

2018 ECONOMIC AND INSURANCE MARKET CONDITIONS

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We.

Welcome.

‘We’ is simply the advantage of our mutual. We are here for you. And, we are all in this together.

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I.I.I. MISSION

Improving public understanding of insurance...

...what it does and how it works

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DISRUPTIVE FORCES IN THE WORLD

Catastrophes

Economics

Geopolitical

Technology

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2017: A RECORD YEAR OF CATASTROPHE LOSSES



Flooding events spurred 73% of federal disaster declarations

Thunderstorm-related losses 2nd highest ever in US


\$14 billion insured wildfire losses; California estimated ~\$11 billion

N.A. hurricane season record-breaking insured & economic losses; disasters affected >25 million Americans

Auto: reaching epidemic proportions
Cyber: risk continuing to increase

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ECONOMICS




Strengthening fundamentals:
All OECD economies growing – 1st in 10 years

Tepid monetary policies; keeping interest rates at historic lows — moving slowly...

Fiscal policies, i.e., tax reform and deregulation surfacing

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GEOPOLITICAL



Rise in nationalism: Brexit, US
– Populist vote in Europe
tripled since 2000*

Political gridlock in
Congress, with 2018
election lurking

“Major conflict threat
greatest since WWII” – US
Intelligence Report to
Congress

* Source: Harvard University, Tony Blair Institute

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TECHNOLOGY



Robotics
Artificial Intelligence (AI)

“The Fourth Industrial
Revolution”
Cyber meets physical

Big Data
Internet of Things
Social economy

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INSURANCE LEADING THROUGHOUT HISTORY



Cyber-physical systems

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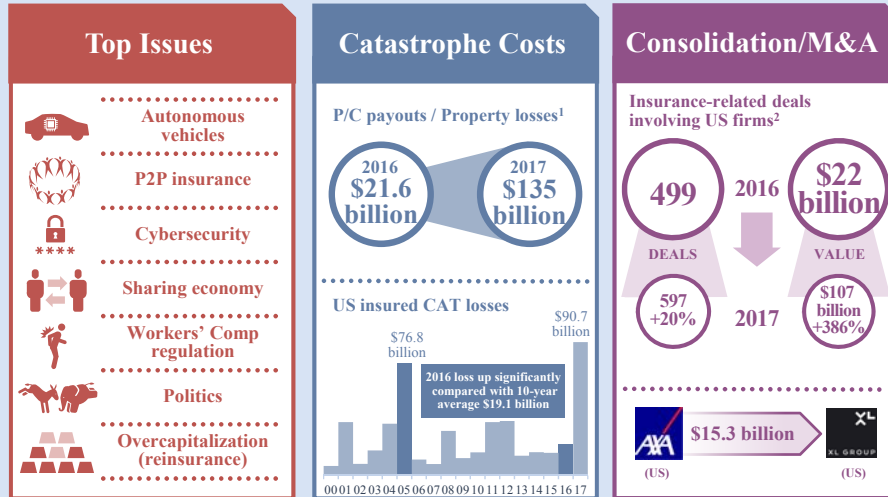
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Insurance Industry
Economic Snapshot

