risk?



Other Questions

- ▲ How Are Charitable Pools Separated?
- ▲ Who Gets the Float?
 - ◆ Insurer, Reinsurer or Charity?
- ▲ Who Gets the Tax Deduction (Worth More Than the Float)?
- ▲ The Giveback Occurs on June 20 – 4 Equal Payments Over 4 Years – (Active Policies Only)



Summary

- ▲ Auto costs are rising (both frequency and severity)
 - ◆ People Are Driving More: Improving employment picture driving frequency higher
 - ◆ People Are Driving Faster: Fatalities have risen 16 percent in two years
- ▲ Disruption provides opportunities and challenges throughout the value chain





**INSURANCE
INFORMATION**
INSTITUTE

Thank you for your time
and your attention!

www.iii.org

Download at www.iii.org/presentations