Hurricane Season of 2005:

*Impacts on US P/C Insurance Markets in 2006 & Beyond*

Insurance Information Institute

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Download at:
http://www.disasterinformation.org/disaster2/facts/presentation/

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Presentation Outline

• 2006 Hurricane Season: Preview to Disaster?
• Katrina, Rita & Wilma: Their Place in History
• Catastrophe Review:
  ➢ Loss estimate overview
  ➢ Hurricanes Katrina & Rita’s place in history
  ➢ Loss distribution (geographic & by line)
  ➢ Impact on financial & underwriting performance
  ➢ Influence of legal environment on Katrina claims
• Energy Market Overview
• P/C Financial Overview & Impacts
• Industry Claims-Paying Resources
• Underwriting Performance pre-Katrina
• Pricing Impacts
• Q & A
The 2006 Hurricane Season: Preview to Disaster?
### Outlook for 2006 Hurricane Season

<table>
<thead>
<tr>
<th>Category</th>
<th>Average*</th>
<th>2005**</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Named Storms</td>
<td>9.6</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>Named Storm Days</td>
<td>49.1</td>
<td>115.5</td>
<td>85</td>
</tr>
<tr>
<td>Hurricanes</td>
<td>5.9</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Hurricane Days</td>
<td>24.5</td>
<td>47.5</td>
<td>45</td>
</tr>
<tr>
<td>Intense Hurricanes</td>
<td>2.3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Intense Hurricane Days</td>
<td>2.3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Net Tropical Cyclone Activity</td>
<td>100%</td>
<td>263%</td>
<td>195%</td>
</tr>
</tbody>
</table>

*Average over the period 1950-2000.

**As of December 4, 2005.

Source: Dr. William Gray, Colorado State University, December 6, 2005.
### Probability of Major Hurricane Landfall (CAT 3, 4, 5) in 2006

<table>
<thead>
<tr>
<th>Area</th>
<th>Average*</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire US Coast</td>
<td>52%</td>
<td>81%</td>
</tr>
<tr>
<td>US East Coast Including Florida Peninsula</td>
<td>31%</td>
<td>64%</td>
</tr>
<tr>
<td>Gulf Coast from FL Panhandle to Brownsville, TX</td>
<td>30%</td>
<td>47%</td>
</tr>
</tbody>
</table>

**ALSO…Above-Average Major Hurricane Landfall Risk in Caribbean for 2006**

*Average over past century.

Source: Dr. William Gray, Colorado State University, December 6, 2005.
Hurricanes Katrina, Rita & Wilma:
Their Place in History
Top 10 Deadliest Hurricanes to Strike the US: 1851-2005

Hurricane Katrina was the deadliest hurricane to strike the US since 1928

Katrina Deaths by State****

- LA, 1,075, 81.3%
- MS, 230, 17.4%
- AL, 2, 0.2%
- FL, 14, 1.1%
- GA, 2, 0.2%

8,000

LA-Grand Isle (1909)
Audrey-SW LA, TX (1957)
LA-Last Island (1856)
FL Keys (1935)
GA/SC (1881)
LA-Cheriare (1893)****
Katrina (SE LA, MS)****
SC/GA Sea Islands (1893)**
SE FL/L. Okeechobee (1928)**
Galveston (1900)*

*Could be as high as 12,000  **Could be as high as 3,000  ***Midpoint of 1,000 – 2,000 range
****Associated Press total as of Dec. 11, 2005. *****Midpoint of 1,100-1,400 range.
Sources: NOAA; Insurance Information Institute.
Insured Loss & Claim Count for Major Storms of 2005*

Hurricanes Katrina, Rita, Wilma & Dennis produced a record 3.2 million claims

*Property and business interruption losses only. Excludes offshore energy & marine losses.

Source: ISO/PCS as of February 8, 2006; Insurance Information Institute.

Seven of the 10 most expensive hurricanes in US history occurred in the 14 months from Aug. 2004 – Oct. 2005:

Katrina, Rita, Wilma, Charley, Ivan, Frances & Jeanne

Sources: ISO/PCS; Insurance Information Institute.
Hurricane Damage from Top 10 Hurricanes Since 1900 Adjusted for Inflation, Growth in Coastal Properties, Real Growth in Property Values*

(Billions of 2004 Dollars)

- Camille (1969, MS) $19.2
- Donna (1960, FL) $23.9
- Lake Okeechobee (1928, FL) $30.3
- Storm 9 (1944) $34.3
- New England (1938) $35.0
- Number 2 (1915, TX) $50.2
- Andrew (1992, FL) $50.8
- Galveston (1900, TX) $53.1
- Katrina (2005, LA)* $80.0
- Great Miami Hurricane $129.7

*Includes damage form wind and storm surge but generally excludes inland flooding.

Hurricanes causing $50B+ in economic losses will become more frequently
Insured Losses from Top 10 Hurricanes Since 1900 & Katrina Adjusted for Inflation, Growth in Coastal Properties, Real Growth in Property Values & Increased Property Insurance Coverage

(Billions of 2005 Dollars)

The p/c insurance industry will likely experience a $20B+ event approximately every 10-12 years, on average—mostly associated with hurricanes

*ISO/PCS estimate as of October 10, 2005.
Repeat of Great Miami Hurricane of 1926 could cause $500B in damage by 2020 given current demographic trends.

*Includes damage from wind and storm surge but generally excludes inland flooding.

Top 11 Insured Property Losses in US ($2005)

Eight of the 11 most expensive disasters is US history occurred within the past 4 years

Note: 9/11 loss figure is for property claims only. Total insured losses ($2004) are approximately $34B. Sources: ISO/PCS; Insurance Information Institute.

Five of the 11 most expensive disasters is world history affected the US within the past 4 years.

*All figures are for total losses across all locations, not just US. Katrina losses are a preliminary III estimate.
Sources: ISO/PCS; Swiss Re, “Natural Catastrophes and Man-Made Disasters in 2003,” Sigma, no.1, 2004
Government Aid After Major Disasters (Billions)*

Hurricane Katrina aid will dwarf aid following all other disasters. Congress may authorize $150-$200 billion ultimately (about $400,000 for each of the 500,000 displaced families). Is the incentive to buy insurance and insure to value diminished?

*In 2005 dollars.
Source: United States Senate Budget Committee, Insurance Information Institute as of 12/31/05.
# Itemization of Federal Government Spending on Hurricane Relief

<table>
<thead>
<tr>
<th>Legislation</th>
<th>5-Yr. Cost</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Spending Supplement #1, HR 3645</td>
<td>$10.500</td>
<td>Public Law 109-61</td>
</tr>
<tr>
<td>Emergency Spending Supplement #2, HR 3673</td>
<td>$51.8</td>
<td>Public Law 109-62</td>
</tr>
<tr>
<td>Flood Insurance Borrowing Authority</td>
<td>$2.000</td>
<td>Passed House &amp; Senate</td>
</tr>
<tr>
<td>Pell Grant Relief, H.R. 3169</td>
<td>$0.002</td>
<td>Passed House &amp; Senate</td>
</tr>
<tr>
<td>TANF Disaster Relief, H.R. 3672</td>
<td>$0.294</td>
<td>Passed House &amp; Senate</td>
</tr>
<tr>
<td>Katrina Short-Term Tax Relief Bill, H.R. 3768</td>
<td>$6.500</td>
<td>Passed Senate</td>
</tr>
<tr>
<td>Sarbanes Housing Amend. To H.R. 2862</td>
<td>$3.500</td>
<td>Passed Senate</td>
</tr>
<tr>
<td>Harkin Legal Services Amend. To H.R. 2862</td>
<td>$0.008</td>
<td>Passed Senate</td>
</tr>
<tr>
<td>Snowe Small Business Amen. To H.R. 2862</td>
<td>$0.595</td>
<td>Passed Senate</td>
</tr>
<tr>
<td>Baucus Economic Develop. Amend to H.R. 2862</td>
<td>$0.210</td>
<td>Passed Senate</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$75.409</strong></td>
<td></td>
</tr>
</tbody>
</table>

- Emergency Health Care Relief Act, S. 1716: $5.0-$7.0B, Introduced in Senate
- Additional Flood Insurance Borrowing Authority: $10.0-$30.0B, N/A
Records Set in 2005
Atlantic Hurricane Season

- Most Category 5 hurricanes: 3 (Katrina, Rita, Wilma. Emily may be classified as a Category 5 upon re-analysis.) Old record: 2 in 1960 and 1961.
- Latest end to a hurricane season: January 6 Previous record: January 5, for the 1954-55 hurricane season.

Single Storm Records Set During 2005 Atlantic Hurricane Season


- Fastest intensification ever by an Atlantic hurricane: Wilma. Wilma's pressure dropped 97 millibars in 24 hours Previous record: Gilbert (1988) dropped 72 mb in 24 hours. Wilma's pressure fell 54 mb over six hours, beating Hurricane Beulah's drop of 38 mb in six hours in 1967. Wilma's 12 hour pressure fall of 83 mb beat the old 12 hour pressure fall record of 48 mb set by Hurricane Allen in 1980.


- Dennis became the most intense hurricane on record before August when a central pressure of 930 mb was recorded.

- Emily eclipsed the record previously set by Dennis for lowest pressure recorded for a hurricane before August when its central pressure reached 929 mb.

- Vince was the furthest north and east that a storm has ever developed in the Atlantic basin & was the first tropical cyclone in recorded history to strike the Iberian Peninsula.

- Delta became extratropical shortly before hit the Canary Islands, but was the first tropical cyclone on record to affect the islands.

- Wilma had the smallest eye diameter ever measured in a hurricane, two nautical miles.

CATASTROPHE LOSS MANAGEMENT

Focus on the Hurricane Season of 2005
The number of natural and man-made catastrophes has been increasing on a global scale for 20 years.

Record 248 man-made CATs & record 149 natural CATs in 2005.

Global Insured CAT Losses, 1970–2005
(Property and Business Interruption)

There has been a huge increase in the insured value of global CAT losses in recent years.

Record $78 billion in insured natural CAT losses in 2005, compared to $5B in man-made disasters.

Billion USD, at 2004 prices

*US CAT losses were a record 14.3% of net premiums earned in 2005 and were 4.3 times the 1984-2004 average of 3.3%*

*Insurance Information Institute estimate of 14.3% for 2005 based estimated 2005 DPE of $418.8B and estimated insured CAT losses of $60B.
U.S. Insured Catastrophe Losses ($ Billions)

2005 was by far the worst year ever for insured catastrophe losses in the US, but the worst has yet to come.

Excludes $4B-$6b offshore energy losses from Hurricanes Katrina & Rita.

Note: 2001 figure includes $20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = $12.2B.

Source: Property Claims Service/ISO; Insurance Information Institute
2005 Was a Busy, Destructive, Deadly & Expensive Hurricane Season

All 21 names were used for the first time ever, so Greek letters were used for the final 6 storms: Alpha through Zeta.

2005 set a new record for the number of hurricanes & tropical storms at 27, breaking the old record set in 1933.

Tropical Cyclone Activity in 1933

Even though 1933 was the 2nd busiest year for hurricanes, the north Gulf (future offshore oil zone) coast was unaffected.

“Great New England Hurricane” of 1938 aka “Long Island Express” caused severe damage through much of the Northeast, including Long Island.

Damage Caused by “Long Island Express” Hurricane of 1938

- 700 deaths, 708 injured
- 4,500 homes, cottages, farms destroyed; 15,000 damaged
- 26,000 destroyed automobiles
- 20,000 miles of electrical power and telephone lines downed
- 1,700 livestock and up to 750,000 chickens killed
- $2,610,000 worth of fishing boats, equipment, docks, and shore plants damaged or destroyed
- Half the entire apple crop destroyed at a cost of $2 million

Source SUNY Suffolk: http://www2.sunysuffolk.edu/mandias/38hurricane/damage_caused.html
Number of Major (Category 3, 4, 5) Hurricanes Striking the US by Decade

1930s – mid-1960s: Period of Intense Tropical Cyclone Activity

1900s | 1910s | 1920s | 1930s | 1940s | 1950s | 1960s | Mid-1990s – 2030s?
---|---|---|---|---|---|---|---
6 | 8 | 5 | 8 | 8 | 9 | 6 | 4 | 10

Mid-1990s – 2030s? New Period of Intense Tropical Cyclone Activity

1900s 1910s 1920s 1930s 1940s 1950s 1960s 1970s 1980s 1990s 2000s

Tropical cyclone activity in the mid-1990s entered the active phase of the “multi-decadal signal” that could last into the 2030s

*Figure for 2000s is extrapolated based on data for 2000-2005 (6 major storms: Charley, Ivan, Jeanne (2004) & Katrina, Rita, Wilma (2005)).