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STATE OF INSURANCE



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

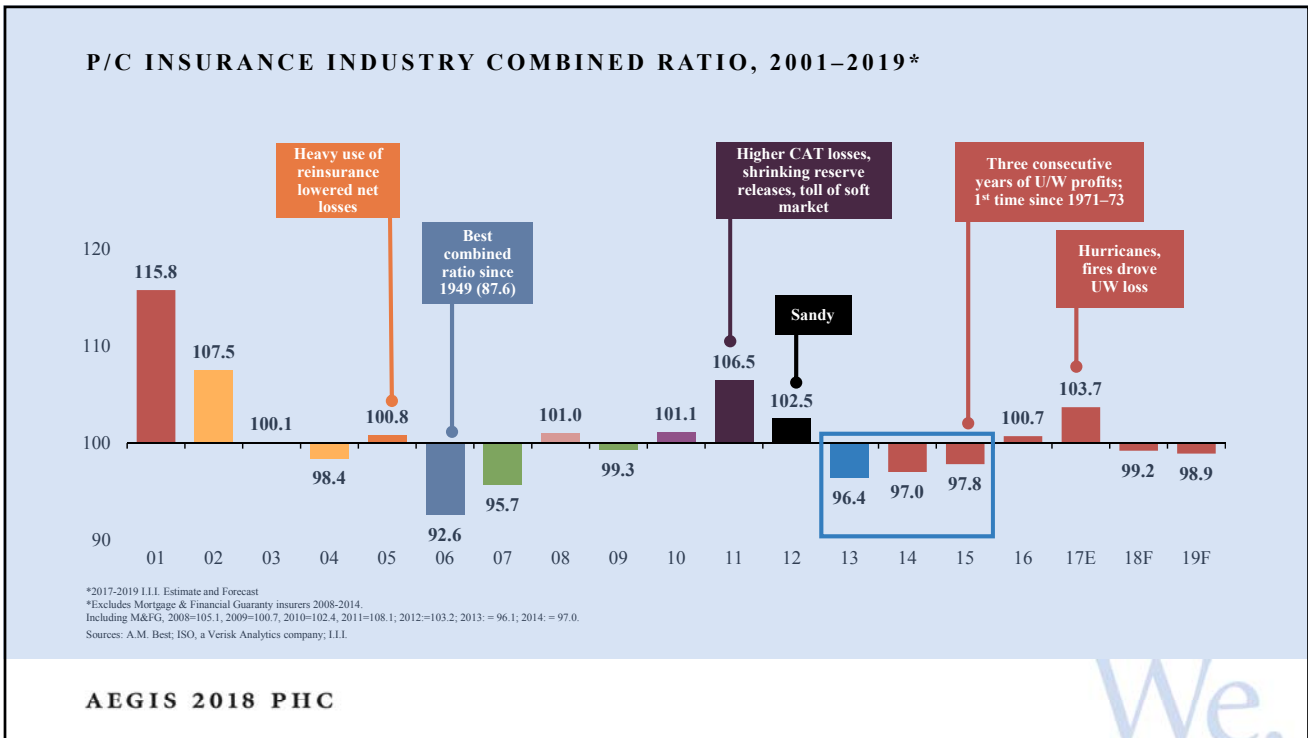
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2018-2020 OVERVIEW

The insurance industry and the economy

- | | | |
|--|---|---|
| P/C insurance markets | Financial markets | The US economy |
| <ul style="list-style-type: none"> 2018 combined ratios for catastrophe-affected lines of business will likely improve (due to reversion to the mean). Personal Auto & Commercial Auto likely will be closer to 100 There is no sign of a “hard” market in 2018, but premium in both personal and commercial lines will likely continue rising | <ul style="list-style-type: none"> In the US, short-term interest rates are finally rising and this is expected to continue. Long-term rates haven’t changed as much, so the yield curve is flatter Although bond yields anticipate inflation continuing near 2 percent for five or more years, more direct measures see prices rising closer to 3 percent, with prices in some sectors (lately, e.g., lumber) rising much faster | <ul style="list-style-type: none"> Real GDP growth has shown unexpected strength in recent calendar quarters. Both personal consumption (+4.7%) and business nonresidential fixed investment (8.1%) are rising, heralding a growing exposure base This is the second longest expansion since WWII, and many forecasters say it will become the longest when it persists into July 2019. There are virtually no signs of another recession |

