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Insurance Catastrophe Loss Review
First Quarter 2010 Webinar Update

Intermediaries & Reinsurance Underwriters Association
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Download at www.iii.org/presentations

Robert P. Hartwig, Ph.D., CPCU, President & Economist
Insurance Information Institute ♦ 110 William Street ♦ New York, NY 10038
Tel: 212.346.5520 ♦ Cell: 917.453.1885 ♦ bobh@iii.org ♦ www.iii.org

Presentation Outline

- **Catastrophe Loss Trends in Q1 2010: US and Global Review**
- **Unusual Catastrophe Activity in April 2010**
  - Icelandic Volcano
  - *Deepwater Horizon* Sinking an Oil Spill
- **Historical Review of US Catastrophe Losses**
- **Industry Capital and Financial Strength**
- **Insurance Industry Financial Overview**
- **Q&A**

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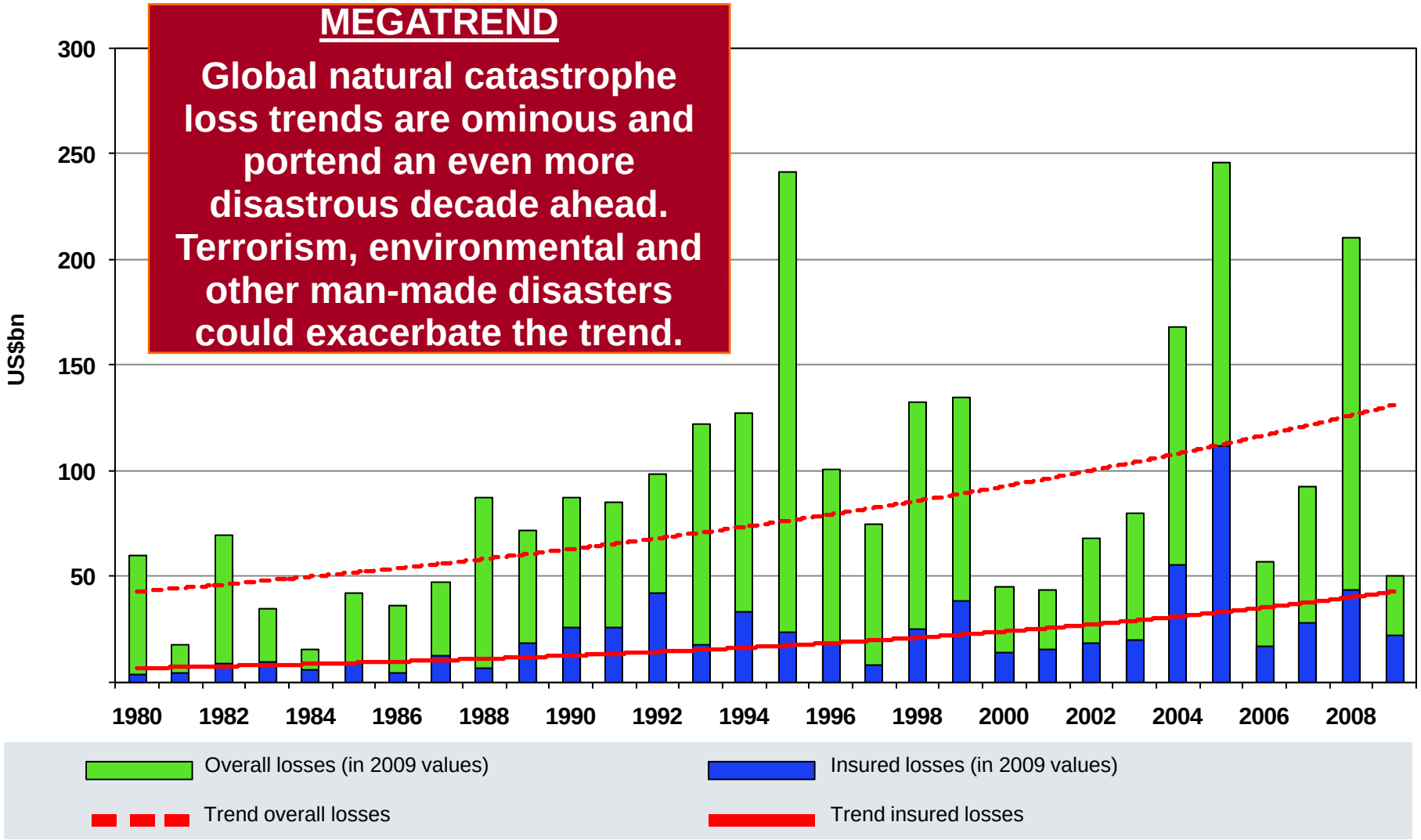
Catastrophe Losses Trends Are Trending Adversely in the US and Globally

The Trend is Continuing in 2010

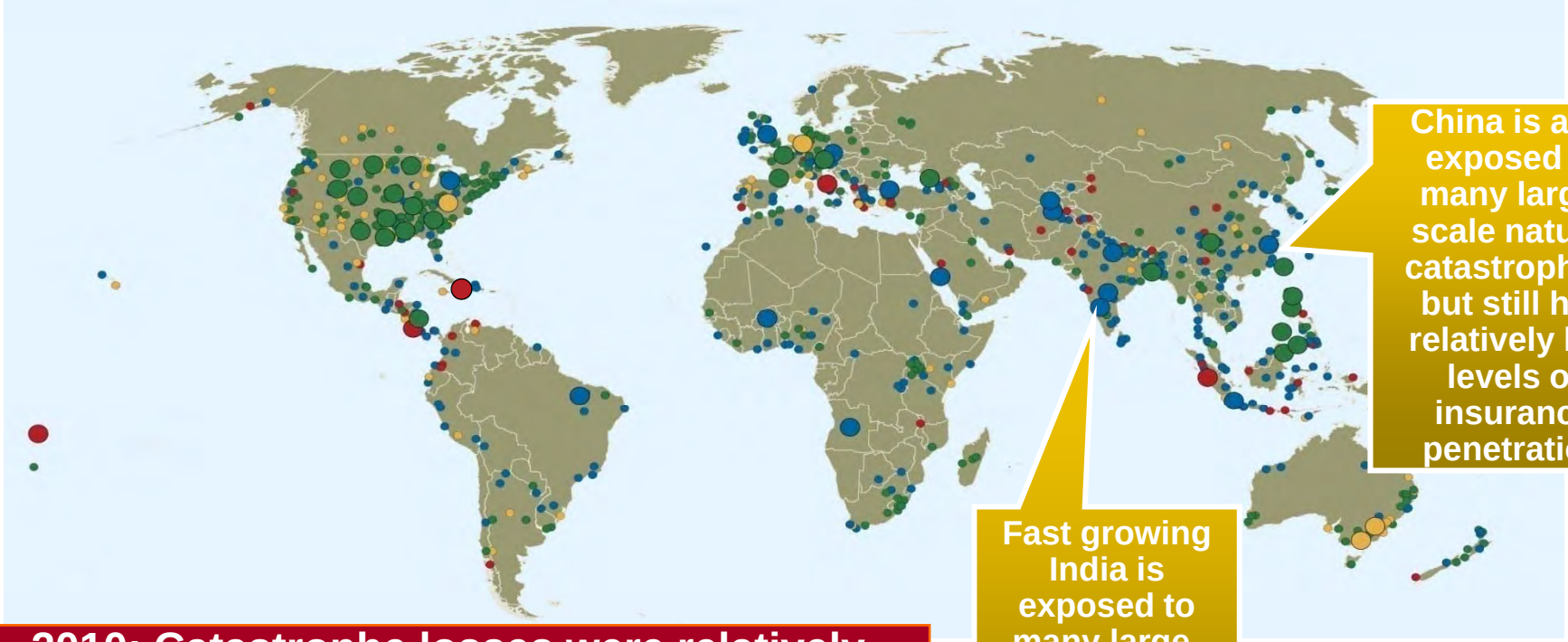
Global Natural Catastrophes 1980–2009

Overall and insured losses with trend



Source: Munich Re NatCat*SERVICE;* Insurance Information Institute.

Natural catastrophes 2009- Jan 2010
Worldmap



China is also exposed to many large-scale natural catastrophes, but still has relatively low levels of insurance penetration

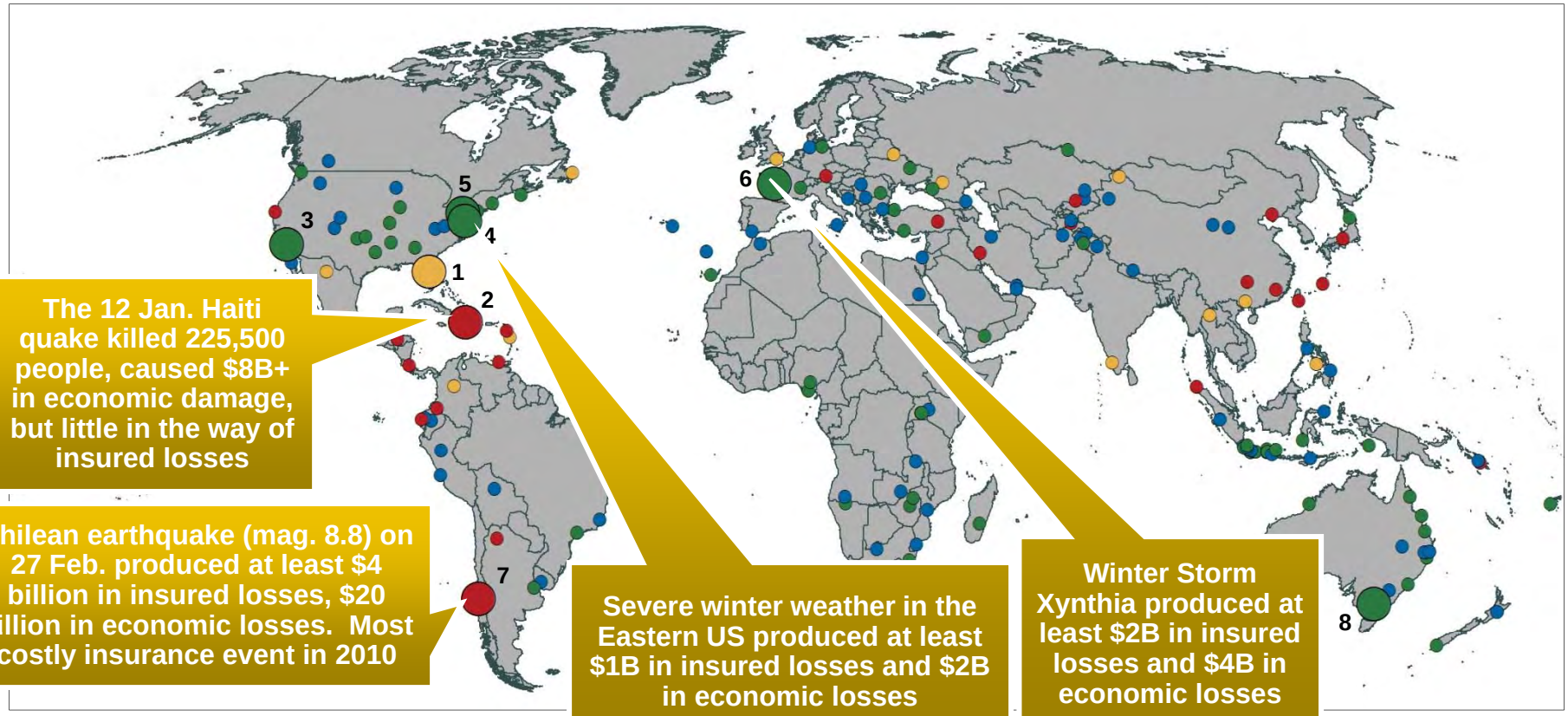
Fast growing India is exposed to many large-scale natural catastrophes, though still a "small" insurance market

2010: Catastrophe losses were relatively light due to the lack of hurricane activity

Longer-run: An increasing share of insured catastrophe losses will come from the developing world, especially China, India

Source: Munich Re NatCat*SERVICE;* Insurance Information Institute.

Natural Catastrophes: Jan – Mar 2010
Worldmap



The 12 Jan. Haiti quake killed 225,500 people, caused $8B+ in economic damage, but little in the way of insured losses

Chilean earthquake (mag. 8.8) on 27 Feb. produced at least $4 billion in insured losses, $20 billion in economic losses. Most costly insurance event in 2010

Severe winter weather in the Eastern US produced at least $1B in insured losses and $2B in economic losses

Winter Storm Xynthia produced at least $2B in insured losses and $4B in economic losses

- ○ **Global natural catastrophes**
- ◯ **Selection of significant natural catastrophes (see table)**
- ● **Geophysical events** (earthquake, tsunami, volcanic activity)
- ● **Meteorological events** (storm)
- ● **Hydrological events** (flood, mass movement)
- ● **Climatological events** (extreme temperature, drought, wildfire)

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Natural Catastrophes: January – March 2010

Selection of Significant Events

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No.	Period	Event	Affected Area	Overall losses*	Insured losses*	Fatal-ities*
				US$ m, original values		
1	7–12 January	Winter damage, cold wave	United States: Midwest (MO, IA); South (AR, LA, OK, TX); Southeast (FL, AL, GA, MS, NC, SC, TN)	800	160	5
2	12 January	Earthquake	Haiti: South (esp. Port-au-Prince)	>8,000		222,500
3	18–22 January	Severe storms	United States: Southwest (CA, AZ, UT)	180	120	20
4	4–6 February	Winter storm, blizzards	United States: Northeast (DC, DE, MD, NJ, PA); Southeast (NC, VA, WV)	180	135	2
5	9–14 February	Winter storm, blizzards, winter damage	United States. Canada	800	560	
6	26–28 February	Winter storm Xynthia, storm surge	Belgium. France. Germany. Netherlands. Portugal. Spain. Switzerland. United Kingdom	4,500	>2,000	63
7	27 February	Earthquake, tsunami	Chile: Central; South	>20,000	>4,000	507
8	6–7 March	Hailstorm, severe storms	Australia: Southeast (Victoria)	1,200	780	

*Preliminary figures

First Quarter 2010 Insured Major Catastrophe Losses Were Among the Highest on Record for Q1, Totaling at least $7.755 Billion. Economic Losses Total at Least $35.66 Billion. More than 223,000 People Were Killed in These Events.