Source: Tillinghast from National Hurricane Center: [http://www.nhc.noaa.gov/pastint.shtml](http://www.nhc.noaa.gov/pastint.shtml)
# Breakdown of RMS $40-$60 Billion Katrina Loss Estimate

<table>
<thead>
<tr>
<th>Type of Loss</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windstorm &amp; Surge</td>
<td>$20</td>
<td>$25</td>
</tr>
<tr>
<td>Flood, private (not incl. NFIP)*</td>
<td>$15</td>
<td>$25</td>
</tr>
<tr>
<td>Off Shore Energy, Marine</td>
<td>$2</td>
<td>$5</td>
</tr>
<tr>
<td>Misc., Possible Pollution</td>
<td>$2</td>
<td>$3</td>
</tr>
<tr>
<td>1st Landfall (FL)</td>
<td>$1</td>
<td>$2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$40</strong></td>
<td><strong>$60</strong></td>
</tr>
</tbody>
</table>

*Primarily commercial flood and associated business interruption losses.
Sources: RMS; Adapted from *Responding to Katrina*, Lane Financial LLC, Sept. 16, 2005.
## Breakdown of Tillinghast $40-$55 Billion Katrina Loss Estimate

<table>
<thead>
<tr>
<th>Type of Loss</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Property Lines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Property</td>
<td>$14.0</td>
<td>$17.0</td>
</tr>
<tr>
<td>Personal Auto</td>
<td>$1.0</td>
<td>$2.0</td>
</tr>
<tr>
<td>Personal Watercraft</td>
<td>$0.2</td>
<td>$0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$15.2</strong></td>
<td><strong>$19.3</strong></td>
</tr>
<tr>
<td><strong>Commercial Property Lines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Property (excl. Off-Shore)</td>
<td>$13.5</td>
<td>$16.0</td>
</tr>
<tr>
<td>Business Interruption (excl. marine &amp; energy)</td>
<td>$6.0</td>
<td>$9.0</td>
</tr>
<tr>
<td>Commercial Auto</td>
<td>$0.2</td>
<td>$0.3</td>
</tr>
<tr>
<td><strong>Sub-Total Personal &amp; Commercial</strong></td>
<td><strong>$19.7</strong></td>
<td><strong>$25.3</strong></td>
</tr>
<tr>
<td>Marine &amp; Energy</td>
<td>$4.0</td>
<td>$6.0</td>
</tr>
<tr>
<td>Liability</td>
<td>$1.0</td>
<td>$3.0</td>
</tr>
<tr>
<td>Other</td>
<td>$0.0</td>
<td>$1.0</td>
</tr>
<tr>
<td><strong>Total All Lines</strong></td>
<td><strong>$39.9</strong></td>
<td><strong>$54.6</strong></td>
</tr>
</tbody>
</table>
### Comparison of Hurricanes

**Andrew & Katrina**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Andrew</th>
<th>Katrina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration as TS/Hurricane</td>
<td>Aug. 17-28, 1992</td>
<td>Aug. 24-31, 2005</td>
</tr>
<tr>
<td>Area Affected</td>
<td>South FL, LA</td>
<td>South FL, LA, MS, AL, TN, FL Panhandle</td>
</tr>
<tr>
<td>Saffir-Simpson Category at Major Landfall</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Windspeed at Major Landfall</td>
<td>165mph sustained</td>
<td>145mph sustained</td>
</tr>
<tr>
<td>Width of Hurricane-Force Winds at Major Landfall</td>
<td>Approx. 120 miles</td>
<td>Approx. 250 miles</td>
</tr>
<tr>
<td>Central Pressure at Landfall</td>
<td>922 mbar (hPa)</td>
<td>918 mbar (hPa)</td>
</tr>
<tr>
<td>Storm Surge at Major Landfall</td>
<td>17 feet</td>
<td>15-29 feet</td>
</tr>
<tr>
<td>Fatalities</td>
<td>65 (26 direct, 39 indirect)</td>
<td>1,193 (as of Oct. 4) (972 in LA, 221 in MS)</td>
</tr>
</tbody>
</table>

Top 50 Insurer & Reinsurer Losses from Hurricane Season of 2005 ($000)*

As of January 16, at least 108 companies had announced losses totaling about $41.3 billion, about 69% of an industry loss estimate of $60 billion.

*Figures are generally after-tax and net of reinsurance with some exceptions.

Note: If company gave range of estimates, upper end is used.

Sources: National Underwriter Insurance Data Services; Insurance Information Institute.
Insured Loss Estimates as a %
US Policyholder Surplus*

*Policyholder surplus as of 6/30/05 of $412.5 billion (ISO).
Source: Insurance Information Institute.
Price Impact of Including Flood Coverage in Standard Homeowners Insurance Policies

- MS Average Home Insurance Premium (no flood coverage)
  - Standard Coverage (no Flood): $774
  - Avg. NFIP Premium in MS: $447
  - NFIP Subsidy to MS: $1,221

- MS Average Home Insurance Premium (with NFIP flood coverage)
  - Standard Coverage (no Flood): $774
  - Avg. NFIP Premium in MS: $447
  - NFIP Subsidy to MS: $504
  - Add 15% ROE on Flood Capital: $1,725

- Eliminate MS Flood Subsidy
  - Standard Coverage (no Flood): $774
  - Avg. NFIP Premium in MS: $447
  - NFIP Subsidy to MS: $504
  - Add 15% ROE on Flood Capital: $1,868

Price increases of up to $1,094 or 141% are possible

Source: Insurance Information Institute from NAIC, FEMA/NFIP data.
Hurricanes Katrina, Rita & Wilma:

Loss Distributions
Hurricane Katrina Insured Loss Distribution by State ($ Millions)*

- Mississippi, $12,105, 31.8%
- Louisiana, $24,275, 63.7%
- Tennessee, $59.0, 0.2%
- Florida, $543.0, 1.4%
- Georgia, $27.0, 0.1%
- Alabama, $1,102, 2.9%

*As of February 8, 2006
Source: PCS division of ISO.

Total Insured Losses = $38.111 Billion

Louisiana accounted for nearly 2/3 of the insured losses paid and 56% of the claims filed.
Hurricane Katrina Claim Count
Distribution by State*

- Mississippi, 515,000, 29.4%
- Tennessee, 15,000, 0.9%
- Louisiana, 975,000, 55.7%
- Florida, 115,000, 6.6%
- Alabama, 124,000, 7.1%
- Georgia, 7,800, 0.4%

Total # Claims = 1,751,800

*As of February 8, 2006
Source: PCS division of ISO.

Louisiana accounted for nearly 2/3 of insured losses paid and 56% of claims filed.
Hurricane Katrina Loss
Distribution by Line ($ Billions)*

Total insured losses are estimated at $38.1 billion from 1.7518 million claims. Excludes $2-$3B in offshore energy losses.

*As of February 8, 2006
Source: PCS division of ISO.
Hurricane Katrina Insured Loss and Claim Distribution by State*

<table>
<thead>
<tr>
<th>State</th>
<th>Losses ($Mill)</th>
<th># Claims</th>
<th>% Losses</th>
<th>% Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA</td>
<td>$24,275.0</td>
<td>975,000</td>
<td>63.7%</td>
<td>55.7%</td>
</tr>
<tr>
<td>MS</td>
<td>$12,105.0</td>
<td>515,000</td>
<td>31.8%</td>
<td>29.4%</td>
</tr>
<tr>
<td>AL</td>
<td>$1,102.0</td>
<td>124,000</td>
<td>2.9%</td>
<td>7.1%</td>
</tr>
<tr>
<td>FL</td>
<td>$543.0</td>
<td>115,000</td>
<td>1.4%</td>
<td>6.6%</td>
</tr>
<tr>
<td>TN</td>
<td>$59.0</td>
<td>15,000</td>
<td>0.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>GA</td>
<td>$27.0</td>
<td>7,800</td>
<td>0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Totals</td>
<td>$38,111.0</td>
<td>1,751,800</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*As of February 8, 2006.
Source: PCS division of ISO.
## Hurricane Rita Insured Loss and Claim Distribution by State*

<table>
<thead>
<tr>
<th>State</th>
<th>Losses ($Mill)</th>
<th># Claims</th>
<th>% Losses</th>
<th>% Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA</td>
<td>$2,912.5</td>
<td>185,000</td>
<td>58.5%</td>
<td>48.6%</td>
</tr>
<tr>
<td>TX</td>
<td>$1,970.0</td>
<td>169,000</td>
<td>39.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td>MS</td>
<td>$34.0</td>
<td>7,000</td>
<td>0.7%</td>
<td>1.8%</td>
</tr>
<tr>
<td>FL</td>
<td>$23.0</td>
<td>6,000</td>
<td>0.5%</td>
<td>1.6%</td>
</tr>
<tr>
<td>AR</td>
<td>$13.7</td>
<td>5,500</td>
<td>0.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>AL</td>
<td>$13.0</td>
<td>5,000</td>
<td>0.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>TN</td>
<td>$10.0</td>
<td>3,500</td>
<td>0.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$4,976.2</strong></td>
<td><strong>381,000</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

*As of February 8, 2006.
Source: PCS division of ISO.
# Breakdown of Tillinghast $40-$55 Billion Katrina Loss Estimate

<table>
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<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Property Lines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Property</td>
<td>$14.0</td>
<td>$17.0</td>
</tr>
<tr>
<td>Personal Auto</td>
<td>$1.0</td>
<td>$2.0</td>
</tr>
<tr>
<td>Personal Watercraft</td>
<td>$0.2</td>
<td>$0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$15.2</td>
<td>$19.3</td>
</tr>
<tr>
<td><strong>Commercial Property Lines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Property (excl. Off-Shell)</td>
<td>$13.5</td>
<td>$16.0</td>
</tr>
<tr>
<td>Business Interruption (excl. marine &amp; energy)</td>
<td>$6.0</td>
<td>$9.0</td>
</tr>
<tr>
<td>Commercial Auto</td>
<td>$0.2</td>
<td>$0.3</td>
</tr>
<tr>
<td><strong>Sub-Total Personal &amp; Commercial</strong></td>
<td>$19.7</td>
<td>$25.3</td>
</tr>
<tr>
<td>Marine &amp; Energy</td>
<td>$4.0</td>
<td>$6.0</td>
</tr>
<tr>
<td>Liability</td>
<td>$1.0</td>
<td>$3.0</td>
</tr>
<tr>
<td>Other</td>
<td>$0.0</td>
<td>$1.0</td>
</tr>
<tr>
<td><strong>Total All Lines</strong></td>
<td>$39.9</td>
<td>$54.6</td>
</tr>
</tbody>
</table>
### Distribution of Katrina Losses by Market ($Billions)

<table>
<thead>
<tr>
<th>Market</th>
<th>Percentage</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurers</td>
<td>47% - 53%</td>
<td>$18.8 - $28.9</td>
</tr>
<tr>
<td>Reinsurers</td>
<td>52% - 44%</td>
<td>$20.7 - $24.0</td>
</tr>
<tr>
<td>Capital Markets</td>
<td>1% - 3%</td>
<td>$0.4 - $1.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>$39.9 - $54.6</strong></td>
</tr>
</tbody>
</table>

Percentage of Katrina Losses Ceded to Reinsurers for Select Insurers*

Share of loss ceded to reinsurers varies significantly, but underscores great importance of spread of risk

*Pre-Tax.
Source: Morgan Stanley from Company Reports as of October 13, 2005
Hurricane Rita Insured Loss
Distribution by State ($ Millions)*

- Louisiana, $2,912.5, 58.5%
- Texas, $1,970.0, 39.6%
- Tennessee, $10.0, 0.2%
- Arkansas, $13.7, 0.3%
- Florida, $23.0, 0.5%
- Mississippi, $34.0, 0.7%
- Alabama, $13.0, 0.3%

Louisiana accounted for 59% of the insured losses, Texas 40%.
Total claims = 381,000.
Excludes offshore energy losses of $2-3B

Total Insured Losses = $4.9762 Billion

*As of February 8, 2006
Source: PCS division of ISO.
Hurricane Rita Claim Count
Distribution by State*

- Texas, 169,000, 44.4%
- Louisiana, 185,000, 48.6%
- Arkansas, 5,500, 1.4%
- Tennessee, 3,500, 0.9%
- Florida, 6,000, 1.6%
- Mississippi, 7,000, 1.8%
- Alabama, 5,000, 1.3%

Total # Claims = 381,000

*As of February 8, 2006
Source: PCS division of ISO.

Louisiana accounted for 48.6% of the insured losses, Texas 44.4%.

Excludes offshore energy losses of $2-3B
Hurricane Rita Loss Distribution, by Line ($ Millions)*

- Homeowners, $2,944.0, 59%
- Commercial Property & BI, $1,846.2, 37%
- Vehicles, $186.0, 4%

Total insured losses are estimated at $5.0 billion (excl. offshore energy of $2-$3B) from 381,000 claims.

*As of February 8, 2006
Source: PCS division of ISO.
Hurricane Wilma Loss
Distribution by Line ($ Millions)*

- Homeowners, $5,975, 71%
- Commercial Property & BI, $1,648, 20%
- Vehicle, $795, 9%

Total insured losses are estimated at $8.4 billion from 955,000 claims

*As of February 8, 2006
Source: PCS division of ISO.
Property Damage from Hurricane Katrina Flood & Storm Surge ($ Millions)*

- New Orleans Flood Loss, $22,600, 51.3%
- LA Storm Surge Loss, $16,200, 36.8%
- MS Storm Surge Loss, $4,400, 10.0%
- FL Storm Surge Loss, $32, 0.1%
- AL Storm Surge Loss, $793, 1.8%

Hurricane Katrina caused $44 billion in flood and storm surge damage, most of it uninsured, 88.1% of it in Louisiana.

*Value of property damage by flood and storm surge whether or not insured.
Katrina appears to have destroyed 10 times as many homes as Andrew in 1992 or the 4 storms to hit Florida and the Southeast in 2004.

*Destruction is defined as a structure made uninhabitable or damaged beyond economic repair.
Source: National Association of Home Builders, National Red Cross (as of 9/15/05).
Personal Property Losses Accounted for Largest Share Damage from 2004 Hurricanes*

**TOTAL**

- **Personal Property**: 63%
- **Comm. Property**: 33%
- **Vehicle**: 4%

**Charley**
- Personal Property: 56%
- Comm. Property: 40%
- Vehicle: 4%

**Ivan**
- Personal Property: 66%
- Comm. Property: 33%
- Vehicle: 4%

**Frances**
- Personal Property: 66%
- Comm. Property: 30%
- Vehicle: 4%

**Jeanne**
- Personal Property: 73%
- Comm. Property: 23%
- Vehicle: 4%

*Breakdowns based on FL losses, which accounted for 85% of losses for all affected states.

Source: ISO/PCS; Insurance Information Institute.
Average Annual Tropical Cyclone Insured Losses*
(Top 10 States, $ Millions)

<table>
<thead>
<tr>
<th>State</th>
<th>Losses ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>$1,423.0</td>
</tr>
<tr>
<td>Texas</td>
<td>$615.0</td>
</tr>
<tr>
<td>Louisiana</td>
<td>$196.0</td>
</tr>
<tr>
<td>Mississippi</td>
<td>$109.0</td>
</tr>
<tr>
<td>N. Carolina</td>
<td>$77.0</td>
</tr>
<tr>
<td>MA</td>
<td>$64.0</td>
</tr>
<tr>
<td>SC</td>
<td>$62.0</td>
</tr>
<tr>
<td>AL</td>
<td>$61.0</td>
</tr>
<tr>
<td>NY</td>
<td>$61.0</td>
</tr>
<tr>
<td>CT</td>
<td>$51.0</td>
</tr>
<tr>
<td>All Other</td>
<td>$1,007.0</td>
</tr>
</tbody>
</table>

Distribution of Annual Losses

- Florida: 49.5%
- Texas: 21.4%
- Louisiana: 6.8%
- Mississippi: 2.7%
- N. Carolina: 3.8%
- All Other: 15.7%

*Normalized losses adjusted for inflation, housing density, wealth and wind insurance coverage, based on historical data for 100-year period 1900-1999.
Source: Tillinghast-Towers Perrin
Inflation-Adjusted U.S. Insured Catastrophe Losses By Cause of Loss, 1985-2004

- Tornadoes: 30.4%
- All Tropical Cyclones: 34.6%
- Winter Storms: 9.7%
- Terrorism: 9.7%
- Earthquakes: 8.4%
- Fire: 2.9%
- Wind/Hail/Flood: 3.4%
- Civil Disorders: 0.5%
- Utility Disruption: 0.1%
- Water Damage: 0.2%

Insured disaster losses totaled $221.3 billion from 1984-2004 (in 2004 dollars). After 2005 season, tropical cyclones will account for 50%+ of the total.

