Overview & Outlook for the P/C Insurance Industry: Trends, Challenges and Opportunities in 2013 and Beyond

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P/C Insurance Industry
Financial Overview

Profit Recovery in 2012 After High CAT Losses; Ultimate Impact of Sandy Still Unclear
P/C Net Income After Taxes
1991–2013:Q1 ($ Millions)

- 2005 ROE* = 9.6%
- 2006 ROE = 12.7%
- 2007 ROE = 10.9%
- 2008 ROE = 0.1%
- 2009 ROE = 5.0%
- 2010 ROE = 6.6%
- 2011 ROAS¹ = 3.5%
- 2012 ROAS¹ = 5.9%
- 2013:Q1 ROAS¹ = 9.6%

*ROE figures are GAAP; ¹Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 9.7% ROAS in 2013:Q1, 6.2% ROAS in 2012, 4.7% ROAS for 2011, 7.6% for 2010 and 7.4% for 2009.

Sources: A.M. Best, ISO, Insurance Information Institute

Net income is up substantially (+40.9%) from 2012:Q1 $10.2B
Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2013:Q1*

*Profitability = P/C insurer ROEs. 2011-13 figures are estimates based on ROAS data. Note: Data for 2008-2013 exclude mortgage and financial guaranty insurers.

Source: Insurance Information Institute; NAIC, ISO, A.M. Best.
A 100 Combined Ratio Isn’t What It Once Was: Investment Impact on ROEs

A combined ratio of about 100 generates an ROE of ~7.0% in 2012, ~7.5% ROE in 2009/10, 10% in 2005 and 16% in 1979.

Combined Ratios Must Be Lower in Today’s Depressed Investment Environment to Generate Risk Appropriate ROEs

* 2008-2012 figures are return on average surplus and exclude mortgage and financial guaranty insurers. 2012 combined ratio including M&FG insurers is 103.2, 2011 combined ratio including M&FG insurers is 108.1, ROAS = 3.5%.

Source: Insurance Information Institute from A.M. Best and ISO data.
The Strength of the Economy Will Influence P/C Insurer Growth Opportunities

Growth Will Expand Insurer Exposure Base Across Most Lines
US Real GDP Growth*

Real GDP Growth (%)

The Q4:2008 decline was the steepest since the Q1:1982 drop of 6.8%

Recession began in Dec. 2007. Economic toll of credit crunch, housing slump, labor market contraction was severe

2013 is expected to see uneven growth, then gradually accelerate throughout the year and into 2014

Demand for Insurance Continues To Be Impacted by Sluggish Economic Conditions, but the Benefits of Even Slow Growth Will Compound and Gradually Benefit the Economy Broadly

* Estimates/Forecasts from Blue Chip Economic Indicators.
Source: US Department of Commerce, Blue Economic Indicators 7/13; Insurance Information Institute.
North Dakota was the economic growth juggernaut of the US in 2012—by far

Texas has had the 2nd fastest growing economy in the US in 2012

Only 10 states experienced growth in excess of 3%, which is what we would see nationally in a more typical recovery.

Real GDP by State Percent Change, 2012: Lowest 25 States

Federal Spending as a Share of State GDP: Vulnerability to Sequestration Varies

Some Mid-Atlantic and Southern states are more vulnerable to the effects of sequestration.

Defense and Non-Defense Federal Spending as a Share of State GDP: Top 10 States*

**Defense Spending**

Federal defense spending accounts for approximately 10%+ of GDP in 5 states

**Non-Defense Spending**

Federal non-defense spending accounts for 10%+ of GDP in 3 states

Sequestration Could Adversely Impact Commercial Insurance Exposures Directly at Defense Contractors and Indirectly in Impacted Communities

*As of 2010.
The economic outlook for most of New England is relatively strong, suggesting future strength in the creation of insurable exposures.
Consumer confidence has been low for years amid high unemployment, falling home prices and other factors adversely impact consumers, but improved substantially over the past two years.

Optimism among consumers has remained fairly strong despite tax hikes, federal budget concerns. May’s reading was the highest since July 2007.
Auto/Light Truck Sales, 1999-2019F

Car/Light Truck Sales Will Continue to Recover from the 2009 Low Point, Bolstering the Auto Insurer Growth and the Manufacturing Sector Along With Workers Comp Exposures

New auto/light truck sales fell to the lowest level since the late 1960s. Forecast for 2013-14 is still below 1999-2007 average of 17 million units, but a robust recovery is well underway.

Job growth and improved credit market conditions will boost auto sales in 2013 and beyond.

Truck purchases by contractors are especially strong.

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (7/13 and 3/13); Insurance Information Institute.
Personal Auto Insurance Direct Written Premiums vs. Recently-Registered Cars

- % of registered cars under 3 years old
- Auto Ins Direct Pms

$ Billions

01 02 03 04 05 06 07 08 09 10 11 12E 13F 14F

In 2004-07 no growth in PP DWP despite strong new car/truck sales

4%/yr growth forecast for PP DWP from recovering new car/truck sales

Average age of registered cars rose as fewer new cars were bought (and insured)

New car/truck sales grow to 14-15M/year

PP DWP, flat from 2004-2009, is rising again. Conning forecasts growth at 3.5% in 2013 and 4.0% in 2014.

Sources: AIPSO Facts (various issues); SNL Financial; Conning Research & Consulting, Property-Casualty Forecast and Analysis, First Quarter 2012; Insurance Information Institute.
Monthly Change* in Auto Insurance Prices, 1991–2013*

Cyclical peaks in PP Auto tend to occur approximately every 10 years (early 1990s, early 2000s and likely the early 2010s)

Pricing peak occurred in late 2010 at 5.3%, falling to 2.8% by Mar. 2012

“Hard” markets tend to occur during recessionary periods

The June 2013 reading of 3.9% is up from 3.0% a year earlier

*Percentage change from same month in prior year; through June 2013; seasonally adjusted
Note: Recessions indicated by gray shaded columns.
Sources: US Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institutes.
Monthly Change* in Auto Insurance Prices, January 2005 - June 2013

(Percent Change from same month, prior year)

Auto Insurance Price Increases Averaged 5.1% in 2010 over 2009, After Averaging 4.5% in 2009 over 2008.

Pricing weakened materially in 2011 and early 2012 but has strengthened since then

PPA Auto, like most p/c lines, exhibits strong cyclicalit in pricing. Prices rose from 2000 to late 2005, were flat/falling in 2006 and 2007 before beginning to rise gain in 2008.

Underwriting performance remained strong even when prices were flat or falling due to improvements in underlying frequency and severity trends

*Percentage change from same month in prior year, seasonally adjusted.
Sources: US Bureau of Labor Statistics; Insurance Information Institute
New Private Housing Starts, 1990-2019F

(Thousands of Units)

New home starts plunged 72% from 2005-2009; A net annual decline of 1.49 million units, lowest since records began in 1959

Insurers Are Starting to See Meaningful Exposure Growth for the First Time Since 2005 Associated with Home Construction: Construction Risk Exposure, Surety, Commercial Auto; Potent Driver of Workers Comp Exposure

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (7/13 and 3/13); Insurance Information Institute.
Average Premium for Home Insurance Policies**

Countrywide Home Insurance Expenditures Increased by an Estimated 4.0% in 2011-2013

* Insurance Information Institute Estimates/Forecasts  **Excludes state-run insurers.
Source: NAIC, Insurance Information Institute estimates for 2011-2013 based on CPI data and other data.
Construction employment growth accelerated in the second half of 2012. Continued growth in this key sector is possible through 2013. Construction is a key driver of workers comp exposure growth.

*Seasonally adjusted
The “Great Recession” and housing bust destroyed 2.3 million construction jobs.

Construction employment troughed at 5.435 million in Jan. 2011, after a loss of 2.291 million jobs, a 29.7% plunge from the April 2006 peak.

Construction employment as of June 2013 totaled 5.812 million, an increase of 377,000 jobs or 6.9% from the Jan. 2011 trough.


Note: Recession indicated by gray shaded column.
Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2013:Q1

Note: Recession indicated by gray shaded column. Data are seasonally adjusted annual rates.

Sources: [http://research.stlouisfed.org/fred2/series/WASCUR](http://research.stlouisfed.org/fred2/series/WASCUR); National Bureau of Economic Research (recession dates); Insurance Information Institute.
Commercial & Industrial Loans Outstanding at FDIC-Insured Banks, Quarterly, 2006-2013*

Outstanding loan volume has been growing for over two years and (as of year-end 2012) surpassed previous peak levels.

*Latest data as of 6/14/2013.
Source: FDIC at http://www2.fdic.gov/qbp/ (Loan Performance spreadsheet); Insurance Information Institute.
Non-current loans (those past due 90 days or more or in nonaccrual status) are back to early-recession levels, fueling bank willingness to lend.

*Latest data as of 3/18/2013.
Source: FDIC at [http://www2.fdic.gov/qbp/](http://www2.fdic.gov/qbp/) (Loan Performance spreadsheet); Insurance Information Institute.
**Value of Construction Put in Place, May 2013 vs. May 2012**

**Growth (%)**

**Private: +10.6%**

- Total Construction: 5.4%
- Total Private Construction: 10.6%
- Residential—Private: 23.1%
- Non-Residential—Private: -0.9%

**Public: -4.7%**

- Total Public Construction: 4.1%
- Residential—Public: -4.7%
- Non-Residential—Public: -4.9%

*Public sector construction activity remains depressed*

Private sector construction activity is up in the residential segment but down in nonresidential.

**Overall Construction Activity is Up, But Growth Is Entirely in the Private Sector as State/Local Government Budget Woes Continue**

*seasonally adjusted
Source: U.S. Census Bureau, [http://www.census.gov/construction/c30/c30index.html](http://www.census.gov/construction/c30/c30index.html); Insurance Information Institute.*
Value of Private Construction Put in Place, by Segment, May 2013 vs. May 2012*

Led by the Residential Construction, Lodging and Office segments, private sector construction activity remains mixed after plunging during the “Great Recession.” Most segments expanded in 2012 but weakened in early 2013.

Private Construction Activity is Up in Some Segments, Including the Key Residential Construction Sector, But Weakening in Early 2013

*seasonally adjusted
Source: U.S. Census Bureau, [http://www.census.gov/construction/c30/c30index.html](http://www.census.gov/construction/c30/c30index.html); Insurance Information Institute.
Value of Public Construction Put in Place, by Segment, May 2013 vs. May 2012*

Public sector construction activity is down substantially in most segments, a situation that will likely persist, dragging on public entity risk exposures.

Public Construction Activity is Down in Many Segments as State and Local Budgets Remain Under Stress; Improvement Possible in 2014.

*seasonally adjusted
Source: U.S. Census Bureau, [http://www.census.gov/construction/c30/c30index.html](http://www.census.gov/construction/c30/c30index.html) ; Insurance Information Institute.
The manufacturing sector expanded for 39 of the 42 months from Jan. 2010 through June 2013. Recent weakness stems largely from woes in Europe and a Slowdown in China.

