### Market and Cycle: How Long Can We Stay Profitable?

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Casualty Actuarial Society Spring Meeting Fairmont Le Chateau Frontenac Quebec City, Quebec, Canada June 16, 2008

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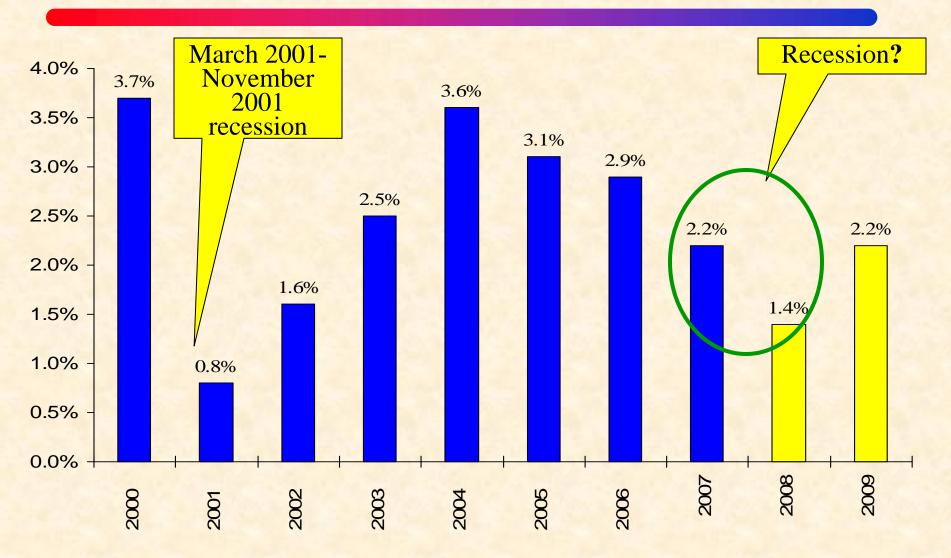
# The Weakening Economy and the P/C Insurance Industry





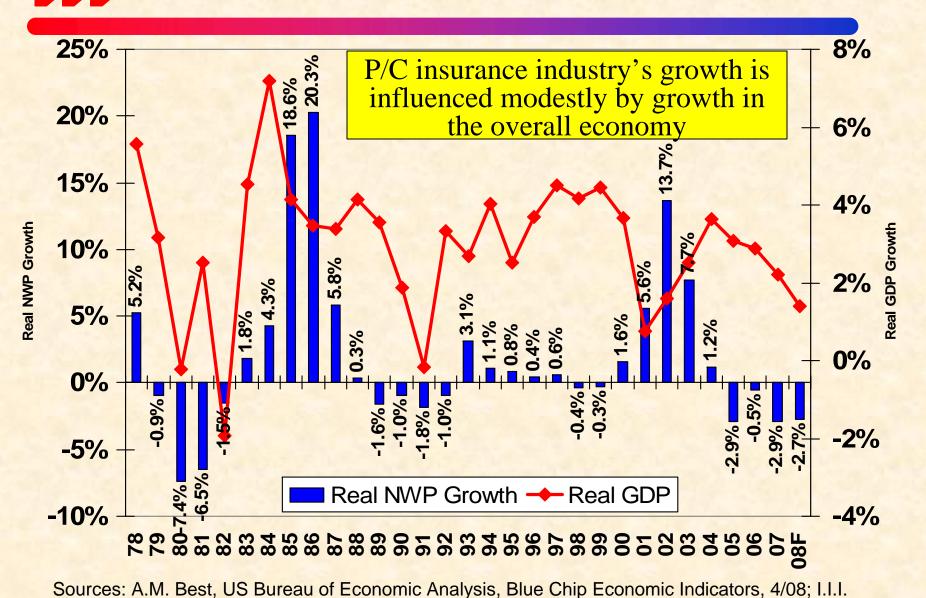
#### Real Annual GDP Growth, 2000-2009F

Blue bars are actual; Yellow bars are forecasts



Sources: US Department of Commerce, Blue Chip Economic Indicators 4/08; Insurance Information Institute.

# Real GDP Growth vs. Real P/C Premium Growth: Modest Association

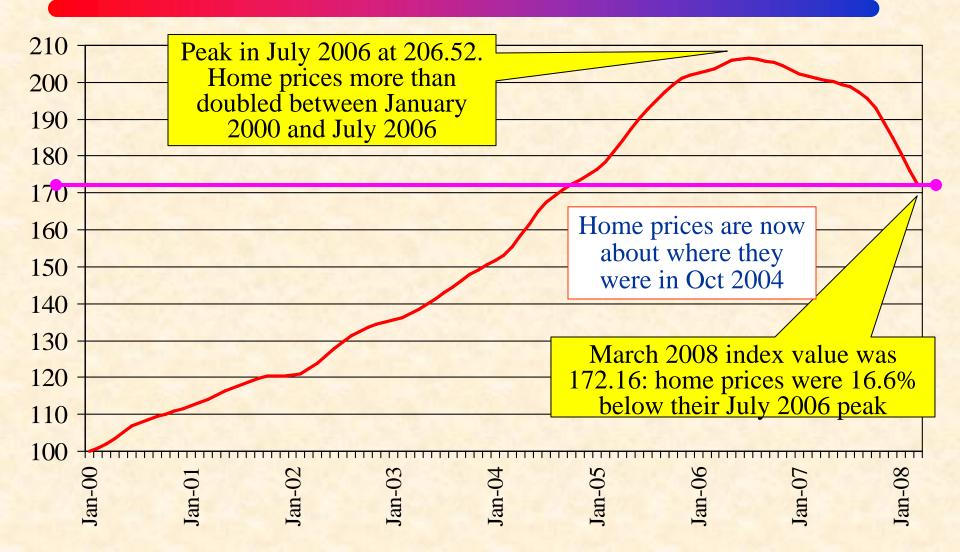


# Housing and Homeowners' Insurance



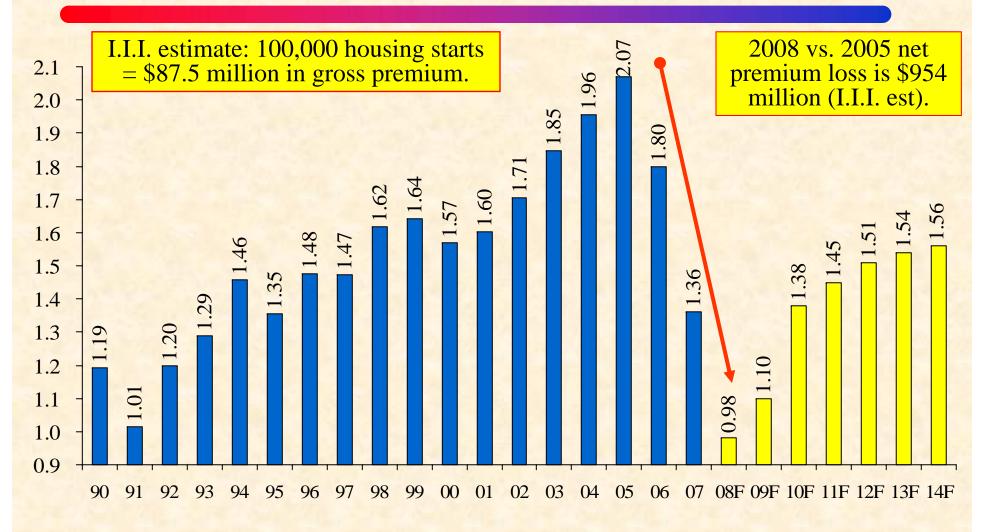
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### Case-Schiller Home Price Index Monthly: 20 City Composite (Jan 2000=100)



Source: http://www2.standardandpoors.com/spf/pdf/index/CSHomePrice\_History\_052703.xls

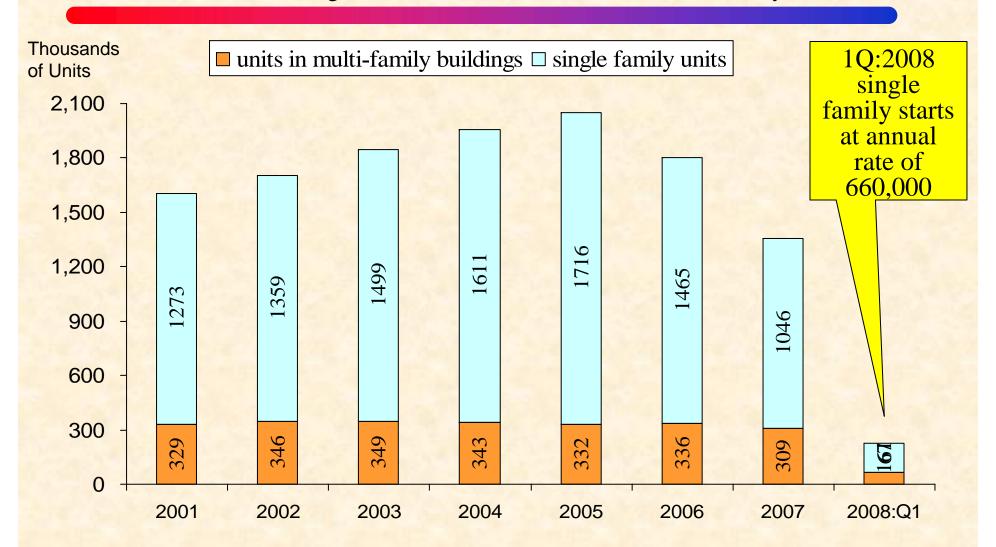
#### New Private Housing Starts, 1990-2014F (Millions of Units)



Source: US Department of Commerce; Blue Chip Economic Indicators (10/07), except 2008/09 figures from 4/08 edition of BCEI; Insurance Info. Institute