---

1 Catastrophes are all events causing direct insured losses to property of $25 million or more in 2004 dollars. Catastrophe threshold changed from $5 million to $25 million beginning in 1997. Adjusted for inflation by the III.

2 Excludes snow.

3 Includes hurricanes and tropical storms.

4 Includes other geologic events such as volcanic eruptions and other earth movement.

5 Does not include flood damage covered by the federally administered National Flood Insurance Program.

6 Includes wildland fires.

Source: Insurance Information Institute estimates based on ISO data.
Total Value of Insured Coastal Exposure (2004, $ Billions)

- Florida: $1,937.3
- New York: $1,901.6
- Texas: $740.0
- Massachusetts: $662.4
- New Jersey: $505.8
- Connecticut: $404.9
- Louisiana: $209.3
- S. Carolina: $148.8
- Virginia: $129.7
- Maine: $117.2
- North Carolina: $105.3
- Alabama: $75.9
- Georgia: $73.0
- Delaware: $46.4
- New Hampshire: $45.6
- Mississippi: $44.7
- Rhode Island: $43.8
- Maryland: $12.1

Source: AIR Worldwide
**Insured Coastal Exposure as a % of Statewide Insured Exposure (2004, $ Billions)**

- Florida: 79.3%
- Connecticut: 63.1%
- New York: 60.9%
- Maine: 57.9%
- Massachusetts: 54.2%
- Louisiana: 37.9%
- New Jersey: 33.6%
- Delaware: 33.2%
- Rhode Island: 28.0%
- S. Carolina: 25.6%
- Texas: 25.6%
- NH: 23.3%
- Mississippi: 13.5%
- Alabama: 12.0%
- Virginia: 11.4%
- NC: 8.9%
- Georgia: 5.9%
- Maryland: 1.4%

**Who’s to Blame**

1. State & local zoning, land use and building code officials
2. State & local legislators
3. State-run property insurers, pools & plans
4. Washington, DC
5. Property owners

*III list
Source: AIR Worldwide*
Value of Insured Commercial Coastal Exposure (2004, $ Billions)

- New York: $1,389.6
- Florida: $994.8
- Texas: $437.8
- Massachusetts: $355.8
- New Jersey: $258.4
- Connecticut: $199.4
- Louisiana: $121.3
- S. Carolina: $83.7
- Virginia: $69.7
- Maine: $52.6
- North Carolina: $45.3
- Georgia: $43.3
- Alabama: $39.4
- Mississippi: $23.8
- New Hampshire: $20.9
- Delaware: $19.9
- Rhode Island: $17.9
- Maryland: $6.7

Source: AIR
Value of Insured Residential Coastal Exposure (2004, $ Billions)

- Florida: $942.5
- New York: $512.1
- Massachusetts: $306.6
- Texas: $302.2
- New Jersey: $247.4
- Connecticut: $205.5
- Louisiana: $88.0
- S. Carolina: $65.1
- Maine: $64.5
- Virginia: $60.0
- North Carolina: $60.0
- Alabama: $36.5
- Georgia: $29.7
- Delaware: $26.6
- Rhode Island: $25.9
- New: $24.8
- Mississippi: $20.9
- Maryland: $5.4

Source: AIR
Metro Areas w/ Biggest Increase in Median Home Price Over Past Year (through Sept. 2005)

Phoenix, AZ  47.0%
Cape Coral, FL  45.2%
Palm Bay, FL  40.0%
Orlando, FL  36.5%
Sarasota, FL  34.3%
Reno, NV  32.1%
Miami, FL  31.7%
Deltona-Daytona/Ormand Bch  31.2%
Durham, NC  30.9%

Six of the 9 fastest appreciating real estate markets in the year following the 4 hurricanes of 2004 were in FL. Hurricane risk has little impact on price or location decisions, in part because many property owners receive subsidized insurance.

P/C Financial Overview

Strong Pre-Katrina Results Help Industry Meet the Challenge
### Highlights: Property/Casualty, 9-Mos. 2005 vs. 9-Mos. 2004

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2004</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Written Prem. (adj)</td>
<td>326,527</td>
<td>323,337</td>
<td>+1.3%</td>
</tr>
<tr>
<td>Loss &amp; LAE</td>
<td>229,563</td>
<td>224,302</td>
<td>+2.3%</td>
</tr>
<tr>
<td>Net Inv. Income</td>
<td>(2,828)</td>
<td>3,238</td>
<td>N/A</td>
</tr>
<tr>
<td>Net Inv. Income</td>
<td>36,445</td>
<td>28,956</td>
<td>+25.6%</td>
</tr>
<tr>
<td><strong>Net Income (a.t.)</strong></td>
<td>28,787</td>
<td>27,567</td>
<td>+4.4%</td>
</tr>
<tr>
<td>Surplus*</td>
<td>414,264</td>
<td>393,488</td>
<td>+5.2%</td>
</tr>
<tr>
<td>Combined Ratio*</td>
<td>100.0</td>
<td>98.1</td>
<td>+1.9 pts.</td>
</tr>
</tbody>
</table>

Source: ISO, Insurance Information Institute  
*Comparison is with year-end 2004 value.

- Growth rate barely 1/2 that of CY2004
- Investment Income Rebound?
- Lowest in many years
**P/C Net Income After Taxes**

1991-2005:Q3 ($ Millions)*

- 2001 ROE = -1.2%
- 2002 ROE = 2.2%
- 2003 ROE = 8.9%
- 2004 ROE = 9.4%
- 2005:Q3 ROAS = 9.5%

*2005 NIAT will probably fall a bit short of 2004*

*ROE figures are GAAP; 2005 figure is 9-month return on average surplus.
Sources: A.M. Best, ISO, Insurance Information Institute.*
ROE: P/C vs. All Industries
1987–2006F*

2005:H1 P/C ROAS = 15.3%

2006 Estimate = 13%

2005 P/C ROAS = 10% after adjusting for 2005 Hurricanes

US P/C Insurers  All US Industries

*GAAP ROEs except 2005 P/C figure = return on average surplus. 2005/6E figure is III full-year estimate.
Source: Insurance Information Institute; Fortune for all industry figures
ROE: P/C vs. All Industries
1987–2005E

2004/5 ROEs excl. hurricanes

Sept. 11

Katrina, Rita, Wilma

4 Hurricanes

Lowest CAT losses in 15 years

Hugo

Andrew

Northridge

Source: Insurance Information Institute; Fortune

The p/c insurance industry achieved will come close to achieving its cost of capital in 2005.

US P/C insurers missed their cost of capital by an average 6.7 points from 1991 to 2002, but just 0.7 pts from 2003-05E.

WALL STREET:

GENERALLY STRONG GAINS DESPITE RECORD CAT LOSSES
P/C Insurers Stocks Up in 2005, Brokers Up Too, Reinsurers Down

Total 2005 Returns

- P/C insurer stocks outperforming the market despite hurricanes
  - S&P 500: 3.00%
  - Life/Health: 17.14%
  - All Insurers: 13.29%
  - Brokers: 9.40%
  - Multiline: 9.31%
  - P/C: -0.52%
  - Reinsurers: -5%

Source: SNL Securities, Standard & Poor’s, Insurance Information Institute
P/C & reinsurer stocks hurt but now fully recovered. Brokers rose on expectation of tighter conditions and demand for broker services; closure of Spitzer issues.
Insurer Claims
Paying Resources
Capacity TODAY is $414.3B, 5.2% above year-end 2004, 45% above its 2002 trough and 22% above its mid-1999 peak. Sufficient capacity exists to pay all hurricane claims.

Foreign reinsurance and residual market mechanisms absorbed $27-$32B (57%-67%) of 9-month 2005 CAT losses of $47.6B

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

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

*As of 9/30/05.
Capacity at year-end 2005 was $420 billion (est.). It will reach $500B by 2009 and $536 billion by year-end 2010.

CAGR 1975-2005E = 10.7%
Assume CAGR 2005-2010 = 5%

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

Source: A.M. Best, ISO, Insurance Information Institute
*As of 9/30/05.
US Reinsurers: Change in Policyholder Surplus ($ Billions)


Analysts predict a modest decline in reinsurer PHS
Announced Insurer Capital Raising*
($ Millions, as of December 1, 2005)

As of Dec. 1, 19 insurers announced plans to raise $9.95 billion in new capital. Twelve start-ups plan to raise as much as $8.65 billion more for a total of $18.65B. Likely at least $20B raised eventually.

Existing companies will continue to find it relatively easy to raise cash...

*Existing (re) insurers. Announced amounts may differ from sums actually raised.

Sources: Morgan Stanley, Lehman Brothers, Company Reports; Insurance Information Institute.
Announced Capital Raising by Insurance Start-Ups
($ Millions, as of December 11, 2006)

As of Dec. 11, 13 start-ups plan to raise as much as $8.75 billion. More likely to come.

...so will start-ups

*Chubb, Trident are funding Harbor Point. Announced amounts may differ from sums actually raised. **Stated amount is $750 million to $1 billion. ***XL Capital/Hedge Fund venture, Arrow Capital formed by Goldman Sachs.
Sources: Morgan Stanley, Company Reports; Insurance Information Institute.
Strong Underwriting Results Pre-Katrina Will Help Industry Weather the Storm
The industry has just experienced its most remarkable recovery in recent history. Katrina, Rita & Wilma partially reversed this.

January survey of analysts called for a 101.8 combined ratio in 2005, hurt by CATs and reserve charges. Actual 9-month results came in at 100.0.

Expectation is for an underwriting profit in 2006.

Sources: A.M. Best; ISO, III. *III estimate/forecast for 2005/6
Before Katrina, p/c insurers were on track for only the second underwriting profit in 27 years; U/W profit in 2006 likely.

*2005 estimate is III estimate.
Source: A.M. Best, Insurance Information Institute
Personal Lines
Combined Ratio, 1993-2006E

A very strong 2006 is expected in personal lines assuming “normal” catastrophe loss activity

Source: A.M. Best; Insurance Information Institute. 2006 forecast from Fitch Ratings as of 12/7/05.
Outside CAT-affected lines, commercial insurance is doing fairly well. Caution is required in underwriting long-tail commercial lines.

2005 results remarkably strong despite storms.

Source: A.M. Best; Insurance Information Institute

Combined Ratio:
Reinsurance vs. P/C Industry

* All lines figure is full-year III estimate. RAA figure for 2005:9 mos.
Source: A.M. Best, ISO, Reinsurance Association of America, Insurance Information Institute
A 100 Combined Ratio Isn’t What it Used to Be: 95 is Where It’s At

Combined ratios today must be below 95 to generate Fortune 500 ROEs

* 2005 figure is return on average statutory surplus based on first 9 months data

Source: Insurance Information Institute from A.M. Best and ISO data.
TRIA EXTENSION

The Burden Grows & Compounds CAT Exposure
TRIA Extension: Major Features

• **Term:** 2-Year Extension—Sunsets December 31, 2007
  ➢ Extension for 3rd year possible if progress made toward long-term solution

• **Trigger Increased:**
  ➢ Up from $5MM now to $50MM in 2006 and $100MM in 2007

• **Lines Dropped**
  ➢ Commercial Auto, Prof. Liability, Surety, Burglary & Theft, FMP

• **Deductibles Increase for Individual Companies:**
  ➢ 15% Now → 17.5% in 2006 → 20% in 2007 for all lines

• **Retentions Increase for Industry Aggregate:**
  ➢ $15B Now → $25B in 2006 → $27.5B in 2007

• **Co-Pays Increase for Amount Above Industry Aggregate**
  ➢ 10% Now → 10% in 2006 → 15% in 2007

• **Federal Recoupment**
  ➢ Remains conditional

• **Study to Develop Long-Term Solutions**
  ➢ Must produce report to Congress by September 30

• **Nuclear, Biological, Chemical & Radiological Risk**
  ➢ Maintains exclusion
Insurance Industry Retention Under TRIA ($ Billions)

- Individual company retentions rise to 17.5% in 2006, 20% in 2007
- Above the retention, federal govt. pays 90% in 2006, 85% in 2007

Source: Insurance Information Institute
UNDERWRITING AFFECTS FINANCIAL STRENGTH

Is There Cause for Concern?
Rating Agency Actions Following Hurricane Katrina (as of Oct. 6, 2005)*

### Companies Under Review w/ Negative Implications

<table>
<thead>
<tr>
<th>Company</th>
<th>A.M. Best Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied World</td>
<td>A+</td>
</tr>
<tr>
<td>Allmerica Financial P&amp;C Cos.</td>
<td>A-</td>
</tr>
<tr>
<td>American Re</td>
<td>A</td>
</tr>
<tr>
<td>Balboa Insurance Grp.</td>
<td>A</td>
</tr>
<tr>
<td>DaVinci Re</td>
<td>A</td>
</tr>
<tr>
<td>Endurance Specialty</td>
<td>A</td>
</tr>
<tr>
<td>Florists Mutual Grp.</td>
<td>A-</td>
</tr>
<tr>
<td>Glencoie</td>
<td>A</td>
</tr>
<tr>
<td>Imagine Insurance Co. Ltd.</td>
<td>A-</td>
</tr>
<tr>
<td>IPCRe</td>
<td>A+</td>
</tr>
<tr>
<td>Louisiana Farm Bureau Mutual</td>
<td>A-</td>
</tr>
<tr>
<td>Mississippi Farm Bureau Mutual</td>
<td>A+</td>
</tr>
<tr>
<td>Munich Re</td>
<td>A+</td>
</tr>
<tr>
<td>Mutual Savings Fire Ins. Co.</td>
<td>B-</td>
</tr>
<tr>
<td>Mutual Savings Life Ins. Co.</td>
<td>B-</td>
</tr>
<tr>
<td>Odyssey Re</td>
<td>A</td>
</tr>
<tr>
<td>PartnerRe Group</td>
<td>A+</td>
</tr>
<tr>
<td>PXRE</td>
<td>A-</td>
</tr>
<tr>
<td>Renaissance Re</td>
<td>A+</td>
</tr>
<tr>
<td>Rosemont Reinsurance Ltd.</td>
<td>A-</td>
</tr>
<tr>
<td>Transatlantic Re</td>
<td>A+</td>
</tr>
<tr>
<td>XL Capital</td>
<td>A+</td>
</tr>
<tr>
<td>XL Life Insurance &amp; Annuity</td>
<td>A+</td>
</tr>
<tr>
<td>XL Life Ltd.</td>
<td>A+</td>
</tr>
</tbody>
</table>

### Companies on Credit Watch with Negative Implications

<table>
<thead>
<tr>
<th>Company</th>
<th>S&amp;P Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allmerica</td>
<td>BBB+</td>
</tr>
<tr>
<td>Allstate Corp.</td>
<td>AA</td>
</tr>
<tr>
<td>Aspen Group</td>
<td>A</td>
</tr>
<tr>
<td>Oil Casualty Insurance Ltd.</td>
<td>A-</td>
</tr>
<tr>
<td>Society of Lloyd’s</td>
<td>A</td>
</tr>
<tr>
<td>State Farm</td>
<td>AA</td>
</tr>
<tr>
<td>Swiss Re</td>
<td>AA</td>
</tr>
<tr>
<td>United Fire Group</td>
<td>A</td>
</tr>
</tbody>
</table>

### Downgrades

<table>
<thead>
<tr>
<th>Company</th>
<th>S&amp;P Rating</th>
<th>A.M. Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alea</td>
<td>A- to BBB+</td>
<td>A- to B++</td>
</tr>
<tr>
<td>Olympus Re</td>
<td>not rated</td>
<td>A- to B+</td>
</tr>
<tr>
<td>PXRE</td>
<td>A to A-</td>
<td>A to A-</td>
</tr>
<tr>
<td>Advent Synd. 780</td>
<td>3pi to 2pi</td>
<td>not rated</td>
</tr>
</tbody>
</table>

“…the replenishment of capital alone may not be sufficient to sustain a company’s rating.” A.M. Best press release Sept. 15, 2005

*ACE and Montpelier Re were originally placed on watch/review but have been removed.

