The External Environment and Insurance

Tectonic Shifts, Global Transformation

Insurance Information Institute
April 4, 2014

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Presentation Outline: The External Environment and Insurance

- Major Categories of External Risks
- Global Economic Environment
- Geopolitical Issues
- Terrorism/Torts/Cyber
- P/C Insurance & Reinsurance Operating Environment
- Natural Catastrophe Risk
- The “New” Investment Environment
- New Capacity/Capital → Reinsurance
- Insurance Regulatory Trends in the Post-Crisis World
- Q&A
Risk & Insurance

U.S. and Global Perspective

The External Environment:

*Is the World Becoming a Riskier Uncertain Place?*
5 Major Categories for External Global Risks, Uncertainties and Fears: Insurance Solutions

1. Economic Risks
2. Geopolitical Risks
3. Environmental Risks
4. Technological Risks
5. Societal Risks

While risks can be broadly categorized, none are mutually exclusive

Source: Adapted from World Economic Forum, Global Risks 2014; Insurance Information Institute.
Uncertainty, Risk and Fear Abound: Insurance Can Help Mitigate Risk

- Economic Issues in US, Europe
- Weakness in China/Emerging Economies
- Political Gridlock in the US, Europe, Japan
- Fiscal Imbalances
- Monetary Policy/Tapering/Low Interest Rates
- Unemployment
- Political Upheaval in the Ukraine, Middle East
  - Argentina, Venezuela, Thailand
- Resurgent Terrorism Risk
- Diffusion of Weapons of Mass Destruction
- Cyber Attacks
- Record Natural Disaster Losses
- Climate Change
- Environmental Degradation
- Income Inequality
- (Over)Regulation

Are “Black Swans” everywhere or does it just seem that way?
### Top 5 Global Risks in Terms of Likelihood, 2007—2014: Insurance Can Help With Most

<table>
<thead>
<tr>
<th>Year</th>
<th>1st Risk</th>
<th>2nd Risk</th>
<th>3rd Risk</th>
<th>4th Risk</th>
<th>5th Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Breakdown of critical information infrastructure</td>
<td>Chronic disease in developed countries</td>
<td>Oil price shock</td>
<td>China economic hard landing</td>
<td>Asset price collapse</td>
</tr>
<tr>
<td>2008</td>
<td>Asset price collapse</td>
<td>Middle East instability</td>
<td>Failed and falling states</td>
<td>Oil and gas price spike</td>
<td>Chronic disease</td>
</tr>
<tr>
<td>2009</td>
<td>Asset price collapse</td>
<td>Slowing Chinese economy (&lt;6%)</td>
<td>Chronic disease</td>
<td>Global governance gaps</td>
<td>Retrenchment from globalization (emerging)</td>
</tr>
<tr>
<td>2010</td>
<td>Asset price collapse</td>
<td>Slowing Chinese economy (&lt;6%)</td>
<td>Chronic disease</td>
<td>Fiscal crises</td>
<td>Global governance gaps</td>
</tr>
<tr>
<td>2011</td>
<td>Storms and cyclones</td>
<td>Flooding</td>
<td>Corruption</td>
<td>Biodiversity loss</td>
<td>Climate change</td>
</tr>
<tr>
<td>2012</td>
<td>Severe income disparity</td>
<td>Chronic fiscal imbalances</td>
<td>Rising greenhouse gas emissions</td>
<td>Cyber attacks</td>
<td>Water supply crises</td>
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<td>2013</td>
<td>Severe income disparity</td>
<td>Chronic fiscal imbalances</td>
<td>Rising greenhouse gas emissions</td>
<td>Water supply crises</td>
<td>Mismatch of population aging</td>
</tr>
<tr>
<td>2014</td>
<td>Income disparity</td>
<td>Extreme weather events</td>
<td>Unemployment and underemployment</td>
<td>Climate change</td>
<td>Cyber attacks</td>
</tr>
</tbody>
</table>

**Source:** World Economic Forum, *Global Risks 2014*; Insurance Information Institute.

In 2014, societal and environmental issues dominated frequency concerns.

**Concerns Shift Considerably Over Short Spans of Time. 2014 Includes a Mix of Environmental Economic, Social and Environmental Risks**

Concerns Over the Impacts of Economics Risks Remained High in 2014, but Societal, Environment and Technological Risks Also Loom Large

In the US, Western Europe and Japan approximately 50%-60% of economic losses from nat cat events are recovered through (re)insurance. In other parts of the world the recovery rate is much smaller. Do you see this as a major opportunity or are there intractable issues that make closing this “uninsurance gap” impractical?

A. Yes—There are significant growth opportunities for (re)insurers today

B. Yes—There are significant opportunities but most of the markets for these risks are not sufficiently well developed

C. No—The “uninsurance gap” consists primarily of risks that are difficult of impossible to (re)insure

D. Not Sure/Don’t Know
The gap between GDP and reinsurance limit in Asia is growing—suggesting the region is “under-reinsured”

Sources: Guy Carpenter, World Bank, IMF; Insurance Information Institute.
Globalization: The Global Economy Creates and Transmits Risks

Globalization Is a Double Edged Sword—Creating Opportunity and Wealth But Potentially Creating and Amplifying Risk

Emerging vs. “Advanced” Economies
Demand for Insurance Should Increase in 2014/15 as GDP Growth Accelerates Modestly and Gradually Benefits the Economy Broadly

* Estimates/Forecasts from Blue Chip Economic Indicators.
Source: US Department of Commerce, Blue Economic Indicators 3/14; Insurance Information Institute.
Emerging economies (led by China) are expected to grow by 5.1% in 2014 and 5.4% in 2015.

World output is forecast to grow by 3.7% in 2014 and 3.9% in 2015. The world economy shrank by 0.6% in 2009 amid the global financial crisis.

Advanced economies are expected to grow at a modest pace of 2.2% in 2014 and to 2.3% in 2015.

Global GDP: 1948—2013F

$ Billions

Global trade volume will approach $19 trillion in 2013, a 155% over the past decade.

Insurance Regulation Will Necessarily Become More Transnational, Following Patterns of Global Economic Growth, the Creation of New Insurable Exposures and International Capital Flows

Sources: World Trade Organization data through 2011; Insurance Information Institute estimate for 2013 based on IMF forecasts as of July 2013.
Real GDP Growth Forecasts: Major Economies: 2011 – 2015F

Growth Prospects Vary Widely by Region: Growth Returning in the US, Recession in the Eurozone, Some strengthening in Latin America

Sources: Blue Chip Economic Indicators (2/2014 issue); IMF; Insurance Information Institute.

Growth Outside the US, Europe and Japan is Relatively Strong

Strong economies in smaller industrialized nations will bolster demand for products, services, international trade and insure

Sources: Blue Chip Economic Indicators (9/2013 issue); Insurance Information Institute.
Growth in economic output will be concentrated in certain developing economies such as China and India.

China will likely become the world’s largest economy between 2025 and 2030.

Source: OECD; Insurance Information Institute.
Global trade volume will approach $19 trillion in 2013, a 155% over the past decade.


