

The Financial Crisis and the P/C Insurance Industry

**Casualty Actuaries of Greater New York
New York, NY
December 3, 2008**



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How Did We Get Into This Mess?

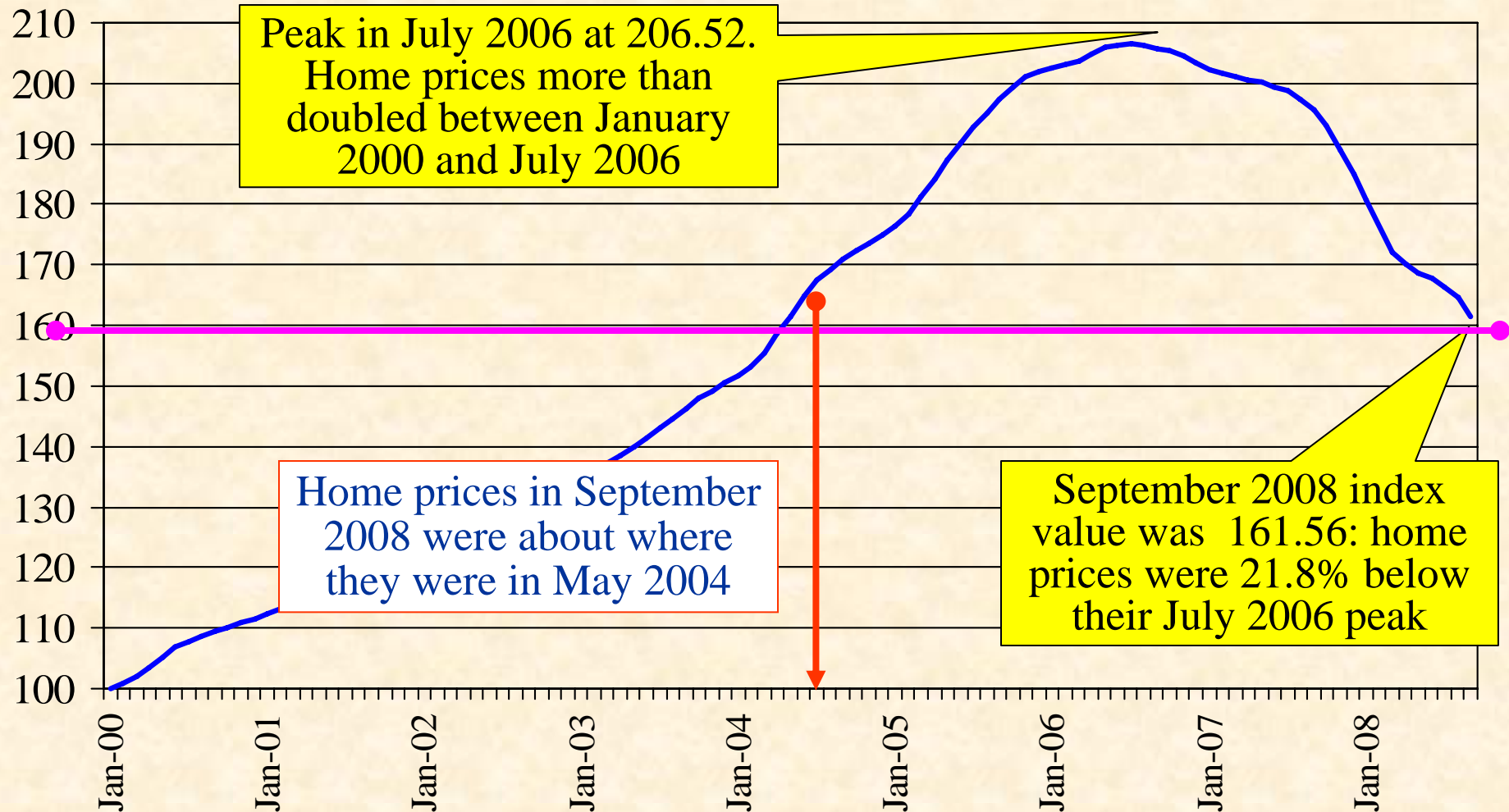
For a while, things appeared to go well:

- Housing prices rose rapidly
 - Doubled from 2000 to 2006
- Mortgage lending standards were relaxed
 - Smaller/no down payments, less/no documentation
- Variable-rate mortgages became popular
 - Smaller initial monthly payments
- New unregulated securities derived from mortgages
 - *Were created*
 - *Grew rapidly*
 - *Were priced based on models, not in the market*
 - *Were bought with borrowed money to enhance returns*



Case-Schiller Home Price Index

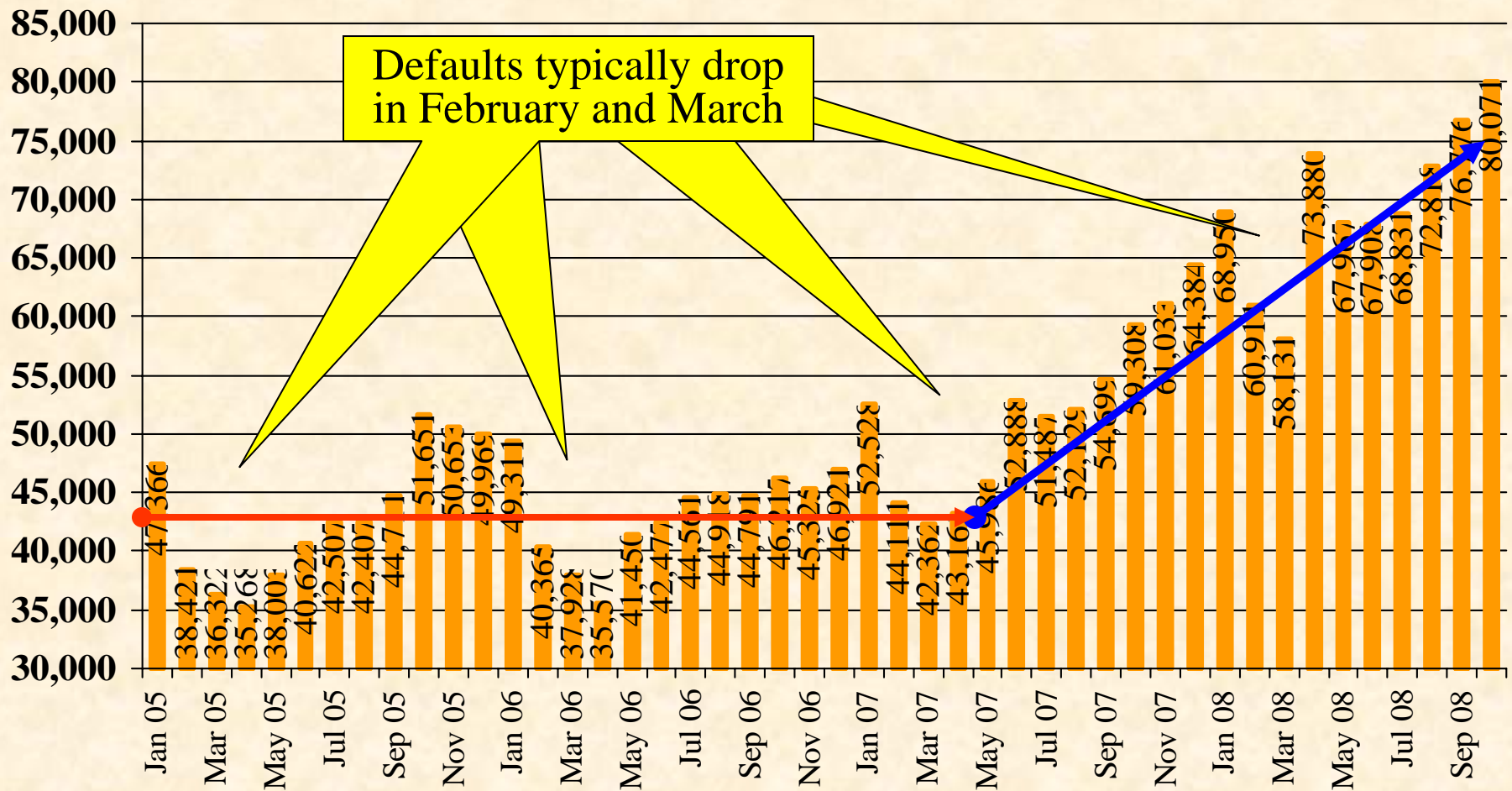
Monthly: 20 City Composite (Jan 2000=100)



Source: http://www2.standardandpoors.com/spf/pdf/index/CSHomePrice_History_112555.xls



Number of Insured Mortgage Defaults,* Monthly, Jan 2005-Oct 2008



*Companies providing data: AIG United Guaranty, Genworth Mortgage, MGIC, PMI Mortgage, Republic Mortgage, and Triad Guaranty. Source: <http://www.privatemi.com/news/statistics/detail.cfv?id=90>



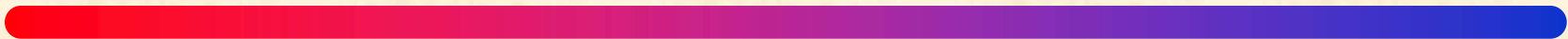
How Did We Get Into This Mess?

Then the dominoes began to fall:

- The Housing Bubble Burst
 - From July 2006 to August 2008, prices fell 20%
 - Inventory of unsold houses ballooned
- With Home Prices Falling, Foreclosures Soared
- Securities Based on Mortgages Plummeted in Value Because of Underlying Mortgage Defaults
- The collapse of the value of one company's leveraged Mortgage-Backed Securities spurred massive "write-downs" by other leveraged investors, and then panic ensued

