Overview & Outlook for the P/C Insurance Industry for 2014 and Beyond

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Risk & Insurance

U.S. and Global Perspective

Is the World Becoming a Riskier, More Uncertain Place?
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?
5 Major Categories for 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.
Concerns Shift Considerably Over Short Spans of Time. 2014 Includes a Mix of Environmental Economic, Social and Environmental Risks

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

P/C Insurance Industry
Financial Overview

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 ROAS¹ = 3.5%
2012 ROAS¹ = 5.9%
2013:9M ROAS¹ = 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
¹Return 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

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

Lower CATs are improved ROEs in 2013

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.
The most profitable states over the past decade are widely distributed geographically, though none are in the Gulf region.

Source: NAIC.
Some of the least profitable states over the past decade were hit hard by catastrophes.
The Economy and Rate Trends the Primary Drivers of Growth
Distribution of Direct Premiums Written by Segment/Line, 2012

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.

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

Premium growth in emerging markets was 4 times that of advanced economies in 2012.

<table>
<thead>
<tr>
<th>Market</th>
<th>Life</th>
<th>Non-Life</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced</td>
<td>1.8</td>
<td>1.5</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Emerging</strong></td>
<td><strong>4.9</strong></td>
<td><strong>8.6</strong></td>
<td><strong>6.8</strong></td>
</tr>
<tr>
<td>World</td>
<td>2.3</td>
<td>2.6</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: Swiss Re, sigma, No. 3/2013; Insurance Information Institute.
Emerging market shares rose rapidly over the past 50 years

Source: Swiss Re, sigma, No. 3/2013.
Growth in Direct Written Premium by Line, 2013-2015F*

(Percent)

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

<table>
<thead>
<tr>
<th>All Lines</th>
<th>Personal Lines</th>
<th>Commercial Lines</th>
<th>Personal Auto</th>
<th>Homeowners Auto</th>
<th>Commercial Auto</th>
<th>WC</th>
<th>CMP</th>
<th>GL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4%</td>
<td>4.4%</td>
<td>3.9%</td>
<td>4.1%</td>
<td>3.6%</td>
<td>5.1%</td>
<td>6.5%</td>
<td>5.6%</td>
<td>3.7%</td>
</tr>
<tr>
<td>4.0%</td>
<td>4.1%</td>
<td>4.0%</td>
<td>4.7%</td>
<td>3.2%</td>
<td>5.1%</td>
<td>6.1%</td>
<td>6.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>4.3%</td>
<td>4.4%</td>
<td>4.1%</td>
<td>4.1%</td>
<td>5.5%</td>
<td>6.0%</td>
<td>8.6%</td>
<td>7.0%</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Source: Conning.
Sustained Growth in Written Premiums (vs. the same quarter, prior year) Will Continue into 2014.

Sources: ISO, Insurance Information Institute.
Growth in Net Written Premium by Segment, 2013:9M vs. 2012:9M*

*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute
Average Commercial Rate Change, All Lines, (1Q:2004–3Q:2013)

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
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

KRW : No Lasting Impact

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.

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.

1999:Q4 = 100

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:Q2

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: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

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.
CLIPS: Change in Written Price Level: All Lines, 2010:Q2 – 2012:Q4

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:Q3

WC rate changes have been positive for 10 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.
The Future of Healthcare in America

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

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

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

Some states are running new health-insurance exchanges on their own. Other are leaving some or all of the task to the federal government.

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.

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 (%)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>GDP Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>4.1%</td>
</tr>
<tr>
<td>2001</td>
<td>1.1%</td>
</tr>
<tr>
<td>2002</td>
<td>1.8%</td>
</tr>
<tr>
<td>2003</td>
<td>2.5%</td>
</tr>
<tr>
<td>2004</td>
<td>3.6%</td>
</tr>
<tr>
<td>2005</td>
<td>3.1%</td>
</tr>
<tr>
<td>2006</td>
<td>3.0%</td>
</tr>
<tr>
<td>2007:1Q</td>
<td>0.5%</td>
</tr>
<tr>
<td>2007:2Q</td>
<td>1.7%</td>
</tr>
<tr>
<td>2007:3Q</td>
<td>3.0%</td>
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<tr>
<td>2007:4Q</td>
<td>3.6%</td>
</tr>
<tr>
<td>2008:1Q</td>
<td>1.3%</td>
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<tr>
<td>2008:2Q</td>
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<tr>
<td>2008:3Q</td>
<td>1.4%</td>
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<tr>
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<td>5.0%</td>
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<tr>
<td>2009:1Q</td>
<td>-1.8%</td>
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<td>2009:2Q</td>
<td>-0.3%</td>
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<tr>
<td>2009:3Q</td>
<td>-3.7%</td>
</tr>
<tr>
<td>2009:4Q</td>
<td>-5.3%</td>
</tr>
<tr>
<td>2010:1Q</td>
<td>-8.9%</td>
</tr>
</tbody>
</table>

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

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

2014/15 are expected to see a modest acceleration in growth.

**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.
North Dakota was the economic growth juggernaut of the US in 2012—by far

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

Growth rates in 8 states (and DC) were still below 1% in 2012

Connecticut was the only state to shrink in 2012

The economic outlook for most of the US is positive for the first time in many years.
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 2+ years, though uncertainty in Washington sometimes takes a toll.

Optimism among consumers dropped in Q3 2013 as the government shutdown created uncertainty, then rebounded though the harsh winter took a toll.

Source: University of Michigan; Insurance Information Institute
Net Worth of Households* Recently Hit A Historic High

Adjusted for population growth, net worth is slightly short of its prior peak

Housing “bubble”

2001 recession

2008-09 recession: -15.7%

Rising net worth fuels a “wealth affect” that helps fuel consumer spending, which accounts for 70% of spending in the U.S. economy

*and nonprofit organizations. Data are as of year-end, except in 2013:Q3 (data posted on Dec 9, 2013). Next release March 6, 2014. Data not seasonally adjusted or inflation-adjusted

Source: Federal Reserve Board
Household Financial Obligations Ratio Recently Hit A Historic Low

Financial Obligations Ratio: debt service (mortgage and consumer debt), auto lease, residence rent, HO insurance, and property tax payments as % of personal disposable income.

Household balance sheets are stronger than they’ve been in many years, setting the stage for more consumer spending.

Financial Obligations Ratio 15.23% in 2012:Q4 is lowest ratio since 1980:Q4 (15.09%).

Decline began in 2008:Q1.

*through 2013:Q3 (data posted on Dec 13, 2013)
Source: Federal Reserve Board, at http://www.federalreserve.gov/releases/housedebt
Auto/Light Truck Sales, 1999-2019F

(Millions of Units)

Job growth and improved credit market conditions will boost auto sales in 2014 and beyond.

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.

Truck purchases by contractors are especially strong.

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.

Source: U.S. Department of Commerce; Blue Chip Economic Indicators (3/14 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

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

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

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

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.
The average age of a vehicle on the road is expected to continue to increase until 2018. By 2018, the number of vehicles 12+ years old is expected to rise 11.6% from 2013 and the number that are under 5 years old is expected to increase by 41%.
Monthly Change* in Auto Insurance Prices, 1991–2014*

-2% 0% 2% 4% 6% 8% 10%

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

'90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14

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

The Jan. 2014 reading of 3.4% down from 4.9% a year earlier

"Hard" markets tend to occur during recessionary periods

Note: Recessions indicated by gray shaded columns.

*Percentage change from same month in prior year; through January 2014; seasonally adjusted
Sources: US Bureau of Labor Statistics; National Bureau of Economic Research (recession dates); Insurance Information Institutes.
Monthly Change* in Auto Insurance Prices, January 2005 - December 2013

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

Pricing weakened in 2011, strengthened in 2012/early 2013 but has since moderated.