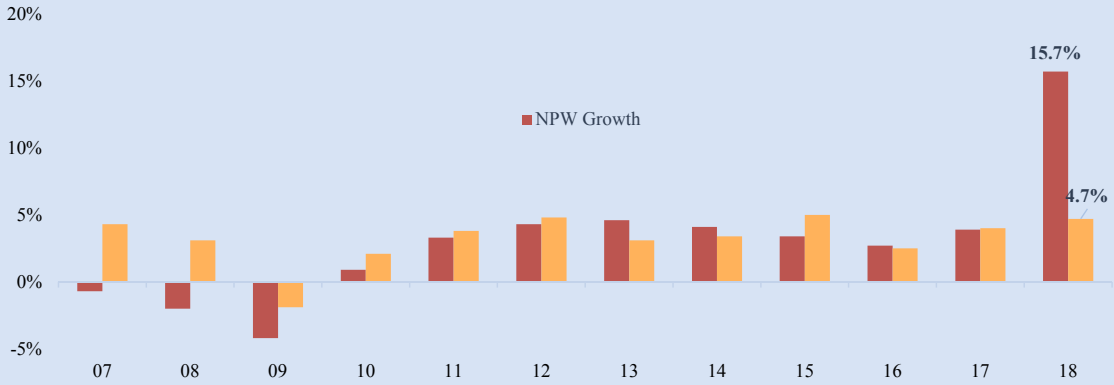
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Insurance and Commercial Trends

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NET PREMIUM GROWTH, ANNUAL CHANGE

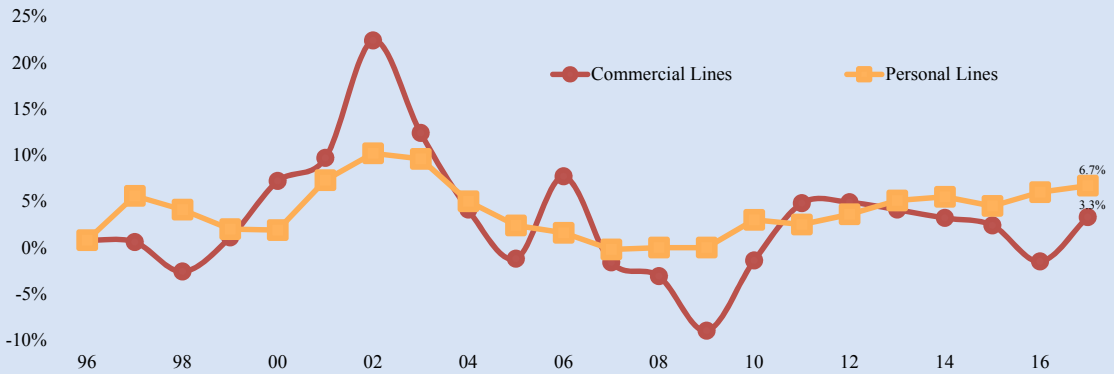


Tax reform led to spike in net written premium in 2018

Through first quarter.
 SOURCES: A.M. Best (2007-2013), ISO (2014-present), Federal Reserve Bank of St. Louis (FRED), Insurance Information Institute.

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COMMERCIAL & PERSONAL LINES NPW GROWTH 1996-2017



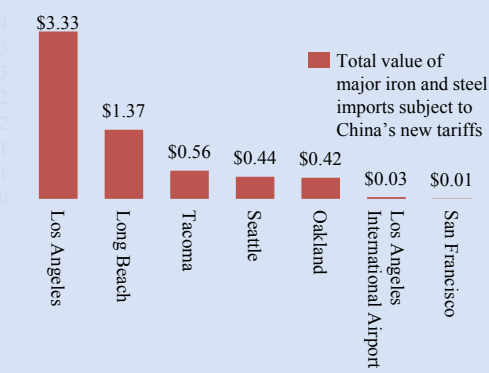
Commercial lines are prone to much more cyclical volatility than personal lines

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

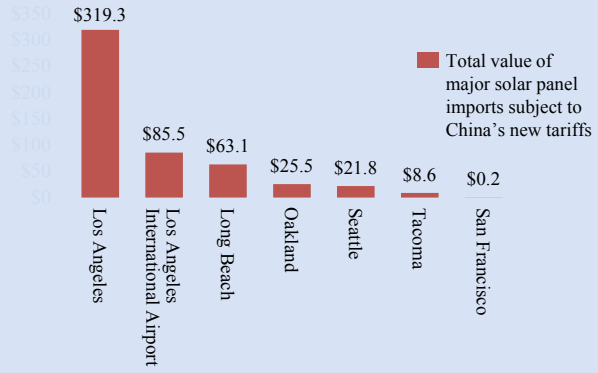
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CHINA'S NEW TARIFFS WOULD HIT IMPORTS TO THE LA AREA HARDEST