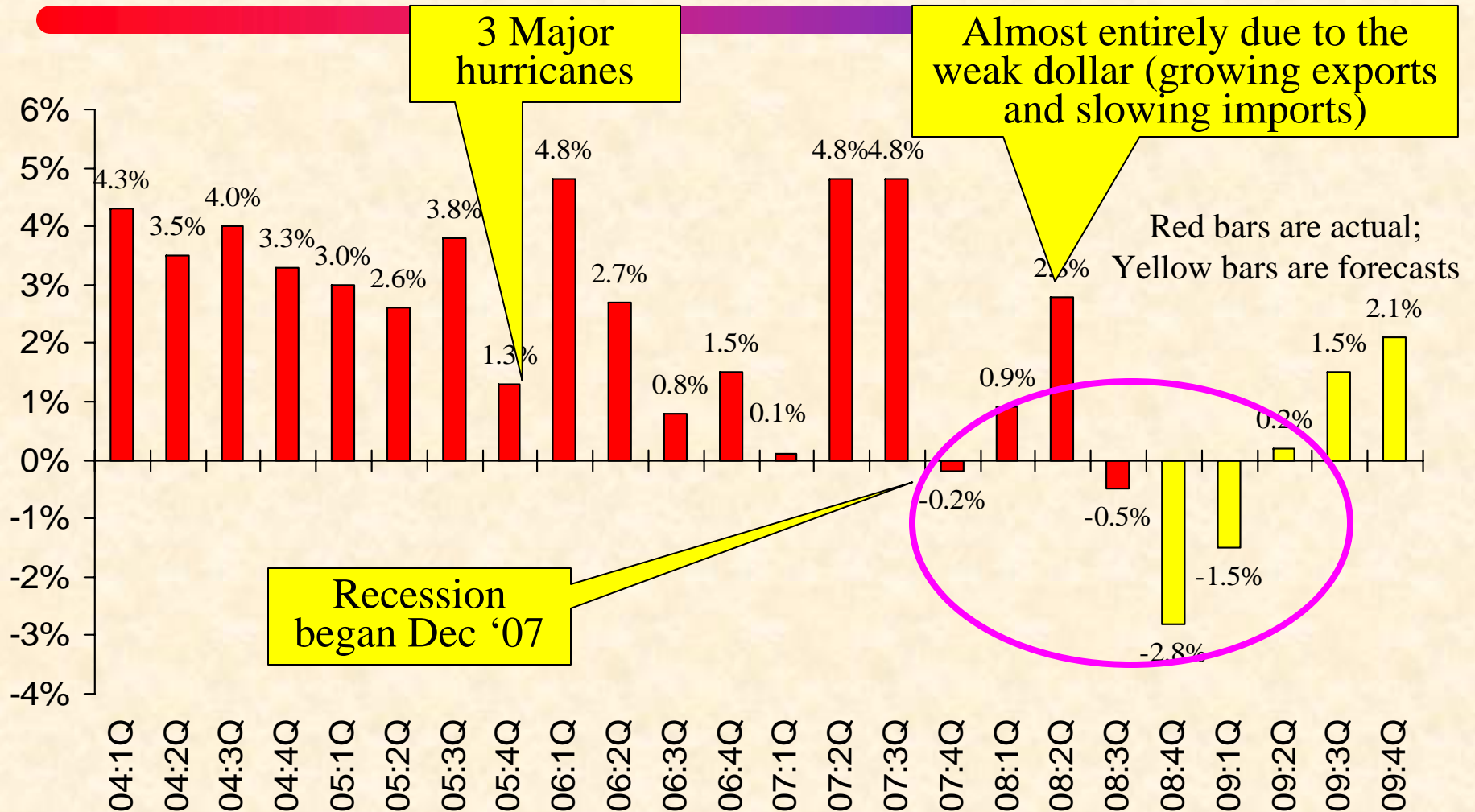
The Economic Storm

What it Means
for the Insurance Industry





Real Quarterly GDP Growth (annualized), 2004-2009F



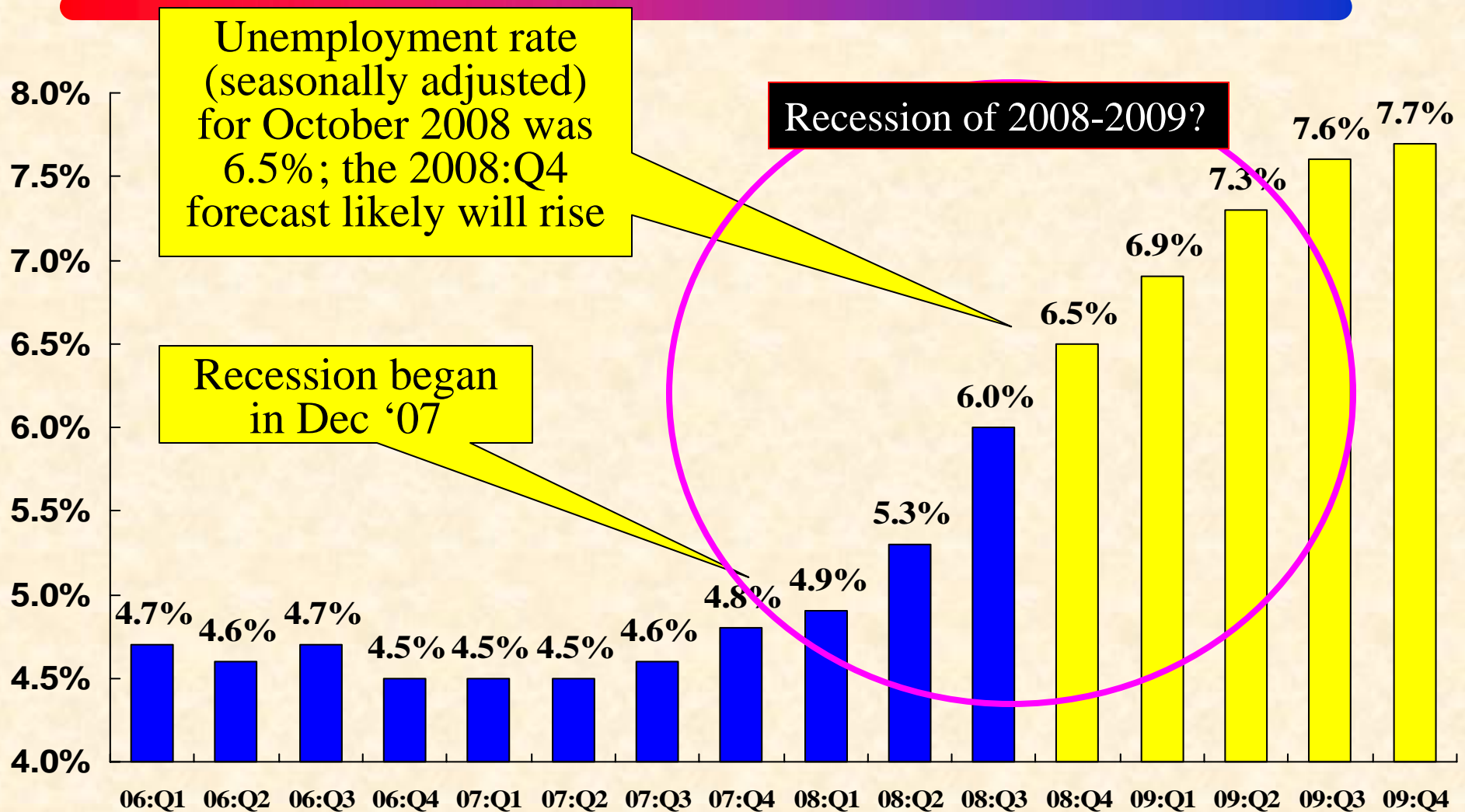
Sources: US Department of Commerce, Bureau of Economic Analysis (actual) at

<http://www.bea.gov/newsreleases/national/gdp/2008/pdf/gdp308p.pdf>

Blue Chip Economic Indicators 11/08 issue (forecasts).



Rising Unemployment Will Erode Payrolls and Workers Comp Exposure Base



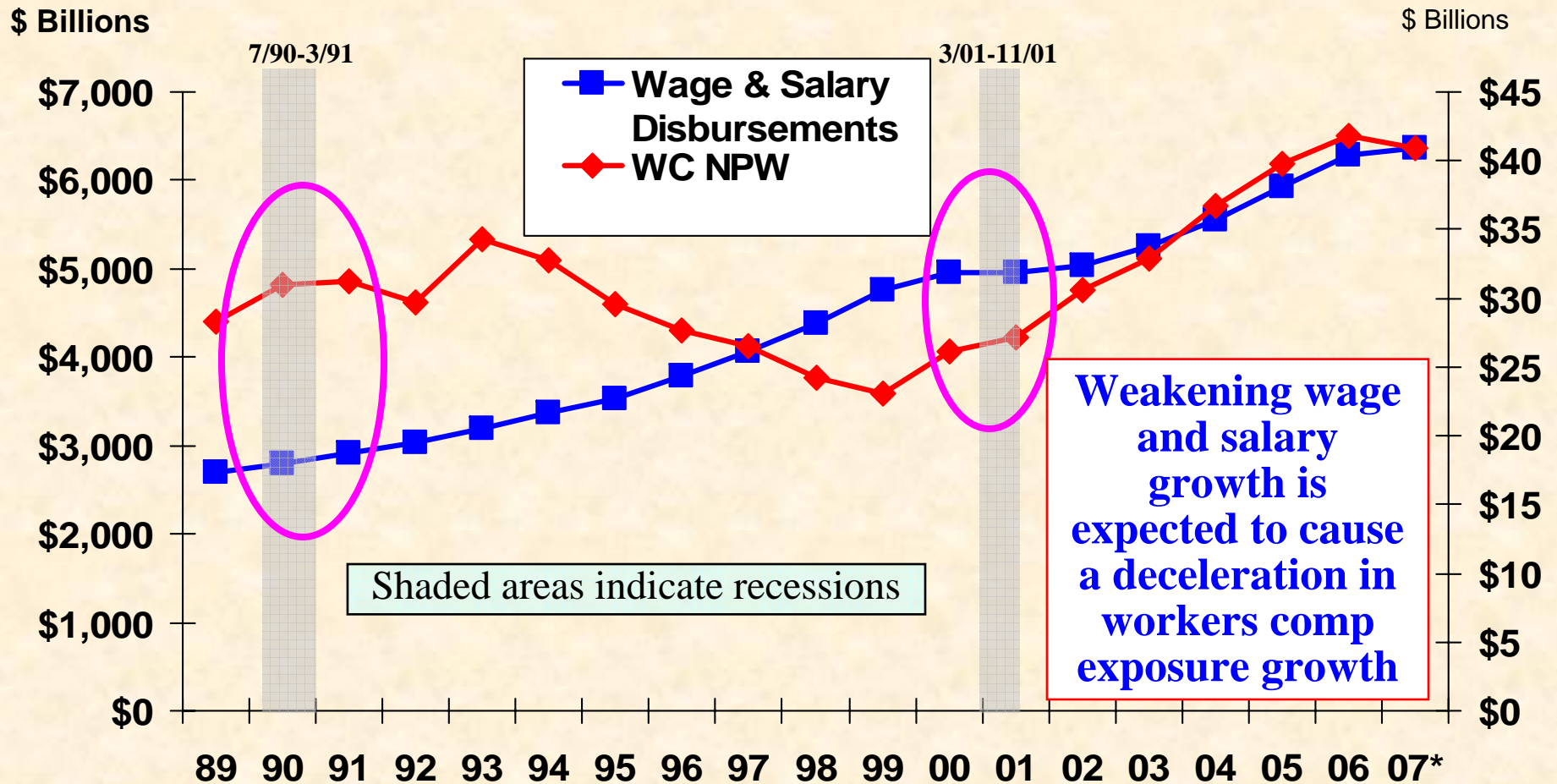
*Blue bars are actual; Yellow bars are forecasts

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators (11/08); Insurance Info. Inst.



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

Wage & Salary Disbursement (Private Employment) vs. WC NWP



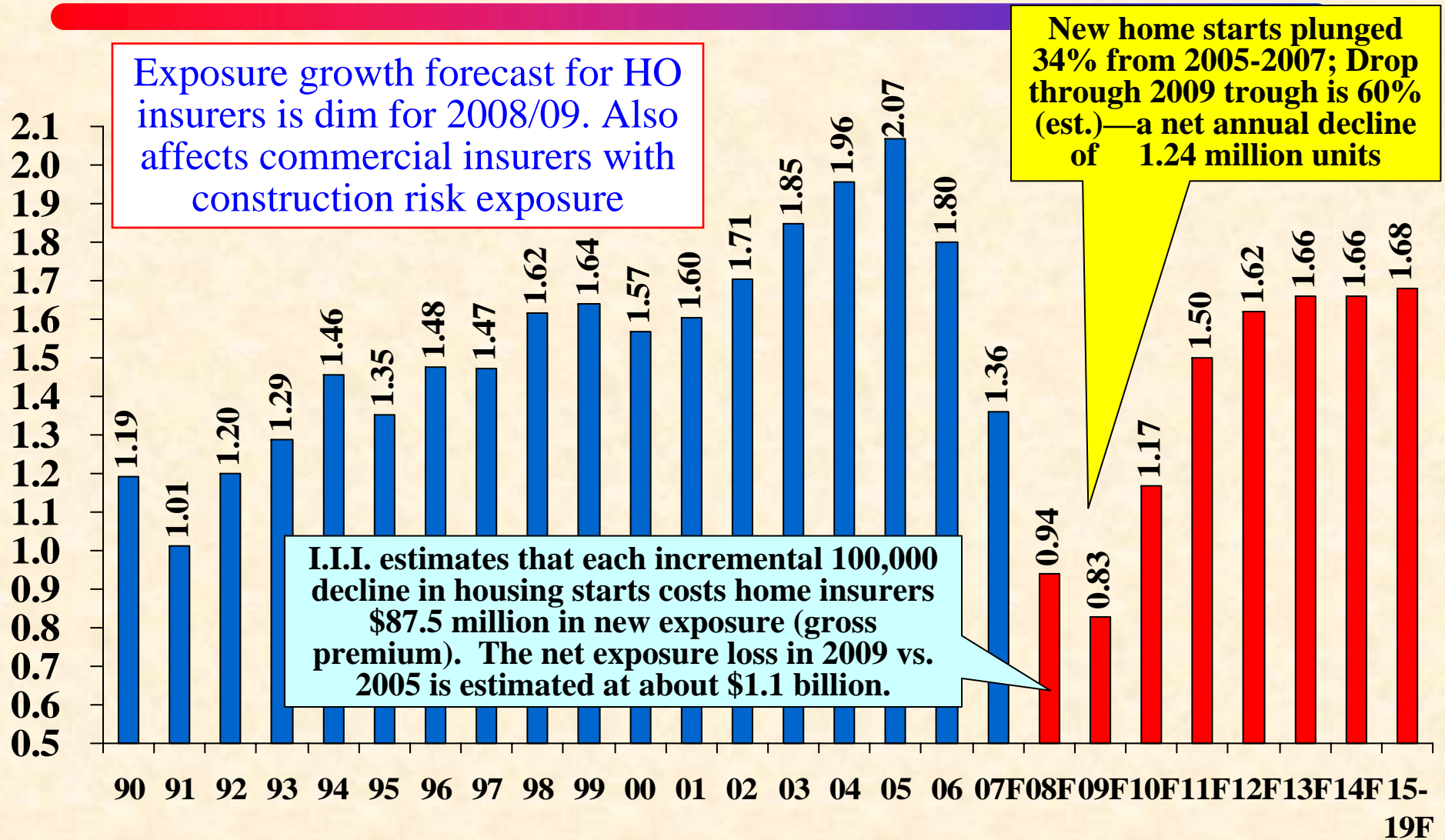
*Average of quarterly figures.

