



**Statement for the Record of  
The Mortgage Bankers Association**

**Before the  
Subcommittee on Oversight and Investigations  
Committee on Financial Services  
United States House of Representatives**

**Hearing on “Insurance Claims Payment Processes in  
the Gulf Coast after the 2005 Hurricanes”**

**Wednesday, February 28, 2007, 2:00 PM**

## **Introduction**

In the wake of the severe hurricane damage during 2004 and 2005, many insurers have pulled out of hurricane-prone areas. This has resulted in an insurance availability or affordability crisis for both residential and commercial properties in certain hurricane-prone parts of the country. The unprecedented damage of Hurricane Katrina and the subsequent spotlight on the recovery efforts in the gulf region have triggered a reassessment of public policy by political leaders and insurance regulatory officials as to how to deal with the financial consequences of such massive property damage.

The Mortgage Bankers Association (MBA)<sup>1</sup> represents both the residential and commercial real estate finance industries. Currently there is \$9.84 trillion of residential mortgage debt outstanding and \$2.845 trillion in commercial/multifamily debt outstanding. This debt finances the vast majority of single family homes, apartment complexes, office, retail and industrial buildings that house the families and businesses that are the engines for the nation's vibrant and diverse economy. Circumstances that would undermine the residential and commercial real estate finance market, such as the lack of insurance for natural catastrophes, would not only impact the residential and commercial real estate finance sectors, these impacts would ripple through the economy as buildings and homes became more difficult and costly to finance and purchase.

Typical commercial mortgages are made on an 80 percent loan to value ratio, which means that at the time of loan origination 80 percent of the property value is reflected in the mortgage held by the lender and the remaining 20 percent is owner's equity. Commercial real estate lending is typically non-recourse, meaning that in the case of a mortgage default the lender can only look to the underlying value of the property to recover its mortgage balance, not the assets of the owner. Because most commercial real estate lending is non-recourse, lenders have an acute interest in preserving and protecting asset value. In order to protect their interest in their commercial real estate assets, lenders place paramount importance on requiring and verifying that uninterrupted insurance coverage is in place for the life of the loan.

While residential lenders do have recourse against borrowers (depending on state law), the reality is that most borrowers are insolvent when the loan reaches foreclosure. As a result, the lender's only true means of recovering the debt is through the property.

## **Natural Disaster Catastrophic Insurance Market Conditions**

In 2004 and 2005, natural disasters caused a stunning \$89.0 billion in privately insured catastrophic losses. This total jumps to \$107.3 billion when loss payments from the

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<sup>1</sup> The Mortgage Bankers Association (MBA) is the national association representing the real estate finance industry, an industry that employs more than 500,000 people in virtually every community in the country. Headquartered in Washington, D.C., the association works to ensure the continued strength of the nation's residential and commercial real estate markets; to expand homeownership and extend access to affordable housing to all Americans. MBA promotes fair and ethical lending practices and fosters professional excellence among real estate finance employees through a wide range of educational programs and a variety of publications. Its membership of over 3,000 companies includes all elements of real estate finance: mortgage companies, mortgage brokers, commercial banks, thrifts, Wall Street conduits, life insurance companies and others in the mortgage lending field. For additional information, visit MBA's Web site: [www.mortgagebankers.org](http://www.mortgagebankers.org).

National Flood Insurance Program (NFIP) are included for this period. The recent spate of natural disasters has caused insurance companies to reexamine their business models for insuring natural disasters. This process has resulted in insurers and reinsurers pulling out of or reducing their portfolio allocations in certain disaster prone areas of the country. This resulting insurance capacity loss has caused property insurance rates to spike from 100 percent to over 600 percent in certain coastal areas with heavy hurricane exposure, which has put a tremendous strain on state-operated insurance pools that serve as the insurer of last resort in these areas.

The distressed insurance market for natural disaster insurance has led to an insurance availability and/or affordability crisis in some states. Residential and commercial property owners have been saddled with alarming insurance price increases in hurricane prone areas. The calm 2006 hurricane season has done little to ease insurance pricing going into the 2007 renewal season.

The insurance rate increases have lowered debt service coverage ratios on commercial and multifamily properties to levels that have alarmed lenders, servicers and rating agencies. Additionally, in some hurricane-prone areas, commercial real estate sales transactions, development projects and refinancings have been cancelled or put on hold due to the lack of available or affordable property or windstorm insurance.

Addressed below and detailed further in the accompanying MBA White Paper entitled *Natural Disaster Catastrophic Insurance – The Commercial Real Estate Finance Perspective* are the prevailing insurance market conditions that have created the insurance availability and/or affordability crisis in some parts of the country, including the Gulf Coast region.

- **Catastrophic Risk is Not Going Away** - Catastrophic risk from hurricanes, earthquakes, floods, winter storms, and wildfires provides a baseline of low-to-moderate catastrophic event risk for virtually every population center in the U.S. Areas with the greatest catastrophic risk are locations in the most hurricane- and earthquake-prone areas.
- **Potential Hurricane Damage Will Continue to Grow** - An important influence on the loss severity of the most recent hurricanes has been the high concentration of real estate in hurricane-prone areas. This has been driven by long-term population migration trends to coastal areas where hurricane loss severity has been forecasted to double every ten years.
- **Risk Modeling Companies Revise Hurricane Damage Severity** - The risk modeling companies are incorporating the 2005 loss frequency and severity numbers into their hurricane models. This has caused the risk modeling companies to revise upward expected losses from hurricanes by 20 to 100 percent. Insurance and reinsurance companies have modified their catastrophe pricing structures to reflect these increased loss projections.

- **Insurance Company Rating Agencies' Concerns Shrink Catastrophic Insurance Capacity** – Insurance company rating agency stress tests now take into account all natural disasters on which the insurance company has loss exposures. These stress tests include multiple disasters from different sources, such as earthquake and hurricane, occurring in the same year. Rating agencies are emphasizing overall catastrophic exposure in an insurer's portfolio and encouraging insurance companies to develop strong internal catastrophic risk management programs. This is one factor behind the reduction in catastrophic insurance capacity by both primary insurers and reinsurers.
- **Insurance Capacity for Windstorm and Earthquake Decline Precipitously** According to reporting by Aon, active wind insurance and earthquake insurance capacity have declined by 60.5 percent and 21.6 percent, respectively, between September 2005 and July 2006.
- **Catastrophic Insurance Pricing to Remain High** – Policy holders with catastrophic risk exposure may never see their insurance premiums return to pre-Katrina levels due to the increased loss expectations from hurricanes and rating agency scrutiny over an insurance company's overall exposure to catastrophic events.
- **Lack of Insurance Information Transparency** – Insurers have recently made other changes that affect the mortgage industry. The ACORD 28 and ACORD 27 forms are stand-alone documents used by the commercial and residential real estate finance industries, respectively, to serve as evidence of insurance coverage and to detail all the insurance coverage that is in place for a property. Recent changes to ACORD forms 28 and 27 introduce new disclaimers that specifically state the form is for information only and, therefore, threaten the form as providing adequate proof of insurance. In addition, changes to the ACORD forms no longer obligate insurers to notify named parties of insurance cancellations. These changes create significant contractual and insurance compliance burdens for closers and subsequently, servicers throughout the life of the loan. MBA seeks to preserve notifications to all policy insureds during the life of the loan, which is critical to effectuating information transparency and protection to property owners, lenders and investors.

### **Residential and Commercial Natural Catastrophe Insurance Issues**

Because commercial and residential are different product categories, they sometimes face different insurance issues. Consequently, problematic insurance issues for the residential and commercial product categories have been addressed separately below:

#### **Residential Issues**

- Many private casualty insurers are not writing or renewing all-peril property insurance policies or are including large deductibles for wind damage in

coastal communities. When available, premium costs are tripling for residential homes in some hurricane prone areas. Florida is the hardest hit with a significant number of private policies on coastal properties not being renewed.

- Both Fannie Mae and Freddie Mac continue to require wind coverage despite private insurers exiting the market. As a result, homeowners must get wind coverage through the state sponsored insurance funds, such as Citizens in Florida. Citizens has coverage plans that include wind only or all-peril coverage. In conjunction with the higher deductibles being written, Fannie Mae and Freddie Mac have increased their maximum permissible deductible for fire, water (not caused by flooding) or wind to 5 percent of the policy insurance limit for dwelling coverage.
- At this time, lenders with large concentrations of their assets in coastal areas are most concerned with the rising cost of insurance. They fear that the increased cost of insurance will cause defaults. Lenders also anticipate an increase in lender-placed policies as a result of homeowner cancellations of policies. Lender-placed insurers have indicated an upward adjustment to their premiums, but have not seen a large increase in policies written yet.
- Citizens, the state sponsored insurer in Florida, currently provides wind coverage up to \$1 million on both residential and commercial properties. As a result, the majority of properties with conventional conforming and government loans can be adequately serviced by the state plan, although clearly properties with insurable values over \$1 million are forced to obtain additional private insurance, which may be hard to find.
- The growing cost of insurance in coastal areas is also leading to affordability issues for home purchases. The cost of insurance is likely to affect the affordability of many properties.

### **Commercial/Multifamily Issues**

- Similar to the residential market, insurance company non-renewals of commercial and multifamily properties in hurricane-prone areas have been common.
- Similar to the residential market, the increase in insurance rates in hurricane prone areas has caused a hardship for commercial and multifamily property owners. Property owners that can not pass on increased insurance costs to tenants must absorb these increases, which cause their profitability to decline and some to operate at a loss. For those tenants that must absorb the higher insurance costs, they are faced with an unexpected occupancy cost increase that will negatively impact their bottom line.

- In some coastal areas, lenders have reported they have declined to finance properties because either the lack of available property insurance or the price of property insurance has created a situation where the property no longer conforms to the lender's underwriting requirements.
- Rating agencies have raised concerns that spiking insurance rates have lowered debt service coverage ratios of some properties that are included in commercial mortgage-backed security (CMBS) pools to levels that warrant their inclusion on Watch Lists. This could potentially result in CMBS rating downgrades if the debt service coverage ratios for a significant portion of the CMBS pool decline due to increased insurance costs.
- For some low-income multifamily properties, property owners have not been able to pass on large insurance rate increases to tenants, which has caused them to choose among operating in a negative cash flow position, defaulting on the loan payment or violating the terms of the loan which require all peril insurance coverage to be in place during the life of the loan.
- Some commercial loan servicers have added staff to monitor insurance placement on properties located in hurricane prone areas. These additional costs represent a hardship for servicers because these costs are not accounted for in existing servicing contracts.

### **MBA Position**

MBA supports private and/or public solutions that will enhance the timely availability and affordability of property insurance and conform to the following principles:

- Ensure no interruption in coverage;
- Make premiums affordable without unreasonably large deductibles;
- Make available at an affordable price insurance coverage, either owner obtained or lender placed, for every peril with the exception of the following exclusions: ordinances or laws, power failures, property neglect, acts of war, intentional losses and governmental actions. Insurance coverage for regional perils such as mudslides, flooding and earthquakes should be made available through private sector and/or public sector insurance policies at reasonable additional cost and with insurance limits adequate to the risk exposure of the property;
- Provide Evidence of Insurance that clearly provides a summary of the following to all insureds listed on the policy: perils covered and excluded, initiation and expiration dates, coverage limits, deductibles and any sublimits or different deductibles for specific perils, such as hurricane; and
- Preserve insurers' responsibility to notify all insureds listed on the policy of coverage, cancellation of insurance, coverage lapses, gaps and renewals.

**Conclusion**

We greatly appreciate the opportunity to provide our perspective on natural disaster catastrophic insurance to the Subcommittee. Through the hearing process, the Subcommittee is actively exploring solutions to the natural catastrophe insurance availability and or affordability crisis that is characteristic of hurricane prone areas inside and outside of the Gulf Coast. MBA stands ready to work with the Subcommittee to answer any questions that you might have regarding the real estate finance perspective on natural disaster catastrophic insurance issues.



MORTGAGE BANKERS ASSOCIATION

*White Paper*

Commercial

# Natural Disaster Catastrophic Insurance

*The Commercial Real Estate Finance Perspective*

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# Natural Disaster Catastrophic Insurance

## The Commercial Real Estate Finance Perspective



## INTRODUCTION

In 2004 and 2005, natural disasters caused a stunning \$89.0 billion in privately insured catastrophic losses. This total jumps to \$107.3 billion when loss payments from the National Flood Insurance Program (NFIP) are included for this period. The recent spate of natural disasters has caused insurance companies to reexamine their business models for insuring natural disasters. This process has resulted in insurers and reinsurers pulling out of or reducing their portfolio allocations in certain disaster prone areas of the country. This resulting insurance capacity loss has caused property insurance rates to spike from 100 percent to over 600 percent in certain coastal areas with heavy hurricane exposure and has put a tremendous strain on state-operated insurance pools that serve as the insurer of last resort in these areas.

These insurance rate increases have shocked property owners and have lowered debt service coverage ratios to levels that have alarmed lenders, servicers, and rating agencies. Additionally, in some hurricane-prone areas, commercial real estate sales transactions, development projects, and refinancings have been cancelled or put on hold due to the lack of available or affordable property or windstorm insurance.

The distressed insurance market for natural disaster insurance has led to an insurance availability and/or affordability crisis in some states. This crisis has not only impacted the insurance industry; it has also impacted many of the stakeholders in the commercial real estate finance industry: borrowers, lenders, servicers, and rating agencies. The purpose of this White Paper is to provide the information needed to develop a comprehensive understanding of the market forces shaping and influencing the catastrophic insurance market. This White Paper is intended to answer the following questions:

1. Have the recent natural catastrophes imperiled the insurance industry?
2. What are the types of natural disasters and what parts of the country do they impact?
3. Does the current regulatory framework impact the delivery of catastrophic insurance?
4. What are the categories of insurers and how do they operate?
5. Are current catastrophic insurance price spikes likely to remain?
6. What role does the reinsurance industry play in the availability and affordability of catastrophic insurance?
7. What are the impacts of the hard market (difficult or costly to obtain insurance) catastrophic insurance market conditions on borrowers, servicers, rating agencies, and CMBS investors?

## REPORT ORGANIZATION

In order to answer these questions, this White Paper is divided into six sections.

1. **Catastrophic Events** – This section examines how catastrophic events are defined and provides a summary of the categories of natural disaster catastrophic events.
2. **Insurance Industry Structure** – This section examines the size and scope of the insurance industry and discusses the categories of insurance lines as well as insurance delivery business models.
3. **Insurance Industry Regulatory Framework** – This section examines how the various categories of insurers are regulated at the state and federal levels.
4. **Insurer Categories** – This section discusses the different categories of insurers and how they work together to provide a comprehensive insurance program.
5. **Impact of Hard Market for Catastrophic Insurance Conditions** – This section examines impact of difficult market conditions for the placement of property insurance on the various stakeholders in the commercial real estate transaction including borrowers, lenders, servicers, rating agencies, and investors.
6. **Summary of Findings** – Summary of key report findings.

## CATASTROPHIC EVENTS

### Defining a Catastrophic Event

In the insurance industry, a catastrophic event is narrowly defined as an event that results in insured losses of \$25 million or more. This term was created by the Insurance Services Office Limited (ISO), which is a leading supplier of insurance loss data and standard policy language. In 1997, ISO increased the event size from \$5 million to \$25 million in order to be classified as catastrophic. This is the universally accepted definition by the insurance industry.

Exhibit 1 shows the categories of catastrophic events and their respective percentage of total catastrophic losses from 1985 through 2005 on an inflation-adjusted basis. Over this period, hurricanes and tropical storms accounted for 43.7 percent of total catastrophic losses. This percentage nearly doubles the nearest category, wind/thunderstorms, with 23.3 percent of total catastrophic losses. This category is comprised of heavy thunderstorms, tornados and hail storms. When combined, these two categories total 67.0 percent of all catastrophic losses, which indicates that wind related losses have been the dominant cause of catastrophic events. Also in this timeframe, 94.4 percent of all catastrophic events were attributed to natural disasters, as opposed to man-made disasters.