Sources: World Trade Organization data through 2011; Insurance Information Institute estimate for 2013 based on IMF forecasts as of July 2013.
The future of insurance will be tied global population growth—life insurance more closely than nonlife.

Mid-range scenarios suggest a massive slowdown in the number of available lives to insure. Growth will be increasing dependent on product penetration rates in emerging economies.

Virtually all of the world’s population growth through the end of the 21st century will occur in the developing world.
Global Insurance Premium Growth Trends: Non-Life (P/C) and Life

Growth Is Uneven Across Regions and Market Segments
Distribution of Global Insurance Premiums, 2012 ($ Trillions)

Total Premium Volume = $4.613 Trillion*

Life, $2.62 , 56.8%
Non-Life, $1.99 , 43.2%

Life insurance accounted for nearly 57% of global premium volume in 2012 vs. 43% for Non-Life

Emerging market’s share of nonlife premiums increased to 17.3% in 2012 from 14.3% in 2009. The share of premiums written in the $2 trillion global nonlife market remains much larger (82.7%) but continues to shrink.

The financial crisis and sluggish recovery in the major insurance markets will accelerate the expansion of the emerging market sector.

Premium Growth Facts

Sources: Swiss Re sigma No.3/2013; Insurance Information Institute research.
Global Real (Inflation Adjusted) Premium Growth (Life and Non-Life): 2012

Emerging markets in Asia, including China, showed faster growth than the US or Europe.

<table>
<thead>
<tr>
<th>Market</th>
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<th>Non-Life</th>
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<tbody>
<tr>
<td>Advanced</td>
<td>1.8</td>
<td>1.5</td>
<td>1.7</td>
</tr>
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<tr>
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Non-Life Insurance: Global Real (Inflation Adjusted) Premium Growth, 2012

Real growth in non-life insurance premiums was faster in China than the US

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Global Real (Inflation Adjusted) Nonlife Premium Growth: 1980-2010

Average: 1980-2010
Industrialized Countries: 3.8%
Emerging Markets: 9.2%
Overall Total: 4.2%

Nonlife premium growth in emerging markets has exceeded that of industrialized countries in 27 of the past 31 years, including the entirety of the global financial crisis.

Real nonlife premium growth is very erratic in part to inflation volatility in emerging markets as well as a lack of consistent cyclicality.

Source: Swiss Re, sigma, No. 2/2010.

(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.

2013:9M = 4.2%
2012 growth was +4.3%

Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.

Shaded areas denote “hard market” periods
Non-Life Insurance: Global Real (Inflation Adjusted) Premium Growth, 2012

Global Non-Life growth in 2012 exceeded the pre-crisis and post-crisis average. The same is true for advanced Asia economies like China.

Life Insurance: Global Real (Inflation Adjusted) Premium Growth, 2012

Real growth in life insurance premiums was a bit slower in China than the US

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Source: Swiss Re, sigma, No. 3/2013.
Global Life Insurance growth in 2012 was lower than the pre-crisis average but above than the post-crisis average. Advanced Asia economies like China saw stronger growth on average than before or after the crisis.
Life and Non-Life Insurance Penetration as a % of GDP: 1962-2012

Life insurance in emerging markets has experienced the fastest in recent decades.

Non-life markets have been slower to grow than life.

Emerging market shares rose rapidly over the past 50 years.

Source: Swiss Re, sigma, No. 3/2013.
Enormous population shifts will impact insurance demand over the next half century

Africa is expected to be the fastest population growth over the next 50 years, but no expectation now of Asia-like growth in economies or insurance demand.

Source: Swiss Re, *sigma*, No. 3/2013 from United Nations Department of Economic and Social Affairs, Population Division.
Relationship Between Real GDP and Real Life and Non-Life Premium Growth, 2012

The was a clear but highly relationship between real GDP growth and real premium growth in advance markets in 2012.

The correlation between real GDP growth and real premium growth in emerging markets was much stronger than in advanced markets in 2012.


Spending and penetration are generally much higher in advanced markets, though growth is fastest in emerging markets.

Chinese spending on insurance is very similar to Russia, but Russian spending is mostly non-life and in China the majority is life.

Source: Swiss Re, sigma, No. 3/2013.
The Unfortunate Nexus: Opportunity, Risk & Instability

Most of the Global Economy’s Future Gains Will be Fraught with Much Greater Risk and Uncertainty than in the Past
Terrorism Risk in 2013: Greatest Business Opportunities Are Often in Risky Nations

Latin and South America have modest terrorist threats though Brazil is elevated

Terrorism remains a greater concern in the Middle East, Africa and South Asia

*** Please Select Country from the dropdown or Click on Map to get Country Snapshot ***

Source: Aon PLC; Insurance Information Institute.
The fastest growing markets are generally also among the politically riskiest, including East and South Asia and Africa. Latin and South America also present insurers with growth opportunities but political instability has increased markedly. Problems in the Ukraine will intensify political risk in several former Soviet republics.
The gap between economic and insured losses is growing—suggesting both a problem and an opportunity.
Some Key Drivers in the US Economy

External Economic Considerations that Could Drive Growth
Stubbornly high unemployment and underemployment constrain overall economic growth, but the job market is now clearly improving.

US Unemployment Rate Forecast

2007:Q1 to 2015:Q4F*

Rising unemployment eroded payrolls and WC’s exposure base. Unemployment peaked at 10% in late 2009.

Jobless figures have been revised slightly downwards for 2014/15

Unemployment forecasts have been revised slightly downwards. Optimistic scenarios put the unemployment as low as 6.0% by Q4 of this year.

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (3/14 edition); Insurance Information Institute.
Monthly Change in Private Employment

January 2007 through February 2014 (Thousands, Seasonally Adjusted)

Private Employers Added 8.64 million Jobs Since Jan. 2010 After Having Shed 5.01 Million Jobs in 2009 and 3.76 Million in 2008 (State and Local Governments Have Shed Hundreds of Thousands of Jobs)

New Private Housing Starts, 1990-2019F

Job growth, low inventories of existing homes, low mortgage rates and demographics should continue to stimulate new home construction for several more years.

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 Continue to See Meaningful Exposure Growth in the Wake of the “Great Recession” 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 (3/14 and 3/13); Insurance Information Institute.
Florida Total Private Housing Starts, 2000 – 2017F


CRASH, CRATER, RECOVERY
Homebuilding in FL continues to recover, adding substantially to coastal exposures.
In the 23-year period between 1990 and 2012, the total number of policies in-force in the residual market (FAIR & Beach/Windstorm) Plans has more than tripled.
In the 23-year period between 1990 and 2012, total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from $54.7 billion in 1990 to $818.1 billion in 2012.

Private Construction Activity Is Moving in a Positive Direction though Remains Well Below Pre-Crisis Peak; Residential Dominates

Value of New Private Construction: Residential & Nonresidential, 2003-2013*

*2013 figure is a seasonally adjusted annual rate as of December.
Sources: US Department of Commerce; Insurance Information Institute.