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

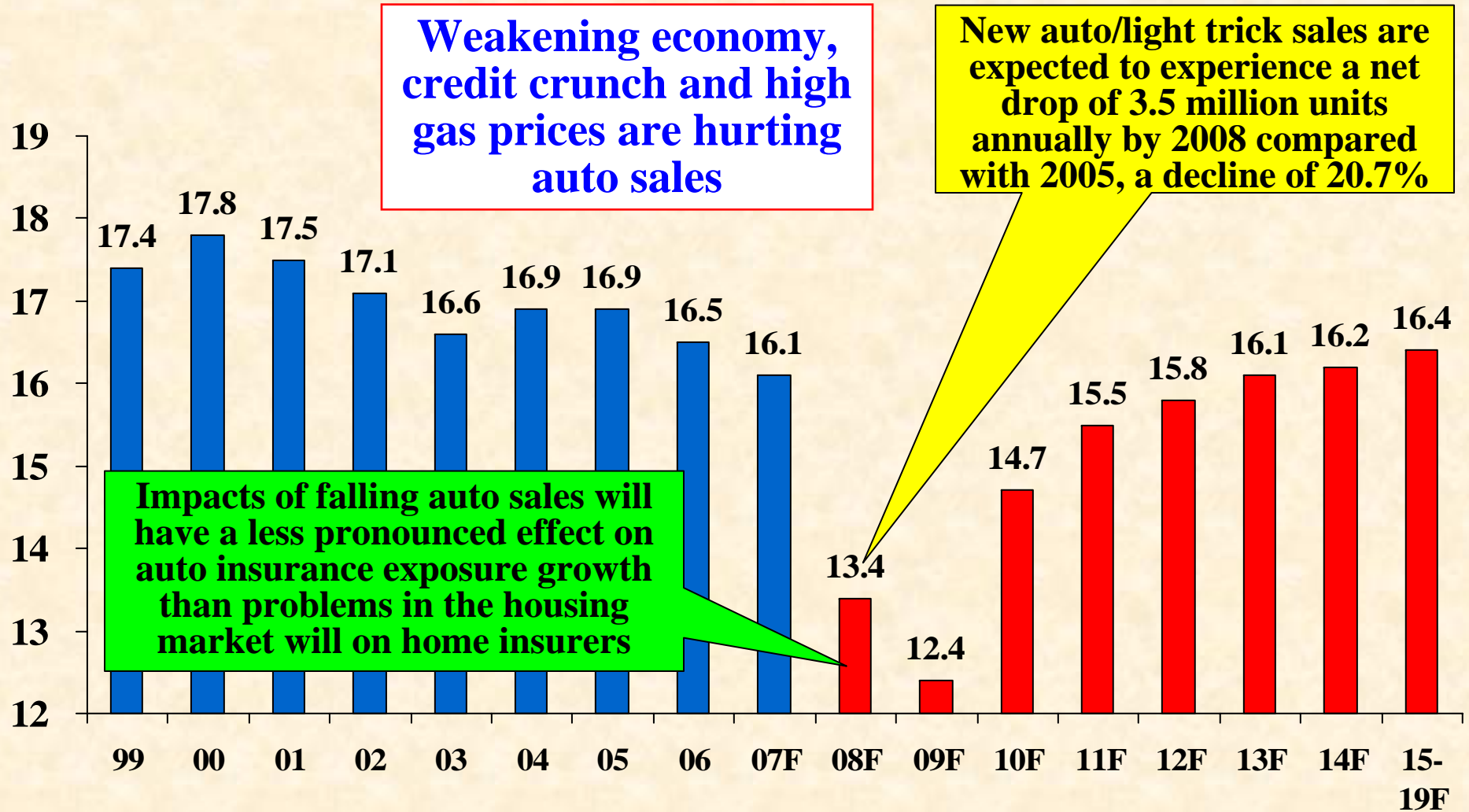


New Private Housing Starts, 1990-2019F (Millions of Units)



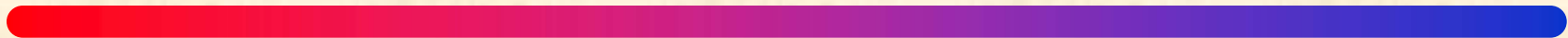


Auto/Light Truck Sales, 1999-2019F (Millions of Units)



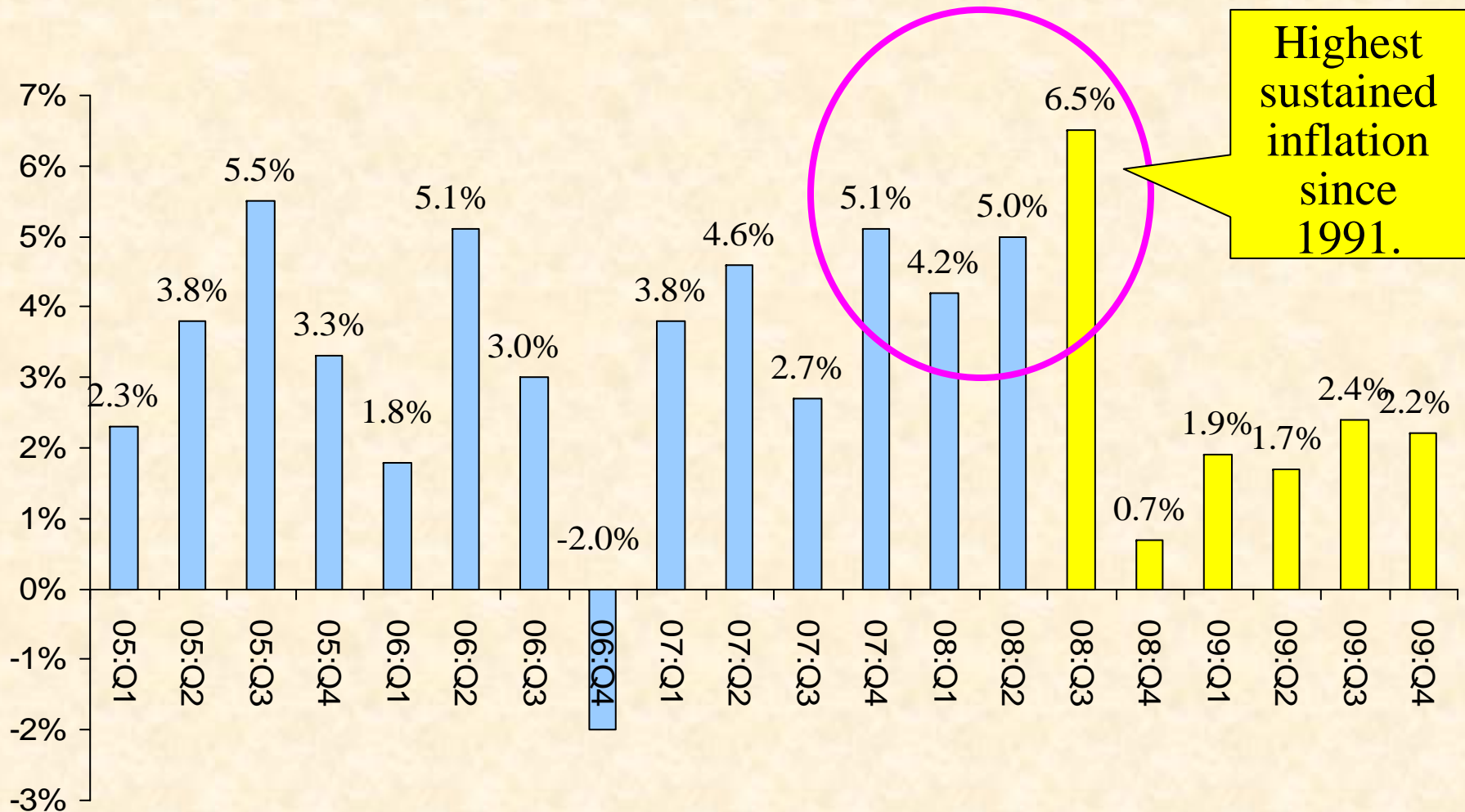
Inflation Overview

Inflation Hikes Claim Costs,
Expands PMLs—
but is Inflation Easing?





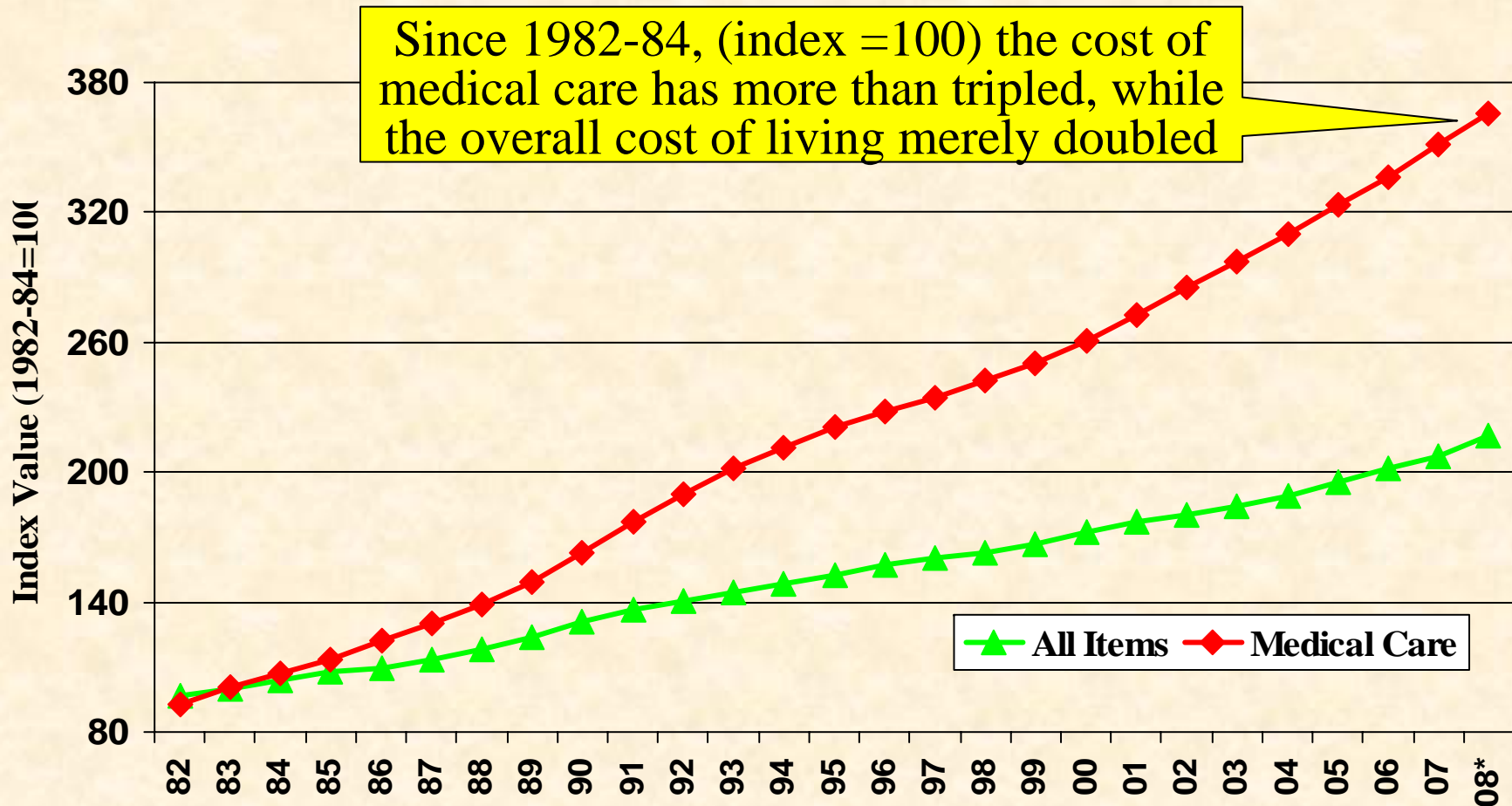
Quarterly Inflation Rate (CPI-U), % Change from Prior Quarter, Annualized



Sources: U.S. Bureau of Labor Statistics; Blue Chip Economic Indicators, October 10, 2008; I.I.I.



Medical Cost Inflation is One of the Most Serious Long-term Challenges Facing Casualty, Disability and Health Insurers