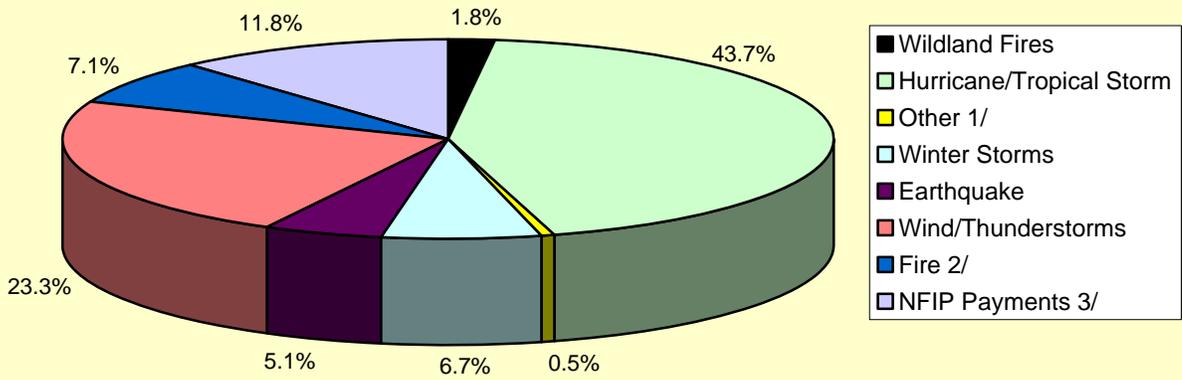
The scope of this White Paper is limited to an examination of catastrophic events caused by natural disasters. **Catastrophic events from terrorist attacks will not be examined.** Throughout the document, “catastrophic” and “catastrophe” will refer to natural disasters with losses of \$25 million and over.

### Drivers of Catastrophic Risk

Intuitively and in fact, the primary drivers for catastrophic risk are proximity to an area that is at risk for a natural disaster and the frequency in which the natural disaster is expected to occur. The concentration of property in catastrophic risk areas dictates the potential severity of damage. Take, for example, hurricanes -- the greater the concentration of property along hurricane-prone coastal areas, the greater the potential damage. For individual structures, the construction type and building materials play an important role in the loss severity. Exhibit 2 shows the coastal counties along the Gulf Coast and Eastern Seaboard. These counties are classified as coastal counties because their close proximity to the ocean makes them highly susceptible to damage caused by hurricanes or tropical storms.

Exhibit 3 shows the property concentrations within these coastal counties. Not all coastal counties have ocean frontage. For Gulf Coast and Eastern Seaboard states, 37.8 percent of their total property value is concentrated in coastal counties. For the nation, 16.5 percent of total property value is concentrated in coastal counties along the Gulf

**Exhibit 1  
Inflation Adjusted  
Catastrophic Insurance Losses  
1985-2005**



1/ Includes: riot, utility disruption and flood not covered by the National Flood Insurance Program.  
 2/ 96.2 percent of all Fire losses occurred during 2001, which includes the attacks of September 11.  
 3/ Percent is for total NFIP loss payments, not all losses may have occurred because of a catastrophic event.

Source: ISO, US Department of Homeland Security, Federal Emergency Management Administration

**Exhibit 2  
Gulf Coast and Eastern Seaboard Coastal Counties**



Source: AIR International Corporation

**Exhibit 3  
Concentration of Real Estate  
Gulf Coast and Eastern Seaboard**

<b>State</b>	<b>Total Coastal County Property Value</b>	<b>Total Property Value</b>	<b>Percent Coastal</b>
Alabama	75.9	631.3	12.0%
Connecticut	404.9	641.3	63.1%
Delaware	46.4	140.1	33.1%
Florida	1,937.4	2,443.5	79.3%
Georgia	73.0	1,235.7	5.9%
Louisiana	209.3	551.7	37.9%
Maine	117.2	202.4	57.9%
Maryland	12.1	853.6	1.4%
Massachusetts	662.4	1,223.0	54.2%
Mississippi	44.7	331.4	13.5%
New Hampshire	45.6	196.0	23.3%
New Jersey	505.8	1,504.8	33.6%
New York	1,901.6	3,123.6	60.9%
North Carolina	105.3	1,189.3	8.9%
Rhode Island	43.8	156.6	28.0%
South Carolina	148.8	581.2	25.6%
Texas	740.0	2,895.3	25.6%
Virginia	129.7	1,140.2	11.4%
All Above States	7,203.7	19,041.1	37.8%
All Above States as Percent of Total U.S.	7,203.7	43,665.6	16.5%

Source: AIR Worldwide Corporation

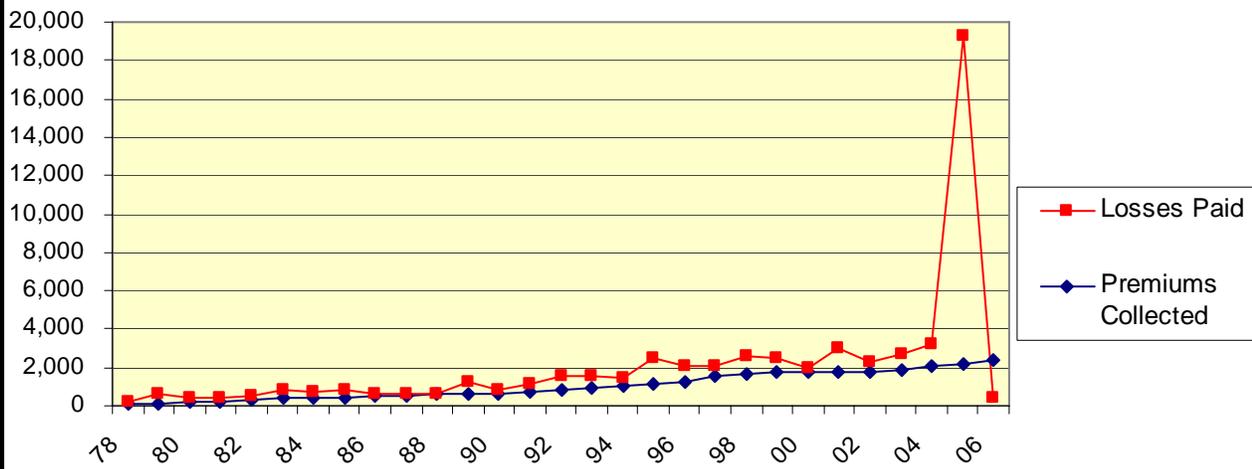
Coast and eastern seaboard. This represents a significant property concentration in hurricane-prone areas. Finally, if the frequency and or severity of catastrophic events are forecast to increase, the potential damage also increases. These are some of the factors that insurance companies take into consideration when underwriting and pricing insurance. Loss mitigation factors such as wind resistant construction are also factored into the pricing of insurance.

## **Flood**

Flood related catastrophes are primarily insured by the National Flood Insurance Program (NFIP) and by excess flood insurance purchased from the private sector. The United States Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The NFIP is a federal program enabling property owners in participating communities to purchase insurance protection against flood losses in exchange for state and community floodplain management regulations that reduce future

flood damage. Flood risk is somewhat different from the other catastrophic risk categories in that it is not exclusive to certain geographic regions. Instead, flood risk is dictated by the location of a property within an established floodplain. Exhibit 4 shows the loss payments made by the NFIP from 1978 to mid-year 2006 and does not include losses paid by private insurers. The flooding caused by Hurricanes Katrina, Wilma and Rita are reflected in the severe spike in NFIP payments for 2005.

**Exhibit 4**  
**NFIP Premiums Collected and Losses Paid**  
**1978 - 2006 1/**  
**(\$Millions)**



1/2006 data as of 6/30/06

Source: US Department of Homeland Security, Federal Emergency Management Administration.

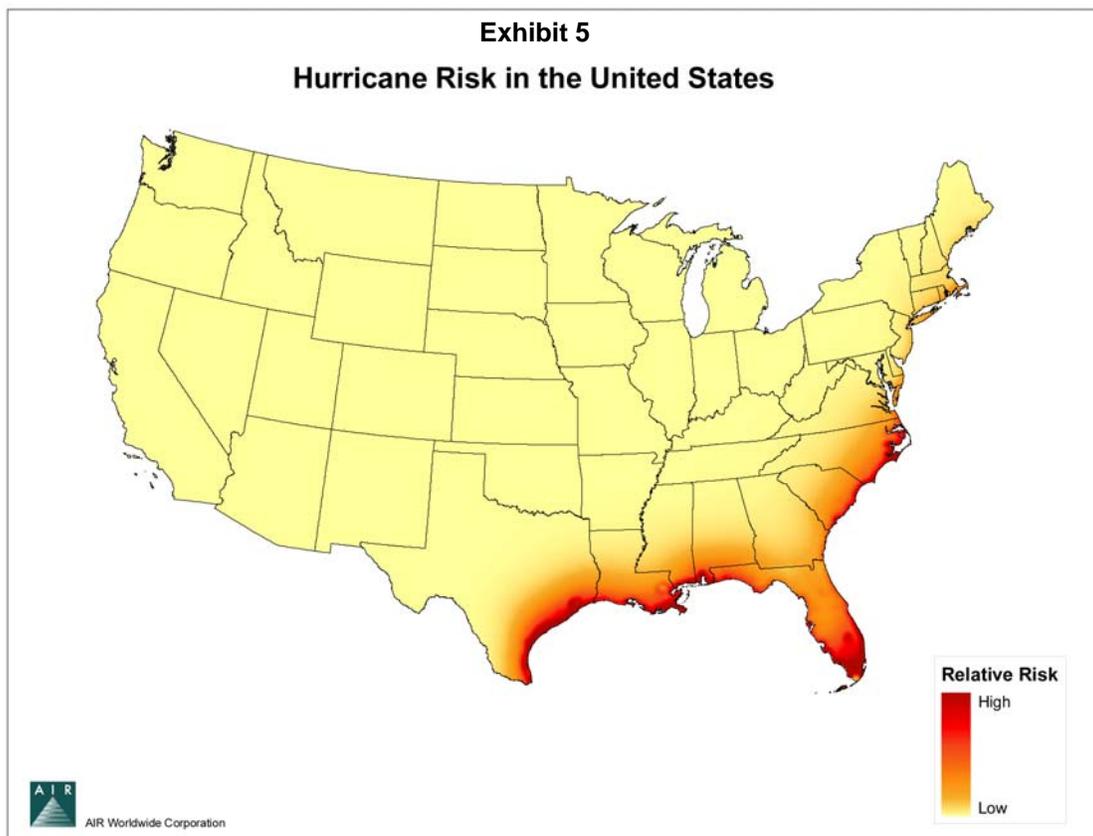
## Hurricane

In the *Defining a Catastrophic Risk* section, hurricanes were identified as the leading cause for catastrophic insurance losses. In fact, over the 1985 to 2005 timeframe, hurricane and tropical storm losses totaled \$109.8 billion.<sup>1</sup> However, 72.6 percent of these losses occurred during 2004 and 2005, which offers further testament to the severity of the most recent hurricane experience. These loss numbers demonstrate the consequences of locating high intensity land uses along hurricane-prone coastal areas. Risk modeling firms have adjusted their risk models to reflect the increased frequency of

<sup>1</sup> ISO data provided on inflation adjusted basis. MBA used CPI to adjust numbers to actual dollars. All catastrophic loss data in this section, unless otherwise sourced, was provided by ISO.

hurricanes and the increased damage severity due to the growing concentration of developed property and increased value of properties in hurricane-prone areas.

Exhibit 5 shows the areas in the U.S. that are most prone to hurricanes. At greatest risk is the southern tip of Florida and the Gulf Coast area. The Carolinas are also at relatively high risk for a hurricane. Further north, the level of risk diminishes. However, the potential hurricane loss severity in the coastal New York and New Jersey areas is severe (over \$100 billion) due to the concentration of high valued real estate in those areas.



With six of the ten most costly hurricanes occurring in the past two years, insurance companies, rating agencies, and disaster modeling companies have carefully examined the impact of this dramatic upturn in both hurricane severity and frequency.<sup>2</sup> As indicated in the *Drivers of Catastrophic Risk* section, an important influence on the loss severity of the most recent hurricanes has been the high concentration of real estate value in hurricane-prone areas. This has been driven by long-term population migration trends to coastal areas, especially in the south. In fact, AIR Worldwide Corporation (AIR), a risk modeling company, predicts that every ten years the loss severity doubles for any given hurricane. This is driven by the following factors:

<sup>2</sup> Hurricane activity includes: Katrina, Wilma, and Rita in 2005 and Charley, Ivan, and Frances in 2004.

- Rapidly escalating pricing of existing real estate in hurricane-prone areas.
- Development of new housing and commercial structures are typically larger and more elaborate than existing development resulting in higher replacement costs.
- Migration patterns requiring continued large scale development of new residential and commercial structures in hurricane-prone areas.
- The surge of repair/replacement costs after a hurricane due to shortages in labor and building materials.

In addition to increased loss severity, the recent history of an increasing number of hurricanes making landfall every year must be accounted for in potential loss projections by the insurance companies. Land use development patterns are not only impacting the severity of hurricane damage they are also influencing the frequency of hurricane damage. As more and more property is developed in hurricane-prone areas, the greater the chance that any given hurricane will make landfall in a developed area.

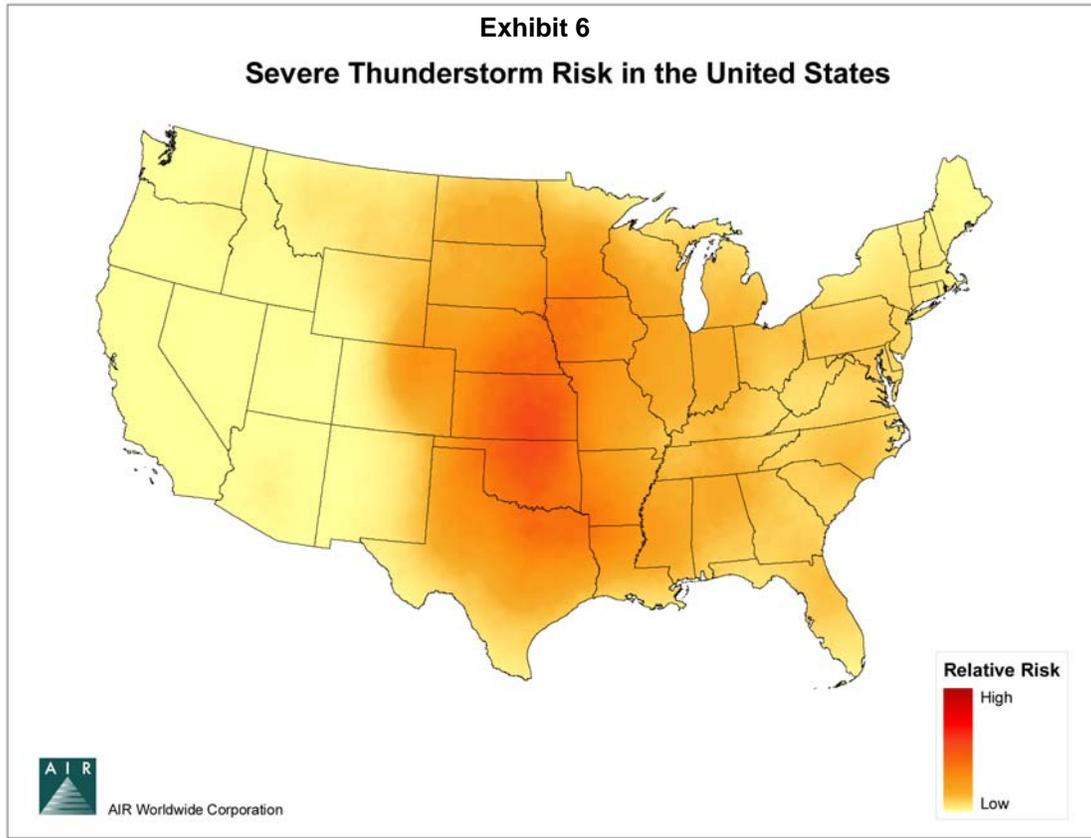
### **Severe Thunderstorm**

From 1985 to 2005, severe thunderstorms, which include tornados, hail, and heavy thunderstorms, caused catastrophic losses totaling \$52.8 billion. Unlike hurricanes, thunderstorm-related losses were more evenly distributed over time. In fact, only 11.7 percent of total thunderstorm catastrophic losses occurred during 2004 and 2005. This is due to the fact that tornados and thunderstorms occur more frequently but have a lower loss severity than a hurricane.

As indicated in Exhibit 6, thunderstorm risk is spread out over the central U.S. with the highest risk areas located in northern Texas, Oklahoma, Kansas, and Iowa. These areas are prone to tornados and are part of the “Tornado Alley” region.

### **Earthquake**

Over the 1985 to 2005 period, catastrophic earthquake insured losses totaled \$10.5 billion. However, 90.7 percent of this total was attributed to the Northridge earthquake in California. Unlike windstorm catastrophic events, earthquakes that result in catastrophic losses occur infrequently. During the same 20 year period, there were only six years when catastrophic earthquake events occurred. As demonstrated by the Northridge earthquake, which measured 6.7 on the Richter Scale, when a strong earthquake (6.0 to 7.0 on the Richter Scale) occurs in heavily populated areas, severe property damage results. However, major earthquakes (7.0 to 8.0 on the Richter Scale) have the promise of producing much more serious results. Modeling performed by AIR indicated that a major rupture of the Puente Hills fault in southern California could result in insured property losses of \$140 billion and total economic losses of \$500 billion. The large discrepancy between the insured loss and total economic loss is due to the low take-up rate for earthquake insurance in California, which means that most potential earthquake losses are not insured.