### Single vs. Multi-Family Housing Starts

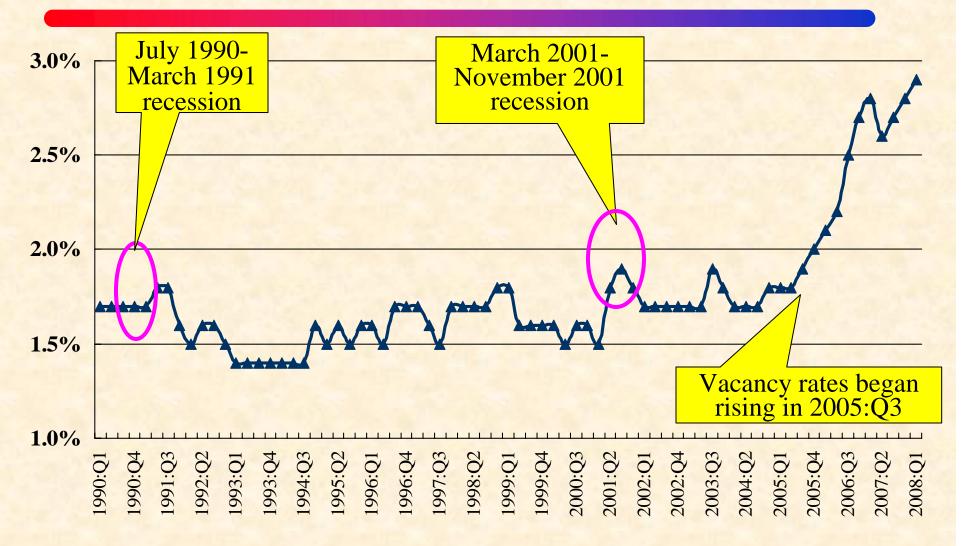
The slump is in single-family housing. Starts of multi-family buildings have held at 310,000 to 350,000 units each year.



Source: US Census Bureau

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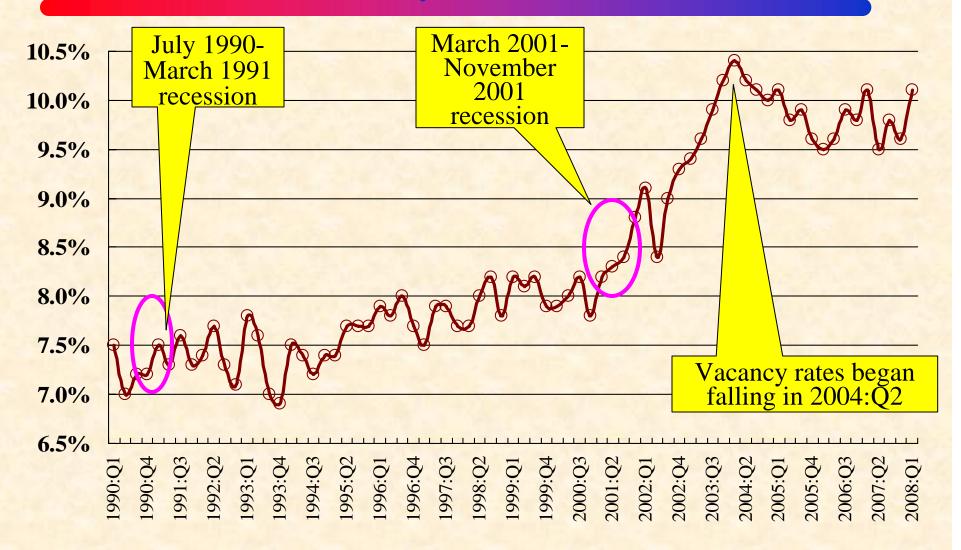
#### Homeowner Vacancy Rates, Quarterly, 1990-2008:Q1



Source: U.S. Census Bureau, <a href="http://www.census.gov/hhes/www/housing/hvs/qtr108/q108tab1.html">http://www.census.gov/hhes/www/housing/hvs/qtr108/q108tab1.html</a>

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#### Rental Vacancy Rates, Quarterly, 1990-2008:Q1



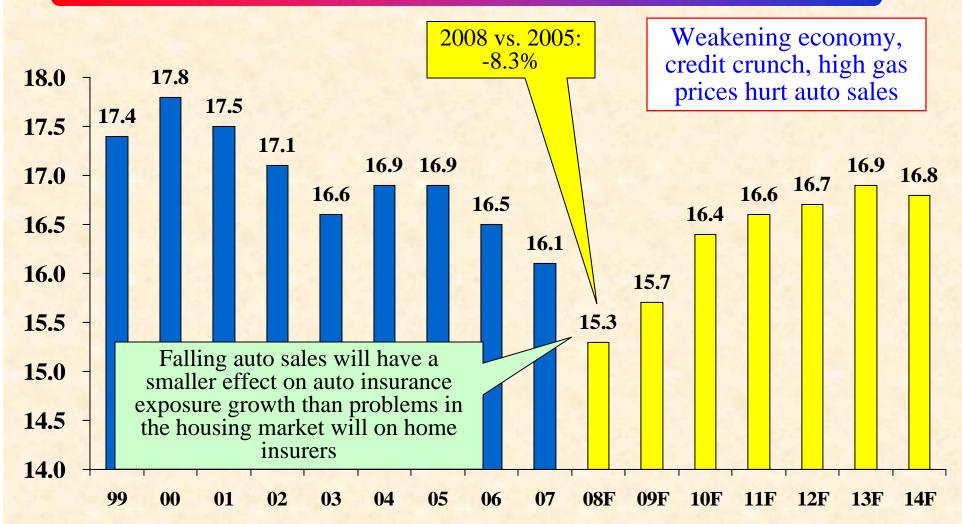
Source: U.S. Census Bureau, <a href="http://www.census.gov/hhes/www/housing/hvs/qtr108/q108tab1.html">http://www.census.gov/hhes/www/housing/hvs/qtr108/q108tab1.html</a>

# Driving and Auto Insurance



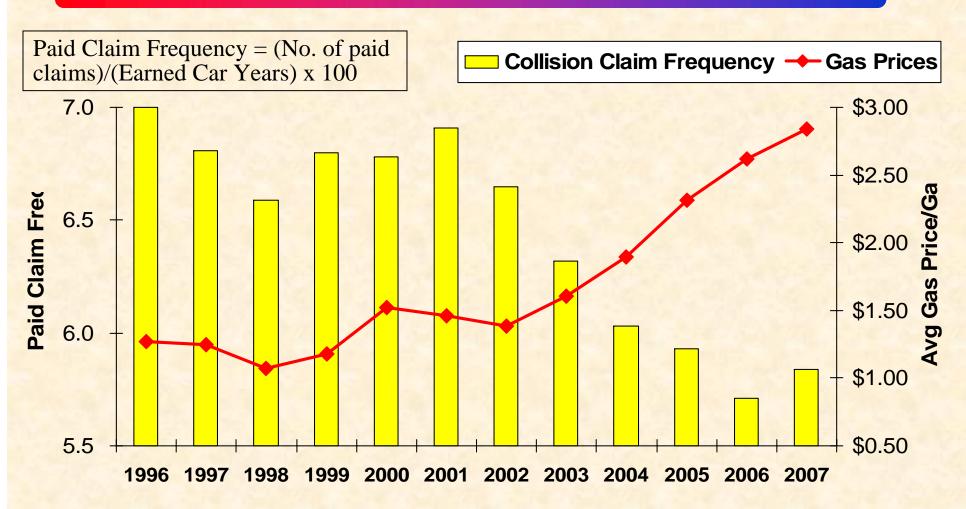
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### Auto/Light Truck Sales, 1999-2014F (Millions of Units)



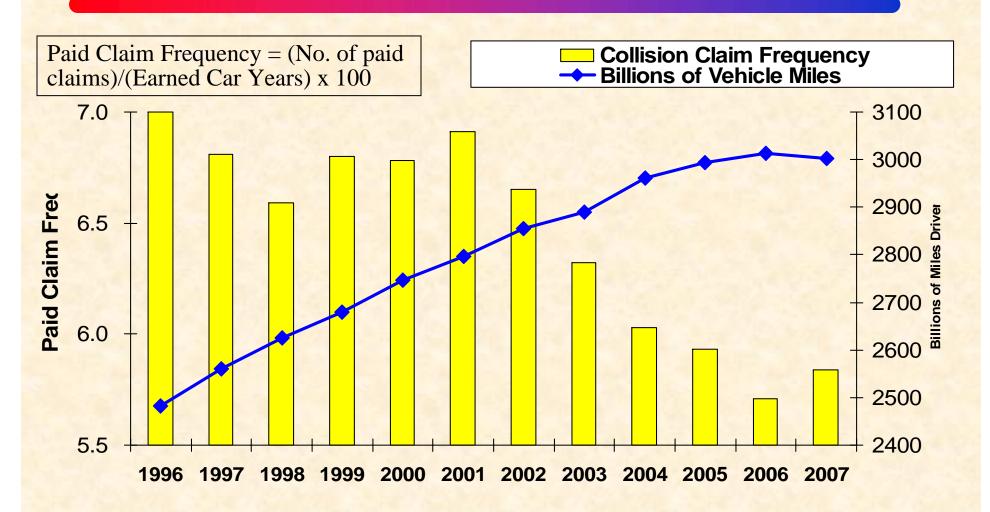
Sources: US Department of Commerce; Blue Chip Economic Indicators (10/07), except 2008/09 figures from 3/08 edition of BCEI; Insurance Info. Institute

# Do Increases in Gas Prices Affect Auto Collision Claim Frequency?



Sources: Energy Information Administration (<a href="http://tonto.eia.doe.gov/dnav/pet/hist/mg\_tt\_usA.htm">http://tonto.eia.doe.gov/dnav/pet/hist/mg\_tt\_usA.htm</a>); ISO Fast Track Monitoring System, *Private Passenger Automobile Fast Track Data*: Fourth Quarter 2007, published March 31, 2008 and earlier reports.