The value of Manufacturing Shipments in Apr. 2013 were up 34% to $478.7B from its May 2009 trough. March figure is now 2.2% below its previous record high in Feb. 2013. Modest weakening in recent months.


*seasonally adjusted
Manufacturing Growth for Selected Sectors, 2013 vs. 2013*

**Durables:** +2.6%

**Non-Durables:** -0.2%

Manufacturing of durable goods was especially strong in 2012 but weakened in 2013.

Manufacturing Is Expanding—Albeit More Slowly—Across a Number of Sectors that Will Contribute to Growth in Insurable Exposures Including: WC, Commercial Property, Commercial Auto and Many Liability Coverages

*Seasonally adjusted; Date are YTD comparing data through May 2013 to the same period in 2012.
Recovery in Capacity Utilization is a Positive Sign for Commercial Exposures

March 2001 through April 2013

Percent of Industrial Capacity

66% 68% 70% 72% 74% 76% 78% 80% 82%

The US operated at 77.8% of industrial capacity in Apr. 2013, well above the June 2009 low of 66.9% but is still below pre-recession levels.

The closer the economy is to operating at “full capacity,” the greater the inflationary pressure.

October 2001-December 2001 recession

March 2001-November 2001 recession

December 2007-June 2009 Recession

Manufacturing employment is up by more than 500,000 or 4.4% since Jan. 2010—a surprising source of strength in the economy. The sector has weakened recently as US corporations remains cautious and Europe, China slow.

*Seasonally adjusted

Non-manufacturing industries have been expanding and adding jobs. The question is whether this will continue.

Significant Exposure Implications for All Commercial Lines as Business Bankruptcies Begin to Decline

Sources: American Bankruptcy Institute at http://www.abiworld.org/AM/AMTemplate.cfm?Section=Home&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=61633; Insurance Information Institute
Business Starts Were Down Nearly 20% in the Recession, Holding Back Most Types of Commercial Insurance Exposure, But Are Recovering Slowly

* Data through Sep. 30, 2012 are the latest available as of June 21, 2013; Seasonally adjusted.
Small business optimism is off crisis lows but still suffering from economic and regulatory uncertainty. Confidence today is basically where it was when the crisis began in Dec. 2007.
12 Industries for the Next 10 Years: Insurance Solutions Needed

- Health Care
- Health Sciences
- Energy (Traditional)
- Alternative Energy
- Petrochemical
- Agriculture
- Natural Resources
- Technology (incl. Biotechnology)
- Light Manufacturing
- Insourced Manufacturing
- Export-Oriented Industries
- Shipping (Rail, Marine, Trucking, Pipelines)

Many industries are poised for growth, though insurers’ ability to capitalize on these industries varies widely.
U.S. Insured Catastrophe Loss Update

Catastrophe Losses in Recent Years Have Been Very High
U.S. Insured Catastrophe Losses

($ Billions, 2012 Dollars)

2012 Was the 3rd Highest Year on Record for Insured Losses in U.S. History on an Inflation-Adj. Basis. 2011 Losses Were the 6th Highest. YTD 2013 Running Below Average But Q3 Is Typically the Costliest Quarter.

2012 was likely the third most expensive year ever for insured CAT losses

Record tornado losses caused 2011 CAT losses to surge

*Through 6/2/13. Includes $2.6B for 2013:Q1 (PCS) and $5.32B for the period 4/1 – 6/2/13 (Aon Benfield Monthly Global Catastrophe Recap).
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/ISO; Insurance Information Institute.
Moore, OK, Tornado: Media Coverage Was Generally Favorable

Industry had a highly visible, rapid response as Catastrophe Response Teams massed at the “Command Center” at the First Baptist Church in Moore within 48 hours.

Developed good working relationship with OK Insurance Commissioner John Doak.
Top 16 Most Costly Disasters in U.S. History

(Insured Losses, 2012 Dollars, $ Billions)

Hurricane Sandy could become the 4th or 5th costliest event in US insurance history

Hurricane Irene became the 12th most expensive hurricane in US history in 2011

12 of the 16 Most Expensive Events in US History Have Occurred Over the Past Decade

*PCS estimate as of 4/12/13.
Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.
Top 16 Most Costly World Insurance Losses, 1970-2012*

(Insured Losses, 2012 Dollars, $ Billions)

2012 insured CAT Losses totaled $60B; Economic losses totaled $140B, according to Swiss Re

5 of the top 14 most expensive catastrophes in world history have occurred within the past 3 years (2010-2012)

Hurricane Sandy is now the 6th costliest event in global insurance history

*Figures do not include federally insured flood losses.
**Estimate based on PCS value of $18.75B as of 4/12/13.
Sources: Munich Re; Swiss Re; Insurance Information Institute research.
Natural Disasters in the United States, 1980 – June 2013*
Number of Events (Annual Totals 1980 – June 2013*)

There were 68 natural disaster events in the first half of 2013
There were 460 natural disaster events globally in the first half of 2013 and 905 for full-year 2012.
Losses Due to Natural Disasters Worldwide, 1980–2013* (Overall & Insured Losses)

(Overall and Insured Losses)

(2012 Dollars, $ Billions)

*Through June 30, 2013.
Source: MR NatCatSERVICE

2012 Losses
Overall: $101.1B
Insured: $57.9B

2013: 1st Half Losses
Overall: $45B
Insured: $13B

There is a clear upward trend in both insured and overall losses over the past 30+ years.
2012 was the 2\textsuperscript{nd} or 3\textsuperscript{rd} most expensive year on record for insured catastrophe losses in the US.

Approximately 57\% of the overall cost of catastrophes in the US was covered by insurance in 2012.

2012 Losses
Overall: $101.1B
Insured: $57.9B

Source: MR NatCatSERVICE
First Half 2013 losses were running below 2011 and 2012 but were consistent with the decade prior. Approximately 57% of the overall cost of catastrophes in the US was covered by insurance in 2013:H1.

2013 First Half Losses
Overall: $13.8B
Insured: $7.9B

Source: MR NatCatSERVICE
## Natural Disaster Losses in the United States: 2012

<table>
<thead>
<tr>
<th>As of January 1, 2013</th>
<th>Number of Events</th>
<th>Fatalities</th>
<th>Estimated Overall Losses (US $m)</th>
<th>Estimated Insured Losses (US $m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tropical Cyclone</td>
<td>4</td>
<td>143</td>
<td>52,240</td>
<td>26,360</td>
</tr>
<tr>
<td>Severe Thunderstorm</td>
<td>115</td>
<td>118</td>
<td>27,688</td>
<td>14,914</td>
</tr>
<tr>
<td>Drought</td>
<td>2</td>
<td>0</td>
<td>20,000</td>
<td>16,000†</td>
</tr>
<tr>
<td>Wildfire</td>
<td>38</td>
<td>13</td>
<td>1,112</td>
<td>595</td>
</tr>
<tr>
<td>Winter Storm</td>
<td>2</td>
<td>7</td>
<td>81</td>
<td>38</td>
</tr>
<tr>
<td>Flood</td>
<td>19</td>
<td>3</td>
<td>13</td>
<td>0††</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>184</strong></td>
<td><strong>284</strong></td>
<td><strong>$101,134</strong></td>
<td><strong>$57,907</strong></td>
</tr>
</tbody>
</table>

Source: MR NatCatSERVICE

† - Includes Federal Crop Insurance Losses. †† - Excludes federal flood.
## Natural Disaster Losses in the United States: First Half 2013

<table>
<thead>
<tr>
<th>As of July 1, 2013</th>
<th>Number of Events</th>
<th>Fatalities</th>
<th>Estimated Overall Losses (US $m)</th>
<th>Estimated Insured Losses (US $m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Thunderstorm</td>
<td>29</td>
<td>66</td>
<td>10,180</td>
<td>6,325</td>
</tr>
<tr>
<td>Winter Storm</td>
<td>13</td>
<td>17</td>
<td>2,434</td>
<td>1,255</td>
</tr>
<tr>
<td>Flood</td>
<td>10</td>
<td>9</td>
<td>500</td>
<td>Minor</td>
</tr>
<tr>
<td>Earthquake &amp; Geophysical</td>
<td>5</td>
<td>0</td>
<td>Minor</td>
<td>Minor</td>
</tr>
<tr>
<td>Tropical Cyclone</td>
<td>1</td>
<td>1</td>
<td>Minor</td>
<td>Minor</td>
</tr>
<tr>
<td>Wildfire, Heat, &amp; Drought</td>
<td>11</td>
<td>23</td>
<td>700</td>
<td>365</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>68</strong></td>
<td><strong>116</strong></td>
<td><strong>13,814</strong></td>
<td><strong>7,945</strong></td>
</tr>
</tbody>
</table>

Source: MR NatCatSERVICE
## Significant Natural Catastrophes, 2012
*(Events with $1 billion economic loss and/or 50 fatalities)*

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Estimated Economic Losses (US $m)</th>
<th>Estimated Insured Losses (US $m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>June – Sept 2012</td>
<td>Central US Drought</td>
<td>20,000</td>
<td>16,000†</td>
</tr>
<tr>
<td>March 2 - 3</td>
<td>Thunderstorms</td>
<td>5,000</td>
<td>2,500</td>
</tr>
<tr>
<td>April 2 – 4</td>
<td>Thunderstorms</td>
<td>1,550</td>
<td>775</td>
</tr>
<tr>
<td>April 13- 15</td>
<td>Thunderstorms</td>
<td>1,800</td>
<td>910</td>
</tr>
<tr>
<td>April 28 – 29</td>
<td>Thunderstorms</td>
<td>4,500</td>
<td>2,500</td>
</tr>
<tr>
<td>May 25 – 30</td>
<td>Thunderstorms</td>
<td>3,400</td>
<td>1,700</td>
</tr>
<tr>
<td>June 6 – 7</td>
<td>Thunderstorms</td>
<td>1,400</td>
<td>1,000</td>
</tr>
<tr>
<td>June 11 – 13</td>
<td>Thunderstorms</td>
<td>1,900</td>
<td>950</td>
</tr>
<tr>
<td>June 28 – July 2</td>
<td>Thunderstorms</td>
<td>4,000</td>
<td>2,000</td>
</tr>
<tr>
<td>August 26 - 30</td>
<td>Hurricane Isaac</td>
<td>2,000</td>
<td>1,220</td>
</tr>
<tr>
<td>October 28 - 30</td>
<td>Hurricane Sandy</td>
<td>50,000</td>
<td>25,000††</td>
</tr>
</tbody>
</table>

Source: MR NatCatSERVICE  
† - Includes Federal Crop Insurance Losses.; † † - Excludes NFIP losses.
Average thunderstorm losses are up 7 fold since the early 1980s. The 5-year running average loss is up sharply.

Hurricanes get all the headlines, but thunderstorms are consistent producers of large scale loss. 2008-2012 are the most expensive years on record.