As indicated in Exhibit 7, the highest concentration of severe earthquake activity is in California and in portions of Arkansas, Missouri, Kentucky, and Tennessee located near the Mississippi River. Through a long series of earthquakes, California's earthquake exposure has been well documented. However, insurance companies and seismologists are expressing growing concern about the New Madrid Fault located along the Mississippi in southern states. Many parts of this region have sandy soil conditions that are especially vulnerable to earthquakes because the energy released during an earthquake diminishes the load carrying ability of the soil. This causes buildings constructed on such soils to be highly vulnerable to earthquake damage.

### **Winter Storm**

Winter storm insured losses totaled \$15.2 billion over the 1985 to 2005 period. Winter storm catastrophic losses were spread out fairly evenly over time. However, 1993, 1996, and 2003 were characterized by winter storm catastrophic losses in excess of \$1.5 billion per year. During these three years, a total of 39.7 percent of all winter storm related losses occurred.

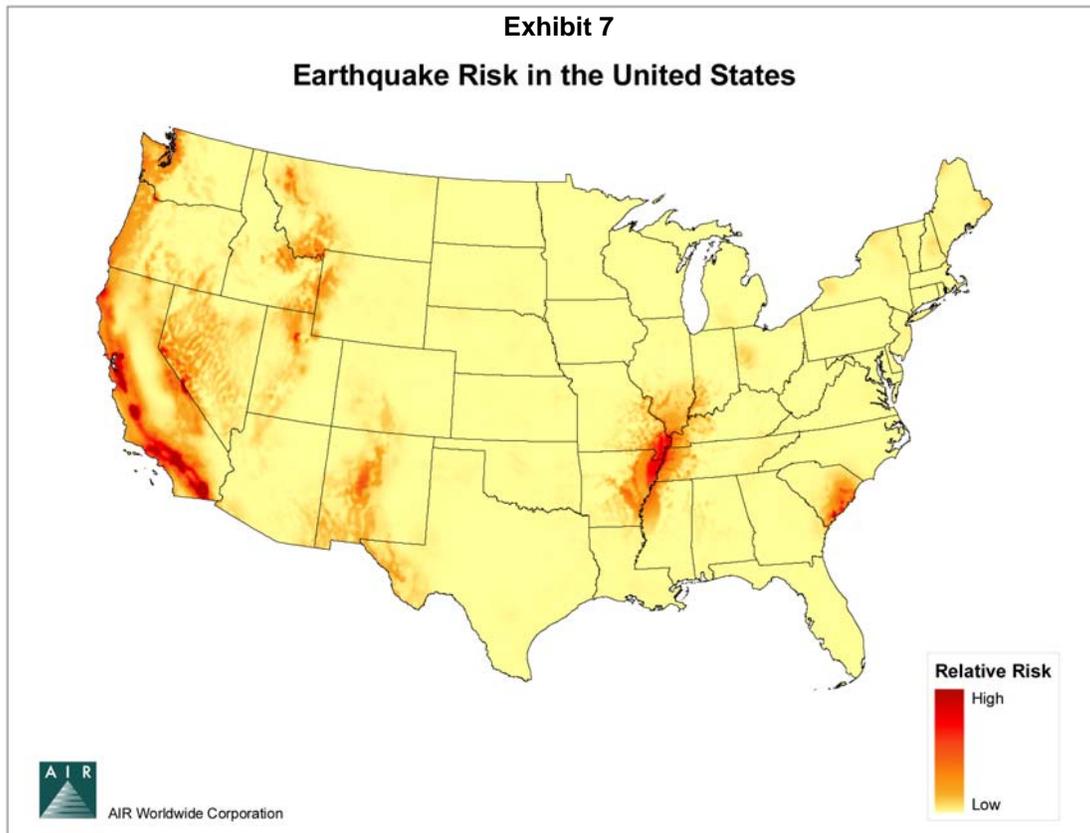


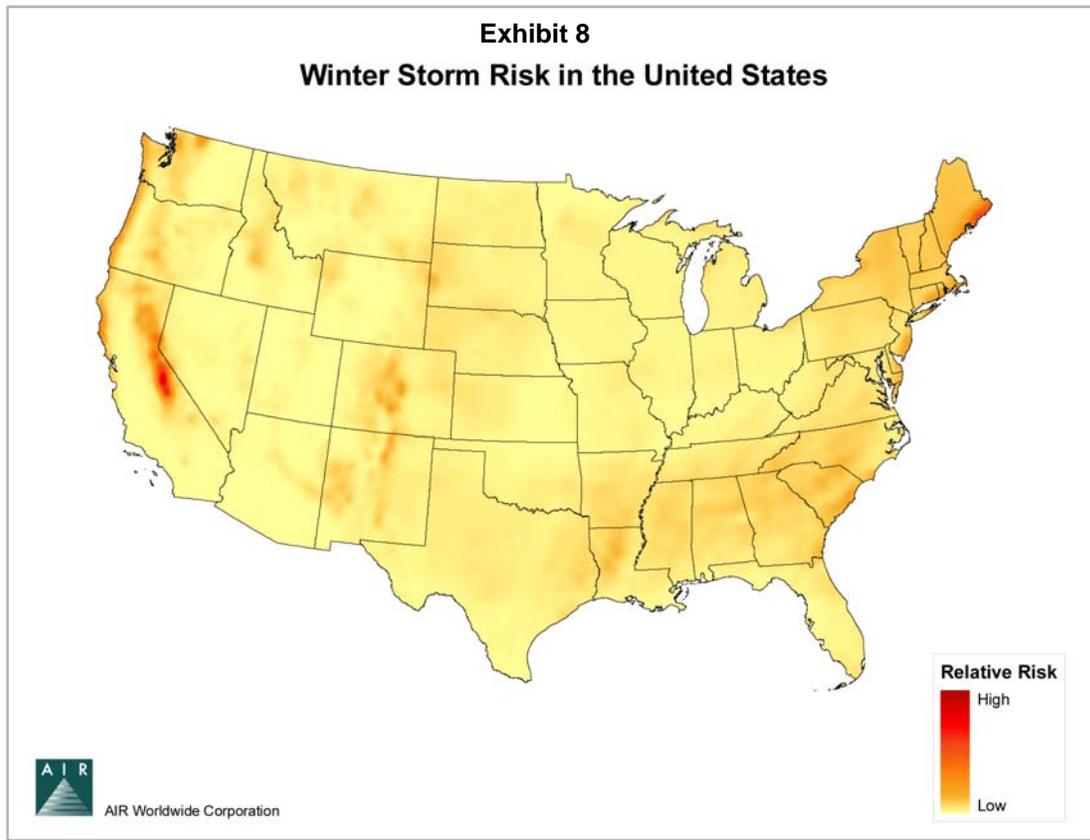
Exhibit 8 shows the areas with the greatest exposure to winter storms. Winter storms have different loss drivers throughout the country. These loss drivers include<sup>3</sup>:

- Nor'easters along the east coast
- Ice storms in the southeast, south-central, and Midwestern states
- Freeze conditions in the south-central states
- Windstorms along the west coast
- Lake effect snows along the Great Lakes
- Ocean effect snow along the Atlantic coastline

### **Wildfires**

Wildfires resulted in insured catastrophic losses of \$4.1 billion over the 1985 to 2005 period. The majority of these losses, 73.6 percent, occurred in 1991 and 2003 when massive wildfires destroyed portions of California. While many areas in the U.S. face significant risk from wildfires, the majority of historical losses from wildfire have occurred in California.

<sup>3</sup> *Shoveling Out: Modeling Complex Winter Storms*, AIR Worldwide Corporation, December 5, 2005.



The 2003 wildfires in southern California were the costliest in U.S. history. The region was scorched by at least 10 separate wildfire systems in October and early November. Together, they destroyed or damaged more than 2,800 structures in San Diego, San Bernardino, Ventura, and Los Angeles Counties. The two costliest were known as the Cedar Fire, in San Diego County, and the Old Fire, in San Bernardino County, which led to insured losses of \$1.1 billion and \$1 billion, respectively.<sup>4</sup> Exhibit 9 shows the simultaneous fires burning in Southern California during 2003.

Driving the potential for increased wildfire losses in the western U.S. has been the development of land in proximity to fire-prone wildland/urban interface (WUI) areas. A WUI is where structures and other known development meet or intermingle with undeveloped wildland or vegetative fuels<sup>5</sup>. A 2002 U.S. Fire Administration report indicated that 38 percent of new homes in the Western U.S. are being built adjacent to or intermixed with WUI areas.

<sup>4</sup> *Anniversary of the 2003 California Wildfires*, AIR Currents, AIR Corporation Worldwide, November 9, 2005.

<sup>5</sup> *Federal Wildland Fire Policy* United States Department of Agriculture Forrester Service, Charted 1994, Revised 2001.

**Exhibit 9**  
**2003 Southern California Wildfires**



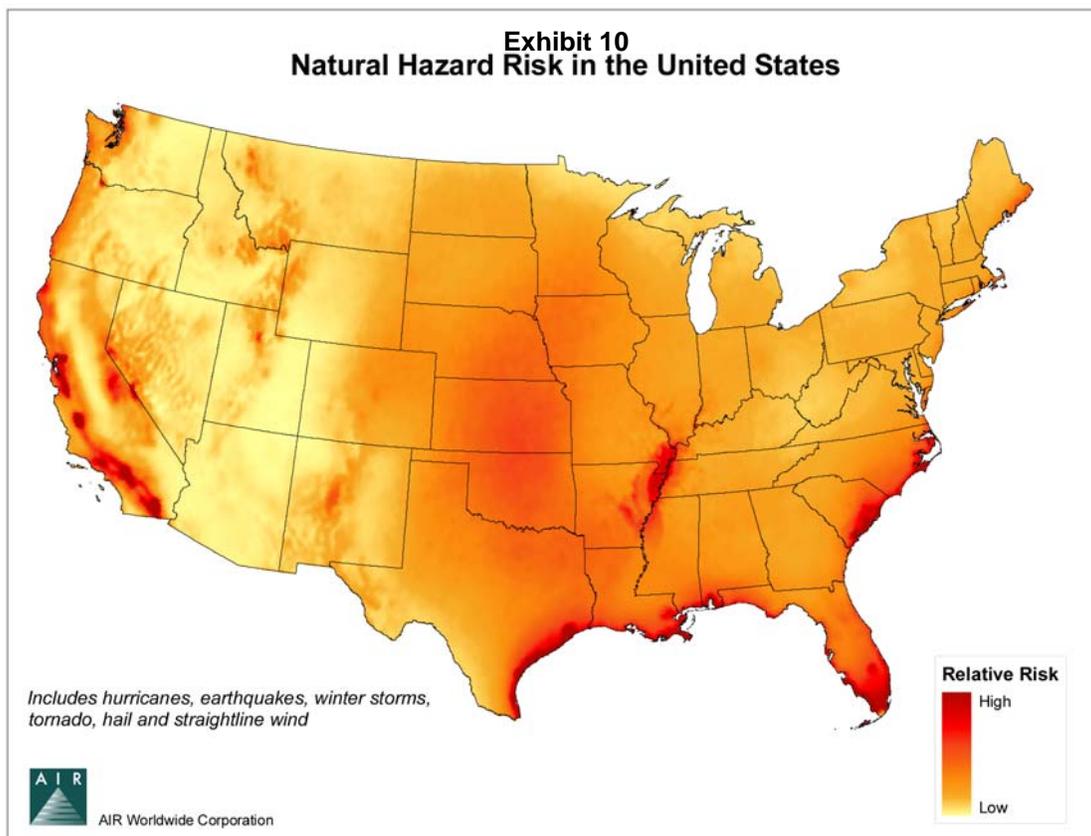
Source: AIR Worldwide Corporation

## **Other Risks**

The ISO has created categories for other risks such as riot, utility disruption, volcanic activity, and flood not covered by the NFIP. Over the 1985 to 2005 period, all of these risks combined have comprised less than 1 percent of total catastrophic losses. Much national media attention has focused on the possibility of a worldwide pandemic involving the mutation of the Avian Flu virus (H5N1) that currently infects birds into a new virus that can be spread directly by human to human contact. With the focus of this White Paper on catastrophic risk impacting the collateral value of real estate, the potential of a pandemic from the H5N1 virus will not be examined. However, a pandemic would significantly impact the operations of a business because employees would be absent either because they were sick or observing a quarantine. Business continuity plans are currently being re-written by many companies to address the impact of a pandemic to their business operations.

## Cumulative Catastrophic Risk

Exhibit 10 shows an aggregation of hurricane, earthquake, winter storms, tornados, hail and straight-line wind perils. Not included in Exhibit 10 are flood and wildfire perils. Nonetheless, the exhibit shows that catastrophic risk from various sources provides a baseline of low to moderate catastrophic event risk for virtually every population center in the U.S. Areas with the greatest catastrophic risk are locations in the most hurricane- and earthquake-prone areas. As previously indicated, both earthquake and hurricanes have single event exposures that can exceed \$50 billion. Given this potential loss severity, insurance companies, at the behest of the insurance company rating agencies, have carefully examined their aggregate exposure to all catastrophic risks. **In fact, insurance company rating agencies, when evaluating the credit quality of insurance companies, are performing portfolio stress tests that assume a major hurricane and earthquake take place within the same year. This chilling scenario has caused many primary insurance companies and reinsurance companies to cut back on their aggregate hurricane and earthquake catastrophic risk exposure.**



## INSURANCE INDUSTRY STRUCTURE

### Size and Scope of the Insurance Industry

With worldwide annual premiums of \$4.3 trillion in 2005, the insurance industry is one of the world's largest industries. In order to provide some perspective on the size of this number, only the economies of the U.S. and Japan, with GDPs of \$12.5 trillion and \$4.5 trillion respectively, have GDPs that are in excess of worldwide insurance premiums.<sup>6</sup> The insurance industry is a global industry with many of the largest insurance companies having worldwide insurance operations. Given the worldwide scope of the insurance industry, international insurance market conditions have the ability to impact the U.S. insurance industry.

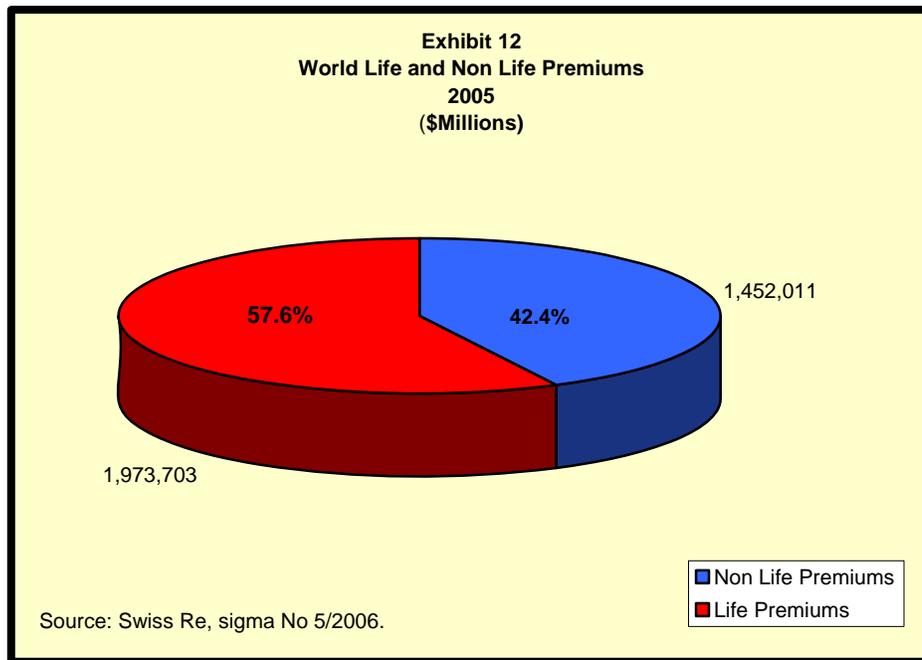
As indicated in Exhibit 11, in 2005, 33.4 percent of the total world insurance premiums were collected in the U.S., which has over twice the market share of Japan with a 13.9 percent world market share. The U.S. ranked sixth in terms of GDP spent on insurance. However, on insurance spending per capita, the United Kingdom was the only country with higher insurance spending.