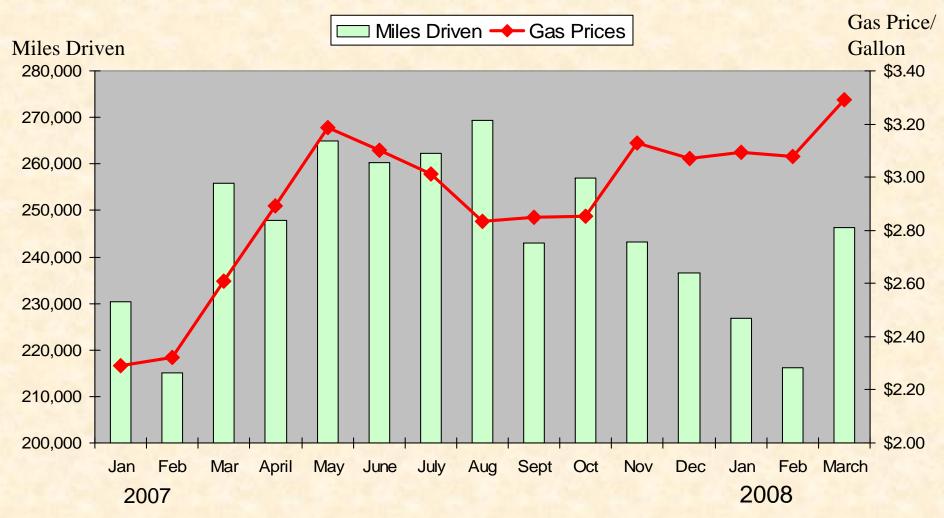
### Do Changes in Miles Driven Affect Auto Collision Claim Frequency?



Sources: Federal Highway Administration (<a href="http://www.fhwa.dot.gov/ohim/tvtw/08martvt/08martvt.pdf">http://www.fhwa.dot.gov/ohim/tvtw/08martvt/08martvt.pdf</a>; ISO Fast Track Monitoring System, *Private Passenger Automobile Fast Track Data*: Fourth Quarter 2007, published March 31, 2008 and earlier reports.



### Miles Driven vs. Gas Prices in Recent Months



Sources: Energy Information Administration (<a href="http://tonto.eia.doe.gov/dnav/pet/hist/mg">http://tonto.eia.doe.gov/dnav/pet/hist/mg</a> tt usA.htm); Federal Highway Administration (<a href="http://www.fhwa.dot.gov/ohim/tvtw/08martvt/08martvt.pdf">http://www.fhwa.dot.gov/ohim/tvtw/08martvt/08martvt.pdf</a>; .

# Legal Aspects of the Credit Crunch

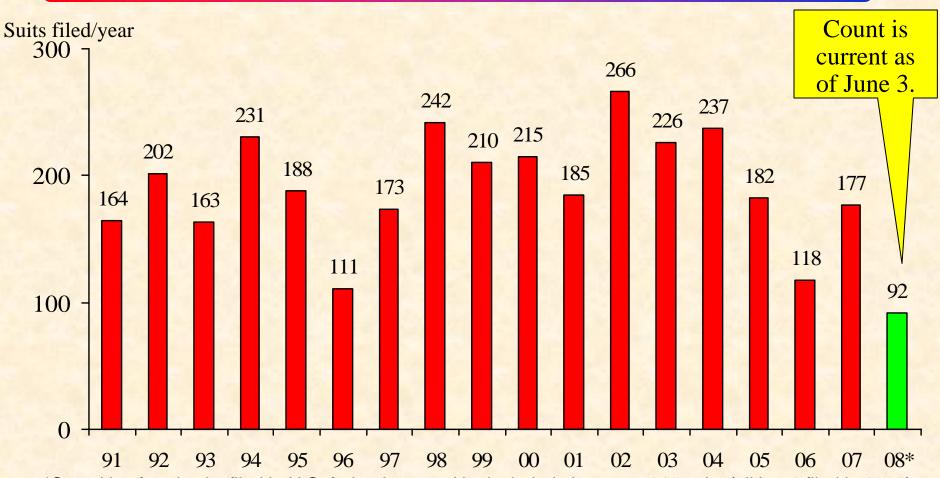
#### Turbulent Markets Give Rise to Lawsuits



#### Shareholder Class Action Lawsuits\*



Defendants include banks, investment banks, builders, lenders, and bond and mortgage insurers



\*Securities fraud suits filed in U.S. federal courts. Not included above are 313 suits (all but 1 filed in 2001) relating to IPO allocations.

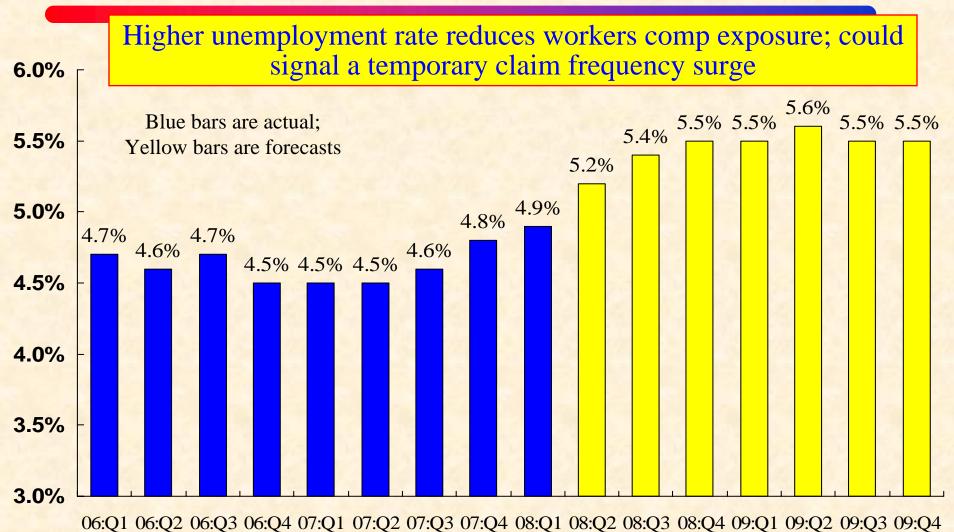
Source: Stanford University School of Law http://securities.stanford.edu

### Workers Comp Insurance





#### US Unemployment Rate, (2007:Q1 to 2009:Q4F)

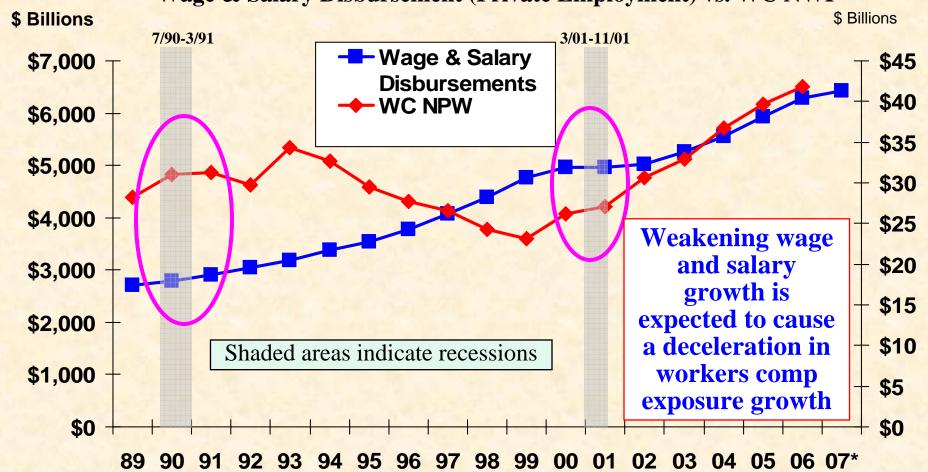


Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (4/08); Insurance Info. Inst.

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#### Wage & Salary Disbursements (Payroll Base) vs. Workers Comp Net Written Premiums





\*As of 7/1/07 (latest available).

Source: US Bureau of Economic Analysis; Federal Reserve Bank of St. Louis at

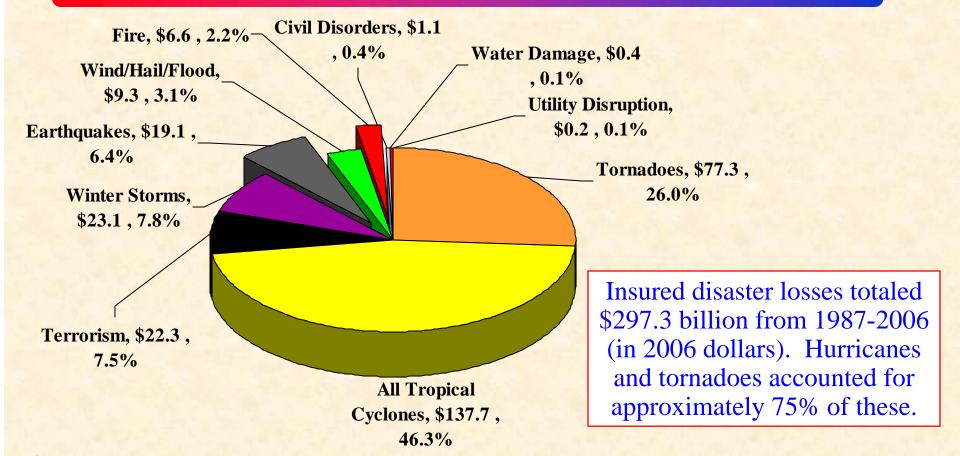
http://research.stlouisfed.org/fred2/series/WASCUR; I.I.I. Fact Books