1st Half 2013 thunderstorm losses total $6.325B; The system that included the EF-5 tornado in Moore, OK, accounted for $1.575B

Source: Property Claims Service, MR NatCatSERVICE
Convective events are those caused by straight-line winds, tornadoes, hail, heavy precipitation, flash floods and lightning.

The frequency of convective events has risen tremendously over the past 30+ years.
Convective Loss Events in the U.S.
Overall and insured losses 1980 – 2012 and First Half 2013

Overall losses (in 2012 values)

Insured losses (in 2012 values)

The insured and total economic cost of convective events has rising tremendously over the past 30+ years

Analysis contains: straight-line winds, tornadoes, hail, heavy precipitation, flash floods and lightning

Convective events are those caused by straight-line winds, tornadoes, hail, heavy precipitation, flash floods and lightning

Source: Geo Risks Research, NatCatSERVICE – As at July 2013
New Research Suggests Increase in Convective Activity Is Costly for Insurers

- Study examines convective (hail, tornado, thundersquall and heavy rainfall) events in the US with losses exceeding US$ 250m in the period 1970–2009 (80% of all losses)
- Past losses are normalized (i.e., adjusted) to currently exposed values
- After normalization there are still increases of losses
- Increases are correlated with the increase in the meteorological potential for severe thunderstorms and its variability

For the first time research shows that climatic changes have already influenced US thunderstorm losses

Source: Munich Re research paper, March 18, 2013: Rising Variability in Thunderstorm-Related U.S. Losses as a Reflection of Changes in Large-Scale Thunderstorm Forcing.
Natural Catastrophes January – June 2013
World map with significant events

- Natural catastrophes
  - Severe storms, tornadoes
    - USA, 18–20 March
  - Floods
    - Canada, June
    - Europe, June
  - Winter storm
    - USA, 7–11 April
  - Severe storms, tornadoes
    - USA, 18–19 March
  - Floods
    - India, June
  - Earthquake
    - China, 20 April
  - Floods
    - Indonesia, 15–22 January
    - Australia, 21–31 January

- Geophysical events
  - (earthquake, tsunami, volcanic activity)
- Meteorological events
  - (storm)
- Hydrological events
  - (flood, mass movement)
- Climatological events
  - (extreme temperature, drought, wildfire)

Number of events: 460

Source: 2013 Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatSERVICE – as at June 2013
Natural Loss Events: Full Year 2012

World Map

Number of events: 905

- Natural catastrophes
- Geophysical events (earthquake, tsunami, volcanic activity)
- Hydrological events (flood, mass movement)
- Selection of significant Natural catastrophes
- Meteorological events (storm)
- Climatological events (extreme temperature, drought, wildfire)

Source: Geo Risks Research, NatCatSERVICE – As of January 2013
Top 12 Most Costly Hurricanes in U.S. History

(Insured Losses, 2012 Dollars, $ Billions)

10 of the 12 most costly hurricanes in insurance history occurred over the past 9 years (2004—2012)

Hurricane Irene became the 12th most expensive hurricane in US history in 2011

Hurricane Sandy became the 3rd costliest hurricane in US insurance history

*PCS estimate as of 4/12/13.
Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.
Outlook for 2013 Hurricane Season: 75% Worse Than Average

<table>
<thead>
<tr>
<th>Forecast Parameter</th>
<th>Median (1981-2010)</th>
<th>2013F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Named Storms</td>
<td>12.0</td>
<td>18</td>
</tr>
<tr>
<td>Named Storm Days</td>
<td>60.1</td>
<td>95</td>
</tr>
<tr>
<td>Hurricanes</td>
<td>6.5</td>
<td>9</td>
</tr>
<tr>
<td>Hurricane Days</td>
<td>21.3</td>
<td>40</td>
</tr>
<tr>
<td>Major Hurricanes</td>
<td>2.0</td>
<td>4</td>
</tr>
<tr>
<td>Major Hurricane Days</td>
<td>3.9</td>
<td>9</td>
</tr>
<tr>
<td>Accumulated Cyclone Energy</td>
<td>92.0</td>
<td>165</td>
</tr>
<tr>
<td>Net Tropical Cyclone Activity</td>
<td>103%</td>
<td>175%</td>
</tr>
</tbody>
</table>

## Landfall Probabilities for 2013 Hurricane Season: Above Average

<table>
<thead>
<tr>
<th>Region</th>
<th>Average*</th>
<th>2013F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire US East &amp; Gulf Coasts</td>
<td>52%</td>
<td>72%</td>
</tr>
<tr>
<td>US East Coast Including Florida Peninsula</td>
<td>31%</td>
<td>48%</td>
</tr>
<tr>
<td>Gulf Coast from Florida Panhandle to Brownsville</td>
<td>30%</td>
<td>47%</td>
</tr>
<tr>
<td>Caribbean</td>
<td>42%</td>
<td>61%</td>
</tr>
</tbody>
</table>

*Average over the past century.
Source: Philip Klotzbach and Dr. William Gray, Colorado State University, June 2013.
Total Value of Insured Coastal Exposure in 2012

(2012, $ Billions)

- New York: $2,923.1
- Florida: $2,862.3
- Texas: $1,175.3
- Massachusetts: $849.6
- New Jersey: $713.9
- Connecticut: $567.8
- Louisiana: $293.5
- S. Carolina: $239.3
- Virginia: $182.3
- Maine: $164.6
- North Carolina: $163.5
- Alabama: $118.2
- Georgia: $106.7
- Delaware: $81.9
- New Hampshire: $64.0
- Mississippi: $60.6
- Rhode Island: $58.3
- Maryland: $17.3

$1.175 Trillion insured coastal exposure in Texas in 2012, up $280.2 billion or 33.1% since 2007—well above the 20% for overall coastal exposure growth.

In 2012, New York ranked as the #1 Most Exposed State to Hurricane Loss, Overtaking Florida with $2.862 Trillion. Texas is very exposed too, and ranked #3 with $1.175 Trillion in insured coastal exposure.

The insured value of all coastal property was $10.6 trillion in 2012, up 20% from $8.9 trillion in 2007 and up 48% from $7.2 trillion in 2004.

Source: AIR Worldwide
Total Value of Insured Coastal Exposure in 2007

(2007, $ Billions)

- Florida: $2,458.6
- New York: $2,378.9
- Texas: $895.1
- Massachusetts: $772.8
- New Jersey: $635.5
- Connecticut: $479.9
- Louisiana: $224.4
- S. Carolina: $191.9
- Virginia: $158.8
- Maine: $146.9
- North Carolina: $132.8
- Alabama: $92.5
- Georgia: $85.6
- Delaware: $60.6
- New Hampshire: $55.7
- Mississippi: $51.8
- Rhode Island: $54.1
- Maryland: $14.9

In 2007, Florida Still Ranked as the #1 Most Exposed State to Hurricane Loss, with $2.459 Trillion Exposure, but Texas is very exposed too, and ranked #3 with $895B in insured coastal exposure.

The Insured Value of All Coastal Property Was $8.9 Trillion in 2007, Up 24% from $7.2 Trillion in 2004.

Source: AIR Worldwide
Total Potential Home Value Exposure to Storm Surge Risk in 2013*

($) Billions

- Florida: $386.5
- Texas: $51 billion
- New York: $135.0
- New Jersey: $118.8
- Virginia: $78.0
- Louisiana: $72.0
- S. Carolina: $65.6
- N. Carolina: $65.2
- Connecticut: $50.3
- Massachusetts: $35.0
- Maryland: $22.4
- Georgia: $20.5
- Delaware: $15.9
- Mississippi: $10.4
- Rhode Island: $7.2
- Alabama: $4.7
- Maine: $3.1
- New: $2.7
- Pennsylvania: $2.6
- DC: $0.6

Texas has $51 billion in home value is exposed to storm surge.

The Value of Homes Exposed to Storm Surge was $1.147 Trillion in 2013.* Only a fraction of this is insured, hence the huge demand for federal aid following major coastal flooding events.

*Insured and uninsured property. Based on estimated property values as of April 2013.
Source: Storm Surge Report 2013, CoreLogic.
NHC shooting for mid-season for deployment. First of many ways of distributing storm-surge forecasts.
Storm Surge Warning

- Separate from the Hurricane Warning
- Different timing than Hurricane Warning
- Development, plan, test in 2013 & 2014
- Deploy in 2015
U.S. Insured Catastrophe Losses by Cause of Loss, 2011 ($ Millions)

Thunderstorm/Tornado losses were 2.5 times above the 30-year average

Thunderstorms (Incl. Tornadoes, $25,813)

Wildfires, $855

Other, $1,000

Flood, $535 (1.5%)

Geological Events, $50 (0.1%)

Winter Storms, $2,017

Hurricanes & Tropical Storms, $5,510

2011’s insured loss distribution was unusual with tornado and thunderstorm accounting for the vast majority of loss.

Source: ISO’s Property Claim Services Unit, Munich Re; Insurance Information Institute.
Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1992–2011

1. Catastrophes are defined as events causing direct insured losses to property of $25 million or more in 2009 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses.
4. Includes wildland fires.
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO’s Property Claim Services Unit.

**Wind losses are by far cause the most catastrophe losses, even if hurricanes/TS are excluded.**

**Insured cat losses from 1992-2011 totaled $384.3B, an average of $19.2B per year or $1.6B per month.**

- **Wind/Hail/Flood (3), $14.8B**
- **Fires (4), $6.0B**
- **Other (5), $1.4B**
- **Geological Events, $18.2B**
- **Terrorism, $24.4B**
- **Winter Storms, $28.2B**
- **Tornadoes (2), $130.2B**
- **Hurricanes & Tropical Storms, $161.3B**

Tornado share of CAT losses is rising.
Avg. catastrophe claim cost rose approximately 200% from 1997-2011

Cat claim frequency in 2011 was at historic highs and more than double the rate in 1997

Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2012*

Combined Ratio Points

The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades

Notes: Private carrier losses only. Excludes loss adjustment expenses and reinsurance reinstatement premiums. Figures are adjusted for losses ultimately paid by foreign insurers and reinsurers.

Source: ISO (1960-2011); A.M. Best (2012E) Insurance Information Institute.
### Homeowners Insurance Combined Ratio: 1990–2015F

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
<td>90</td>
<td>113.0</td>
</tr>
<tr>
<td>91</td>
<td>117.7</td>
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<tr>
<td>92</td>
<td>118.4</td>
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<td>93</td>
<td>112.7</td>
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<td>94</td>
<td>121.7</td>
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<tr>
<td>95</td>
<td>101.0</td>
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<tr>
<td>96</td>
<td>109.4</td>
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<tr>
<td>97</td>
<td>108.2</td>
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<tr>
<td>98</td>
<td>111.4</td>
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<td>99</td>
<td>121.7</td>
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<td>09</td>
<td>122.2</td>
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<td>104.4</td>
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<td>13F</td>
<td>100.7</td>
</tr>
<tr>
<td>14F</td>
<td>100.7</td>
</tr>
<tr>
<td>15F</td>
<td></td>
</tr>
</tbody>
</table>

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**Homeowners Performance in 2011/12 Impacted by Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity**

**Sources:** A.M. Best (1990-2011); Conning (2012E-2015F); Insurance Information Institute.
Federal Disaster Declaration Patterns: 1953-2013

Disaster Declarations Set New Records in Recent Years


Federal Disasters Declarations by State, 1953 – 2013: Highest 25 States*

Over the past 60 years, Texas has had the highest number of Federal Disaster Declarations


Federal Disasters Declarations by State, 1953 – 2013: Lowest 25 States*

Over the past 60 years, Wyoming and Rhode Island had the fewest number of Federal Disaster Declarations.


