Industry Update: 
Yesterday, Today and Tomorrow

CPCU I-Day
Columbia, Missouri
September 10, 2019

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I.I.I. Mission Statement

Improving public understanding of insurance...

...what it does and how it works.
How Insurance Drives Economic Growth

**Safety/Security**
1. Insurers are financial first responders
2. Insurers are risk mitigators

**Economic/Financial Stability**
3. Insurers are capital protectors
4. Insurance is a partner in social policy
5. Insurance sustains the supply chain
6. Insurers are capital infusers

**Development**
7. Insurers are community builders
8. Insurance enables infrastructure improvements
9. Insurers are innovation catalysts
10. Insurers are credit facilitators
Insurance and Agriculture
Protecting America’s Farms

Weather-Related Crop Insurance Payouts
2019 YTD (Thru August 26)

Flood / Excess Moisture: $2.22 billion
Hail: $120 million

Source: USDA, Aon (Steve Bowen).
Catastrophes

Extreme Weather Threatens Union
A Small Town in Missouri
1982 Union, Missouri, Flood
A Storm for the Ages

Source: Fox2News.com, @BoxxRadio.
2015 Union, Missouri, Flood
A Storm for the Ages

Bourbeuse River
Record Crest
34.3 feet
12/29/2015

Sources: CBSnews.com; fox2news.com
2017 Union, Missouri, Flood

“Unfortunately, it’s a river and Mother Nature. And we can’t control her.”

<table>
<thead>
<tr>
<th>Year</th>
<th>Crest (feet)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>29.4</td>
<td>2017</td>
</tr>
<tr>
<td>2015</td>
<td>34.31</td>
<td>2015</td>
</tr>
<tr>
<td>1982</td>
<td>33.80</td>
<td>1982</td>
</tr>
<tr>
<td>2017</td>
<td>29.38</td>
<td>2017</td>
</tr>
<tr>
<td>1915</td>
<td>28.50</td>
<td>1915</td>
</tr>
<tr>
<td>1994</td>
<td>27.77</td>
<td>1994</td>
</tr>
<tr>
<td>1993</td>
<td>26.37</td>
<td>1993</td>
</tr>
<tr>
<td>2008</td>
<td>25.89</td>
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<tr>
<td>2000</td>
<td>24.53</td>
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<tr>
<td>1957</td>
<td>24.44</td>
<td>1957</td>
</tr>
<tr>
<td>2005</td>
<td>23.89</td>
<td>2005</td>
</tr>
</tbody>
</table>

2019: Union, Missouri, Embraces Resilience
Community Hardening

Dickey Bub Berm

Shopping on One Side

Park on the Other
# Extreme Events: A Troubling Trend

<table>
<thead>
<tr>
<th>Rank</th>
<th>Date</th>
<th>Event</th>
<th>Cause</th>
<th>Insured Loss (1) ($ millions)</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Aug. 2005</td>
<td>Hurricane Katrina</td>
<td>Hurricane</td>
<td>$41,100</td>
</tr>
<tr>
<td>2</td>
<td>Sep. 2017</td>
<td>Hurricane Maria (2)</td>
<td>Hurricane</td>
<td>25,000-30,000</td>
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<td>3</td>
<td>Sep. 2017</td>
<td>Hurricane Irma (2)</td>
<td>Hurricane</td>
<td>20,000-25,000</td>
</tr>
<tr>
<td>4</td>
<td>Sep. 2001</td>
<td>September 11 Events</td>
<td>Terrorism</td>
<td>18,779</td>
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<tr>
<td>5</td>
<td>Oct. 2012</td>
<td>Hurricane Sandy</td>
<td>Hurricane</td>
<td>18,750</td>
</tr>
<tr>
<td>6</td>
<td>Aug. 2017</td>
<td>Hurricane Harvey (2)</td>
<td>Hurricane</td>
<td>16,000-19,000</td>
</tr>
<tr>
<td>7</td>
<td>Aug. 1992</td>
<td>Hurricane Andrew</td>
<td>Hurricane</td>
<td>15,500</td>
</tr>
<tr>
<td>8</td>
<td>Jan. 1994</td>
<td>Northridge, CA earthquake</td>
<td>Earthquake</td>
<td>12,500</td>
</tr>
<tr>
<td>9</td>
<td>Sep. 2008</td>
<td>Hurricane Ike</td>
<td>Hurricane</td>
<td>12,500</td>
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<tr>
<td>10</td>
<td>Oct. 2005</td>
<td>Hurricane Wilma</td>
<td>Hurricane</td>
<td>10,300</td>
</tr>
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</table>

(1) Dollars when occurred.
(2) Insurance Information Institute estimate based on data from catastrophe risk modelers, the Property Claims Services unit of Verisk Analytics, et al.

Source: Insurance Information Institute, catastrophe risk modelers, The Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company, et al.
Insurance Leading Throughout History

- 1648
- 1784
- 1870
- 1969
- ???

Cyber-Physical Systems
Yesterday: Industry Results

Higher Rates, Moderating Claim Rates Buoy Results
Are Insurers Making Money?

Billions, 2019 dollars

Through first quarter. Adjusted for inflation using the BLS CPI calculator.
Sources: NAIC data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

Great Recession

Hailstorms
Is the Industry Strong?

Amount of Surplus

($ Billions)

Stage Market Dip Explains Q4 2018 Drop. Q1 Recovery Explains Increase $0.78 Premium per $1 Surplus.