Rank	Country	Premium Volume (\$Millions)	Share of World Market	Premiums Per Capita (\$)	Percent of Country's GDP
1	United States	1,142,912	33.4%	3,875	9.2%
2	Japan	476,481	13.9%	3,747	10.5%
3	United Kingdom	300,241	8.8%	4,599	12.5%
4	France	222,220	6.5%	3,569	10.2%
5	Germany	197,251	5.8%	2,311	6.8%
6	Italy	139,194	4.1%	2,264	7.6%
7	South Korea	82,933	2.4%	1,706	10.3%
8	Canada	78,723	2.3%	2,449	7.0%
9	Netherlands	61,073	1.8%	3,740	9.7%
10	Spain	60,275	1.8%	1,455	5.4%
Total World Market		3,425,714			7.5%

Source: Swiss Re, sigma No 5/2006.

Exhibit 12 shows the worldwide breakdown between life and non-life insurance policies. On a worldwide basis, the majority, 57.6 percent, of policies are written for life insurance.

<sup>6</sup> GDP data from World Development Indicators Database, World Bank, July 1, 2006.



In the U.S. the non-life category is separated between property insurance and casualty (general liability, auto liability, etc.) insurance. The U.S. and Worldwide percentage of life insurance premiums written were very close at 56.0 percent versus 57.5 percent respectively.

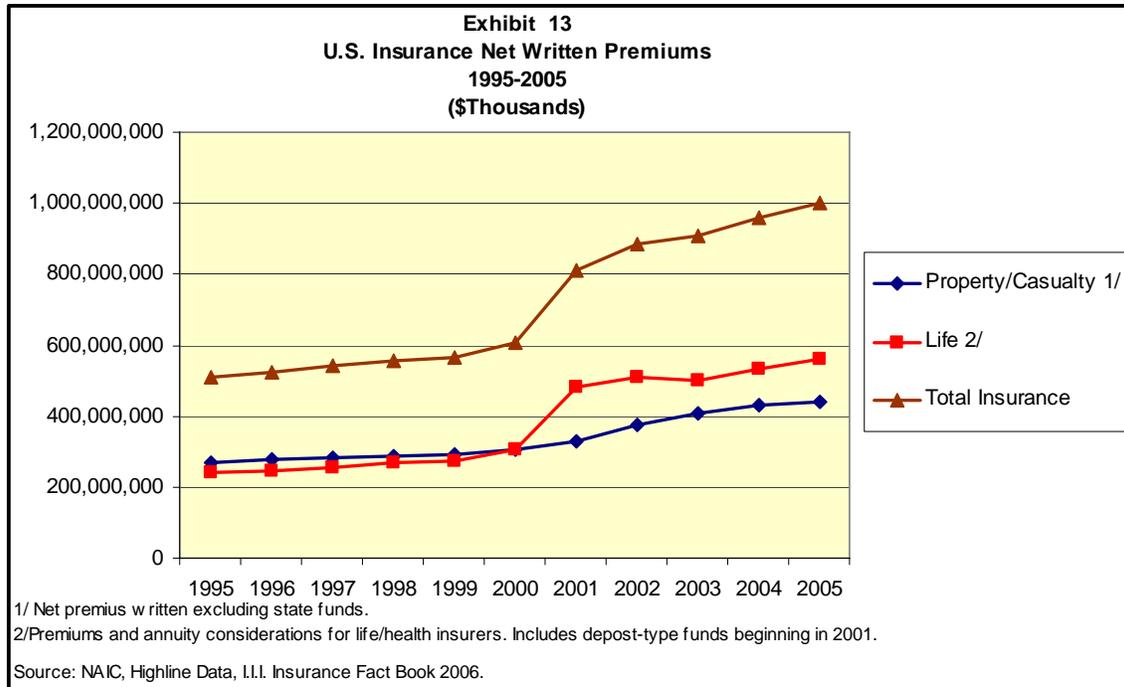
### **Insurance Industry Financial Performance**

In the U.S., net insurance premiums written (total premiums less reinsurance contracts) increased from \$511.1 billion in 1995 to \$1.0 trillion in 2005, representing a 96.0 percent increase.<sup>7</sup> During this period property and casualty insurance net premiums increased by 64.7 percent, while life insurance net premiums increased by 130.7 percent. Shown in Exhibit 13 are net insurance premiums for 1995 to 2005.

Insurance companies generate revenue from two sources: underwriting income/losses and investment income/losses. Underwriting income/loss is the income stream associated with insurance premiums, losses, and expenses. Investment revenue/losses are generated by the investment of the insurer's policyholders' surplus in income-producing products such as bonds, stocks, real estate and other investments. Policyholders' surplus is the rough equivalent of an insurance company's net worth -- total assets minus total liabilities.

An important measure of the insurance industry's underwriting performance is the combined ratio. The combined ratio compares total insurance industry underwriting

<sup>7</sup> Total U.S. insurance premiums for 2005 in Exhibit 10, \$1.0 trillion, is lower than \$1.14 trillion for 2005 in Exhibit 11 because numbers represented in Exhibit 10 are for net premiums written (premiums less reinsurance payments).



expenses to total insurance earned premiums.<sup>8</sup> A combined ratio of over 100 percent indicates that underwriting expenses exceeded earned premiums and the insurance industry has experienced an underwriting loss. Likewise, a combined ratio of less than 100 percent indicates that the insurance industry has experienced an underwriting profit.

Shown in Exhibit 14 is the financial performance of the property and casualty insurance industry from 1994 to 2005. During this period, 2004 was the only year in which the insurance industry did not experience an underwriting loss. The combined ratios of greater than 100 percent reflect an underwriting loss.

However, the underwriting losses are countered by income generated from investing the policyholders' surplus. **In fact, 2001 was the only year in which policyholders' surplus investment income did not exceed underwriting losses. With the exception of 2001, the insurance industry has been profitable during the 1994 to 2005 period. However, the performance of each insurance company varies by its exposure to insured losses.**

In 2004 and 2005, the insurance industry experienced a return on average net worth of 9.4 percent for both years. For the 1994 to 2005 period, this performance was only exceeded in 1997 when return on average net worth was 11.6 percent. In addition, policyholders' surplus increased from \$285.4 billion in 2002 to \$427.1 billion in 2005. Despite the disastrous 2004 and 2005 hurricane seasons, the insurance industry is in overall good health. The ability of the insurance industry to absorb these losses and remain profitable speaks to its solid financial underpinnings. The financial performance of the reinsurance industry over the 1998 to 2005 period is shown in Exhibit 15.

<sup>8</sup> The combined loss ratio is calculated using the following formula:  $((Losses + Loss\ Adjustment\ Expenses) + (Expenses)) / (Earned\ Premiums)$

**Exhibit 14**  
**Property/Casualty Insurance Industry Financial Performance**  
**1998-2005**  
**(\$Billions)<sup>1/</sup>**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Combined Ratio <sup>2/</sup>	108.4	106.4	105.8	101.6	105.6	107.4	110.1	115.9	107.3	100.1	98.3	100.9
Underwriting Income/(Loss)	(22.2)	(17.7)	(16.7)	(5.8)	(16.8)	(23.1)	(31.2)	(52.6)	(30.8)	(4.9)	4.3	(5.9)
Investment Income/(Loss)	33.7	36.8	38.0	41.5	39.9	38.9	40.7	37.7	37.2	38.6	40.0	49.5
Miscellaneous Income/(Loss)	0.1	0.3	(0.4)	(0.2)	0.2	(1.4)	0.4	1.1	(0.8)	0.0	(0.3)	0.1
Operating Income/(Loss)	11.6	19.5	20.8	35.5	23.4	14.4	9.9	(13.8)	5.6	33.8	44.0	44.5
Realized Capital Gains/(Loss)	1.7	6.0	9.2	10.8	18.0	13.0	16.2	6.6	(1.2)	6.6	9.1	9.7
Federal Income Taxes	2.4	4.9	5.6	9.5	13.6	5.6	5.5	(0.2)	1.3	10.3	14.6	11.2
Net Income After Losses	10.9	20.6	24.4	36.8	30.8	21.9	20.6	(7.0)	3.0	30.0	38.5	43.0
Return on Net Average Worth (GAAP)	5.6%	8.7%	9.3%	11.6%	8.5%	6.0%	5.9%	-1.2%	2.2%	8.9%	9.4%	9.4%
Dividends to Stockholders	6.3	(8.2)	(9.0)	(11.5)	(13.3)	(16.3)	(15.8)	(11.8)	(7.1)	(9.1)	(14.0)	(15.2)
New Funds	6.8	7.1	4.5	3.9	5.2	5.0	4.3	12.9	18.8	11.3	8.8	14.0
Unrealized Capital Gains/(Losses)	(1.8)	21.7	13.3	29.0	10.2	1.9	(18.5)	(18.0)	(20.8)	25.0	10.6	(3.2)
Miscellaneous Surplus Changes	(1.5)	(3.7)	(7.7)	(5.5)	(8.0)	(11.3)	(7.5)	(3.8)	1.8	4.4	0.5	(2.8)
Change in Year-End Surplus	8.1	36.7	25.5	53.0	24.8	1.0	(17.0)	(27.8)	4.2	61.6	44.3	35.8
Year-End Surplus	193.3	230.0	255.5	308.5	333.3	334.3	317.4	289.6	285.4	347.0	391.3	427.1

<sup>1/</sup> ISO annual reports, report on two year basis. In instances when ISO revised financial performance data from the prior year, the revised data was used.

<sup>2/</sup> Combination of loss ratio, loss payments/net premiums earned and the expense ratio, expenses/net premiums earned.

Combined loss ratio of under 1.0 indicates insurance industries expenses were less than premium income.

Source: ISO Insurance Financial Results 1995 to 2005.

**Exhibit 15**  
**Reinsurance Industry Financial Performance**  
**1998-2005**  
**(\$Billions)<sup>1/</sup>**

	1998	1999	2000	2001	2002	2003	2004	2005
Combined Ratio <sup>2/</sup>	104.4	113.8	114.2	141.0	121.3	101.2	106.2	129.4
Underwriting Income/(Loss)	(0.9)	(2.8)	(3.6)	(10.8)	(6.4)	0.6	(1.8)	(7.5)
Investment Income/(Loss)	3.7	3.6	3.6	3.8	6.2	5.6	4.8	5.2
Net Realized Capital Gain/Loss	3.7	1.5	0.8	0.6	1.0	0.9	1.8	3.8
Other Income/Loss	0.1	(0.2)	(0.1)	(0.1)	(0.3)	(0.7)	(0.2)	(0.5)
Pre-Tax Income/Loss	6.6	2.1	1.1	(4.6)	0.7	5.2	4.5	1.0
Federal and Foreign Income Tax	1.8	0.7	0.1	(1.1)	0.0	2.1	1.4	(1.0)
Net Income/(Loss)	4.7	1.4	1.1	(3.6)	0.6	3.1	3.1	1.9
Year-end Surplus	26.5	24.4	24.5	25.1	42.1	55.9	61.2	67.0

<sup>1/</sup> Numbers stated in billions and rounded to nearest \$100 million for comparison purposes to the Property/Casualty Insurance Financial Performance Exhibit.

<sup>2/</sup> Combination of loss ratio, loss payments/net premiums earned and the expense ratio, expenses/net premiums earned.

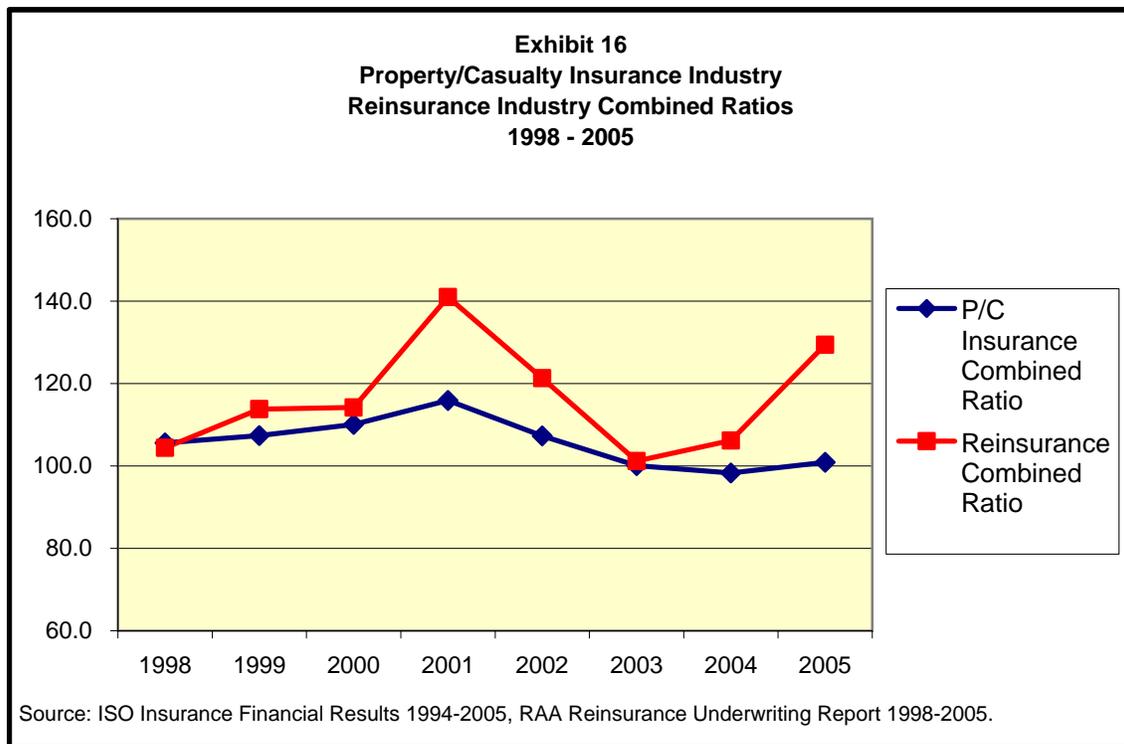
Combined loss ratio of under 1.0 indicates insurance industries expenses were less than premium income.

Source: Reinsurance Association of America Reinsurance Underwriting Report 1998 - 2005.

Reinsurers sell insurance to other insurance companies. Reinsurance industry underwriting losses of \$1.8 billion in 2004 and \$7.5 billion in 2005 were caused by their exposure to hurricane related losses.

**Despite these losses, the reinsurance industry had net income of \$3.1 billion in 2004 and \$1.6 billion in 2005. This shows that in aggregate the reinsurance industry was profitable in 2004 and 2005. However, for those reinsurers with large-scale hurricane exposure in the Gulf Coast and Florida, severe losses were the norm. This loss experience is reflected in reinsurance availability and pricing of hurricane exposure in 2006.**

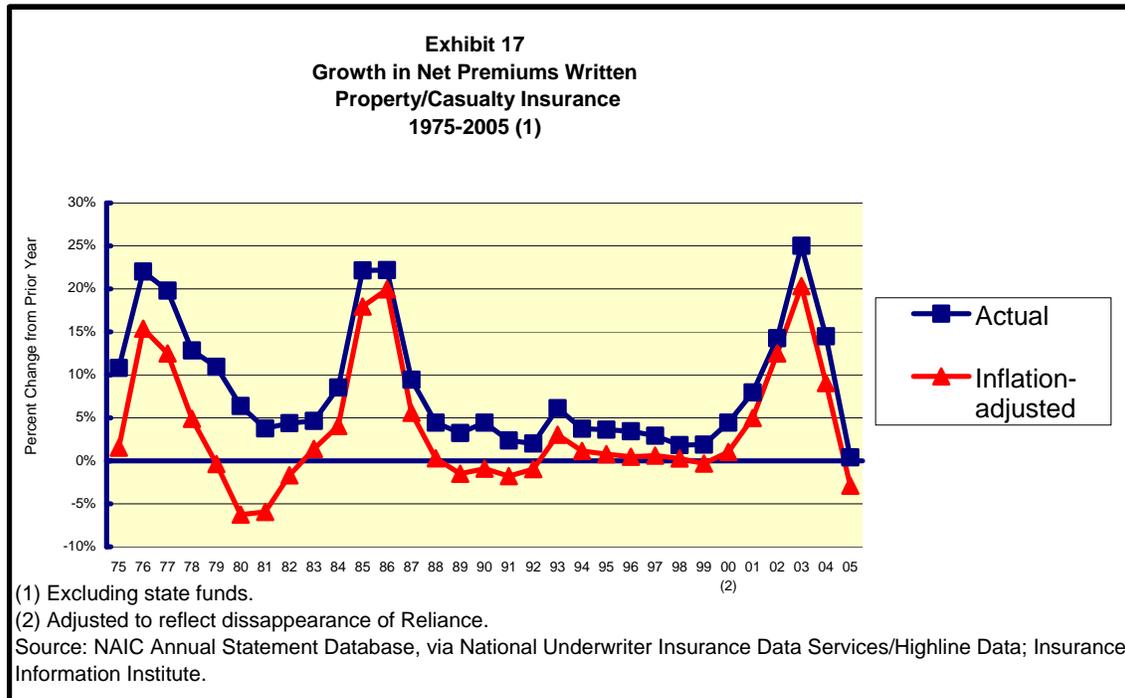
Exhibit 16 compares the combined ratios for the property and casualty insurance industry to the reinsurance industry. During 2001, 2002, 2004, and 2005, the combined ratios for the reinsurance industry were significantly higher than the property/casualty insurance industry. These higher combined ratios indicate that primary insurers (insurers that originated the insurance policy) were able to transfer through reinsurance agreements much of the liability associated with catastrophic events during these years. to reinsurers,



### Insurance Market Cycles

Like the U.S. economy and other industries, the insurance industry experiences market cycles. Market cycles are characterized by differing insurance availability and pricing conditions. A hard market is characterized by rising insurance rates and more difficulty in placing insurance. During hard markets, insurance companies have the greatest

potential to increase profits due to rising insurance rates and reduced coverage for policyholders. A soft market is characterized by reduced or stable pricing with readily available insurance. As indicated in Exhibit 17, between 1975 and 2005 there were three hard market cycles.