### Catastrophic Losses





# Inflation-Adjusted U.S. Insured Catastrophe Losses By Cause of Loss, 1987-2006<sup>1</sup>

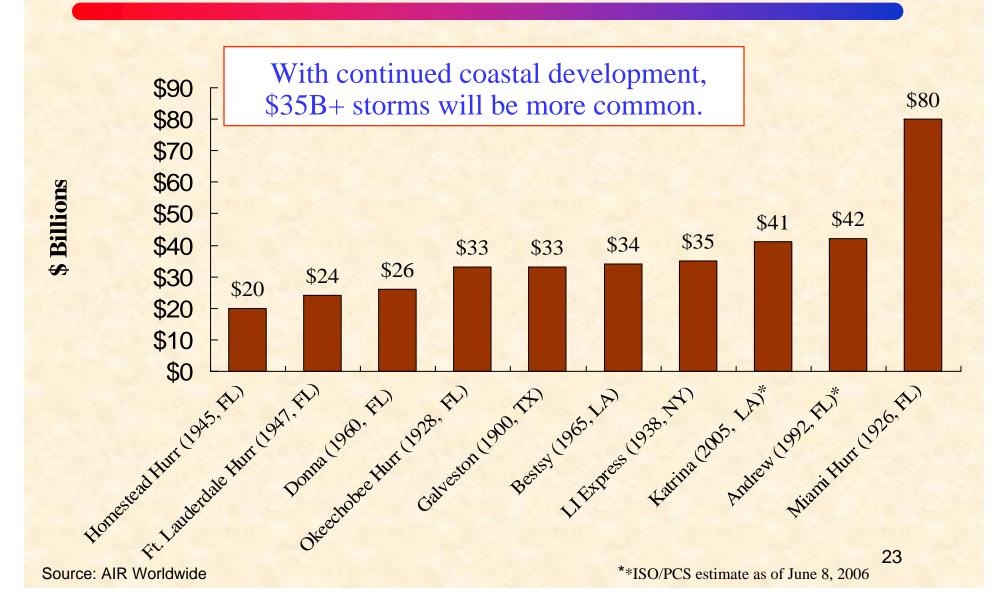


<sup>&</sup>lt;sup>1</sup> Catastrophes are all events causing direct insured losses to property of \$25 million or more in 2006 dollars. Catastrophe threshold changed from \$5 million to \$25 million beginning in 1997. Adjusted for inflation by the III. <sup>2</sup> Excludes snow. <sup>3</sup> Includes hurricanes and tropical storms. <sup>4</sup> Includes other geologic events such as volcanic eruptions and other earth movement. <sup>5</sup> Does not include flood damage covered by the federally administered National Flood Insurance Program. <sup>6</sup> Includes wildland fires.

Source: Insurance Services Office (ISO)...

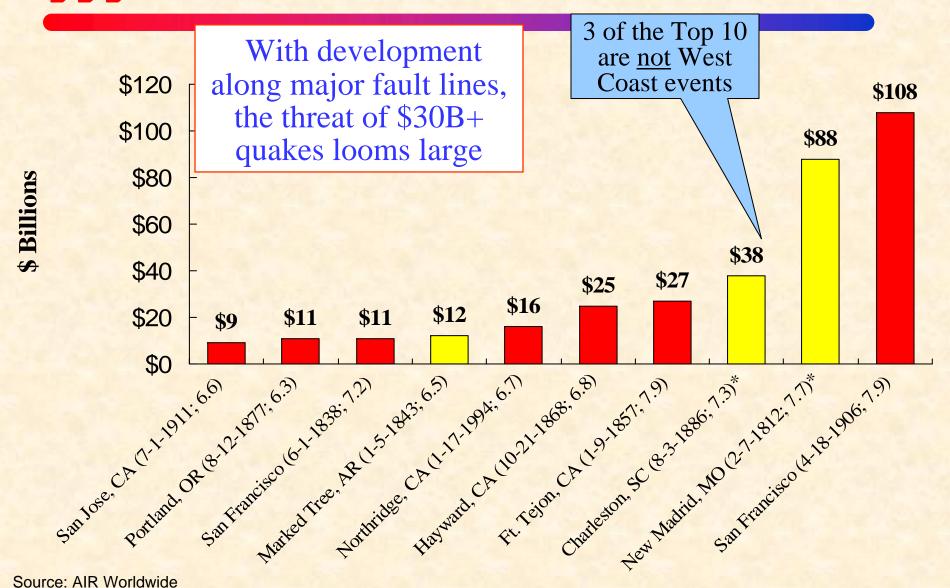


### Largest Insured Losses (Adjusted to 2005 Exposure Levels) from 10 Hurricanes



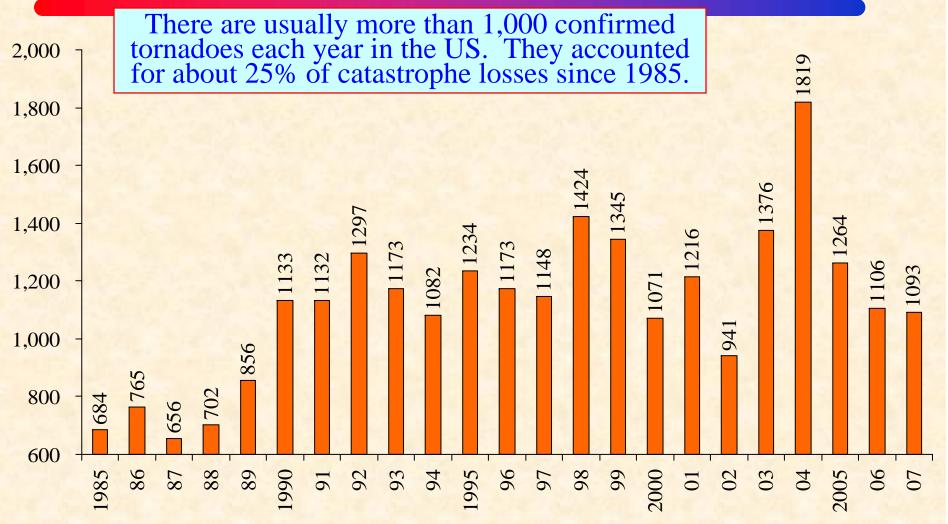


#### Insured Losses (adjusted to 2005 exposure Levels) from 10 Most Damaging US Earthquakes



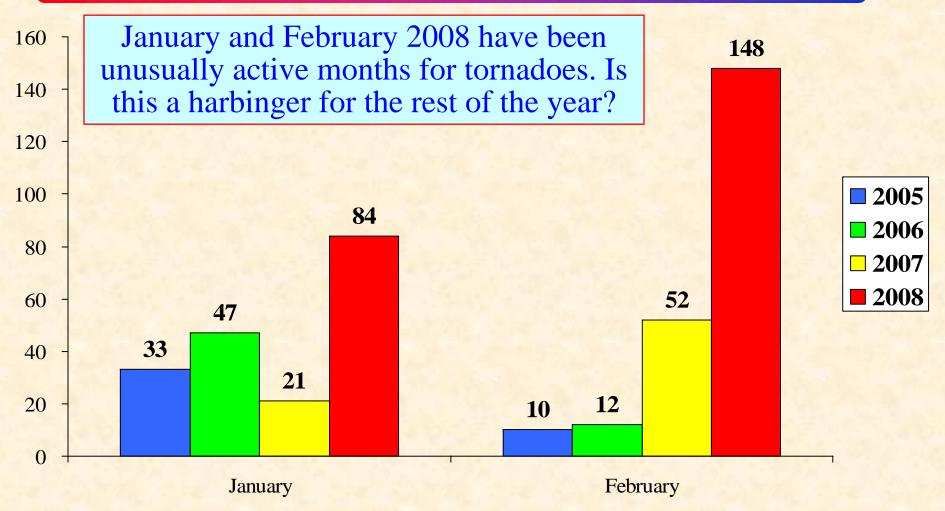
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#### Number of Tornadoes, 1985 – 2007



Sources: US Dept. of Commerce, Storm Prediction Center, National Weather Service, at <a href="http://www.spc.noaa.gov/climo/torn/monthlytornstats.pdf">http://www.spc.noaa.gov/climo/torn/monthlytornstats.pdf</a>

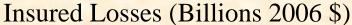
#### Number of Tornadoes in January and February, 2005–2008



Sources: US Dept. of Commerce, Storm Prediction Center, National Weather Service, at <a href="http://www.spc.noaa.gov/climo/torn/monthlytornstats.pdf">http://www.spc.noaa.gov/climo/torn/monthlytornstats.pdf</a>

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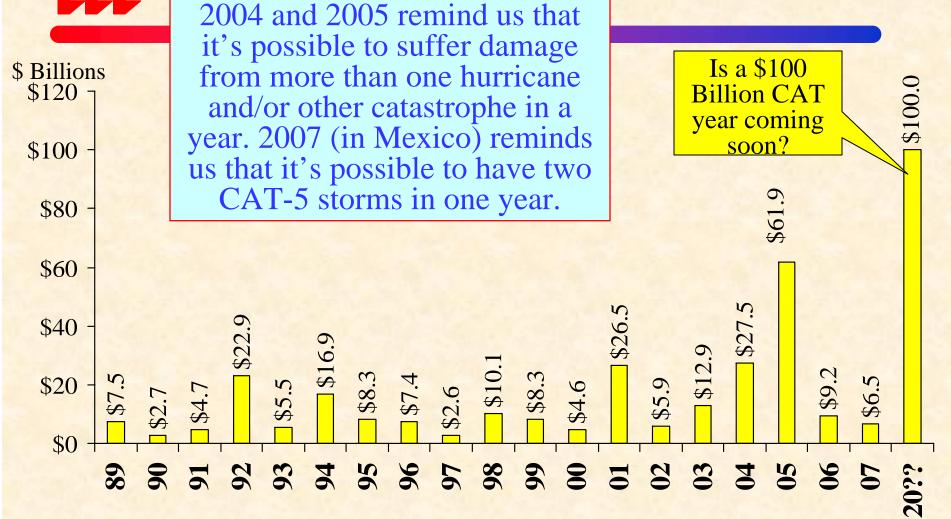
### Top Five Catastrophic Wildland Fires In California, 1970-2007\*





\*Estimated insured losses. Adjusted to 2006 dollars by the Insurance Information Institute. 2007 fire losses are stated in 2007 dollars. Source: ISO's Property Claim Services Unit; Insurance Information Institute.