New Construction peaks at $911.8 in 2006
Trough in 2010 at $500.6B, after plunging 55.1% ($411.2B)
2013: Value of new pvt. construction hits $667.5B, up 33% from the 2010 trough but still 27% below 2006 peak
Private Construction Activity is Up in Most Segments, Including the Key Residential Construction Sector; Bodes Well for Early 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.
Private Construction Activity is Up in Many Segments, Including the Key Residential Construction Sector, But Down in a Few

*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.
Government Construction Spending Peaked in 2009, Helped by Stimulus Spending, but Continues to Contract As State/Local Governments Grapple with Deficits and Federal Sequestration Takes Hold

*2013 figure is a seasonally adjusted annual rate as of December.
Sources: US Department of Commerce; Insurance Information Institute.
Surety, Net Premiums Written, 1990-2013E, ($ millions)

Surety premium growth has been negative/flat ever since the “Great Recession” began.


Source: A.M. Best; Insurance Information Institute estimate for 2013 based on 9-month data from SNL Financial.
Surety Combined Ratio, 1990-2012*

Underwriting performance in the surety line has been strong since 2006

*Net basis.

Source: A.M. Best; Insurance Information Institute.
Construction Employment, Jan. 2010—February 2014*

*Seasonally adjusted.


*seasonally adjusted; Dec. 2013 is preliminary; data published February 4, 2014.
Manufacturing Growth for Selected Sectors, 2013 vs. 2012*

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

Durables: +3.4%
Non-Durables: +0.2%

Manufacturing Is Expanding—Albeit 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 November 2013 to the same period in 2012.
Manufacturing employment is a surprising source of strength in the economy. Employment in the sector is at a multi-year high.

*Seasonally adjusted; Jan. and Feb. 2014 are preliminary
Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2013:Q4

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.
Business Investment: Expected to Accelerate, Fueling Commercial Exposure Growth

Accelerating business investment will be a potent driver of commercial property and liability insurance exposures and should drive employment and WC payroll exposures as well (with a lag).

Non-manufacturing industries have been expanding and adding jobs. This trend is likely to continue through 2014.

Optimism among non-manufacturers was hurt by the uncertainty in Washington, but remains resilient.

Business Bankruptcy Filings, 1980-2013

% Change Surrounding Recessions

- 1980-82: 58.6%
- 1980-87: 88.7%
- 1990-91: 10.3%
- 2000-01: 13.0%
- **2006-09: 208.9%**

2013 bankruptcies totaled 33,212, down 17.1% from 2012—the fourth consecutive year of decline. Business bankruptcies more than tripled during the financial crisis.

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

12 Industries for the Next 10 Years: Insurance Solutions Needed

<table>
<thead>
<tr>
<th>Industry</th>
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<tbody>
<tr>
<td>Health Care</td>
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<tr>
<td>Health Sciences</td>
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<tr>
<td>Energy (Traditional)</td>
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<tr>
<td>Alternative Energy</td>
</tr>
<tr>
<td>Petrochemical</td>
</tr>
<tr>
<td>Agriculture</td>
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<tr>
<td>Natural Resources</td>
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<tr>
<td>Technology (incl. Biotechnology)</td>
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<tr>
<td>Light Manufacturing</td>
</tr>
<tr>
<td>Insourced Manufacturing</td>
</tr>
<tr>
<td>Export-Oriented Industries</td>
</tr>
<tr>
<td>Shipping (Rail, Marine, Trucking, Pipelines)</td>
</tr>
</tbody>
</table>

Many industries are poised for growth, though insurers’ ability to capitalize on these industries varies widely.
The US is now the largest gas producer in the world, though Russia is the largest exporter. The US needs to invest in its pipeline and LNG infrastructure and expedite regulatory approval to realize its full export potential.
Trillions of kilowatt Hours

<table>
<thead>
<tr>
<th>History</th>
<th>2012</th>
<th>Projections</th>
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<tbody>
<tr>
<td>1990</td>
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<tr>
<td>2000</td>
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<td>2010</td>
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<td>2020</td>
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<td>2030</td>
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<tr>
<td>2040</td>
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</tbody>
</table>

- **Natural gas**
  - 16%
  - 30%
  - 35%

- **Renewables**
  - 9%
  - 12%
  - 16%

- **Nuclear**
  - 19%
  - 19%
  - 16%

- **Coal**
  - 52%
  - 37%
  - 32%

- **Oil and other liquids**
  - 3%
  - 1%
  - 1%

Electricity consumption in the US will rise steadily along with the fuel shares of natural gas and renewables.

Energy consumption in the US will rise steadily with natural gas fueling most of the additional consumption.
Liquid fuel consumption is expected to change little through 2040, though “tight” oil will account for a much larger share thereby reducing imports of petroleum products.

Oil and gas extraction employment is up 32.9% since Jan. 2010 as the energy sector booms. Domestic energy production is essential to any robust economic recovery in the US.

*Seasonally adjusted
The Future of Healthcare in America

P/C Insurers Are Increasingly Along for the Ride in the American Health Care Saga
U.S. Health Care Expenditures, 1965–2022F

From 1965 through 2013, US health care expenditures had increased by 69 fold. Population growth over the same period increased by a factor of just 1.6. By 2022, health spending will have increased 119 fold.

U.S. health care expenditures have been on a relentless climb for most of the past half century, far outstripping population growth, inflation of GDP growth

Health care expenditures as a share of GDP rose from 5.8% in 1965 to 18.0% in 2013 and are expected to reach 19.9% of GDP by 2022. Since 2009, health expenditures as a % of GDP have flattened out at about 18%—the question is why and will it last?

Rate of Health Care Expenditure Increase Compared to Population, CPI and GDP

Accelerating business investment will be a potent driver of commercial property and liability insurance exposures and should drive employment and WC payroll exposures as well (with a lag).

Source: Insurance Information Institute research.
Medical Cost Inflation vs. Overall CPI, 1995 - 2013

Though moderating, medical inflation will continue to exceed inflation in the overall economy.

Average Annual Growth Average
Healthcare: 3.8%
Overall CPI: 2.4%

WC Medical Severity Generally Outpaces the Medical CPI Rate

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

Cyber Risk is a Rapidly Emerging Exposure for Businesses Large and Small in Every Industry

NEW III White Paper:
Do you see the market for cyber risk insurance products as a major growth opportunity for commercial insurers?