Ratings Agencies Tightening Requirements for CATs

2006 SRQ CAT Model Reqs.*
- All Property Exposure
- Auto Physical Damage
- Reinsurance Assumed
- Pools & Assessments
- All Flood Exposure
- WC Losses from Quake
- Fire Following
- Storm Surge
- Demand Surge
- Secondary Uncertainty

ALSO “A.M. Best will perform additional “stress-tested” risk-adjusted capital analysis for a second event in order to determine the potential financial condition of an entity post a severe event.”

IMPLICATION: Some insurers may be required to carry more capital to maintain the same rating.

Best currently estimates PML for 100-yr. wind & 250-yr. quake to determine capital adequacy

*SRQ = Supplemental Rating Questionnaire
### Downgrades Can Brutalize Share Price & Lead to Failures

<table>
<thead>
<tr>
<th>Date</th>
<th>Holding company of affected entities</th>
<th>Old rating</th>
<th>New rating</th>
<th>One-day stock change</th>
<th>Subsequent stock change</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/16/06</td>
<td>PXRE Group Ltd.</td>
<td>A-</td>
<td>B++</td>
<td>-65.9%</td>
<td>-5.9%</td>
</tr>
<tr>
<td>02/24/99</td>
<td>Vesta Insurance Group Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-63.2%</td>
<td>-82.5%</td>
</tr>
<tr>
<td>02/21/02</td>
<td>MIIIX Group Inc.</td>
<td>A-</td>
<td>B-</td>
<td>-61.7%</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>02/19/02</td>
<td>Mutual Risk Management Ltd.</td>
<td>A-/A-</td>
<td>B/B+</td>
<td>-48.7%</td>
<td>Insolvency</td>
</tr>
<tr>
<td>07/20/04</td>
<td>Converium Holding AG</td>
<td>A</td>
<td>A-</td>
<td>-44.4%</td>
<td>-60.5%</td>
</tr>
<tr>
<td>10/18/02</td>
<td>Trenwick Group Ltd.</td>
<td>A-/B++</td>
<td>B/B+</td>
<td>-37.3%</td>
<td>Insolvency</td>
</tr>
<tr>
<td>10/24/02</td>
<td>FPIC Insurance Group Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-36.8%</td>
<td>821.3%</td>
</tr>
<tr>
<td>11/15/99</td>
<td>Frontier Insurance Group Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-33.8%</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>11/06/03</td>
<td>American Physicians Capital Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-30.1%</td>
<td>180.6%</td>
</tr>
<tr>
<td>03/01/00</td>
<td>Fremont General Corp.</td>
<td>A</td>
<td>B++</td>
<td>-26.7%</td>
<td>266.2%</td>
</tr>
<tr>
<td>07/29/99</td>
<td>ARM Financial Group Inc.</td>
<td>A</td>
<td>A-</td>
<td>-23.8%</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>09/27/02</td>
<td>Allmerica Financial Corp.</td>
<td>A/A-</td>
<td>A-/B+</td>
<td>-18.0%</td>
<td>299.8%</td>
</tr>
<tr>
<td>11/04/03</td>
<td>PMA Capital Corp.</td>
<td>A-</td>
<td>B++</td>
<td>-17.9%</td>
<td>95.4%</td>
</tr>
<tr>
<td>04/25/03</td>
<td>UnumProvident Corp.</td>
<td>A</td>
<td>A-</td>
<td>-16.7%</td>
<td>130.9%</td>
</tr>
<tr>
<td>07/12/02</td>
<td>Conseco Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-15.2%</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>03/30/01</td>
<td>Penn Treaty American Corp.</td>
<td>B++</td>
<td>B-</td>
<td>-13.0%</td>
<td>-70.8%</td>
</tr>
<tr>
<td>06/08/00</td>
<td>Reliance Treaty Holdings Inc.</td>
<td>A-</td>
<td>B++</td>
<td>-10.3%</td>
<td>Chapter 11</td>
</tr>
</tbody>
</table>

**MEDIAN**: -65.7%

---

“Subsequent” column is otherwise based on the price change between the day following the indicated ratings change and the market close as of 2/24/06

*Assumes an ending value of $0.00 for common shares of bankrupt/insolvent companies

Sources: SNL Financial, A.M. Best Co.
P/C Company Insolvency Rates, 1993 to 2004

- Insurer insolvencies are increasing
- 12-yr industry failure rate: 0.71%
- Failure rating for B+ or better rating: 0.49%*
- Failure rate for D through B rating: 1.29%*

12-yr Failure Rate = 0.71%

Source: A.M. Best; Insurance Information Institute

*1993-2003
Reason for P/C Insolvencies
(218 Insolvencies, 1993-2002)

- Deficient Loss Reserves: 51%
- Reserve deficiencies account for more than half of all p/c insurers insolvencies

- Deficient Loss Reserves: 51%
- Rapid Growth: 10%
- Discounted Ops: 8%
- Overstated Assets: 2%
- Alleged Fraud: 3%
- Change in Business: 3%
- CAT Losses: 3%
- Reinsurer Failure: 0%
- Unidentified: 17%
- Impaired Affiliate: 3%

Source: A.M. Best, Insurance Information Institute

So far, Katrina appears to have claimed just 1 victim—Rosemont Re—expected to go into run-off
Downgrade/Upgrade Ratio

Downgrade to upgrade ratio is falling (primarily because the number of downgrades is falling; only a small increase in upgrades)


Historical Ratings Distribution,
US P/C Insurers, 2000 vs. 2004

2000

- A/A- 48.4%
- A++/A+ 11.5%
- B/B- 6.9%
- B++/B+ 28.3%
- C/C- 0.6%
- C++/C+ 1.9%
- D 0.2%
- E/F 2.3%

2004

- A++/A+ 8.6%
- A/A- 50.2%
- B++/B+ 25.8%
- B/B- 9.1%
- C/C- 0.2%
- C++/C+ 2.1%
- D 0.2%
- E/F 3.5%

Are ratings related to performance?

*Combined ratio is for all US reinsurers. Rating is for large reinsurers (policyholder surplus exceeding $250 million). The median rating for small reinsurers (PHS<$250M) was A- throughout the 1999-2003 period.

Historical Ratings Distribution, US P/C Insurers, 2000 vs. 2005

2000
- A/A- 48.4%
- B++/B+ 28.3%
- C/C- 1.9%
- B/B- 6.9%
- C++/C+ 0.6%
- D 0.2%
- E/F 2.3%
- A++/A+ 11.5%

2005
- A/A- 52.3%
- B++/B+ 26.4%
- B/B- 6.9%
- C/C- 1.9%
- B/B+ 9.2%
- C++/C+ 1.9%
- D 0.2%
- E/F 2.3%
- A++/A+ 9.2%

Vulnerable*
- 12.1%


Ratings agencies increasing emphasis on multiple events require more capital

A++/A+ shrinkage
### P/C Insurers Maintaining Rating of A+ or Better Rating for 50+ Years

<table>
<thead>
<tr>
<th>P/C Company</th>
<th>Group Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AIU Insurance Co.</td>
<td>1. American International Group</td>
</tr>
<tr>
<td>2. Alfa Mutual Ins. Co.</td>
<td>2. Alfa Insurance Group</td>
</tr>
<tr>
<td>3. Amica Mutual Ins. Co.</td>
<td>3. Amica Mutual Group</td>
</tr>
<tr>
<td>4. Church Mutual Ins. Co.</td>
<td>4. None</td>
</tr>
<tr>
<td>5. Federal Insurance Co.</td>
<td>5. Chubb Group of Ins Cos.</td>
</tr>
<tr>
<td>10. Otsego Mutual Fire</td>
<td>10. None</td>
</tr>
<tr>
<td>11. Quincy Mutual Fire Ins. Co.</td>
<td>11. Quincy Mutual Group</td>
</tr>
</tbody>
</table>

Cumulative Average Impairment Rates by Best Financial Strength Rating*

Insurers with strong ratings are far less likely to become impaired over long periods of time. Especially important in long-tailed lines.

Average Years to Impairment

*US P/C and L/H companies, 1977-2002

Cumulative Avg. Implied Impairment Rates by Holding Co. Senior Unsecured Debt

Insurers with strong credit ratings are far less likely to become impaired over long periods of time. Especially important in long-tailed lines.

Average Years to Impairment


*US P/C and L/H companies, 1977-2002
INVESTMENTS

Improvements Still Support Cash Flow Underwriting
Net Investment Income

Growth History

2002: -1.3%
2003: +3.9%
2004: +2.4%
2005:9M +14.2%**

Source: A.M. Best, ISO, Insurance Information Institute;
*Annualized.  **2005:Q3 over 2004:Q3, adjusted for special dividend of $3.1B.
S&P 500 was up 3% in 2005, the third up year in a row.

2003/4 were the first consecutive gains since 1999.
Investment gains are rising but will still fall short of their 1998 peak. CAT losses will reduce investable assets.

*Investment gains consist primarily of interest, stock dividends and realized capital gains and losses. Annualized 2005 figure based on data as of 9/30/05, adjusted for special dividend of $3.1B. Source: Insurance Services Office; Insurance Information Institute.
PRICING TRENDS

The Hard Market of 2006: Fact or Fantasy?
Strength of Recent Hard Markets by NWP Growth*

Note: Shaded areas denote hard market periods.
Source: A.M. Best, Insurance Information Institute

*2005-10 figures are III forecasts/estimates.

2006-2010 (post-Katrina) period will resemble 1993-97 (post-Andrew)

2005: biggest real drop in premium since early 1980s
Countrywide home insurance expenditures are expected to rise 4% in 2006

*Insurance Information Institute Estimates/Forecasts
Source: NAIC, Insurance Information Institute
The magnitude of rate decreases is leveling off, but no reversal is evident post-Katrina/Rita/Wilma.

Source: MarketScout.com
Percent of Commercial Accounts Renewing with Positive Rate Changes, 4th Qtr. 2005

Largest increases for Commercial Property & Business Interruption are in the Southeast, smallest in Midwest

Source: Council of Insurance Agents and Brokers
Average Rate Increase/Decrease by Industry Class

Largest increases are in the energy sector

Source: MarketScout.com
Magnitude of rate decreases accelerated during the first half of 2005, but decreased in the second half.
Rate Changes by Line, 2nd Qtr. 2005

Magnitude of rate decreases flattened out during the second quarter of 2005

Source: Council of Insurance Agents & Brokers; Insurance Information Institute
Rate Changes by Line, 3rd Qtr. 2005

Magnitude of rate decreases flattened out in mid-2005

Source: Council of Insurance Agents & Brokers; Insurance Information Institute
Strong tightening in 05Q4—the Katrina effect
Absolute Change in Price by Line, 
4th Qtr. 2005 vs. 2nd Qtr. 2005

Impacts of Katrina & Rita are being primarily felt in Commercial Property & Business Interruption. Effects on Casualty business are smaller but notable.

Source: Council of Insurance Agents & Brokers; Insurance Information Institute
Commercial accounts have trended downward for early 2004 to mid-2005 but are now that trend is shrinking post-Katrina.

Cumulative Quarterly Rate Change by Account Size

Will the 2005 hurricane season push rates upward again?

Commercial rates are well off their late 2003 peaks but erosion has been halted post-Katrina

Reinsurance Prices Surged in 2006 Following Record CATs in 2005

US cat reinsurance price index: 1994 = 100

Sources: Swiss Re, Cat Market Research; Insurance Information Institute estimate for 2006.
Focus on the Energy Sector

A wrecked oil platform washes ashore in Alabama in the wake of Hurricane Katrina.
Katrina’s Path of Destruction Through the Offshore Energy Industry

Katrina (& Rita) tore through offshore facilities

Hurricane Rita’s Path Was at Least as Devastating for Energy Concerns

Source: Energy Information Administration; iMapData Inc.
Hurricanes Katrina/Rita: Damage to Oil Platforms and Rigs in Gulf of Mexico

No. of Platforms/Rigs Destroyed, Damaged or Adrift, as of October 4, 2005.

- **Hurricane Katrina**
  - Destroyed: 50
  - Damaged: 29
  - Adrift: 6

- **Hurricane Rita**
  - Destroyed: 64
  - Damaged: 40
  - Adrift: 13
  - Missing: 3

About 75% (3,050 out of roughly 4,000 GOM platforms were in the path of Katrina & Rita.

**Totals:**
- Destroyed: 114
- Damaged: 69
- Adrift: 19
- Missing: 3

Hurricane Katrina Energy
Insured Loss Estimates

(Billions of $, As of October 10, 2005)

- RMS estimate covers offshore platform damage and loss of production.
- Tillinghast $4-$6B estimate covers marine & energy losses and includes business interruption.
- Eqecat estimate covers offshore oil and gas industry losses.

*Sources: RMS, Eqecat, Tillinghast; Compiled by the Insurance Information Institute.
Power Outages: Major Vulnerability in Hurricanes

Wilma seemed to create the most severe disruption to electrical service of 2005’s 3 major hurricanes.

Sources: Rita: NOAA (“number of people”); Katrina: Energy Info. Agency (# customers); Wilma: FPL (# customers)
Gulf of Mexico Energy Status Following Katrina & Rita, (As of October 4, 2005)

• Of the 4,000 platforms administered by the Minerals Management Service (MMS), 3,050 platforms were in the path of Hurricanes Katrina and Rita.