U.S. Insured Catastrophe Losses\*



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

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

Source: Property Claims Service/ISO; Insurance Information Institute

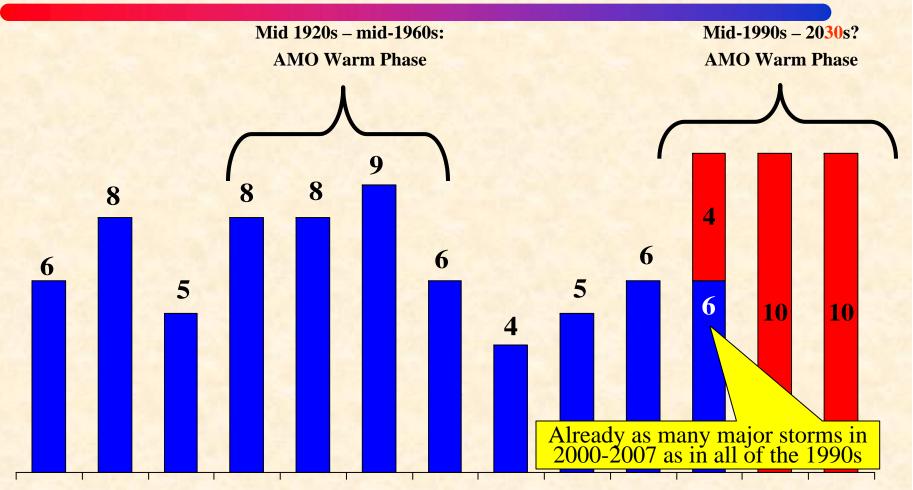
# The 2008 Hurricane Season:

Is a Bad Year in the Forecast?





#### Number of Major (Category 3, 4, 5) Hurricanes Striking the US by Decade



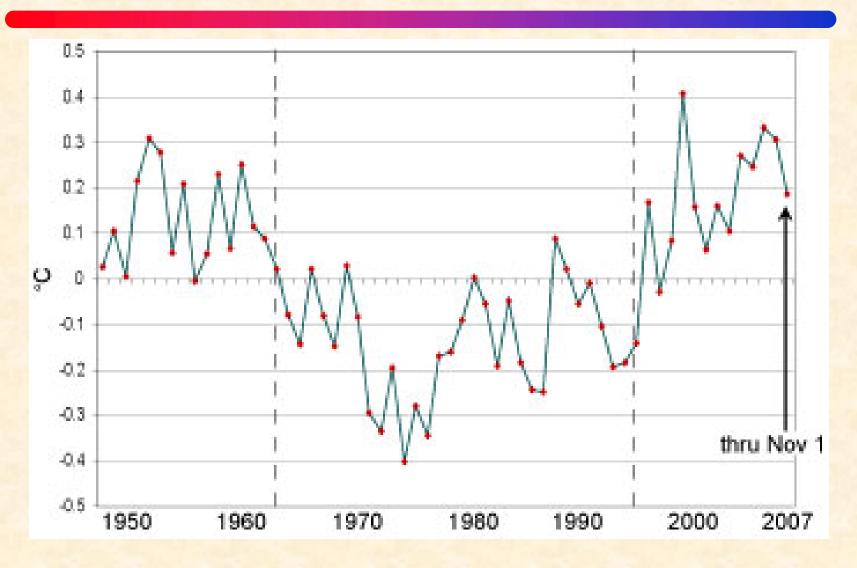
1900s 1910s 1920s 1930s 1940s 1950s 1960s 1970s 1980s 1990s 2000s 2010s 2020s

Source: Tillinghast from National Hurricane Center: http://www.nhc.noaa.gov/pastint.shtm.

<sup>\*</sup>Figure for 2000s is extrapolated based on data for 2000-2007 (6 major storms: Charley, Ivan, Jeanne (2004) & Katrina, Rita, Wilma (2005)).



#### Atlantic Sea Surface Temperatures, 1948-2007



Source: AIR web site, http://www.air-worldwide.com/\_public/html/air\_currentsitem.asp?ID=1364

# Outlook for 2008 Hurricane Season: 60% Worse Than Average

	Average*	2005	2008F
Named Storms	9.6	28	15
Named Storm Days	49.1	115.5	80
Hurricanes	5.9	14	8
Hurricane Days	24.5	47.5	40
Intense Hurricanes	2.3	7	4
Intense Hurricane Days	5	7	9
Accumulated Cyclone Energy	96.2	248	150
Net Tropical Cyclone Activity	100%	275%	160%

<sup>\*</sup>Average over the period 1950-2000.

Source: Philip Klotzbach and Dr. William Gray, Colorado State University, June 3, 2008.



# Increased Likelihood of Landfall with High NTC (based on 1950-2007)

	# of Named Storms	# of Hurricanes	# of Major Hurricanes
15 Years When NTC > 130	66	41	18
15 Years When NTC < 65	32	14	5

With high NTC (compared to low NTC),

- •Twice as many named storms made landfall
- •Three times as many hurricanes made landfall
- •Three times as many major hurricanes made landfall

Source: Philip Klotzbach and Dr. William Gray, Colorado State University, June 3, 2008, p. 32.



#### Major Hurricanes Might Form But Not Make Landfall

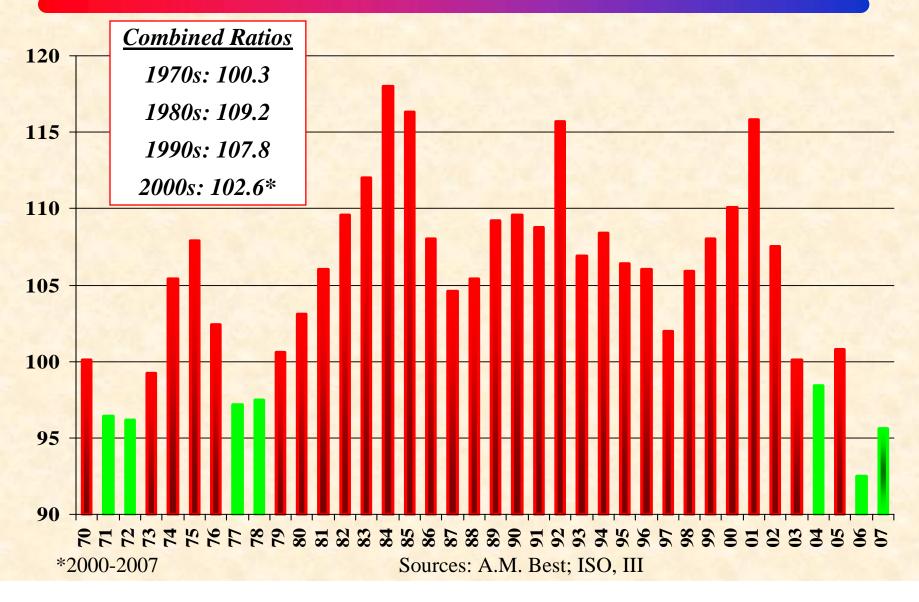
- From Hurricane Irene in 1999 to Hurricane Lili in 2002, 21 consecutive hurricanes developed in the Atlantic basin without a single U.S. landfall.
- "This is how nature sometimes works."
  - From 1966 to 2003, of 79 major (3-4-5) hurricanes, 19 (24%) made landfall.
  - During 2004-5, 7 of 13 (54%) major hurricanes made landfall
  - During 2006-7, 0 of 4 (0%) major hurricanes made landfall

Source: Philip Klotzbach and William Gray, "Extended Range Forecast of Atlantic Seasonal Hurricane Activity and U.S. Landfall Strike Probability for 2008," Department of Atmospheric Science, Colorado State University, June 3, 2008, p. 34.