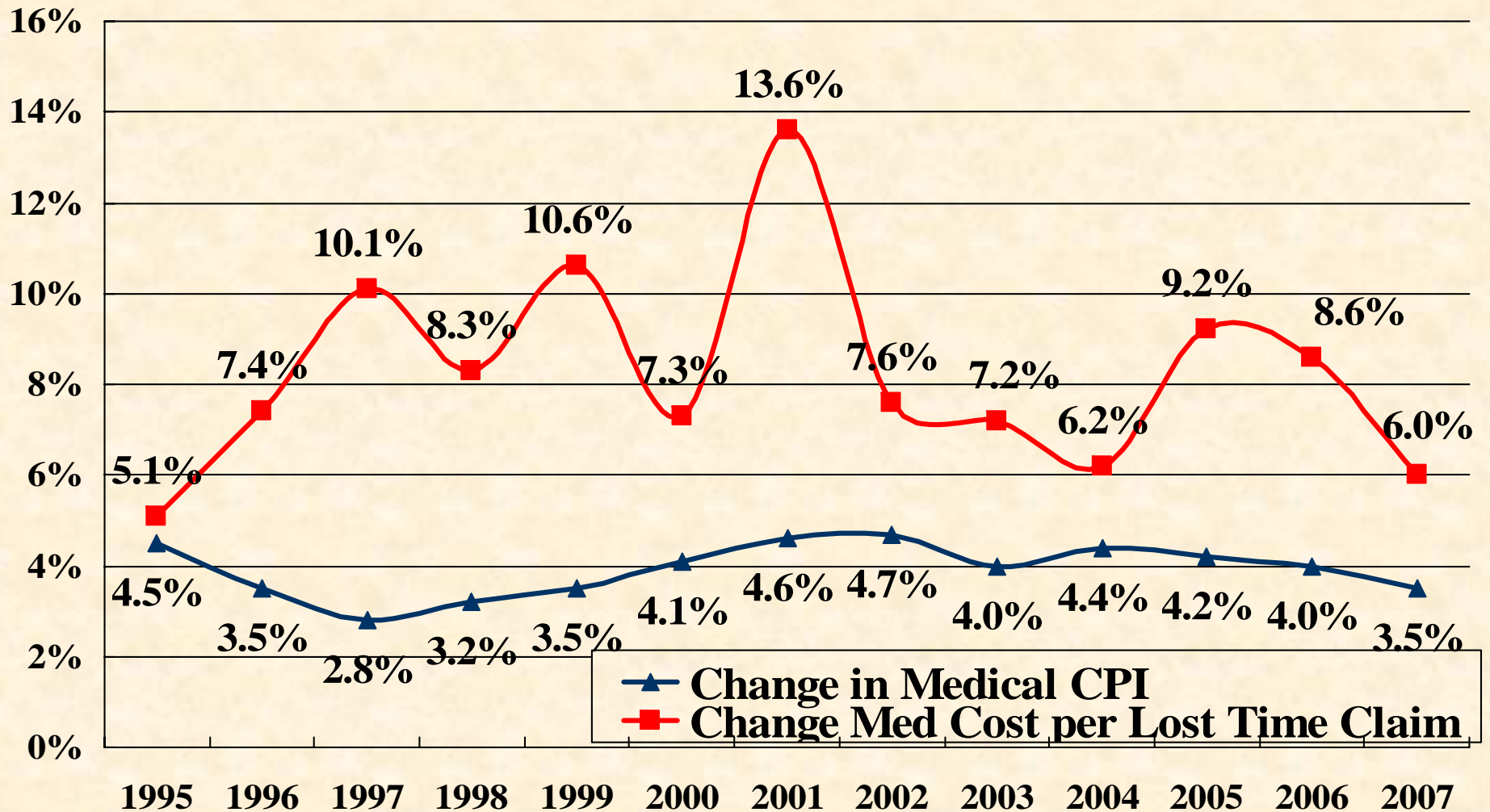
Source: Department of Labor (Bureau of Labor Statistics); not seasonally adjusted

<http://www.bls.gov/news.release/pdf/cpi.pdf>

*through October 2008



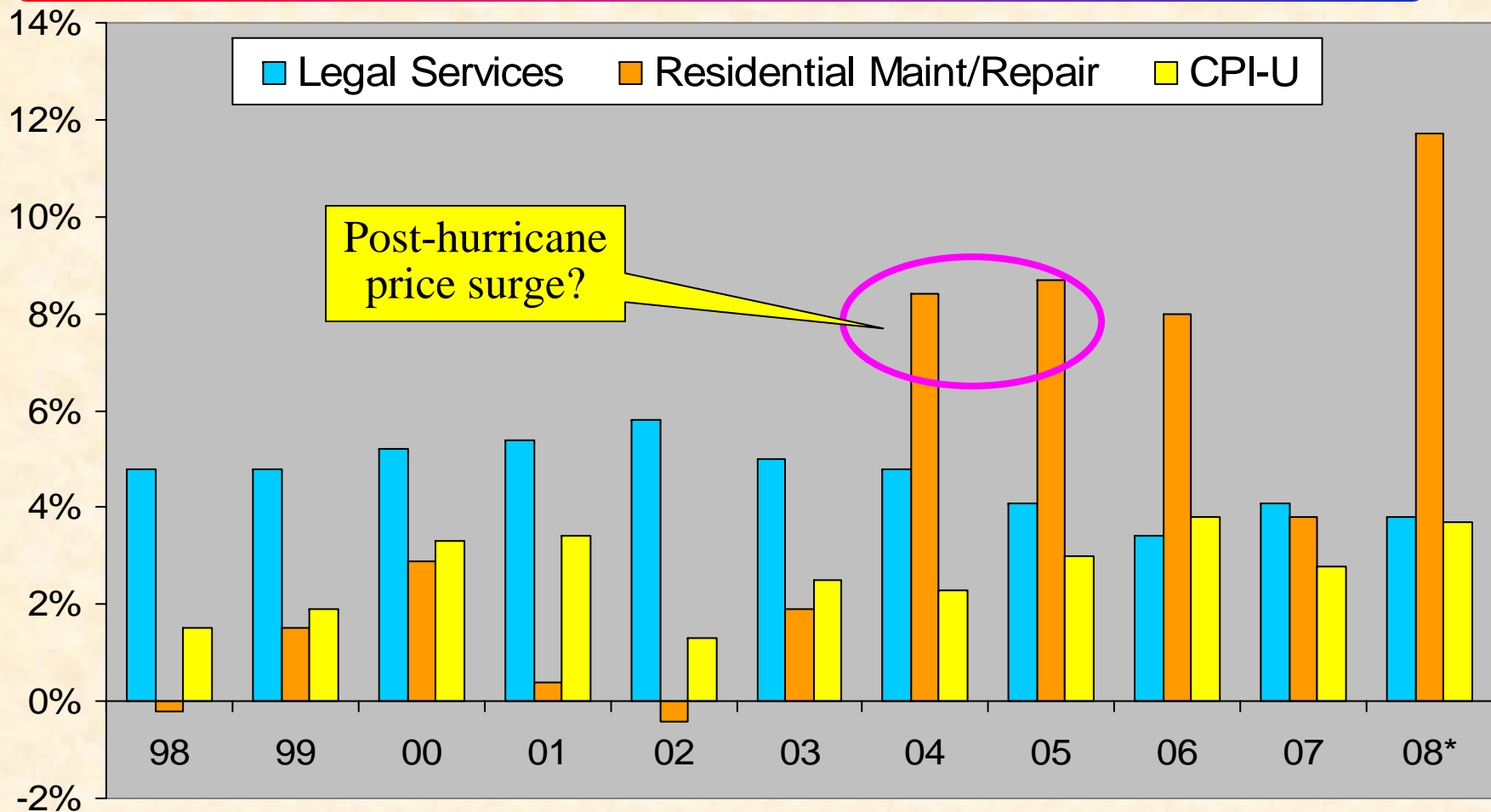
WC Medical Severity Rising Far Faster than Medical CPI



Sources: Med CPI from I.I.I. Inflation Watch; WC med severity from NCCI based on NCCI states.



Inflation That Affects Insurance Claims Is Often Above the Overall CPI-U Rate



*October 2008 vs. October 2007

Source: U.S. Department of Labor, Bureau of Labor Statistics, at <http://www.bls.gov/news.release/pdf/ppi.pdf>



Inflation: Important Economic Risks and Implications for Insurers

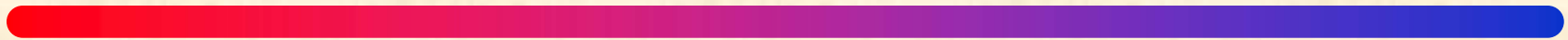
Effects of Inflation	Risks to Insurers & Buyers
Claim Severity Increase	<ul style="list-style-type: none">• Claims (property and liability) costs may rise as the price of goods and services increase• PMLs could be (much) higher
Rate Inadequacy	<ul style="list-style-type: none">• Accelerating inflation historically contributed to rate inadequacy because ratemaking is largely a retrospective process• Many types of loss trends are sensitive to the pace of inflation: medical cost, tort, etc.• Historical loss cost trends could be biased predictors of future loss if inflation accelerates



Inflation: Important Economic Risks and Implications for Insurers (cont'd)

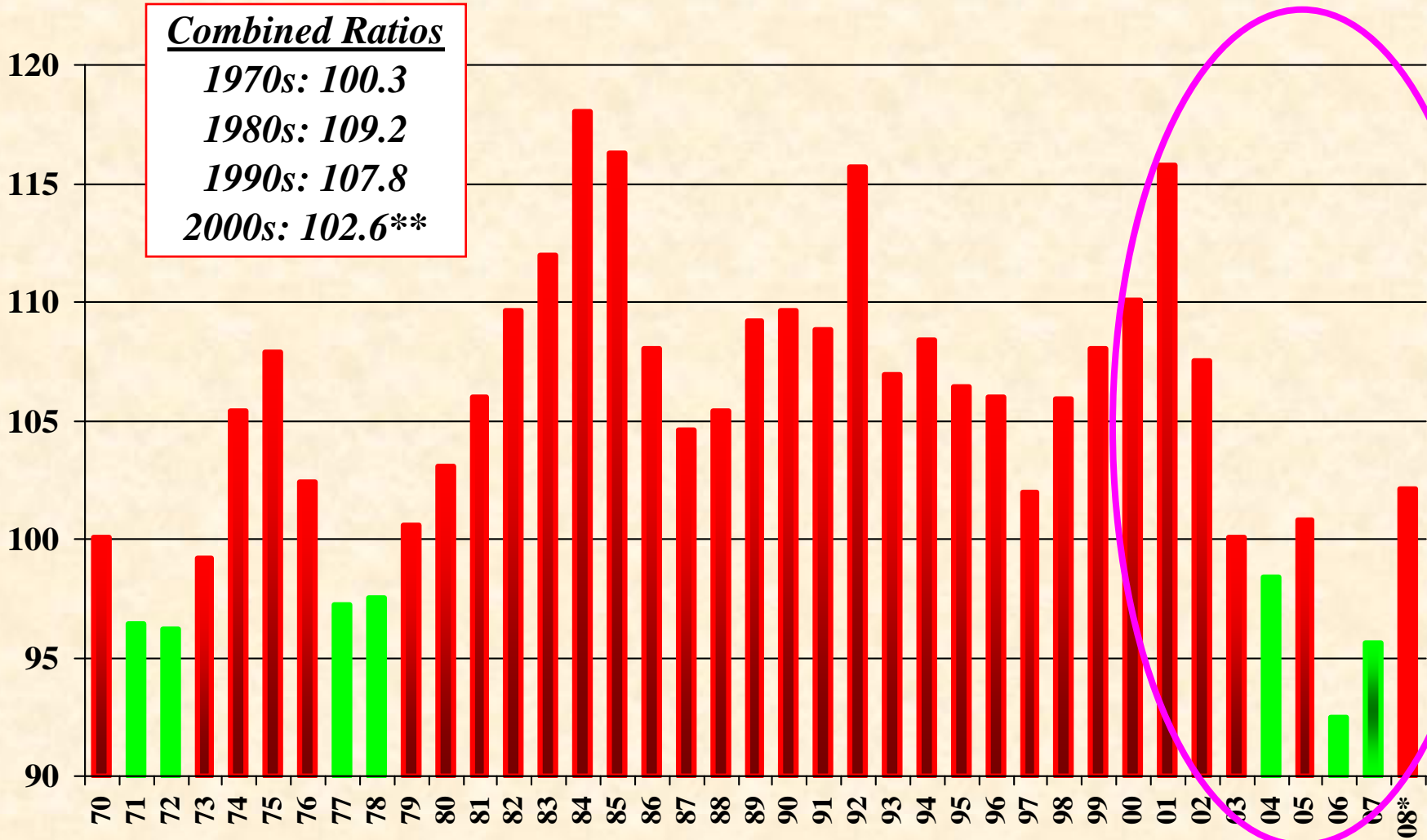
Effects of Inflation	Risks to Insurers
Reserve Deficiency	<ul style="list-style-type: none">• Reserves are established using certain assumptions about future development and discounting factors• If inflation accelerates, development could be more rapid and/or be more substantial (in dollar terms) than assumed and discount factors may be too low
Inadequate Insurance Limits	<ul style="list-style-type: none">• Policyholders could find themselves inadequately insured as claims costs escalate
Inadequate Reinsurance	<ul style="list-style-type: none">• Inflation can lead to a more rapid and unexpected exhaustion of reinsurance because losses are higher than expected

