Insurance Market Trends and More

James Lynch
chief actuary
I.I.I. Mission Statement

Improving public understanding of insurance...

...what it does and how it works.
Over The Past 18 Months, However, Insurance Coverage Has Focused On…

<table>
<thead>
<tr>
<th>Insurance Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance Lawsuits</td>
<td>8%</td>
</tr>
<tr>
<td>Travel &amp; Pet Insurance</td>
<td>3%</td>
</tr>
<tr>
<td>Mortgage &amp; Title Insurance</td>
<td>3%</td>
</tr>
<tr>
<td>Crop Insurance</td>
<td>9%</td>
</tr>
<tr>
<td>Life Insurance &amp; Long-Term Care</td>
<td></td>
</tr>
<tr>
<td>Auto Insurance</td>
<td>15%</td>
</tr>
<tr>
<td>Wildfires</td>
<td>2%</td>
</tr>
<tr>
<td>Flood &amp; Storms</td>
<td>6%</td>
</tr>
<tr>
<td>Homeowner Insurance</td>
<td>10%</td>
</tr>
<tr>
<td>NFIP</td>
<td>10%</td>
</tr>
<tr>
<td>Cyber Insurance</td>
<td>8%</td>
</tr>
<tr>
<td>InsurTech</td>
<td>22%</td>
</tr>
</tbody>
</table>

- 18% on other P/C and life products
- 28% on Nat Cat risks
- 30% on cyber insurance and digital trends

Source: Quid, HPS Analysis, Excludes Health Insurance And Company Performance
Social Media Focuses More On NatCat Than Cyber, Auto and InsurTech

Traditional Media Coverage vs Social Shares

Average Social Share vs Publisher Count

- NFIP
- Flood & Storms
- Homeowner Insurance
- Travel Insurance
- Insurance Lawsuits
- Wildfires
- Life Insurance & Long-Term Care
- Crop Insurance
- Cyber Insurance
- Auto Insurance
- InsurTech
2018 I.I.I. Issue Focus Areas
Mapping Where Our Issues Stand As We Approach Q3

Inform
- High
  - Life
  - Pandemic Risk
  - InsurTech
  - Insurance As Economic Capital

Manage
- Low
  - Terror
  - Home/Rental
  - Fraud

Own
- High
  - Nat Cat Resilience
  - Cyber Risk
  - Auto

Elevate
- High
  - Political Risk
  - Industry Talent

Audiences
- B2B
- B2C
- B2G
- Strategic Initiative
- To Begin 2H 2018
Disruptive Forces in the World – The New Norm

Catastrophes

Economics

Geopolitical

Technology
Catastrophes

- Flooding events spurred 73% of federal disaster declarations
- Thunderstorm related losses 2nd highest ever in U.S.
- $14B insured wildfire losses; California estimated ~$11B
- N.A. hurricane season record-breaking insured & economic losses; disasters affected >25 million Americans
- Auto: Reaching epidemic proportions
- Cyber: Risk continuing to increase
Economics

Strengthening Fundamentals:
All OECD economies growing – 1st in 10 yrs.

Tepid monetary policies; keeping interest rates at historical lows — moving slow...

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


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
Technology

Robotics
Artificial Intelligence

“The Fourth Industrial Revolution”
Cyber meets Physical

Big Data
Internet of Things
Social Economy
Insurance Leading Throughout History

- 1648
- 1784
- 1870
- 1969

Cyber-Physical Systems
Insurance Industry Economic Trends
U.S. Insured Catastrophe Losses


*2017: Inflation-adjusted PCS estimate, subject to change.
Sources: Property Claims Service, a Verisk Analytics business; Insurance Information Institute.
Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1997–2016

- **Terrorism, $25.0**
- **Fires (3), $8.4**
- **Other (4), $0.8**
- **Winter Storms, $28.2**
- **Wind/Hail/Flood, $29.7**
- **Hurricanes & Tropical Storms, $161.1**
- **Events Including Tornadoes (2), $168.1**

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.
Industry Income Doubled in the First Half of 2018 vs. a Year Ago.