Total value of major iron and steel imports subject to China's new tariffs, 2017*
US \$ billions



Total value of major solar panel imports subject to China's new tariffs, 2017*
US \$ millions

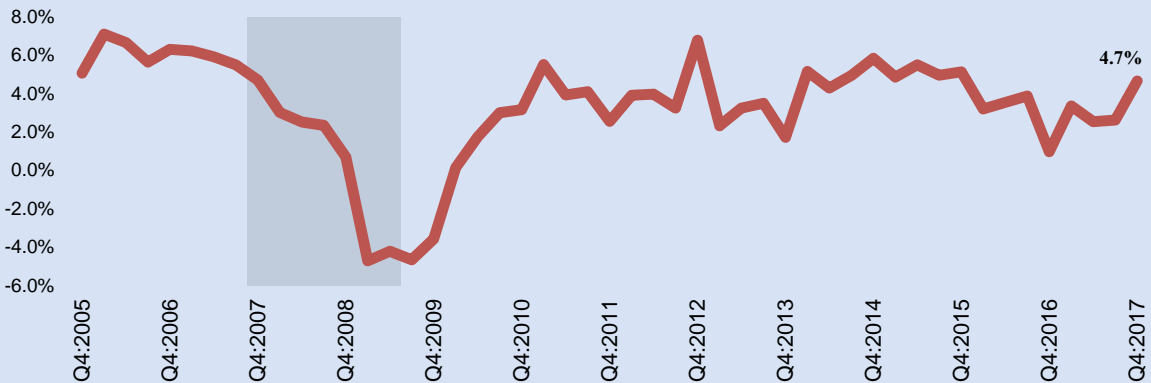


*Total import value of iron and steel imports includes major raw, intermediate and finished iron and steel goods. Total import value of solar panel imports is based on the import value of photosensitive semiconductor devices (including photovoltaic cells, both cells that are assembled in modules or made up into panels) and light-emitting diodes.

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PAYROLLS CLIMBING

(Wage disbursements, change from year earlier)



More workers, slow but steady wage growth keep Workers' Comp exposures rising

SOURCES: U.S. Bureau of Economic Analysis, Compensation of Employees, Received: Wage and Salary Disbursements [A576RC1], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/A576RC1>; National Bureau of Economic Research (recession dates).

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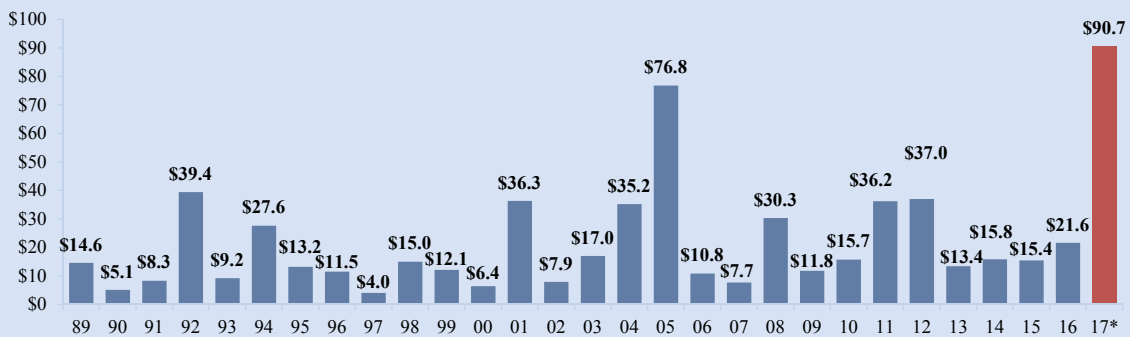
Catastrophes

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US INSURED CATASTROPHE LOSSES 1989–2017

(US \$ billions, 2016 dollars)



2017 was one of the costliest years for insured disaster losses on record. Longer-term trend is for more costly events.

*PCS estimate, subject to change

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).