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Unusual Events Occurring in April 2010

Iceland Volcanic Eruption

Deep Water Horizon Sinking & Spill

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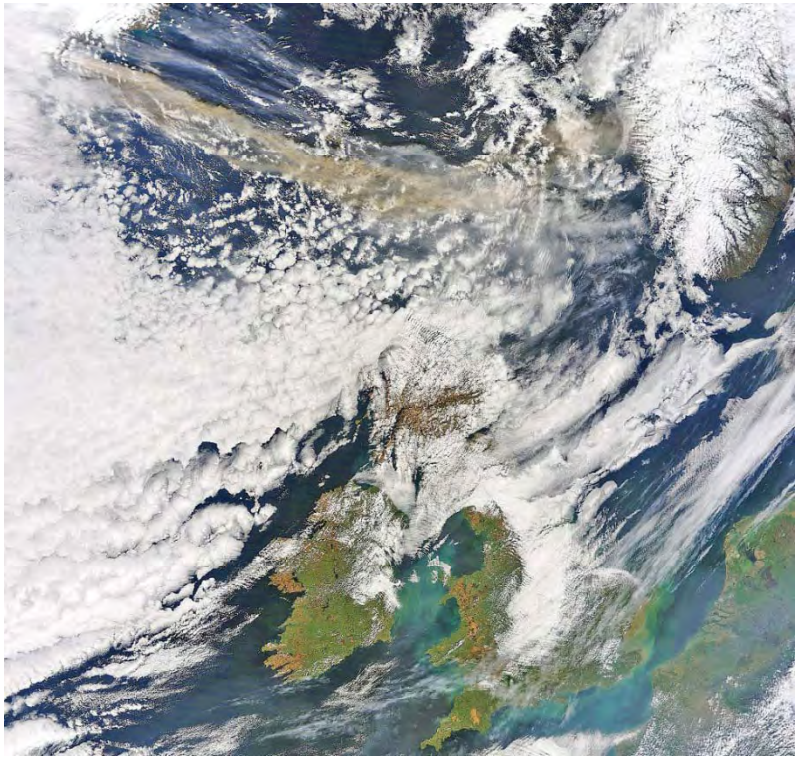

Iceland Volcanic Eruption

Insurance Implications of Eruption of Iceland's Eyjafjallajokull Volcano

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- **Continuing Eruption of Icelandic Volcano in April 2010 Caused Little Property Damage in a Remote Region of SE Iceland**
- **Major Issue Was One of the Near Total 6-Day Closure of Northern European Airspace by Aviation Authorities from 15 April – 20 April Due to Spread of Ash Plume Over Much of Europe**
- **Airlines and Other Industries Sustained Several Billion Dollars in Economic Loss, Virtually None of Which is Insured**
- **Economic Losses Were Caused Not by Property Damage Caused by the Volcano but by Decisions Made by Aviation Authorities in Europe**
- **Because There Was No Physical Damage Caused by Volcanic Action, Insurance Coverage is NOT Triggered**
- **Business Interruption is NOT Triggered Either, Since BI Requires as a Trigger Damage from a Covered Peril: No Damage→No Insurable BI Loss**
- **No Aircraft Were Damaged, So No Aviation Losses Occurred**
- **The Only Segment of the Global Insurance Industry to Sustain Notable Losses Will Be Travel Insurers, Where Losses Globally Will Be Measured in the Millions**

Source: Insurance Information Institute.

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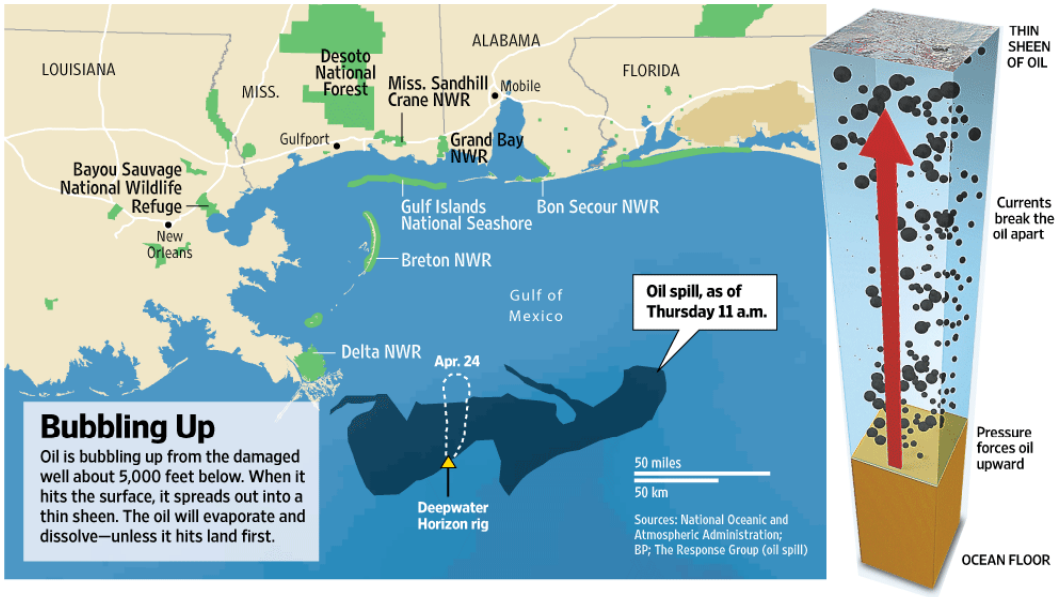

Sinking of Deepwater Horizon Platform and Gulf of Mexico Oil Spill

Insurance Implications of Sinking of *Deepwater Horizon* Platform and Oil Spill

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- **Insurance Losses from the Sinking of the *Deepwater Horizon* Offshore Oil Platform Will Be Significant and One of the Largest Losses Ever for Global Offshore Energy Insurance and Reinsurance Markets**
- **Early Loss Estimates Put the Insured Loss in Excess of $1B to $1.25B***
  - **Includes $560 million as replacement cost of sunken oil platform**
- **Loss Appears to Be Well Syndicated With a Global Spectrum of Insurers and Reinsurers Sharing in the Losses**
  - **Significant retentions/self-insurance may be in play**
- **Insurance Issues Are Complex***
  - **Fractional Ownership of Project: BP (65%), Anadarko Petroleum (25%) and Mitsui Oil Exploration (10%); Each has own insurance arrangements and retentions**
  - **Transocean (Drilling Contractor) has its own insurance arrangements**
- **There Are Numerous Insurance Coverages that Could Be Triggered**

Source: Insurance Information Institute.

Deepwater Horizon Oil Rig Loss: Types of Coverage That Might Apply

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- **Physical Damage:** provides coverage for physical damage or loss to a company's offshore property and equipment, including offshore fixed platforms, pipelines and production and accommodation facilities.
- **Business Interruption/Loss of Production Income:** provides coverage for energy businesses against loss due to temporary interruption in oil/gas supply from an offshore facility as a result of physical loss or damage to an offshore facility.
- **Operators' Extra Expense (Control of Well):** provides coverage for costs incurred by energy businesses when regaining control of a well after a "blowout". Coverage may include: redrilling expenses incurred in restoring or redrilling well after blowout; seepage and pollution liability coverage to pay third party bodily injury, damage to and loss of third party property.
- **Offshore Construction:** provides coverage for the many different risks energy businesses face during construction projects, from project inception through completion and beyond.
- **Liability:** ***Comprehensive general liability****:* provides coverage for claims an energy business is legally obligated to pay as a result of bodily injury or property damage to a third party. ***Workers compensation/employers liability:*** covers energy businesses for losses from injury or death of employees.
- **Environmental/Pollution Liability:** provides coverage for bodily injury, property damage, and clean up costs as a result of a pollution incident from a designated site.

Source: http://www.iii.org/insuranceindustryblog/; http://www.iii.org/articles/offshore_energy_facilities_insurance_considerations.html

Top 10 Worst Oil Spills: By Volume of Oil Spilled

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An estimated 5,000 barrels, or 210,000 gallons, a day of oil are flowing into the Gulf of Mexico after the explosion, fire and sinking of BP's Deepwater Horizon oil rig

Date	Spill Name	Location	Size of Spill (Tons)
January 1991	Gulf War Oil Spill	Persian Gulf	1,500,000*
June 1979	Ixtoc I oil well	Gulf of Mexico	454,000
July 1979	Atlantic Empress/Aegean Captain	Caribbean Sea	287,000
March 1992	Fergana Valley	Uzbekistan	285,000
February 1983	Nowruz oil field	Persian Gulf	260,000
May 1991	ABT Summer	Angolan coast	260,000
August 1983	Castillo de Bellver	Cape Town, South Africa	252,000
March 1978	Amoco Cadiz	Off the coast of Brittany, France	223,000
April 1991	The Haven	Off the coast of Italy	145,000
November 1988	The Odyssey	Off the coast of Nova Scotia	132,000

*Top end of estimated tons of oil spilled.

Sources: http://www.msnbc.msn.com/id/36852827/ns/us_news-environment

Sample of Most Costly Oil Tanker Spills*

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Date	Spill Name	Location	Estimated Size of Loss
1989	EXXON VALDEZ	Alaska	Clean up: $2.5 billion. Total costs (incl. fines, penalties and claims settlements): $7 billion. Court cases continue, final costs unknown.
1978	AMOCO CADIZ	France	Est. cost $282 million, of which about half for legal fees and accrued interest.
1993	BRAER	UK	Est. cost $83 million. Clean up costs extremely low. Some $61 million paid out in fishery-related damages.
1996	SEA EMPRESS	UK	Clean up: $37 million. Total costs: more than $60 million.
1997	NAKHODKA	Japan	Compensation settled at approx. $219 million.
1999	ERIKA	France	Claims still being processed. Likely to exceed the $180 million available under ’92 Civil Liability and Fund Conventions.

*Where published data is available, caution is advised, as certain notoriously expensive cases can easily skew the analysis

Sources: International Tank Owners Pollution Federation; http://www.itopf.com/spill-compensation/cost-of-spills/

Top 10 Offshore Platform Losses, as of August 2004

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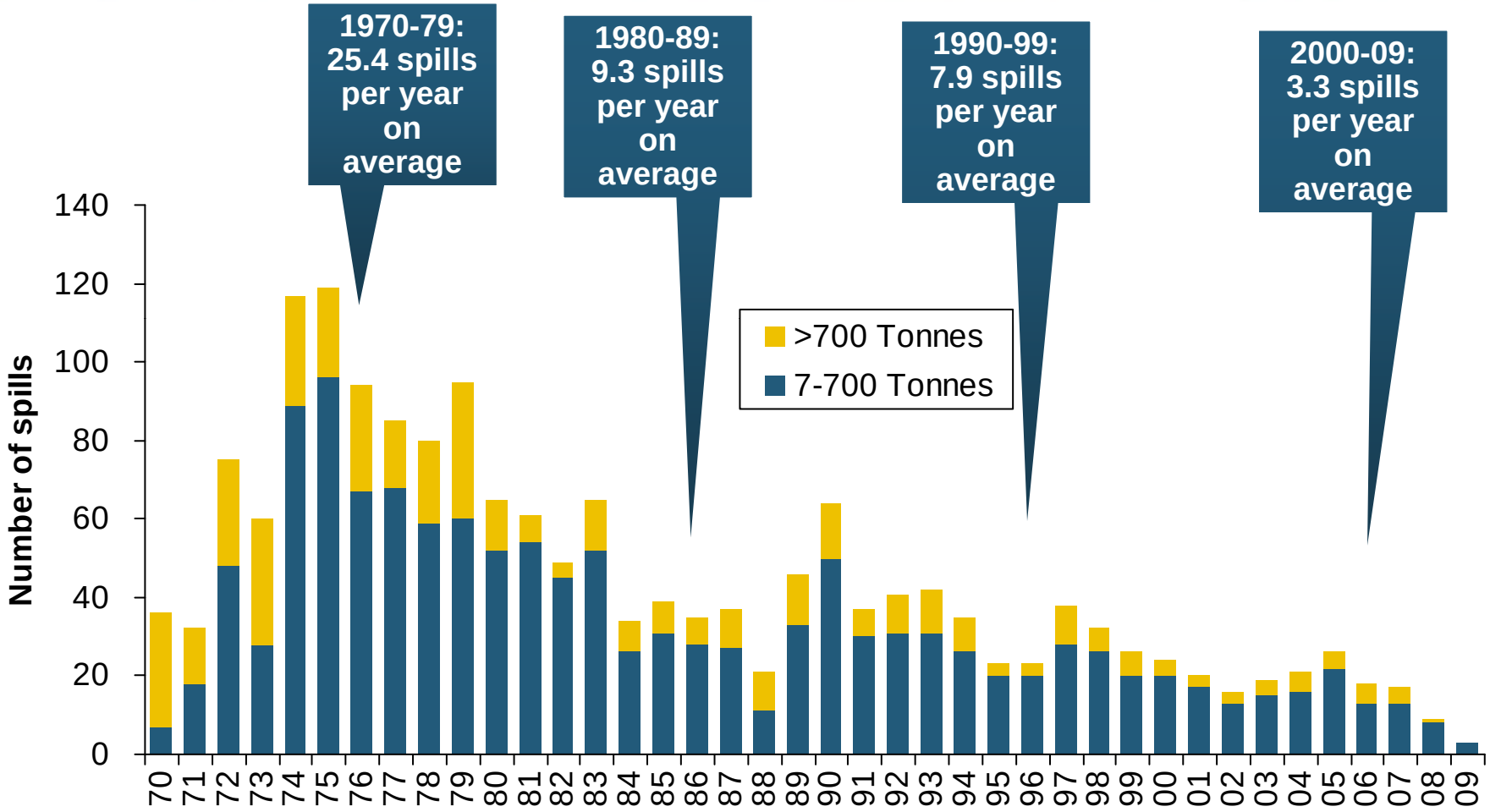
This list does not include the offshore energy impact of Hurricane Katrina in 2005.

Year	Description	Total Claim ($ Million)
1988	Piper Alpha Platform, North Sea	1,480
1992	Hurricane Andrew (various), Gulf of Mexico	550
1989	South Pass Platforms, Gulf of Mexico	520
1991	Sleipner Platform, North Sea	363
1988	Enchova Platform, Brazil	325
1992	Goodwyn A Platform, Australia	231
1987	Bourbon Platform, Gulf of Mexico	200
1982	Nigg Bayjacket loss (BI), Scotland	170
1999	North Nemba, Indonesia	160
1989	Sidki Platform, Gulf of Suez	127

Sources: Willis Energy Loss Database, August 2004

Number of Oil Tanker Spills Over 7 Tons



Source: The International Tanker Owners Pollution Federation Limited; Insurance Information Institute.

Top 20 Major Oil Tanker Spills by Size of Spill Since 1967, Plus Exxon Valdez

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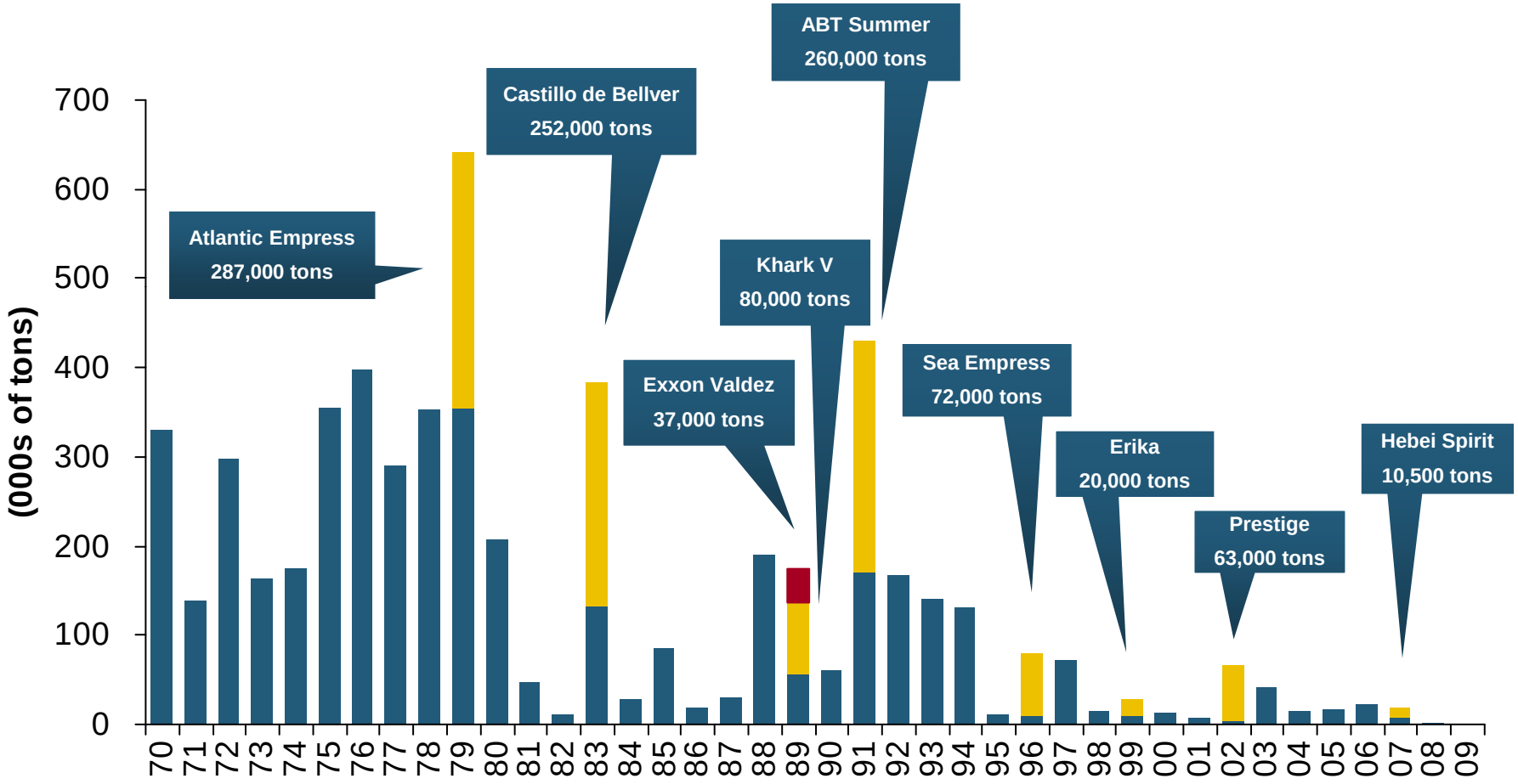
Position	Shipname	Year	Location	Spill size (tons)
1	Atlantic Empress	1979	Off Tobago, West Indies	287,000
2	ABT Summer	1991	700 nautical miles off Angola	260,000
3	Castillo de Bellver	1983	Off Saldanha Bay, South Africa	252,000
4	Amoco Cadiz	1978	Off Brittany, France	223,000
5	Haven	1991	Genoa, Italy	144,000
6	Odyssey	1988	700 nautical miles off Nova Scotia, Canada	132,000
7	Torrey Canyon	1967	Scilly Isles, UK	119,000
8	Sea Star	1972	Gulf of Oman	115,000
9	Irenes Serenade	1980	Navarino Bay, Greece	100,000
10	Urquiola	1976	La Coruna, Spain	100,000
11	Hawaiian Patriot	1977	300 nautical miles off Honolulu	95,000
12	Independenta	1979	Bosphorus, Turkey	95,000
13	Jakob Maersk	1975	Oporto, Portugal	88,000
14	Braer	1993	Shetland Islands, UK	85,000
15	Khark 5	1989	120 nautical miles off Atlantic coast of Morocco	80,000
16	Aegean Sea	1992	La Coruna, Spain	74,000
17	Sea Empress	1996	Milford Haven, UK	72,000
18	Nova	1985	Off Kharg Island, Gulf of Iran	70,000
19	Katina P	1992	Off Maputo, Mozambique	66,700
20	Prestige	2002	Off Galicia, Spain	63,000
35	Exxon Valdez	1989	Prince William Sound, Alaska, USA	37,000