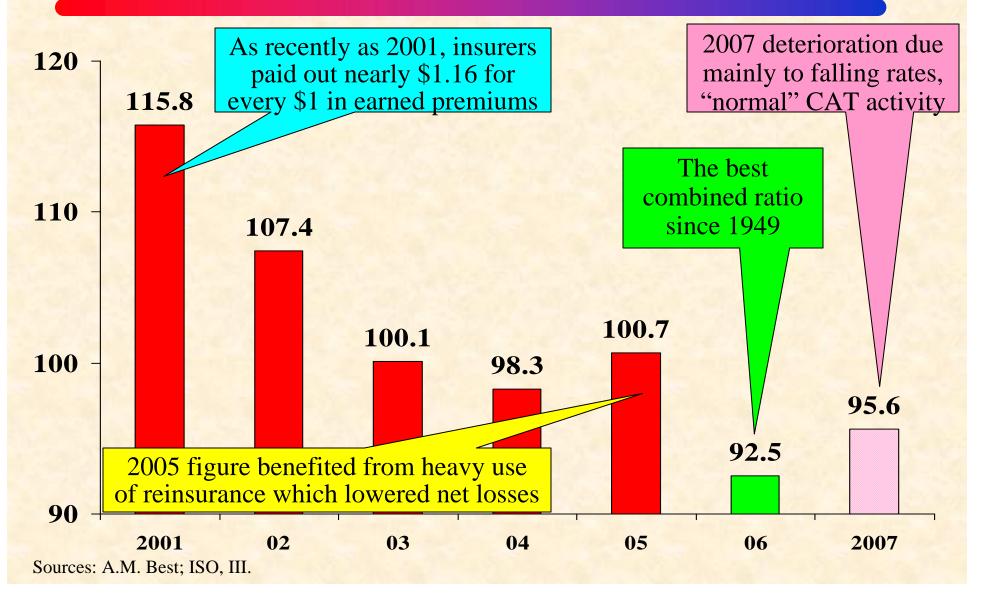
### Underwriting Trends



### U.S. P/C Insurance Industry Combined Ratio, 1970-2007

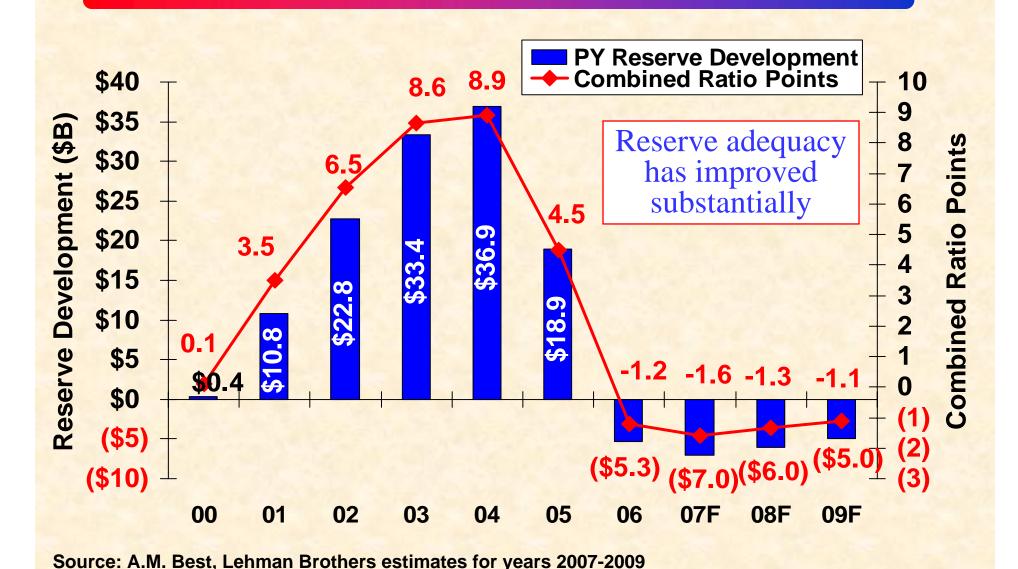








#### Impact of Reserve Changes on Combined Ratio



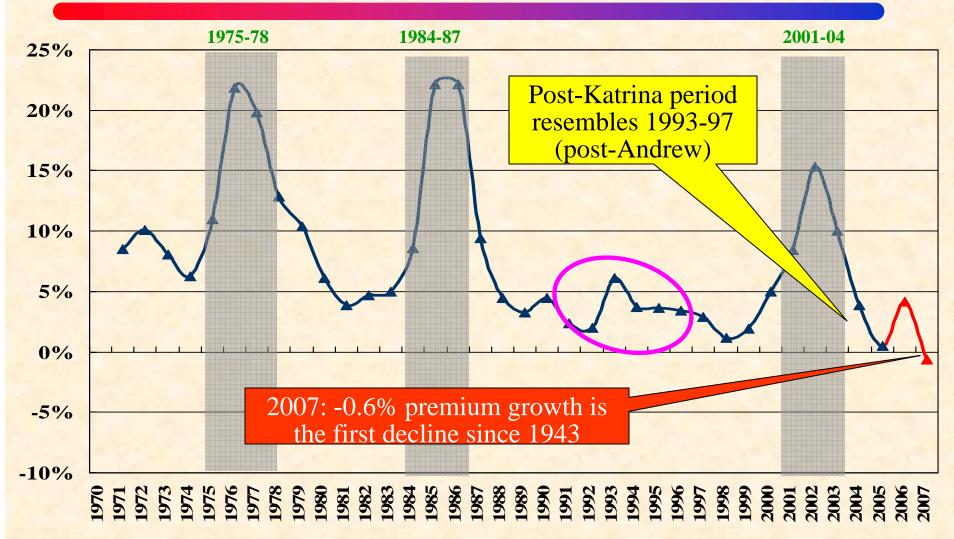
#### Premium Growth

## At a Virtual Standstill in 2007/08



## iii

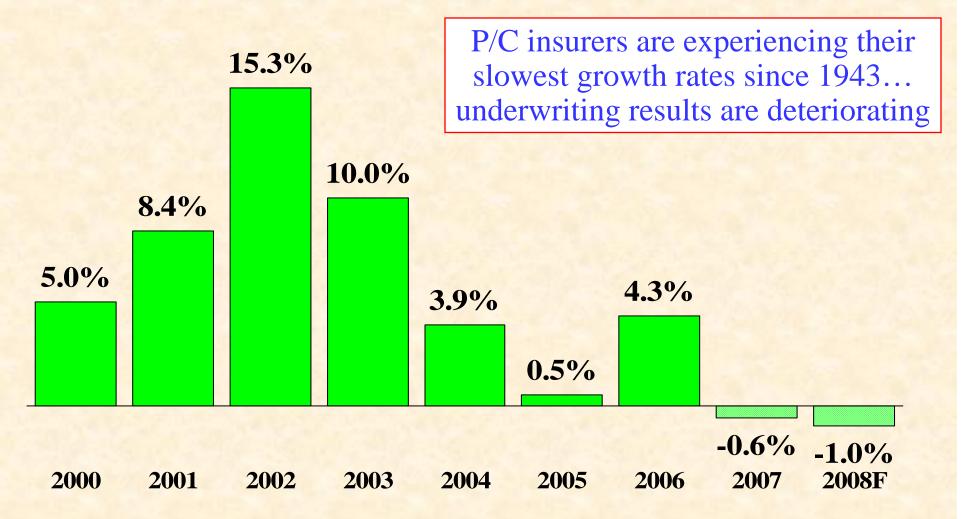
## Three "Hard Markets" in the Last 40 Years



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

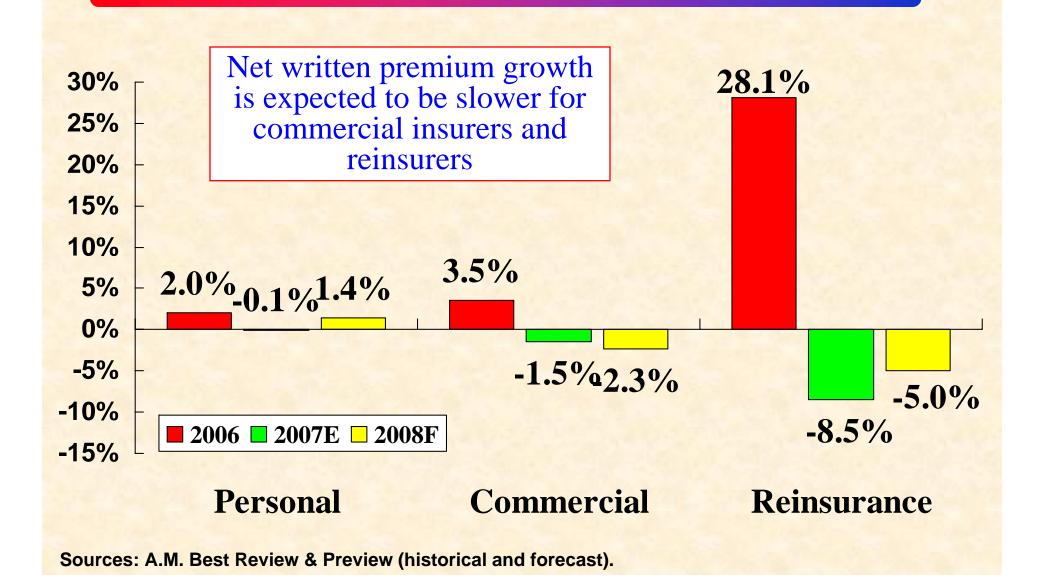
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#### Year-to-Year Changes in Net Written Premium, 2000-2008F



\*2008 forecast from A.M. Best. Source: A.M. Best; Forecasts from the Insurance Information Institute.