PPA Auto, like most p/c lines, exhibits strong cyclicality 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
Premium growth has generally exceeded underlying loss cost trends since mid-2008.
Average Expenditures* on Auto Insurance, 1994-2014

### Annual Pct Changes

<table>
<thead>
<tr>
<th>Year</th>
<th>Pct Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>5.2%</td>
</tr>
<tr>
<td>2002</td>
<td>8.6%</td>
</tr>
<tr>
<td>2003</td>
<td>5.6%</td>
</tr>
<tr>
<td>2004</td>
<td>1.5%</td>
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<tr>
<td>2005</td>
<td>-1.3%</td>
</tr>
<tr>
<td>2006</td>
<td>-1.8%</td>
</tr>
<tr>
<td>2007</td>
<td>-2.1%</td>
</tr>
<tr>
<td>2008</td>
<td>-1.0%</td>
</tr>
<tr>
<td>2009</td>
<td>-0.5%</td>
</tr>
<tr>
<td>2010</td>
<td>0.6%</td>
</tr>
<tr>
<td>2011</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Across the U.S., auto insurance expenditures fell by 0.8% in 2008 and 0.5% in 2009 but rose 0.5% in 2010 and 0.8% in 2011.

I.I.I. estimates for 2012-2014 are each +2.0%.

* The NAIC data are per-vehicle (actually, per car-year)

Sources: NAIC for 1994-2011; Insurance Information Institute estimates for 2012-2014 based on CPI and other data.
The gap since 2005 between price changes and expenditures on auto insurance might be due to buyers increasing deductibles, obtaining discounts, and other premium-reducing behavior.

Sources: NAIC for 1994-2011; BLS for auto price changes; I.I.I.
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.
Across the U.S., home insurance expenditures rose by an estimated 4.0% in 2012-2014

* Insurance Information Institute Estimates/Forecasts **Excludes state-run insurers.
Sources: NAIC; Insurance Information Institute estimates for 2012-2014 based on CPI data and other data.
Homeowners Insurance Net Written Premium, 2000–2015F

Homeowners insurance NWP continues to rise (up 128% 2000-2013) despite very little unit growth during the real estate crash. Reasons include rate increases, especially in coastal zones, ITV endorsements (e.g., “inflation guards”), and inelastic demand.

Sources: A.M. Best; Insurance Information Institute.
Average Premiums For Home Insurance By State, 2011* (1)

Top 25 States and DC

*Latest available.

(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides “all risks” coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days insured coverage for a single dwelling.

Source: NAIC; Insurance Information Institute.
Average Premiums For Home Insurance By State, 2011* (1)

Bottom 25 States

- Latest available
- (1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides "all risks" coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days insured coverage for a single dwelling.

Source: © 2013 National Association of Insurance Commissioners (NAIC). Reprinted with permission. Further reprint or distribution strictly prohibited without written permission of NAIC.
Top 25 States

Chart answers question: What is the rate to insure the average home in the state?

*Latest available.

(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides “all risks” coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Estimated median = average premium in median insurance range/estimated average insurance value in that range.

Source: Insurance Information Institute estimate from NAIC data.
Estimated Median Rate For Home Insurance By State, 2011* (1)

Bottom 25 States and DC

*Latest available.

(1) Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides “all risks” coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written.

Note: Estimated median = average premium in median insurance range/estimated average insurance value in that range.

Source: Insurance Information Institute estimate from NAIC data.
Interest Rate on Convention 30-Year Mortgages: Headed Back Up, 1990–2014*

Yields on 30-Year Mortgages in the U.S. plunged to all time record lows in late 2012 and early 2013 but have risen as the Fed proceeds with tapering of its QE program.

Yields on 30-Year mortgages have been below 6% for a five years

30-yr. mortgage rates are up 80 basis points over the past 12 months

High mortgage interest should have only a marginal impact on home buying

30-Year Mortgages in 2013 Are Rising: What Will Be the Impact on Construction?

Mortgage Interest Rates Will Rise as Expectations Over the Fed’s Tapering of QE3 Persist; Still Low by Historical Standards

*Weekly through November 14, 2013.
Sources: Federal Reserve Bank at [http://www.federalreserve.gov/releases/h15/data.htm](http://www.federalreserve.gov/releases/h15/data.htm); Insurance Information Institutes.
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 2/2/2014.
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 nearly back to early-recession levels, fueling bank willingness to lend.

The manufacturing sector expanded for 48 of the 50 months from Jan. 2010 through February 2014. Weakness in early 2014 stems largely from harsh winter weather and weakness in China.


*seasonally adjusted; Dec. 2013 is preliminary; data published February 4, 2014.
Manufacturing employment is a surprising source of strength in the economy. Employment in the sector is at a multi-year high.

Since Jan 2010, manufacturing employment is up (+605,000 or +5.3%) and still growing.

*Seasonally adjusted; Jan. and Feb. 2014 are preliminary
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).

Manufacturing Growth for Selected Sectors, 2013 vs. 2012*

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 Is Expanding: New orders exceed shipments which suggests the industry is in an expansionary phase

Most manufacturing sectors indicate order growth outstripping shipments, a favorable indicator for investment and expansion.

*Seasonally adjusted; Date are advance report YTD data comparing data through December 2013 to the same period in 2012. Source: U.S. Census Bureau, Full Report on Manufacturers’ Shipments, Inventories, and Orders, http://www.census.gov/manufacturing/m3/
Recovery in Capacity Utilization is a Positive Sign for Commercial Exposures

March 2001 through December 2013

Percent of Industrial Capacity

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

“Full Capacity”

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

March 2001- November 2001 recession

December 2007- June 2009 Recession

Hurricane Katrina

The US operated at 79.2% of industrial capacity in Dec. 2013, well above the June 2009 low of 66.9% but is still below pre-recession levels.

Nonfarm Payroll (Wages and Salaries): Quarterly, 2005–2013:Q4

Billions

$7,500
$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 $7.23 trillion, a new peak--$980B above 2009 trough

Payrolls are 15.7% above their 2009 trough and up 2.0% 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](http://research.stlouisfed.org/fred2/series/WASCUR); National Bureau of Economic Research (recession dates); Insurance Information Institute.
Non-manufacturing industries have been expanding and adding jobs. This trend is likely to continue through 2014.

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

Business starts were up 2.8% in 2012 to 769,000 following a 2.2% gain to 748,000 in 2011. Start-ups could accelerate in 2013.

Business Starts Were Down Nearly 20% in the Recession, Holding Back Most Types of Commercial Insurance Exposure, But Are Recovering Slowly

* Data through Dec. 30, 2012 are the latest available as of Nov. 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.
Many industries are poised for growth, though insurers’ ability to capitalize on these industries varies widely.
### U.S. Electricity Generation by Fuel, 1990 - 2040

<table>
<thead>
<tr>
<th>Year</th>
<th>History</th>
<th>2012</th>
<th>Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>52%</td>
<td>37%</td>
<td>35%</td>
</tr>
<tr>
<td>2000</td>
<td>19%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>2010</td>
<td>9%</td>
<td>30%</td>
<td>16%</td>
</tr>
<tr>
<td>2020</td>
<td>16%</td>
<td>35%</td>
<td>16%</td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td>2040</td>
<td></td>
<td></td>
<td>32%</td>
</tr>
</tbody>
</table>

- **Natural gas**
- **Renewables**
- **Nuclear**
- **Coal**
- **Oil and other liquids**

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.
U.S. Natural Has Imports and Exports, 1990 - 2040

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.