This table gives a brief summary of 20 major oil spills since 1967. EXXON VALDEZ is included for comparison although this incident falls somewhere outside the group.

Source: The International Tanker Owners Pollution Federation Limited; Insurance Information Institute.

Annual Quantity of Oil Spilled by Tankers, 1970-2009



Source: The International Tanker Owners Pollution Federation Limited.

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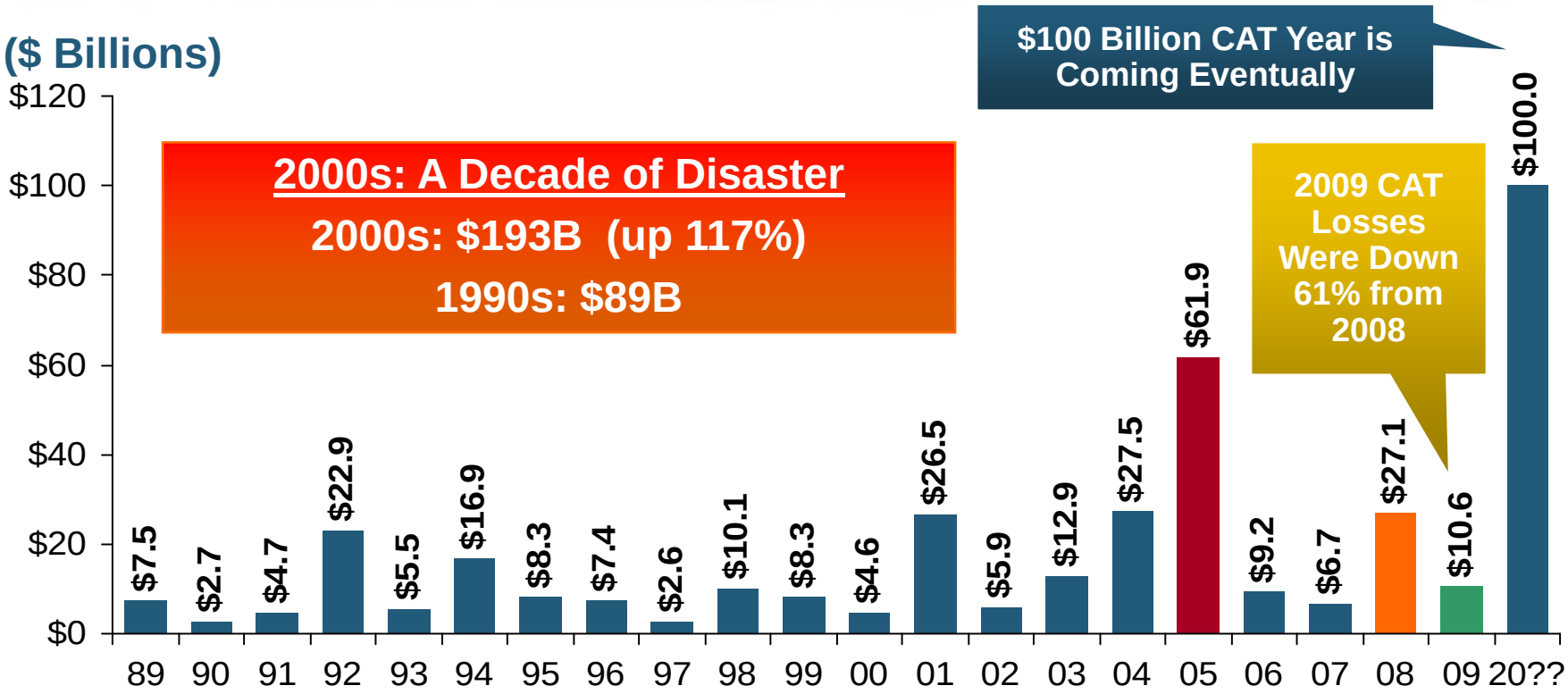
Historical Review of Recent US CAT Losses

2009 Was a Quiet Year in a Loud Decade

US Insured Catastrophe Losses



2009 CAT Losses Were Less than Half of 2008.
2005 Was by Far the Worst Year Ever for Insured Catastrophe.

Losses in the Decade of the 2000s Were More than Double the 1990s, *But the Worst Has Yet to Come.*

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

Sources: Property Claims Service/ISO; Insurance Information Institute.

States with Highest Insured Catastrophe Losses in 2009

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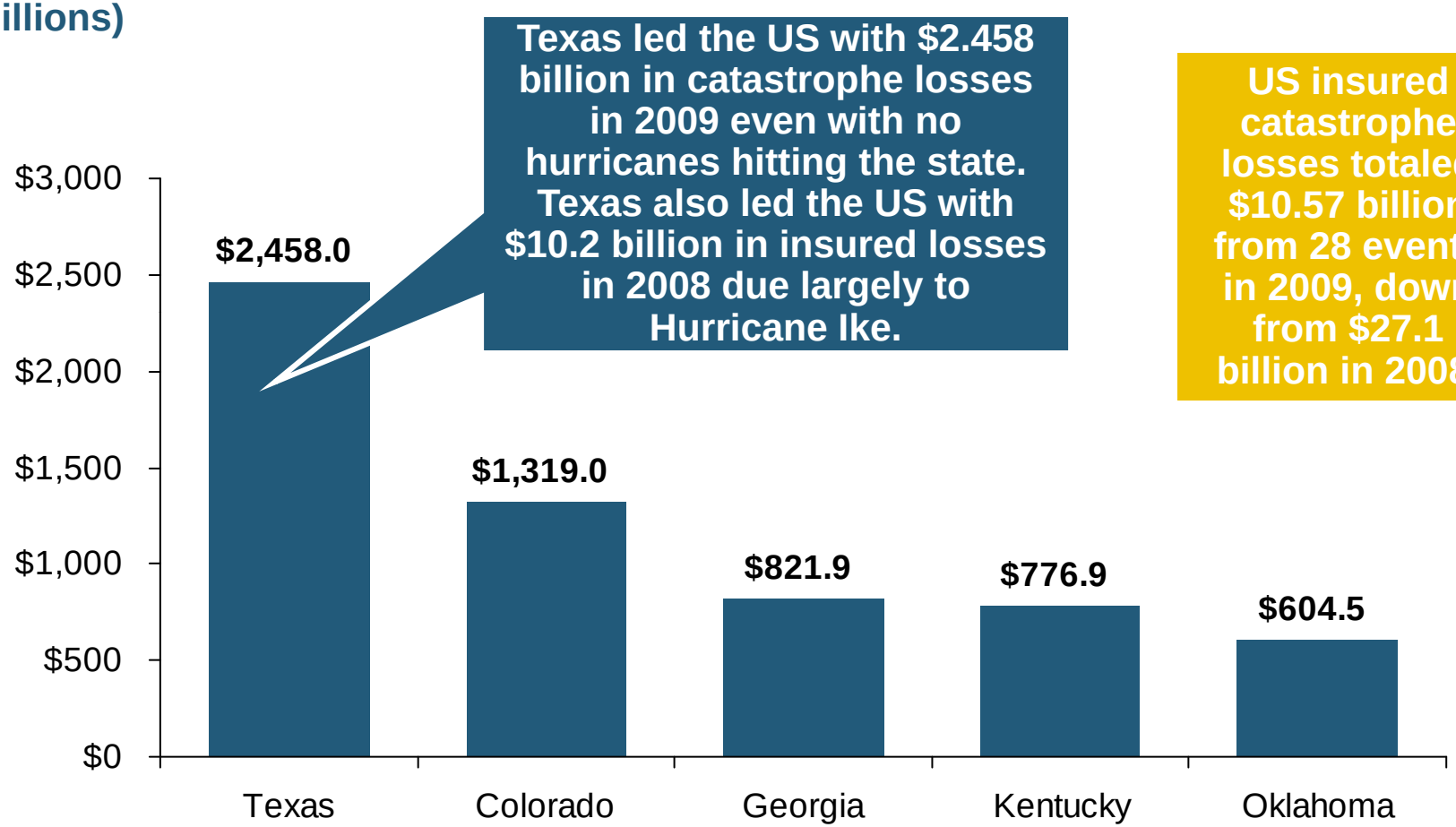
($ Millions)



Texas led the US with $2.458 billion in catastrophe losses in 2009 even with no hurricanes hitting the state. Texas also led the US with $10.2 billion in insured losses in 2008 due largely to Hurricane Ike.

US insured catastrophe losses totaled $10.57 billion from 28 events in 2009, down from $27.1 billion in 2008.

*As of February 22, 2010.
Source: PCS/ISO

Natural Catastrophe Losses in the U.S. in 2009

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As of January 2010	Fatalities	Estimated Overall Losses (US $m)	Estimated Insured Losses (US $m)
Tropical Cyclones	8	Minor	Minor
Severe Thunderstorms	21	13,710	9,625†
Winter Storms	70	1,600	770†
Wildfires	6	280	185
Floods	22	1,600	232

2009 was a near record year for thunderstorm losses

Sources: (unmarked) - MR NatCat*SERVICE*,
† - Property Claims Services (PCS)

U.S. Significant Natural Catastrophes in 2009

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$1+ billion economic loss and/or 50+ fatalities (as of Jan. 2010)

Date	Event	Est. Economic Losses (US $m)	Estimated Insured Losses (US $m)
January 26 - 28	Winter Storm	1,100	565†
February 10 - 13	Thunderstorms	2,500	1,350†
March 25 - 26	Thunderstorms	1,500	995†
March – April	Flood	1,000	75
April 9 -11	Thunderstorms	1,700	1,150†
June 10 -18	Thunderstorms	2,000	1,100†
July 20 -21	Thunderstorms	1,000	800†

Sources: (unmarked) - MR NatCat*SERVICE*,
† - Property Claims Services (PCS)

U.S. Significant Natural Catastrophes, 1950 – 2009

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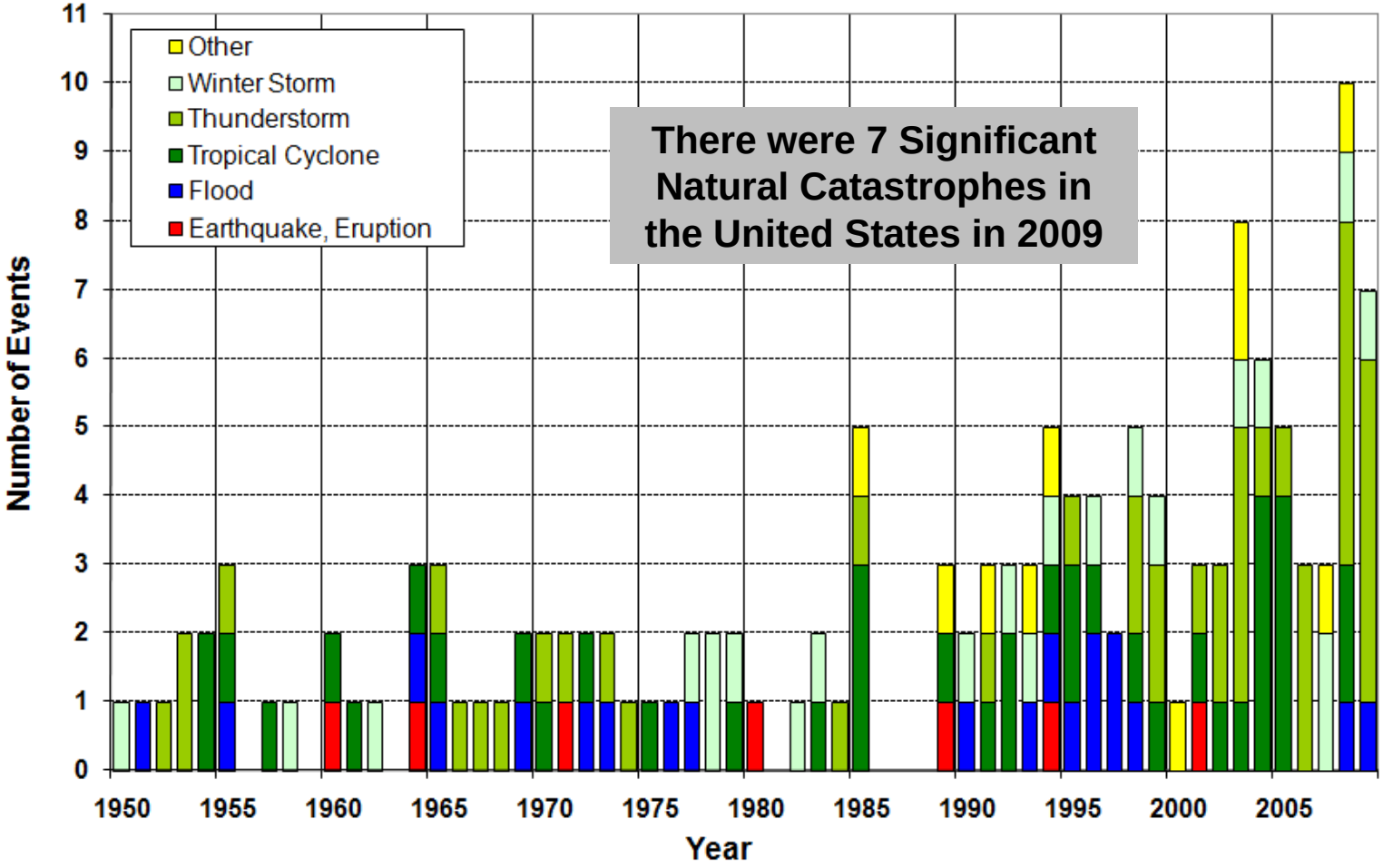
Number of Events ($1+ billion economic loss and/or 50+ fatalities)