A. Yes—Cyber products represent one of the industry’s brightest growth opportunities over the next several years

B. No—Cyber products represent only limited growth opportunities for insurers

C. Opportunities for insurers in the cyber insurance market have been overly hyped
The Total Number of Data Breaches (+38%) and Number of Records Exposed (+408%) in 2013 Soared

* 2013 figures as of Jan. 1, 2014 from the ITRC updated to an additional 30 million records breached (Target) as disclosed in Jan. 2014.
Source: Identity Theft Resource Center.
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

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

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

### Worst States

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

### New in 2012

- Wyoming
- Minnesota
- Kansas
- Idaho

### Drop-offs

- Indiana
- Colorado
- Massachusetts
- South Dakota

### Drop-offs

- Arkansas

### Newly Notorious

- Oklahoma

### Rising Above

- Arkansas

The Nation’s Judicial Hellholes: 2012/2013

Watch List
- Philadelphia, Pennsylvania
- South Florida
- Cook County, Illinois
- New Jersey
- Nevada
- Louisiana

Dishonorable Mention
- MO Supreme Court
- WA Supreme Court

Source: American Tort Reform Association; Insurance Information Institute
P/C Insurance & Reinsurance Operating Environment

External and Internal Influences Exert Impacts
2013: Best Year in the Post-Crisis Era

Performance Improved with Lower CATs, Strong Markets
P/C Net Income After Taxes
1991–2013:Q3 ($ 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 ROAS\(^1\) = 3.5%
- 2012 ROAS\(^1\) = 5.9%
- 2013:9M ROAS\(^1\) = 9.5%

Net income is up substantially (+54.7%) from 2012:Q3 $27.8B

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

*ROE figures are GAAP; \(^1\)Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 8.9% ROAS through 2013:Q3, 6.2% ROAS in 2012, 4.7% ROAS for 2011, 7.6% for 2010 and 7.4% for 2009.
Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2013:Q3*

*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

**Combined Ratio / ROE**

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

* 2008-2013 figures are return on average surplus and exclude mortgage and financial guaranty insurers. 2013:9M combined ratio including M&FG insurers is 95.8; 2012 = 103.2, 2011 = 108.1, ROAS = 3.5%.
Source: Insurance Information Institute from A.M. Best and ISO Verisk Analytics data.
P/C Profitability Is Both by Cyclicality and Ordinary Volatility

- Hugo
- Andrew
- Northridge
- Katrina, Rita, Wilma
- Sept. 11
- Sandy
- 4 Hurricanes
- Lowest CAT Losses in 15 Years
- Financial Crisis*
- Record Tornado Losses

Sources: ISO, Fortune; Insurance Information Institute.
**ROE: ROEs by Industry vs. Fortune 500, 1987–2012**

*(Percent)*

<table>
<thead>
<tr>
<th>Year</th>
<th>US P/C Insurers</th>
<th>All US Industries</th>
<th>L/H Insurance</th>
<th>Comm Banks</th>
<th>Div Fin</th>
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</thead>
<tbody>
<tr>
<td>87</td>
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<td>12</td>
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</tr>
</tbody>
</table>

* All figures are GAAP.
The most profitable states over the past decade are widely distributed geographically, though none are in the Gulf region.
Some of the least profitable states over the past decade were hit hard by catastrophes.
1. UNDERWRITING

Underwriting Losses in 2013
Much Improved After High Catastrophe Losses in 2011/12
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

Best Combined Ratio Since 1949 (87.6)

Cyclical Deterioration

Avg. CAT Losses, More Reserve Releases

Sandy Impacts

Lower CAT Losses


Sources: A.M. Best, ISO.
Number of Years with Underwriting Profits by Decade, 1920s–2010s

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 is for the period 2010 through 2013.

Note: Data for 1920–1934 based on stock companies only.

Sources: Insurance Information Institute research from A.M. Best Data.
Underwriting Gain (Loss)
1975–2013:Q3*

Cumulative underwriting deficit from 1975 through 2012 is $510B

Underwriting profit in 2013:Q3 totaled $10.5B

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 through 2013:Q3.

*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute
Prior Yr. Reserve Development ($B)

Impact on Combined Ratio (Points)

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).
<table>
<thead>
<tr>
<th>Line of Business</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Auto Liability</td>
<td>-$3.9B</td>
</tr>
<tr>
<td>Homeowners</td>
<td>-$0.4</td>
</tr>
<tr>
<td>Other Liab (incl. Prod Liab)</td>
<td>$7.5</td>
</tr>
<tr>
<td>Workers Compensation</td>
<td>$11.1</td>
</tr>
<tr>
<td>Commercial Multi Peril</td>
<td>$1.9</td>
</tr>
<tr>
<td>Commercial Auto Liability</td>
<td>$0.7</td>
</tr>
<tr>
<td>Medical Professional Liab.</td>
<td>-$3.5</td>
</tr>
<tr>
<td>Reinsurance—Nonprop Assumed</td>
<td>$1.0</td>
</tr>
<tr>
<td>All Other Lines*</td>
<td>-$4.6</td>
</tr>
<tr>
<td><strong>Total Core Reserves</strong></td>
<td><strong>$9.8</strong></td>
</tr>
<tr>
<td>Asbestos &amp; Environmental</td>
<td>$11.2</td>
</tr>
<tr>
<td><strong>Total P/C Industry</strong></td>
<td><strong>$21.0B</strong></td>
</tr>
</tbody>
</table>

Commercial Lines Combined Ratio, 1990-2015F*

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

Commercial Auto is Expected to Improve as Rate Gains Outpace Any Adverse Frequency and Severity Trends

Sources: A.M. Best (1990-2014F); Conning (2015F); Insurance Information Institute.
Commercial Multi-Peril Underwriting Performance is Expected to Improve in 2013 Assuming Normal Catastrophe Loss Activity

*2013F-2012F figures are Conning figures for the combined liability and non-liability components. 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.
MPL insurers in 2013 paid out an estimated $0.96 in loss and expense for every $1 they earned in premiums.

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

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

U.S. Insured Catastrophe Loss Update

2013 Was a Welcome Respite from the High Catastrophe Losses in Recent Years

*Through 12/31/13.

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.)

Source: Property Claims Service/ISO; Insurance Information Institute.
Insurers Making a Difference in Impacted Communities

Destroyed home in Tuscaloosa. Insurers will pay some 165,000 claims totaling $2 billion in the Tuscaloosa/Birmingham areas alone.

Presentation of a check to Tuscaloosa Mayor Walt Maddox to the Tuscaloosa Storm Recovery Fund

Presentation of a check to Moore, OK, Public School Relief Fund

Source: Insurance Information Institute
Combined Ratio Points Associated with Catastrophe Losses: 1960 – 2013*

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.

*2010s represent 2010-2013.

The Catastrophe Loss Component of Private Insurer Losses Has Increased Sharply in Recent Decades
Top 10 States for Insured Catastrophe Losses, 2013

Oklahoma let the country in insured CAT losses in 2013

Source: The Property Claim Services (PCS) unit of ISO, a Verisk Analytics company.
Top 5 States by Insured Catastrophe Losses in 2012*

(2012, $ Billions)

NY and NJ let the US in CAT losses in 2012 due Sandy

- New York: $9,756
- New Jersey: $6,369
- Texas: $2,318
- Kentucky: $1,511
- Colorado: $1,440

*Includes catastrophe losses of at least $25 million.
Sources: PCS unit of ISO; Insurance Information Institute.
Over the Past 30 Years Florida Has Accounted for the Largest Share of Catastrophe Losses in the U.S., Followed by Texas and Louisiana

Florida: $66.7B
Texas: $48.8B
Louisiana: $42.0B
Rest of the U.S.: $309.9B
Total: $467.5 Billion, an average of $16.6B per year or $1.3B per month

FL is the most costly state for CATs, with nearly $67B in insured losses over the past 30 years.
Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1993–2012

1. Catastrophes are defined as events causing direct insured losses to property of $25 million or more in 2012 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.