*adjusted for inflation using the BLS CPI calculator, to 2018 dollars
Sources: ISO, a Verisk Analytics company; Insurance Information Institute.
P/C Insurance Industry
Combined Ratio*

Through Q2.

Policyholder Surplus By Quarter

Tax Law Increased Surplus at Year-End 2017 and Makes Surplus Growth a Bit More Volatile. $1.30 Surplus per $1 Premium.

Sources: ISO, A.M. Best.
Net Premium Growth, Annual Change

Tax Reform Led to Spike in Net Written Premium in 2018 - $314B at Second Quarter.

All data through second quarter.
SOURCES: NAIC data sourced through S&P Global Intelligence, Bureau of Economic Affairs, Insurance Information Institute.
Direct Premium Growth, Annual Change

Rising Auto Rates Driving Premium Growth - $337B at Second Quarter.

All data through second quarter.

SOURCES: NAIC data sourced through S&P Global Intelligence, Bureau of Economic Affairs, Insurance Information Institute.
Commercial & Personal Lines NPW Growth

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

Commercial Lines is Prone to Much More Cyclical Volatility Than Personal Lines.
Consolidation/M&A
Booming Among Agents & Brokers

Mega-Deals Drive Value

A Agencies Drive Volume

$ Volume Through Q2

Number of Deals Through Q3

Sources: PriceWaterhouseCoopers, Optis Partners.
Commercial Lines Trends
Drivers of E&O Exposures

Revenues Top $7 Trillion This Year

Exposure Growth Climbs

Growth in Annual Revenue

By Type of Service

Growth in Annual Revenue, Q2 2018

Miscellaneous E&O Services: Finance & Insurance; Real Estate, Rental & Leasing; Professional, Scientific & Technical Services.

Sources: U.S. Census Bureau Quarterly Services Survey, Insurance Information Institute.
‘Material’ Increases in Auto, Property, Umbrella; Q2 Increases > Q1 Increases

Sources: Willis Towers Watson, MarketScout.
Liability Rate Changes
Slight Softening, Though Local Markets Vary

**U.S. Casualty**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Rate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2 2012</td>
<td>2.6%</td>
</tr>
<tr>
<td>Q4 2012</td>
<td>2.4%</td>
</tr>
<tr>
<td>Q4 2012</td>
<td>-4.0%</td>
</tr>
<tr>
<td>Q4 2013</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Q4 2014</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>0.0%</td>
</tr>
<tr>
<td>Q4 2017</td>
<td>1.0%</td>
</tr>
<tr>
<td>Q4 2018</td>
<td>2.0%</td>
</tr>
<tr>
<td>Q4 2019</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

**U.S. Financial and Prof Liab**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Rate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2 2012</td>
<td>2.7%</td>
</tr>
<tr>
<td>Q4 2012</td>
<td>0.9%</td>
</tr>
<tr>
<td>Q4 2013</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Q4 2014</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>0.0%</td>
</tr>
<tr>
<td>Q4 2017</td>
<td>1.0%</td>
</tr>
<tr>
<td>Q4 2018</td>
<td>2.0%</td>
</tr>
<tr>
<td>Q4 2019</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

SOURCE: Marsh Insurance Market Index.
Property/Cyber Rate Changes
A Flat Market, Though Local Markets Vary

<table>
<thead>
<tr>
<th>U.S. Property</th>
<th>U.S. Cyber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2 2012</td>
<td>Q2 2012</td>
</tr>
<tr>
<td>Q4 2012</td>
<td>Q4 2012</td>
</tr>
<tr>
<td>Q2 2013</td>
<td>Q4 2013</td>
</tr>
<tr>
<td>Q4 2013</td>
<td>Q2 2013</td>
</tr>
<tr>
<td>Q2 2014</td>
<td>Q4 2014</td>
</tr>
<tr>
<td>Q4 2014</td>
<td>Q2 2014</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>Q4 2015</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>Q2 2015</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>Q2 2017</td>
<td>Q4 2017</td>
</tr>
<tr>
<td>Q4 2017</td>
<td>Q2 2017</td>
</tr>
<tr>
<td>Q2 2018</td>
<td>Q4 2018</td>
</tr>
</tbody>
</table>

SOURCE: Marsh Insurance Market Index.
Personal Lines Trends
Driving Patterns Predict Claim Frequency

The sharp rise in collision frequency in 2014-2016 appears to have peaked in the last year. However, claim severity will likely continue to rise as 2018 will see another 17 million new cars on the road.