Sources: MR NatCat*SERVICE*

Losses from U.S. Significant Natural Catastrophes 1950 – 2009

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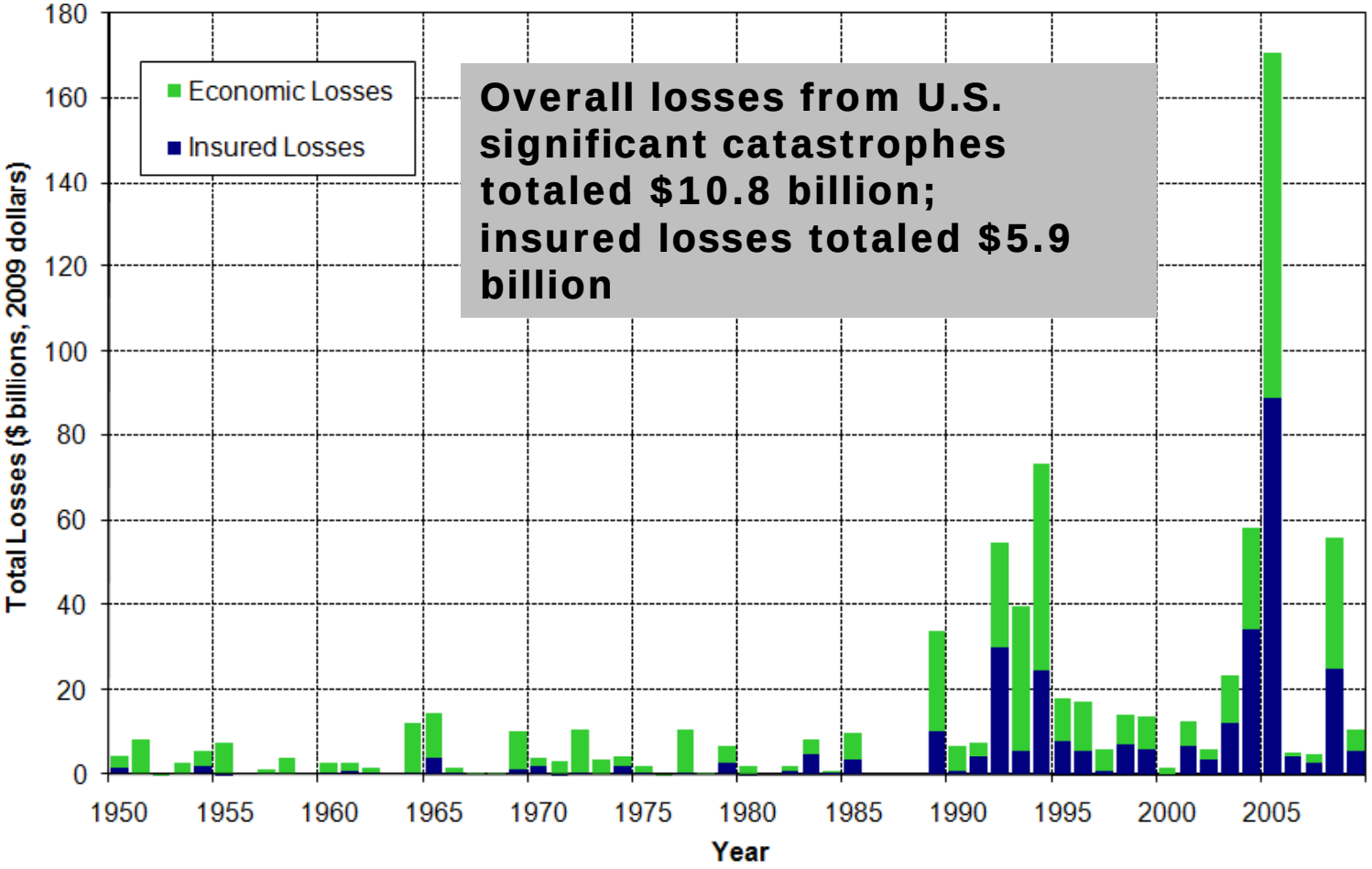
($1+ billion economic loss and/or 50+ fatalities)



Sources: MR NatCat*SERVICE*

Insured Losses Due to Weather Perils in the U.S.: 1980 – 2009

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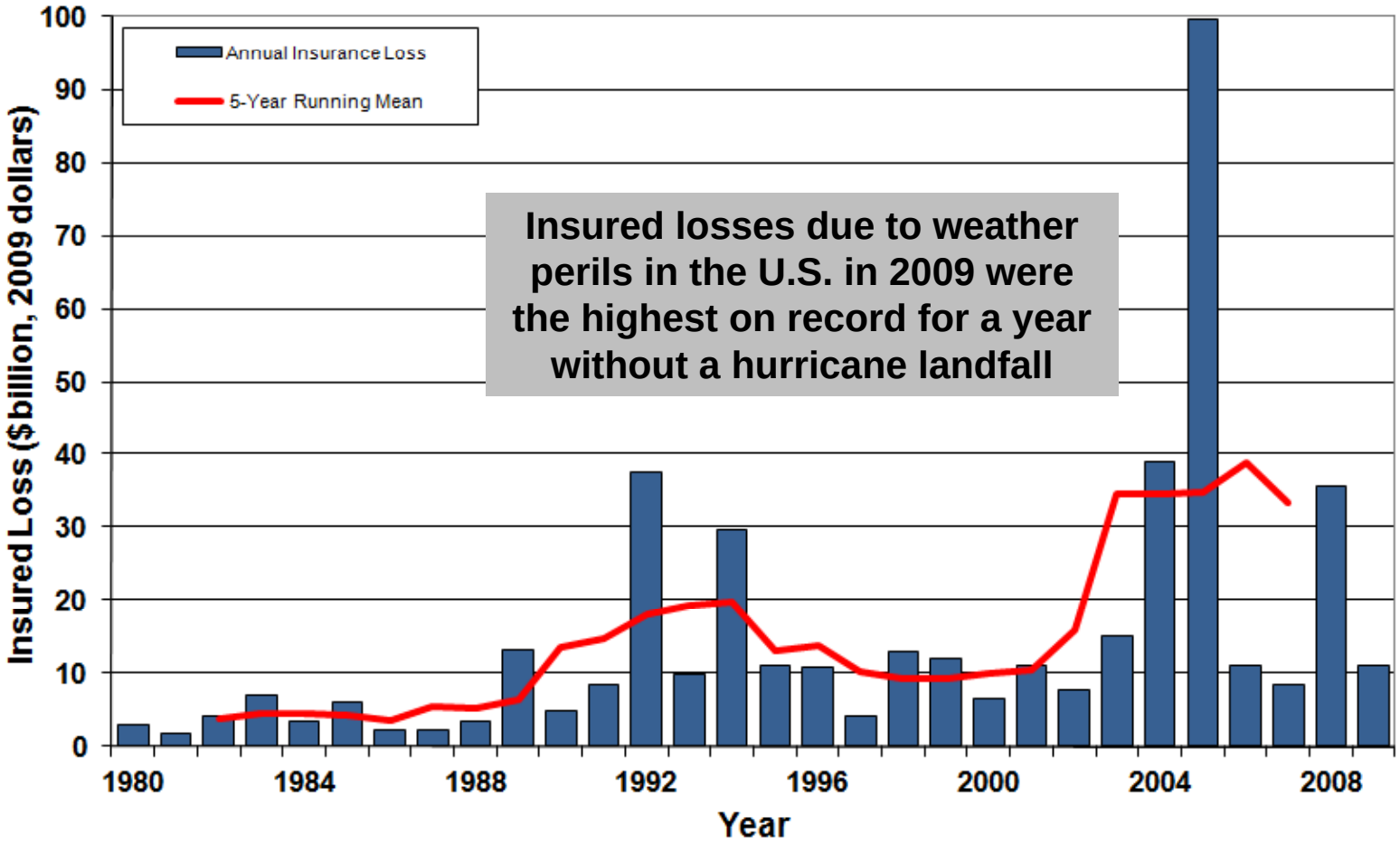
(Tropical Cyclone, Thunderstorm, and Winter Storm only)



Sources: MR NatCat*SERVICE*, Property Claims Services

Distribution of US Insured CAT Losses: TX, FL, LA vs. US, 1980-2008*

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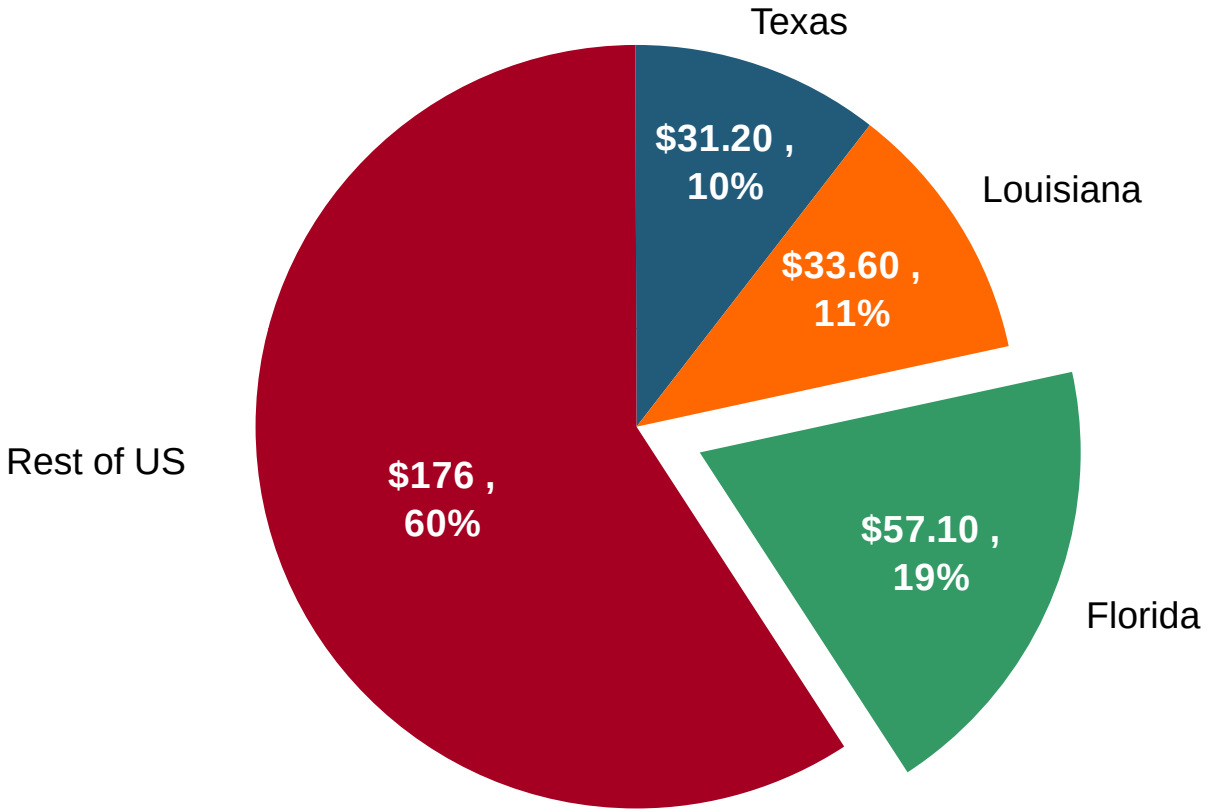
($ Billions)



Florida Accounted for 19% of All US Insured CAT Losses from 1980-2008: $57.1B out of $297.9B

* All figures (except 2006-2008 loss) have been adjusted to 2005 dollars.
Source: PCS division of ISO.

Top 12 Most Costly Disasters in US History

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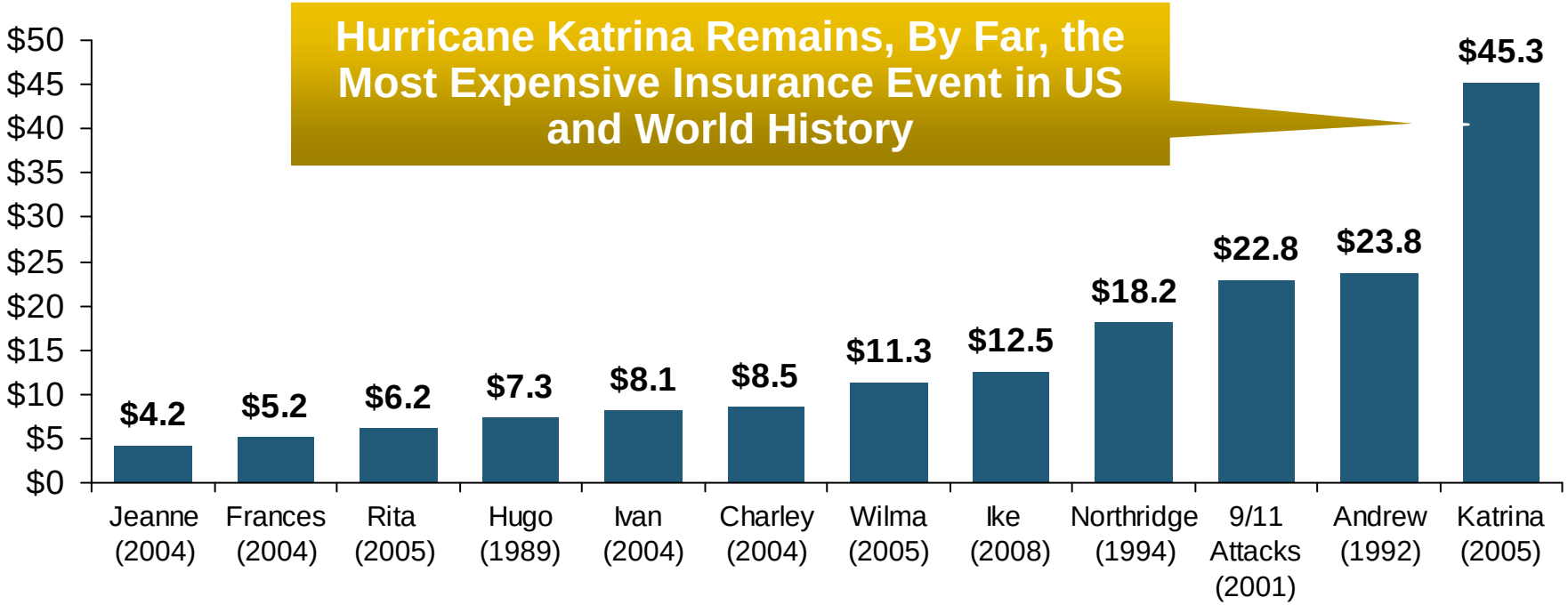
(Insured Losses, 2009 $ billions)



8 of the 12 Most Expensive Disasters in US History Have Occurred Since 2004;
8 of the Top 12 Disasters Affected FL

Sources: PCS; Insurance Information Institute inflation adjustments.