The Construction Sector Is Critical to the Economy and the P/C Insurance Industry
Private Construction Activity Is Moving in a Positive Direction though Remains Well Below Pre-Crisis Peak; Residential Dominates

*2013 figure is a seasonally adjusted annual rate as of December.
Sources: US Department of Commerce; Insurance Information Institute.
Low new home inventories and falling vacancy rates bode well for residential construction.

*2013 figure is a seasonally adjusted annual rate as of June.
Sources: US Department of Commerce; Insurance Information Institute.
Despite Recent Improvements, Construction Activity (and Employment) Remains Far Below Pre-Crisis Peaks

Note: Year in parentheses is the year of peak expenditure.
*2013 figure is a seasonally adjusted annual rate as of June.
Sources: US Department of Commerce; Insurance Information Institute.
Value of Construction Put in Place, January 2014 vs. January 2013*

Overall Construction Activity is Up, But Growth Is Almost 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.
Led by the Residential Construction, Lodging, Communication and Office segments, Private sector construction activity is rising after plunging during the “Great Recession.”

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.
The economic outlook for most of the US is positive for the first time in many years.

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.

<table>
<thead>
<tr>
<th>Growth (%)</th>
<th>Public Construction Activity is Down Substantially in Most Segments, a Situation That Will Likely Persist, Dragging on Public Entity Risk Exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Public Construction</td>
<td>-6.2%</td>
</tr>
<tr>
<td>Residential</td>
<td>-22.2%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>-9.9%</td>
</tr>
<tr>
<td>Office</td>
<td>-27.8%</td>
</tr>
<tr>
<td>Commercial</td>
<td>-21.1%</td>
</tr>
<tr>
<td>Health Care</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Educational</td>
<td>-15.1%</td>
</tr>
<tr>
<td>Public Safety</td>
<td>-15.1%</td>
</tr>
<tr>
<td>Amusement &amp; Rec.</td>
<td>-6.2%</td>
</tr>
<tr>
<td>Transportation</td>
<td>7.8%</td>
</tr>
<tr>
<td>Power</td>
<td>8.7%</td>
</tr>
<tr>
<td>Highway &amp; Street</td>
<td>15.3%</td>
</tr>
<tr>
<td>Sewage &amp; Waste Disposal</td>
<td>3.6%</td>
</tr>
<tr>
<td>Water Supply</td>
<td>-10.8%</td>
</tr>
<tr>
<td>Conservation &amp; Develop.</td>
<td>-6.2%</td>
</tr>
</tbody>
</table>

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.
Public Construction Activity is Down in Most Segments as Governments Grapple with Budget Deficits and Pension Shortfalls

*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.
Surety, Net Premiums Written, 1990-2013E, ($ millions)


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

*Net basis.


Source: A.M. Best; Insurance Information Institute.
Construction employment is +506,000 above Jan. 2011 (+9.3%) trough

Construction and manufacturing employment constitute 1/3 of all payroll exposure.

*Seasonally adjusted.
Construction Employment, Jan. 2003–February 2014

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 Feb. 2014 totaled 5.941 million, an increase of 506,000 jobs or 9.3% from the Jan. 2011 trough.

The Construction Sector Could Be a Growth Leader in 2014 as the Housing Market, Private Investment and Govt. Spending Recover. WC Insurers Will Benefit.

Note: Recession indicated by gray shaded column.
Massive Job Losses Sapped the Economy and Commercial/Personal Lines Exposure, But Trend is Improving
Unemployment and Underemployment Rates: Still Too High, But Falling

January 2000 through February 2014, Seasonally Adjusted (%)

"Headline" Unemployment Rate U-3
Unemployment + Underemployment Rate U-6

U-6 went from 8.0% in March 2007 to 17.5% in October 2009; Stood at 12.6% in Feb. 2014. 8% to 10% is “normal.”

"Headline" unemployment was 6.7% in February 2014. 4% to 6% is “normal.”

As the unemployment rate approaches 6%, the Fed will begin signaling on short-term rates

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

Rising unemployment eroded payrolls and WC’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 6.0% 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)


December 2007 through December 2013 (Millions)


January 2010 through February 2014* (Millions)

Job gains and pay increases have added nearly $1 trillion to payrolls since Jan. 2010

Cumulative job gains through Feb. 2014 totaled 8.64 million

Private Employers Added 8.64 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)


Government at all levels has shed more than 600,000 jobs since Jan. 2010 even as private employers created 8.14 million jobs, though losses may now be stabilizing.

Cumulative job losses through Dec. 2013 totaled 631,000

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 but is recovering while Federal employment is down by 3.8% and deteriorating.

Local government employment shrank by 424,000 from Jan. 2010 through Dec. 2013, accounting for 67% 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, February 2014: Highest 25 States*

In February, 29 states had over-the-month unemployment rate decreases, 10 states had increases, and 11 states and the District of Columbia had no change.

*Provisional figures for February 2014, seasonally adjusted.
Unemployment Rates by State, February 2014: Lowest 25 States*

In February, 29 states had over-the-month unemployment rate decreases, 10 states had increases, and 11 states and the District of Columbia had no change.

*Provisional figures for February 2014, seasonally adjusted.
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

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:Q4

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.
Payroll vs. Workers Comp Net Written Premiums, 1990-2013E

Payroll Base*
$Billions

WC NWP
$Billions

WC premium volume dropped two years before the recession began

WC net premiums written were down $14B or 29.3% to $33.8B in 2010 after peaking at $47.8B in 2005

+8.5% in 2013E

Continued Payroll Growth and Rate Increases Suggest WC NWP Will Grow Again in 2014; +8.6% Growth Estimated for 2013

*Private employment; Shaded areas indicate recessions. WC premiums for 2012 are I.I.I. estimate based YTD 2013 actuals.
Sources: NBER (recessions); Federal Reserve Bank of St. Louis at [http://research.stlouisfed.org/fred2/series/WASCUR](http://research.stlouisfed.org/fred2/series/WASCUR); NCCI; I.I.I.
Insurance Industry Employment Trends: 1990-2014

Insurance Information Institute
March 2014

Robert P. Hartwig, Ph.D., CPCU, President & Economist
Insurance Information Institute ✦ 110 William Street ✦ New York, NY 10038
Tel: 212.346.5520 ✦ Cell: 917.453.1885 ✦ bobh@iii.org ✦ www.iii.org
## Overview of Insurance Sector Employment Changes*

<table>
<thead>
<tr>
<th>Insurance Subsector</th>
<th>Dec 2013 Employment</th>
<th>Jan 2014 Employment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CARRIERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P-C Direct</td>
<td>526,600</td>
<td>527,900</td>
<td>+1,300</td>
</tr>
<tr>
<td>Life Direct</td>
<td>338,300</td>
<td>339,800</td>
<td>+1,500</td>
</tr>
<tr>
<td>Health/Medical Direct</td>
<td>480,600</td>
<td>481,500</td>
<td>+900</td>
</tr>
<tr>
<td>Title &amp; other Direct</td>
<td>75,200</td>
<td>75,000</td>
<td>-200</td>
</tr>
<tr>
<td>Reinsurers</td>
<td>27,900</td>
<td>27,900</td>
<td>0</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agents/Brokers</td>
<td>674,100</td>
<td>675,500</td>
<td>+1,400</td>
</tr>
<tr>
<td>3rd-Party Administration</td>
<td>162,000</td>
<td>161,500</td>
<td>-500</td>
</tr>
<tr>
<td>Claims Adjusters</td>
<td>50,900</td>
<td>51,700</td>
<td>+800</td>
</tr>
</tbody>
</table>

*Data are through January 2014 and are preliminary (i.e., subject to later revision); seasonally adjusted.
Baselines: U.S. Employment Trends
U.S. Nonfarm Employment, Monthly, 1990–2014*

*As of February 2014; not seasonally adjusted.