• As of October 4, MMS announced Hurricane Katrina had destroyed 50 oil rigs and platforms and damaged 29 more. A further 6 rigs were adrift.

• Hurricane Rita destroyed 64 oil rigs and platforms and damaged 40 more. 13 rigs are adrift and a further 3 rigs unaccounted for.

• Of those destroyed, 108 were older “end of life” facilities not built to MMS’ upgraded design standards. They account for only 1.7% of the Gulf’s oil production and 0.9% of the Gulf’s gas production.

• Major new facilities withstood the storms better, with only one major facility destroyed and four receiving significant damage.

Source: Minerals Management Service (MMS).
Largest Vulnerabilities Exposed by This Year’s Hurricane Season

- Offshore energy sector – significant exposure on the TX and LA. Gulf Coast
- Of the 4,000 platforms operating in the Gulf of Mexico, ~3000 were in the path of at least one of the two hurricanes
- Up to 108 oil & gas platforms were destroyed by Hurricanes Katrina and Rita, plus 53 platforms were significantly damaged
- BI losses difficult to estimate
  - Represented 2/3 of covered losses in Hurricane Ivan in 2004 for offshore energy
  - 91% of oil and 83% of gas production was initially shut down in the wake of Katrina
  - 3 weeks after Katrina, 55% oil and 34% gas still unavailable; half of halted oil production driven by onshore damage to refineries
Shut-In Oil and Gas Production Comparison of Hurricanes Ivan and Katrina & Rita

Katrina & Rita recovery is taking much longer than Ivan.

It took nearly 2 months to get production back to near normal levels after Ivan in 2004.

*Ivan shut in roughly 130,000 bbl/d of oil and 0.3 Bcf/d of natural gas from Jan-Mar 2005. The graph above shows only 3 months.

Source: Minerals Management Service; Energy Information Administration, as of October 24, 2005.
Hurricane Katrina/Rita Evacuation & Shut-In Statistics (as of Oct. 31)*

Rig & Platform Evacuations

<table>
<thead>
<tr>
<th>Rigs Evacuated</th>
<th>Platforms Evacuated</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>223</td>
</tr>
</tbody>
</table>

These evacuations are equivalent to 27.23% of 819 manned platforms and 4.48% of rigs currently operating in the Gulf.

Shut-In Production

- **Oil, BOPD Shut-In**
  - Figure is equivalent to 67.72% of 1.5 million BOPD in Gulf
  - Cumulative oil shut-in is 74.7 million bbls, 8/26-10/31 (13.6% of yearly Gulf production of 547.5 million bbls).

- **Gas, MMCF/D Shut-In**
  - Figure is equivalent to 54.27% of daily gas production in Gulf
  - Cumulative gas shut-in is 381.1 BCF, 8/26-10/31 (10.4% of yearly Gulf production of 3.65 TCF).

"Shut-in" is defined by the Energy Information Agency as wells capable of production but which are temporarily closed.

Oil Giants: Financial Fallout From The Storms?

• As of October 25, 2005, a number of energy giants had announced damage estimates. Insurance will cover much of the loss:
  - **BP** warned the damage will cost the company $700 million. Of this, about $550 million is lost profit due to production-related damage, incl. lost output and repairs. Further $150 million due to disrupted refining operations.
  - **Chevron** announced Katrina fallout could cost the company $350 million or more.
  - **ConocoPhillips** initial estimate of its share of mutual insurance premium charges, affecting Q3 05, due to Hurricane Katrina is $30 million, after-tax. Total impact still being evaluated.
  - **Shell** puts its total costs after tax for hurricane related items at around $350 million over the period 2005 to 2006. Insurance will cover a significant portion.

Source: www.rigzone.com, 10/25/05. Wall Street Journal, 10/26/05.
Despite the hurricanes, the majority of the top oil majors reported record Q3 profits, as crude oil and natural gas prices soared.

Chevron estimated its Q3 profits would have been $600 million higher, if not for Katrina’s impact.

Q3 2005 Net Income

- Exxon Mobil: $9.9 billion
- BP: $6.5 billion
- Royal Dutch Shell: $9.0 billion
- Chevron: $3.6 billion
- ConocoPhillips: $3.8 billion

Source: Company reports.
Energy Industry Mutuals Take Stock of Hurricanes

• OIL Insurance Ltd (OIL):
  ➢ Bermuda-based mutual insurer established in 1972 and dedicated to serving needs of energy industry.
  ➢ OIL has 85 members, including Chevron Corp, Marathon Oil Co, Royal Dutch Shell, ConocoPhillips.
  ➢ Provides property, well control and pollution liability coverage.
  ➢ Offers insurance limits of up to $250 million per occurrence. No annual aggregate limit, but a $1 billion cap on claims from a single event.
  ➢ OIL recorded gross premiums written of $606.8 million in H1 2005, a 62.4% increase on H1 2004. Incurred losses and loss expenses totaled $257.6 million for H1 2005.

Source: OIL
Energy Industry Mutuals Take Stock of Hurricanes

• The OIL Group of Companies:
  - OIL has two sister mutual companies – OIL Casualty Insurance Ltd. (OCIL) and sEnergy.
  - OCIL provides excess general liability to the energy industry. Policies attach in excess of $50 million for limits of up to $150 million.
  - As of Oct 1, 2005, OCIL insured over $2.2 trillion in gross assets and $1.9 trillion in gross revenues for its 78 members.
  - sEnergy provides excess business interruption and excess property insurance for the energy industry. 14 members.
  - Occurrence aggregate limit of $200 million for single event.
  - As of June 30, 2005, sEnergy had statutory capital of $667 million.

Source: OIL
Energy Industry Mutuals Take Stock of Hurricanes

It is too soon to estimate the impact of Hurricanes Katrina and Rita, but:

- **OIL** - At end Q3 2005, OIL increased its incurred loss reserve by $1 billion in respect of potential claims arising from Katrina. The adjustment represents OIL’s maximum exposure to a single event as per its shareholder agreement.

- **OCIL** – Katrina: As of Oct. 21, OCIL has received 13 notices of potential loss from members. Rita: As of Oct. 21, OCIL has received 5 notices of potential loss.

- **sEnergy** – Exposure to loss from Katrina and Rita limited to $200 million for each hurricane due to occurrence aggregate for single event. Final overall exposure not yet known.

Source: OIL
Legal Environment Will Affect Katrina’s Outcome
### Business Leaders Ranking of Liability Systems for 2005

#### Best States
1. Delaware
2. Nebraska
3. North Dakota
4. Virginia
5. Iowa
6. Indiana
7. Minnesota
8. South Dakota
9. Wyoming
10. Idaho

#### New in 2005
**ND, IN, SD, WY**

**Drop-Offs**
**ID, UT, NH, KS**

#### Worst States
1. Hawaii
2. Florida
3. Arkansas
4. Texas
5. California
6. Illinois
7. Louisiana
8. Alabama
9. West Virginia
10. Mississippi

#### Newly Notorious
**HI, FL**

#### Rising Above
**MO, MT**

LA, AL and MS’s liability systems are ranked among the worst in the country by the US Chamber of Commerce.

The Nation’s Judicial Hellholes (2005)

Source: American Tort Reform Association; Insurance Information Institute

Dishonorable Mention

WI Supreme Ct.

Watch List

California

Eastern Kentucky

Eastern Alabama

Philadelphia

New Mexico

Delaware

Oklahoma

Orleans Parish, LA

Washington, DC

There were notably fewer “Judicial Hellholes” in 2005

ILLINOIS

Cook County

Madison County

St. Clair County

TEXAS

Rio Grande Valley and Gulf Coast

West Virginia

South Florida
Accusations by MS Attorney General
Jim Hood Against Insurers

• **Count 1: Violation of the Public Policy of the State of Mississippi**
  ➢ Alleges flood exclusion is void since MS contract law does not allow exclusions that interfere with proximate cause

• **Count 2: Unconscionability**
  ➢ Contracts (policies) are unreasonably complex

• **Count 3: “Water Damage” and/or “Flood” Exclusions are Ambiguous**
  ➢ Alleges exclusions are ambiguous when read in conjunction with other policy provisions.

• **Count 4: Violation of MS Consumer Protection Act**
  ➢ Alleges contracts (policies) are deceptive

• **Count 5: Irreparable Injury**
  ➢ Alleges insurer enforcement contracts has and continues to harm MS policyholders

Source: Hood vs. Mississippi et al filed 9/15/05, Chancery Court of Hinds County, MS; Insurance Info Inst.
Accusations by MS Trial Lawyer Scruggs
Against Insurer & Agent

- **Count 1: Declaration of Insurance Coverage**
  - Plaintiffs seeking declaration that policy provides full insurance coverage for all damage to residence & property including damage caused by storm surge.

- **Count 2: Injunction/Equitable Estoppel**
  - Alleges insurer/agent stated policyholder would have full insurance coverage for “all property damage proximately and efficiently caused by a hurricane, including “storm surge” proximately caused by hurricanes”; Requests that court prevent insurer from rejecting claim.

- **Count 3: Specific Performance of Insurance Contract**
  - Alleges insurer has failed to live up to terms of contract to pay hurricane claim.

- **Count 4: Indemnity Against Defendant Nationwide**
  - States that plaintiffs are due money from insurer for all sums expended.

- **Count 5: Indemnity Against Defendant Fletcher**
  - Alleges defendant agency (Jay Fletcher Insurance) represented that policy provided full coverage that no flood insurance coverage was required and therefore agency should indemnify all sums expended by plaintiff.

• **Count 6: Unjust Enrichment/Constructive Trust Against Defendant Nationwide**  
  - Alleges insurers collected premiums for years and then withheld insurance proceeds and was thus “unjustly enriched” and that plaintiff is therefore owed damages. Requests all premiums paid be placed in “Constructive Trust.”

• **Count 7: Unjust Enrichment/Constructive Trust Against Defendant Fletcher Insurance**  
  - Analogous to Count 6 but for defendant agency. Requests Constructive Trust on commissions paid to agency.

• **Count 8: Reformation of Insurance Contract Based on Equitable Fraud Against Defendants Fletcher Insurance and Nationwide**  
  - Alleges insurer and agent represented policy sold as providing full and comprehensive coverage against hurricanes including storm surge, but that contract entered into was different than represented. Plaintiffs request “reformation” of contract to alleged represented contract.

Accusations by MS Trial Lawyer Scruggs
Against Insurer & Agent (cont’d)

• **Count 9: Fraud Against Defendant Nationwide**
  
  ➢ Alleges insurer represented to Plaintiffs that policy would provide “full and comprehensive coverage for any and all property damage that could be caused by a hurricane, including damage proximately caused by hurricane wind and storm surge damage proximately caused by hurricanes.” Alleges plaintiffs detrimentally relied on insurer’s “misrepresentations” and that insurer intentionally failed to provide full and comprehensive coverage.

• **Count 10: Fraud Against Defendant Fletcher Insurance**
  
  ➢ Analogous to Count 10 but for defendant agency. Adds allegation that Plaintiff did not purchase flood coverage because agency represented that such insurance was not necessary because the homeowners policy would provide “sufficient coverage for any and all hurricane damage.”

Source: *Leonard vs. Nationwide Mutual Ins. Co. et al* filed 10/4/05, Chancery Court of Jackson County, MS; l.l.l.
Types of Lawsuits Being Filed in the Wake of Hurricane Katrina

• Homeowners Insurance
  - Lawyers (e.g., Dicky Scruggs) and Mississippi Attorney General Jim Hood are suing insurers over whether homeowners policies should cover flood.
  - TX judge ordered one company to stop denying claims to people claim for additional living expense who could not provide immediate documentation of damage.
  - Insurer being sued for not informing flood customer that excess flood coverage may have been available from a different private insurer.

• Oil Spills
  - Lawyers have sued the energy industry over ruptured oil tanks and pipelines that have fouled Louisiana neighborhoods.

• Fishing Grounds
  - At least 2 cases filed on behalf of LA’s fishermen over damage to estuaries, bays and oyster beds caused by the oil spills.

• Wetlands
  - One suit filed against the oil & gas industry for its alleged role in the disappearance of wetlands that protected Louisiana from storm surges.

## Economic & Public Policy Consequences of Hood/Scruggs Suits if Successful

### Price Hikes

- Immediate price increases of 100% or more likely for most residents of Mississippi and many other states. Coverage will not be available at any price in many areas.

- Homeowners policies currently in force exclude most water damage (including flood and storm surge); Insurers collect no premium for flood risk/storm surge and have established no flood risk/storm surge reserves. Pricing policies to include such causes of loss would add hundreds of dollars to the typical policy. The average NFIP flood policy premium in 2004 was $438, a rate that is woefully inadequate given the technical bankruptcy of the NFIP and its not-for-profit status. The average homeowners policy in 2005 was $677, implying that home insurance costs for many homeowners would likely double or more.