Total Value of Insured Coastal Exposure

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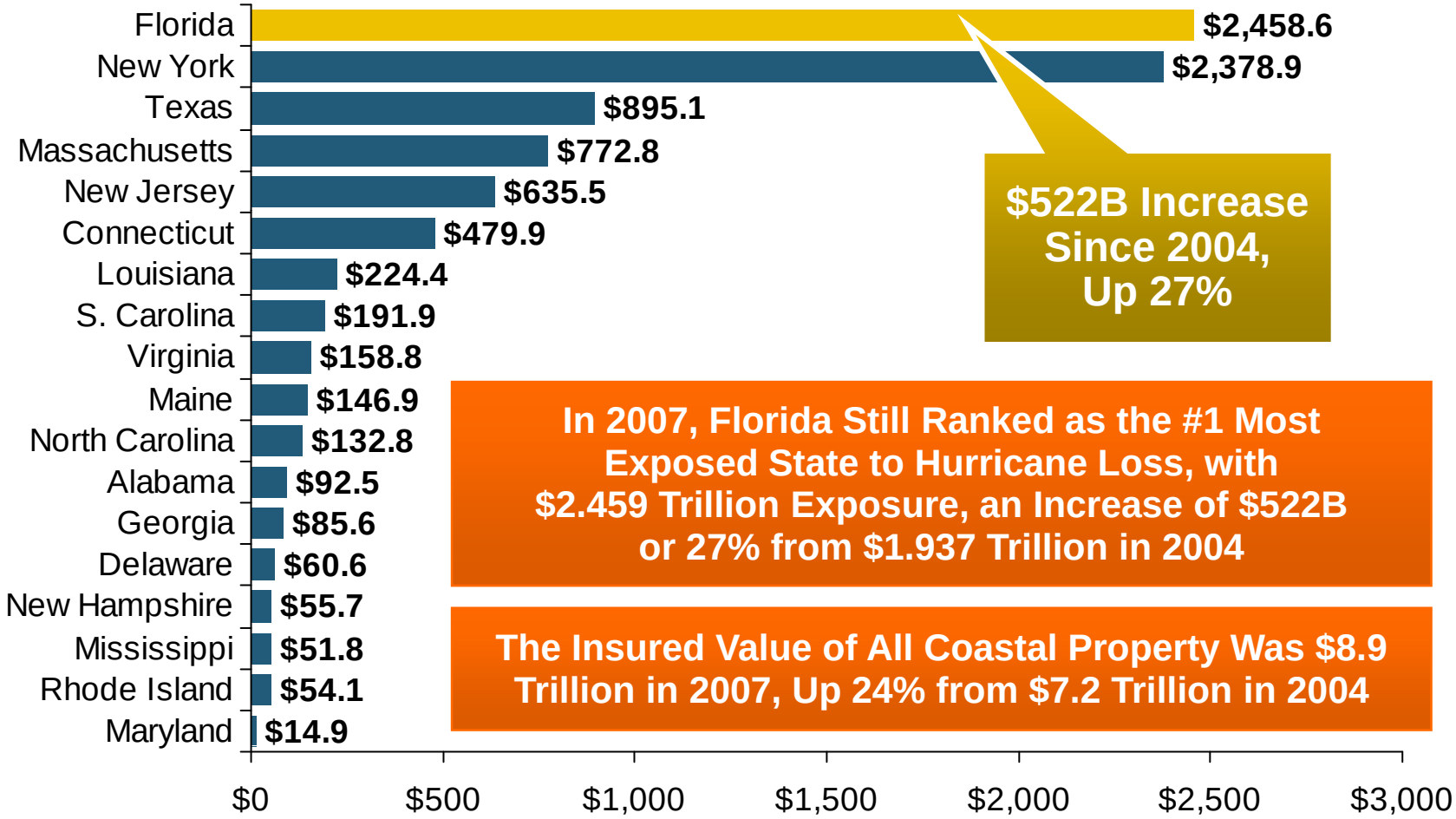
(2007, $ Billions)



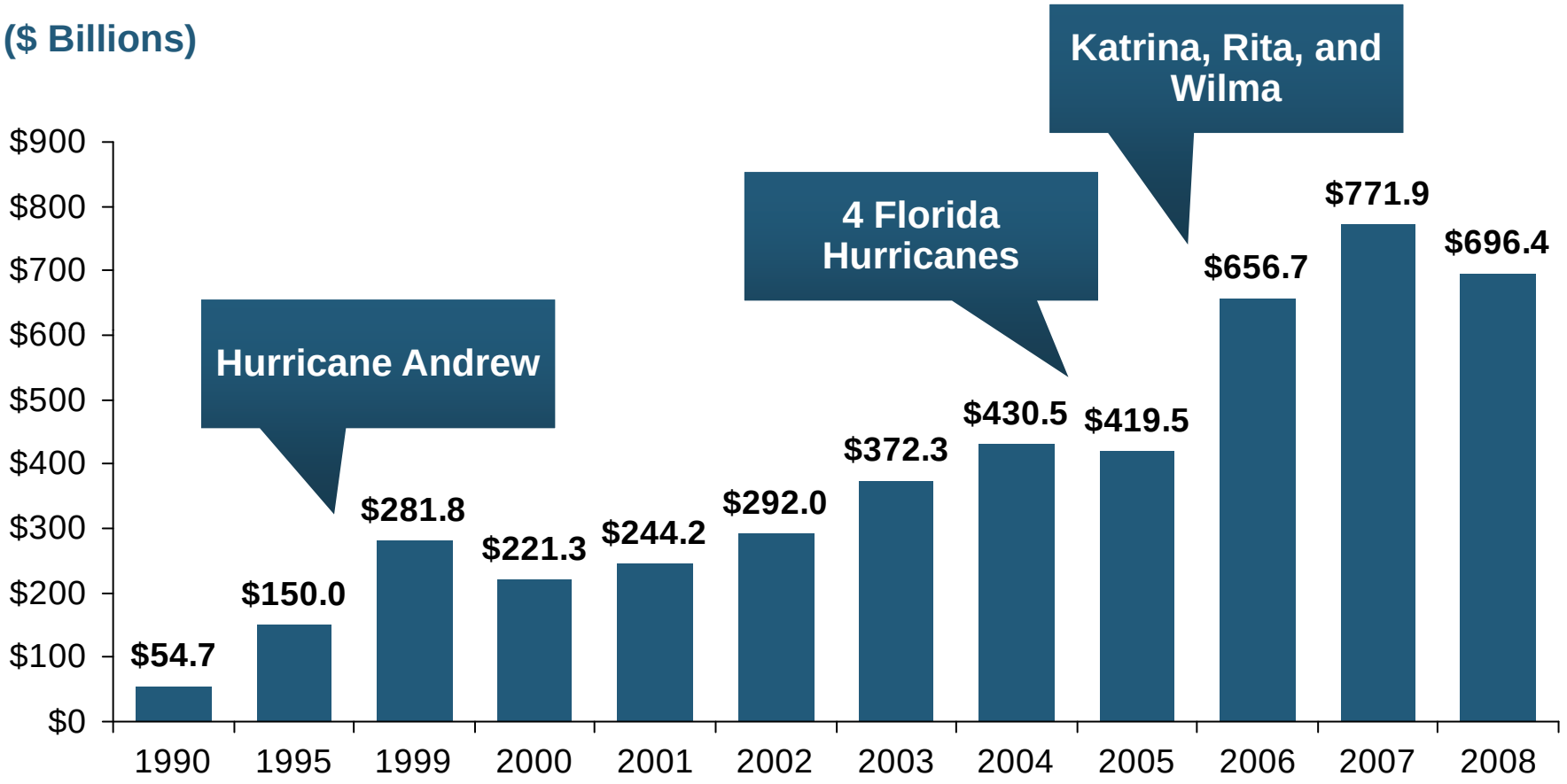
$522B Increase Since 2004, Up 27%

In 2007, Florida Still Ranked as the #1 Most Exposed State to Hurricane Loss, with $2.459 Trillion Exposure, an Increase of $522B or 27% from $1.937 Trillion in 2004

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

Source: AIR Worldwide

US Residual Market Exposure to Loss



In the 19-year Period Between 1990 and 2008, Total Exposure to Loss in the Residual Market (FAIR & Beach/Windstorm) Plans Has Surged from $54.7B in 1990 to $696.4B in 2008

Source: PIPSO; Insurance Information Institute

Capital/Policyholder Surplus (US)

Shrinkage, but Not Enough to Trigger Hard Market

US Policyholder Surplus: 1975–2009*

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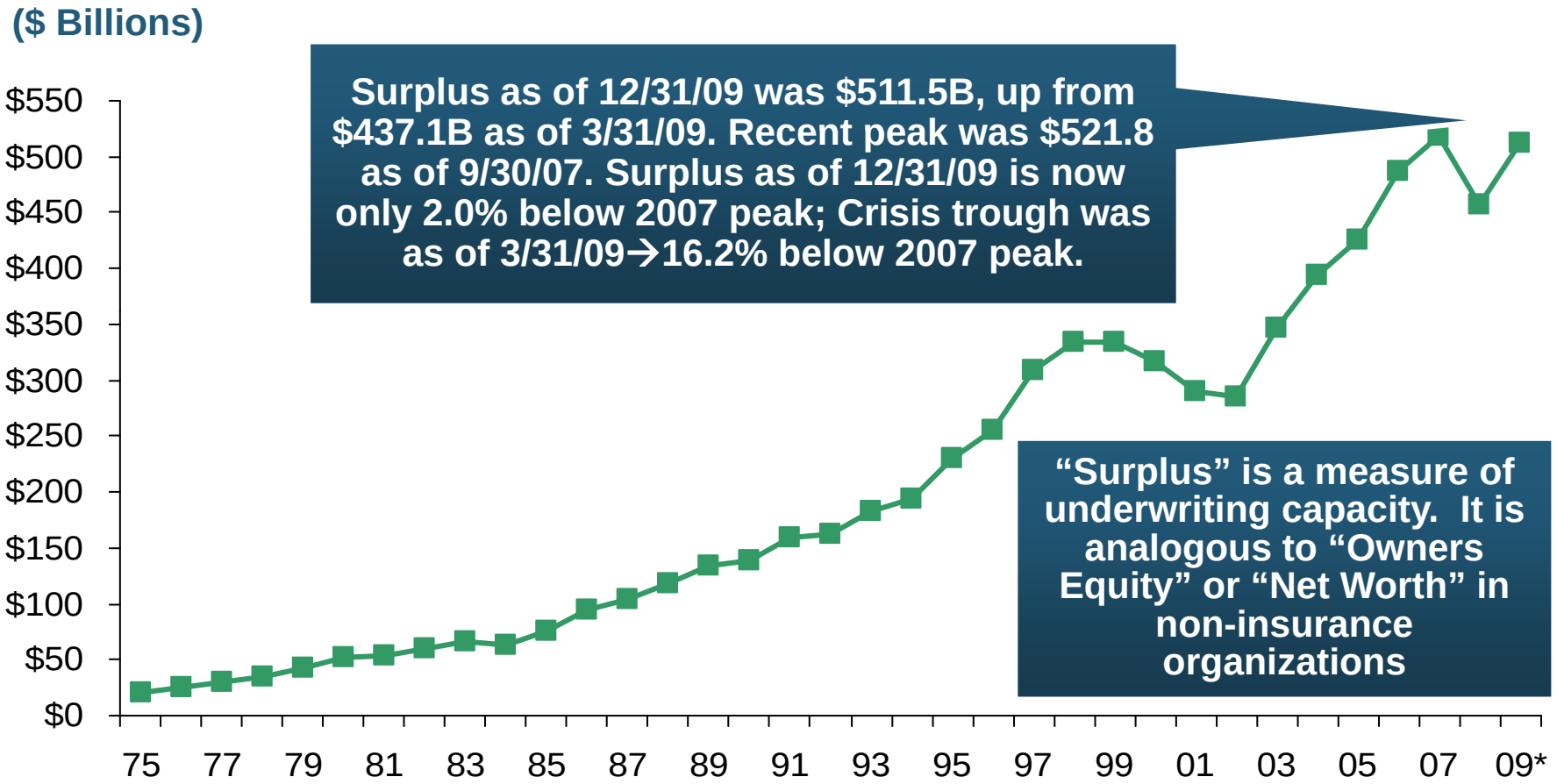
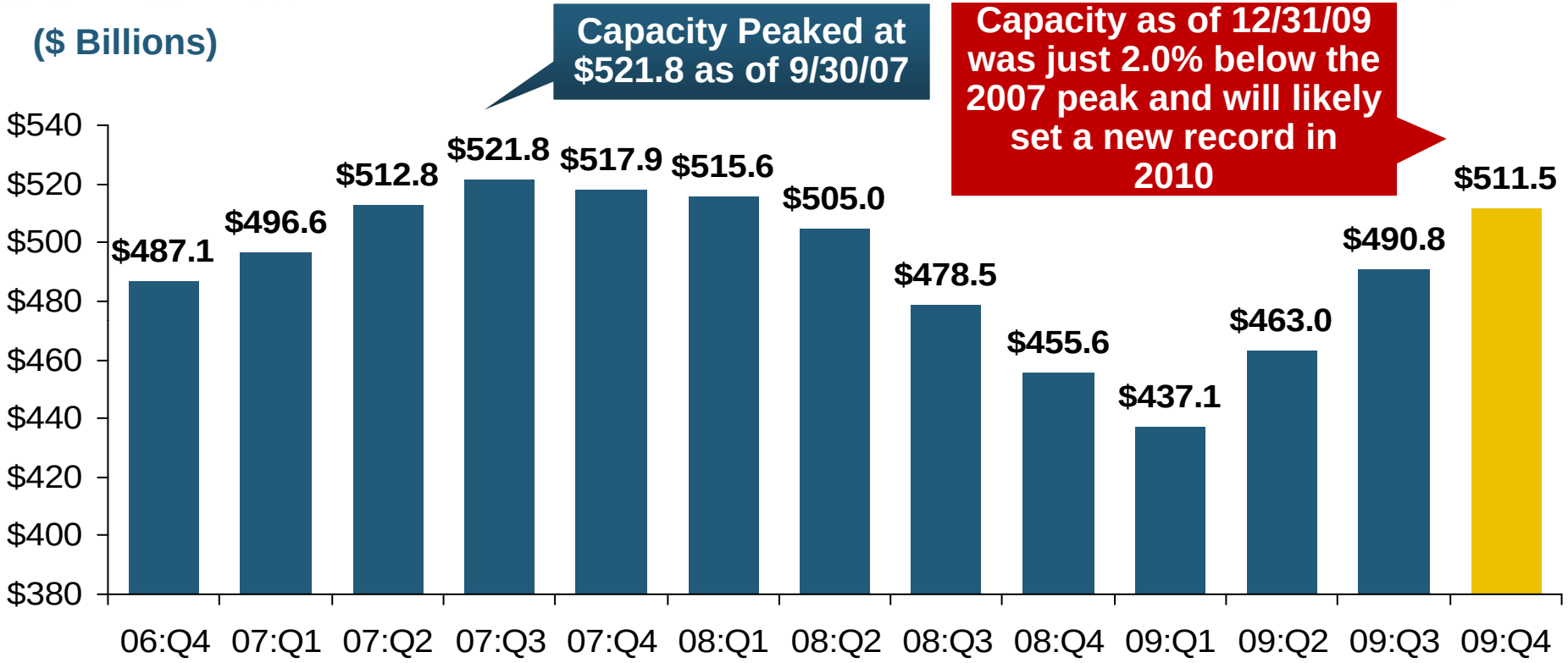


The Premium-to-Surplus Ratio Stood at $0.82:$1 as of 12/31/09, A Record Low (at Least in Recent History)

* As of 9/30/09

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

Policyholder Surplus, 2006:Q4–2009:Q4



Declines Since 2007:Q3 Peak

08:Q2: -$16.6B (-3.2%)	09:Q2: -$58.8B (-11.2%)
08:Q3: -$43.3B (-8.3%)	09:Q3: -$31.8B (-5.9%)
08:Q4: -$66.2B (-12.9%)	09:Q4: -$2.5B (-0.5%)
09:Q1: -$84.7B (-16.2%)	

Source: ISO, AM Best.