Note: Recessions indicated by gray shaded columns.


*As of February 2014; not seasonally adjusted.

Note: Recessions indicated by gray shaded columns.
Insurance Industry Employment Trends

For the last 15 years, total industry employment has stayed in a narrow band of 2.3-2.4 million
Sometimes the BLS reclassifies employment within industries. When this happens, the change is spread evenly over a 12-month period (in this case March 2010-March 2011).

*As of January 2014; not seasonally adjusted; Does not including agents & brokers.

Note: Recessions indicated by gray shaded columns.

Every 4-5 years BLS reconciles its data with census data; sometimes this reclassifies employment within industries. This drop, spread over March 2004-March 2005, moved some people to the Health/Medical Expense sector.
U.S. Employment in the Direct Health-Medical Insurance Industry: 1990–2014*

*As of January 2014; not seasonally adjusted; Does not including agents & brokers.

Note: Recessions indicated by gray shaded columns.

U.S. Employment in the Reinsurance Industry: 1990–2014*

Thousands

*As of January 2014; not seasonally adjusted; Does not including agents & brokers.
Note: Recessions indicated by gray shaded columns.

*As of January 2014; not seasonally adjusted. Includes all types of insurance.

Note: Recessions indicated by gray shaded columns.

U.S. Employment in Insurance Claims Adjusting: 1990–2014*

*As of January 2014; not seasonally adjusted.
Note: Recessions indicated by gray shaded columns.
U.S. Employment in Third-Party Administration of Insurance Funds: 1990–2014*

Thousands

'90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14

*As of January 2014; not seasonally adjusted. Includes all types of insurance.

Note: Recessions indicated by gray shaded columns.

U.S. Insured Catastrophe Loss Update

2013 Was a Welcome Respite from the High Catastrophe Losses in Recent Years
U.S. Insured Catastrophe Losses

(U.S. Insured Catastrophe Losses

(\$ Billions, \$ 2012)


*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.)

Sources: 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*

Combined Ratio Points

Avg. CAT Loss Component of the Combined Ratio by Decade

1960s: 1.04
1970s: 0.85
1980s: 1.31
1990s: 3.39
2000s: 3.52
2010s: 6.1E*

Catastrophe losses as a share of all losses reached a record high in 2012

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

*2010s represent 2010-2013.

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.
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)

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.

NY and NJ let the US in CAT losses in 2012 due Sandy.
Over the Past 30 Years Florida Has Accounted for the Largest Share of Catastrophe Losses in the U.S., Followed by Texas and Louisiana

FL is the most costly state for CATs, with nearly $67B in insured losses over the past 30 years

Texas $48.8B

Florida $66.7B

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

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.

Hurricanes & Tropical Storms, $158.2
Wind/Hail/Flood (3), $14.9
Geological Events, $18.4
Tornadoes (2), $140.9
Tornado share of CAT losses is rising

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

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

Includes Tuscaloosa, AL, tornado

Includes Joplin, MO, tornado

Includes

*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)

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

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

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Insured Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>Hugo</td>
<td>$7.8</td>
</tr>
<tr>
<td>2004</td>
<td>Winter Storm</td>
<td>$8.1</td>
</tr>
<tr>
<td>2010</td>
<td>Chile Quake</td>
<td>$8.5</td>
</tr>
<tr>
<td>2004</td>
<td>Ivan</td>
<td>$8.7</td>
</tr>
<tr>
<td>1991</td>
<td>Charley</td>
<td>$9.2</td>
</tr>
<tr>
<td>1991</td>
<td>Typhoon Mireille</td>
<td>$9.6</td>
</tr>
<tr>
<td>2005</td>
<td>Wilma</td>
<td>$11.1</td>
</tr>
<tr>
<td>2011</td>
<td>Thailand Floods</td>
<td>$13.4</td>
</tr>
<tr>
<td>2011</td>
<td>New Zealand Quake</td>
<td>$13.4</td>
</tr>
<tr>
<td>2008</td>
<td>Ike</td>
<td>$13.4</td>
</tr>
<tr>
<td>2012**</td>
<td>Sandy</td>
<td>$18.8</td>
</tr>
<tr>
<td>1994</td>
<td>Northridge</td>
<td>$23.9</td>
</tr>
<tr>
<td>2001</td>
<td>WTC Terror Attack</td>
<td>$24.6</td>
</tr>
<tr>
<td>1992</td>
<td>Andrew</td>
<td>$25.6</td>
</tr>
<tr>
<td>2011**</td>
<td>Japan Quake, Tsunami</td>
<td>$38.6</td>
</tr>
<tr>
<td>2005</td>
<td>Katrina</td>
<td>$48.7</td>
</tr>
</tbody>
</table>

*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.
Hailstorm on July 27-28 in **Germany** Was Most Expensive CAT Worldwide in 2013!

Hailstones with diameters up to 8 cm (tennis ball ≈ 7 cm)

<table>
<thead>
<tr>
<th>Region</th>
<th>Overall losses</th>
<th>Insured losses</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwestern and Northern Germany</td>
<td>US$ 4.8bn</td>
<td>US$ 3.7bn</td>
<td>0</td>
</tr>
</tbody>
</table>

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.
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
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.
Hurricane Sandy: Average Claim Payment by Type of Claim

- **Homeowners***: $6,558
- **Vehicle**: $10,994
- **Commercial**: $44,563
- **NFIP Flood**: $57,277

**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 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*

**Ranked by Insured Loss, in Millions of $ 2013**

<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>

*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.*
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.
The Increased Average Cost per Dog Bite Claim is Pushing Total Dog Bite Liability Claim Costs Higher Even as the Number of Claims Remains Relatively Flat

Source: 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>69</td>
<td>110</td>
<td>16,341</td>
<td>10,274</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>128</td>
<td>207</td>
<td>21,825</td>
<td>12,794</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

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

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. 2008-2013 are the most expensive years on record.

Source: Property Claims Service, and MR NatCatSERVICE
Insured Homeowners Losses Due to Lightning, 2004-2012

$ Millions

$1,100

$1,000

$900

$800

$700

$600

$500


Lightning claims cost insurers an estimated $969 million in 2012, 31.7% from $735.5 million in 2004

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.
Number of Acres Burned in Wildfires, 1980 – 2013

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 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

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

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: PIPSOS; 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

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

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

10
20
30
40

Overall losses (in 2013 values)
Insured losses (in 2013 values)

Source: MR NatCatSERVICE
Flood Insurance

I.I.I. Survey: Public Conflicted on Flood

- **Flood Should Reflect True Risk**
- **Keep the Subsidies**
- **Would Prefer to Purchase from Private Insurers**
Biggert-Waters: Media and Congressional Maelstrom

- BW-12 Rate Increases to Phase Out Subsidies Began in 2013
  - Note: Only 20% of NFIP policies are subsidized
- Jan. 1, 2013: Non-Primary/Secondary Residences
  - Increases of 25% per year until full-risk rate achieved
  - *Reaction:* Very muted; Vacation homes/wealthier owners
- Oct. 1, 2013: Subsidized Severe or Repetitive Loss Policies and Owners of Business/Non-Residential Properties
  - Increases of 25% per year until full-risk rate achieved
  - *Reaction:* Huge consumer backlash, intense media coverage leading to a Congressional effort to delay BW-12 by 4 years (effectively killing it). Even Maxine Waters supports delay…
- Subsidy Lost if Policy Lapses, Severe Repeated, New Policy
- House and Senate Bills to Reduce Burden Need to be Reconciled
- Future Pvt. Insurer Flood Participation Impacted by BW-12 Debate
Summary of House Bill
(Passed March 4, 2014)

- 9 Premium classifications with increases capped at 18%
- $25 surcharge on primary residences; $250 for non-primary
- Restoration of “grandfather” clause allowing continued subsidies for homes that were compliant under old FEMA maps but no longer are
- Eliminates property sales trigger
- Reimburses home owners for successful FEMA map challenges
- Creates a “flood insurance advocate”
- Refunds policyholders who were charged higher rates under BW-12 for homes built before FEMA established flood-risk maps
- CBO scoring of bill said that it will not increase the deficit
  - Didn’t say that it would eliminate the current $24 bill deficit
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?