Underwriting Trends





U.S. P/C Insurance Industry Combined Ratio, 1970-2008*



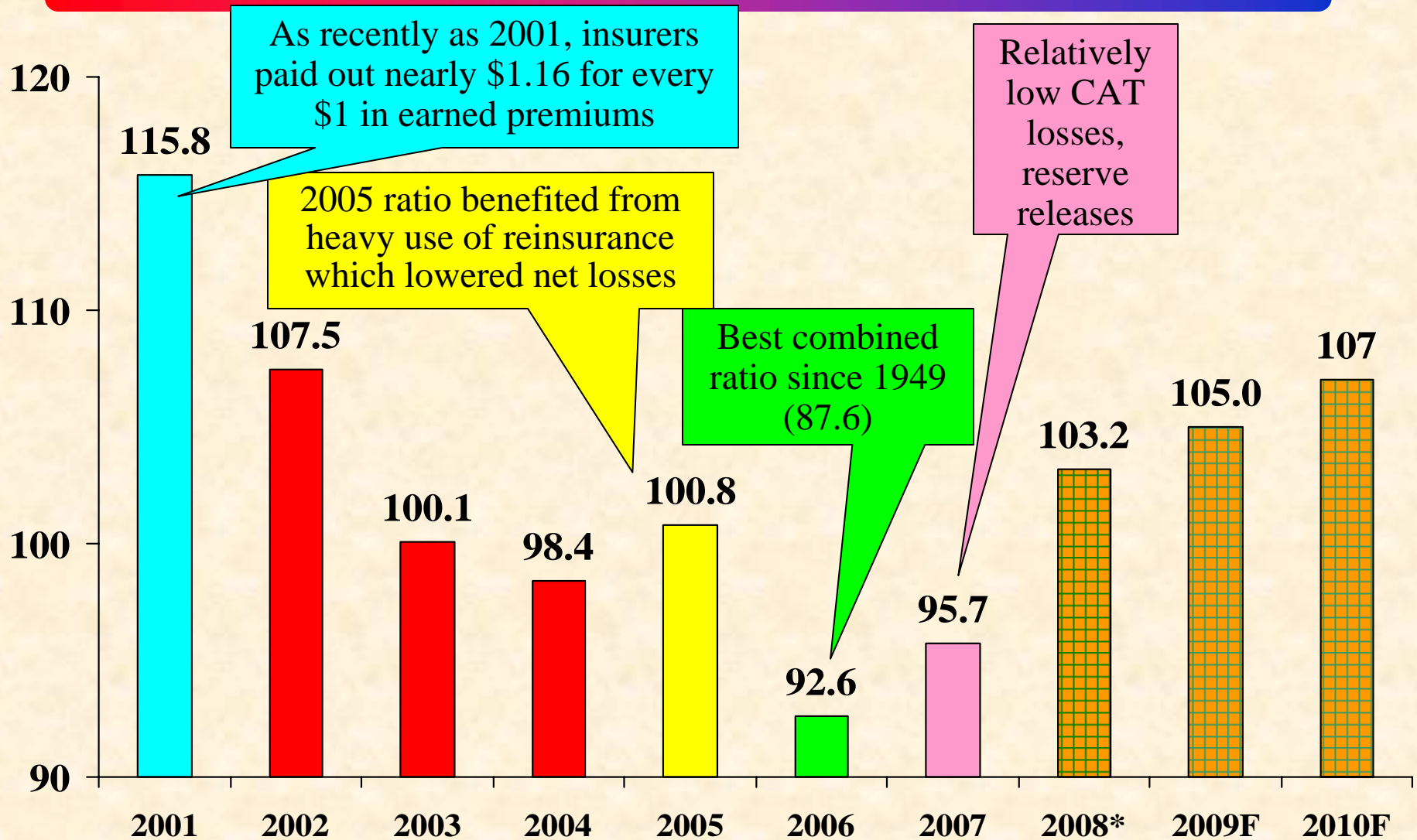
*2008 first half

**2000-2007

Sources: A.M. Best; ISO, III



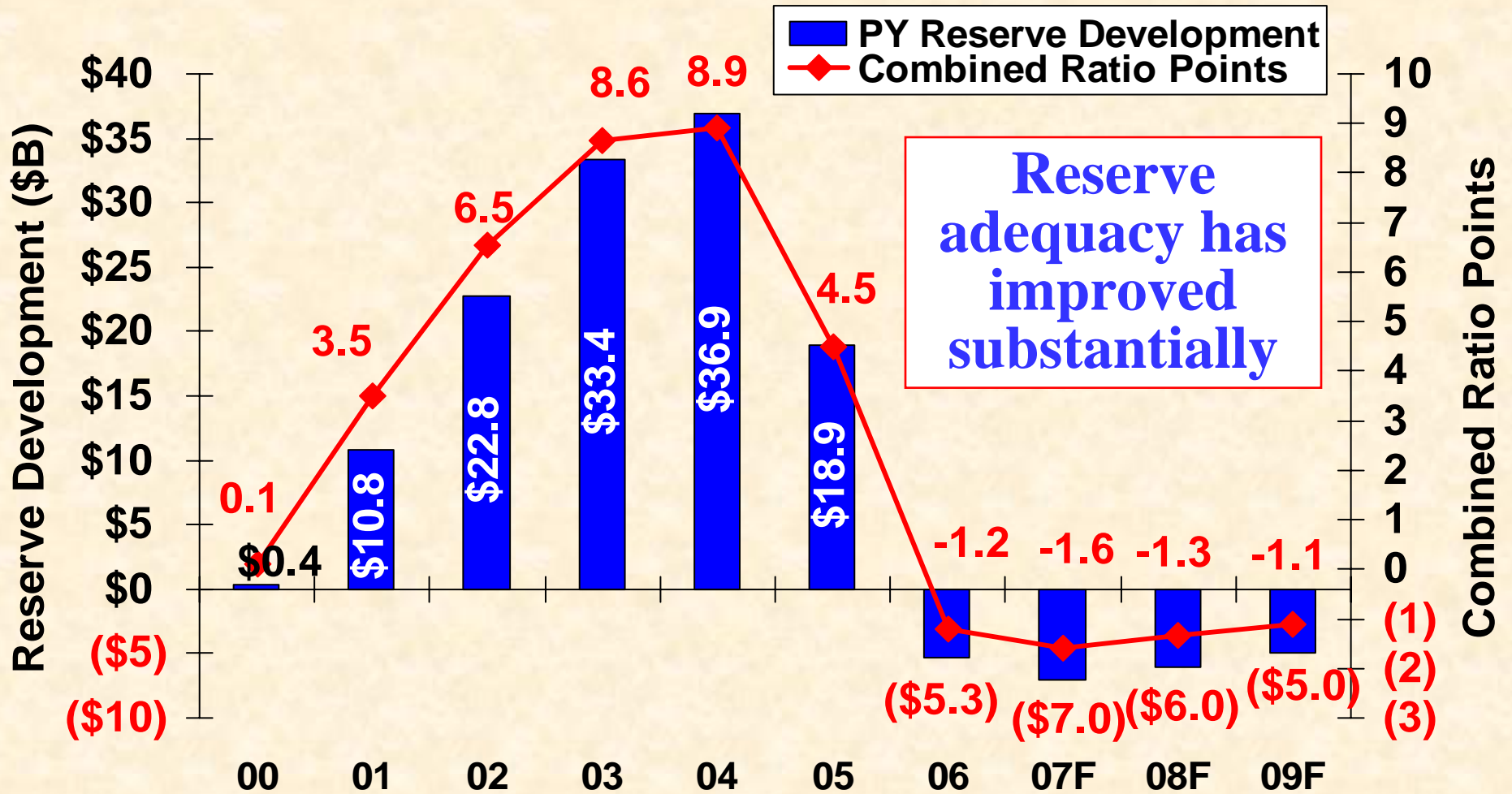
P/C Insurance Industry Combined Ratio, 2001-2010F



Sources: A.M. Best, ISO; III.

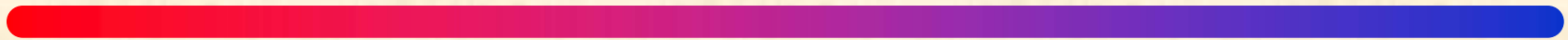


Impact of Reserve Changes on Combined Ratio



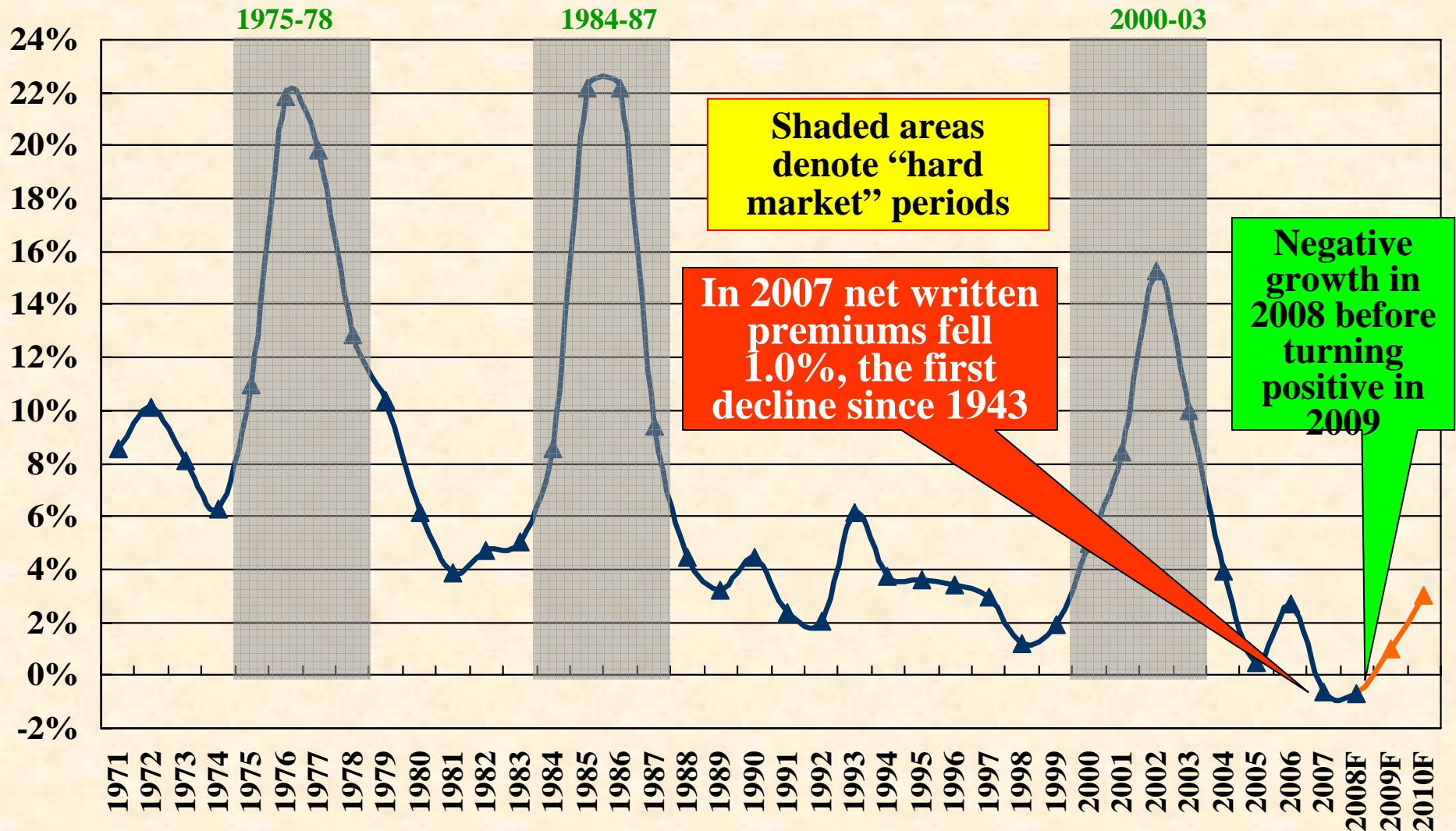
Source: A.M. Best, Lehman Brothers estimates for years 2007-2009

Premium Growth?





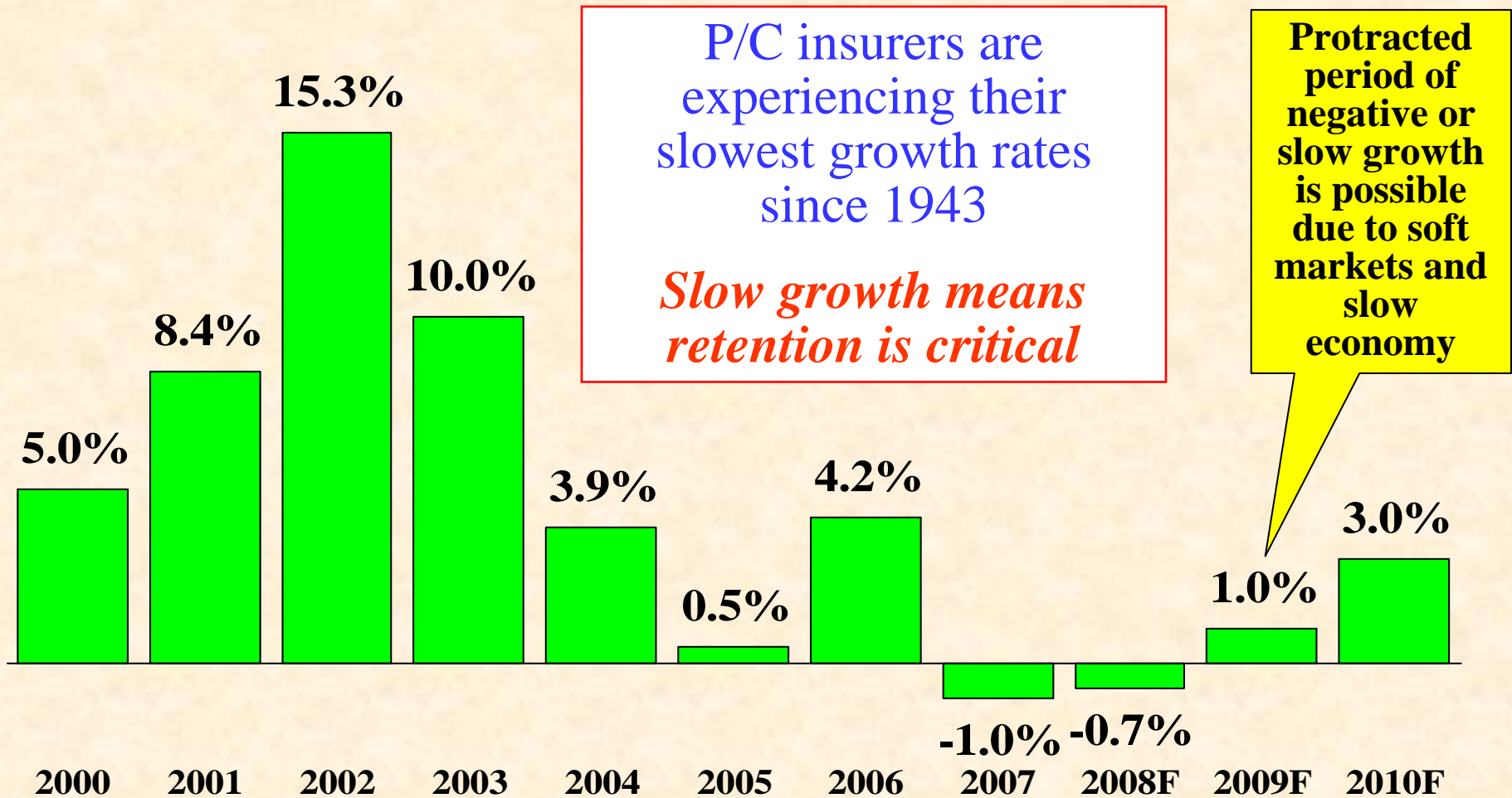
Strength of Recent Hard Markets by NWP Growth