Global Reinsurance Capacity Shrank in 2008, Mostly Due to Investments

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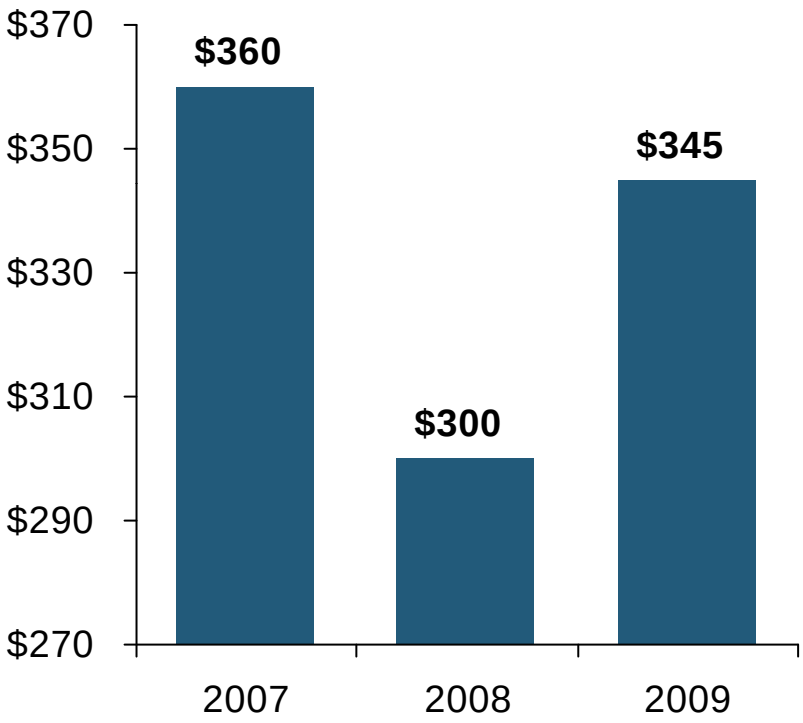
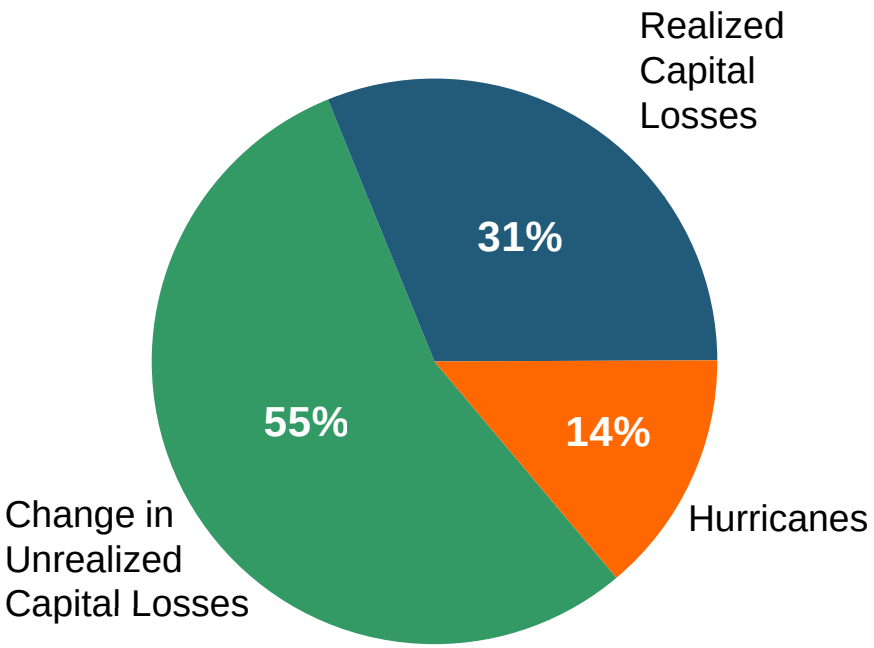
Global Reinsurance Capacity



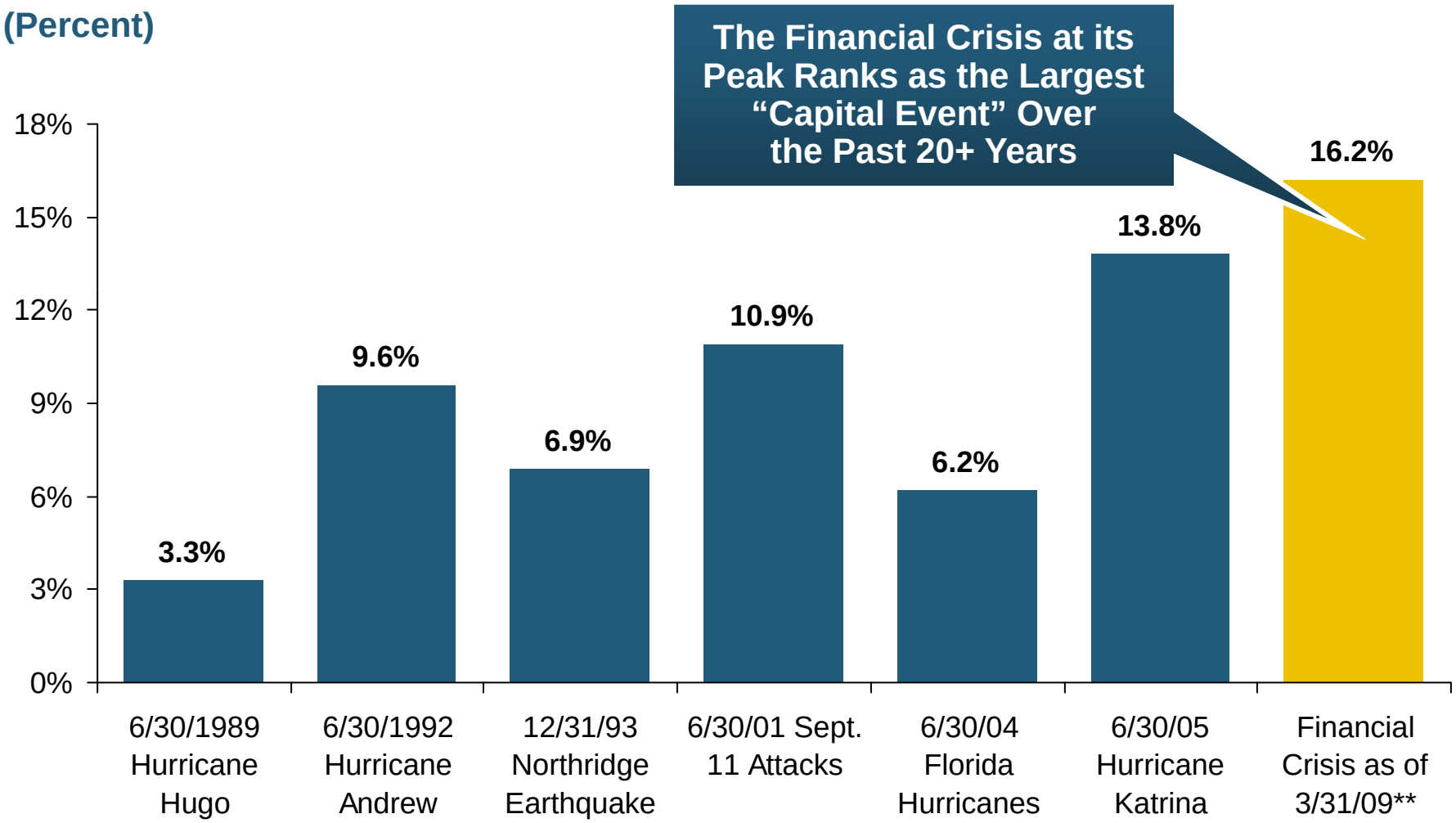
Source of Decline in 2008



Global Reinsurance Capacity Fell by an Estimated 17% in 2008, but Most Has Been Restored

Source: AonBenfield Reinsurance Market Outlook 2009; Insurance Information Institute estimate for 2009.

Ratio of Insured Loss to Surplus for Largest Capital Events Since 1989*

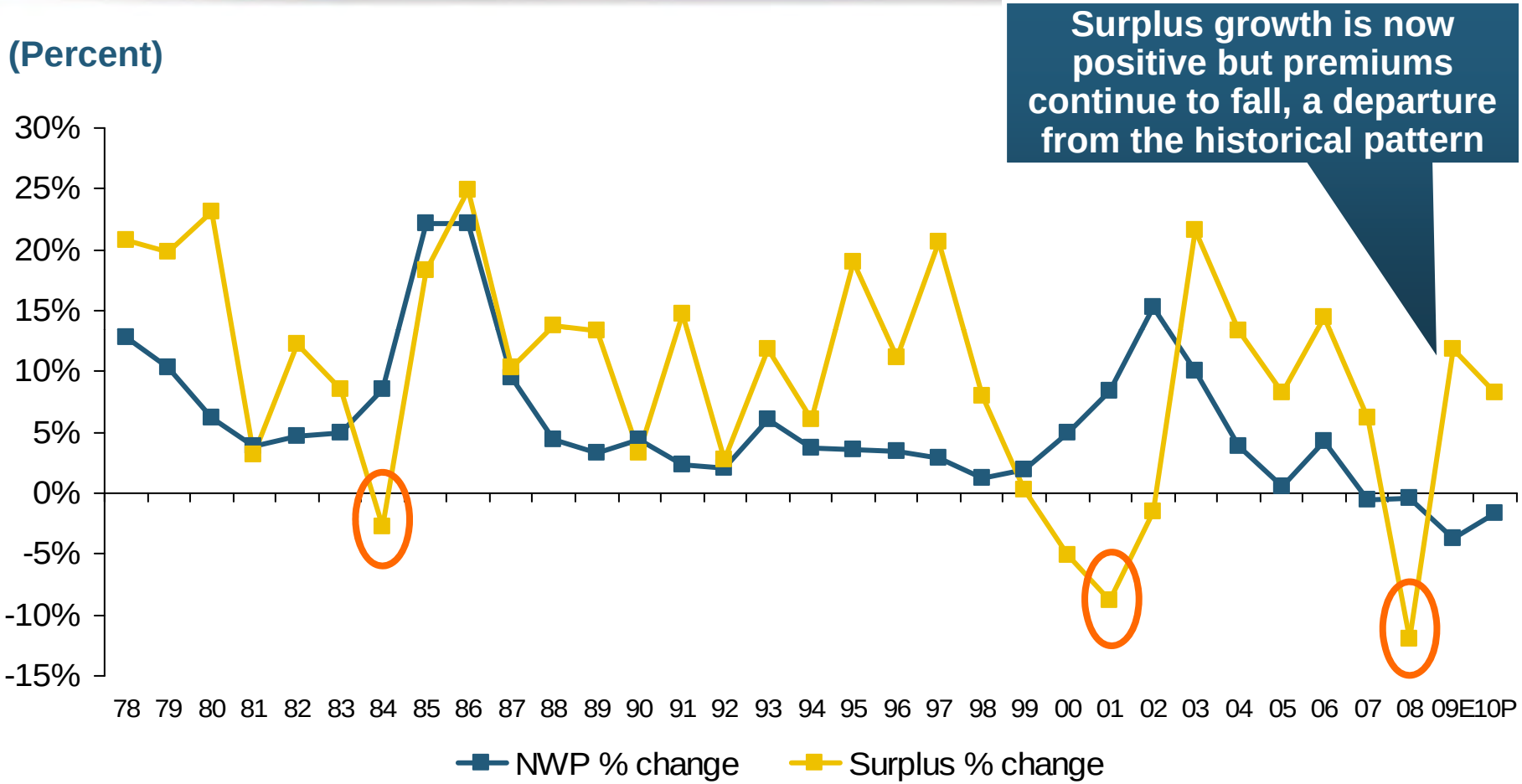


* Ratio is for end-of-quarter surplus immediately prior to event. Date shown is end of quarter prior to event

** Date of maximum capital erosion; As of 9/30/09 (latest available) ratio = 5.9%

Source: PCS; Insurance Information Institute

Historically, Hard Markets Follow When Surplus "Growth" is Negative*



Sharp Decline in Capacity is a Necessary but Not Sufficient Condition for a True Hard Market

* 2009 NWP and Surplus figures are % changes as of Q4:09 vs Q4:08

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

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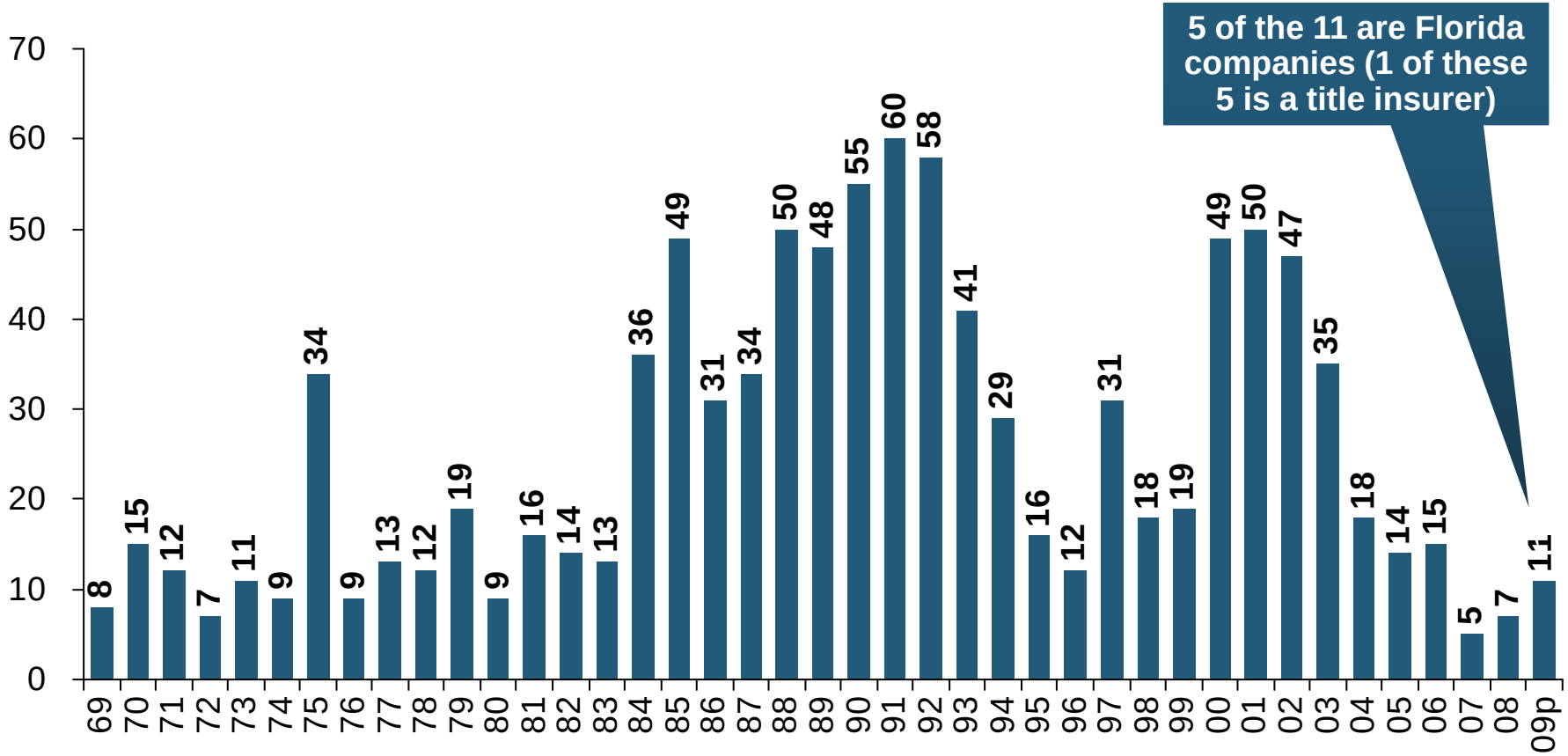
Financial Strength & Ratings