Source: Insurance Information Institute Annual Pulse Survey.
I.I.I. Poll: Flood Insurance

Q. Do you think flood insurance premiums should reflect the risk of flooding no matter what the cost or do you think the government should subsidize the cost of flood insurance with taxpayers’ dollars?

Almost two-thirds of Americans think flood insurance premiums should be raised to reflect the risk of flooding.

Source: Insurance Information Institute Annual Pulse Survey (Nov. 2013).
I.I.I. Poll: Flood Insurance

Q. The federal government provides insurance coverage at taxpayer-subsidized rates for damage from floods through the National Flood Insurance Plan. A new law eliminates the subsidy and raises rates. Do you think the rate increase should be repealed?

More than half of Americans polled for the November 2013 Pulse thought that hikes in National Flood Insurance premiums should be repealed.

Source: Insurance Information Institute Annual Pulse Survey.

It is inconsistent for the public to support full-risk rates but maintain subsidies, but this exactly mirrors Congressional sentiments, with supporters of BW-12 and even Tea Party conservatives supporting continuation of the subsidies.
I.I.I. Poll: Flood Insurance

Q. If the costs were similar, would you prefer to buy flood insurance from a private insurance company or from the federal government through the National Flood Insurance Program?

Don’t know

The federal government through the NFIP

Private insurance company

10%

64%

26%

Six out of 10 Americans would prefer to buy flood insurance from a private insurance company as opposed to the federal government, if costs were similar.

Source: Insurance Information Institute Annual Pulse Survey.
U.S. Residual Market: Total Policies In-Force (1990-2012) (000)

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.

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.
Federal Disaster Declarations Patterns: 1953-2013

Disaster Declarations Set New Records in Recent Years
The number of federal disaster declarations set a new record in 2011, with 99, shattering 2010’s record 81 declarations.

There have been 2,153 federal disaster declarations since 1953. The average number of declarations per year is 35 from 1953-2013, though there haven’t been recorded since 1995.

9 federal disasters were declared so far in 2014*

The Number of Federal Disaster Declarations Is Rising and Set New Records in 2010 and 2011 Before Dropping in 2012/13

*Through March 2, 2014.

Federal Disasters Declarations by State, 1953 – 2014: Highest 25 States*

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


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
A deadly EF-5 tornado in May in Moore, OK, produced insured losses of $1.575 billion. November tornadoes in the Midwest like produced $1B in insured losses.

There were 943 tornadoes through Dec. 31, causing extensive property damage in several states.

There were 1,897 tornadoes in the U.S. in 2011 far above average, but well below 2008’s record.

2013 count was the lowest in a decade.

Source: http://www.spc.noaa.gov/wcm/.
There were 5,457 “Large Hail” reports in 2013, causing extensive property and vehicle damage.
There were 12,942 “Wind Damage” in 2013, causing extensive property damage.

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)
Severe Weather Reports: 2013

Severe weather reports are concentrated east of the Rockies

There were 19,342 severe weather reports in 2013; including 942 tornadoes; 5,457 “Large Hail” reports and 12,942 high wind events

Terrorism Update

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

Download IIi’s Terrorism Insurance Report at: http://www.iii.org/white_papers/terrorism-risk-a-constant-threat-2013.html
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
Loss Distribution by Type of Insurance from Sept. 11 Terrorist Attack ($ 2011)

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.
Difficult Reauthorization Battle Ahead

- Very difficult to overcome antigovernment/small government, Tea Party forces in the House
- Most Committee members in both houses weren’t around in 2007

House Hearings in 2012; House and Senate in Sept. 2013

If Reauthorized, Insurer Participation Likely Increased

Some Have Attacked TRIA as “Corporate Welfare”
- In reality the taxpayer is 100% protected
- NFIP, Crop programs have led to miscomprehensions

Emphasizing Benefits to Employees Under WC is Key

Misperception by Some that Terrorism is Urban Issue

Growth Opportunity: Standalone Cover if No Reauthorization
- Though limited capacity will not be sufficient to meet need
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.

TRIA Outlook

- 3 TRIA Reauthorization Bills Introduced in 2013
- Bumpy Road to Reauthorization Ahead
  - Senate: Generally supportive based on 9/25 hearing
  - House: Democrats supportive; Republicans skeptical but some seem willing to support reauthorization based on 11/13 hearing
    - Analogies to Affordable Care Act often mentioned by Republicans
- House Committee Proposals Likely to Involve:
  - Increase in trigger (from current $100 million)
  - Increasing individual comp. retentions (from current 20% of DPE)
  - Also possible: Simple industry aggregate or NBCR only proposal
- I.I.I.: Success of Current Structure & Taxpayer Protections
- Also Focused on Importance of Small/Medium Insurers
- Limitations of Capacity in the Absence of TRIA
- Media in 2014 Wants Stories of Economic Disruption
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
Pyramid of Taxpayer Protection: Strong, Stable, Sound and Secure

- **Certification of Terrorist Act:** Definition must be met
- **Certification Dollar Threshold:** $5 Million
- **Program Dollar Threshold:** $100 Million
- **Individual Insurer Retention:** 20% of Premiums Earned
- **Insurer Co-Payments:** 15% Above Retention
- **Industry Aggregate Retention:** $27.5 Billion
- **Government Recoupment**
- **Hard Cap:** $100 Billion

**If TRIA is reauthorized, it is highly likely insurer retentions will be increased**
## Summary of Terrorism Risk Insurance Program Extension Bills Introduced in 2013

<table>
<thead>
<tr>
<th>Bill</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.R. 2146: “Terrorism Risk Insurance Program Reauthorization Act of 2013”&lt;br&gt;Introduced May 23 by Rep. Michael Capuano (D-MA)</td>
<td>• 10-Year Extension (through 2024)&lt;br&gt;• Extend recoupment period for any TRIA assistance from 2017 to 2024&lt;br&gt;• 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&lt;br&gt;• Reports to be drafted with consultation from NAIC and representatives of the insurance and securities industries and policyholders</td>
</tr>
<tr>
<td>H.R. 1945: “Fostering Resilience to Terrorism Act of 2013”&lt;br&gt;Introduced May 9 by Rep. Benny Thompson (D-MS)</td>
<td>• 10-Year Extension (through 2024)&lt;br&gt;• Recoupment period changed to 2024&lt;br&gt;• Would transfer responsibility for certification of a “act of terrorism” to the Secretary of Homeland Security from Secretary of Treasury.&lt;br&gt;• PWGFM to issue reports in 2017, 2020 and 2023&lt;br&gt;• 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.”</td>
</tr>
</tbody>
</table>

Terrorist Risk Index

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

Source: Insurance Information Institute
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

North Dakota was the country’s growth leader over the past 5 years with premiums written expanding by 58.4%

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: Total P/C Percent Change by State, 2007-2012*

Bottom 25 States

Growth was negative in 13 states and DC between 2007 and 2012.