Damage from Tornadoes, Large Hail and High Winds Keep Insurers Busy
There were 630 tornadoes through July 3, causing extensive property damage in several states.

The storm system that spawned the deadly EF-5 tornado on May 19 in Moore, OK, produced insured losses of $1.575 billion.

U.S. Tornado Count, 2005-2013*

*Through July 6, 2013.
Source: http://www.spc.noaa.gov/wcm/.
Location of Large Hail Reports: Through July 3, 2013

There were 3,716 “Large Hail” reports through July 3, causing extensive property and vehicle damage.

Large hail reports were heavily concentrated in the Plains states.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2013_annual_summary.html#
Wind damage reports were more heavily concentrated in the Southeast.

There were 7,371 “Wind Damage” reports through July 3, causing extensive property damage.
Severe Weather Reports: Through July 22, 2013

There were 13,667 severe weather reports through July 22; including 663 tornadoes; 4,111 “Large Hail” reports and 8,892 high wind events.

Severe weather reports are concentrated east of the Rockies.

Source: NOAA Storm Prediction Center; [http://www.spc.noaa.gov/climo/online/monthly/2013_annual_summary.html](http://www.spc.noaa.gov/climo/online/monthly/2013_annual_summary.html)
There were 22,503 severe weather reports in 2011; including 1,119 tornadoes; 7,033 “Large Hail” reports and 14,351 high wind events.

Source: NOAA Storm Prediction Center; http://www.spc.noaa.gov/climo/online/monthly/2012_annual_summary.html#
Boston Marathon Bombings Underscore the Need for Extension of the Terrorism Risk Insurance Program

Terrorism Risk Insurance Program

- Reauthorization Was a Major Industry Initiative for 2013 Even Before Boston
- I.I.I. Testified at First Congressional Hearing on 9/11/12
  - Provided testimony at NYC hearing on 6/17/13
- I.I.I. Accelerated Planned Study on Terrorism Risk and Insurance in the Wake of Boston and Was Well Received
  - *Terrorism: A Constant Threat* issued in June 2013
Terrorism Risk Insurance Program

- Boston Marathon Bombing Has Helped Focus Attention in Congress on TRIPRA and its Looming Expiration
  - Act expires 12/31/14
  - Exclusionary language will likely be inserted for post-1/1/2014 renewals and will likely lead to significant media interest (educational opportunity)
  - Numerous headwinds; not a priority issue in 2013 in Congress
  - 3 extension bills introduced in 2013—2 since Boston

- Media Interest Soared
  - I.I.I. was conducting its first interviews within minutes after live-tweeting (nearly) from the scene; TV interest was high
  - Local, national and international media focused on this topic for the first time in any significant way since TRIA’s inception in late 2002
  - Inquiries revealed very little/no understanding (or even awareness) outside insurance industry and business owners
  - Certification process caused confusion
## Summary of Terrorism Risk Insurance Program Extension Bills Introduced in 2013

<table>
<thead>
<tr>
<th>Bill</th>
<th>Summary</th>
</tr>
</thead>
</table>
• Extend recoupment period for any TRIA assistance from 2017 to 2019                                                                                       |
| H.R. 2146: “Terrorism Risk Insurance Program Reauthorization Act of 2013” | • 10-Year Extension (through 2024)  
• Extend recoupment period for any TRIA assistance from 2017 to 2024  
• Requires President’s Working Group on Financial Markets (PWGFM) to issue reports on long-term availability and affordability of terrorism insurance in 2017, 2020 and 2023  
• Reports to be drafted with consultation from NAIC and representatives of the insurance and securities industries and policyholders |
| H.R. 1945: “Fostering Resilience to Terrorism Act of 2013” | • 10-Year Extension (through 2024)  
• Recoupment period changed to 2024  
• Would transfer responsibility for certification of a “act of terrorism” to the Secretary of Homeland Security from Secretary of Treasury.  
• PWGFM to issue reports in 2017, 2020 and 2023  
• Requires Sec. of DHS to provide insureds with “timely homeland security information, including terrorism risk information, at the appropriate level of classification and information on best practices to foster resilience to an act of terrorism.” |

The threat of terrorism is highest in South Asia, Russia, the Middle East and Central and East Africa.

The US is still considered to be at “Medium Risk” for a terrorist attack.

Sources: Maplecroft Terrorism Risk Index; (2011); Guy Carpenter; Insurance Information Institute.
Loss Distribution by Type of Insurance from Sept. 11 Terrorist Attack ($ 2011)

($ Billions)

- Life: $1.2 (3%)
- Aviation Liability: $4.3 (11%)
- Other Liability: $4.9 (12%)
- Business Interruption: $13.5 (33%)
- Property - WTC 1 & 2*: $4.4 (11%)
- Property - Other: $7.4 (19%)
- Aviation Hull: $0.6 (2%)
- Event Cancellation: $1.2 (3%)
- Workers Comp: $2.2 (6%)

Total Insured Losses Estimate: $40.0B**

*Loss total does not include March 2010 New York City settlement of up to $657.5 million to compensate approximately 10,000 Ground Zero workers or any subsequent settlements.

**$32.5 billion in 2001 dollars.

Source: Insurance Information Institute.
**Terrorism Violates Traditional Requirements for Insurability**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Definition</th>
<th>Violation</th>
</tr>
</thead>
</table>
| **Estimable Frequency** | • Insurance requires large number of observations to develop predictive rate-making models (an actuarial concept known as credibility) | • Very few data points  
• Terror modeling still in infancy, untested.  
• Inconsistent assessment of threat |
| **Estimable Severity** | • Maximum possible/ probable loss must be at least estimable in order to minimize “risk of ruin” (insurer cannot run an unreasonable risk of insolvency though assumption of the risk) | • Potential loss is virtually unbounded.  
• Losses can easily exceed insurer capital resources for paying claims.  
• Extreme risk in workers compensation and statute forbids exclusions. |

Source: Insurance Information Institute
## Terrorism Violates Traditional Requirements for Insurability (cont’d)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Definition</th>
<th>Violation</th>
</tr>
</thead>
</table>
| **Diversifiable Risk**       | • Must be able to spread/distribute risk across a large number of risks  
• “Law of Large Numbers” helps make losses manageable and less volatile | • Losses likely highly concentrated geographically or by industry (e.g., WTC, power plants)                                                                                                                  |
| **Random Loss Distribution/Fortuity** | • Probability of loss occurring must be purely random and fortuitous  
• Events are individually unpredictable in terms of time, location and magnitude | • Terrorism attacks are planned, coordinated and deliberate acts of destruction  
• Dynamic target shifting from “hardened targets” to “soft targets”  
• Terrorist adjust tactics to circumvent new security measures  
• Actions of US and foreign govts. may affect likelihood, nature and timing of attack |
Public Opinion Survey

Industry Favorability Ratings
Policy Forms & Disclosure
Disaster Preparedness
I.I.I. Poll: Favorability

Percent of Public Rating Industry as Very or Mostly Favorable, 2013

Viewed separately, auto and home insurers have highest favorability ratings of all industries surveyed.

Auto Insurers and Home Insurers Ranked Highest.

Source: Insurance Information Institute Annual Pulse Survey.
Q. Do you think that it is fair that people who live in areas affected by record storms in 2011 and 2012 should pay more for their homeowners insurance in the future?

Public believes it is not fair to raise premiums of homeowners due to events they cannot control.

Nearly 60 percent of Americans believe that homeowners insurance premiums should not be raised as a result of recent storms in their areas.

Source: Insurance Information Institute Annual Pulse Survey.
Q. The federal government plans to raise the price of flood insurance so it reflects the costs of paying claims. Do you believe this is fair?

[% Responding “NO”]

Most people believe it is unfair for government to raise flood insurance premiums, even though they are subsidized by taxpayers.

More than one-half of Americans do not think it is fair for the federal government to raise its flood insurance premiums to better reflect claims payouts.

Source: Insurance Information Institute Annual Pulse Survey.
Q. Does your homeowners policy cover damage from flooding during a hurricane?¹

The proportion of homeowners who believe their homeowners policy covers damage from flooding during a hurricane stands at 21 percent. This proportion rises eight percentage points in the South, to 29 percent.

¹Asked of those who have homeowners insurance and who responded “yes”.

Source: Insurance Information Institute Annual Pulse Survey.
Q. Have recent flooding events such as Hurricane Sandy or Hurricane Irene motivated you to buy flood coverage?¹

Despite recent major flood events, few people see the need to buy coverage.

Recent storms have not motivated people to buy flood insurance coverage.

¹Asked of those who have homeowners insurance but not flood insurance.

Source: Insurance Information Institute Annual Pulse Survey.
I.I.I. Poll: Disaster Preparedness

Q. If you expect some relief from the government, do you purchase less insurance coverage against these natural disasters than you would have otherwise?

Seventy-two percent of Americans would not purchase less insurance if they expect some relief from the government—but 22% would.

Source: Insurance Information Institute Annual *Pulse* Survey.
Growth Analysis by State and Business Segment

Premium Growth Rates Vary Tremendously by State
Direct Premiums Written: Total P/C
Percent Change by State, 2007-2012*

Top 25 States

Louisiana was a growth leader over the past 5 years even though premiums written only expanded by 4.5%

*Data are preliminary as of 5/1/13 and do not yet fully reflect the impact of state-run pools and plans.
Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Total P/C Percent Change by State, 2007-2012*

Bottom 25 States

*Data are preliminary as of 5/1/13 and do not yet fully reflect the impact of state-run pools and plans.