Insured cat losses from 1993-2012 totaled $391.7B, an average of $19.6B per year or $1.6B per month

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

Tornado share of CAT losses is rising

1.7% 3.8% 4.7% 6.3% 7.1% 36.0% 40.4%
Top 16 Most Costly Disasters in U.S. History

(Insured Losses, 2012 Dollars, $ Billions)

Hurricane Sandy became the 5th costliest event in US insurance history

Hurricane Irene became the 12th most expense 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, 1970-2013*

(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.
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 Sandy became the 3rd costliest hurricane in US insurance history

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

*PCS estimate as of 4/12/13.
Sources: PCS; Insurance Information Institute inflation adjustments to 2012 dollars using the CPI.
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

NY and FL lead the US in the value of insured coastal exposure at $2.9 Trillion

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
Commercial (i.e., business claims) are more expensive because the value of property is often higher as well as the impact of insured business interruption losses.

The average insured flood loss was nearly 9 times larger than the average non-flood insured loss (mostly wind).

Post-Sandy, the I.I.I. worked very hard to make help media, consumers and regulators understand the distinction between a flood claim and a standard homeowners claim. **NFIP is $24B in debt.**

Sources: Catastrophe loss data is for Catastrophe Serial No. 90 (Oct. 28 – 31, 2012) from PCS as of March 2013; Insurance Information Institute.
Total Potential Home Value Exposure to Storm Surge Risk in 2013*

($ Billions)

Florida $386.5
New York $135.0
New Jersey $118.8
Virginia $78.0
Louisiana $72.0
S. Carolina $65.6
N. Carolina $65.2
Texas $50.3
Massachusetts $51.0
Connecticut $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

Florida is by the state most vulnerable 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.
# Top 10 Winter Storm and Winter Damage Events in the US and Canada, 1980-2013*

*Top 10 events in original insured loss dollars were adjusted to and ranked by the Insurance Information Institute to 2013 inflation-adjusted values. Sources: Munich Re NatCatSERVICE; Insurance Information Institute.

<table>
<thead>
<tr>
<th>Period</th>
<th>Area</th>
<th>Economic Loss (in inflation-adjusted 2013 $US mill)</th>
<th>Insured Loss (in inflation-adjusted 2013 $US mill)</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar. 11-14, 1993</td>
<td>CAN, USA</td>
<td>8,061</td>
<td>3,224</td>
<td>270</td>
</tr>
<tr>
<td>Dec. 17-30, 1983</td>
<td>USA</td>
<td>2,339</td>
<td>2,058</td>
<td>500</td>
</tr>
<tr>
<td>Apr. 13-17, 2007</td>
<td>CAN, USA</td>
<td>2,247</td>
<td>1,775</td>
<td>23</td>
</tr>
<tr>
<td>Dec. 10-13, 1992</td>
<td>USA</td>
<td>4,981</td>
<td>1,660</td>
<td>19</td>
</tr>
<tr>
<td>Jan. 5-12, 1998</td>
<td>CAN, USA</td>
<td>4,145</td>
<td>1,644</td>
<td>45</td>
</tr>
<tr>
<td>Feb. 10-12, 1994</td>
<td>USA</td>
<td>4,716</td>
<td>1,258</td>
<td>9</td>
</tr>
<tr>
<td>Jan. 17-20, 1994</td>
<td>USA</td>
<td>1,572</td>
<td>1,258</td>
<td>70</td>
</tr>
<tr>
<td>Apr. 7-11, 2013</td>
<td>USA</td>
<td>1,600</td>
<td>1,200</td>
<td>N/A</td>
</tr>
<tr>
<td>Jan. 1-4, 1999</td>
<td>CAN, USA</td>
<td>1,398</td>
<td>1,084</td>
<td>25</td>
</tr>
<tr>
<td>Jan. 31-Feb. 2, 2011</td>
<td>USA</td>
<td>1,346</td>
<td>1,010</td>
<td>36</td>
</tr>
</tbody>
</table>

Three of the four most costly years ever for insured losses from winter storms and damage occurred in the 1990s, led by the “Storm of the Century” in 1993.

Insured losses from severe winter events totaled $2 billion in 2013.

Insured winter storm and damage losses in Jan. 2014 already totaled $1.5 billion. Continued severe weather since then makes it likely that 2014 will become one of the top 5 costliest winters since 1980.

Sources: Munich Re NatCatSERVICE; Insurance Information Institute.
## Natural Disaster Losses in the United States, by Type, 2013

<table>
<thead>
<tr>
<th>As of December 31, 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><strong>Severe Thunderstorm</strong></td>
<td><strong>69</strong></td>
<td><strong>110</strong></td>
<td><strong>16,341</strong></td>
<td><strong>10,274</strong></td>
</tr>
<tr>
<td>Winter Storm</td>
<td>11</td>
<td>43</td>
<td>2,935</td>
<td>1,895</td>
</tr>
<tr>
<td>Flood</td>
<td>19</td>
<td>23</td>
<td>1,929</td>
<td>240</td>
</tr>
<tr>
<td>Earthquake &amp; Geophysical</td>
<td>6</td>
<td>1</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>22</td>
<td>29</td>
<td>620</td>
<td>385</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>128</strong></td>
<td><strong>207</strong></td>
<td><strong>21,825</strong></td>
<td><strong>12,794</strong></td>
</tr>
</tbody>
</table>

Source: Munich Re NatCatSERVICE
## Significant Natural Catastrophes, 2013
(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>February 24 – 25</td>
<td>Winter Storm</td>
<td>1,300</td>
<td>690</td>
</tr>
<tr>
<td>March 18 – 19</td>
<td>Thunderstorms</td>
<td>2,200</td>
<td>1,600</td>
</tr>
<tr>
<td>April 7 – 11</td>
<td>Winter Storm</td>
<td>1,600</td>
<td>1,200</td>
</tr>
<tr>
<td>April 16 – 18</td>
<td>Thunderstorms</td>
<td>1,100</td>
<td>560</td>
</tr>
<tr>
<td>May 18 – 20</td>
<td>Thunderstorms</td>
<td>3,100</td>
<td>1,800</td>
</tr>
<tr>
<td>May 28 – 31</td>
<td>Thunderstorms</td>
<td>2,800</td>
<td>1,400</td>
</tr>
<tr>
<td>August 6 – 7</td>
<td>Thunderstorms</td>
<td>1,300</td>
<td>740</td>
</tr>
<tr>
<td>September 9 – 16</td>
<td>Flooding</td>
<td>1,500</td>
<td>160</td>
</tr>
<tr>
<td>November 17 – 18</td>
<td>Thunderstorms</td>
<td>1,300</td>
<td>931</td>
</tr>
</tbody>
</table>

Source: Munich Re NatCatSERVICE
U.S. Thunderstorm Insured Loss Trends, 1980 – 2013

Hurricanes get all the headlines, but thunderstorms are consistent producers of large scale loss. 2008-2013 are the most expensive years on record.