Industry Has Weathered the Storms Well

P/C Insurer Impairments, 1969–2009p

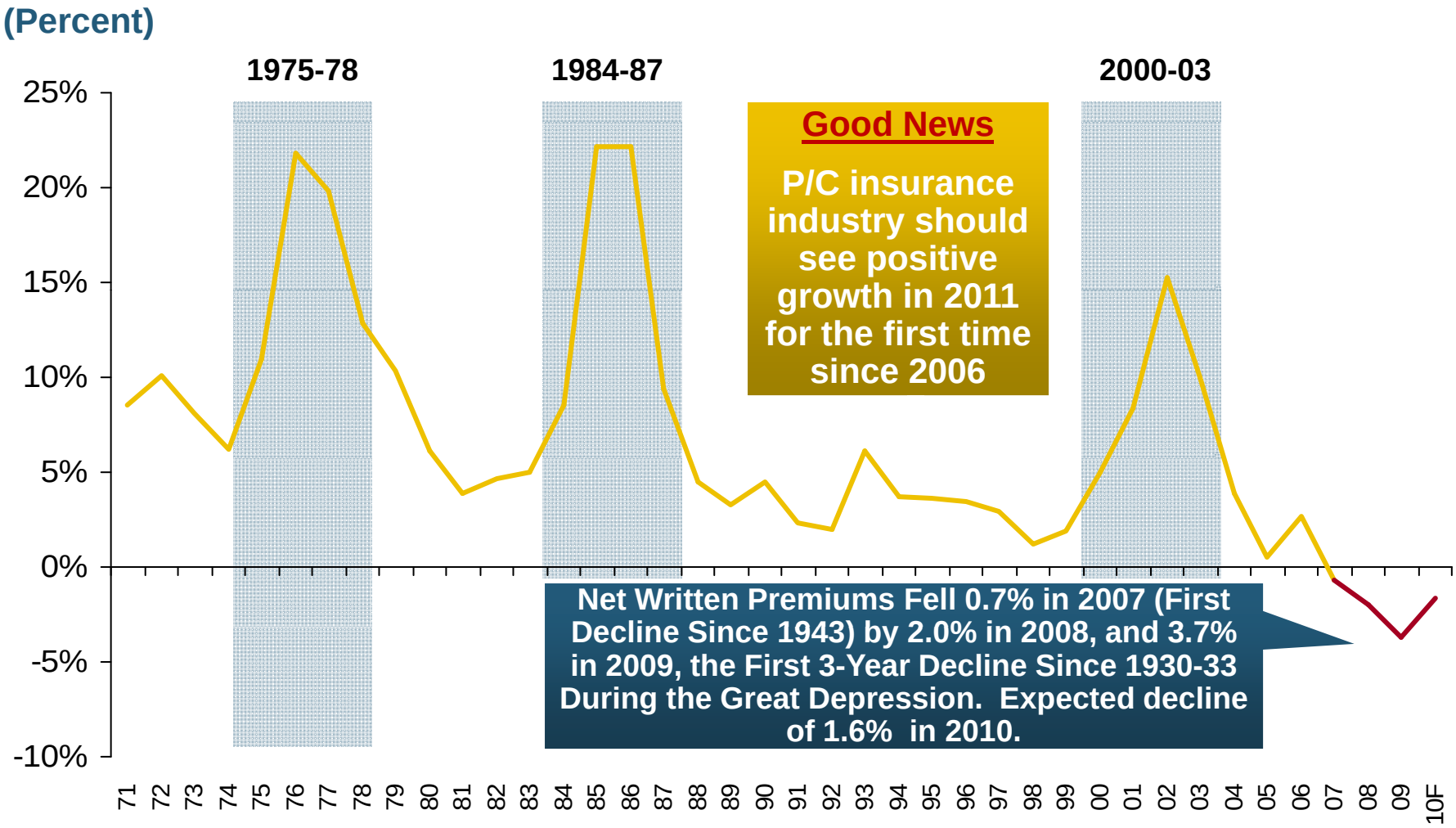


The Number of Impairments Varies Significantly Over the P/C Insurance Cycle, With Peaks Occurring Well into Hard Markets

Source: A.M. Best; Insurance Information Institute.

P/C Premium Growth Primarily Driven by the Industry's Underwriting Cycle, Not the Economy

Strength of Recent Hard Markets by NWP Growth



Shaded areas denote "hard market" periods
Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute

Average Commercial Rate Change, All Lines, (1Q:2004–4Q:2009)

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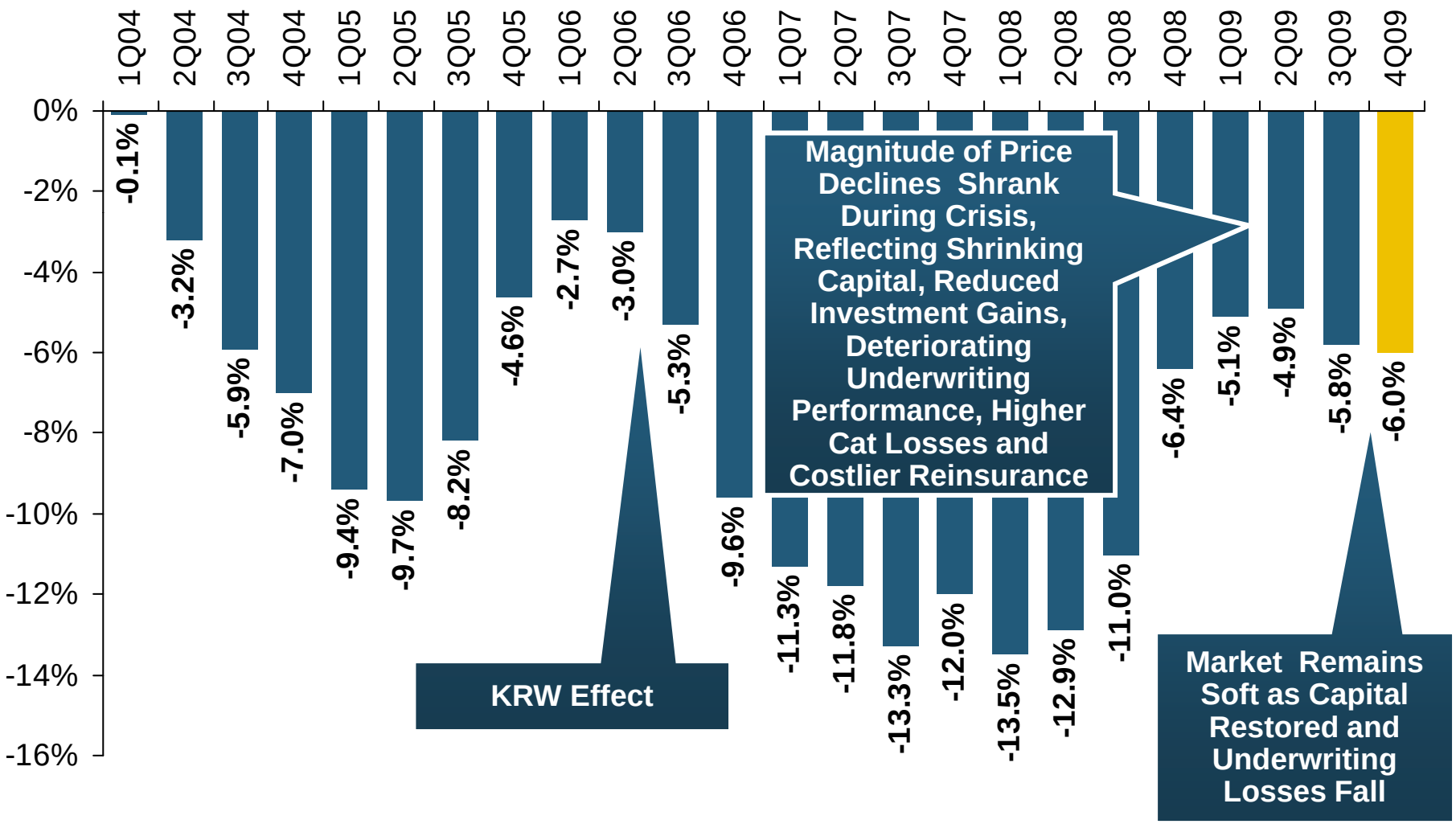
(Percent)



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

Change in Commercial Rate Renewals, by Account Size: 1999:Q4 to 2009:Q4

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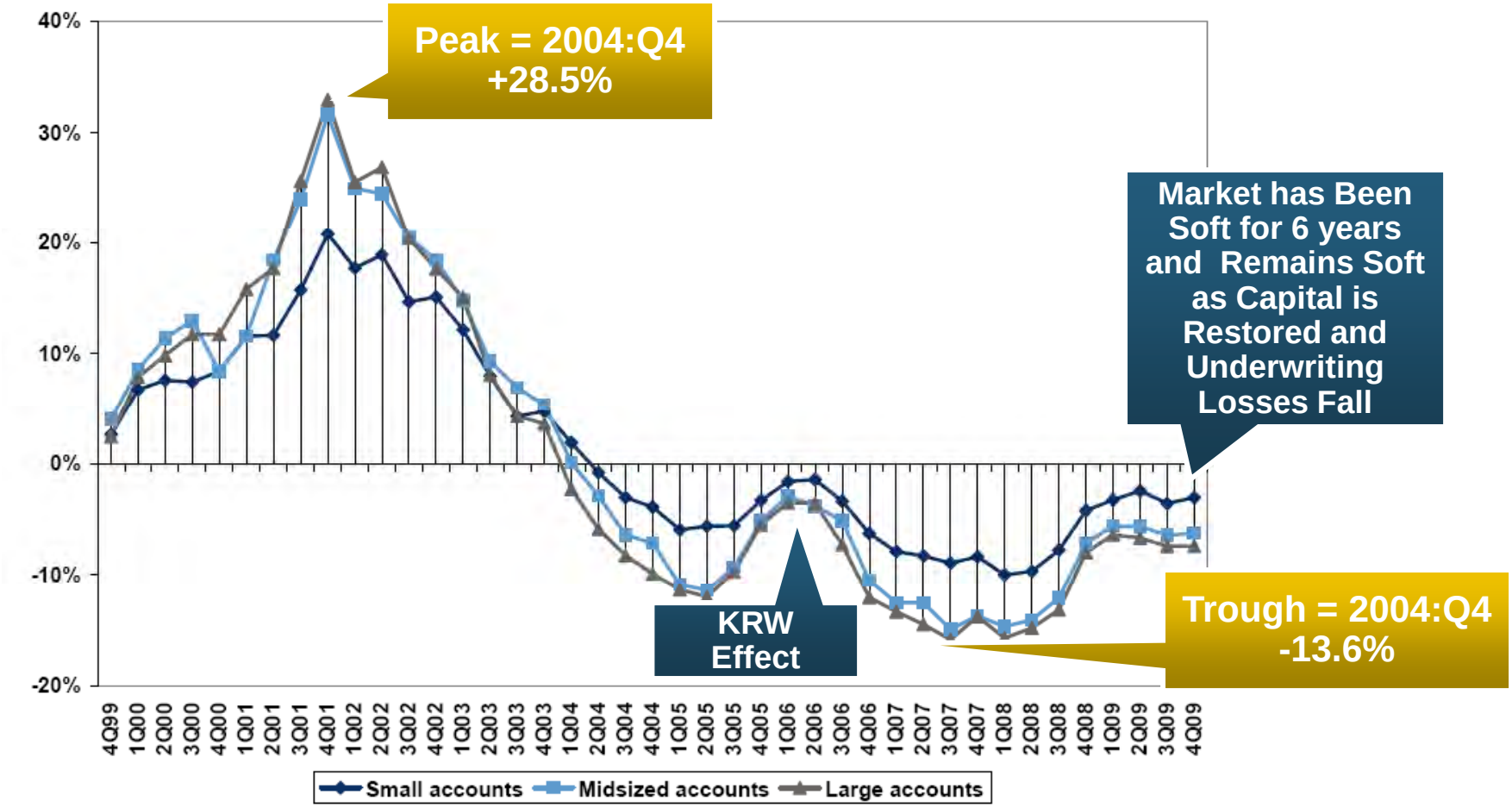
Percentage Change (%)



Source: Council of Insurance Agents and Brokers; Insurance Information Institute.

Investment Performance

Investments Are a Principle Source of Declining Profitability

Property/Casualty Insurance Industry Investment Gain: 1994–2009[1]

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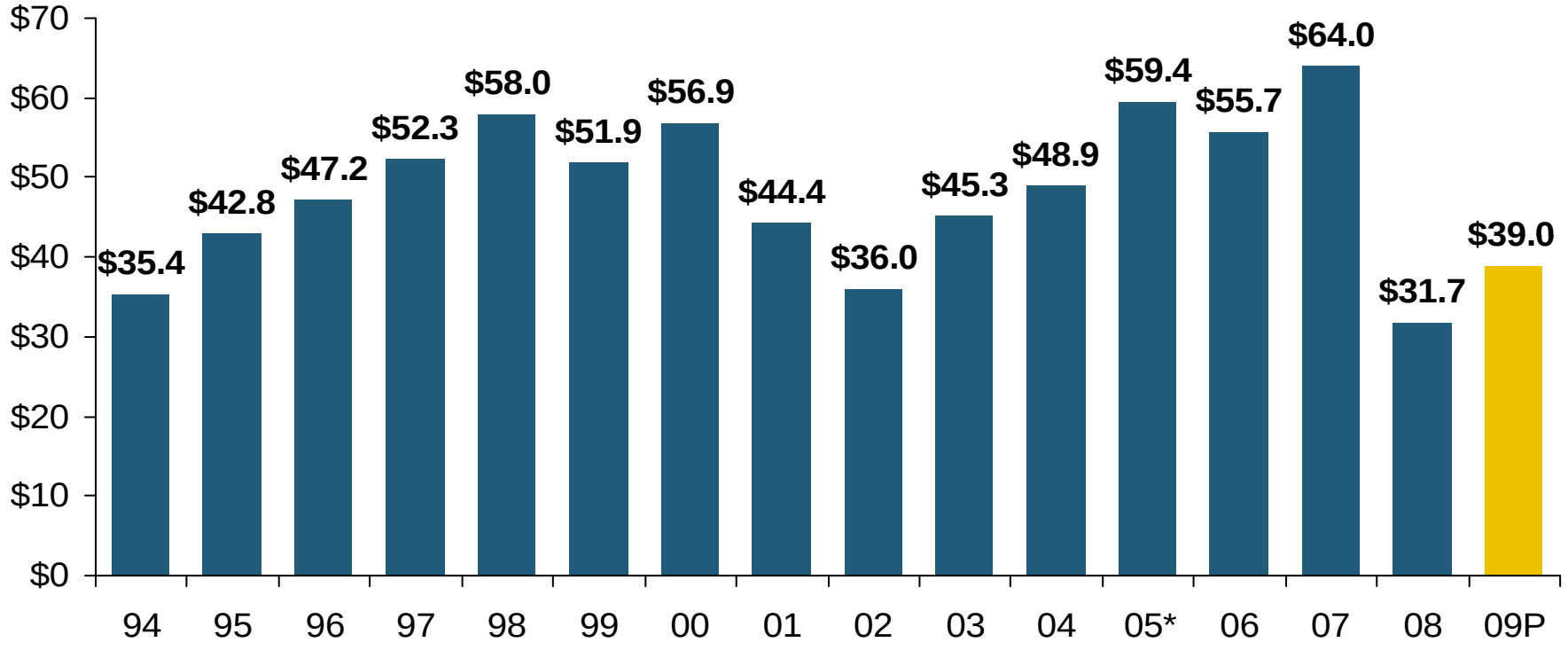
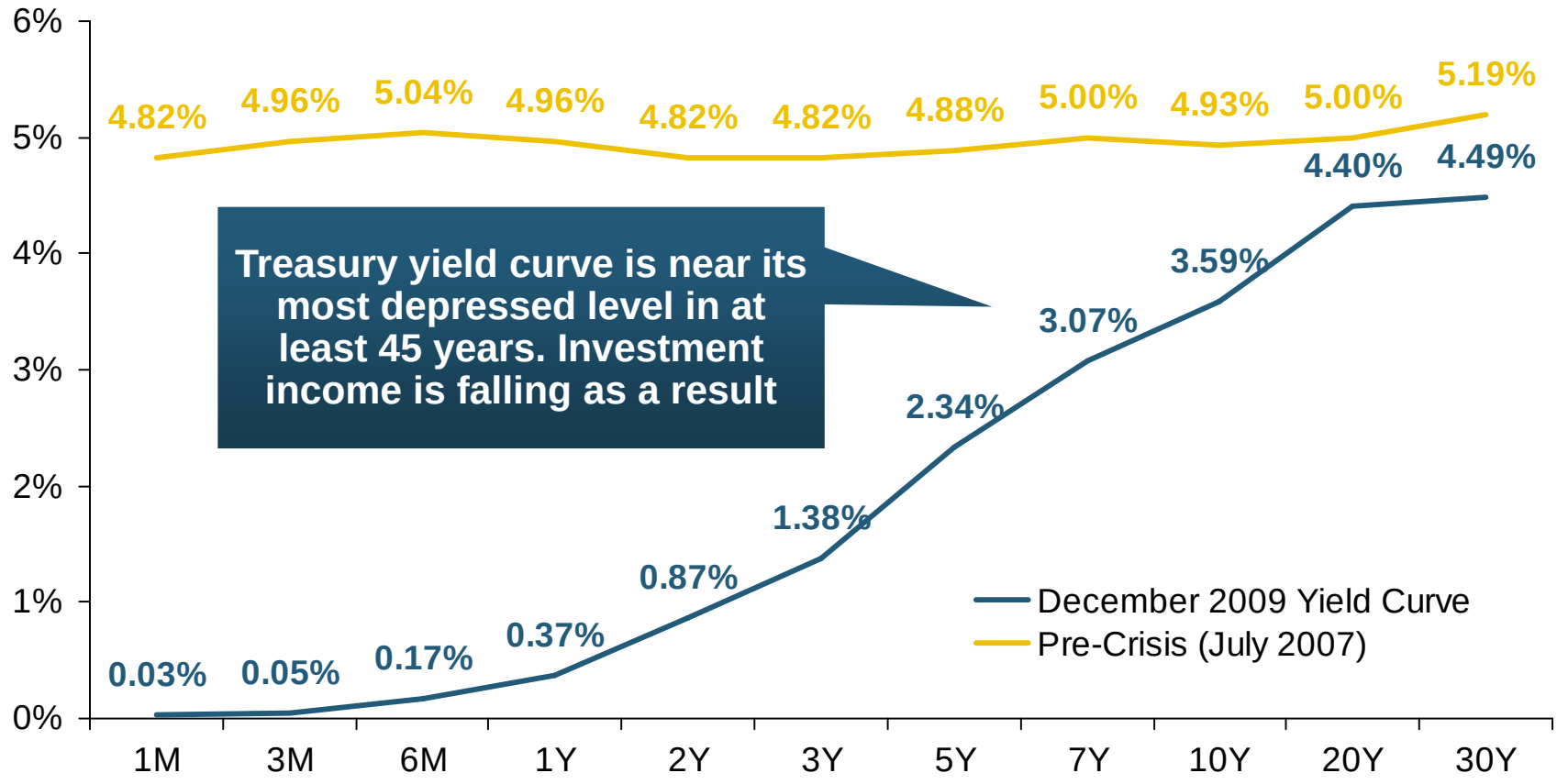
($ Billions)