Sources: SNL Financial LC.; Insurance Information Institute.
Top 25 States

A limited number of states showed strong growth over the past 5 years

Sources: SNL Financial LC.; Insurance Information Institute.
Bottom 25 States

NY’s change in premium growth was similar to the US average

States with the poorest performing economies also produced the most negative net change in premiums of the past 5 years

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: PP Auto
Percent Change by State, 2006-2011*

Top 25 States

Sources: SNL Financial LC.; Insurance Information Institute.
### Direct Premiums Written: PP Auto

#### Percent Change by State, 2006-2011*

<table>
<thead>
<tr>
<th>State</th>
<th>Percent Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY</td>
<td>1.8</td>
</tr>
<tr>
<td>IN</td>
<td>1.7</td>
</tr>
<tr>
<td>AL</td>
<td>1.6</td>
</tr>
<tr>
<td>US</td>
<td>1.6</td>
</tr>
<tr>
<td>IL</td>
<td>1.2</td>
</tr>
<tr>
<td>PA</td>
<td>1.2</td>
</tr>
<tr>
<td>OR</td>
<td>1.2</td>
</tr>
<tr>
<td>CO</td>
<td>1.1</td>
</tr>
<tr>
<td>ID</td>
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<td>CT</td>
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<td>FL</td>
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<td>MS</td>
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<td>NY</td>
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<td>NH</td>
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<td>NH</td>
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<tr>
<td>AZ</td>
<td>-9.5</td>
</tr>
<tr>
<td>MI</td>
<td>-10.1</td>
</tr>
</tbody>
</table>

*Bottom 25 States*

States with the poorest performing economies also produced the most negative net change in premiums of the past 5 years.

OR and ID saw sluggish PPA growth in recent years.

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Homeowners
Percent Change by State, 2006-2011*

Top 25 States

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Homeowners
Percent Change by State, 2006-2011*

Bottom 25 States

States with the poorest performing economies also produced the most negative net change in premiums of the past 5 years.

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Comm. Lines
Percent Change by State, 2006-2011*

Top 25 States

Only 12 states showed any commercial lines growth 2006 and 2011

Sources: SNL Financial LC.; Insurance Information Institute.
States with the poorest performing economies also produced the most negative net change in premiums of the past 5 years.

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Workers’ Comp Percent Change by State, 2006-2011*

Top 25 States

*Excludes monopolistic fund states: ND, OH, WA, WY as well as WV, which transitioned to a competitive structure during this period.

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Worker’s Comp
Percent Change by State, 2006-2011*

Bottom 25 States

States with the poorest performing economies also produced the most negative net change in premiums of the past 5 years

*Excludes monopolistic fund states: ND, OH, WA, WY as well as WV, which transitioned to a competitive structure during this period.

Sources: SNL Financial LC.; Insurance Information Institute.
Massive Job Losses Sapped the Economy and Commercial/Personal Lines Exposure, But Trend is Improving
Unemployment and Underemployment Rates: Stubbornly High in 2012, But Falling

Traditional Unemployment Rate U-3

Unemployment + Underemployment Rate U-6

January 2000 through June 2013, Seasonally Adjusted (%)

Unemployment stood at 7.6% in June 2013—nearly its lowest level in 4 years.

Unemployment peaked at 10.1% in October 2009, highest monthly rate since 1983.

Peak rate in the last 30 years: 10.8% in November - December 1982

Stubbornly high unemployment and underemployment constrain overall economic growth, but the job market is now clearly improving

Monthly Change in Private Employment

January 2007 through June 2013 (Thousands)

Monthly Losses in Dec. 08–Mar. 09 Were the Largest in the Post-WW II Period

Jobs Created
2012: 2.247 Mill
2011: 2.420 Mill
2010: 1.235 Mill

202,000 private sector jobs were created in June

Private Employers Added 7.16 million Jobs Since Jan. 2010 After Having Shed 4.98 Million Jobs in 2009 and 3.80 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

Cumulative Change in Private Employment: Dec. 2007—May 2013

December 2007 through May 2013 (Millions)

Cumulative job losses as of June 2013 totaled 1.564 million

Cumulative job losses peaked at 8.765 million in February 2010

All of the jobs “lost” since President Obama took office in Jan. 2009 have been recouped

Private Employers Added 7.16 million Jobs Since Jan. 2010 After Having Shed 4.98 Million Jobs in 2009 and 3.80 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

Cumulative Change in Private Sector Employment: Jan. 2010—June 2013

January 2010 through June 2013* (Millions)

Job gains and pay increases have added more than $600 billion to payrolls since Jan. 2010

Cumulative job gains through June 2013 totaled 7.16 million

Private Employers Added 7.16 million Jobs Since Jan. 2010 After Having Shed 4.98 Million Jobs in 2009 and 3.80 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

Governments at all levels have shed more than 625,000 jobs since Jan. 2010 even as private employers created 7.16 million jobs, though losses may now be stabilizing.

Cumulative job losses through June 2013 totaled 629,000

Governments at all levels are under severe fiscal strain as tax receipts plunged and pension obligations soared during the financial crisis: sequestration will add to this toll.

State government employment fell by 1.9% since the end of 2009 while Federal employment is down by 2.1%.

Local government employment shrank by 480,000 from Jan. 2010 through Apr. 2013, accounting for 65% of all government job losses, negatively impacting WC exposures for those cities and counties that insure privately.

*Cumulative change from prior month; Base employment date is Dec. 2009.

Unemployment Rates by State, June 2013: Highest 25 States*

In June, 28 states had over-the-month unemployment rate increases, 11 states had decreases, and 11 states and the District of Columbia had no change.

*Provisional figures for June 2013, seasonally adjusted.

Unemployment Rates by State, June 2013: Lowest 25 States*

In June, 28 states had over-the-month unemployment rate increases, 11 states had decreases, and 11 states and the District of Columbia had no change.

*Provisional figures for June 2013, seasonally adjusted.
Oil and gas extraction employment is up 22.8% since Jan. 2010 as the energy sector booms. Domestic energy production is essential to any robust economic recovery in the US.

*Seasonally adjusted
Rising unemployment eroded payrolls and workers comp’s exposure base.

Unemployment peaked at 10% in late 2009.

Unemployment forecasts have been revised slightly downwards. Optimistic scenarios put the unemployment as low as 6.5% by Q4 of next year.

* = actual; ** = forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (7/13 edition); Insurance Information Institute.
US Unemployment Rate Forecasts

Quarterly, 2013:Q1 to 2014:Q4

Unemployment will remain high even under the most optimistic of scenarios, but forecasts are being revised downwards.

Sources: Blue Chip Economic Indicators (May 2013); Insurance Information Institute
Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2013:Q1

Billions

$7,250
$7,000
$6,750
$6,500
$6,250
$6,000
$5,750
$5,500

Prior Peak was 2008:Q1 at $6.60 trillion

Recent trough (2009:Q3) was $6.25 trillion, down 5.3% from prior peak

Latest (2013:Q4) was $7.01 trillion, a new peak--$762B above 2009 trough

Payrolls are 12.2% above their 2009 trough and up 2.7% over the past year

Note: Recession indicated by gray shaded column. Data are seasonally adjusted annual rates.
Sources: http://research.stlouisfed.org/fred2/series/WASCUR; National Bureau of Economic Research (recession dates); Insurance Information Institute.
Payroll vs. Workers Comp Net Written Premiums, 1990-2012E

Payroll Base*
$Billions

WC NWP
$Billions

Continued Payroll Growth and Rate Increases Suggest WC NWP Will Grow Again in 2012; +7.9% Growth in 2011 Was the First Gain Since 2005

*Private employment; Shaded areas indicate recessions. WC premiums for 2012 are I.I.I. estimate based YTD 2012 actuals.
Sources: NBER (recessions); Federal Reserve Bank of St. Louis at http://research.stlouisfed.org/fred2/series/WASCUR; NCCI; I.I.I.
The BIG Question:
Where Is the Market Heading?

Catastrophes and Other Factors Are Pressuring Insurance Markets

New Factor: Record Low Interest Rates Are Contributing to Underwriting and Pricing Pressures
INVESTMENTS: THE NEW REALITY

Investment Performance is a Key Driver of Profitability

Depressed Yields Will Necessarily Influence Underwriting & Pricing
Property/Casualty Insurance Industry
Investment Income: 2000–2013*1

Investment Income Fell in 2012 and is Falling in 2013 Due to Persistently Low Interest Rates, Putting Additional Pressure on (Re) Insurance Pricing

Investment earnings are running below their 2007 pre-crisis peak

Investment gains consist primarily of interest and stock dividends.

*Estimate based on annualized actual Q1:2013 investment income of $11.385B.
Sources: ISO; Insurance Information Institute.
Insurers Posted Net Realized Capital Gains in 2010, 2011 and 2012 Following Two Years of Realized Losses During the Financial Crisis. Realized Capital Losses Were the Primary Cause of 2008/2009’s Large Drop in Profits and ROE.
Investment Gains Are Slipping in 2012 as Low Interest Rates Reduce Investment Income and Lower Realized Investment Gains; The Financial Crisis Caused Investment Gains to Fall by 50% in 2008

1 Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.
* 2005 figure includes special one-time dividend of $3.2B;
Sources: ISO; Insurance Information Institute.
Because the Federal Reserve Board aims to keep interest rates exceptionally low until the unemployment rate hits 6.5%—likely at least another year off—maturing bonds will be re-invested at even lower rates.

Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.

*2005 figure includes special one-time dividend of $3.2B; 2013F figure is I.I.I. estimate for 2013:Q1, annualized.

Sources: ISO; Insurance Information Institute.

1994-2012 average yearly gain: $60.85B. We haven’t hit that average in the last 5 years.

1Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.
Yields on 10-Year U.S. Treasury Notes have been essentially below 5% for a full decade.

Yields on 10-Year U.S. Treasury Notes recently plunged to record modern-era lows and remain low by historical standards.

Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.


Yields on 10-Year U.S. Treasury Notes have been essentially below 5% for a full decade.

U.S. Treasury security yields recently plunged to record lows

Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.

*Monthly, constant maturity, nominal rates, through June 2013.

Treasury yield curve remains near its most depressed level in at least 45 years. Investment income is falling as a result. If as Fed I “tapers” rates are unlikely to return to pre-crisis levels anytime soon.

The Fed is actively signaling that it is determined to keep rates low until unemployment drops below 6.5% or until inflation expectations exceed 2.5%; low rates add to pricing pressure for insurers.

Source: Federal Reserve Board of Governors; Insurance Information Institute.
Average Maturity of Bonds Held by US P/C Insurers, 2006—2011*

The average bond maturity is down by a full year between 2007 and 2011

Average Maturity (Years)

Falling Average Maturity (and Duration) of the P/C Industry’s Bond Portfolio is Contributing to the Drop in Investment Income Along With Lower Yields

*Year-end figures. Latest available.
Sources: Insurance Information Institute calculations based on A.M. Best data.
The main shift over these years has been from bonds with longer maturities to bonds with shorter maturities. The industry first trimmed its holdings of over-10-year bonds (from 24.6% in 2003 to 15.5% in 2012) and then trimmed bonds in the 5-10-year category (from 31.3% in 2003 to 27.6% in 2012). Falling average maturity of the P/C industry’s bond portfolio is contributing to a drop in investment income along with lower yields.

Sources: SNL Financial; Insurance Information Institute.
There are many ways to capture higher yields on bond portfolios. One is to accept greater risk, as measured by NAIC bond ratings. The ratings range from 1 to 6, with the highest quality rated 1. Even in 2012, over 95% of the industry’s bonds were rated 1 or 2.