The only force that could derail the relationship between miles driven and frequency would be a sharp and persistent rise in the cost of gasoline.

Sources: [Federal Highway Administration](https://www.fhwa.dot.gov); Rolling four-quarter average frequency from Fast Track Monitoring System; Insurance Institute for Highway Safety; Insurance Information Institute.
Road Safety

Economic well-being

Better Economy = More Drivers = More Accidents

Distracted driving

14 Percent of Injury Crashes

Expensive auto parts

Safety Devices Can Be Expensive

Faster driving

Speed Still Kills

Legalized marijuana

It’s Not Funny

Source: Insurance Information Institute research.
To rent or to buy?

From 2004 to 2016:Q4, the number of renter-occupied housing units grew by about 10.5 million units (+34%), but there was no growth in the number of owner-occupied housing units for 12 years. This streak appears to have ended in 2016:Q4. This is good news for homeowners insurance premium growth.

Sources: U.S. Census Bureau at http://www.census.gov/housing/hvs/data/histtabs.html, Table 8; Insurance Information Institute.
Insurance and Innovation
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, GA, IL, NJ, NV, NY, OH, PA, TX

**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, %

- Disrupting the value chain: 30%
- Enabling the value chain: 61%
- Disintermediating incumbents from customers: 9%

Only nine percent of InsurTechs aim to oust incumbents

Future profits as a % of today’s profits

Digitizing the business, auto insurance example

- Short-term gain
  - Today's profits: 100
  - 2025 profits: 220-300

- Long-term decline
  - 2035 profits: 155-195

¹Insuretechs 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.

**InsurTech Startups Have Broad Range…BUT…**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insurance Marketplace</strong></td>
<td><strong>Digital Brokers</strong></td>
</tr>
<tr>
<td>CoverHound</td>
<td>insureon</td>
</tr>
<tr>
<td>turtlemint</td>
<td>EMBROKER</td>
</tr>
<tr>
<td>policybazaar.com</td>
<td>coverwallet</td>
</tr>
<tr>
<td>Coverfox</td>
<td>FOUNDERSHIELD</td>
</tr>
<tr>
<td>GetInsured</td>
<td></td>
</tr>
<tr>
<td>policygenius</td>
<td></td>
</tr>
<tr>
<td><strong>Peer to Peer</strong></td>
<td><strong>Health Navigators</strong></td>
</tr>
<tr>
<td>friendsurance</td>
<td>Welltok.</td>
</tr>
<tr>
<td>Lemonade</td>
<td>TELADOC.</td>
</tr>
<tr>
<td>GUEVARA</td>
<td>Accolade</td>
</tr>
<tr>
<td>YYY PEERCover</td>
<td></td>
</tr>
<tr>
<td><strong>Micro-duration Coverage</strong></td>
<td><strong>Telematics</strong></td>
</tr>
<tr>
<td>trōv</td>
<td>castlight</td>
</tr>
<tr>
<td>Slice</td>
<td>GRAND RoundS</td>
</tr>
<tr>
<td><strong>Telematics</strong></td>
<td></td>
</tr>
<tr>
<td>TrueMotion</td>
<td></td>
</tr>
<tr>
<td>metromile</td>
<td></td>
</tr>
<tr>
<td>Zendrive</td>
<td></td>
</tr>
</tbody>
</table>
…With Broad Incumbent Support