This Exhibit shows hard market conditions peaking in 1976, 1986, and 2003, when net premiums written growth was at its highest. Hard markets end when increased capital enters the market place and brings more competition and reduced pricing. With the exception of catastrophic insurance, the overall insurance market would be characterized as soft, with plenty of capacity and steady pricing for most insurance lines. Although overall market conditions in the property and casualty insurance industry could be characterized as soft, individual insurance lines can be experiencing much different conditions. The insurance product lines comprising property and casualty insurance and the market conditions for property insurance lines impacted by catastrophic events are addressed below.

### Categories of Insurance Product Lines

Shown in Exhibit 18 is a listing of the various lines or categories of property and casualty insurance. The insurance product lines with the greatest potential to be impacted by natural disasters include: private passenger auto, homeowners multiple peril, commercial multiple peril, reinsurance, fire, mortgage guarantee, ocean marine, and earthquake. In terms of net insurance premiums, these lines comprise 68.3 percent of the property and casualty insurance market.

**Exhibit 18**  
**U.S. Property/Casualty Insurance by Line 1/  
Lines Prone to Catastrophic Events in Bold**  
**2004**  
(\$Thousands)

Rank	Insurance Line	Net Premiums	Percent of Total
1	<b>Private Passenger Auto 2/</b>	<b>156,734,038</b>	<b>36.5%</b>
2	<b>Homeowners Multiple Peril</b>	<b>49,988,877</b>	<b>11.7%</b>
3	Other Liability 3/	40,720,856	9.5%
4	Workers Compensation	36,760,327	8.6%
5	<b>Commercial Multiple Peril</b>	<b>29,134,347</b>	<b>6.8%</b>
6	<b>Commercial Auto 2/</b>	<b>26,722,522</b>	<b>6.2%</b>
7	<b>Reinsurance</b>	<b>13,697,298</b>	<b>3.2%</b>
8	Accident and Health 4/	9,955,816	2.3%
9	Medical Mlapractice	9,129,530	2.1%
10	<b>Fire</b>	<b>8,316,595</b>	<b>1.9%</b>
11	Allied Lines 5/	8,307,595	1.9%
12	Inland Marine	8,215,433	1.9%
13	Other Lines 6/	4,601,096	1.1%
14	<b>Mortgage Guaranty</b>	<b>4,323,176</b>	<b>1.0%</b>
15	Surety	3,857,003	0.9%
16	Product Liability	3,395,002	0.8%
17	Financial Guaranty	3,115,495	0.7%
18	<b>Ocean Marine</b>	<b>2,827,554</b>	<b>0.7%</b>
19	Aircraft	2,180,122	0.5%
20	Farmowners Multiple Peril	2,118,462	0.5%
21	Boiler and Machinery	1,572,208	0.4%
22	Fidelity	1,309,335	0.3%
23	<b>Earthquake</b>	<b>1,098,392</b>	<b>0.3%</b>
24	Credit	806,449	0.2%
25	Burglary and Theft	138,837	0.0%
	Total All Lines	429,026,363	100.0%
	Total Subject to Catastrophic Events	292,842,799	
	Percent Subject to Catastrophic Events	68.3%	

1/ After reinsurance transactions, excluding state funds. Lines subject to catastrophes are bolded.

2/ AIG Companies data not included.

3/ Coverages protecting against legal liability resulting from negligence, carelessness or failure to act.

4/ Premiums from certain carriers that write primarily health insurance but file financial statements with state regulators on property/casualty rather than life/health basis.

5/ Includes multiple peril crop and federal flood.

6/ Includes international and miscellaneous coverages.

Source: NAIC, I.I.I. Insurance Fact Book 2006.

For commercial real estate the insurance lines that cover catastrophic events are commercial multiple peril, fire, reinsurance, and earthquake. Combined, these insurance lines account for 12.2 percent of the total property and casualty insurance market.

### **Commercial Real Estate Catastrophic Insurance Conditions**

Since early 2006, professionals in the real estate finance, servicing, and insurance industries have reported a dramatic hardening of insurance market conditions for commercial buildings located in Florida and on the Gulf Coast. This differs significantly from the overall soft market conditions in the property and casualty insurance market. Numerous news articles have confirmed the hardening insurance market conditions and in the second half of 2006, these hard market conditions were being documented by insurance industry surveys and reports.

The Council of Insurance Agents and Brokers (CIAB) conducts a quarterly insurance pricing survey of its members and reported the following in its second quarter 2006 survey:

- **Brokers and agents reported that premium rates for coastal properties were up 300 to 500 percent - and some by even 600 percent - and that the impact was being felt as far as five miles inland.**
- **Brokers said higher property rates and deductibles and lower coverage limits were the industry standard during the last three months, with significant differences in the way catastrophe-exposed property risks were being underwritten.**
- “This market is changing daily,” said a broker from the southwestern U.S. “Capacity is scarce, and it’s a great concern that later in the year, there may not be any capacity left. I am referring to the southeast Gulf region and Texas in particular.”
- “Rates are up 300 to 500 percent on commercial property and builder’s risk,” a broker from the southeast said. “Deductibles increased 200 percent, and (it is) also deductible by location, not by occurrence. In some cases, it makes it almost impossible to have a claim.
- **Capacity and pricing problems were not just confined to at-risk properties along the coast, the survey showed. Commercial earthquake insurance is increasing 50 to 100 percent for renewals, several brokers reported, and there are also significant increases in deductibles.**
- A significant number of agents and brokers cited concerns over capacity as among their top three market worries in the survey. More than half – 55 percent – listed capacity, compared to 40 percent who identified it as their top concern in the first quarter [2006] survey.

The survey information is compiled on a national and regional basis. For the nation, the Second Quarter Survey indicated that 43 percent of the agents noted increased commercial property insurance pricing. For the southeast region<sup>9</sup>, 71 percent of the insurance agents reported increased pricing for commercial property insurance. In the southeast, 38 percent of the insurance agents reported commercial property increases of 50 to 100 percent, which is the maximum increase level in the survey. Nationwide, only 13 percent of the agents reported commercial property insurance increases in this category.

Aon Corporation (Aon), a leading insurance brokerage company, has compiled data on insurance industry capacity for wind and earthquake insurance and has also tracked property insurance rates. Aon includes hurricane and tropical storms in its definition of wind. For wind insurance, Aon estimated the pre-Katrina (prior to August 2005) wind insurance industry capacity from domestic and foreign insurers to be \$2.0 trillion. Capacity is measured by the cumulative maximum insurance lines for wind damage. By July 2006, this overall level of wind insurance capacity had dropped to \$1.0 trillion or a 49.6 percent decrease. This decrease is primarily attributed to London-based insurers reducing their capacity from \$1.0 trillion to \$400 billion.

**However, this decline is more substantial when examining wind insurance coverage already in place. Pre-Katrina, active wind insurance lines totaled \$1.3 trillion. As of July 2006, active lines of wind insurance had decreased to \$495 billion, a 60.5 percent decrease. This decline was primarily attributable to London-based insurers reducing their active lines from \$800 billion prior to Katrina to \$220 billion as of July 2006.**

For earthquake insurance, Aon estimates that total capacity decreased from \$917.5 billion pre-Katrina to \$671.0 as of July 2006, or a 21.6 percent decline. Once again, the London-based insurers were the primary factor behind the capacity decline by withdrawing \$100 billion in earthquake insurance capacity during this period.

**In terms of active earthquake insurance lines in place, there was a significant drop from \$671 billion in active lines pre-Katrina to \$398 billion in active lines as of July 2006. This sharp decline, 40.7 percent, is attributed to U.S. insurers' withdrawing of \$118 billion in active insurance lines over this period.**

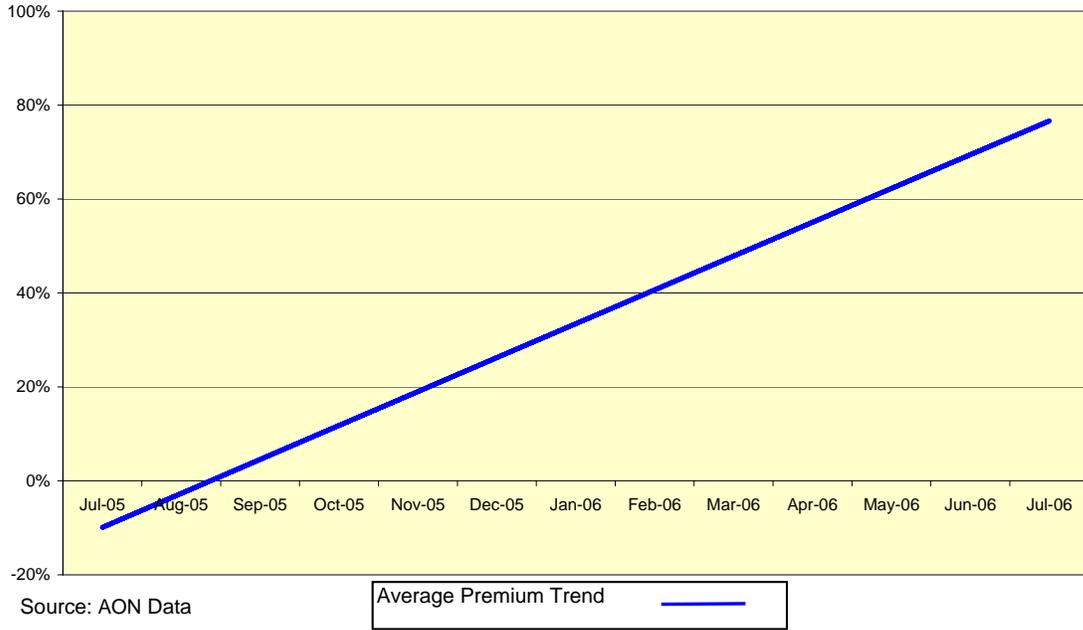
Aon performed an analysis of its real estate clients with catastrophic risk exposure to determine trends in property insurance pricing, program limits and sublimits.<sup>10</sup> As indicated in Exhibits 19 and 20, both property insurance premiums and rates have increased sharply from July 2005 to July 2006. In June 2006, property insurance premiums had increased by over 75 percent when compared to August 2005. In July 2006, property rates had increased by over 70 percent when compared to December 2005.

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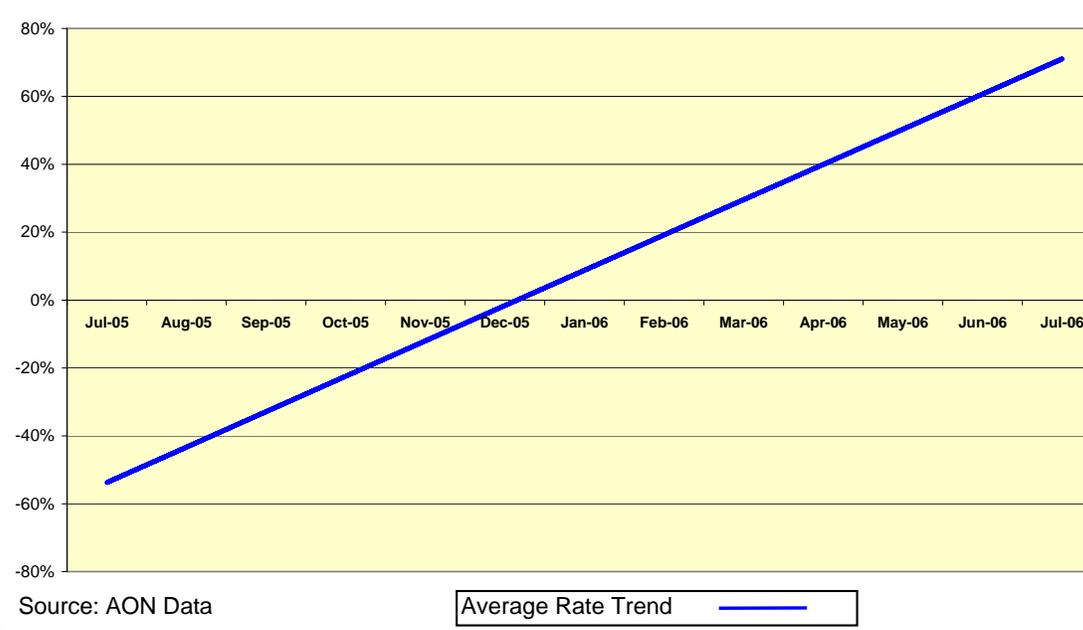
<sup>9</sup> The Southeast region is comprised of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia

<sup>10</sup> Sublimits are insurance coverage limits that are below the overall coverage limits for specific perils such as wind, flood, and earthquake. Sublimits allow insurance companies to decrease their potential liability for an individual peril.

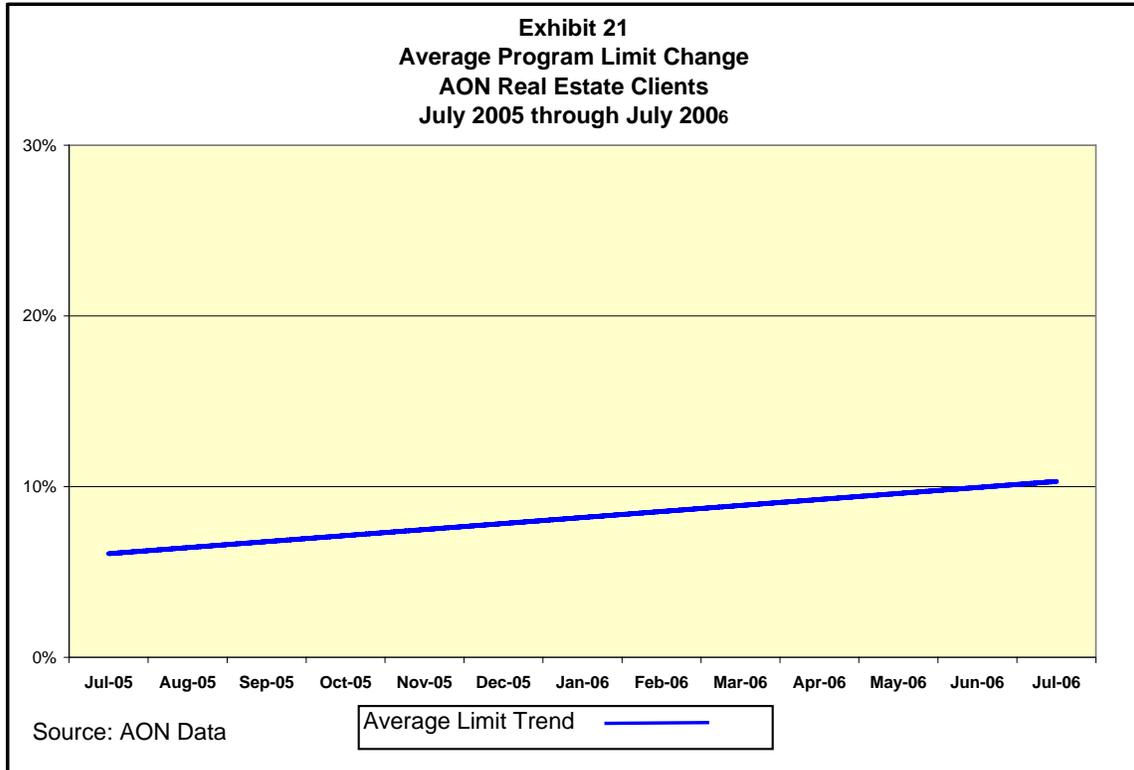
**Exhibit 19**  
**Average Policy Premium Change**  
**AON Real Estate Clients**  
**July 2005 through July 2006**



**Exhibit 20**  
**Average Policy Rate Change**  
**AON Real Estate Clients**  
**July 2005 through July 2006**



However, as indicated in Exhibit 21, insurance program limits for Aon's real estate clients increased modestly from July 2005 to July 2006. However, Exhibits 22, 23, and 24 indicate that sublimits for wind, earthquake, and flood have decreased dramatically during the same period.