Sources: SNL Financial; Insurance Information Institute.
Because the Federal Reserve Board aims to keep interest rates exceptionally low until the “headline” unemployment rate hits 6.5%, maturing bonds will be re-invested at even lower rates.

When interest rates rise again, the Fair Value of Insurance Industry bonds will fall. How far and how fast the fall occurs depends on many factors, but the direction of change is clear.

Reduction in Combined Ratio Necessary to Offset 1% Decline in Investment Yield to Maintain Constant ROE, by Line*

Lower Investment Earnings Place a Greater Burden on Underwriting and Pricing Discipline

*Based on 2008 Invested Assets and Earned Premiums
**US domestic reinsurance only
Source: A.M. Best; Insurance Information Institute.
Annual Inflation Rates, (CPI-U, %), 1990–2014F

Inflation peaked at 5.6% in August 2008 on high energy and commodity crisis. The recession and the collapse of the commodity bubble reduced inflationary pressures in 2009/10.

The slack in the U.S. economy suggests that inflationary pressures should remain subdued for an extended period of times. Energy, health care and commodity prices, plus U.S. debt burden, remain longer-run concerns.

1. UNDERWRITING

Underwriting Losses in 2011 and 2012 Are Elevated by High Catastrophe Losses
P/C Insurance Industry
Combined Ratio, 2001–2013:Q1*

As Recently as 2001, Insurers Paid Out Nearly $1.16 for Every $1 in Earned Premiums

Heavy Use of Reinsurance Lowered Net Losses

Relatively Low CAT Losses, Reserve Releases

Relatively Low CAT Losses, Reserve Releases

Higher CAT Losses, Shrinking Reserve Releases, Toll of Soft Market

Lower CAT Losses Before Sandy

**Best Combined Ratio Since 1949 (87.6)**

Cyclical Deterioration

Avg. CAT Losses, More Reserve Releases


Sources: A.M. Best, ISO.
Underwriting Gain (Loss) 1975–2013:Q1*

Cumulative underwriting deficit from 1975 through 2012 is $510B

Underwriting profit in 2013:Q1 totaled $4.6B

High cat losses in 2011 led to the highest underwriting loss since 2002

Large Underwriting Losses Are NOT Sustainable in Current Investment Environment

* Includes mortgage and financial guaranty insurers in all years.
Sources: A.M. Best, ISO; Insurance Information Institute.
The combined ratios for both personal and commercial lines improved substantially in 2012, despite Sandy.
Note: 2005 reserve development excludes a $6 billion loss portfolio transfer between American Re and Munich Re. Including this transaction, total prior year adverse development in 2005 was $7 billion. The data from 2000 and subsequent years excludes development from financial guaranty and mortgage insurance.
Sources: A.M. Best, ISO, Barclays Research (estimates).
Underwriting Profits Were Common Before the 1980s (40 of the 60 Years Before 1980 Had Combined Ratios Below 100) – But Then They Vanished. Not a Single Underwriting Profit Was Recorded in the 25 Years from 1979 Through 2003

* 2009 combined ratio excl. mort. and finl. guaranty insurers was 99.3, which would bring the 2000s total to 4 years with an u/w profit.
**Data for the 2010s includes 2010 and 2011.
Note: Data for 1920–1934 based on stock companies only.
Sources: Insurance Information Institute research from A.M. Best Data.
Financial Strength & Underwriting

Cyclical Pattern is P-C Impairment History is Directly Tied to Underwriting, Reserving & Pricing
The Number of Impairments Varies Significantly Over the P/C Insurance Cycle, With Peaks Occurring Well into Hard Markets

Impairment Rates Are Highly Correlated With Underwriting Performance and Reached Record Lows in 2007; Recent Increase Was Associated Primarily With Mortgage and Financial Guaranty Insurers and Not Representative of the Industry Overall

Source: A.M. Best; Insurance Information Institute
Historically, Deficient Loss Reserves and Inadequate Pricing Are By Far the Leading Cause of P-C Insurer Impairments. Investment and Catastrophe Losses Play a Much Smaller Role.
Workers Comp and Pvt. Passenger Auto Account for Nearly Half of the Premium Volume of Impaired Insurers Over the Past Decade

Number of Recessions Endured by P/C Insurers, by Number of Years in Operation

Number of Recessions Since 1860

Insurers are true survivors—not just of natural catastrophes but also economic ones

Many US Insurers Are Close to a Century Old or Older

Sources: Insurance Information Institute research from National Bureau of Economic Research data.
Performance by Segment
Private Passenger Auto Accounts for 34% of Industry Premiums and Remains the Profit Juggernaut of the P/C Insurance Industry

Sources: A.M. Best (1990-2012E); Conning (2013F-15F); Insurance Information Institute.
Homeowners Insurance Combined Ratio: 1990–2015F

Homeowners Performance in 2011/12 Impacted by Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity

Sources: A.M. Best (1990-2011); Conning (2012E-2015F); Insurance Information Institute.
TN and AL had the worst underwriting performance of all states in 2011 due to high tornado and storm losses.
Homeowners Multi-Peril Loss & LAE Ratio, 2011:
Lowest 25 States

HI and FL had the best performance in 2011 due to the absence of hurricanes/tropical storms impacts in either state last year.

Sources: SNL Financial; Insurance Information Institute.
Commercial Lines Combined Ratio, 1990-2015F*

Commercial lines underwriting performance is expected to improve as improvement in pricing environment persists.

*2007-2012 figures exclude mortgage and financial guaranty segments.

Source: A.M. Best (1990-2011); Conning (2012-2015F) Insurance Information Institute
### Commercial Auto Combined Ratio: 1993–2015F

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<tr>
<th>Year</th>
<th>Ratio</th>
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<tbody>
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<td>1993</td>
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<td>95</td>
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<tr>
<td>2015</td>
<td>96</td>
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</tbody>
</table>

**Source:** A.M. Best (1990-2012E); Conning (2012-2015F); Insurance Information Institute.

---

*Commercial Auto is Expected to Improve as Rate Gains Outpace Any Adverse Frequency and Severity Trends*
Commercial Multi-Peril Underwriting Performance is Expected to Improve in 2013 Assuming Normal Catastrophe Loss Activity

*2012-2013 figures are A.M. Best estimate/forecast for the combined liability and non-liability components. Same for Conning 2014-2015F figures.
Sources: A.M. Best; Conning; Insurance Information Institute.

Commercial General Liability Underwriting Performance Has Been Volatile in Recent Years

Source: Conning Research and Consulting.
Inland Marine Combined Ratio: 1999–2015F

Inland Marine is Expected to Remain Among the Most Profitable of All Lines

Sources: A.M. Best (1999-2011); Conning (2012-2015F)
Liability Lines Have Performed Better in the Post-Tort Reform Era (~2005), but There Has Been Some Deterioration in Recent Years

Sources: A.M. Best; Insurance Information Institute.
Medical Malpractice Combined Ratio vs. All Lines Combined Ratio, 1991-2015F

Med Mal Insurers in 2012 paid out $0.91 in loss and expense for every $1 they earned in premiums.

In 2001, med mal insurers paid out $1.55 for every dollar earned.

The dramatic improvement over the past decade has restored med mal’s viability, though some deterioration is anticipated.

The Weak Economy and Soft Market Have Made the Workers Comp Operating Environment Increasingly Challenging
Workers Compensation Combined Ratio: 1994–2012P

Workers Comp Results Began to Improve in 2012. Underwriting Results Deteriorated Markedly from 2007-2010/11 and Were the Worst They Had Been in a Decade.

Sources: A.M. Best (1994-2009); NCCI (2010-2012P) and are for private carriers only; Insurance Information Institute.
Workers Compensation Medical Severity Moderate Increase in 2012

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Average Medical Cost per Lost-Time Claim ($000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991–1993</td>
<td>$8.1, +1.9%</td>
</tr>
<tr>
<td>1994–2001</td>
<td>$8.2, +8.9%</td>
</tr>
<tr>
<td>2002–2011</td>
<td>$8.1, +5.7%</td>
</tr>
</tbody>
</table>

Cumulative Change = 252% (1991-2012p)

2012p: Preliminary based on data valued as of 12/31/2012.
1991-2011: Based on data through 12/31/2011, developed to ultimate
Based on the states where NCCI provides ratemaking services including state funds, excluding WV; Excludes high deductible policies.
Change in Price Paid for Medical Professional Services in WC, 2002-2012*

Increases in WC med costs varied enormously over the past decade from a high of 56% in Wisconsin to a low of 2% in North Carolina.

States in GOLD had no fee schedule in 2012. These generally saw larger increases in WC medical costs over the past decade.

*Data are preliminary as of 6/30/12.
WC Medical Severity Generally Outpaces the Medical CPI Rate

Average annual increase in WC medical severity from 1995 through 2011 was well above the medical CPI (6.8% vs. 3.8%), but the gap is narrowing.

Average indemnity costs per claim were up 1% in 2012 to $22,400

Annual Change 1991–1993: -1.7%
Annual Change 1994–2001: +7.3%
Annual Change 2002–2011: +3.2%

Accident Year

2012p: Preliminary based on data valued as of 12/31/2012.
1991-2011: Based on data through 12/31/2011, developed to ultimate
Based on the states where NCCI provides ratemaking services including state funds, excluding WV; Excludes high deductible policies.
Workers Compensation Lost-Time Claim Frequency Declined in 2012

Lost-Time Claims

Cumulative Change of \(-55.4\%\) (1991–2011 adj.)