Sources: ISO, A.M. Best.
P/C Insurance Industry Combined Ratio*

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; 2019 based on Q1 data; 2019 projection: Insurance Information Institute.
U.S. Inflation-Adjusted Cat Losses

2018 – Third worst year for U.S. Insured Catastrophe Losses. Average Insured Loss per Year for 1980-2018 is $19.3 B.

*2018: Inflation-adjusted estimate, subject to change. 2010s is average of 2010 to 2018. All losses are Direct. Sources: Property Claims Service, a Verisk Analytics business; Insurance Information Institute.
Catastrophe Claims, by Season

Catastrophe Claims as % of Total Claims

Catastrophe Claims Hit Hardest in Second and Third Quarters.

* Preliminary, much of Q4 may be re-estimation of Harvey, Irma, Maria claims.
Losses are net of reinsurance but include Loss Adjustment Expenses
Sources: ISO PCS; Insurance Information Institute calculations.
Tornadoes by Quarter

2019 Second Quarter: Tornado Season – Anticipated Second Most In Past Nine Years

* Preliminary Version of Final Counts. ** Incomplete June Data

Personal Auto Has Returned to Underwriting Profitability. In Commercial Auto the Fever May Have Broken.
After Several Years of Steep Increases the Cost of Accidents has Tapered Off. Consumer Prices Overall Rose 6.6 Percent from 2016 to 2018.

Source: Fast Track Monitoring System.
Workers Comp: Soft Market Offsetting Exposure Growth

Private Carriers: Tax Law Changes Boosted Net Premiums.

Source: NCCI.
Workers Comp Net Combined Ratio

Favorable Loss Trends Let Private Carriers Post Lowest C.R. Since 1930s.

Source: NCCI..
Focus on Missouri
Growth and Profitability
Return on Net Worth and Direct Premiums Written All Lines
Missouri vs. USA

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report.
All Lines: 10-Year Average DPW Growth and Return on Net Worth

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report
Return on Net Worth and Direct Premiums Written PP Auto

Missouri vs. USA

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report.
PP Auto: 10-Year Average DPW Growth and Return on Net Worth

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report
Return on Net Worth and Direct Premiums Written Commercial Auto
Missouri vs. USA

**Premium Growth**

- Annual % change
- Missouri vs. USA

**Return on Net Worth**

- Missouri vs. USA

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report.
Comm. Auto: 10-Year Average DPW Growth and Return on Net Worth

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report
Return on Net Worth and Direct Premiums Written Workers Comp
Missouri vs. USA

** Premium Growth **

** Return on Net Worth **

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report.
Workers Comp: 10-Year Average DPW Growth and Return on Net Worth

Sources: NAIC data sourced from S&P Market Intelligence; NAIC Profitability Report
Today: Emerging Issues
Auto Repair: Complexity Grows

More Cool Stuff to Fix

More Parts, More Labor: Higher Costs

- Electronics: 40-50% of cost of vehicle
  - Pre-repair scan: $63
  - Post-repair scan: $93
  - Calibration labor: sublet at $150
  - OEM: 98% of camera/sensors

* Property Damage Only.
SOURCES: “2019 Crash Course,” CCC Information Services; Ford Motor Co.;
Cannabis & Insurance
The Science

Review of Literature

- Conclusive evidence
  - Improves the lot of adults in chronic pain.

- Substantial evidence
  - Increases the risk of motor vehicle crashes.

Current marijuana laws by state

*CBD/Low THC medical program.
Workers Comp Issues: Can You Get Fired?

*CBD/Low THC medical program. †Oklahoma has not yet released its final medical marijuana rules. ‡Provides limited protections to state employees.
Source: Insurance Information Institute, 2019.

▲ Only 13 states have anti-discrimination/reasonable accommodation for off-duty marijuana use
Is Medical Marijuana Covered by Comp?

- Reimbursable in a handful of states
- Unclear whether reimbursable in many states
- Reimbursement not required
- Reimbursement prohibited or ineligible

Many state medical marijuana laws specifically exempt certain entities from the reimbursement requirement, usually health insurance providers.
New Mexico is the Only State That Provides a Fee Schedule for Medical Marijuana¹

Maximum reimbursable amount

$12.02 per gram
or $11,056 per year

In context

If a one-gram joint costs $12, that’s 921 joints per year

¹“Healthcare Provider Fee Schedule and Billing Instructions,” State of New Mexico Workers’ Compensation Administration.
Reimbursement Complications

- Cash-only business
- Proper dosages poorly understood, non-standardized
- No standardized “serving” of marijuana. Potency levels non-standardized
- Expenses can vary widely

Many state medical marijuana laws specifically exempt certain entities from the reimbursement requirement, usually health insurance providers.
Tomorrow

Is Recession Lurking?
Outlook: The Economy

Real GDP Growth Forecasts

Source: Blue Chip Economic Indicators.

A Cloud: Interest Rates

Worries About Economy Have Sent Investors Into Treasuries.

Source: Federal Reserve Bank of St. Louis (FRED)
Summary

- Insurance Industry Leads Through Disruption
- Missouri Results Resemble the Rest of USA
- 2019 Results Promising, With Long-Awaited Improvement in Auto Lines and Workers Comp Setting Records
- Emerging Issues: Marijuana, Auto Repair Costs
- Economic Growth Steady – How Long Will it Last?
Thank you for your time and your attention!