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: PP Auto Percent Change by State, 2007-2012*

Top 25 States

Sources: SNL Financial LC.; Insurance Information Institute.
Direct Premiums Written: PP Auto
Percent Change by State, 2007-2012*

Bottom 25 States

Sources: SNL Financial LC.; Insurance Information Institute.
P/C ad spending has more than tripled since 2002 (up 256% from 2002-2012)

P/C ad spend hit an all time record high of $6.088 billion in 2012, up 3.5% over 2011. The pace of growth has slowed from 15.8% in 2011 and 23.8% in 2010.

Source: Insurance Information Institute from consolidated P/C Annual Statement data, Insurance Expense Exhibit (Part I).
Direct Premiums Written: Homeowners
Percent Change by State, 2007-2012*

Top 25 States

Sources: SNL Financial LLC.; Insurance Information Institute.
Direct Premiums Written: Homeowners
Percent Change by State, 2007-2012*

Bottom 25 States

Sources: SNL Financial LLC.; Insurance Information Institute.
Direct Premiums Written: Comm. Lines Percent Change by State, 2007-2012*

Top 25 States

Only 16 states showed any commercial lines growth 2007 and 2012

Sources: SNL Financial LLC.; Insurance Information Institute.
Direct Premiums Written: Comm. Lines
Percent Change by State, 2007-2012*

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 LLC.; Insurance Information Institute.
Direct Premiums Written: Workers’ Comp
Percent Change by State, 2007-2012*

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, 2007-2012*

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.
Distribution Trends

Distribution by Channel Type Continues to Evolve Around the World
Independent agents steadily lost market share from the early 1980s through the early 2000s across all P/C lines, but have gained or held generally steady in recent years. Direct channels include exclusive agency companies, direct marketers and direct sales (e.g., internet).
Independent agents have seen only modest erosion in commercial lines market share in recent decades.
Independent agents have lost significant personal lines market share since the early 1970s. Although the trend has slowed, it may be accelerating again.

Source: Insurance Information Institute; based on data from Conning and A.M. Best.
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 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

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.
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 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

Longer-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)

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

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.
Bonds Rated NAIC Quality Category 3-6 as a Percent of Total Bonds, 2003–2012

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.
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

Avg. CAT Losses, More Reserve Releases

Cyclical Deterioration

Best Combined Ratio Since 1949 (87.6)

Sandy Impacts

Lower CAT Losses

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

Number of Years with Underwriting Profits

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.
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.
Combined Ratios by Predominant Business Segment, 2013:9M vs. 2012:9M*

*Excludes mortgage and financial guaranty insurers.

Source: ISO/PCI; Insurance Information Institute

The combined ratios for both personal and commercial lines improved substantially through 2013:Q3
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).
Questionable Claims: On the Rise

Fraud Concerns: More Questionable Claims in Most State and Across Most Lines of Insurance
Questionable Claims, Top 10 Loss States, All Lines: 2010–2012

California had the largest number of Questionable Claims in 2012, but Maryland led the way in growth, with the number of QCs up by 72.9% from 2010 to 2012.

IL saw a 0.8% increase in questionable claims from 2010 to 2012, one of the slowest growing states.

Total Number of Questionable Claims by State, 2012: Highest 25 States

California had the largest number of Questionable Claims in 2012.

Sources: NICB; Insurance Information Institute.
North Dakota had the fewest number of Questionable Claims in 2012.
Total Number of Questionable Claims by State, per 100K Persons, 2012: Highest 25 States

DC followed by Maryland California had the highest rate of Questionable Claims in 2012

Sources: NICB; Insurance Information Institute.
Total Number of Questionable Claims by State, per 100K Persons, 2012: Lowest 25 States

North and South Dakota had the lowest rate of Questionable Claims in 2012

Sources: NICB; Insurance Information Institute.
New York City had the largest number of Questionable Claims in 2012, but Miami and Baltimore led the way in growth, with the number of QCs nearly doubling from 2010 to 2012.

Philadelphia saw a 63.8% increase in questionable claims from 2010 to 2012, one of the fastest growing states.
Questionable Claims, Top 10 Policy Types: 2010–2012

Private Passenger Auto had the largest number of Questionable Claims in 2012, but Personal Property (Other) led the way in growth, with the number of QCs more than tripling from 2010 to 2012.

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

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.

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

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.
“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: SNL Financial, Insurance Information Institute.

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.
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 (1990-2014F); Conning (2015F); 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 (1990-2014F); Conning (2015F); Insurance Information Institute.
Commercial Lines Combined Ratio, 1990-2015F*

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

Commercial lines underwriting performance is expected to improve as improvement in pricing environment persists.
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.
Medical Malpractice Combined Ratio vs. All Lines Combined Ratio, 1991-2015F

MPL insurers in 2013 paid out an estimated $0.96 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.

2. SURPLUS/CAPITAL/CAPACITY

2013 Recorded Yet Another Record High
Policyholder Surplus, 2006:Q4–2013:Q3

2007:Q3 Pre-Crisis Peak

Drop due to near-record 2011 CAT losses

Surplus as of 9/30/13 stood at a record high $624.4B

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

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 P/C insurance industry entered 2014 in very strong financial condition.
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, 2007-2013:H1*

($ Billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital ($ Billions)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$410</td>
<td>-17%</td>
</tr>
<tr>
<td>2008</td>
<td>$340</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>$400</td>
<td>+18%</td>
</tr>
<tr>
<td>2010</td>
<td>$470</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>$455</td>
<td>-3%</td>
</tr>
<tr>
<td>2012</td>
<td>$505</td>
<td>+11%</td>
</tr>
<tr>
<td>2013:H1</td>
<td>$510</td>
<td>+1%</td>
</tr>
</tbody>
</table>

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
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 as a Percentage of Global Property Catastrophe Reinsurance Limit

(As of Year End)

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)

Source: Guy Carpenter
“Convergence Capital” accounted for an estimated $45B or 14% of 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.
Alternative Capacity Development, 2001—2013:H1

Source: Guy Carpenter; Mid-Year Market Report, September 2013; Insurance Information Institute.
Investor by Category, 2013 vs. 2012*

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.
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 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.
CATASTROPHE BONDS, ANNUAL RISK CAPITAL ISSUED, 2002-2012

($ Billions)

2002: $1.22
2003: $1.73
2004: $1.14
2005: $1.99
2006: $4.69
2007: $7.00
2008: $2.73
2009: $3.39
2010: $4.60
2011: $3.86
2012: $5.85

Note

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

($ Billions)

Source: GC Securities and Guy Carpenter & Company, LLC.
## Catastrophe Bond Issuances, First Half 2013