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



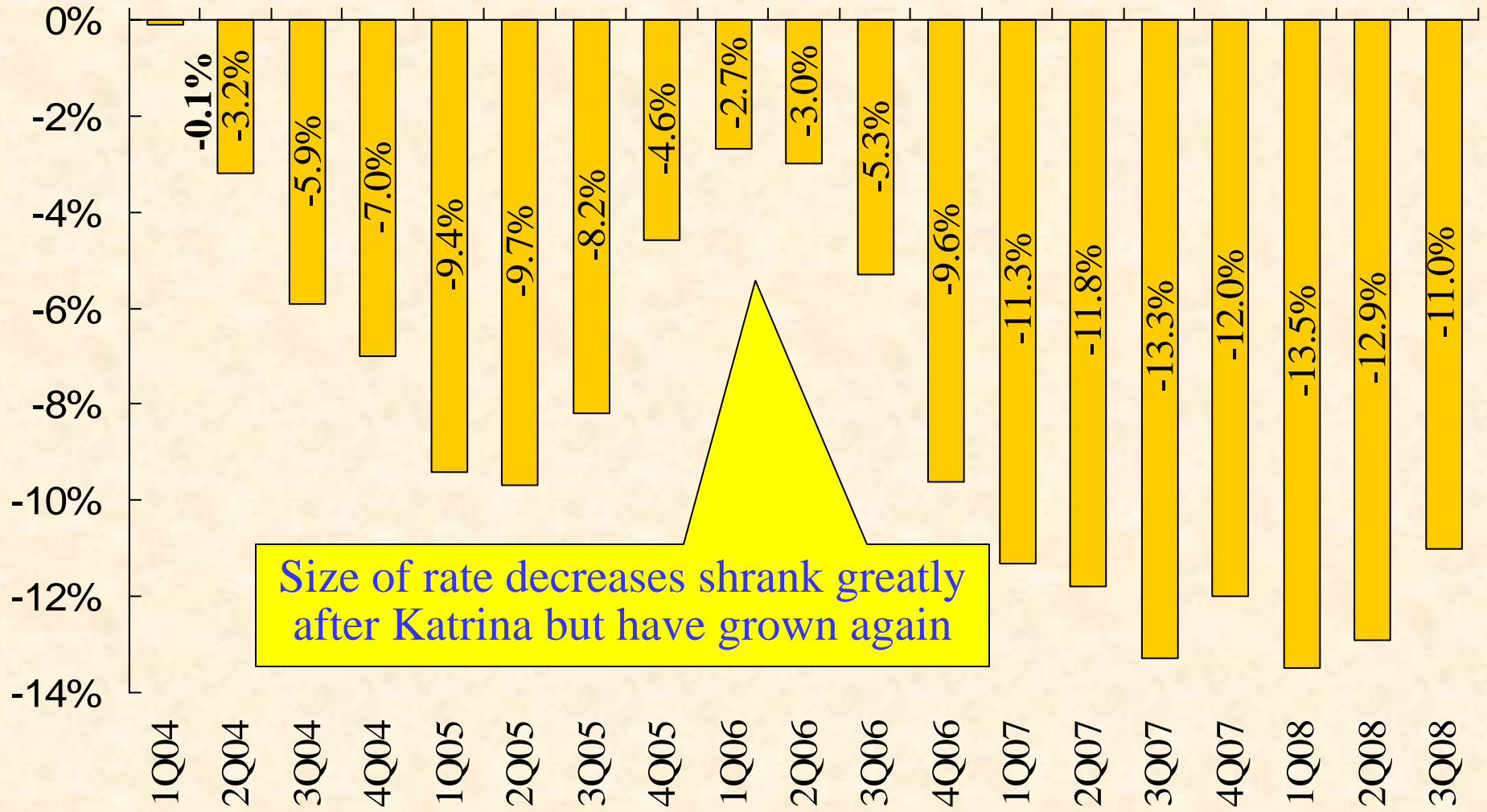
Year-to-Year Change in Net Written Premium, 2000-2010F



Source: A.M. Best (historical and forecast).



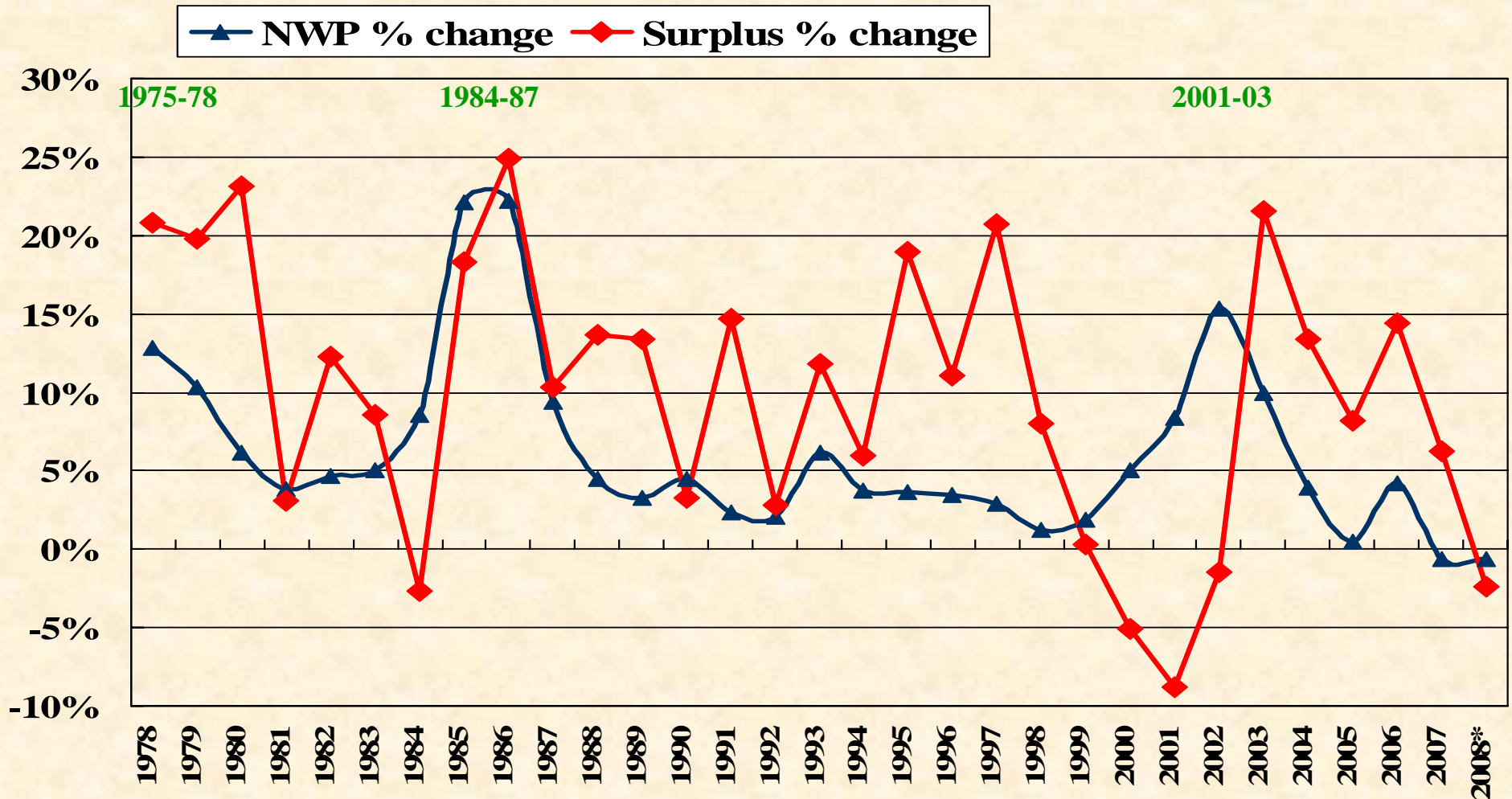
Commercial Account Pricing has Trended Down for 4+ years; Now Comparable to Mid-2001 Prices



Source: Council of Insurance Agents & Brokers



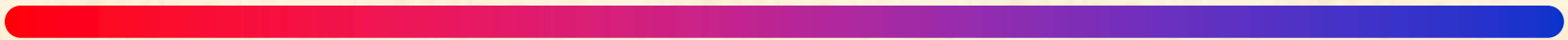
Historically, Hard Markets Follow When Surplus “Growth” is Negative



*actual 1st half of 2008

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

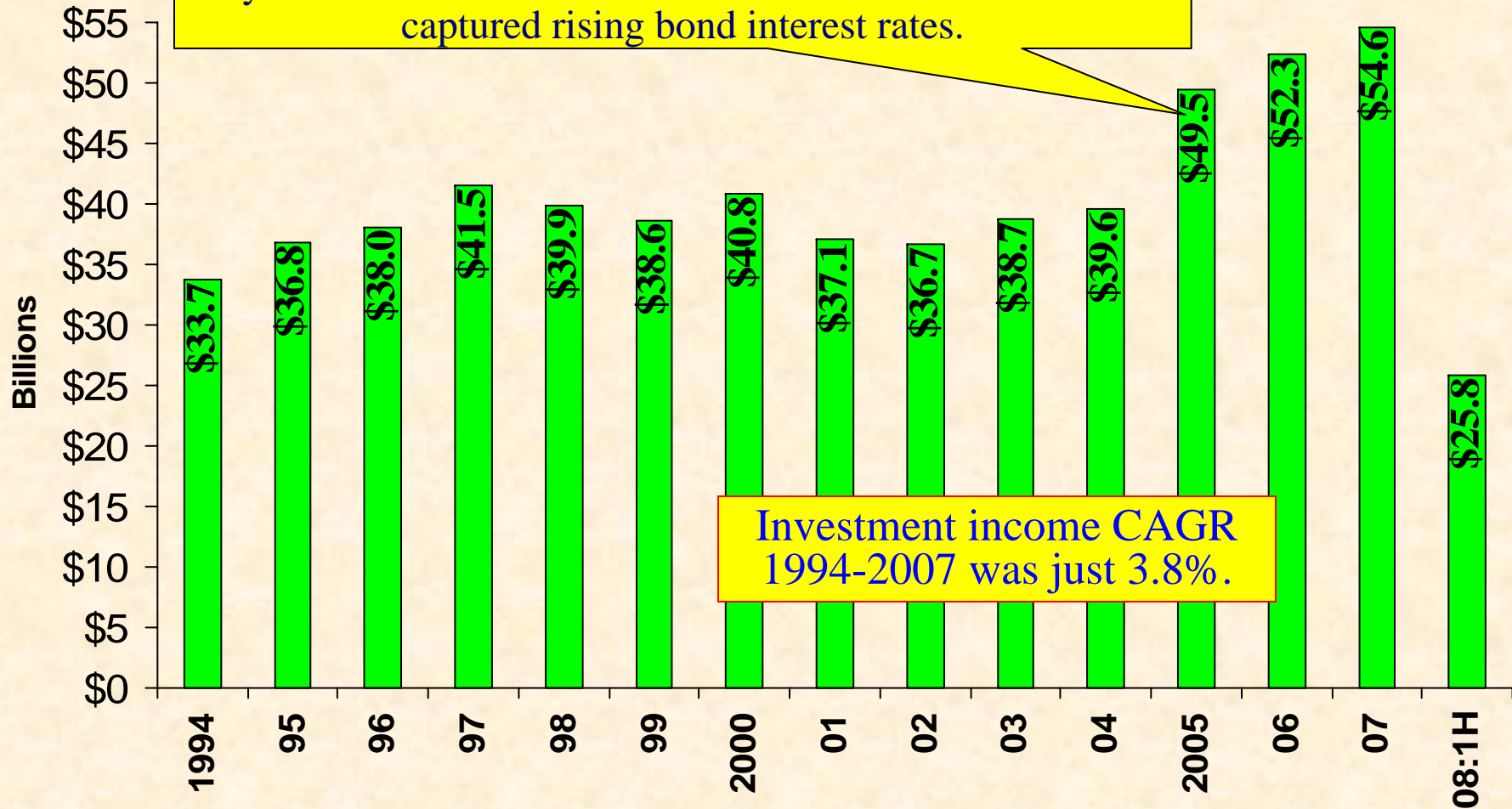
Investment Overview



P/C Industry Investment Income*, 1994-20081H



Investment income (excluding one-time dividend) jumped by 17% in 2005 as insurers which had accumulated cash captured rising bond interest rates.