As indicated in Exhibit 22, sublimits for wind insurance have declined by over 30 percentage points between July 2005 and July 2006. As insurance companies raised concerns about earthquake exposure in California, the sublimits have declined by over 15 percent between October 2005 and July 2006 as indicated in Exhibit 23. Shown in Exhibit 24 is the precipitous decline in flood insurance sublimits for properties in high risk flood areas (Zone A).

As previously indicated, the insurance industry goes through natural hard and soft market cycles. Given these cycles, do the current catastrophic insurance hard market conditions represent a temporary market hardship or do they represent a paradigm shift in the insurance market? In the past, it was not unusual for hard market conditions to develop in reaction to a catastrophe. For example, immediately after the 1994 Northridge earthquake, insurers stopped writing earthquake coverage causing a capacity crisis and insurance premiums to spike. After several years of low earthquake losses, hard market conditions softened and insurers began offering earthquake insurance again.

**Exhibit 22**  
**Average Wind Limit Change**  
**AON Real Estate Clients**  
**July 2005 through July 2006**



Source: AON Data

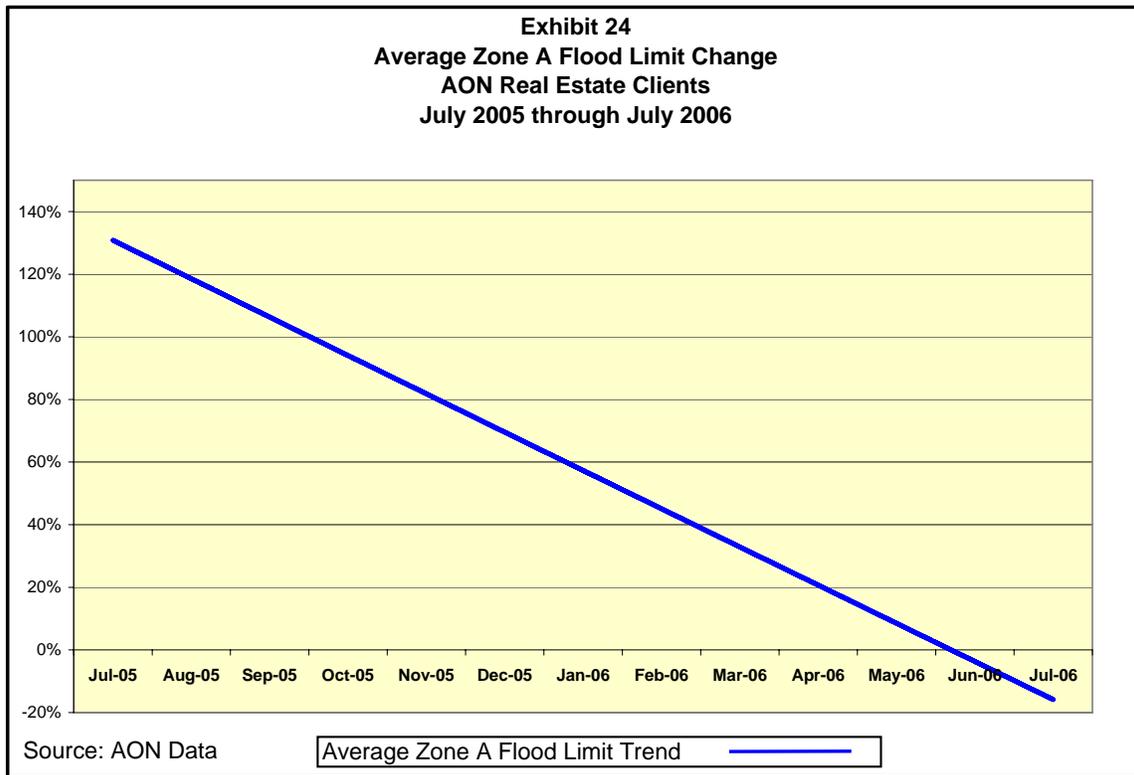
Average Wind Limit Trend

**Exhibit 23**  
**Average California Earthquake Limit Change**  
**AON Real Estate Clients**  
**July 2005 through July 2006**



Source: AON Data

Average CA Eq. Limit Trend



However, there are several circumstances that indicate that when catastrophic insurance capacity returns, pricing may remain elevated over prior levels. Factors contributing to this scenario include:

- The recent severity and frequency of hurricane events has caused the insurance company rating agencies to revise their rating criteria for catastrophic risk.
- Insurance company rating agencies are stress testing insurance company portfolios for multiple hurricanes making landfall in the same year. Additionally, rating agency stress tests are also taking into account multiple source catastrophic events for the same year such as a major earthquake and hurricane.
- **Insurance rating agencies are also emphasizing overall catastrophic exposure in an insurer's portfolio and encouraging insurance companies to develop strong internal catastrophic risk management programs.**
- **These rating agency concerns have caused insurance companies to carefully analyze their concentration of catastrophic risk by peril category and in some instances rebalance their portfolios by cutting**

**back on writing property insurance policies in catastrophe-prone areas. This is demonstrated by the recent reduction in capacity for both hurricane and earthquake insurance.**

- **The risk modeling companies are incorporating the most recent loss frequency and severity numbers into their hurricane models. The risk modeling companies are also taking into consideration post hurricane building supply and labor shortages. This has caused the risk modeling companies to revise upward expected losses from hurricanes by 20 to 100 percent. Insurance companies have modified their catastrophe pricing structures to reflect these increased loss projections.**

**These factors team to indicate that while catastrophic insurance pricing is likely to moderate after the current capacity crunch is resolved, pricing may never return to pre-Katrina levels due to the increased loss expectations from hurricanes and rating agency scrutiny over an insurance company's overall exposure to catastrophic events.**

In terms of insurance pricing, each insurance company establishes its own boundaries for high-risk hurricane areas. These boundaries can vary significantly from insurance company to insurance company. Consequently, pricing can vary by insurance provider because one insurance company may include a property within its high-risk boundaries while another does not. However, the general trend has been for insurance companies to include areas further inland and or further north in their high-risk category that had not been previously classified in such a manner. This reclassification has resulted in significant insurance rate increases for some properties.

# INSURANCE INDUSTRY REGULATORY FRAMEWORK

## Insurance Industry Regulation Background

The insurance industry is principally regulated at the state level. State versus federal regulatory jurisdiction for the insurance industry is a matter that has been contested in the court system for over 100 years. In the 1868 *Paul v. Virginia* decision, the U.S. Supreme Court concluded that the issuance of an insurance policy did not represent interstate commerce, and therefore fell outside of the federal government's legislative and regulatory authority. However, this ruling was reversed 76 years later in the 1944 *United States v. South-Eastern Underwriters Association* decision. In this case, the Court ruled that insurance represented interstate commerce. Reacting to this decision, in 1945 Congress passed the McCarran-Ferguson Act, which returned the regulatory jurisdiction of insurance companies back to the states and generally exempted the business of insurance from most federal laws provided there were state laws in effect to regulate insurance companies.<sup>11</sup> In 1999, the Gramm-Leach-Bliley Act allowed national bank subsidiaries to sell all types of insurance. However, this legislation also reaffirmed the role of the states as the regulator of insurance companies. In 2002, Congress passed the Terrorism Risk Insurance Act of 2002 (TRIA), which preempted state jurisdiction for "certified" acts of terrorism (foreign-source terrorist acts of over \$5 million). Subsequent efforts by Congress to reform state jurisdiction for insurance regulation are examined in the *Insurance Regulatory Reform* section.

## Role of the State in Insurance Regulation

Each state has an insurance regulatory structure led by an insurance commissioner. The role of the insurance commissioner is to enforce the insurance laws within a state and to oversee the operations of the state insurance regulatory agency (agency). The functions of the agency fall into the following categories:

- Consumer protections
- Licensing and capital requirements
- Solvency guarantee funds
- Rate and Form regulation

Agencies are involved in promoting and enforcing consumer protection measures. They also have the authority to take administrative actions against insurers that employ unfair insurance practices and serve as the advocate for protecting consumers against unfair insurance practices. Additionally, agencies will often work with policy holders and insurance companies to reach resolution over disputed insurance claims.

Insurance agencies are also responsible for licensing insurance companies in a state. Important terminology for licensing and insurance lines include:<sup>12</sup>

- Admitted Insurer – An insurance company licensed and authorized to do business in a particular state.

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<sup>11</sup> Testimony of Randal K. Quarles, Under Secretary for Domestic Finance, U.S. Department of Treasury Before the Senate Banking, Housing and Urban Affairs Committee on July 18, 2006.

<sup>12</sup> Glossary of Insurance Terms, Insurance Information Institute (<http://www.iii.org/media/glossary/alfa.N>)

- Non-Admitted Insurer – An insurer not licensed but authorized to do business in a particular state. States where an insurer is not licensed call that insurer non-admitted. Non-admitted insurers must be licensed in at least one state. They sell coverage that is typically unavailable from licensed insurers within the state.
- Surplus Lines - Property/casualty insurance coverage that isn't available from admitted insurers and must be purchased from a non-admitted carrier. Examples include risks of an unusual nature that require greater flexibility in policy terms and conditions than exist in standard forms or where the highest rates allowed by state regulators are considered inadequate by admitted companies. Laws governing surplus lines vary by state. However, every surplus lines carrier must be an admitted carrier in one state and must meet solvency requirements of that state. In the case of hard insurance markets, surplus line carriers serve as a pressure relief valve by providing policies that the admitted carriers do not have the capacity, nor desire, nor pricing flexibility to provide. Many states maintain a list of surplus lines insurance companies that are eligible to sell insurance within the state, while other states maintain a list of surplus lines insurance companies that are ineligible to sell insurance within the state.
- Domestic Insurance Company - Term used by a state to refer to any company incorporated there.
- Foreign Insurance Company - Name given to an insurance company based in one state by the other states in which it does business.
- Alien Insurance Company - An insurance company incorporated under the laws of a foreign country, as opposed to a foreign insurance company that does business in states outside its own.

In order to sell insurance, an insurance company must be admitted to sell insurance in at least one state. After the insurance company has been admitted in one state, it can then sell insurance on an admitted or non-admitted basis in other states. Domestic companies, those incorporated in the state, are automatically considered admitted carriers. Foreign and Alien insurance companies gain admitted status by complying with a state's licensing laws. Foreign and alien insurance companies can also elect to be non-admitted carriers and offer surplus lines insurance for the states in which they do not have admitted status.

However, all insurance carriers, including surplus lines, are subject to state requirements for capital and surplus. Each insurance company must meet minimum financial requirements in order to sell insurance on an admitted or non-admitted basis in a state.

Another important function of the agency is to establish solvency funds. Agency regulatory staff has the responsibility of monitoring the financial condition of all licensed insurance companies in their state and to take the necessary actions to improve the financial condition of poorly performing insurance companies. Agencies also administer guarantee funds through which the property/casualty insurance industry covers claims against insolvent insurers. Licensed insurers are required to participate in the guarantee funds and are assessed payments to cover any shortfalls in claims payments by insolvent insurers. Surplus line insurers do not participate in the guarantee funds.

Agencies are also responsible for rate and forms regulation of admitted insurance carriers. Although agencies have the authority to regulate insurance rates/forms, how this authority is practiced varies widely from state to state. Insurance rate regulation includes the following methods:

- Prior Approval - Agency to approve or not oppose the rate structure prior to it going into effect.
- Flex Rating - Insurance companies are allowed to price insurance with a specific range without requiring additional approval.
- File and Use – The rate becomes effective the date the rate structure is filed by the insurer with the state.
- Use and File – The insurer must file rates with the agency within a specified time period after the rate change has been in effect.
- State-Prescribed – The agency determines and promulgates the rates.
- No File/No Record Maintenance – No rate filings are required. Insurer can modify rates at any time.

### **National Association of Insurance Commissioners**

The National Association of Insurance Commissioners (NAIC) is the organization of insurance regulators from the 50 states, the District of Columbia and the five U.S. territories. The NAIC provides a forum for the development of uniform policy when uniformity is appropriate. State insurance regulators created the NAIC in 1871 to address the need to coordinate regulation of multi-state insurers. The first major step in that process was the development of uniform financial reporting by insurance companies. Since then, new legislative concepts, new levels of expertise in data collection and delivery, and a commitment to even greater technological capability have moved the NAIC forward into its role as a multidimensional, regulatory support organization.

The mission of the NAIC is to assist state insurance regulators, individually and collectively, in serving the public interest and achieving the following fundamental insurance regulatory goals in a responsive, efficient and cost effective manner, consistent with the wishes of its members:

- Protect the public interest;
- Promote competitive markets;
- Facilitate the fair and equitable treatment of insurance consumers;
- Promote the reliability, solvency and financial solidity of insurance institutions; and
- Support and improve state regulation of insurance.

Through the Model Bulletin process, NAIC issues uniform policy guidance to state insurance commissioners. The NAIC assists agencies in mitigating insolvencies through administration of the NAIC Accreditation Program, which is a rigorous certification process that ensures that robust agency monitoring systems are in place for accounting, reporting, risk-based capital, financial examination, and reinsurance. In addition, regularly scheduled meetings provide a forum for agency officials to discuss current insurance-related issues. Although the insurance industry is regulated at the state level, the NAIC provides a coordination body where universal insurance issues can be addressed in a uniform and consistent manner.

## INSURER CATEGORIES

### Primary Insurers

The primary insurance company is the company originating the insurance contract and has the direct relationship with the policy holder or the policy holder's authorized representative. The primary insurer is contractually obligated to cover the losses prescribed in the insurance contract. The primary insurer can then enter into contracts with other insurance companies (reinsurance) to transfer a portion of or all of the risk being insured.

### Reinsurance

Reinsurance is insurance for insurance companies.<sup>13</sup> Reinsurance serves the following functions:

1. Increases primary insurers capacity – State regulations limit the total amount of insurance that insurers can write (capacity) by the amount of policy holder surplus (assets – liabilities = policy holder surplus). Insurance company capacity is limited in two ways: (1) by the maximum percentage of insurance capacity that can be provided to a single client (usually 10 percent), and (2) by the relationship between total premiums collected and total policy holder surplus (usually 3:1 ratio). Reinsurance allows the primary insurer to move the premiums transferred to the reinsurer to be taken off the “books” of the primary insurer, which increases capacity by reducing the amount of premiums that are counted against the above regulatory limitations.
2. Stabilized underwriting results – Reinsurance allows the primary insurer to determine the total losses it is willing to accept for any insurance policy (net retentions). This allows the insurance company to precisely calibrate net retentions with its existing capital structure.
3. Protects against catastrophic losses – Catastrophic losses, such as hurricanes, that occur in an area where the primary insurer has a high concentration of policies could result in liabilities that could severely strain a primary insurer's ability to pay. Reinsurance allows the primary insurer not to have to account for the full payment of low frequency high severity events in their reserve structures.
4. Finances insurance company growth - By transferring premiums and liabilities to the reinsurers, the primary insurer frees up capacity to issue new insurance policies.

Reinsurance contracts fall into two broad categories: treaty or facultative. Treaty insurance covers a broad range of policy holders. The primary insurer and treaty insurer will agree upon policy terms that it will accept for reinsurance for a large number of policies. Provided that the policy falls within the acceptable policy terms, the treaty reinsurer will cover the policy.

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<sup>13</sup> Terminology and concepts for this section were obtained from *Reinsurance: Fundamentals and New Challenges, Fourth Edition*, edited by Ruth Gastel Gates, Insurance Information Institute, 2004. This book provides in-depth information on the concepts and structure of the reinsurance industry.

However, for facultative reinsurance the reinsurer accepts or rejects each policy on an individual basis. Facultative reinsurance is typically used for high value assets, such as commercial and multifamily real estate projects requiring individual underwriting. Facultative reinsurance typically covers a specific risk such as hurricane or earthquake.