## Personal/Commercial Lines & Reinsurance NPW Growth, 2006-2008F

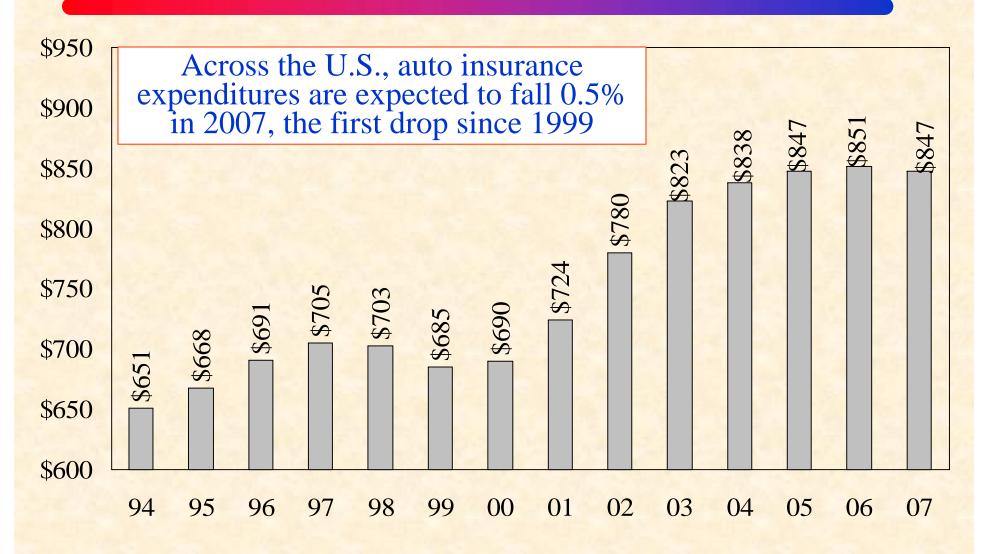


# Rates Under Pressure in 2008, Especially Commercial Lines



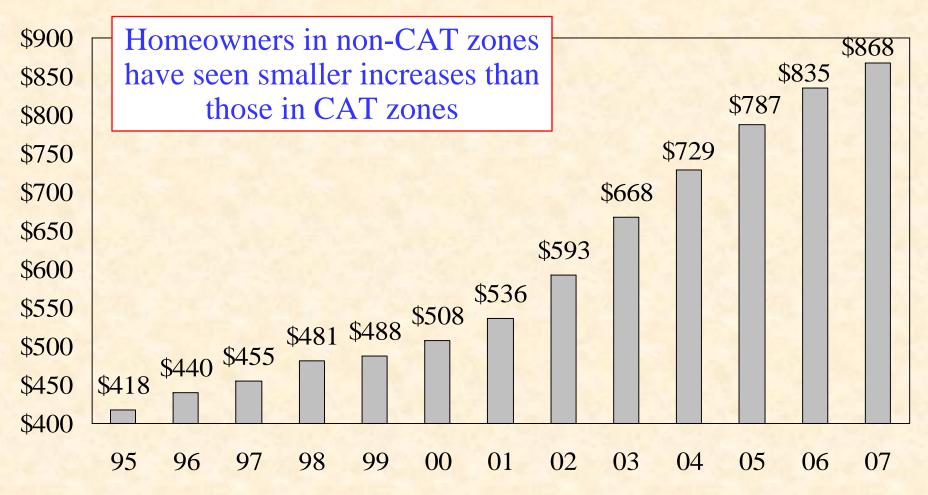


#### Lower Underlying Frequency, Modest Severity, Check Auto Insurance Costs



Sources: NAIC, Insurance Information Institute

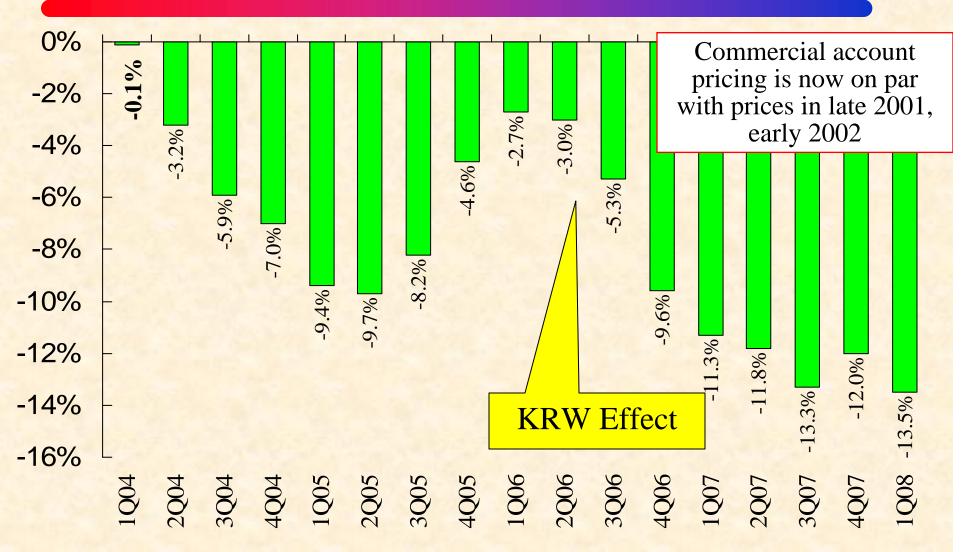
#### Across the U.S., Home Insurance Costs\* Rose 4% in 2007



<sup>\*</sup>Excludes cost of flood and earthquake coverage. Source: NAIC, Insurance Information Institute



#### Average Quarterly Commercial Rate Change, All Lines, (1Q:2004 – 1Q:2008)



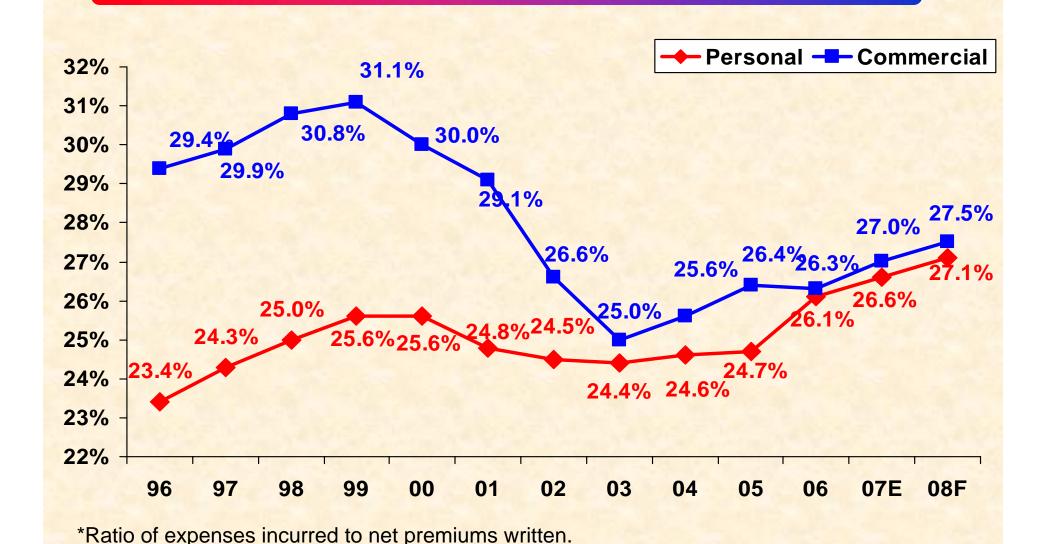
Source: Council of Insurance Agents & Brokers; Insurance Information Institute

### Rising Expenses





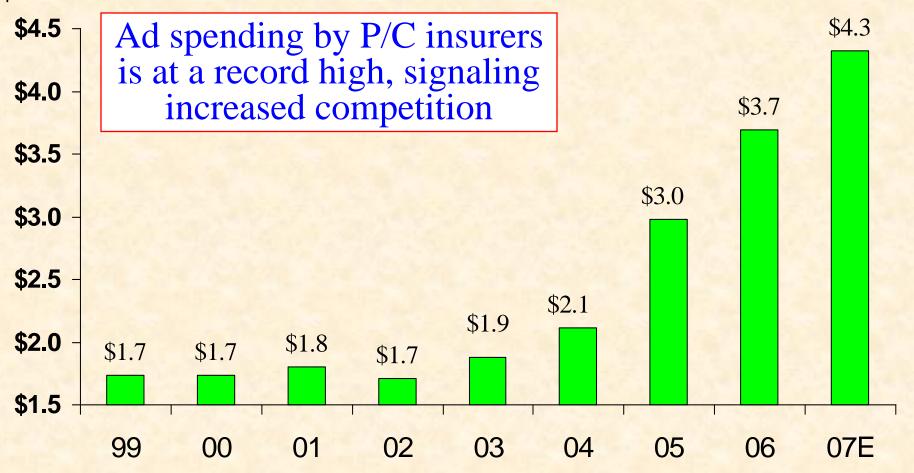
#### Expense Ratios Will Rise as Premium Growth Slows



Source: A.M. Best; Insurance Information Institute

## Advertising Expenditures by P/C Insurance Industry, 1999-2007E

#### **\$ Billions**

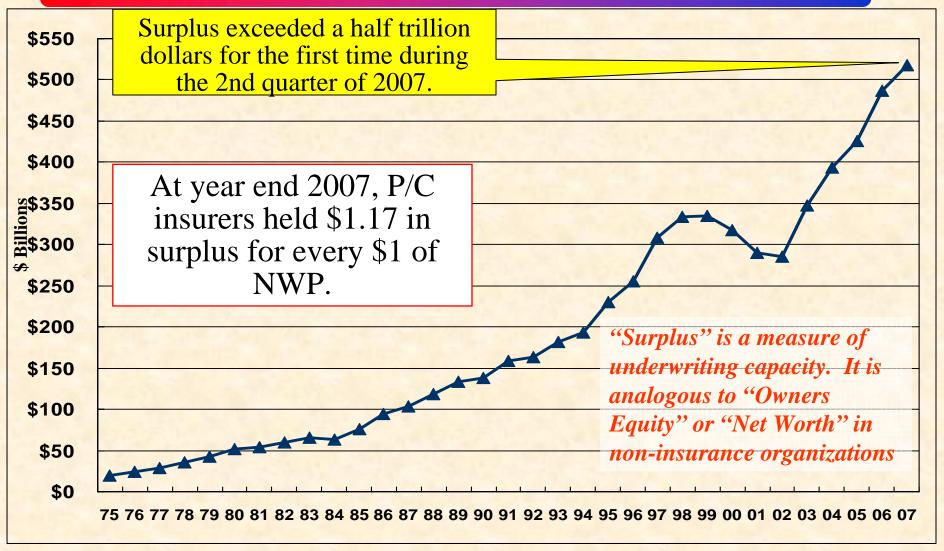


Source: Insurance Information Institute from consolidated P/C Annual Statement data.

# The P/C Industry's Financial Strength and Capacity

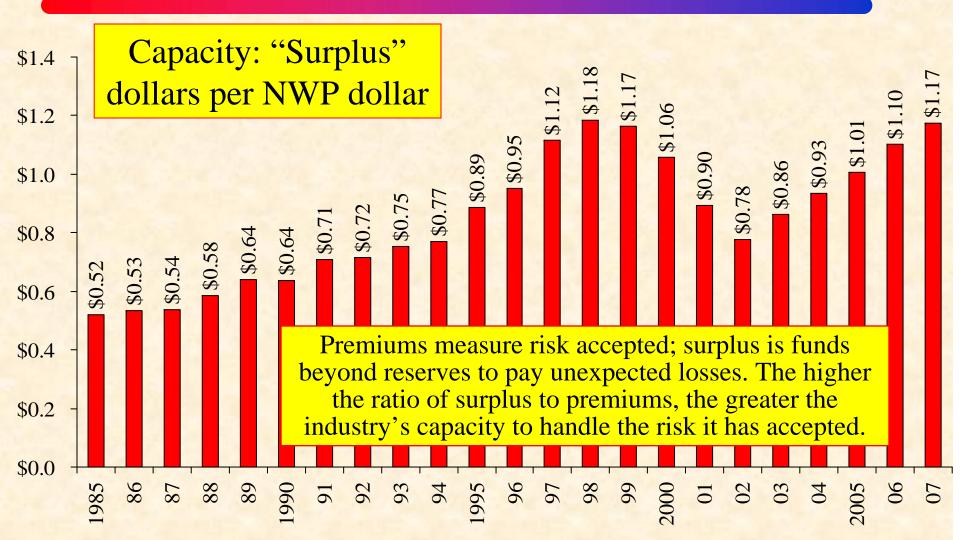


#### U.S. P-C Insurers' Policyholder Surplus: 1975-2007



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

### In General, the Industry Has Grown Its Capacity to Accept Risk (but that capacity can also shrink)



Sources: NAIC Annual Statement data, via HighlineData; Ins. Info. Inst.