Frequency Change: 2007—2012
Contracting: 7.9\(\rightarrow\)7.1 \(-9.3\%\)
Manufacturing: 13.6\(\rightarrow\)12.0 \(-11.8\%\)

Accident Year

*Adjustments primarily due to significant audit activity.
2012p: Preliminary based on data valued as of 12/31/2012
1991–2011: Based on data through 12/31/2011, developed to ultimate
Based on the states where NCCI provides ratemaking services, including state funds; excludes high deductible policies
Frequency is the number of lost-time claims per $1M pure premium at current wage and voluntary loss cost level
WC Indemnity Severity vs. Wage Inflation, 1995 -2012p

Indemnity severities usually outpace wage gains

WC indemnity severity turned positive again in 2011

Annual Change 1991–1993: -1.7%
Annual Change 1994–2001: +7.3%
Annual Change 2002–2011: +3.2%


Source: NCCI
Workers Compensation Premium: Second Consecutive Year of Increase

Net Written Premium

$ Billions

- State Funds ($ B)
- Private Carriers ($ B)


Pvt. Carrier NWP growth was +9.0% in 2012, the best since 2005

Source: 1990–20102p Private Carriers, Annual Statement Data, NCCI.
1996–2012p State Funds: AZ, CA, CO, HI, ID, KY, LA, MD, MO, MT, NM, OK, OR, RI, TX, UT Annual Statements
State Funds available for 1996 and subsequent
2012 Workers Compensation Direct Written Premium Growth, by State*

PRIVATE CARRIERS: Overall 2012 Growth = +9%

While growth rates varied widely, all states experienced growth in excess of 5% in 2012

*Excludes monopolistic fund states (in white): OH, ND, WA and WY.
Source: NCCI.
Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2011:Q4

Billions

Peak was 2008:Q1 at $6.60 trillion

Recent trough (2009:Q3) was $6.25 trillion, down 5.3% from prior peak

Latest (2011:Q4) was $6.71 trillion, a new peak

Growth rates in 2011
Q2 over Q1: 0.6%
Q3 over Q2: 0.4%
Q4 over Q3: 1.0%

Pace of payroll growth is accelerating

Note: Recession indicated by gray shaded column. Data are seasonally adjusted annual rates.
Sources: [http://research.stlouisfed.org/fred2/series/WASCUR](http://research.stlouisfed.org/fred2/series/WASCUR); National Bureau of Economic Research (recession dates); Insurance Information Institute.
Resumption of payroll growth and rate increases suggests WC NWP will grow again in 2012

*Private employment; Shaded areas indicate recessions. Payroll and WC premiums for 2011 is I.I.I. estimate
Sources: NBER (recessions); Federal Reserve Bank of St. Louis at http://research.stlouisfed.org/fred2/series/WASCUR; NCCI; I.I.I.
**Average Approved Bureau Rates/Loss Costs**

**History of Average WC Bureau Rate/Loss Cost Level Changes**

*States approved through 7/31/12.*

Note: Countrywide approved changes in advisory rates, loss costs and assigned risk rates as filed by applicable rating organization.

Source: NCCI.
Current NCCI Voluntary Market Filed Rate/Loss Cost Changes

(Excludes Law-Only Filings)

Effective Dates 1/1/2012 and Prior  Effective Dates Subsequent to 1/1/2012  Filed and Pending

•IN and NC filed in cooperation with state rating bureau

Source: NCCI
Impact of Discounting on Workers Compensation Premium

NCCI States—Private Carriers

Rate/Loss Cost Departure
Schedule Rating
Dividends

Percent

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate/Loss Cost Departure</th>
<th>Schedule Rating</th>
<th>Dividends</th>
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<td>2011</td>
<td>8.0</td>
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Policy Year

Dividend ratios are based on calendar year statistics
NCCI benchmark level does not include an underwriting contingency provision
Based on data through 12/31/2011 for the states where NCCI provides ratemaking services
Source: NCCI.
Workers Comp Rate Changes, 2008:Q4 – 2013:Q1

WC rate changes have been positive for 8 consecutive quarters, longer than any other commercial line

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Information Institute.
2. SURPLUS/CAPITAL/CAPACITY

How Will Large Catastrophe Losses Impact Capacity?
US Policyholder Surplus: 1975–2013*

Surplus as of 3/31/13 was a record $607.7, up 3.6% from $586.9 of 12/31/12, and up 39.0% ($170.6B) from the crisis trough of $437.1B at 3/31/09. Pre-crisis peak was $521.8 as of 9/30/07. Surplus as of 3/31/13 was 16.5% above 2007 peak.

“Surplus” is a measure of underwriting capacity. It is analogous to “Owners Equity” or “Net Worth” in non-insurance organizations.

The Premium-to-Surplus Ratio Stood at $0.77:$1 as of 3/31/13, A Near Record Low (at Least in Recent History)*

* As of 3/31/13.
Policyholder Surplus, 2006:Q4–2013:Q1

2007:Q3 Pre-Crisis Peak

Drop due to near-record 2011 CAT losses

The Industry now has $1 of surplus for every $0.80 of NPW, close to the strongest claims-paying status in its history.

Surplus as of 3/31/13 stood at a record high $607.7B

*Includes $22.5B of paid-in capital from a holding company parent for one insurer’s investment in a non-insurance business in early 2010.


Sources: ISO, A.M. Best.
M&A activity has returned to its pre-crisis levels.

(1) Includes transactions where a U.S. company was the acquirer and/or the target.

Source: Conning proprietary database.
3. REINSURANCE MARKET CONDITIONS

Ample Capacity Despite Heavy Global Catastrophe Activity in Recent Years
### Reinsurer Share of Recent Significant Market Losses

<table>
<thead>
<tr>
<th>Event</th>
<th>Reinsurer Share</th>
<th>Primary Insurer Share</th>
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<tbody>
<tr>
<td>Japan Earthquake/Tsunami (Mar 2011)</td>
<td>$15.0</td>
<td>$22.5</td>
</tr>
<tr>
<td>New Zealand Earthquake (Feb 2011)</td>
<td>$9.5</td>
<td>$13.0</td>
</tr>
<tr>
<td>Thailand Floods (Aug - Nov 2011)</td>
<td>$6.0</td>
<td>$10.0</td>
</tr>
<tr>
<td>Chile Earthquake (Feb. 2010)</td>
<td>$7.9</td>
<td>$8.3</td>
</tr>
<tr>
<td>Australia Cyclone/Floods (Jan-Feb 2011)</td>
<td>$2.8</td>
<td>$5.0</td>
</tr>
</tbody>
</table>

Reinsurers paid a high proportion of insured losses arising from major catastrophic events around the world in recent years.

Source: Insurance Information Institute from reinsurance share percentages provided in RAA, ABIR and CEA press release, Jan. 13, 2011.
Regional Property Catastrophe Rate on Line Index, 1990—2013 (as of January 1)

Property-Cat reinsurance pricing was up in the US as of 1/1/13 but was down in Europe/UK

Sources: Guy Carpenter; Insurance Information Institute.
Reinsurance Capital Is at a Record High

Change in Global Reinsurer Capital

Source: Individual company reports, Aon Benfield Analytics

Source: Reinsurance Association of America from company reports and Aon Benfield Analytics.
Long-Term Evolution of Shareholders’ Funds for the Guy Carpenter Global Reinsurance Composite

Source: Guy Carpenter
CATASTROPHE BONDS, ANNUAL RISK CAPITAL ISSUED, 2002-2012

($ Billions)

Source: GC Securities and Guy Carpenter & Company, LLC.
CATASTROPHE BONDS, RISK CAPITAL OUTSTANDING, 2002-2012

($ Billions)

2002: $2.95
2003: $3.45
2004: $4.04
2005: $4.90
2006: $8.54
2007: $14.02
2008: $12.04
2009: $12.51
2010: $12.18
2011: $11.89
2012: $14.83

Note

Source: GC Securities and Guy Carpenter & Company, LLC.
4. RENEWED PRICING DISCIPLINE

Evidence of a Broad and Sustained Shift in Pricing
Distribution of Direct Premiums Written by Segment/Line, 2010

Distribution Facts

- Personal/Commercial lines split has been about 50/50 for many years; Personal Lines overtook Commercial Lines in 2010
- Pvt. Passenger Auto is by far the largest line of insurance and is currently the most important source of industry profits
- Billions of additional dollars in homeowners insurance premiums are written by state-run residual market plans

Sources: A.M. Best; Insurance Information Institute research.
Net Premium Growth: Annual Change, 1971—2013:Q1

(Percent)

1975-78  1984-87  2000-03

Net Written Premiums Fell 0.7% in 2007 (First Decline Since 1943) by 2.0% in 2008, and 4.2% in 2009, the First 3-Year Decline Since 1930-33.

2013:Q1 = 4.1%
2012 growth was +4.3%

Shaded areas denote “hard market” periods
Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.
Sustained Growth in Written Premiums (vs. the same quarter, prior year) Will Continue through 2013

Sources: ISO, Insurance Information Institute.
Growth in Net Written Premium by Segment, 2012 vs. 2011*

*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute
### Average Commercial Rate Change, All Lines, (1Q:2004–2Q:2013)

<table>
<thead>
<tr>
<th>Period</th>
<th>Rate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q04</td>
<td>-3.2%</td>
</tr>
<tr>
<td>2Q04</td>
<td>-5.9%</td>
</tr>
<tr>
<td>3Q04</td>
<td>-7.0%</td>
</tr>
<tr>
<td>4Q04</td>
<td>-8.2%</td>
</tr>
<tr>
<td>1Q05</td>
<td>-4.6%</td>
</tr>
<tr>
<td>2Q05</td>
<td>-2.7%</td>
</tr>
<tr>
<td>3Q05</td>
<td>-3.0%</td>
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<tr>
<td>4Q05</td>
<td>-5.3%</td>
</tr>
<tr>
<td>1Q06</td>
<td>-9.6%</td>
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<tr>
<td>2Q06</td>
<td>-11.3%</td>
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<tr>
<td>3Q06</td>
<td>-11.8%</td>
</tr>
<tr>
<td>4Q06</td>
<td>-12.0%</td>
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<tr>
<td>1Q07</td>
<td>-13.3%</td>
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<tr>
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<td>-13.5%</td>
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<tr>
<td>3Q07</td>
<td>-12.9%</td>
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<tr>
<td>4Q07</td>
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<tr>
<td>1Q08</td>
<td>-6.4%</td>
</tr>
<tr>
<td>2Q08</td>
<td>-5.1%</td>
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<tr>
<td>3Q08</td>
<td>-4.9%</td>
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<tr>
<td>4Q08</td>
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<tr>
<td>1Q09</td>
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<td>4Q09</td>
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<tr>
<td>1Q10</td>
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<tr>
<td>2Q10</td>
<td>-0.9%</td>
</tr>
<tr>
<td>3Q10</td>
<td>0.9%</td>
</tr>
<tr>
<td>4Q10</td>
<td>2.7%</td>
</tr>
<tr>
<td>1Q11</td>
<td>4.4%</td>
</tr>
<tr>
<td>2Q11</td>
<td>4.3%</td>
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<tr>
<td>3Q11</td>
<td>4.3%</td>
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<tr>
<td>4Q11</td>
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<td>1Q12</td>
<td>5.2%</td>
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<tr>
<td>2Q12</td>
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<tr>
<td>3Q12</td>
<td>4.2%</td>
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<tr>
<td>4Q12</td>
<td>2.9%</td>
</tr>
<tr>
<td>1Q13</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

**Note:** CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

**Source:** Council of Insurance Agents & Brokers; Insurance Information Institute

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Pricing as of Q2:2013 was positive for the 89th consecutive quarter. Gains are likely to continue through 2013.

Q2 2011 marked the last of 30th consecutive quarter of price declines.
Pricing turned positive in Q3:2011, the first increase in nearly 8 years; Q1:2013 renewals were up 5.2%, the largest increase since late 2003; Some insurers posted stronger numbers.

Peak = 2001:Q4 +28.5%

Pricing Turned Negative in Early 2004 and Remained that way for 7 ½ years

Trough = 2007:Q3 -13.6%

KRW: No Lasting Impact

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.
Source: Council of Insurance Agents and Brokers; Barclay’s Capital; Insurance Information Institute.
Cumulative Qtrly. Commercial Rate Changes, by Account Size: 1999:Q4 to 2013:Q1

Despite 8 consecutive quarters of gains (Q4:2012 = 5.0%), pricing today is where it was in mid-2001 (pre-9/11), suggesting additional rate need going forward, esp. in light of record low interest rates.