Shown below are the categories of cost share formulas that are employed in treaty and facultative reinsurance contracts:

1. **Pro Rata** – The primary insurer keeps an agreed upon amount of the liability. There are two types of pro rata reinsurance contracts: quota share and surplus share. For a quota share agreement, the primary insurer keeps a fixed percentage of each policy. In this case, if the primary insurer retained 20 percent of the premiums, they would be responsible for 20 percent of the potential losses. Consequently, the primary insurer's liability is related to the size loss. However for a surplus share agreement, the dollar amount of the primary insurer's liability is stated in the reinsurance contract. For surplus share, the primary insurer's loss payment liability has no relationship to the size of the loss, provided that primary insurance company 's retention thresholds are exceeded, which is the case for quota share agreements. Reinsurer pricing of both pro rata and quota share contracts are tied to a percentage of total premiums collected.
2. **Excess of Loss** – The primary insurer is reimbursed for a specific loss that falls into a specified range. For example, an excess loss policy for a \$100 million building could cover losses between \$50 million and \$100 million. The primary insurer would then be responsible for covering the first \$50 million in losses. Excess of loss reinsurance contracts are priced based upon the characteristics of the risk being covered and its location in the insurance layering program, not as a percentage of the total insurance premium.

Over the past several years, “side car” contracts have been an important new source of capital to the reinsurance industry. These contracts allow investors such as hedge funds or speculative investor pools to partner with reinsurance companies to share in the profits and losses of reinsurance contracts without having to develop their own reinsurance facility and client base.

The amount of reinsurance purchased peaked in 2003, at \$30.6 billion.<sup>14</sup> In 2004, the amount of reinsurance declined by 6.1 percent to \$28.4 billion and further declined in 2005 by 12.0 percent to \$25.3 billion. The severe hurricanes in 2004 and 2005 caused reinsurance companies to pull back in 2004 and 2005.

## **Layering**

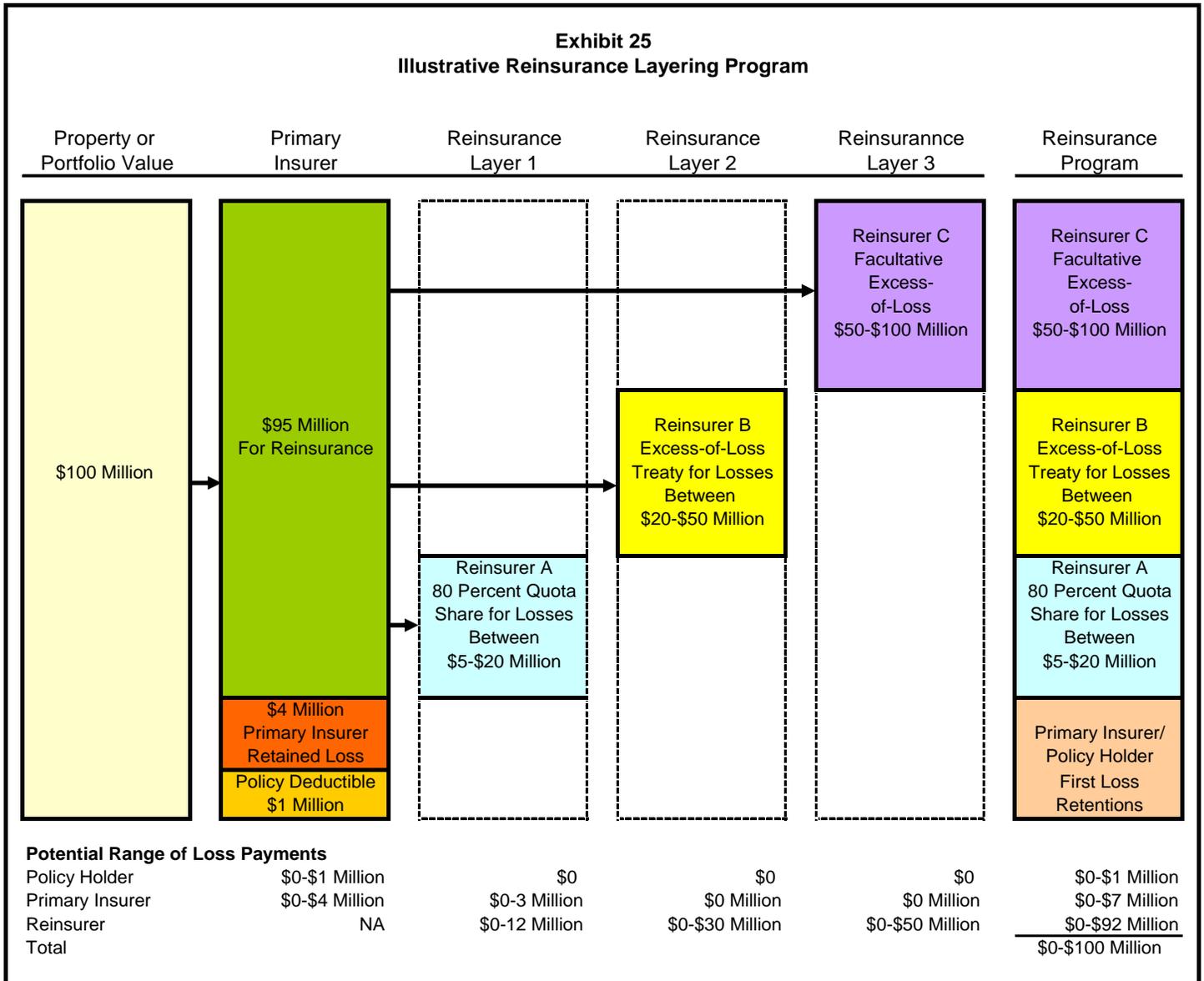
When an insurance company does not want to assume all the risk associated with an insurance policy, the insurer can share this risk with multiple reinsurers through the layering process. Insurance layering is a sophisticated process where different loss layers are apportioned to different reinsurance carriers. The layering approach allows reinsurers to specialize in various layers of risk. Some reinsurers specialize in low frequency, low payment events. These reinsurers assume the lower layers of the

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<sup>14</sup> *Reinsurance Underwriting Report*, Reinsurance Association of America, 1998-2005.

insurance program. Other reinsurers specialize in low frequency, high loss events, such as catastrophic events and will assume the higher layers of the insurance program. This specialization allows for the efficient pricing of each layer of risk due to the reinsurer's experience gained from writing hundreds or thousands of similar policies. Some reinsurers have the expertise to cover all layers of the insurance program.

An example of how a layering program works is shown in Exhibit 25. The first layer loss is an 80 percent quota share in which the reinsurer will cover up to \$12 million in losses and the primary insurer will cover up to \$3 million in losses. The second layer is an excess-of-loss treaty with the reinsurer covering up to \$30 million in losses.



The final layer is a facultative excess-of-loss contract that will cover up to \$50 million in property damage starting after the \$50 million loss threshold is reached. In this example, the maximum loss exposure was \$1 million for the policy holder, \$7 million for the

primary insurer and \$92 million for the reinsurers. This example demonstrates how the primary insurer's maximum loss exposure can be greatly reduced by the reinsurance layering process. Although this example shows how reinsurance programs are structured, for actual high value commercial buildings or portfolios, the sophistication of the layering program is much greater with many more layers (5 to 20) and multiple participants (2 to 10) in each layer. Also in this example, the primary insurance company established the layering program. Depending on the needs of the organization, layering programs can be created by corporate insurance staff, primary insurers, and insurance and reinsurance brokers.

**The severe hurricane-related losses experienced by many reinsurers during 2004 and 2005 have caused them to alter their business models. Wanting to spread out their overall risk, reinsurers are taking smaller loss exposure positions (thinner layers) on each property but in some instances have increased the number of projects that they are willing to reinsure. However, the net impact of these changes has been a decrease in overall capacity from 2005 to 2006 because the increased number of projects reinsured did not make up for the decline in the amount of risk being covered.** This has caused difficulty for some property owners to place full insurance coverage in every layer of their insurance program. Given this new market reality, insurance companies and insurance brokers are working nonstop to place full insurance coverage for their clients. For those policy holders with significant hurricane loss potential, insurance brokers strongly advise policy holders to receive renewal commitments well in advance of insurance expiration dates.

Similar to primary insurers that want to spread out their loss exposure risk by purchasing reinsurance, reinsurers also spread out their loss exposure risk by purchasing reinsurance. The process of reinsurers purchasing reinsurance is called retrocession. Through the reinsurance and retrocession processes, insurance risk is distributed throughout the world. In fact, the top ten reinsurers in worldwide premiums are located in Germany, Switzerland, the U.S., England and Bermuda. Finally, some of the largest insurance companies wear many hats. Depending on the insurance policy, an insurance company could serve any of the following roles: primary insurer, reinsurer, or retrocessional insurer. Additionally, insurance risk is also spread out internationally by the primary insurer being domiciled in a foreign country or an alien insurer. Retrocessions have also decreased substantially.

## **Surplus Lines**

Property/casualty insurance coverage not available from insurers licensed in the state, called admitted companies, can be purchased from a non-admitted carrier. Examples include risks of an unusual nature that require greater flexibility in policy terms and conditions than exist in standard forms or where the highest rates allowed by state regulators are considered inadequate by admitted companies. Laws governing surplus lines vary by state. During periods of hard insurance market conditions, surplus line insurers add insurance capacity that is not available from admitted carriers.

A significant peril for surplus lines policy holders is that these carriers do not participate in state-operated insurance insolvency funds. In the event that an insurance company becomes insolvent, the insolvency fund pays the outstanding insurance claims up to the state prescribed limit per policy. Surplus line carriers do not contribute to state insolvency funds. Consequently, in the event that a surplus line insurer becomes

insolvent, their policy holders would not be eligible for payment of unpaid insurance claims by the state insolvency fund. As discussed in the Insurance Industry Regulatory Framework section, there is an increase of consumer risk associated with surplus lines insurance because these insurance companies do not participate in state solvency funds.

## **Captives**

Captives are a special insurance company set up by a parent company, trade association, group of companies, or risk-retention groups to insure the risk of the owner or owners. Risk retention groups are formed by companies in a common industry. The Product Liability Risk Retention Act of 1981 provided the legal framework for creating risk retention groups. As hard market conditions continue in the property insurance markets of hurricane-prone areas, the creation of captives for property insurance is likely to be strongly considered by organizations that have not been able to place property insurance. The downside of captives is that when losses exceed premiums, additional capital may have to be added by the companies comprising the captives. This provides for greater uncertainty about total loss exposure than a conventional insurance program where the maximum loss exposure (deductible) is clearly stated in the insurance contract.

An attractive alternative for organizations that do not want to go through the process of creating and operating a captive is to participate in a rent-a-captive program. A rent-a-captive is a captive operated by an existing insurance company that charges a fee for operating the captive with the company(s) participating in the captive providing the capital to cover any losses that exceed total insurance payments. The rent-a-captive operating company has no responsibility for loss payments.

## **Residual Market**

The residual market provides insurance for risks that the insurance market is unwilling to accept. Insurance companies have the ability to accept or reject each insurance applicant. Because certain insurance applicants, due to negative loss history, exposure to a non-insurable peril, or a variety of other reasons, cannot obtain insurance, insurance regulators, as a matter of public policy, decided that these insurance applicants should have a mechanism for obtaining insurance. The voluntary market is the portion of the insurance market in which insurance companies are willing to place insurance. The opposite of this is the involuntary or residual market.

There are a variety of residual insurance programs for property owners. With 32 states with their own programs, the most popular residual insurance program is the Fair Access to Insurance Requirements Plans (FAIR Plans).<sup>15</sup> The concept of FAIR Plans was established following the passage of the Housing and Urban Development Act of 1968, a measure designed to address the conditions that led to the 1967 riots. FAIR Plans in Georgia, Mississippi, New York, New Jersey, and Massachusetts also include wind coverage. In 2004, FAIR Plans insured property valued at \$400.4 billion. Any losses associated with FAIR Plans are made up for by special assessments to admitted

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<sup>15</sup> *Residual Markets*, Insurance Information Institute, June 2006.

insurers (those insurers licensed to operate within the state) based upon their percentage of property insurance premiums written in the state.

Beach and Windstorm Plans (Beach Plans) are offered in designated portions of a state most susceptible to hurricane or other windstorm damage and are operated by property insurers in states along the Eastern Seaboard and Gulf Coasts for both residential and commercial properties. Beach Plans in Mississippi, South Carolina, and Texas are limited to wind and hail coverages. Property owners in eligible Beach Plan areas can either purchase property insurance from insurance companies or through the Beach Plan. However, due to the pullback of insurers willing to provide coverage in hurricane-prone areas, the coverage burden has increased for Beach Plans. In 2002, the Florida Legislature passed a law that combined the Florida Residential Property and Casualty Joint Underwriting Association (FRPCJUA) and the Florida Windstorm Underwriting Association (FWUA). This resulted in the creation of Citizens Property Insurance Corporation (Citizens), which provides insurance to homeowners in high-risk areas and others who cannot find coverage in the open, private insurance market.

From December 31, 2005 to July 31, 2006, the number of Citizens' policies increased from 810,017 to 1,218,257. For this same period, the loss exposure for the properties insured by Citizens jumped from \$210.6 billion to \$343.0 billion, a stunning 62.9 percent jump in loss exposure over a seven month period. This increase was caused by the Poe Financial Group (Poe) insurance companies (Southern Family Insurance Company, Atlantic Preferred Insurance, Florida Preferred Property Insurance Company) being placed in receivership on June 1, 2006. With 325,500 insurance policies in place, Poe was one of the largest insurers in Florida. With operations limited to Florida, Poe was not able to recover from severe hurricane-related losses in 2004 and 2005.

However, Citizens had limitations for commercial property policy holders. For high-risk areas (primarily coastal areas), Citizens limited coverage for commercial properties to \$1 million. For multifamily residential properties, full insurance coverage is available from citizens in high risk areas. Based on reports that insurance above \$1 million was not available in non high-risk areas, Florida Insurance Commissioner Kevin McCarty activated F.S. 627.351 (5), the Florida statute that allows for the creation of a commercial property joint underwriting association (JUA). The first JUA meeting was held on August 25, 2006 and the plan to offer insurance policies for small businesses was announced. In this initial phase of the JUA, coverage will be limited to \$1 million (\$750,000 contents + \$250,000 business interruption). The JUA is not part of Citizens. Last year, Louisiana implemented an insurance pool similar to Citizens and Texas is considering a similar plan. When there are insufficient premiums to cover underwriting losses, plans such as Citizens have recovery mechanisms that are paid for by policy holders and insurance companies. In addition, state funds are sometimes added to cover a portion of the losses thus lowering the recovery burden on policy holders and insurance companies.

In addition, states have set up insurance programs to cover other perils. The California Earthquake Authority (CEA) is a privately financed, publicly-managed entity that offers residential earthquake insurance to California homeowners, renters, condominium owners, and mobile home owners through its participating insurance companies. However, commercial property is not covered under the program.

A major limitation of the residual insurance programs is that they are limited to named perils such as hurricanes, tornados, earthquakes, etc. Property owners are required to obtain insurance from private insurers for perils that are not covered by the residual insurance program. In addition, state-operated residual insurance programs are not typically rated by insurance rating agencies. Borrowers, lenders and servicers must rely on the residual insurance program to meet its loss obligations.

## **Self Insurance Groups**

Self insurance groups are groups from a similar industry that self insure each other's exposures for a specified risk. Thirty-seven states have authorized legislation for self insurance groups.<sup>16</sup> However, self insurance groups have been primarily created to cover workman's compensation issues.

## **Catastrophic Bonds**

Catastrophic bonds (cat bonds) transfer risk from insurance companies to bondholders. Cat bonds are risk-based securities that pay high interest rates and provide insurance companies with a form of reinsurance to pay losses from a catastrophe such as those caused by a major hurricane. They allow insurance risk to be sold to institutional investors in the form of bonds, thus spreading the risk.<sup>17</sup>

The current hard reinsurance market for catastrophic risks is providing a financial incentive for insurance companies to consider cat bonds.<sup>18</sup> The issuing process has become more efficient in recent years, which has reduced the cost of issuing cat bonds, making them a more competitive risk sharing vehicle. Additionally, with over 70 cat bonds issued or in the process of being issued, insurance companies, risk modeling companies, and rating agencies have gained familiarity and comfort with cat bonds. In 2005, worldwide cat bond issuance was a record \$1.99 billion.<sup>19</sup> However, this level of cat bond issuance represents only 7.9 percent of the \$25.3 billion in net reinsurance premiums in the U.S. for 2005. Consequently, for the cat bond market to step into the role of replacing the decline in reinsurance capacity for catastrophic events, the level of cat bond issuance would have to increase dramatically. Given the tepid post-Katrina investor demand for cat bonds, this circumstance is unlikely.

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<sup>16</sup> *Creative and Other Risk-Financing Options*, Insurance Information Institute, May 2006.

<sup>17</sup> *Glossary of Insurance Terms*, Insurance Information Institute (<http://www.iii.org/media/glossary/alfa.S/>)

<sup>18</sup> *The Booming ART Market*, S. Ming Lee, AIR Worldwide Corporation, 2006.

<sup>19</sup> *The Catastrophic Bond Market at Year-End 2005, Ripple Effects from the Record Storms*, Guy Carpenter and Company, 2006.