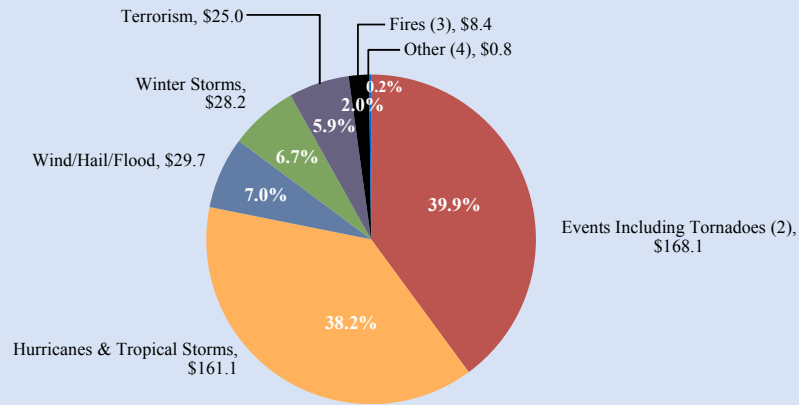
Sources: Property Claims Service, a Verisk Analytics business; Insurance Information Institute

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INFLATION-ADJUSTED US CATASTROPHE LOSSES BY CAUSE OF LOSS

1997-2016¹



(1) Adjusted for inflation through 2016 by ISO using the GDP implicit price deflator. Excludes catastrophes causing direct losses less than \$25 million in 1997 dollars. Does not include flood damage covered by the federally administered National Flood Insurance Program.
 (2) Includes other wind, hail, and/or flood losses associated with catastrophes involving tornadoes.
 (3) Includes wildland fires.
 (4) Includes losses from civil disorders, water damage, utility service disruptions, and any workers compensation catastrophes generating losses in excess of PCS's threshold after adjusting for inflation.

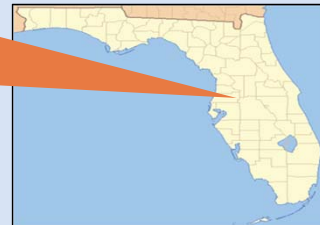
Source: Property Claim Services (PCS)®, a unit of ISO®, a Verisk Analytics® business.

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INVESTMENTS IN RESILIENCE PAYING OFF FOR UTILITIES IN 2017

- Only about 14 % of Harris County, Texas properties had flood insurance at the time of Harvey.
- Florida's overall flood insurance rate was about 19% at the time of Irma.
- Texas has no statewide building codes, but municipalities are considering adopting new standards.
- In Florida, after Irma, homes that were built to stricter (post-Andrew) building codes fared better.

9 days after Irma made landfall in Florida, 99.9% of FPL customers had power, thanks to \$3 billion invested in storm-resilient systems.



Following Harvey, none of the major utilities in Texas suffered any significant damage in their generation fleet or power generating system, thanks to advanced infrastructural development.



Sources: Scottmadden.com; FEMA; Realtor Magazine; Wall Street Journal.

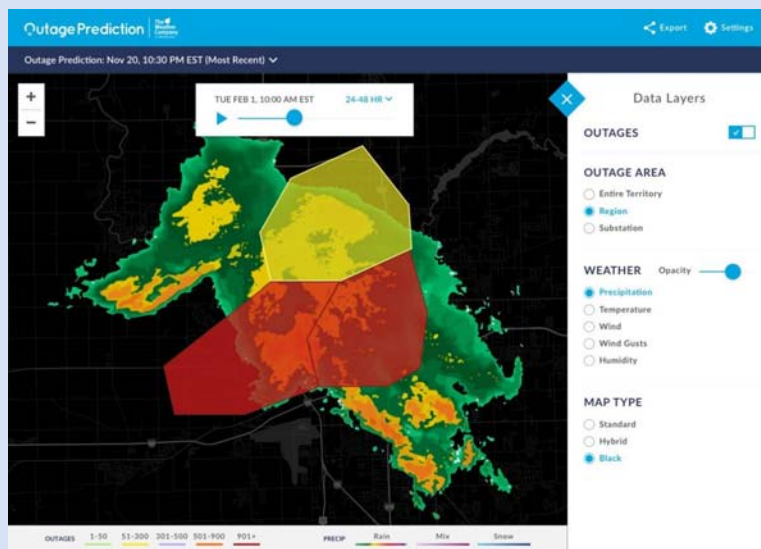
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Analytics in Insurance and Risk Management