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Transaction</th>
<th>Amount ($ Mil.)</th>
<th>2013 Issue Date</th>
<th>Peril</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cincinnati Insurance Group</td>
<td>Skyline Re Ltd.</td>
<td>61.2</td>
<td>January</td>
<td>U.S. Earthquake and Thunderstorm</td>
</tr>
<tr>
<td>Nationwide Mutual</td>
<td>Caelus Re 2013</td>
<td>270</td>
<td>March</td>
<td>U.S. Hurricane and Earthquake</td>
</tr>
<tr>
<td>Citizens Property Insurance</td>
<td>Everglades Re</td>
<td>250</td>
<td>March</td>
<td>Florida Hurricane</td>
</tr>
<tr>
<td>State Farm</td>
<td>Merna Re IV</td>
<td>300</td>
<td>April</td>
<td>U.S. Earthquake</td>
</tr>
<tr>
<td>Nationwide Mutual</td>
<td>Caelus Re 2013</td>
<td>320</td>
<td>April</td>
<td>U.S. Hurricane and Earthquake</td>
</tr>
<tr>
<td>North Carolina JUA/IUA</td>
<td>Tar Heel Re</td>
<td>500</td>
<td>April</td>
<td>North Carolina Hurricane</td>
</tr>
<tr>
<td>Turkish Catastrophe Insurance Pool</td>
<td>Bosphorus 1 Re</td>
<td>400</td>
<td>April</td>
<td>Turkey Earthquake</td>
</tr>
<tr>
<td>Louisiana Citizens</td>
<td>Pelican Re</td>
<td>140</td>
<td>May</td>
<td>Louisiana Hurricane</td>
</tr>
<tr>
<td>American Coastal Insurance Company</td>
<td>Armor Re</td>
<td>183</td>
<td>May</td>
<td>Florida Hurricane</td>
</tr>
<tr>
<td>Travelers</td>
<td>Long Point Re III</td>
<td>300</td>
<td>May</td>
<td>Northeast U.S. Hurricane</td>
</tr>
<tr>
<td>Florida Municipal Insurance Trust</td>
<td>Sunshine Re</td>
<td>20</td>
<td>May</td>
<td>Florida Hurricane</td>
</tr>
<tr>
<td>Allianz</td>
<td>Blue Danube II</td>
<td>175</td>
<td>May</td>
<td>Earthquake</td>
</tr>
<tr>
<td>USAA</td>
<td>Residential Re</td>
<td>300</td>
<td>May</td>
<td>U.S. Hurricane, Earthquake, Thunderstorm</td>
</tr>
<tr>
<td>Southern Oak</td>
<td>Oak Leaf Re</td>
<td>30</td>
<td>May</td>
<td>Florida Hurricane</td>
</tr>
<tr>
<td>Allstate</td>
<td>Sanders Re</td>
<td>350</td>
<td>May</td>
<td>U.S. Hurricane and Earthquake</td>
</tr>
<tr>
<td>Amlin AG</td>
<td>Tramline Re II</td>
<td>75</td>
<td>June</td>
<td>U.S. Hurricane/Canada Earthquake</td>
</tr>
<tr>
<td>Munich Re</td>
<td>Queen Street VIII Re</td>
<td>75</td>
<td>June</td>
<td>U.S. Hurricane/Australia Cyclone</td>
</tr>
<tr>
<td>Assurant</td>
<td>Ibis Re II</td>
<td>185</td>
<td>June</td>
<td>U.S. Hurricane</td>
</tr>
</tbody>
</table>

Sources: Willis Capital Markets & Advisory, Fitch Ratings; Insurance Information Institute.
Sidecar Transactions (Post-Sandy) and Hedge Fund-Backed Reinsurers

Sidecar Transactions — Post Hurricane Sandy

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Transaction</th>
<th>Capital ($ Mil.)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancashire</td>
<td>Saltire Re I</td>
<td>250</td>
<td>November 2012</td>
</tr>
<tr>
<td>Alterra</td>
<td>New Point V</td>
<td>247</td>
<td>December 2012</td>
</tr>
<tr>
<td>RenRe</td>
<td>Upsilon Re II</td>
<td>185</td>
<td>January 2013</td>
</tr>
<tr>
<td>Argo</td>
<td>Harambee Re</td>
<td>N.A.</td>
<td>January 2013</td>
</tr>
<tr>
<td>Validus</td>
<td>AlphaCat Re 2013</td>
<td>230</td>
<td>January 2013</td>
</tr>
<tr>
<td>Everest Re</td>
<td>Mt. Logan Re</td>
<td>250</td>
<td>January 2013</td>
</tr>
<tr>
<td>PartnerRe</td>
<td>Lorenz Re</td>
<td>75</td>
<td>March 2013</td>
</tr>
<tr>
<td>ACE</td>
<td>Altair Re</td>
<td>95</td>
<td>April 2013</td>
</tr>
</tbody>
</table>

N.A. – Not available.
Source: Company press releases and filings.

Sidecars (collateralized reinsurance) are the fastest growing alternative capital segment, account for about 15% or $5 bill of total property catastrophe reinsurance capital.

More hedge fund money is coming into the business.

Hedge Fund-Backed Reinsurers

<table>
<thead>
<tr>
<th>Company</th>
<th>Initial Capital ($ Mil.)</th>
<th>Operations Date</th>
<th>Major Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQR Re Ltd.</td>
<td>260</td>
<td>Jan. 2012</td>
<td>AQR Capital Management, LLC</td>
</tr>
<tr>
<td>Greenlight Capital Re, Ltd.</td>
<td>212</td>
<td>April 2006</td>
<td>Greenlight Capital</td>
</tr>
<tr>
<td>PaCRE, Ltd.</td>
<td>500</td>
<td>April 2012</td>
<td>Paulson &amp; Co., Validus</td>
</tr>
<tr>
<td>S.A.C. Re Holdings Ltd.</td>
<td>500</td>
<td>July 2012</td>
<td>S.A.C. Capital Advisors, Capital Z Partners III LP</td>
</tr>
<tr>
<td>Third Point Reinsurance Co. Ltd.</td>
<td>750</td>
<td>Jan. 2012</td>
<td>Third Point LLC, Kelso &amp; Co, Pine Brook Road Partners</td>
</tr>
</tbody>
</table>

Source: Company press releases and filings.

Sources: Willis Capital Markets & Advisory, Fitch Ratings; Insurance Information Institute.
(Re) Insurers Investing in Insurance Linked Securities (ILS) Fund Managers

<table>
<thead>
<tr>
<th>(Re)insurer</th>
<th>Asset Manager/Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alleghany</td>
<td>Ares Management</td>
</tr>
<tr>
<td>Allied World</td>
<td>Aeolus Capital Management</td>
</tr>
<tr>
<td>Amlin</td>
<td>Leadenhall Capital Partners</td>
</tr>
<tr>
<td>Aspen Re</td>
<td>Cartesian Iris Re</td>
</tr>
<tr>
<td>Hannover Re</td>
<td>Leine Investment</td>
</tr>
<tr>
<td>Lancashire</td>
<td>Saltire Management</td>
</tr>
<tr>
<td>Montpelier Re</td>
<td>Blue Capital Management</td>
</tr>
<tr>
<td>Munich Re</td>
<td>MEAG Munich Ergo</td>
</tr>
<tr>
<td>RenaissanceRe</td>
<td>RenaissanceRe Ventures</td>
</tr>
<tr>
<td>SCOR</td>
<td>Atropos</td>
</tr>
<tr>
<td>Transatlantic</td>
<td>Pillar Capital Holdings</td>
</tr>
<tr>
<td>Validus</td>
<td>AlphaCat Fund</td>
</tr>
<tr>
<td>XL</td>
<td>Stone Point Capital</td>
</tr>
</tbody>
</table>

Several (re)insurers have formed asset managers or invested in independent asset managers that are focused on managing catastrophe/ILS funds for outside investors. These asset managers invest third party capital in instruments with returns linked to property catastrophe reinsurance retrocession and ILS contracts.

Sources: Willis Capital Markets & Advisory, Fitch Ratings; Insurance Information Institute.
• Alternative Reinsurance Here to Stay
  - Capital markets have effectively discovered reinsurance another “asset class,” in part due to Federal Reserve’s unprecedented actions since the financial crisis to keep interest rates low across the entire yield curve.

  - A convergence of the reinsurance and capital markets persists with many companies both providing and using alternative forms of risk transfer to supplement the traditional balance sheet, transforming several reinsurers into risk asset managers. These structures include catastrophe bonds (cat bonds), collateralized quota-share reinsurance vehicles (sidecars), industry loss warranties (ILWs), hedge fund-supported reinsurers and asset managers investing in insurance-linked securities (ILS).

• Property Catastrophe Drives Market:
  - The nature of property catastrophe risk as being highly modeled and commoditized serves as an important economic force driving its transfer into the capital markets. Casualty (re)insurance lines have had limited movement into the alternative reinsurance market thus far, as the less standardized and more specialized nature of these longer term risks makes them better suited for more permanent traditional capacity providers.