Investment Gains Fell by 50% In 2008 Due to Lower Yields, Poor Equity Market Conditions. In 2009, the Lower Realized Capital Losses Helped Offset Lower Investment Income

[1] Investment gains consist primarily of interest, stock dividends and realized capital gains and losses.
* 2005 figure includes special one-time dividend of $3.2B.
Sources: ISO; Insurance Information Institute.

Treasury Yield Curves: Pre-Crisis (July 2007) vs. Dec. 2009



Stock Dividend Cuts Will Further Pressure Investment Income

Sources: Board of Governors of the United States Federal Reserve Bank; Insurance Information Institute.

A 100 Combined Ratio Isn't What It Once Was: 90-95 is Where It's At Now

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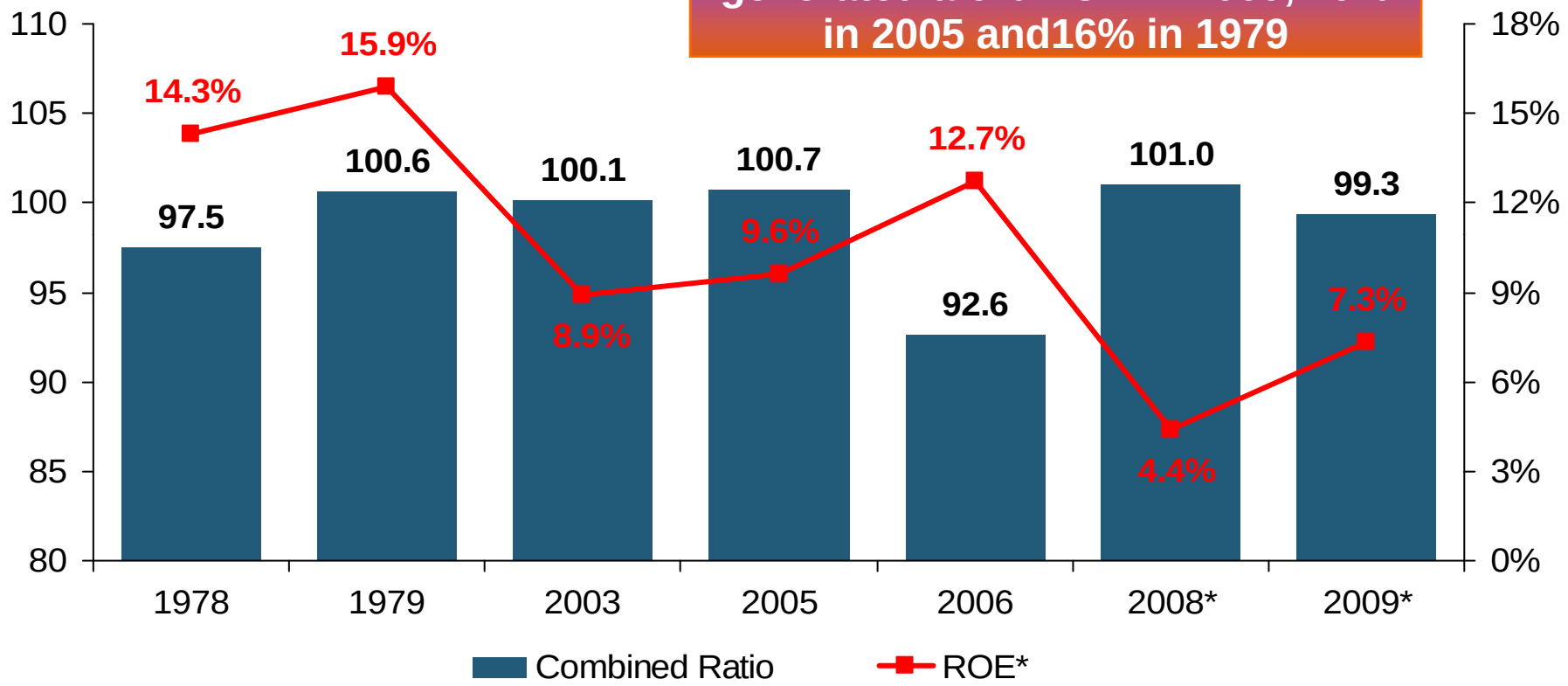
Combined Ratio / ROE

Combined ratio of about 100 generated a 6% ROE in 2009, 10% in 2005 and16% in 1979



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

* 2009/2008 figures are return on average statutory surplus. 2008 and 2009 figures exclude mortgage and financial guaranty insurers
Source: Insurance Information Institute from A.M. Best and ISO data

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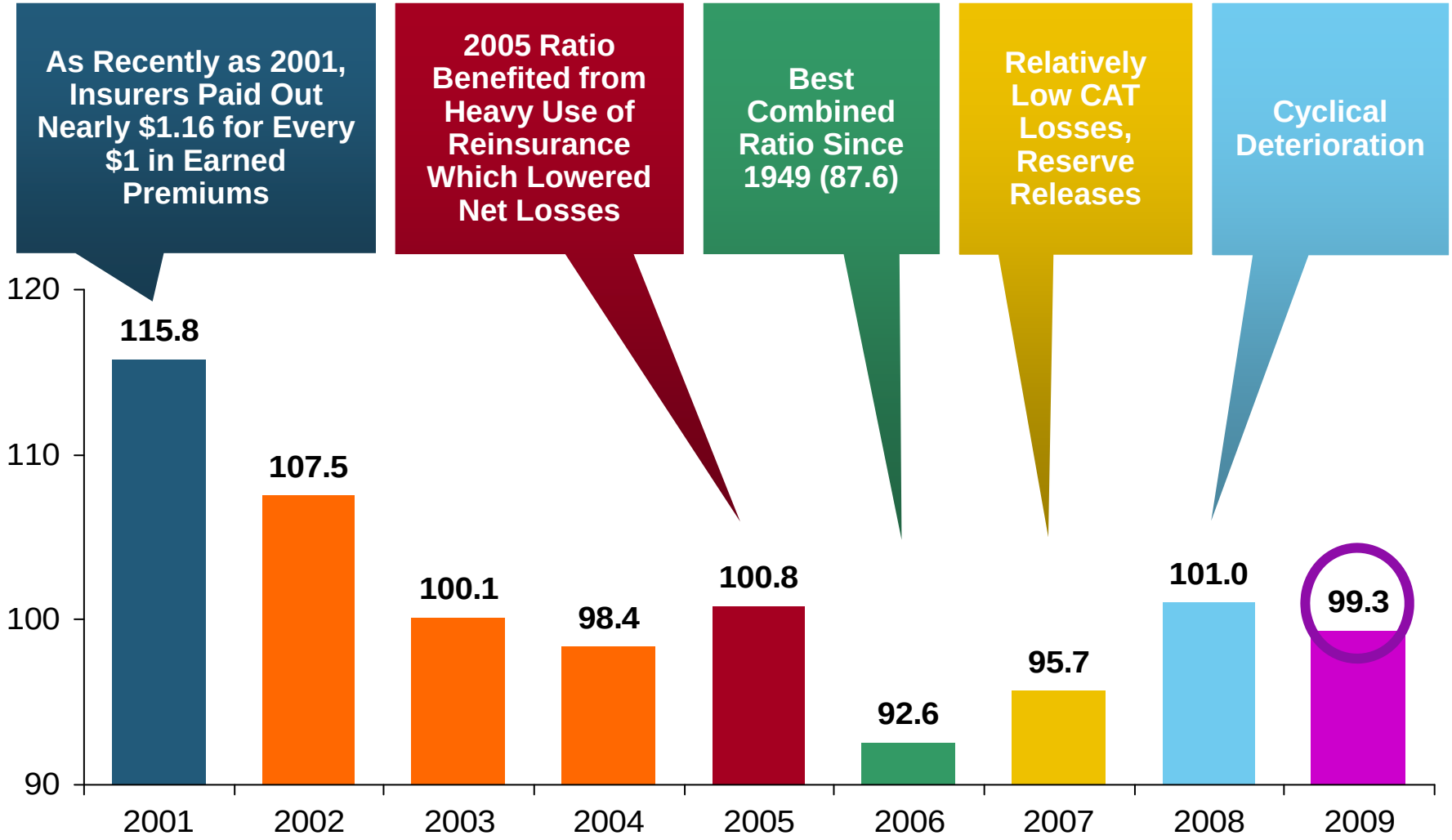
Underwriting Trends – Financial Crisis Does *Not* Directly Impact Underwriting Performance: Cycle, Catastrophes Were 2008's Drivers

P/C Insurance Industry Combined Ratio, 2001–2009*



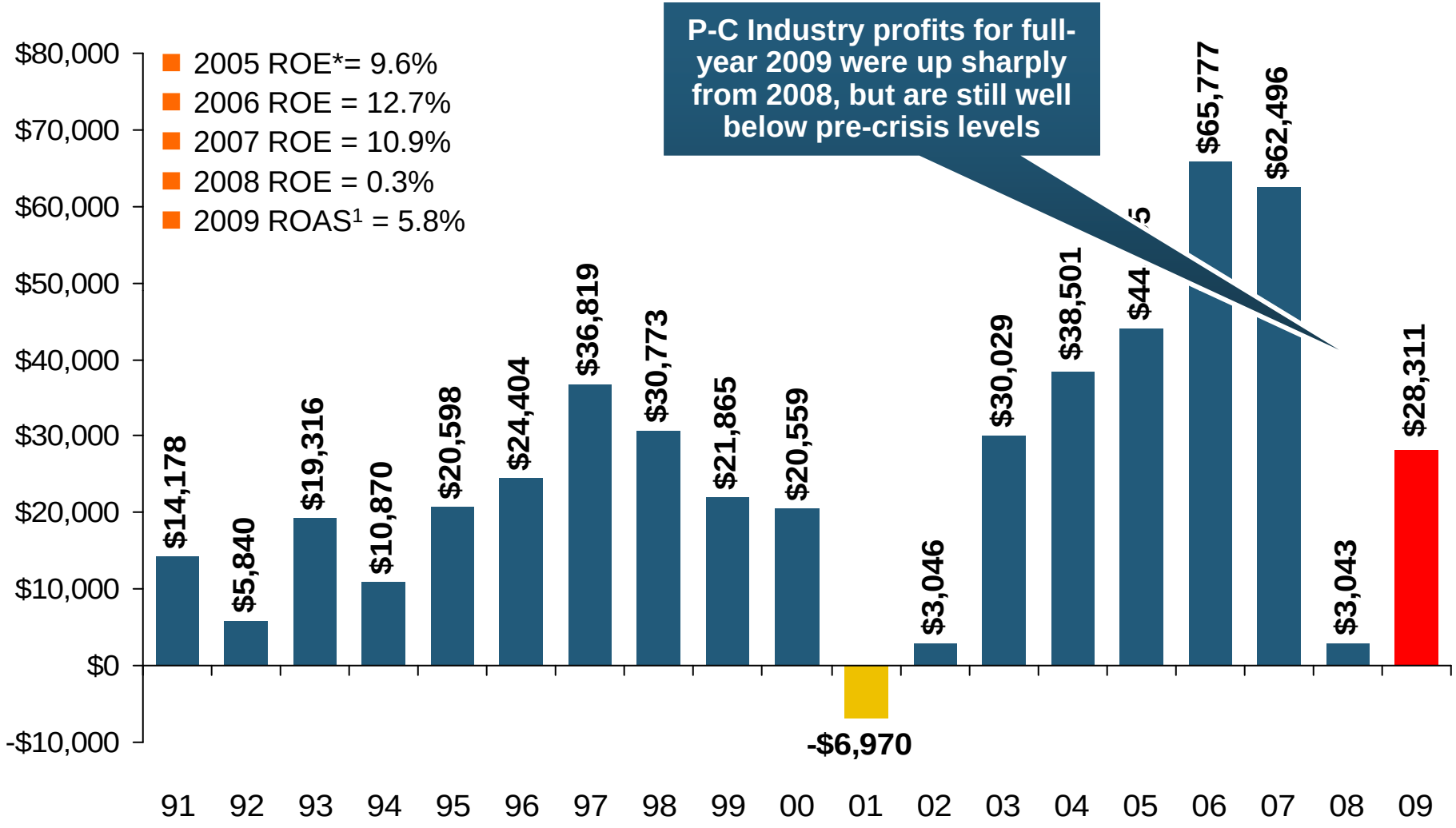
* Excludes Mortgage & Financial Guaranty insurers in 2008/2009. Including M&FG, 2008=105.0, 2009=101.0

Sources: A.M. Best, ISO.

Profitability

Historically Volatile

P/C Net Income After Taxes 1991–2009 ($ Millions)



* ROE figures are GAAP; [1]Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 7.3% ROAS for 2009 and 4.4% for 2008. 2009 net income was $34.5 billion and $20.8 billion in 2008 excluding M&FG.

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

Insurance Information Institute Online:

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