Average thunderstorm losses are up 7 fold since the early 1980s. The 5-year running average loss is up sharply.

Thunderstorm losses in 2013 totaled $10.3 billion, the 6th highest on record.

Source: Property Claims Service, and MR NatCatSERVICE
The Increased Number and Value of Expensive Electronic Devices in Homes is Pushing the Total Lightning Claim Costs Up Even as the Number of Lightning Claims Falls

Source: Insurance Information Institute.
There were 128 natural disaster events in 2013.

Source: MR NatCatSERVICE
TX experienced significant wildfire losses in 2011 (Bastrop fire insured losses ~$500 million)

Source: National Interagency Fire Center
Losses Due to Natural Disasters in the US, 1980–2013

(2013 Dollars, $ Billions) (Overall and Insured Losses)

2013 CAT Losses
Overall: $21.8B
Insured: $12.8B

2013 losses were far below 2011 and 2012 and were 44% lower than the average from 2000-2012

Indicates a great deal of losses are uninsured (~40%-50% in the US) = Growth Opportunity

Source: MR NatCatSERVICE
The current 5-year average (2008 - 2013) insured tropical cyclone loss is $5.6 billion per year.
In the 23-year period between 1990 and 2012, the total number of policies in-force in the residual market (FAIR & Beach/Windstorm) Plans has more than tripled.

Source: PIPSO; Insurance Information Institute
In the 23-year period between 1990 and 2012, total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from $54.7 billion in 1990 to $818.1 billion in 2012.

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.

*All policy forms combined, countrywide.
Natural Loss Events: Full Year 2013

World Map

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

Natural Disasters Worldwide, 1980 – 2013 (Number of Events)

There were 880 natural disaster events globally in 2013 compared to 905 in 2012.

Source: MR NatCatSERVICE
Losses Due to Natural Disasters Worldwide, 1980–2013 (Overall & Insured Losses)

(Overall and Insured Losses)

(2013 Dollars, $ Billions)

US$ bn

10-Yr. Avg. Losses
Overall: $184B
Insured: $56B

2013 Losses
Overall: $125B
Insured: $34B

There is a clear upward trend in both insured and overall losses over the past 30+ years

Source: MR NatCatSERVICE
Flood Insurance

Biggert-Waters 2012 Created Opportunity for Private Insurers

2014 Backtracking on Those Reforms Reduces Opportunities
Commercial (i.e., business claims) are more expensive because the value of property is often higher as well as the impact of insured business interruption losses.

The average insured flood loss was nearly 9 times larger than the average non-flood insured loss (mostly wind).

Post-Sandy, the I.I.I. worked very hard to make help media, consumers and regulators understand the distinction between a flood claim and a standard homeowners claim. **NFIP is $24B in debt.**

Sources: Catastrophe loss data is for Catastrophe Serial No. 90 (Oct. 28 – 31, 2012) from PCS as of March 2013; Insurance Information Institute.
Total Potential Home Value Exposure to Storm Surge Risk in 2013*

($ Billions)

<table>
<thead>
<tr>
<th>State</th>
<th>Exposure ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>$386.5</td>
</tr>
<tr>
<td>New York</td>
<td>$135.0</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$118.8</td>
</tr>
<tr>
<td>Virginia</td>
<td>$78.0</td>
</tr>
<tr>
<td>Louisiana</td>
<td>$72.0</td>
</tr>
<tr>
<td>S. Carolina</td>
<td>$65.6</td>
</tr>
<tr>
<td>N. Carolina</td>
<td>$65.2</td>
</tr>
<tr>
<td>Texas</td>
<td>$51.0</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>$50.3</td>
</tr>
<tr>
<td>Connecticut</td>
<td>$35.0</td>
</tr>
<tr>
<td>Maryland</td>
<td>$22.4</td>
</tr>
<tr>
<td>Georgia</td>
<td>$20.5</td>
</tr>
<tr>
<td>Delaware</td>
<td>$15.9</td>
</tr>
<tr>
<td>Mississippi</td>
<td>$10.4</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>$7.2</td>
</tr>
<tr>
<td>Alabama</td>
<td>$4.7</td>
</tr>
<tr>
<td>Maine</td>
<td>$3.1</td>
</tr>
<tr>
<td>New</td>
<td>$2.7</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>$2.6</td>
</tr>
<tr>
<td>DC</td>
<td>$0.6</td>
</tr>
</tbody>
</table>

Florida is by the state most vulnerable 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.
I.I.I. Poll: Flood Insurance

Q. Do you think it is fair that flood insurance premium increases are higher if people who live in high flood risk areas and rebuild their homes do not elevate them?

Almost two-thirds of Americans think that it is fair that flood insurance premiums be raised for people who live in high flood risk areas and rebuild their homes after a flood but do not elevate them.

Source: Insurance Information Institute Annual Pulse Survey.
Terrorism Update

Down to the Wire? Boston Bombings Underscore the Need for Extension of the Terrorism Risk Insurance Program

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%)
- Biz Interruption: $13.5 (33%)
- Property - WTC 1 & 2*: $4.4 (11%)
- Property - Other: $7.4 (19%)
- Event Cancellation: $1.2 (3%)
- Aviation Hull: $0.6 (2%)
- 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 Insurance Take-up Rates, By Year, 2003-2012

In 2003, the first year TRIA was in effect, the terrorism take-up rate was 27 percent. Since then, it has increased steadily, remaining in the low 60 percent range since 2009.

Take-up rates for smaller commercial risks are lower—potentially very low in some areas and industries.

Terrorism Risk Insurance Program

- Testified before Senate Banking Cmte. in Sept. 2013
- Testified before House Financial Services Nov. 2013
- Provided testimony at NYC hearing on June 2013
- I.I.I. Accelerated Planned Study on Terrorism Risk and Insurance in the Wake of Boston and Hearings; Was Well Received and Widely Circulated
- Working with Trades, Congressional Staff, GAO & Others

Senate Banking Committee, 9/25/13
House Financial Services Subcommittee, 11/13/13
2013 Recorded Yet Another Record High in the Primary and Reinsurance Sectors
Policyholder Surplus, 2006:Q4–2013:Q3

2007:Q3 Pre-Crisis Peak

Drop due to near-record 2011 CAT losses

$487.1
$496.6
$512.8
$521.8
$478.5
$455.6
$437.1
$463.0
$490.8
$511.5
$540.7
$530.5
$544.8
$559.2
$550.3
$567.8
$583.5
$586.9
$607.7
$614.0
$624.4

2010:Q1 data includes $22.5B of paid-in capital from a holding company parent for one insurer’s investment in a non-insurance business.

The industry now has $1 of surplus for every $0.78 of NPW, close to the strongest claims-paying status in its history.