## **IMPACT OF HARD MARKET FOR CATASTROPHIC INSURANCE CONDITIONS**

### **Borrowers**

Hard catastrophic insurance market conditions are having varying impacts on borrowers. Borrowers with large geographically diverse portfolios (over \$100 million) have had less trouble placing catastrophic insurance, although sublimits for wind and earthquake insurance may have been reduced. For these borrowers, insurers have been able to place insurance coverage because of the modest aggregate exposure to catastrophic risk that a well diversified portfolio provides.

**However, the story is quite different for borrowers with single properties or a portfolio of properties located in a single high risk hurricane market. For these borrowers, reports of property insurance rate increases of over 100 percent have been the norm, with some borrowers reporting increases of up to 600 percent.** The private sector insurance market has almost completely dried up for multifamily buildings with wood roofs located within five miles of the ocean in Florida and in some Gulf Coast locations.

For borrowers experiencing dramatically increased insurance pricing, downward pressure has been put on the cash flow of their properties. These borrowers report that increased insurance costs teamed with increased utility and tax payments have significantly reduced the cash flow of their properties. The ability to pass these costs to tenants is dependent on the lease structure that sometimes caps expense reimbursement growth. Borrowers have also indicated that they are caught between a “rock and a hard place” when they are not able to comply with loan covenants because the only available insurance has catastrophic sublimits that are too low or the insurance company’s rating is below the required rating.

**For borrowers purchasing property, MBA members have reported that the high catastrophic insurance costs in Florida and the Gulf Coast have caused the delay or cancellation of some deals. Deals have been cancelled either because catastrophic insurance was not available or the pricing of the catastrophic insurance lowered debt service coverage ratios to unacceptable levels.** The pullback in overall capacity is having a large impact on new financings in hurricane-prone areas because insurers have given existing accounts first priority and, after existing customers have renewed, very little capacity remains for new business.

Borrowers are working harder with their exiting insurer or insurance broker to place coverage. Layered Insurance programs have become much more complex as insurance companies wanting to spread out their risk on any given property are taking smaller pieces of reinsurance. This means that there are more participants in each layer of the insurance program. Where there may have been one or two participants in an insurance layer, there are now 3 to 10 depending on the insurance program size. This means that a borrower must work with their insurance company or insurance broker well in advance of the renewal date in order to line up the insurance program. Borrowers with insurance expirations in the third and fourth quarters should work closely with their insurance

company or broker well in advance of their expiration dates in order to “reserve” insurer capacity before it is allocated to other borrowers.

## **Lenders**

**For new loan originations or refinancings, many lenders are now requiring borrowers to secure property insurance in hurricane-prone areas prior to starting the lending process. This practice was brought about by some loans failing to close because of the borrower’s inability to obtain property insurance in hurricane-prone areas.** When property insurance is secured, lenders are first looking at the debt service coverage ratio to make sure that the loan meets underwriting requirements.

Given the hard market conditions for catastrophic insurance, lenders are faced with the challenge of meeting their insurance underwriting requirements with full replacement cost insurance either unavailable or unaffordable (or both) in some areas. Borrowers not able to obtain full replacement cost insurance coverage are looking to lenders to accept more creative insurance programs that include letters of credit and other alternative risk transfer products. Alternative risk transfer products were examined in the *Insurer Category* section and include: self insurance, captives, and risk retention groups. Recently, borrowers have been using wind probable maximum loss (PML) studies to modify insurance coverage requirements. A PML study for wind provides the estimated maximum loss from a hurricane or other windstorm event. Borrowers have attempted to use the PML value for full amount of property value requiring insurance coverage instead of the full replacement cost of the building. Thus far, CMBS rating agencies have been dubious of PML studies and have not accepted them. Lenders specify which alternative transfer products are acceptable.

**Portfolio lenders have some flexibility regarding acceptable insurance structures which allows them to accept alternative risk transfer products. The alternative risk transfer products accepted by portfolio lenders are dependent on the underwriting requirements, specifics of the deal, and the relationship with the borrower. However, for loans that are intended to be securitized, the insurance requirements must be in conformance with the loan documents and the pooling and servicing agreement (PSA). This provides much less flexibility for accepting alternative risk transfer products.**

## **Servicers**

Given the catastrophic insurance capacity crunch, some servicers have been encouraging borrowers in hurricane-prone areas to obtain renewal commitments far in advance of the insurance expiration date. For hurricane or earthquake-prone areas, servicers are working with borrowers to ensure that the insurance coverage offered at renewal meets loan covenant requirements. **Decreasing catastrophic sublimits coupled with increasing deductibles are areas of concern for both borrowers and servicers.**

**MBA members report that the vast majority of borrowers have been able to obtain property insurance that meets the loan covenants.** Force-placed insurance has been a rarity and has been required for borrowers primarily in Florida that have not been able

to obtain insurance because of capacity issues. These borrowers tend to be single loan borrowers or have small portfolios concentrated in hurricane-prone areas. Borrowers with geographically dispersed commercial real estate portfolios are reporting less difficulty in obtaining catastrophic insurance.

**Servicers are reporting dramatic insurance rate increases for force-placed coverage. Should the number of force-placed insurance policies dramatically increase, servicers will be faced with capacity issues as well. Consequently, because of capacity issues for the servicer and cost issues for the borrowers, force-placed insurance does not represent a long-term solution for the catastrophic insurance capacity shortage.**

For Florida, servicers are reporting that forced-place insurance providers are requiring moratoriums, insurance caps, or are pulling out of the state completely. These actions often occur with very little notice.

Unlike portfolio lenders who have the flexibility to address the individual circumstances of each loan, CMBS servicers are required to enforce loan document and PSA requirements. PSA's typically specify that full replacement cost insurance must be in place by an insurer with a BBB credit rating (typically BBB, but lender can specify a higher or lower rating) or better and the deductible must be below a certain threshold, typically 5 percent. **Given the difficult catastrophic insurance market conditions, servicers have been seeking enhanced flexibility in dealing with borrowers who have difficulty in obtaining property insurance that meets all of the PSA requirements.**

In the past, loans that were not able to meet insurance requirements were automatically sent to the special servicer, as a technical default under the loan documents, which initiated a special servicer fee (typically 1.0 percent of the loan balance) that would be taken from proceeds to investors. Servicers have been seeking flexibility on the assessment of this fee when the only reason the loan was transferred to the special servicer was the lack of insurance.

Recently, the rating agencies have been showing more flexibility in how servicers can deal with loans that have had difficulty in meeting PSA mandated insurance requirements. In the *US CMBS and CRE CDO Second Quarter 2006 Review*, Moody's addressed the issue of servicer flexibility in dealing with the challenges of the hard market conditions for catastrophic insurance:

Servicers are also asking for the flexibility to deal with this very difficult market, including the option to grant waivers from loan documents language (similar to a formula developed during the terrorism insurance crunch). This approach could lessen the frequency and severity of the nasty litigation that plagued many pools with terrorism insurance issues. Moody's believes that servicer flexibility is a good thing, when structured the right way. We will be working with servicers and issuers on pooling and servicing agreement language (PSA) that strikes the right balance between recognizing the reality of the market and protecting the bondholders' investment.

Servicers are identifying those properties in serving portfolios that are in locations at risk for difficulty in obtaining insurance coverage and have been working with these borrowers well in advance of insurance expirations to make sure that commitments for insurance renewals are in place. For those properties unable to meet the PSA-mandated insurance coverage, servicers are working with these borrowers to find alternatives that will allow them to be in compliance with the PSA. Troublesome areas have included:

- Only being able to obtain coverage from insurance companies with investment ratings below PSA requirements.
- Insurance deductibles that are above the PSA requirements.
- Not being able to obtain full replacement cost insurance for catastrophic events.
- Substantial increases in hurricane related windstorm pricing.
- Insurance premiums have increased sufficiently for some properties causing them to be placed on the Watch Lists because of reduced debt service coverage ratios.
- For some properties, insurance coverage is not available to the borrower for any price.

As a last resort, force-placed insurance has been used in a limited number of cases. Fortunately, forced-placement has been extremely limited.

Some servicers have reported increased costs due to the fact that they have added new or temporary staff to actively monitor and work with borrowers that are in high-risk hurricane areas to make sure that insurance coverage remains in place. This brings back memories of the period between September 11, 2001 and the passage of the Terrorism Risk Insurance Act in November 2002, when insurance renewals excluded terrorism insurance, which caused an enormous loan document compliance problem for borrowers and servicers.

## **Rating Agencies**

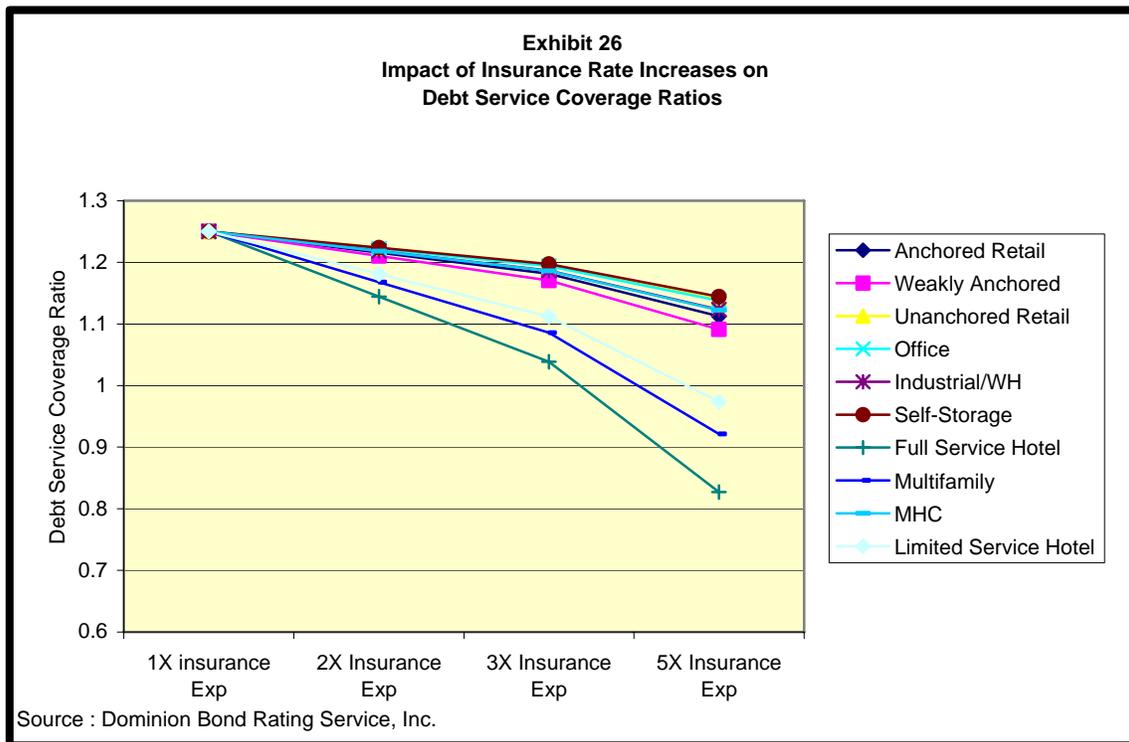
Rating agencies involved in rating CMBS have also expressed concern about rising windstorm insurance pricing and the impact of this pricing on the debt service coverage ratios for properties with securitized loans. Using its database of securitized properties, Dominion Bond Rating Service, Inc. performed analysis for debt service coverage ratios based upon differing property insurance escalation levels. Shown in Exhibit 26 are the results of this analysis. The product categories that are most susceptible to increased property insurance payments are office, multifamily and full service hotel. When insurance rates are doubled for these product categories, the debt service ratio falls below 1.2, which raises concerns for the rating agencies. The remaining product categories: anchored retail, weakly anchored retail, unanchored retail and self storage, have debt service coverage ratios that fall below 1.2 after insurance premiums are tripled. Retail leases typically have pass through to tenants for insurance payments.

In the *US CMBS and CRE CDO Second Quarter 2006 Review*, Moody's raised the concern that movement away from full replacement cost insurance policies could have "serious" credit implications.

Moody's indicated the following approach to loans with inadequate windstorm insurance:

When cases of inadequate windstorm insurance are presented, Moody's will look closely at the concentration in pools of properties in the tier 1 [highest risk] windstorm areas and will be assessing how much of an equity cushion (using Moody's values) is available to each possibly inadequately covered property. If there is inadequate coverage, or troubling language is found in the insurance provisions of the loan documents, Moody's may adjust its subordination levels accordingly, tapered in magnitude down the capital stack.

Moody's also indicated that underwriting assumptions for hurricane-prone properties for insurance payments will need to be "adjusted upwards" if insurance payments remain at their current increased levels. The hard catastrophic insurance market has caught the attention of the rating agencies; they are poised to take active measures to protect the credit quality of CMBS pools should insurance policy's fall below full replacement value. Given this priority, the investment grade purchasers of CMBS should have little worry



that any pool losses associated with hurricane events would impact investment grade bonds. In order to protect their first loss position, many B piece investors also serve as the special servicer in CMBS transactions. In this position, these investors tend to monitor very closely insurance renewals for CMBS pools in which they have a B piece interest.

## Investors

Thus far, the rating agencies have been enforcing the industry requirement for full replacement value insurance coverage for properties that are part of a securitization pool. However, investors, particularly B piece buyers, are actively monitoring this situation.

One B piece investor has reported that out of its 9,000 loan CMBS portfolio, only nine loans have required force-placed property, windstorm, or earthquake insurance. In most of these cases, the reason for force-placed insurance is that the borrower is unable to obtain the required insurance. The borrowers holding six of those loans, with an aggregate principal balance of \$40 million, have continued to pay the premiums for the force-placed policies. Three of the loans, totaling approximately \$15 million, have been transferred to the special servicers as a result of the borrowers' failure or refusal to pay for the force-placed insurance. This B piece investor is working proactively with servicers to monitor the status of renewals on properties in high-risk locations.

As indicated by Moody's, loans that are included in a pool without full replacement cost insurance coverage or have "troubling" language, may be required to have increased subordination levels. This could increase the size of the B piece tranche in a securitization. At this point, B piece buyers will have to carefully examine the hurricane or other catastrophic risk exposure of the loans without full coverage and factor this into their modeling and decision process for purchasing an interest in a B piece pool.

## Summary

### Key Findings:

- **Insurance and Reinsurance Industries Remain Profitable** - Despite underwriting losses associated with the hurricane activity of the past two years, both the insurance and reinsurance industries were profitable.
- **Catastrophic Risk is Not Going Away** - Catastrophic risk from hurricanes, earthquakes, floods, winter storms, and wildfires provides a baseline of low-to-moderate catastrophic event risk for virtually every population center in the U.S. Areas with the greatest catastrophic risk are locations in the most hurricane- and earthquake-prone areas.
- **Potential Hurricane Damage Will Continue to Grow** - An important influence on the loss severity of the most recent hurricanes has been the high concentration of real estate in hurricane-prone areas. This has been driven by long-term population migration trends to coastal areas where hurricane loss severity has been forecasted to double every ten years.
- **Risk Modeling Companies Revise Hurricane Damage Severity** - The risk modeling companies are incorporating the most recent loss frequency and severity numbers into their hurricane models. This has caused the risk modeling companies to revise upward expected losses from hurricanes by 20 to 100 percent. Insurance and reinsurance companies have modified their catastrophe pricing structures to reflect these increased loss projections.
- **Insurance Company Rating Agencies Concerns Shrink Catastrophic Insurance Capacity** - Insurance company rating agency stress tests now take into account all natural disasters on which the insurance company has loss exposures. These stress tests include multiple disasters from different sources, such as earthquake and hurricane, occurring in the same year. Rating agencies are emphasizing overall catastrophic exposure in an insurer's portfolio and encouraging insurance companies to develop strong internal catastrophic risk management programs. This is one factor behind the reduction in catastrophic insurance capacity by both primary insurers and reinsurers.
- **Insurance Capacity for Windstorm and Earthquake Decline Precipitously** - According to reporting by Aon, active wind insurance and earthquake insurance capacity have declined by 60.5 percent and 21.6 percent, respectively, since September 2005.
- **Catastrophic Insurance Pricing to Remain High** - Catastrophic insurance pricing may never return to pre-Katrina levels due to the increased loss expectations from hurricanes and rating agency scrutiny over an insurance company's overall exposure to catastrophic events.

- **Available and Affordable Property Insurance is Essential to the Real Estate Finance Industry** - Both residential and commercial mortgages require “all risk” insurance coverage to be in place during the life of the mortgage. Consequently, disruptions in the availability or affordability of property insurance seriously undermines the real estate finance industry by shifting catastrophic property damage risk from the insurance industry to the real estate finance industry which has not priced such risk into its product offering.



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