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Barclay's Capital; Insurance Information Institute.
Cumulative Qtrly. Commercial Rate Changes, by Line: 1999:Q4 to 2013:Q1

1999:Q4 = 100

WC rate levels are rising and are now back to where they were in late 2008 and shortly after 9/11

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Barclay’s Capital; Insurance Information Institute.
Workers Comp. Quarterly Rate Changes, by Line: 2000:Q1 to 2013:Q1

1999:Q4 = 100

Most accounts are now renewing upwards

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Barclay's Capital; Insurance Information Institute.
Change in Commercial Rate Renewals, by Line: 2013:Q2

Workers Comp rate increases are large than any other line, followed by Property lines.

Major Commercial Lines Renewed Uniformly Upward in Q2:2013 for the 8th Consecutive Quarter; Property Lines & Workers Comp Leading the Way; Cat Losses and Low Interest Rates Provide Momentum Going Forward

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially. Source: Council of Insurance Agents and Brokers; Insurance Information Institute.
Rate changes have been positive for 8 consecutive quarters, longer than any other commercial line.

Note: Towers Watson data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

Source: Towers Watson; Information Institute.
Workers Comp Rate Changes, 2008:Q4 – 2013:Q2

WC rate changes have been positive for 9 consecutive quarters, longer than any other commercial line.

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.
Source: Council of Insurance Agents and Brokers; Information Institute.
Shifting Legal Liability & Tort Environment

Is the Tort Pendulum Swinging Against Insurers?
Over the Last Three Decades, Total Tort Costs as a % of GDP Appear Somewhat Cyclical, 1980-2013E

Tort costs in dollar terms have remained high but relatively stable since the mid-2000s, but are down substantially as a share of GDP.

Deepwater Horizon Spike in 2010

2.21% of GDP in 2003 = pre-tort reform peak

1.68% of GDP in 2013

Sources: Towers Watson, 2011 Update on US Tort Cost Trends, Appendix 1A
Commercial Lines Tort Costs: Insured vs. Self-(Un)Insured Shares, 1973-2010

Billions of Dollars

- **Self (Un) Insured Share**
- **Insurer Share**

1973: Commercial Tort Costs Totaled $6.49B, 94% was insured, 6% self-(un)insured

1985: $46.6B 74.5% insured, 25.5% self-(un)insured

1995: $83.6B 69.5% insured, 30.5% self-(un)insured

2005: $143.5B 66.4% insured, 33.6% self-(un)insured

2009: $126.5B 64.4% insured, 35.6% self-(un)insured

Tort Costs and the Share Retained by Risks Both Grew Rapidly from the mid-1970s to mid-2000s, When Tort Costs Began to Fall But Self-Insurance Shares Continued to Rise

The share of tort costs retained by risks has been steadily increasing for nearly 40 years. This trend contributes has left insurers with less control over pricing.

## Business Leaders Ranking of Liability Systems in 2012

### Best States

1. Delaware
2. Nebraska
3. Wyoming
4. Minnesota
5. Kansas
6. Idaho
7. Virginia
8. North Dakota
9. Utah
10. Iowa

### New in 2012

- Wyoming
- Minnesota
- Kansas
- Idaho

### Worst States

41. Florida
42. Oklahoma
43. Alabama
44. New Mexico
45. Montana
46. Illinois
47. California
48. Mississippi
49. Louisiana
50. West Virginia

### Drop-offs

- Indiana
- Colorado
- Massachusetts
- South Dakota

### Newly Notorious

- Oklahoma

### Rising Above

- Arkansas

The Nation’s Judicial Hellholes: 2011

**Watch List**
- Eastern District of Texas
- Cook County, IL
- Southern NJ
- Franklin County, AL
- Smith County, MS
- Louisiana

**Dishonorable Mention**
- MI Supreme Court
- AK Supreme Court
- MO Supreme Court

**Locations**
- **Illinois**: Madison, St. Clair, and McLean counties
- **West Virginia**:
- **Philadelphia**:
- **New York**: Albany and NYC
- **South Florida**:
- **California**:
- **Nevada**: Clark County

Source: American Tort Reform Association; Insurance Information Institute
Cyber Risk is a Rapidly Emerging Exposure for Businesses Large and Small in Every Industry

NEW III White Paper:
The total number of data breaches and number of records exposed fluctuates from year to year and over time.

* 2013 figures as of March 19, 2013.
Source: Identity Theft Resource Center
The majority of the 447 data breaches in 2012 affected business and medical/healthcare organizations, according to the Identity Theft Resource Center.

- Business: 165 (36.9%)
- Medical/Healthcare: 154 (34.5%)
- Educational: 61 (13.6%)
- Govt/Military: 50 (11.2%)
- Banking/Credit/Financial: 17 (3.8%)
Government/Military and Business organizations accounted for the majority of records exposed by data breaches during 2012.

- Govt/Military, 7.7 million (44.4%)
- Medical/Healthcare, 2.2 million (12.9%)
- Educational, 2.3 million (13.3%)
- Business, 4.6 million (26.7%)
- Banking/Credit/Financial, 470,048 (2.7%)

While companies are focused on managing a variety of business risks, cyber attacks are a top concern. Some 85% of 258 executives surveyed said they were very or somewhat concerned about cyber attacks on their businesses.
The Most Costly Cyber Crimes, Fiscal Year 2012

Malicious code, denial of service, and web-based attacks account for more than 58 percent of the total annualized cost of cyber crime experienced by 56 companies.

- Malicious code: 26%
- Denial of service: 20%
- Web-based attacks: 12%
- Malicious insiders: 12%
- Stolen devices: 8%
- Phishing + social engineering: 7%
- Viruses, Worms, Trojans: 4%
- Botnets: 4%

Information loss (44%) and business disruption or lost productivity (30%) account for the majority of external costs due to cyber crime.

* Other costs include direct and indirect costs that could not be allocated to a main external cost category.

<table>
<thead>
<tr>
<th>Date</th>
<th>Company</th>
<th>Description of Breach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 2013*</td>
<td>South Korean banks, media cos</td>
<td>Cyber attack causes computers to crash at South Korean banks and media companies, paralyzing bank machines across the country. No immediate reports of records compromised.</td>
</tr>
<tr>
<td>July 2012</td>
<td>Yahoo</td>
<td>Security breach at Yahoo in which some 450,000 passwords lifted and posted to the Internet.</td>
</tr>
<tr>
<td>July 2012</td>
<td>eHarmony</td>
<td>Online dating site eHarmony confirms security breach in which some 1.5 million user names and passwords compromised.</td>
</tr>
<tr>
<td>July 2012</td>
<td>LinkedIn</td>
<td>Social networking site LinkedIn reportedly targeted in hacker attack that saw 6.5 million hashed passwords posted to the Internet.</td>
</tr>
<tr>
<td>April 2012</td>
<td>Utah Dept of Technology Services</td>
<td>Utah Department of Technology notifies of a March 30 breach of a server containing personal data including social security numbers for about 780,000 Medicaid patient claims. Breach traced to Eastern Europe hackers.</td>
</tr>
<tr>
<td>Mar 2012</td>
<td>Global Payments</td>
<td>Credit card processor Global Payments confirms hacker attack has compromised the payment card numbers of around 1.5 million cardholders.</td>
</tr>
<tr>
<td>Mar 2012</td>
<td>CA Dept of Child Support Services</td>
<td>Officials announce that four computer storage devices containing personal information for about 800,000 adults and children in California’s child support system were lost by IBM and Iron Mountain Inc.</td>
</tr>
<tr>
<td>Jan 2012</td>
<td>Zappos</td>
<td>Online shoe retailer Zappos announces that information, such as names, addresses and passwords on as many as 24 million customers illegally accessed.</td>
</tr>
<tr>
<td>Jan 2012</td>
<td>NY State Electric + Gas Co</td>
<td>Security breach at NYSEG that allowed unauthorized access to NYSEG customer data, containing social security numbers, dates of birth and bank account numbers, exposing 1.8 million records.</td>
</tr>
</tbody>
</table>

*March 2013 attack is not part of ITRC research.

Average Organizational Cost of a Data Breach, 2008-2011* ($ Millions)

The average organizational cost of a data breach in 2011 was $5.5 million, down 24% from $7.2 million in 2010. Companies have improved steps taken in both preparing for and responding to a data breach.

*Findings of this benchmark study pertain to the actual data breach experiences of 49 U.S. companies from 14 different industry sectors, all of which participated in the 2011 study. Total breach costs include: lost business resulting from diminished trust or confidence of customers; costs related to detection, escalation, and notification of the breach; and ex-post response activities, such as credit report monitoring.

Source: 2011 Annual Study: U.S. Cost of a Data Breach, the Ponemon Institute.
Negligent employees and malicious attacks are most often the cause of the data breach. Some 39 percent of incidents involve a negligent employee or contractor, while 37 percent concern a malicious or criminal attack.

Source: 2011 Cost of Data Breach Study: United States, Ponemon Institute, March 2012
Interest in cyber insurance continues to climb. The number of companies purchasing cyber insurance increased 33 percent from 2011 to 2012.

- All Industries: 33.3%
- Services: 75.5%
- Education: 72.2%
- Financial Institutions: 32.2%
- Retail/Wholesale: 22.9%
- Communications, Media & Technology: 21.6%
- Health Care: 20.2%
- All Other: 27.7%

Cyber insurance limits purchased in 2012 averaged $16.8 million across all industries, an increase of nearly 20% over 2011.

($ Millions)

Among larger companies, average cyber insurance limits purchased in 2012 increased nearly 30% over 2011.

($ Millions)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Avg. 2011 Limits</th>
<th>Avg. 2012 Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Industries</td>
<td>$27.9</td>
<td>$59.4</td>
</tr>
<tr>
<td>Comms, Media &amp; Technology</td>
<td>$14.1</td>
<td>$40.6</td>
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<tr>
<td>Education</td>
<td>$9.0</td>
<td>$11.7</td>
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<tr>
<td>Financial Institutions</td>
<td>$11.3</td>
<td>$41.8</td>
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<tr>
<td>Health Care</td>
<td>$12.7</td>
<td>$17.3</td>
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<tr>
<td>Retail/Wholesale</td>
<td>$18.7</td>
<td>$30.0</td>
</tr>
<tr>
<td>Services</td>
<td>$27.5</td>
<td>$38.7</td>
</tr>
<tr>
<td>All Other</td>
<td>$11.6</td>
<td></td>
</tr>
</tbody>
</table>

Overall, rates for cyber insurance were essentially flat in the fourth quarter of 2012.

Insurance Information Institute Online:

www.iii.org

Thank you for your time and your attention!

Twitter: twitter.com/bob_hartwig

Download at www.iii.org/presentations