Investment income CAGR 1994-2007 was just 3.8%.

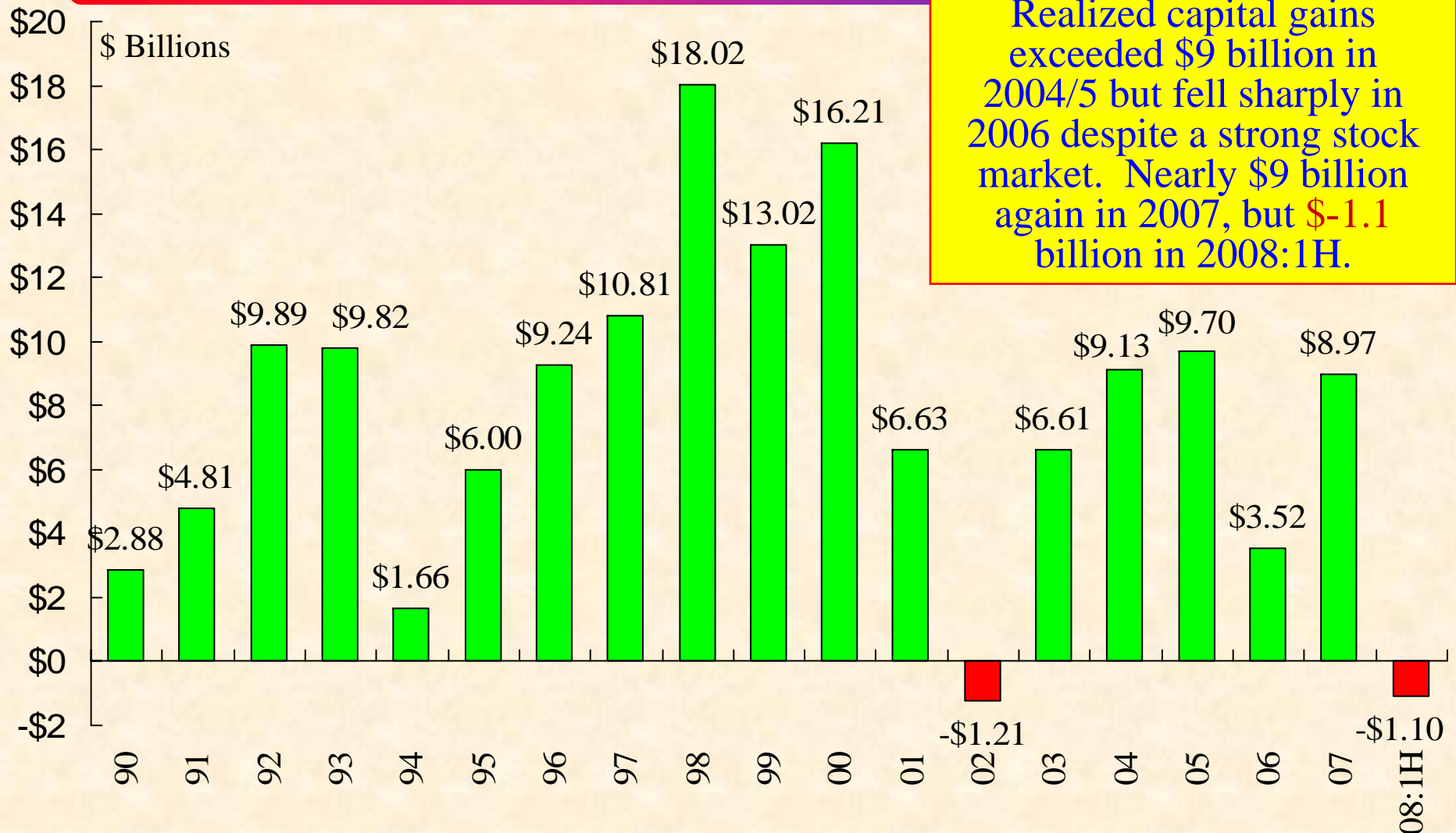
*Primarily interest and stock dividends.

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

Sources: ISO; Insurance Information Institute.



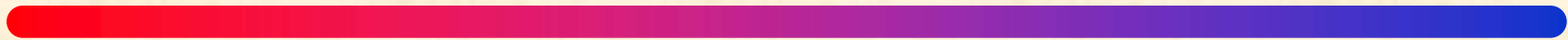
P/C Industry Net Realized Capital Gains, 1990-2008:1H



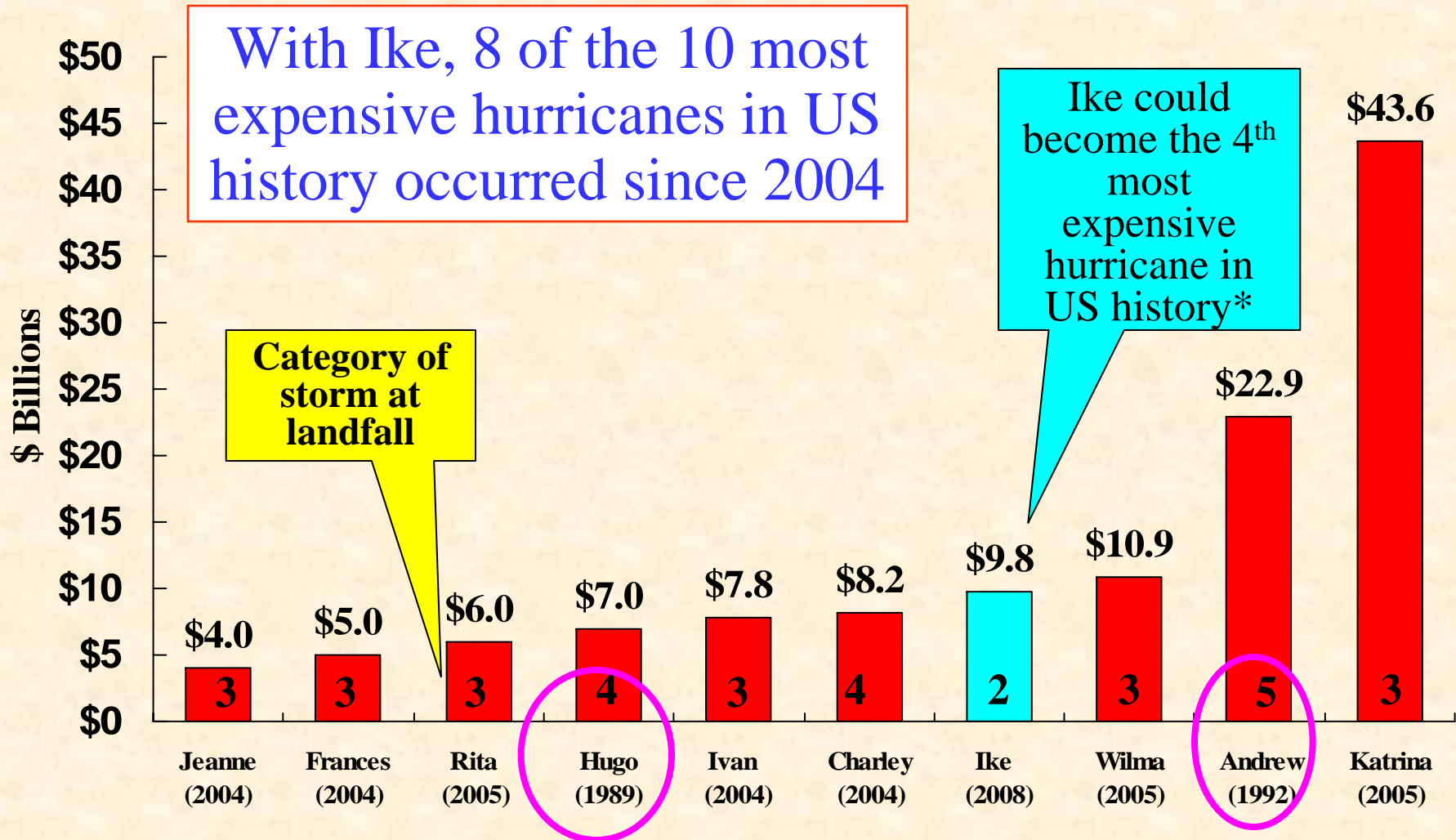
Sources: A.M. Best, ISO, Insurance Information Institute.

Catastrophic Loss

Catastrophes Don't Care
About Recessions



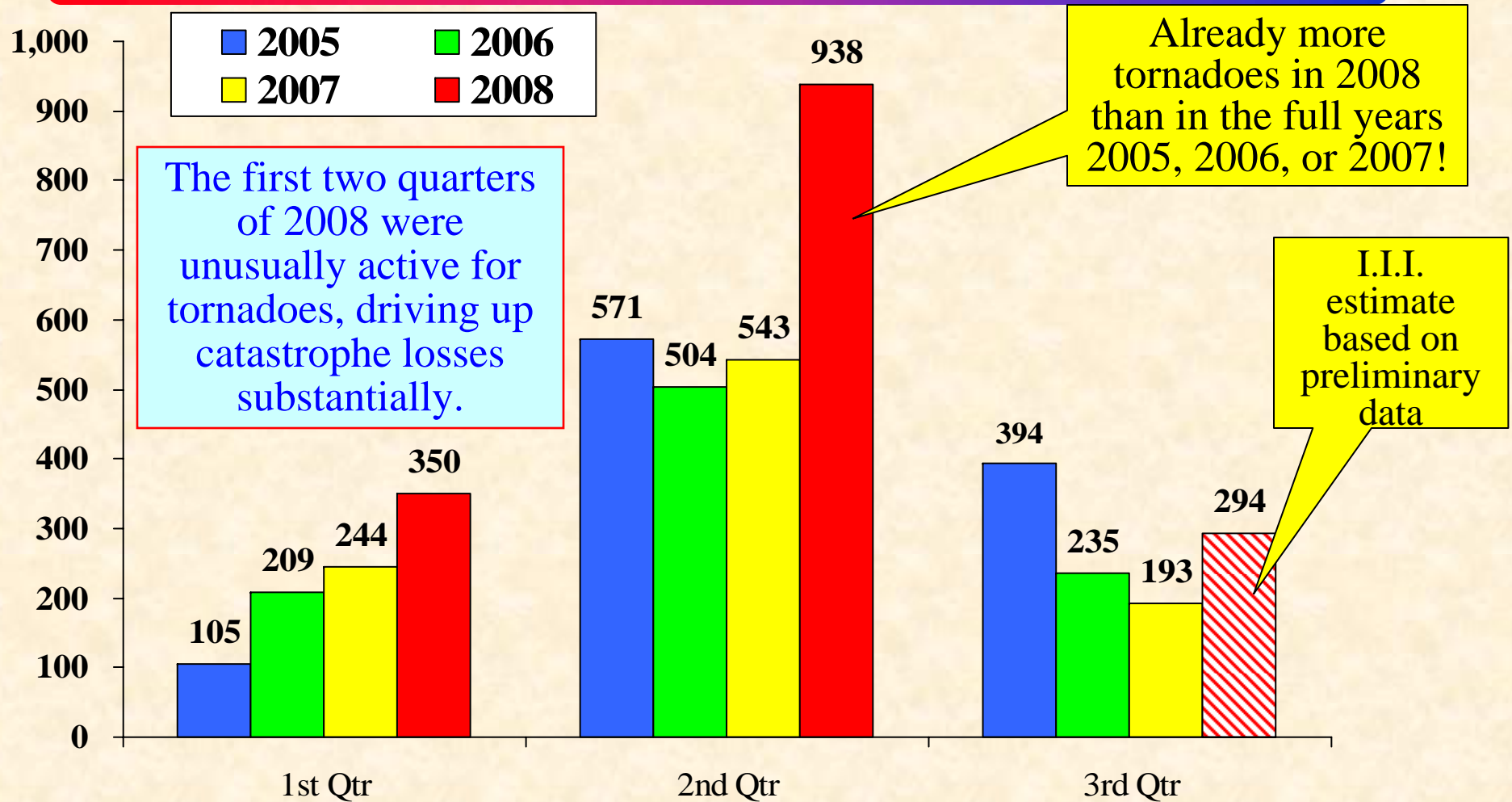
Top 10 Most Costly Hurricanes in US History, (Insured Losses, \$2007)



*Based on average of midpoints of range estimates from risk modelers AIR, RMS and Egecat as of 9/15/08. Sources: ISO/PCS; AIR Worldwide, RMS, Egecat; Insurance Information Institute inflation adjustments.