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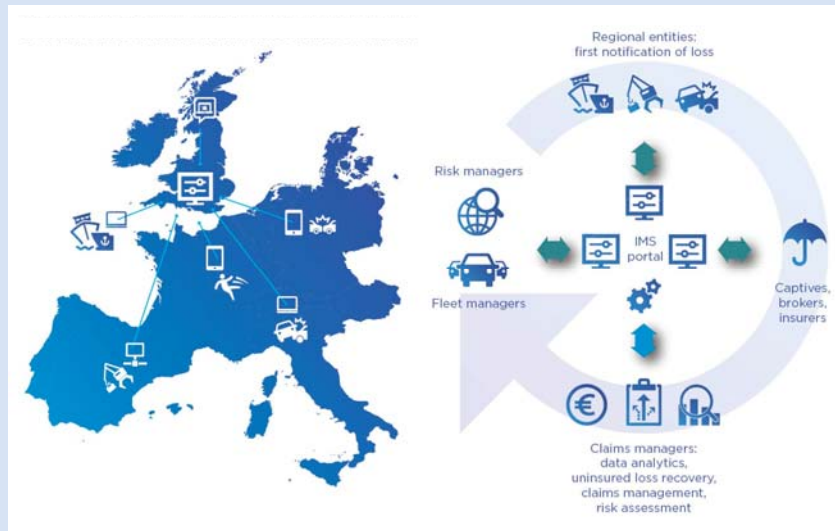
USING AI TO PREPARE FOR NATURAL DISASTERS



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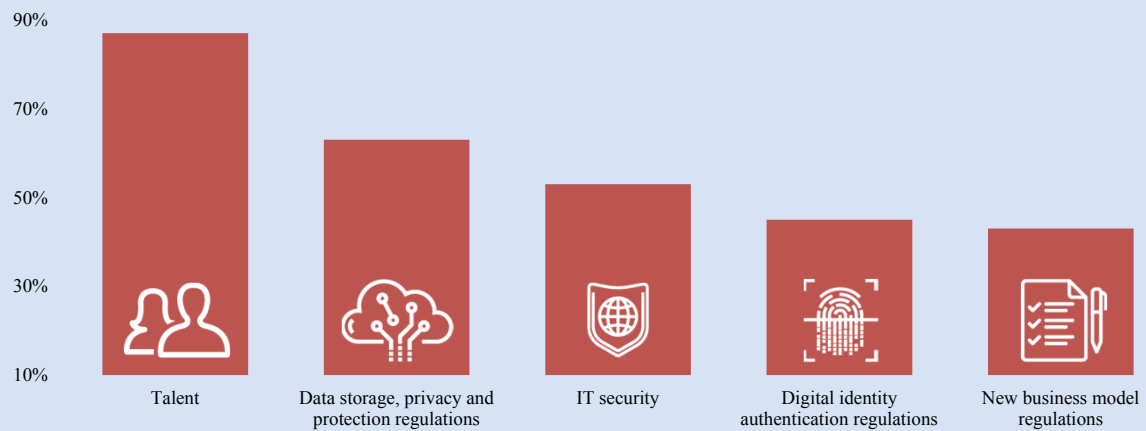
CONNECTING THE RISK AND INSURANCE CHAIN