*In reality, Mississippi’s willingness to retroactively rewrite well-established and regulator-approved contacts is an unpriceable risk. Consequently, comparable coverage may not be available at any price.*

### Concerns of Litigation

Sources: Insurance Information Institute.
### Economic & Public Policy Consequences of Hood/Scruggs Suits if Successful

<table>
<thead>
<tr>
<th>Concern</th>
<th>Consequences of Litigation</th>
</tr>
</thead>
</table>
| **Availability Crisis**| • No coverage will be available in most coastally-exposed areas of MS and the US generally. Gulf rebuilding and recovery efforts severely damaged.  
• Insurers cannot offer insurance in states where contract terms, every word of which has been approved by regulators, are willfully ignored or retroactively rewritten. Pricing and underwriting are impossible in the absence of enforceable contracts (insurance policies are contracts). |
| **Insolvency Risk**    | • Forcing insurers to pay losses for which no premium has been collected and no reserves established will force many insurers into bankruptcy.  
• The Mississippi AG has indicated that if insurers were to be required to pay flood losses the cost would be $4-$5 billion, exceeding the total amount paid in premium by all homeowners in MS ($472 million in 2003) by a factor of 10. |
| **Guarantee Fund Deficits** | • Insurer insolvencies will quickly exhaust guarantee fund resources.  
• Guarantee funds will run enormous deficits, be forced to cap payments and levy large assessments against all property owners in the state for years. |
### Economic & Public Policy Consequences of Hood/Scruggs Suits if Successful

<table>
<thead>
<tr>
<th>Concern</th>
<th>Consequences of Litigation</th>
</tr>
</thead>
</table>
| **Recovery Efforts Hampered** | - Lack of insurance in the Gulf coast region, especially MS, will severely impair recovery efforts. Little/no insurance will be available to allow hurricane victims to insure rebuilt homes.  
- Insurers will pay an estimated $40 billion on 1.6 million Hurricane Katrina claims ($9.8 billion and 490,000 in MS alone). If property owners cannot secure insurance on rebuilt/new properties, the state’s economic recovery will be jeopardized. |
| **Flood Insurance Crisis**    | - Forcing insurers to pay excluded flood losses for which no premium has been collected and no reserves established could lead to the destruction of the National Flood Insurance Program (NFIP).  
- The Mississippi AG and Mr. Scruggs allege flood and storm surge from hurricanes is covered by standard homeowners policies despite unambiguous exclusionary language to the contrary. But the NFIP has provided exactly this protection since 1968 at subsidized prices. If successful, property owners will assume they no longer need to purchase flood coverage. |

Source: Insurance Information Institute.
### Economic & Public Policy Consequences of Hood/Scruggs Suits if Successful

<table>
<thead>
<tr>
<th>Concern</th>
<th>Consequences of Litigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Authority Trampled</td>
<td>• Authority of state insurance regulators is in jeopardy.</td>
</tr>
<tr>
<td></td>
<td>• AG Hood’s action threatens to usurp the authority of insurance regulators in all 50 states. Every word of water damage exclusions in homeowners policies were approved by regulators in all states (including MS) many years ago. The AG suit is a trampling of regulatory authority.</td>
</tr>
<tr>
<td></td>
<td><em>Not a single insurance regulator in any of the 50 states (including MS and LA) has announced support for the Hood/Scruggs suits.</em></td>
</tr>
<tr>
<td>Residual Market Explosion</td>
<td>• Lack of insurance will force most policyholders to seek coverage through state-run markets of last resort, resulting in explosive growth.</td>
</tr>
<tr>
<td></td>
<td>• State run insurers will be overwhelmed. They are often subject to political interference and are deficit-plagued. Program losses are assessed closed by levying assessments (basically a tax) on all policyholders in the state.</td>
</tr>
</tbody>
</table>

Source: Insurance Information Institute.
## Economic & Public Policy Consequences of Hood/Scruggs Suits if Successful

<table>
<thead>
<tr>
<th>Concern</th>
<th>Consequences of Litigation</th>
</tr>
</thead>
</table>
| **Negative Consequences for Other Lines of Insurance** | • Success Hood/Scruggs actions, which allow retroactively rewriting of contracts, makes sale of any type of insurance difficult/impossible  
• Lack of contract certainty means MS and other states will see higher prices and reduced availability for other types of insurance. |
| **Tort Reform Efforts Set Back** | • MS AG and Scruggs suits threaten to damage the integrity of recent Mississippi tort reform legislation.  
• In 2005 the American Tort Reform Association dropped MS from its list of “judicial hellholes” because of recent tort reform legislation, which prevented class action suits. MS may rejoin list. MS’s tort system, ranked 50th in the country by the US Chamber of Commerce, is solidified. This will make it more difficult for MS to attract businesses and jobs. |
| **Spreading of False Hopes**     | • Hood/Scruggs suits spread false hopes among desperate people that clever lawyering can produce coverage where none, in fact, exists.  
• Suits damage notion of personal responsibility. People will be less likely to insure properly in the future if suits are successful. |
Legal Theories Being Floating by Trial Bar to Get Insurers to Pay Excluded Flood Losses

• Valued Policy Law
  - Idea is that if property is a total loss the insurer cannot dispute the value of the property and must pay limits. Insurers will argue that flood is an excluded peril and VPL doesn’t apply. Insurers lost Mierzwa case in FL, but FL provided a legislative “fix” for that wayward court decision. Could result in policyholders with flood coverage receiving 200% of limits. Applies only to insureds with flood cover. VPL for fire only in MS, none in AL.

• Wind → Efficient Proximate Cause of Surge
  - Says that because surge was driven by wind and because wind is a covered cause of loss, it is the efficient proximate cause of the flood and should therefore should be triggered.
  - Also alleges storm surge is not specifically excluded by name

• Barge Breach Levee
  - A barge crashed into one levee, causing it to rupture. Theory is that this is a covered cause of loss because it’s not excluded (even though damage produced a flood).
• Wind and Hail Coverage (*a named peril*)

• Flood Exclusion

• FEMA/NFIP Flood Definition

• Fungus & Mold Exclusion

• Earth Movement Exclusion

Source: Insurance Information Institute
Wind Coverage in HO Policy: Limits and Boundaries of Coverage

- Wind and Hail Coverage (Named Peril)
  - Windstorm or Hail
  - “We do not pay for loss to the interior of a building or to personal property inside, caused by rain, snow, sleet, sand or dust unless the wind or hail first damages the roof or walls and the wind forces rain, snow, sleet, sand or dust through the opening.”

Source: Insurance Information Institute
Typical Flood Exclusion in Homeowners Insurance Policy

- **Flood Exclusion**
  - Water Damage, meaning any loss caused by, resulting from, contributed to or aggravated by:
    1. flood, surface water, waves, tidal water or overflow of any body of water, or spray from any of these, *whether or not driven by wind*.
    2. Water or water-borne material which backs up through sewers or drains, or which overflows or is discharged from a sump pump, sump pump well or other system that is designed to remove subsurface water which is drained from the foundation area; or
    3. Water or water-borne material below the surface of the ground, including water which exerts pressure on, or flows, seeps or leaks through any part of a building, sidewalk, foundation, driveway, swimming pool or other structure or water that causes earth movement.

*This exclusion applies whether or not the water damage is caused by or results from human or animal forces or any act of nature.*
Facts About the Flood Exclusion

• Has existed in policies for decades

• Flood Exclusion is effectively absolute—excluding water under all circumstances

• It is the reason for the existence of FEMA’s NFIP program since it was established in 1968

• Approved by regulators in all 50 states

Source: Insurance Information Institute
NFIP Flood Definition: Covers Exactly What HO Policies Don’t

- "A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is the policyholder's property) from:
  - Overflow of inland or tidal waters; or
  - Unusual and rapid accumulation or runoff of surface waters from any source; or
  - Mudflow; or
  - Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above."

Typical Fungus & Mold Exclusion in Homeowners Insurance Policy

• Fungus and Mold Exclusion

➢ “We do not cover loss or damage, no matter how caused, to the property which results directly or indirectly from fungus and mold. There is no coverage for loss which, in whole or in part, arises out of, is aggravated by, contributed to by acts or omissions of persons, or results from fungus and mold. This exclusion applies regardless of whether fungus and mold arises from any other cause of loss, including but not limited to a loss involving water, water damage or discharge, which may be otherwise covered by this policy, except as granted [by exception].”

Source: Insurance Information Institute
Earth Movement Exclusion

- Applies to any loss caused by, resulting from, contributed to or aggravated by events that include, but are not limited to:
  1. Earthquake and earthquake aftershocks;
  2. Volcanic eruption and volcanic effusion;
  3. Sinkhole;
  4. Subsidence;
  5. Mudslide including landslide, mudflow, debris flow, avalanche or sediment;
  6. Erosion or excavation collapse;
  7. The sinking, rising, shifting, expanding, bulging, cracking, settling or contracting of the earth, soil or land; and
  8. Volcanic explosion and lava flow except [by exception]

This exclusion applies whether or not the earth movement is combined with water or caused by or results from human or animal forces or any act of nature.
Consequences of Mississippi AG’s Actions

- Sept. 15 suit by MS AG Hood constitutes and attempt to retroactively rewrite all HO insurance contracts in MS. “Contract certainty” extinguished.
- Suit amounts to little more than an attempt to expropriate shareholder assets (and the equity of mostly non-MS policyholders of mutual insurers)
- The risk is fundamentally political, cannot be modeled or priced
- Insurers will necessarily be motivated to protect shareholder equity (and claims paying resources generally). Reinsurers will exert pressure too.
- Also continues dangerous trend of AG assertion of authority over state insurance regulators

Source: Insurance Information Institute
Consequences if Coverage Rulings Went Against Insurers

- Creates dangerous precedent of contract abrogation
- Effectively renders flood exclusion *null and void* & usurps authority of state insurance regulator
- Creates enormous financial liability for explicitly excluded peril for which *no premium was collected*
- HO insurance rates *countrywide* become instantaneously inadequate
  - Would provoke largest homeowners insurance rate in history on a national basis
- Insurers would likely pull back from many markets because of lack of contract certainty
- Renders NFIP program useless
- Unfair to NFIP policyholders and other insureds

Source: Insurance Information Institute
MS AG and Scruggs Suits Not Supported by Governor, Regulator

Recent Quotes:

- “It’s crucial that people who enter contracts keep their contracts. And that’s what an insurance policy is, a contract….For those people [who didn’t buy flood coverage] we are working very hard that if they don’t have insurance or don’t have coverage, that we can up with a way to help them financially.”

- “The insurance industry can take care of so many, the flood insurance program can take care of so many…but there are still others out there that do not fit under either of these.”

- For the government to make payments to people who didn’t buy flood insurance “undermines the purpose of an insurance scheme…If the government becomes the insurer of last resort, even when people don’t get insurance, then people won’t buy any insurance.”
  - White House Budget Director Joshua Bolten as quoted in the WSJ, 9/26/05, p.A2.
Status of Litigation Against Insurers on Flood vs. Wind Issue

• **MS Atty. General Hood:**
  - Called actions of insurers “unconscionable.” Filed an unsuccessful order for immediate injunctive relief against 5 insurers seeking to stop them from drawing wind/water distinction. Suit was remanded to a federal court because it makes reference to NFIP. Will likely die there soon.

• **Scruggs Case:**
  - Stated that will he bring suits against insurers in MS week of 9/19/05.
  - Because of recent tort reform changes in MS, Scruggs can’t bring a class action, has to try cases individually.
  - Says he will take “drastically” reduced contingency fee
  - Failure of AG suit should kill Scruggs’ case.
  - FYI: Scruggs’ Pascagoula home was heavily damaged. He had flood coverage.

• **Louisiana Suit**
  - Suit is like MS. LA Supreme Court looking at it as contract law case
  - Likely to be resolved soon in insurers favor
FEMA’s National Flood Insurance Program
Percentage of Homes With Flood Insurance Policies: Coastal Counties Affected by Katrina

<table>
<thead>
<tr>
<th>County</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Bernard (LA)</td>
<td>57.7%</td>
</tr>
<tr>
<td>Jefferson (LA)</td>
<td>57.4%</td>
</tr>
<tr>
<td>St. Charles (LA)</td>
<td>52.5%</td>
</tr>
<tr>
<td>Plaquemines (LA)</td>
<td>45.6%</td>
</tr>
<tr>
<td>St. Tammany (LA)</td>
<td>43.2%</td>
</tr>
<tr>
<td>Orleans (LA)</td>
<td>40.0%</td>
</tr>
<tr>
<td>St. John the Baptist (LA)</td>
<td>30.8%</td>
</tr>
<tr>
<td>Baldwin (AL)</td>
<td>23.5%</td>
</tr>
<tr>
<td>Hancock (MS)</td>
<td>23.4%</td>
</tr>
<tr>
<td>Harrison (MS)</td>
<td>11.7%</td>
</tr>
<tr>
<td>Jackson (MS)</td>
<td>10.4%</td>
</tr>
<tr>
<td>Tangipahoa (LA)</td>
<td>7.3%</td>
</tr>
<tr>
<td>St. James (LA)</td>
<td>7.0%</td>
</tr>
<tr>
<td>Mobile (AL)</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Proportion of homes with federal flood coverage was miserably low in most coastal counties affected by Katrina

Source: Census Bureau, FEMA, New York Times.
What Needs to Happen for the NFIP To Be More Effective

- Move to actuarially based rates
  - Include loading to build-up reserve fund
  - Expand refusals on irresponsible construction & repeats
- Expand mandatory purchase requirements beyond 1-in-100 year flood plain (250 or 500-year plain)
- Update & digitize flood maps
  - Need process for continuous updating
  - Coordinate inundation & flood maps
- Create/formalize central lender property tax-based authority for tracking properties subject to mandatory purchase requirement

Source: Insurance Information Institute
Price Impact of Including Flood Coverage in Standard Homeowners Insurance Policies

- MS Average Home Insurance Premium (no flood coverage) - $774
- MS Average Home Insurance Premium (with NFIP flood coverage) - $774 + $447 = $1,221
- Eliminate MS Flood Subsidy - $774 + $447 + $504 = $1,725
- Add 15% ROE on Flood Capital - $774 + $447 + $504 + $143 = $1,868

Price increases of up to $1,094 or 141% are possible.

Source: Insurance Information Institute from NAIC, FEMA/NFIP data.
Nearly 5 million property owners per year buy NFIP policies

The NFIP insured property with a total value of $764.5 billion in 2004

Sources: FEMA, National Flood Insurance Program (NFIP)
NFIP: Total Policies in Force by Calendar Year 1978-2004

Millions

Nearly 5 million property owners per year by NFIP policies

Source: FEMA, National Flood Insurance Program (NFIP)
The NFIP now collects more than $2 billion annually in premiums.

Source: FEMA, National Flood Insurance Program (NFIP)
The NFIP insured property with a total value of $764.5 billion in 2004.
NFIP: Policies in Force By Coverage Type (As of July 31, 2005)

<table>
<thead>
<tr>
<th>Coverage Type</th>
<th>Policies in Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Coverage Only</td>
<td>1,845,481</td>
</tr>
<tr>
<td>Contents Coverage Only</td>
<td>72,008</td>
</tr>
<tr>
<td>Both Bldg &amp; Cont Cvg</td>
<td>2,729,267</td>
</tr>
<tr>
<td>All Policies</td>
<td>4,646,756</td>
</tr>
</tbody>
</table>

Source: FEMA, National Flood Insurance Program (NFIP)
## NFIP: Policies in Force By Occupancy Type (As of July 31, 2005)

### Pie Chart
- **Single Family Home**: 68.5%
- **2 to 4 Family Unit**: 3.4%
- **Condos**: 20.5%
- **Non-Residential**: 4.6%
- **Other Residential**: 3.0%

### Table
<table>
<thead>
<tr>
<th>Occupancy Type</th>
<th>Policies in Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Home</td>
<td>3,184,010</td>
</tr>
<tr>
<td>2 to 4 Family Unit</td>
<td>158,124</td>
</tr>
<tr>
<td>Condominiums</td>
<td>951,240</td>
</tr>
<tr>
<td>Other Residential</td>
<td>138,583</td>
</tr>
<tr>
<td>Non-Residential</td>
<td>214,799</td>
</tr>
<tr>
<td>Unknown Occupancy</td>
<td>--</td>
</tr>
<tr>
<td><strong>All Policies</strong></td>
<td><strong>4,646,756</strong></td>
</tr>
</tbody>
</table>

Source: FEMA, National Flood Insurance Program (NFIP)
NFIP: No. of Losses Paid by Calendar Year 1978-2004

Source: FEMA, National Flood Insurance Program (NFIP)
The NFIP will pay an estimated $10 billion in flood claims in 2005, indicating a need for a taxpayer-financed bailout of at least $7.5 billion.
The average cost of a flood claim in 2004 was $32,056. The average premium was $438.
NFIP: Insurance In Force By Month (As of July 31, 2005)

Source: FEMA, National Flood Insurance Program (NFIP)
Average Premium Preferred Risk Policy*
For Buildings with Basement Under NFIP


*Under the NFIP a low-cost Preferred Risk Policy is available to homeowners located in low- to moderate-risk areas.
Sources: FEMA, National Flood Insurance Program (NFIP)
Average Premium Preferred Risk Policy* for Buildings without Basement Under NFIP

Average Premium


*Under the NFIP a low-cost Preferred Risk Policy is available to homeowners located in low- to moderate-risk areas.
Sources: FEMA, National Flood Insurance Program (NFIP)
Retention rates in the NFIP are poor, with 10-15% of policyholders allowing policies to lapse annually.