The P/C insurance industry entered 2014 in very strong financial condition.
US Policyholder Surplus: 1975–2013*

Surplus as of 9/30/13 was a record $624.4, up 6.4% from $586.9 of 12/31/12, and up 42.9% ($187.3B) 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 9/30/13 was 19.7% 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 $0.78:$1 as of 9/30/13, a Near Record Low (at Least in Recent History)*

* As of 9/30/13.
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.
Ample Capacity as Alternative Capital is Transforming the Market
Global Reinsurance Capital Has Been Trending Generally Upward Since the Global Financial Crisis, a Trend that Seems Likely to Continue

*Includes both traditional and non-traditional forms of reinsurance capital.
Source: Aon Benfield Aggregate study for the 6 months ending June 2013; Insurance Information Institute.
Long-Term Evolution of Shareholders’ Funds for the Guy Carpenter Global Reinsurance Composite

Source: Guy Carpenter
Reinsurance Pricing: Rate-on-Line Index by Region, 1990 – 2014*

Lower CATs and a flood of new capital has pushed reinsurance pricing down in most regions, including the US.

*As of Jan. 1.
Source: Guy Carpenter
Alternative Capacity accounted for approximately 14% or $45 billion of the $316 billion in global property catastrophe reinsurance capital as of mid-2013 (expected to rise to ~15% by year-end 2013).
Sources of Reinsurance Capital Change: YE 2012 to YE 2013

Net income and new 3rd party capital were the leading source of reinsurance capital growth in 2013.
**Property Catastrophe Reinsurance Capacity by Source as of Mid-2013 ($ Bill)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Capacity (Bill)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Reinsurance</td>
<td>$268,880,000</td>
<td>88%</td>
</tr>
<tr>
<td>Collateralized Reinsurance (Sidecars)</td>
<td>$15,500,000</td>
<td>5%</td>
</tr>
<tr>
<td>Industry Loss Warranties</td>
<td>$6,200,000</td>
<td>2%</td>
</tr>
<tr>
<td>Catastrophe Bonds</td>
<td>$16,000,000</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Total = $316 Billion**

“Convergence Capital” accounted for an estimated $45B or 14% or total property catastrophe reinsurance capacity as of mid-2013, up $10B over the past 18 months (since 1/1/12). Penetration of this type of capacity is growing.

**Collateralized reinsurance (sidecars) is the fastest growing segment recently**

Alternative Capacity Development, 2001—2013: H1

Institutional Investors are accounting for a larger share of alternative reinsurance investors.

*As of June 30 each year.
Source: Aon Benfield Securities; Insurance Information Institute.
Non-Traditional Property Catastrophe Limits by Type, YE 2012 vs. YE 2015E

<table>
<thead>
<tr>
<th>CAT</th>
<th>2012*</th>
<th>2015E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat Bond</td>
<td>$15</td>
<td>$23</td>
</tr>
<tr>
<td>Retro</td>
<td>$10</td>
<td>$11</td>
</tr>
<tr>
<td>ILW</td>
<td>$6</td>
<td>$8</td>
</tr>
<tr>
<td>Collateralized Re</td>
<td>$13</td>
<td>$15</td>
</tr>
</tbody>
</table>

Alternative capital is expected to rise by 30% by YE 2015 and will ultimately account for 20-30% of total reinsurance spend, according to Guy Carpenter.
Catastrophe Bonds: Issuance and Outstanding, 1997-2013*

Risk Capital Amount ($ Millions)

Risk capital outstanding reached a record high in 2013

Financial crisis depressed issuance

CAT bond issuance reached a record high in 2013

Catastrophe Bond Issuance Is Approaching Pre-Crisis Levels While Risk Capital Outstanding Stands at an All-Time Record

Source: Guy Carpenter; Insurance Information Institute.
Questions Arising from Influence of Alternative Capital

Could Pension Fund Money Swamp Traditional Capacity?
- US private pension funds hold ~$7 trillion in assets
- 2% allocation = $140 billion
- Global property cat capital = ~$316 bill as of mid-2013

Do New Investors Have a Lower Cost of Capital?
- New capacity expects 6-8% rate of return compared to 8-10% for traditional reinsurance, according to Dowling & Partners

Will Reinsurance Pricing Become More Closely Linked to Interest Rates?

Terms and Conditions Could Weaken
- Multi-year deals
Investment Performance is a Key Driver of Profitability

Depressed Yields Will Necessarily Influence Underwriting & Pricing
Investment earnings are running below their 2007 pre-crisis peak

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

---

1 Investment gains consist primarily of interest and stock dividends.

*Estimate based on annualized actual 9M:2013 investment income of $34.338B.

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.

Sources: A.M. Best, ISO, Insurance Information Institute.
Investment Income Continued to Fall in 2013 Due to Low Interest Rates but Realized Investment Gains Were Up Sharply; The Financial Crisis Caused Investment Gains to Fall by 50% in 2008

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.
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.
Yields on 10-Year U.S. Treasury Notes recently plunged to record modern-era lows in early 2013 but have since risen as the Fed begins “tapering” its QE program in 2014.

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

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, through February 2014. Note: Recessions indicated by gray shaded columns.

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

U.S. Treasury yields plunged to historic lows in 2013. Only longer-term yields have rebounded.

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 February 2014.
Treasury yield curve remains near its most depressed level in at least 45 years. Investment income is falling as a result. Even as the Fed “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.
Treasury Yield Curves: Pre-Crisis (July 2007) vs. Feb. 2014

Longer term yields are expected to rise in 2014 and 2015 while short-term yields will not begin to normalize until 2015.

Higher longer-term yields will help insurers but short term yields are expected to lag behind.

### Outlook for U.S. Treasury Bond Yields Through 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>3-Month</th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0.06</td>
<td>0.76</td>
<td>1.80</td>
</tr>
<tr>
<td>2013</td>
<td>0.09</td>
<td>1.17</td>
<td>2.35</td>
</tr>
<tr>
<td>2014F</td>
<td>0.10</td>
<td>1.80</td>
<td>3.50</td>
</tr>
<tr>
<td>2015F</td>
<td>1.40</td>
<td>2.30</td>
<td>4.20</td>
</tr>
</tbody>
</table>

- **Long-term yields** should begin to normalize in 2014 but short-term yields will remain very low until 2015.

- Longer-tail lines like MPL and workers comp will benefit the most from the normalization of yields.

Average Maturity of Bonds Held by US P/C Insurers, 2006—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.
Commercial Renewal Pricing Under Some Pressure

(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.

2013:9M = 4.2%
2012 growth was +4.3%

Shaded areas denote “hard market” periods
Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute.
Growth in Direct Written Premium by Line, 2013-2015F*

P/C growth is expected to remain fairly stable through 2015

Source: Conning.
Average Commercial Rate Change, All Lines, (1Q:2004–3Q:2013)

(PPercent)

Pricing as of Q3:2013 was positive for the 9th consecutive quarter. Gains are likely to continue into 2014.