Source: Raconteur

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CHALLENGES THE INSURANCE INDUSTRY FACES IN INNOVATION



Sources: PricewaterhouseCoopers, Global Insurtech Report - 2017

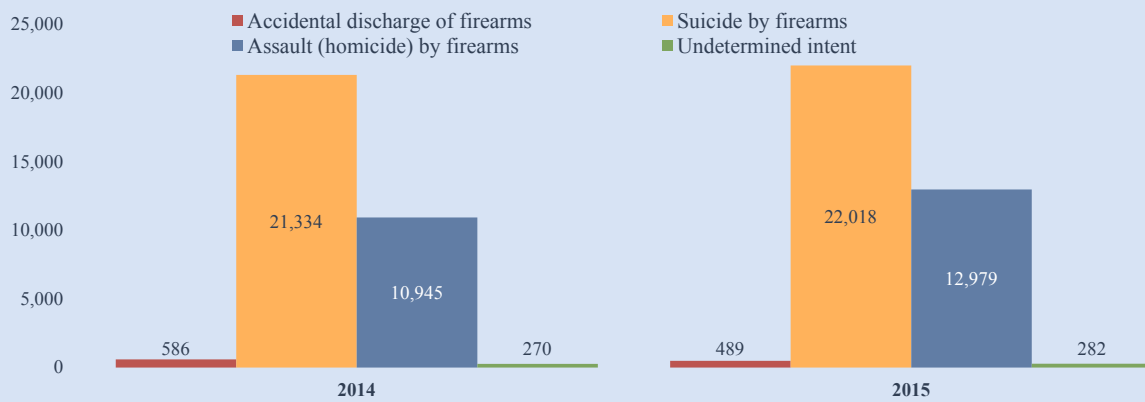
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Gun Liability

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DEATHS BY FIREARMS, 2014 AND 2015

Nothing more recent?



Source: Centers for Disease Control and Prevention, National Vital Statistics Report.

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GUN LIABILITY COVERAGE

Personal Insurance

- Most individuals have some property and liability coverage for firearms in their standard homeowners' policy
- Only covers accidental shootings and in some cases, acts of self-defense
- Personal umbrella policies are available, covering liability above the homeowner policy limit

Group Personal Insurance

- Personal firearms liability insurance was available from some organizations to cover acts of self-defense
- Offers protection against civil liability, the cost to defend against civil and criminal legal actions and access to attorney referrals
- As of 2018, most brokers and insurers have stopped administering the programs

Commercial Insurance

- Coverages can be triggered by active shooting incidents, including general liability, business interruption and property insurance
- Workers' comp insurance is implicated in shootings in the workplace while commercial general liability insurance coverage might also be implicated in a public area

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Defining Terms and Concepts

What is “The Fourth Industrial Revolution”?

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FOUR INDUSTRIAL REVOLUTIONS

- **The First Industrial Revolution** used steam power to mechanize production (early 19th century)
- **The Second Industrial Revolution** used electric power to create mass production (late 19th century and early 20th century)
 - It also harnessed the internal combustion engine, the telephone (and other communications technology), and flight
- **The Third Industrial Revolution** used the internet and information technology to automate production and accelerate communication (late 20th century)
- **The Fourth Industrial Revolution** is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres

Source: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

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FOUR MAIN EFFECTS ON BUSINESS OF THE FOURTH INDUSTRIAL REVOLUTION

1. Customer expectations
2. Product enhancement
 - Products can be more personalized and/or have added digitally-enhanced features
 - Products can be more durable and resilient, and more cheaply and easily maintained
3. Collaborative innovation
 - Given the speed of innovation, organizations will need new forms of collaboration to keep up
4. Organizational forms
 - Talent, culture, and organizational forms will have to be rethought

Source: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

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Insurance Under the Fourth Industrial Revolution

Time Frame: Next 10 Years

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FOUR MAIN EFFECTS OF THE FOURTH INDUSTRIAL REVOLUTION ON THE INSURANCE BUSINESS

1. Customer expectations

(personal lines and small business insurance)

- Regarding shopping for, and buying, insurance
 - Artificial Intelligence (AI) could, via big data, determine unique characteristics for each prospective customer
 - AI and virtual reality could help buyer choose ideal policy limits in part by simulating various claims events



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FOUR MAIN EFFECTS OF THE FOURTH INDUSTRIAL REVOLUTION ON THE INSURANCE BUSINESS

2. Product enhancement

- Policies can be linked to sensors on the policyholder's property (or, for life and health insurance, on the policyholder)
- Policies can be linked to recommend tailored behavior-change information that would reduce risks that could become claims, such as real-time driving suggestions, etc.
- Policies can be linked to tailored educational information, such as updated flood-zone maps, new scientific discoveries regarding earthquakes, etc.