• **Strong Investor Demand**
  ➢ Comparatively high potential returns of catastrophe risk through cat bonds and sidecar investments are particularly attractive to investors, although this spread has been shrinking due to increased investor demand. However, the lack of correlation between catastrophe losses and returns on other major asset classes should continue to contribute to strong demand from investors, which include hedge funds, private equity and institutional investors.

• **Shock (i.e., Large Loss) Event Could Alter Market**
  ➢ One area of uncertainty is how investors would react to an environment of *less favorable catastrophe risk spreads* or a *large unexpected catastrophe loss*, either of which could cause capital to retreat. This risk is likely higher for hedge fund capital, as pension fund capital tends to be more permanent, given their long-term investment outlook and more diversified risk exposure.

• **Mixed Impact to Reinsurers’ Ratings:**
  ➢ Fitch views the growth and acceptance of alternative reinsurance as a mixed impact for the credit quality of reinsurers’ ratings. Favorably, these products can be used to manage reinsurers’ exposure and capital and serve as a source of fee income. Negatively, alternative coverage represents competition for traditional reinsurers that, in conjunction with the strong overall capitalization of the reinsurance industry, have worked to notably dampen reinsurance pricing.

• **Sponsors Benefit From New Issuance:**
  ➢ As investor demand has continued to grow for catastrophe bonds, sponsors have been able to offer deals at considerably lower coupon rates and with increasingly favorable structures that suit individual company needs. These market conditions are likely to drive further issuance of cat bonds in the near term if (re)insurers believe they can produce a cost-effective alternative to supplement their reinsurance program. As of midyear, 2013 is on track to produce a record amount of catastrophe bond issuance.

• **Sidecars Continue to Provide Capacity:**
  ➢ Several sidecars emerged late in 2012 and early into 2013 following Hurricane Sandy. These vehicles were opportunistically seeking to capitalize on any potential improvements in property catastrophe pricing. However, they also represented several newer entrants into the alternative reinsurance space looking to participate in what continues to be an important and growing segment of the reinsurance market.

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 billion 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
Reinsurer Share of Recent Significant Market Losses

Source: Insurance Information Institute from reinsurance share percentages provided in RAA, ABIR and CEA press release, Jan. 13, 2011.
Alternative Reinsurance Market

Alternative reinsurance is effectively any form of managing and transferring (re)insurance risk through the use of the capital markets rather than the traditional reinsurance market. These nontraditional structures commonly include catastrophe bonds (cat bonds), collateralized quota-share reinsurance vehicles (sidecars) and industry loss warranties (ILWs).

Alternatives to traditional reinsurance essentially began following Hurricane Andrew, with the introduction of exchange traded insurance options in 1992, the first cat bond in 1994, and later sidecars in 2001, following the events of Sept. 11, 2001. However, the market began to grow significantly following Hurricane Katrina in 2005, as (re)insurers were essentially forced to increase issuances of catastrophe bonds and expand the use of sidecars in order to absorb underwriting capacity as retrocession availability became more scarce and expensive.

Catastrophe Bonds

Cat bonds are bonds issued by an insurer with a condition that if the issuer suffers a catastrophe loss greater than a specified amount, the obligation to pay interest/principal is deferred or forgiven, thus effectively prompting a default on the bond. Cat bonds allow sponsors (most often a (re)insurer) to transfer a portion of its catastrophe risk to the capital markets through securities purchased by investors and actively traded in the secondary market.

Favorably for the sponsor, cat bonds offer collateralized (most often invested in U.S. Treasury Money Market Funds) protection that is locked in at a fixed cost over multiple years (typically two to four years). This allows the (re)insurer to be less subject to changing reinsurance market conditions. For the investor, cat bonds offer a comparatively high yield and an opportunity to diversify their portfolios. This is due to the lack of correlation between catastrophe losses and returns on other major asset classes that are tied to more macroeconomic and financial market conditions.

Sidecars

Sidecars are special-purpose reinsurers that provide dedicated collateralized quota-share reinsurance, often for a single ceding company that transfers a portion of its underwriting risk (and related capital investment), and in turn receives a ceding commission. They also can be a source of fee income for the reinsurers that underwrite or provide management services to such third-party risk vehicles.

Sidecar vehicles are often established by traditional reinsurers as a means to tap into the external capacity offered by the capital markets from hedge funds, investment banks, private equity and other opportunistic investors and increase the efficiency and diversification of the company’s reinsurance program. They typically have a limited life expectancy and are often wound up when market conditions deteriorate, after which any remaining capital funds are returned to investors and the sponsor.

Industry Loss Warranties

ILWs are a type of private reinsurance or derivative contract through which one party (often an insurer) will purchase protection based on the total loss arising from an event to the entire insurance industry rather than their own losses. The buyer pays a premium to the company that writes the ILW cover (often a reinsurer or hedge fund) and in return receives coverage for a specified limit if industry losses exceed the predefined amount under the ILW trigger.
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.

Sources: Towers Watson, 2011 Update on US Tort Cost Trends, Appendix 1A
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

Commercial Lines Tort Costs: Insured vs. Self-(Un)Insured Shares, 1973-2010

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

### Drop-offs

- Indiana
- Colorado
- Massachusetts
- South Dakota

## Worst States

1. Florida
2. Oklahoma
3. Alabama
4. New Mexico
5. Montana
6. Illinois
7. California
8. Mississippi
9. Louisiana
10. West Virginia

### Newly Notorious

- Oklahoma

### Rising Above

- Arkansas

The Nation’s Judicial Hellholes: 2012/2013

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:
Data Breaches 2005-2013, by Number of Breaches and Records Exposed

The Total Number of Data Breaches (+38%) and Number of Records Exposed (+408%) in 2013 Soared

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.

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.

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.
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.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Avg. 2012 Limits</th>
<th>Avg. 2011 Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Industries</td>
<td>$16.8</td>
<td>$14.1</td>
</tr>
<tr>
<td>Comms, Media &amp; Technology</td>
<td>$33.4</td>
<td>$24.6</td>
</tr>
<tr>
<td>Education</td>
<td>$8.1</td>
<td>$9.3</td>
</tr>
<tr>
<td>Financial Institutions</td>
<td>$26.0</td>
<td>$20.5</td>
</tr>
<tr>
<td>Health Care</td>
<td>$9.8</td>
<td>$9.0</td>
</tr>
<tr>
<td>Retail/Wholesale</td>
<td>$13.1</td>
<td>$12.4</td>
</tr>
<tr>
<td>Services</td>
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<td>$14.1</td>
</tr>
<tr>
<td>All Other</td>
<td>$20.7</td>
<td>$8.1</td>
</tr>
</tbody>
</table>

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

($ Millions)

<table>
<thead>
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<th>Industry</th>
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</tr>
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<tr>
<td>All Industries</td>
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<td>Education</td>
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</tr>
<tr>
<td>Health Care</td>
<td>$11.3</td>
<td>$17.3</td>
</tr>
<tr>
<td>Retail/Wholesale</td>
<td>$30.0</td>
<td>$38.7</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>$38.7</td>
</tr>
</tbody>
</table>

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

New Waves of Regulations

2008 - Present
Global Crisis and Regulatory Response
The Global Financial Crisis: The Pendulum Swings Again: Dodd-Frank & Systemic Risk

- 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
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-SIIs (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-SIIs staring in 2019</td>
</tr>
<tr>
<td>January 2019</td>
<td>G-SIIs to apply HLA requirements</td>
</tr>
</tbody>
</table>

Sources: Financial Stability Board, “Globally Systemically Important Insurers (G-SIIs) 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)
Thank you for your time and your attention!

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