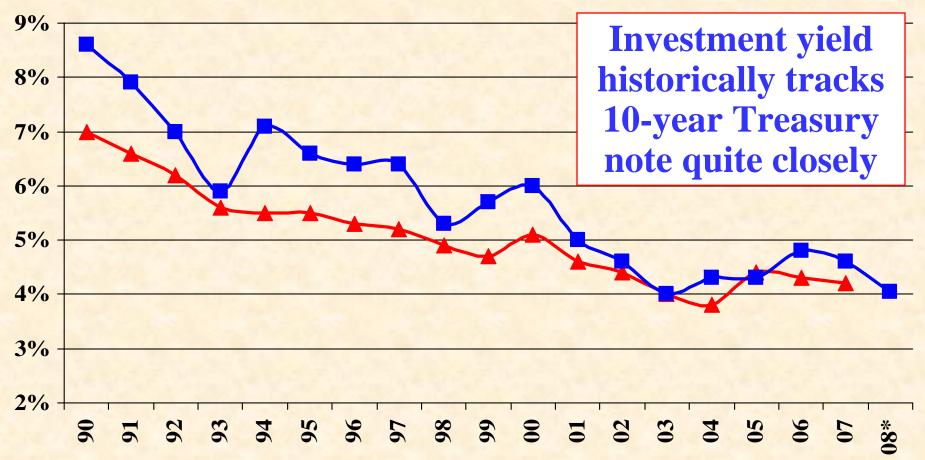
#### Investment Overview

Not Much to Look Forward To



#### P/C Investment Income as a % of Invested Assets Follows 10-Year US T-Note

→ P-C Inv Income/Inv Assets → 10-Year Treasury Note

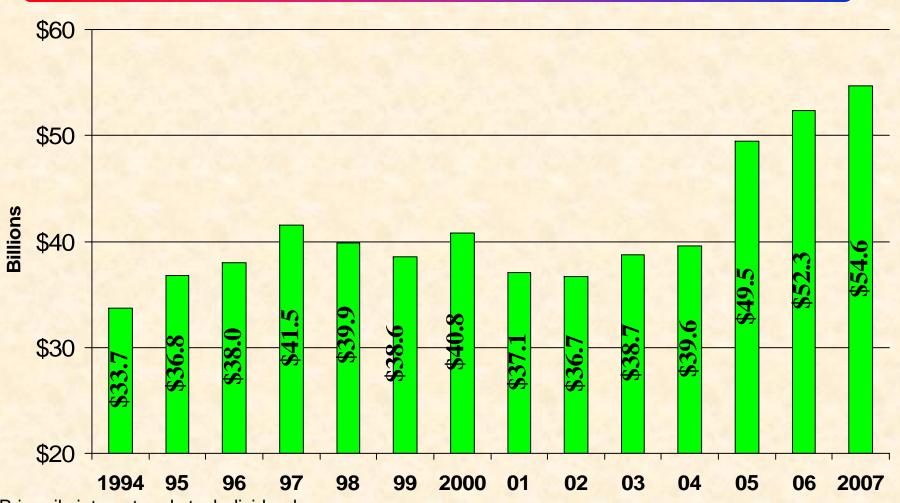


\*As of May 30, 2008.

Sources: Board of Governors, Federal Reserve System; A.M.Best; Insurance Information Institute.

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#### Property/Casualty Industry Investment Income\*, 1994-2007



\*Primarily interest and stock dividends.

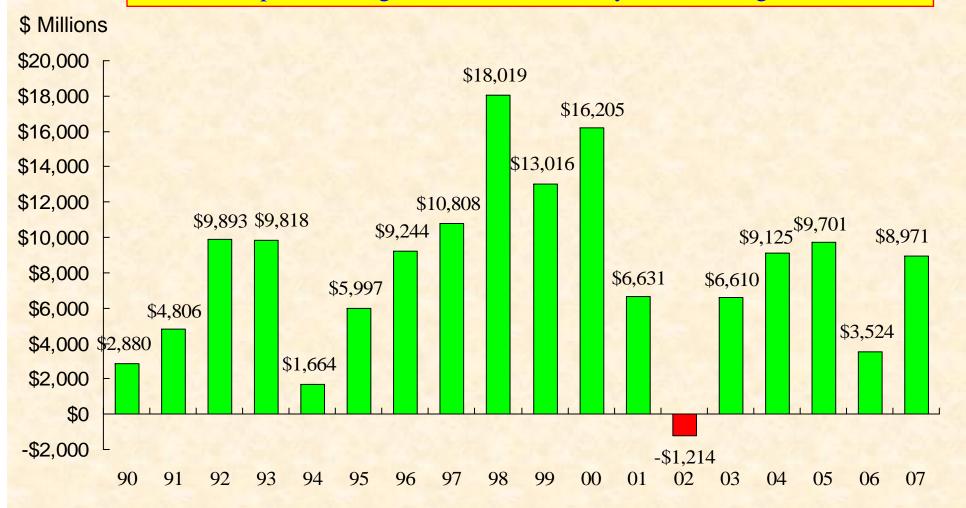
2005 figure includes special one-time dividend of \$3.2B.

Sources: ISO; Insurance Information Institute.



#### US P/C Industry Net Realized Capital Gains, 1990-2007

Realized capital gains exceeded \$9 billion in 2004/5 but fell sharply in 2006 despite a strong stock market. Nearly \$9 billion again in 2007.



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



### What's Being Done to "Fix" the Economy?

"Fix"	Effect on Insurers
Fed Rate Cuts	☐ Might reduce yields on new bond investments, but ☐ Might also raise asset value of existing bonds (65-80% of portfolio) ☐ In the longer run, might contribute to inflation
\$168 Billion Stimulus Package	□ Hope is that plan boosts overall economic activity and employment (by 500,000 jobs) □ and therefore might support p/c personal and commercial exposures □ But plan contributes to already-large federal budget deficits; Washington might hike taxes
Bear Stearns Bailout	□No direct effect, but tighter regulation of banks and hedge funds seems likely. □Will it be the stimulus for a financial regulatory structure that includes insurers, too?

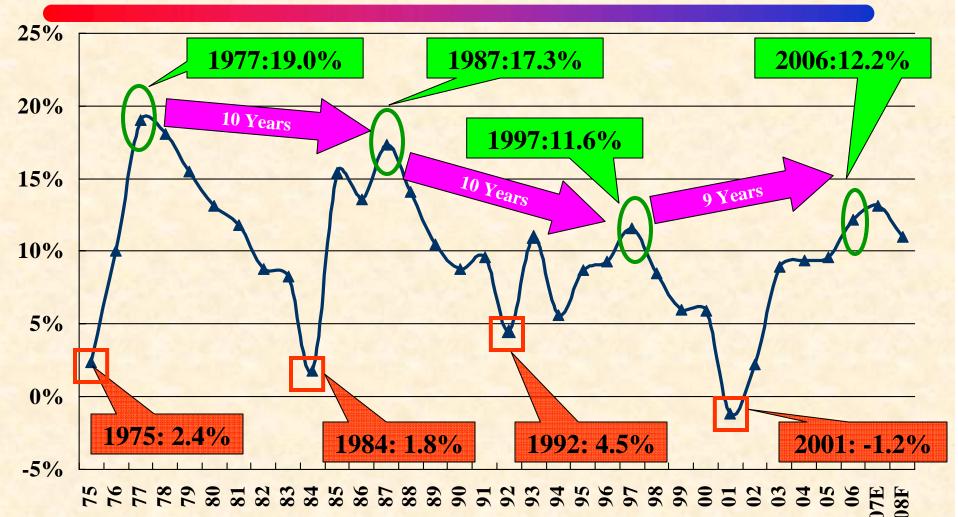
## Summary of Economic Risks and Implications for (Re) Insurers

<b>Economic Concern</b>	Risks to Insurers
Subprime Meltdown/ Credit Crunch	<ul> <li>Some insurers have some asset risk</li> <li>D&amp;O/E&amp;O exposure for some insurers</li> <li>Client asset management liability for some</li> <li>Bond insurer problems; Muni credit quality</li> </ul>
Housing Slump	<ul> <li>Reduced exposure growth</li> <li>Deteriorating loss performance on neglected, abandoned and foreclosed properties</li> </ul>
Lower Interest Rates	•Lower investment income
Stock Market Slump	•Decreased capital gains (often relied upon more heavily as a source of earnings as underwriting results deteriorate)
General Economic Slowdown/Recession	<ul> <li>Reduced commercial lines exposure growth</li> <li>Surety slump</li> <li>Increased workers comp frequency</li> </ul>

# Profitability: Did Profits Reach a Cyclical Peak in 2006/07?

By No Reasonable Standard Can Profits Be Deemed Excessive

## Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2008F\*



\*GAAP ROE for all years except 2007 which is actual ROAS of 12.3%. 2008 ROE is I.I.I. estimate. Sources: Insurance Information Institute; *Fortune* 

## Can Anything Change the Profit Cycle?

4 Factors That Could Affect the Length and Depth of the Cycle





## Two Factors that Could Make the Cycle Longer and Deeper

Capacity: Analysts say surplus growth in recent years has left the industry with between \$85-\$100 billion in excess capital

All else equal, rising capital leads to greater price competition and a liberalization of terms and conditions

Reserves: Reserves are in the best shape (in terms of adequacy) in decades, which could extend the depth and length of the cycle

- Many companies have been releasing "redundant" reserves, which allows them to boost net income even as underwriting results deteriorate
- But reserve releases will diminish in 2008; Even more so in 2009



#### Two Factors that Could Make the Cycle Shorter and Shallower

Information Systems: Management has more and better tools that allow faster adjustments to price, underwriting and changing market conditions than it had during previous soft markets

Investment Results: 2007 was the 5<sup>th</sup> consecutive up year on Wall Street. With declines in stock prices and falling interest rates, portfolio yields are likely to fall

- Smaller realized capital gains
- A sustained equity market decline (and potentially a drop in bond values) could reduce policyholder surplus

Source: Insurance Information Institute.

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#### Summary

- The P/C business has been highly cyclical
- Profits were strong in 2006/07, but
  - ➤ Underwriting results were aided by lack of CATs & favorable underlying loss trends
  - > 2008 Hurricane forecast is for worse-than-average season
- Premium growth rates are at their lowest levels since WW II
  - > Commercial lines lead decreases
  - > Housing slump cuts HO exposure growth
- Investment returns insufficient to support deep soft market in terms of price, terms & conditions as in 1990s



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