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FOUR MAIN EFFECTS OF THE FOURTH INDUSTRIAL REVOLUTION ON THE INSURANCE BUSINESS

3. Collaborative innovation

- Need for new forms of collaboration
- Insurers devising new coverages, collaborating with customers and business
- Insurers will have to collaborate with regulators
- Technology could foster creation of new insurers with specialized coverage



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FOUR MAIN EFFECTS OF THE FOURTH INDUSTRIAL REVOLUTION ON THE INSURANCE BUSINESS

4. Talent, culture, and organizational forms

- The percent of people in the agency, underwriting, financial management and claims areas will shrink
- The percent of people in actuarial and IT areas will explode
- Insurers will want to be seen by customers as part of a “financial safety net”



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How Insurance Drives Economic Growth

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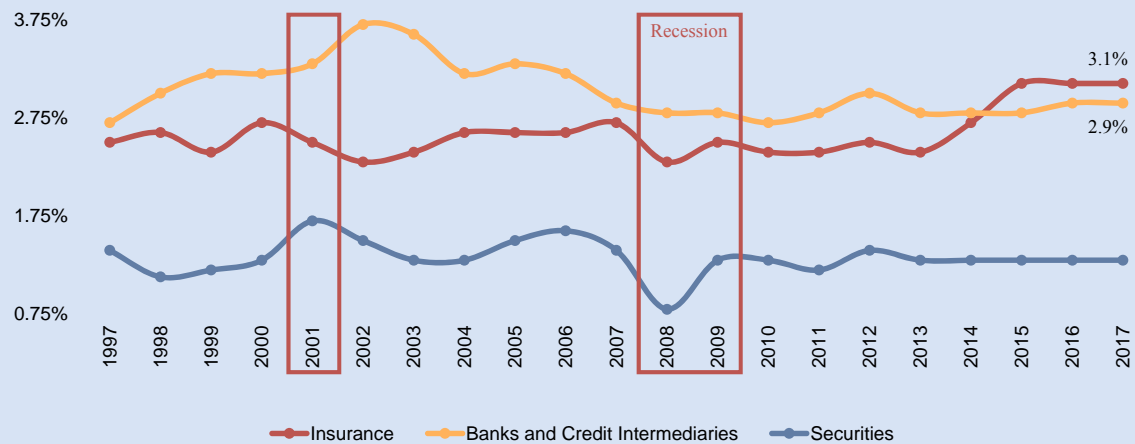
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HOW INSURANCE DRIVES ECONOMIC GROWTH

<p>Safety/ Security</p>  <ol style="list-style-type: none"> 1. Insurers are financial first responders  <ol style="list-style-type: none"> 2. Insurers are risk mitigators 	<p>Economic/ Financial Stability</p>  <ol style="list-style-type: none"> 3. Insurers are capital protectors  <ol style="list-style-type: none"> 4. Insurance is a partner in social policy  <ol style="list-style-type: none"> 5. Insurance sustains the supply chain  <ol style="list-style-type: none"> 6. Insurers are capital infusers 	<p>Development</p>  <ol style="list-style-type: none"> 7. Insurers are community builders  <ol style="list-style-type: none"> 8. Insurance enables infrastructure improvements  <ol style="list-style-type: none"> 9. Insurers are innovation catalysts  <ol style="list-style-type: none"> 10. Insurers are credit facilitators
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SINCE 2015, THE INSURANCE INDUSTRY'S CONTRIBUTION TO GDP EXCEEDS THAT OF BANKS



Sources: US Bureau of Economic Analysis <https://www.bea.gov/iTable/iTable.cfm?ReqID=51&step=1#reqid=51&step=51&isuri=1&5114=a&5102=5> ; Insurance Information Institute.

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Thank you!

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