Source: FEMA, National Flood Insurance Program (NFIP)
Total Claim Payments by State (Top 10) Jan 1, 1978 - Dec. 2004

Louisiana and Alabama rank 3rd and 10th respectively in terms of total claims payments. Mississippi ranks 13th.

Source: FEMA, National Flood Insurance Program (NFIP)
Hurricanes Katrina & Rita: Demand Surge is a Big Problem
Hurricanes Have Hurt Economic Growth and Sparked Inflation

Source: Blue Chip Economic Indicators, Oct. 10, 2005; Insurance Information Institute

Real GDP Growth

- 05:Q1: 3.6%
- 05:Q2: 3.1%
- 05:Q3E: 2.8%
- 05:Q4F: 2.6%

Inflation Rate (CPI-U)

- 05:Q1: 3.0%
- 05:Q2: 2.9%
- 05:Q3E: 3.6%
- 05:Q4F: 3.6%

Inflation is resulting from a demand surge (higher prices for materials & labor needed for rebuilding).
The Simple Economics of “Demand Surge”

Dr. Marcellus Andrews, Economist, III
Storms Damage Economies as Well as Property

- Hurricanes Katrina and Rita destroyed property, businesses and therefore the economy of the Gulf region.
- The storms destroyed a substantial portion of the productive capital of the region while evacuation reduced the labor force.
- The economic recovery process will be hampered by the same housing shortages that are slowing down the claims adjustment process in Louisiana and Mississippi.
Economic Damage Inflicted by Katrina and Rita

• 1.5 million people were evacuated from the region, cutting the labor force by approximately 933,000 workers.*
• According to the Congressional Budget Office, 300,000 homes have been destroyed, so that the recovery process will take longer than normal because workers have no place to live.**
• Inventories of building materials and supplies as well as the distribution systems for these goods were also damaged or destroyed by the storms and flooding.

*Estimate based on a fact that the ratio of dependents – primarily the non-working elderly and those too young to legally work as well as those too sick to work – is six dependents for every ten workers
** “Macroeconomic and Budgetary Effects of Hurricanes Katrina and Rita”, Statement of Douglas Holtz-Eakin, Director, Congressional Budget Office, before the Committee on the Budget. United States House of Representatives, October 6, 2005.
**Definition of Demand Surge**

- Insurance dollars will pour into the region, but rebuilding will be limited by material and worker shortages, leading to rising wages and materials prices.
- This rise in prices due to insurance dollars bumping up against labor and materials shortages is "demand surge".
- The cost of rebuilding homes will rise substantially over the next three to six months because labor and materials are in short supply.
- However, over the course of the next year or more, wages and materials price increases will slow because residents will return to the region while immigrants from other regions (and countries) will be lured by high wages.
Details of “Demand Surge”
## Number & Share of Labor Force Affected by Katrina/Rita by State

<table>
<thead>
<tr>
<th>State</th>
<th>Labor Force</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>392,139</td>
<td>12%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1,564,302</td>
<td>48%</td>
</tr>
<tr>
<td>Mississippi</td>
<td>903,808</td>
<td>28%</td>
</tr>
<tr>
<td>Texas</td>
<td>396,080</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: US Department of Labor as of August 2005
Katrina/Rita Evacuation Create Major Labor Shortages in Some Areas

- Storm eliminated between 293,000 (best case) and 480,000 (worst case) jobs from Katrina/Rita region.*
- Labor force falls by 933,000, so that the number of workers falls by more than the number of jobs, leading to higher wages.
- Acute labor shortages in Louisiana and Mississippi as a result of the evacuation.

* “Macroeconomic and Budgetary Effects of Hurricanes Katrina and Rita”, Statement of Douglas Holtz-Eakin, Director, Congressional Budget Office, before the Committee on the Budget. United States House of Representatives, October 6, 2005
Temporary and Structural Unemployment in the Region

• New Orleans Times-Picayune (October 26, 2005) reports dramatic rise in unemployment in region from 6% in August to 14.8% in September at the same time the firms offer bonuses to counteract labor shortages.

• Measured unemployment is temporary and “structural”, more due to a spatial mis-match between workers and jobs than to a drastic decline in the number of jobs.

• Warning signs: the return of workers cold boost measured unemployment industries where customer demand has to pick up – tourism.
Long Term Declines in Labor Scarcity and Labor Costs

- Bush Administration’s suspension of Davis-Bacon Act would have permitted employers to pay below the minimum wage, though this move has since been rescinded.
- Bush Administration relaxation of immigration rules allows increase in labor supply due to immigration in region with weak unions.
- Rebuilding homes will increase the regions long term labor force by easing housing shortage.
Housing

- Of the 300,000 homes destroyed by the storms 110,000 were in New Orleans, with 30 to 50,000 requiring demolition.*
- Estimated rebuilding of 100,000 units in New Orleans assuming slight decline in population as a result of out-migration (principally to Texas).**
- Cost of housing construction per square foot may quadruple from $30 per square foot to $120 per square foot*** immediately, with costs falling back once workers return to the region.

** The Economic and Construction Outlook Gulf States After Hurricane Katrina, The American Institute of Architects.
Materials

- Materials prices present a mixed picture. Some materials prices will rise sharply immediately – 2\textsuperscript{nd} quarter 2005 through 4\textsuperscript{th} quarter 2006 –, only to rise at a lower rate later (after 4\textsuperscript{th} quarter 2006) and vice versa.
- Materials like lumber, cement, gypsum and structural steel products will be in relatively scarce because of trade restrictions and high global demand.
Construction Materials Prices Expected to Surge, Raising Rebuilding Costs

Construction materials costs are arising rapidly and expected to increase at a pace well above the inflation rate for years.

Overall Inflation (CPI-U)
2005: 3.2%  2006: 2.9%
2007: 2.5%  2008: 2.5%

Lumber & Wood Products: 2.3%  3.4%
Fabricated Structural Metal Products: 3.9%  5.0%
Gypsum Products: 6.7%  5.8%
Cement: 6.7%  5.8%
Plumbing Fixtures: 4.8%
Heating Equipment: 4.2%


Source: The Economic and Construction Outlook Gulf States After Hurricane Katrina, The American Institute of Architects
Complicating Factors

• Materials prices have recently risen faster than the American Institute of Architects projections because of fuel price hikes resulting from the storms.
• Reduced oil production capacity raises transport costs as well as production costs for many building materials.
• Higher wood products and gypsum prices are driven by the disruption of the materials delivery system in the Gulf region, even though the destruction of forests in the region may increase the supply of useable lumber. Sawmills and plywood plants have been damaged or closed by the storms the Gulf and Florida.*

* Purchasing.Com – The Magazine for Chief Procurement Officers and Purchasing Executives, October 6, 2005
Implications

- Labor costs will rise sharply through March of 2006, then grow more slowly as homes are repaired and more workers return to the region.
- Materials costs will rise due to short term shortages and longer term price pressures due to the global construction boom.
- Housing remains the primary barrier to rapid recovery.
- Cost and price pressure will abate over the long term as labor and material shortages ease.
What Role Should the Federal Government Play in Insuring Against Natural Disaster Risks?
Overview of Plans for a National Catastrophe Insurance Plan
NAIC’s Comprehensive National Catastrophe Plan

• Proposes Layered Approach to Risk
• Layer 1: Maximize resources of private insurance & reinsurance industry
  • Includes “All Perils” Residential Policy
  • Encourage Mitigation
  • Create Meaningful, Forward-Looking Reserves
• Layer 2: Establishes system of state catastrophe funds (like FHCF)
• Layer 3: Federal Catastrophe Reinsurance Mechanism

Source: Insurance Information Institute
Guiding Principles of NAIC’s National Catastrophe Plan

- National program should promote personal responsibility among policyholders
- National program should support reasonable building codes, development plans & mitigation tools
- National program should maximize risk-bearing capacity of private markets, and
- National plan should provide quantifiable risk management to the federal government

Comprehensive National Catastrophe Plan Schematic

- National Catastrophe Contract Program
- State Regional Catastrophe Fund
- Personal Disaster Account
- Private Insurance

Legislation: Comprehensive National Catastrophe Plan

  - Introduced by Representative Ginny Brown-Waite (R-FL)
  - Requires Treasury to implement a reinsurance program offering contracts sold at regional auctions
- **H.R. 4366: Homeowners Insurance Protection Act of 2005**
  - Also worked on by Rep. Brown-Waite
  - Establishes national commission on catastrophe preparation and protection
  - Authorizes sale of federally-backed reinsurance contracts to state catastrophe funds
- **H.R. 2668: Policyholder Disaster Protection Act of 2005**
  - Backed by Rep. Mark Foley (R-FL)
  - Amends IRS code to permit insurers to establish tax-deductible reserve funds for catastrophic events
  - 20-year phase-in for maximum reserve
  - Use limited to declared disasters

Source: NAIC, Insurance Information Institute
Layer 1: The Insurance Contract, Enhancing Capacity & Shaping the Risk

- **All Perils Policy**
  - No exclusion except acts of war
  - Contains standard deductibles of $500 - $1000 but requires separate CAT deductible of 2% – 10% of insured value; Consumer could buy down the deductible to non-CAT fixed dollar amount

- **Encouraging Mitigation**
  - Policy will provide meaningful discounts for effective mitigation measures

- **Creating Meaningful, Forward-Looking Reserves**
  - Change tax law to allow insurers to set aside a share of premiums paid by policyholders as a reserve for future events
  - Amount set aside would be actuarially based
  - Phased-in to maximum reserve over 20 years
  - Use limited to declared disasters

Layer 2: State Level Public/Private Partnership (State CAT Fund)

• Requirement to Create Fund
  ➢ To participate in national fund, states must establish state CAT fund or participate in regional CAT fund
  ➢ Funds responsible for managing capacity of their funds up to costs expected for combined 1-in-50 year CAT loss level

• Operation of State/Regional CAT Funds
  ➢ Operating structures left to states’ discretion, including
    – Financing mechanism (e.g., debt, pool etc.)
    – Trigger point for qualifying loss (if any)
    – Amount of retention between private insurers & state fund
    – Participation by surplus lines & residual markets
  ➢ Requirement that rates are actuarially sound
  ➢ Requirement that fund will finance a level of mitigation education and implementation

• Building Codes
  - Participating states expected to establish effective (enforced) building codes that properly reflect their CAT exposures as well as the latest in accepted science and engineering
  - States also required to develop high land use plans where appropriate

• Anti-Fraud Measures
  - State funds and DOIs maintain rigorous anti-fraud programs to ensure losses paid actually due to insured CAT loss

• Mitigation
  - DOIs required to establish & implement effective mitigation plans
  - Review of mitigation plans will be considered as part of an NAIC certification process

Layer 3: The Role of a National Mechanism

- The National Catastrophe Plan Mechanism
  - Federal legislation is needed to create a National Catastrophe Insurance Commission (NCIC)
    - NCIC purpose is to serve as conduit between state funds and US Treasury for purpose of providing reinsurance to state funds for insured losses resulting from catastrophic events beyond the state-mandated 1-in-50 year exposure
  - States & NCIC will enter into National Catastrophe Financing Contracts
    - Reinsurance will attach at 1-in-50 year level and provide protection through the 1-in-500 year level event

The Role of a National Mechanism

- The National Catastrophe Insurance Commission Structure & Duties
  - NCIC would annually establish actuarially sound rates, with no profit factor, for each state’s aggregate catastrophic exposure
  - State fund responsible for collecting premium and remitting to NCIC.
  - NCIC remits premiums to US Treasury general revenues
    - No separate fund is created, nor are any funds accumulated
    - In the event of a loss, US Treasury provides funds pursuant to catastrophe financing contract
  - NCIC will consist of 11 members serving 6-year terms
    - 1 member from each of 4 NAIC zones, 1 US Treasury rep., remainder are to be experts in actuarial science, engineering, meteorological/seismic science, consumer affairs & p/c insurance
    - Members are selected by the President & confirmed by the Senate with chair appointed by the President

Interaction of State Funds, National Commission & US Treasury

Pros/Cons of Federal CAT
(Re) Insurance Facility

• **Rationale **FOR Federal Involvement
  - Insurance was not meant to handle mega-catastrophes
  - Such risks are fundamentally uninsurable
  - Federal government already heavily involved in insuring against weather-related mega-catastrophes (e.g., flood, crop)
  - Insurers are not allowed to charge risk appropriate rates (including rising reinsurance costs)
  - Price/availability of private reinsurance is volatile

• **Rationale **AGAINST Federal Involvement
  - Crowds-out pvt. insurance/reinsurance markets; stifles innovation
  - Relationship between price and risk assumed is diminished since fed insurance programs are seldom actuarially sound
  - Increases federal involvement and regulatory authority in p/c insurance (**not a negative for some market participants**)
  - Cost to US Treasury (esp. taxpayers in less disaster prone states)
  - Diminishes incentives for mitigation, tougher building codes and wiser land use policies if Fed rate are politically influenced
Proponents/Opponents of National Catastrophe Plan

Proponents of a National Catastrophe Plan
- Some major personal lines insurers: Allstate, State Farm
- Insurance regulators from some CAT-prone states: FL, CA, NY as well as NY (but not TX)
- Some elected officials in state legislatures & Congress, esp. from disaster-prone states like FL
- Coalition building on-going (ProtectingAmerica.org)