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

Q2 2011 marked the last of 30th consecutive quarter of price declines.

KRW Effect
Change in Commercial Rate Renewals, by Account Size: 1999:Q4 to 2013:Q3

Percentage Change (%)

Peak = 2001:Q4  
+28.5%

Pricing turned negative in early 2004 and remained that way for 7 ½ years

Trough = 2007:Q3  
-13.6%

Pricing turned positive in Q3:2011, the first increase in nearly 8 years; Q3:2013 renewals were up 3.4%. Some insurers posted stronger numbers.

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.
Despite 9 consecutive quarters of gains (Q3:2013 = 3.4%), pricing today is where it was in late 2001 (around 9/11), suggesting additional rate need going forward, esp. in light of record low interest rates.
Change in Commercial Rate Renewals, by Line: 2013:Q3

Major Commercial Lines Renewed Uniformly Upward in Q3:2013 for the 9th Consecutive Quarter; Property Lines & Workers Comp Leading the Way; Cat Losses and Low Interest Rates Provide Momentum Going Forward

Percentage Change (%)

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

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 Movements by Business Segment as of January 1, 2014

Many business segments renewed were under price pressure as of 1/1/14

Sources: Guy Carpenter; Insurance Information Institute.
Casualty: Typical Excess of Loss Rate Changes as of Jan. 1, 2014

Casualty excess of loss renewals turned generally negative as of 1/1/14

Source: Guy Carpenter; Insurance Information Institute.
Regulation: The Ultimate External Factor

Regulation Has Shaped and Reshaped Insurance for Hundreds of Years—The Future Will Be No Different
New Waves of Regulations

2008 - Present
Global Crisis and Regulatory Response
Dodd-Frank Act of 2010: The implosion of the housing bubble and virtual collapse of the US banking system, the seizure of credit markets and massive government bailouts of US financial institutions led to calls for sweeping regulatory reforms of the financial industry.

Limiting Systemic Risk is at the Core of Dodd-Frank

Designation as a Systemically Important Financial Institutional (SIFI) Will Result in Greater Regulatory Scrutiny and Heightened Capital Requirements

Dodd-Frank Established Several Entities Impacting Insurers

- Federal Insurance Office
- Financial Stability Oversight Council
- Office of Financial Research
- Consumer Financial Protection Bureau
Insurers—as Non-Bank Financial Institutions—Have Escaped Some, though Not All of the Most Draconian Provision of Dodd-Frank

- In particular, small number of large insurers will (are) receiving a designations as Systemically Important Financial Institutions (SIFIs)

Insurers Generally Reject the Notion that Insurance Is Systemically Risky (or that any Individual Insurer is Systemically Important)

Such a Designation Makes the Fed the Penultimate Regulator

To Date: AIG, Prudential Have Been Designated as non-bank SIFIs by the FSOC

- MetLife is still under evaluation

Fed Reserve Seems Open to Developing a Tailored Capital Requirement Approach for Insurers

- Conflicting language in the DFA make this somewhat difficult
- SIFIs may need Fed approval to repurchase shares on increase dividend
Global Financial Crises &
Global Systemic Risk

- The Global Financial Crisis Prompted the G-20 Leaders to Request
  that the Financial Stability Board (FSB) Assess the Systemic Risks
  Associated with SIFIs, Global-SIFIs in Particular

- In July 2013, the FSB Endorsed the International Association of
  Insurance Supervisors Methodology for Identifying Globally
  Systemically Important Insurers (G-SIIs)

- For Each G-SII, the Following Will Be Required:
  
  (i) Recovery and resolution plans
  
  (ii) Enhanced group-wide supervision
  
  (iii) Higher loss absorbency (HLA) requirements

- G-SIIs as Designated by the FSB as of July 2013:
  
  - Allianz SE
  - AIG
  - Assicurazioni Generali
  - Aviva
  - Axa
  - MetLife
  - Ping An
  - Prudential Financial
  - Prudential plc
## Global Financial Crises & Global Systemic Risk: Key Dates

<table>
<thead>
<tr>
<th>Implementation Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2013</td>
<td>Designation of G-SIIIs (annual updates thereafter beginning Nov. 2014)</td>
</tr>
<tr>
<td>July 2014</td>
<td>FSB to make a decision on the G-SII status of, and appropriate risk mitigating measures for major reinsurers</td>
</tr>
<tr>
<td>By G-20 Summit 2014</td>
<td>IAIS to develop backstop capital requirements to apply to all group activities, incl. non-ins. subs.</td>
</tr>
<tr>
<td>End 2015</td>
<td>IAIS to develop HLA requirements that will apply to G-SIIIs starting in 2019</td>
</tr>
<tr>
<td>January 2019</td>
<td>G-SIIIs to apply HLA requirements</td>
</tr>
</tbody>
</table>

Sources: Financial Stability Board, “Globally Systemically Important Insurers (G-SIIIs) and the Policy Measures that Will Apply to Them,” July 18, 2013.
IAIS Also Plans to Develop the First-Ever Risk-Based Global Insurance Capital Standards by 2016

Would be Tested in 2017-2018; Implemented in 2019

Would Be Included as Part of ComFrame and Apply to Internationally Active Insurance Groups (IAIGs): ~50 IAIGs Designations Likely

While Flexibility May Exist within the Standards, Doubts in the US Are Likely to Be Strong

- Concern that the standards may be bank-centric
- Questions as to whether such standards are even needed:
  - “Although US state insurance regulators continue to have doubts about the timing, necessity and complexity of developing a global capital standard given regulatory differences around the globe, we intend to remain fully engaged in the process to ensure that any development augments the strong legal entity capital requirements in the US that have provided proven and tested security for US policyholders and stable insurance markets for consumers and industry.” --NAIC President Ben Nelson (P/C 360, Oct. 16, 2013)
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

Source: A.M. Best Special Report “Pace of P/C Impairments Slowed in 2012; Auto Writers, RRGs Continued to Struggle,” June 2013; Insurance Information Institute.
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

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

- Deficient Loss Reserves/Inadequate Pricing: 43.4%
- Reinsurance Failure: 3.1%
- Sig. Change in Business: 8.4%
- Investment Problems (Overstatement of Assets): 6.6%
- Affiliate Impairment: 8.0%
- Catastrophe Losses: 7.2%
- Alleged Fraud: 7.1%
- Misc.: 3.5%
- Rapid Growth: 12.6%

Source: A.M. Best Special Report “Pace of P/C Impairments Slowed in 2012; Auto Writers, RRGs Continued to Struggle,” June 2013; Insurance Information Institute.
Rapid Growth ‘A Leading Cause’ of Impairment’

“The leading causes of impairment are deficient loss reserves (inadequate pricing) and rapid growth, together comprising more than 50 percent of annual impairments.”

- A.M. Best, 2013


Source: A.M. Best Special Report “Pace of P/C Impairments Slowed in 2012; Auto Writers, RRGs Continued to Struggle,” June 2013; Insurance Information Institute.
Insurance Information Institute Online:

www.iii.org

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