<table>
<thead>
<tr>
<th>Company</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metromile</td>
<td>$205M</td>
</tr>
<tr>
<td>intact Insurance</td>
<td></td>
</tr>
<tr>
<td>China Pacific Insurance</td>
<td></td>
</tr>
<tr>
<td>CoverHound</td>
<td>$57M</td>
</tr>
<tr>
<td>ACE</td>
<td></td>
</tr>
<tr>
<td>CHUBB</td>
<td></td>
</tr>
<tr>
<td>American Family Ventures</td>
<td></td>
</tr>
<tr>
<td>ONE, Inc.</td>
<td>$37M</td>
</tr>
<tr>
<td>MassMutual Ventures</td>
<td></td>
</tr>
<tr>
<td>AXA Strategic Ventures</td>
<td></td>
</tr>
<tr>
<td>policygenius</td>
<td>$21M</td>
</tr>
<tr>
<td>MassMutual Ventures</td>
<td></td>
</tr>
<tr>
<td>Transamerica Ventures</td>
<td></td>
</tr>
<tr>
<td>Slice</td>
<td>$4M</td>
</tr>
<tr>
<td>XL Catlin</td>
<td></td>
</tr>
<tr>
<td>Munich RE</td>
<td></td>
</tr>
</tbody>
</table>

Note: Total funding. Source: Aon.
Four Main Effects on Insurance in the Fourth Industrial Revolution

1. Customer Expectations
   - Amazon raises the bar
   - AI and robotics

2. Product Enhancement
   - More personalized and/or digitally-enhanced
   - Value focus on risk mitigation and resilience

3. Collaborative innovation
   - Speed of innovation requires 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/](https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/)
Challenges the Insurance Industry Faces in Innovation

- Talent
- Data storage, privacy and protections regulations
- IT security
- Digital Identity Authentication Regulations
- New business model regulations

Sources: PricewaterhouseCoopers, Global Insurtech Report - 2017
## Agents Respond – New Agencies:

| Use Facebook to keep in touch with customers/prospects (83% vs. 59%). |
| Include agency website and social media strategies in marketing plan (82% vs. 64% and 83% vs. 53%, respectively). |
| Strongly agree that agency has seen cost savings by using paperless communication options offered by carriers, as well as by offering them to customers (52% vs. 27% and 50% vs. 27%, respectively). |
| Strongly agree insureds are just as likely to accept e-documents as paper documents (54% vs. 33%). |
| Text with clients as a form of communication (62% vs. 41%). |

Source: Independent Insurance Agents of America, _Agency Universe Study, 2016_
Successful Digital Transformation ➔ Holistic Approach
Insurance Leadership
Insurance & Economic Leadership

Sustainable Business Model

2010

Bank Failures: 157

Insurance Impairments¹: 8

Policyholder Surplus:

~$761B ➡ End Q2/18

Strong Jobs Pool/Provider

2.8M Employed

Need to Fill 400K+ by 2022²

Economic Growth Promoter/Facilitator

$612B

3.1% US GDP³

Premium Taxes Paid⁴ $19.2B

Bond Investment⁵ $489B

Charity/Volunteerism⁶ ↑15%

Insurance: A Critical Factor in the Economy

Contribution to 2017 GDP

- Securities: 1.3%
- Banking: 2.9%
- Insurance: 3.1%

Source: 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.
## How Insurance Drives Economic Growth

<table>
<thead>
<tr>
<th>Safety/Security</th>
<th>Economic/Financial Stability</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Insurers are financial first responders</td>
<td>3. Insurers are capital protectors</td>
<td>7. Insurers are community builders</td>
</tr>
<tr>
<td>2. Insurers are risk mitigators</td>
<td>5. Insurance sustains the supply chain</td>
<td>8. Insurance enables infrastructure improvements</td>
</tr>
<tr>
<td></td>
<td>4. Insurance is a partner in social policy</td>
<td>9. Insurers are innovation catalysts</td>
</tr>
<tr>
<td></td>
<td>6. Insurers are capital infusers</td>
<td>10. Insurers are credit facilitators</td>
</tr>
</tbody>
</table>
Thank you!

www.iii.org