Opponents of a National Catastrophe Plan
- Reinsurers, American Insurance Association, numerous large insurers both domestic and foreign
- Many smaller insurers concerned about federal intrusion into the p/c regulatory arena
- Many insurers operating outside areas prone to major CAT risk
- Some regulators in states not prone to major catastrophic risk
- Likely opposition among legislators and policymakers in Washington opposed to deeper involvement of government in p/c insurance sector
Regional Natural Disaster Pool(s)

• **KEY ELEMENTS**
  - Share of property premiums in certain states (homeowners, commercial property) premiums collected would be ceded to pool and used to finance mega-catastrophes in participating states
  - Funds would earn investment income tax-free to speed accumulation
  - Federal government would provide a backstop to the pool as:
    - Reinsurance purchased by pool from the government
    - Line of credit offset by assessing authority

• **KEY CHALLENGES**
  - Is participation by insureds mandatory or optional?
  - If optional, significant adverse selection problem
  - Determination of “actuarially sound” rates
  - Maintaining role for private reinsurance
  - Keeping rates free of political influence and manipulation
  - Formula for assessing shortfalls in pool (including taxpayer share)
  - Attracting support of states not prone to mega-catastrophes
  - Appeasing deficit hawks, advocates of small government
Federal Reinsurance Program

• **KEY ELEMENTS**
  - Insurers purchase CAT reinsurance from federal government

• **KEY CHALLENGES**
  - Determination of “actuarially sound” rates
  - Maintaining significant role for private reinsurers
  - Maintaining significant role for ART and risk securitization
  - Keeping rates free of political influence and manipulation
  - Appeasing advocates of small government
  - Keeping natural disaster risk programs separate and distinct from terrorism risk
Tax-Preferred Treatment of Pre-Event Catastrophe Reserving

• **KEY ELEMENTS**
  - Insurers would be allowed to deduct from their taxable income amounts set aside in reserve for natural disaster risks *in advance of the occurrence of the actual event*
  - Presently, US tax law does not allow for such treatment
    * Most other countries already permit pre-event reserving

• **KEY CHALLENGES**
  - Determination of appropriate reserve levels
  - Overcoming criticism of impact on US Treasury receipts
    * Note that impact on Treasury is limited to time value of tax receipts
Managing Natural Catastrophes in a Post-9/11 World

L James Valverde, Ph.D., Director, Economics & Risk Management
• Managing Natural Catastrophes
  ➢ Emergency preparedness and response in the wake of 9/11
  ➢ Emerging questions and lessons from Hurricane Katrina
  ➢ The centrality of risk management, for both public and private stakeholders

• The U.S. Department of Homeland Security
  ➢ The National Strategy for Homeland Security and the genesis of DHS
  ➢ Historic moment for America or bureaucracy writ large?

• Emergency Preparedness and Response
  ➢ The homeland security context
  ➢ All-hazards vs. terrorist myopia?

• FEMA
  ➢ Past, present, and future
  ➢ What went wrong and why?
  ➢ All-hazards context: The National Planning Scenarios
  ➢ Challenges in the years ahead

• Implications for P/C Insurers

• Concluding Remarks and Discussion
The National Strategy for Homeland Security and the Genesis of DHS

- In the wake of 9/11, President Bush issued the *National Strategy for Homeland Security* in July 2002

- Legislation creating the U.S. Department of Homeland Security (DHS) was signed in November 2002

- The creation of DHS represents a fusion of numerous federal agencies, with the objective of *coordinating* and *centralizing* the leadership of the nation’s homeland security activities under a single, cabinet-level department
  - Began operations in March 2003
  - 22 separate agencies
  - Approximately 180,000 employees
DHS: Historic Moment or Bureaucracy Writ Large?

- The creation of DHS represents a historic moment of almost unprecedented action by the federal government to transform how the nation protects itself from acts of terrorism.

- Rarely in the nation’s history has such a large and complex reorganization of government been attempted, with such a singular and urgent purpose.

- DHS represents a unique opportunity to transform a disparate group of agencies with multiple missions, values, and cultures into an effective cabinet-level department.

- A central aspect of DHS’s mission involves coordinating efforts to protect critical infrastructure, prepare for possible attacks and other emergencies, and respond to catastrophic incidents and events.

- Accountability and performance thus far?
  - Hurricane Katrina as a specific case in point – first real test of the system?
  - DHS Inspector General
  - U.S. GAO
  - Academics and Think Tanks
Homeland Security: The Essential Tension

- Any coordinated and sustained effort to effectively manage homeland security must contend with two competing tasks:
  - The *prevention* of terrorist acts
  - *Mitigation of consequences* arising from acts of terrorism

- In a decision context like this, resource allocation under uncertainty is one of the central challenges the federal government faces in its efforts to manage homeland security
The National Strategy for Homeland Security

• The National Strategy for Homeland Security describes six critical missions areas:
  - Intelligence and Warning
  - Border and Transportation Security
  - Domestic Counterterrorism
  - Protecting Critical Infrastructure and Key Assets
  - Defending Against Catastrophic Threats
  - Emergency Preparedness and Response

• The President has also issued several additional documents – so-called Homeland Security Presidential Directives (HSPD) – that provide more detailed guidance on various homeland-security-related mission areas and initiatives
Emergency Preparedness and Response: Key Elements of the National Strategy

For the Emergency Preparedness and Response mission area, the National Strategy identifies 12 separate initiatives:

1. Integrate separate federal response plans into a single all-discipline incident management plan
2. Create a national incident management system
3. Improve tactical counter terrorist capabilities
4. Enable seamless communication among all responders
5. Prepare health care providers for catastrophic terrorism
6. Augment America’s pharmaceutical and vaccine stockpiles
7. Prepare for chemical, biological, radiological, and nuclear decontamination

8. Plan for military support to civil authorities

9. Build the Citizen Corps

10. Implement the First Responder initiative of the FY03 budget

11. Build a national training and evaluation system

12. Enhance the victim support system
FEMA

Past, Present, and Future
“…consolidate DHS response missions into FEMA and strengthen that agency. FEMA should be engaged squarely in its traditional role of planning for national (not just federal) response to emergencies… [emphasis added].”

DHS 2.0
Heritage Foundation
December 2004
FEMA in the Wake of Hurricane Katrina

• According to a recent WSJ article, FEMA has, in some circles, become synonymous with the government’s bungled response to the hurricane.

• To what extent is this a fair characterization of this agency and the difficult situation it now finds itself in?
“Two years ago in a lecture at the Naval Postgraduate School … I told students that FEMA was not capable of adequately responding to a major hurricane, let alone a catastrophic terrorist attack. My comments were based on an assessment that morale at FEMA was then the worst since the agency was created. The very people the nation depended on to help out during our time of greatest need were being demoralized by an indifferent, inexperienced leadership that neither understood emergency management nor had the skills to ensure the agency had the resources to meet its all-hazard mission.”

“Those who think we have overemphasized terrorism in the wake of September 11, should be concerned with a knee-jerk reaction to Katrina. What we need is balance. We must be prepared to respond to both terrorism and natural disasters. The FEMA I know is capable of rising to the occasion and accomplishing both missions.

Mike Walker
Former FEMA Deputy Director
The Washington Times, 13 Sept. 2005
FEMA: What Went Wrong and Why?

• Over the course of the next several months, many theories and explanations will be forthcoming
• Much of what will likely be said will contain the following core elements:
  ➢ The agency is no longer cabinet-level, but rather a small cog within the organizational and bureaucratic behemoth that is DHS
  ➢ FEMA’s mission to help states prepare for “all hazards” – from terrorism to natural disasters – has become lost within DHS’s myopic focus on terrorism
  ➢ FEMA should perhaps revert to being an independent, cabinet-level agency
Importance of the All-Hazards Context
HSPD 8 – National Preparedness: The National Planning Scenarios

- Developed under the leadership of the Homeland Security Council
- Overarching goals are to
  - Create the *agility* and *flexibility* to meet a wide range of threats and hazards
  - Provide a structure for the development of national preparedness standards
- 15 planning scenarios provide parameters regarding the nature, scale, and complexity of incidents of national significance, which include both terrorism and natural disasters
- Each scenario provides a basis for defining *prevention*, *protection*, *response*, and *recovery* tasks that need to be performed, as well as required capabilities
National Planning Scenarios

The Homeland Security Council has developed 15 all-hazard planning scenarios for use in national, federal, state, and local homeland security preparedness activities:

1. Nuclear Detonation – 10-Kiloton Improvised Nuclear Device
2. Biological Attack – Aerosol Attack
3. Biological Disease Outbreak – Pandemic Influenza
4. Biological Attack – Plague
5. Chemical Attack – Blister Agent
6. Chemical Attack – Toxic Industrial Chemicals
7. Chemical Attack – Nerve Agent
National Planning Scenarios (cont.)

8. Chemical Attack – Chlorine Tank Explosion
9. Natural Disaster – Major Earthquake
10. Natural Disaster – Major Hurricane
11. Radiological Attack – Radiological Dispersal Devices
12. Explosives Attack – Bombing Using Improvised Explosive Device
13. Biological Attack – Food Contamination
14. Biological Attack – Foreign Animal Disease (Foot and Mouth Disease)
15. Cyber Attack
Scenario 10: Natural Disaster – A Major Hurricane

- In this scenario, a Category 5 hurricane hits a major metropolitan area
  - Sustained winds are at 160 mph, with a storm surge greater than 20 feet above normal
  - As the storm moves closer to land, massive evacuations are required
  - Some low-lying escape routes are inundated by water anywhere from 5 hours before the eye of the hurricane reaches land

- Consequences associated with Scenario 10:

<table>
<thead>
<tr>
<th>Casualties</th>
<th>1,000 fatalities; 5,000 hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure Damage</td>
<td>Buildings destroyed; large debris</td>
</tr>
<tr>
<td>Evacuations/Displaced Persons</td>
<td>1 million evacuated; 100,000 homes seriously damaged</td>
</tr>
<tr>
<td>Contamination</td>
<td>From hazardous materials, in some areas</td>
</tr>
<tr>
<td>Economic Impact</td>
<td>Billions of dollars</td>
</tr>
<tr>
<td>Recovery Timeline</td>
<td>Months</td>
</tr>
</tbody>
</table>
Looking Towards the Future

Where Do We Go From Here?
Challenges in Emergency Preparedness

Adopting an All-Hazards Approach

• The National Strategy calls for the creation of

  “a fully integrated national emergency response system that is adaptable enough to deal with any terrorist attack, no matter how unlikely or catastrophic, as well as all manner of natural disasters” [emphasis added]

• Challenges:

  ➢ Identifying the types of emergencies for which they should be prepared and the requirements for responding effectively

  ➢ Assessing current capabilities against those requirements

  ➢ Developing and implementing effective, coordinated plans among multiple first responder disciplines and jurisdictions

  ➢ Defining the roles and responsibilities of federal, state, and local governments and private entities
Challenges in Emergency Preparedness

Improving Intergovernmental Planning and Coordination

- The National Strategy emphasizes a shared national responsibility – involving all levels of government – in responding to a serious emergency

- In May 2004, GAO reported that a major challenge involves what they saw as lack of coordination within DHS in terms of the agency’s ability to prepare for, respond to, and recover from terrorist and other emergency incidents:

  “…there has been a lack of regional planning and coordination for developing first responder preparedness, defining preparedness goals, identifying spending priorities, and expending funds” (GAO-04-433)
Challenges in Emergency Preparedness

Establishing Emergency Preparedness Standards

- The National Strategy makes mention of benchmarks, standards, and other performance measures for emergency preparedness.

- However, in January 2005, GAO found that

  “…there is not yet a complete set of preparedness standards for assessing first responder capacities, identifying gaps in those capacities, and measuring progress in achieving performance goals” (GAO-05-33)
Desirable Attributes for a Reconstrued and Revised FEMA

- Nimble
- Responsive
- Communicative
- Empowered
- Coordinating
- Flexible
- Accountable
- Resilient
Implications for the P/C Insurance Industry
Mismanagement of Emergency Preparedness and Response Can Impact the Economic Losses Associated with Natural Disasters

- Clearly, there is a relationship between “recovery time” and the economic losses associated with a natural catastrophe such as Hurricane Katrina
  - Business interruption losses increase exponentially with response lag
  - Fires burn uncontrolled
  - Failed law enforcement, rioting and looting
  - Delayed flood drainage
  - Untimely mitigation of environmental release/contamination
  - etc.

- While precise estimates of this relationship will require future empirical study, a couple of points are worth considering in light of Katrina:
  - A key responsibility for P/C insurers is to play their important and substantial role in the risk mitigation process
  - It is important for federal, state, and local officials to understand and appreciate the role that insurance can play in both minimizing loss and expediting recovery
  - Both P/C insurers and property owners, alike, have a vested interested in seeing that the overall system works as best as possible
Prospective Challenges for P/C Insurers
Challenges for P/C Insurers: Uncertainty of Losses

- Natural disasters pose vexing challenges for insurers because they involve potentially high losses that are characterized by large degrees of uncertainty.
- Moreover, natural disasters involve spatially correlated losses or the simultaneous occurrence of many losses from a single event.
- Hurricane Katrina suggests a new “externality” for P/C insurers to consider:

  Mismanagement of the government’s response and recovery efforts in the affected region(s)


Rethinking Traditional Approaches to CAT Modeling and Risk Management in Light of Katrina

- Traditional approaches to risk assessment and CAT Modeling need to be revised to explicitly consider some of these new “externalities” (e.g., political uncertainty, etc.) into their overall analytical frameworks.
- A clear need for increased geo-spatial sophistication and detail within CAT models, combined with the ability to perform “cascaded inference” (broken levee → · · · → evacuation of affected area).
- Seriously rethink the implications of changes in risk appetite/tolerance and ambiguity aversion for risk management strategies and corporate decision-making.
Summary

• 2005:H1 was likely the p/c insurance industry’s zenith in the current cycle for underwriting/earnings
• Industry was financially strong and well capitalized pre-Katrina
• 2005 CATs unlikely to provoke widespread hard market conditions (only about 5% of global p/c capital)
• Effects mostly confined mostly to specific lines & regions: HO, Commercial Property, Property CAT Reinsurance & retrocessional markets, PPA Comprehensive; Energy/Marine
  ➢ Areas most impacted are Gulf & Atlantic coasts
• Cyclical concerns will quickly return as dominant issue
• Rising investment returns insufficient to support deep soft market in terms of price, terms & conditions
• Clear need to remain more underwriting focused
• Major Challenges:
  ➢ Maintaining price/underwriting discipline
  ➢ Managing variability/volatility of results
  ➢ New/emerging/re-emerging risks
Insurance Information Institute On-Line

If you would like a copy of this presentation, please give me your business card with e-mail address.