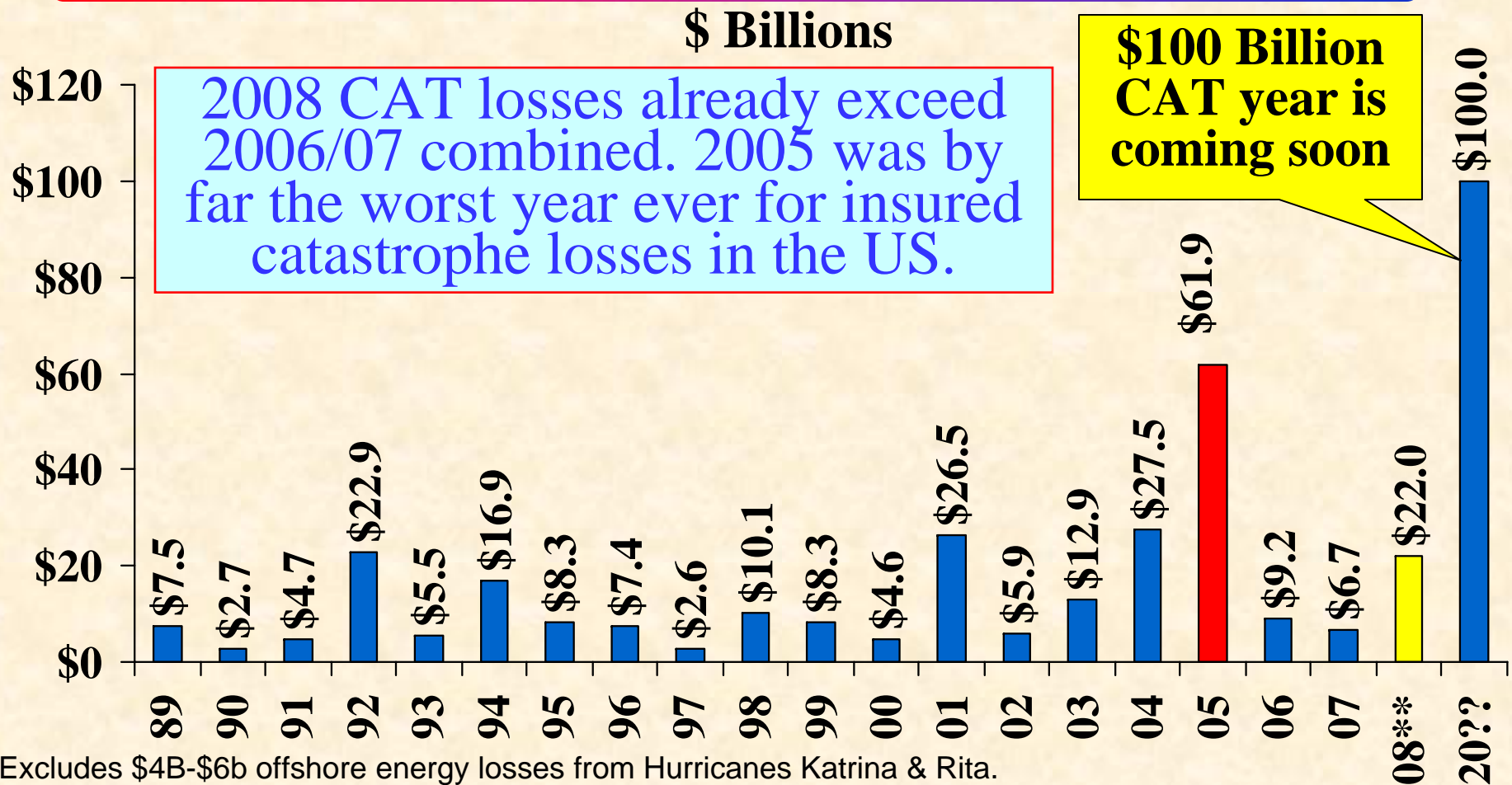
Number of Tornadoes in First Three Calendar Quarters, 2005–2008



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



U.S. Insured Catastrophe Losses*



2008 CAT losses already exceed 2006/07 combined. 2005 was by far the worst year ever for insured catastrophe losses in the US.

**\$100 Billion
CAT year is
coming soon**

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

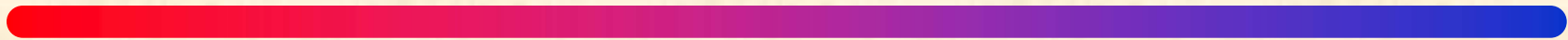
**Based on preliminary PCS data through June 30. PCS \$1.8B loss of for Gustav. \$9.8B for Ike of 9/22.

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

Profitability

**Profits in 2006/07 Reached
A Cyclical Peak**



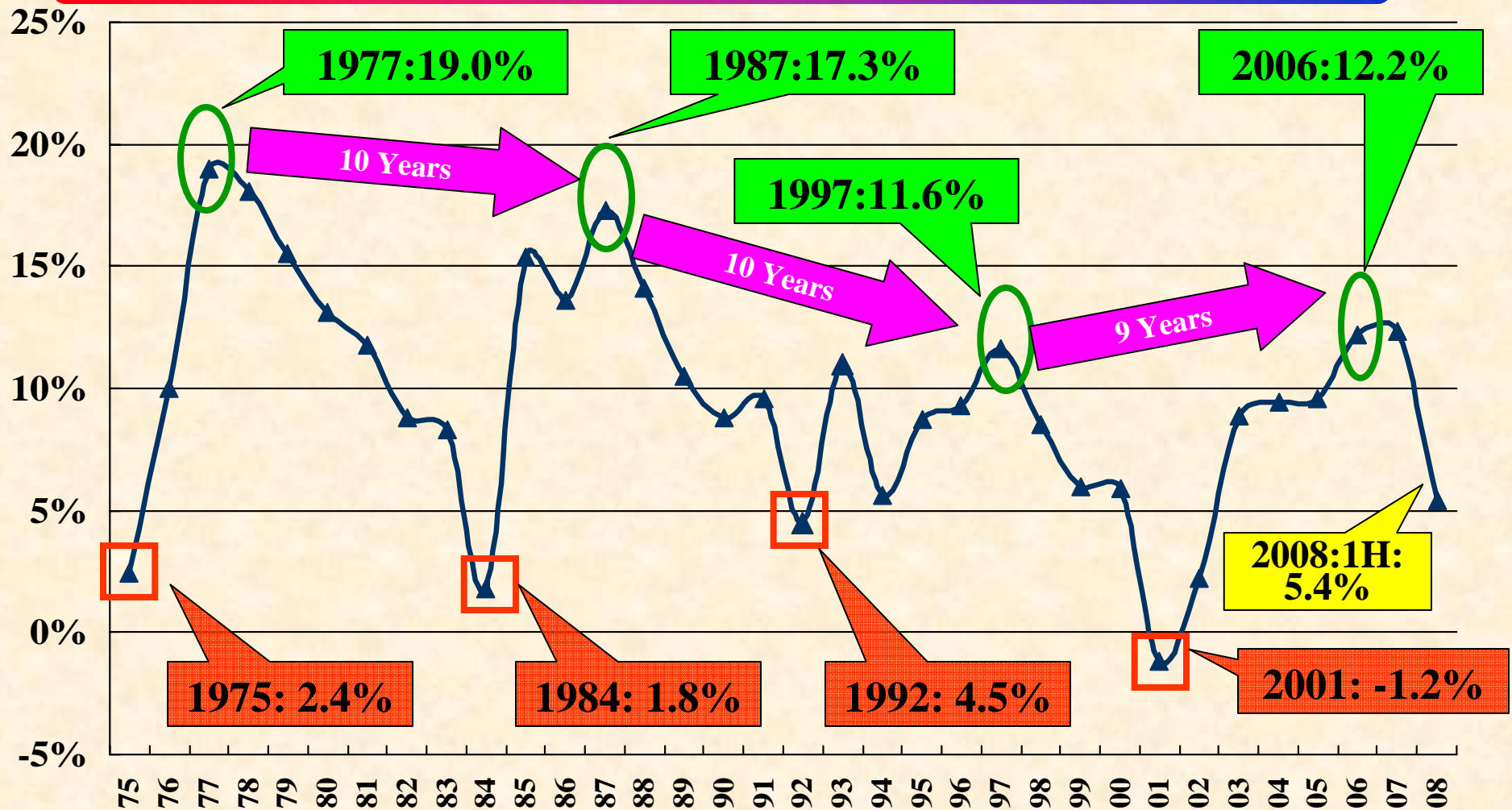


Understanding Insurance Cycles

“...an important part of running a disciplined reinsurance company is to have no annual growth goals. This is a cyclical business. ... The cycle is driven by the fact that when reinsurers sell a product we don't know the cost of it at that time. The pricing process involves making decisions based on big assumptions.”

--Tad Montross, CEO of Gen Re, in the November 2008 issue of Reactions, p. 23.

Profitability Peaks & Troughs in the P/C Insurance Industry, 1975 – 2008:1H

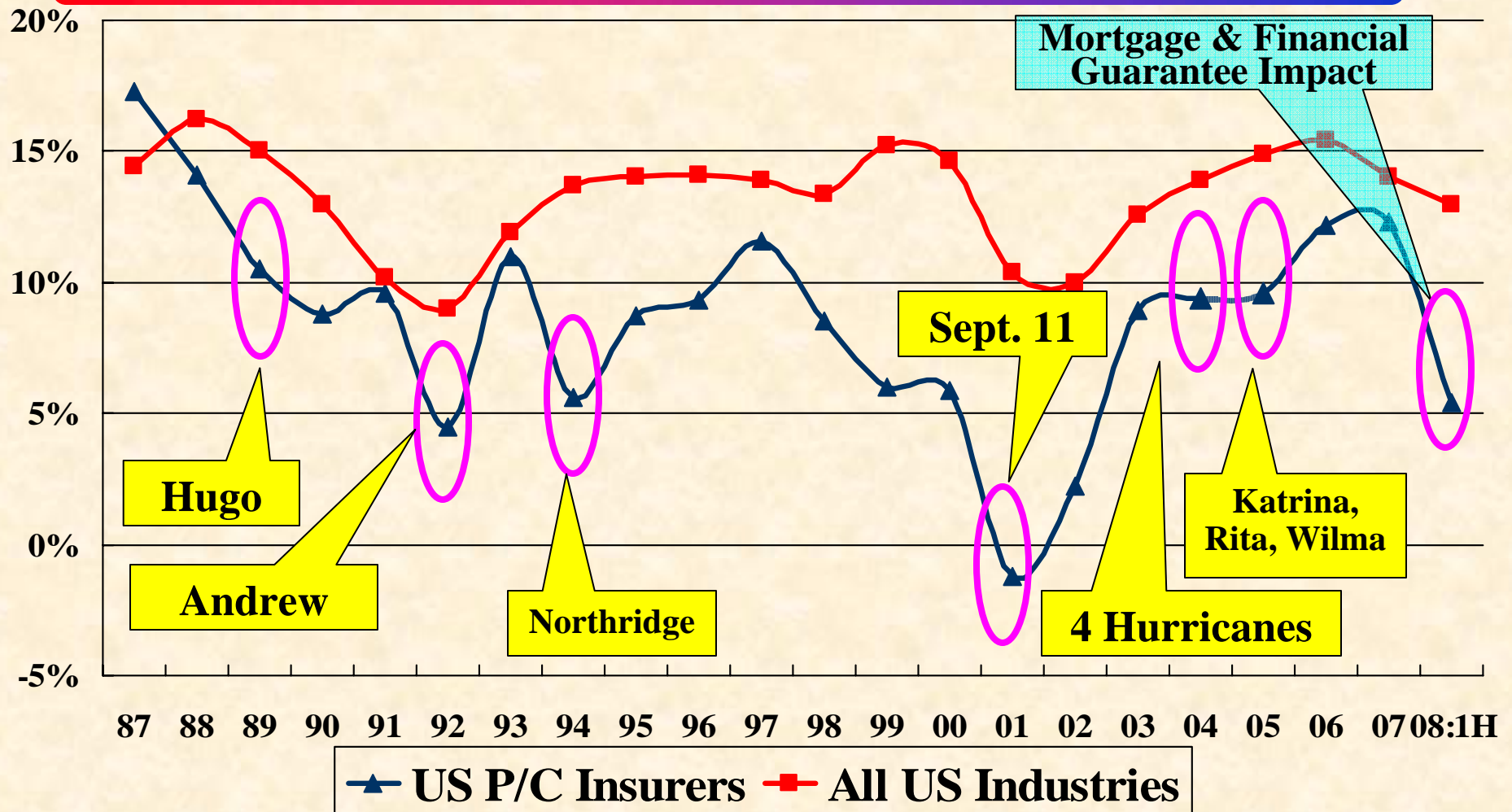


*GAAP ROE for all years except 2007 which is ROAS of 12.3%. All figures include mortgage and financial guarantee insurers. Excluding M&FG insurers 2008:Q1 ROAS is 7.6%.

Sources: Insurance Information Institute, ISO



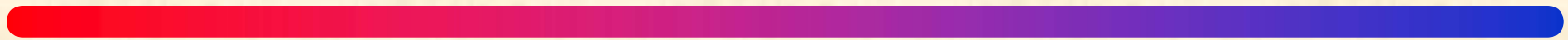
ROE: U.S. P/C Insurance Industry vs. Fortune 500



2008 P/C insurer figure is annualized 1H return on average surplus. Excluding mortgage and financial guarantee insurers = 7.6%.

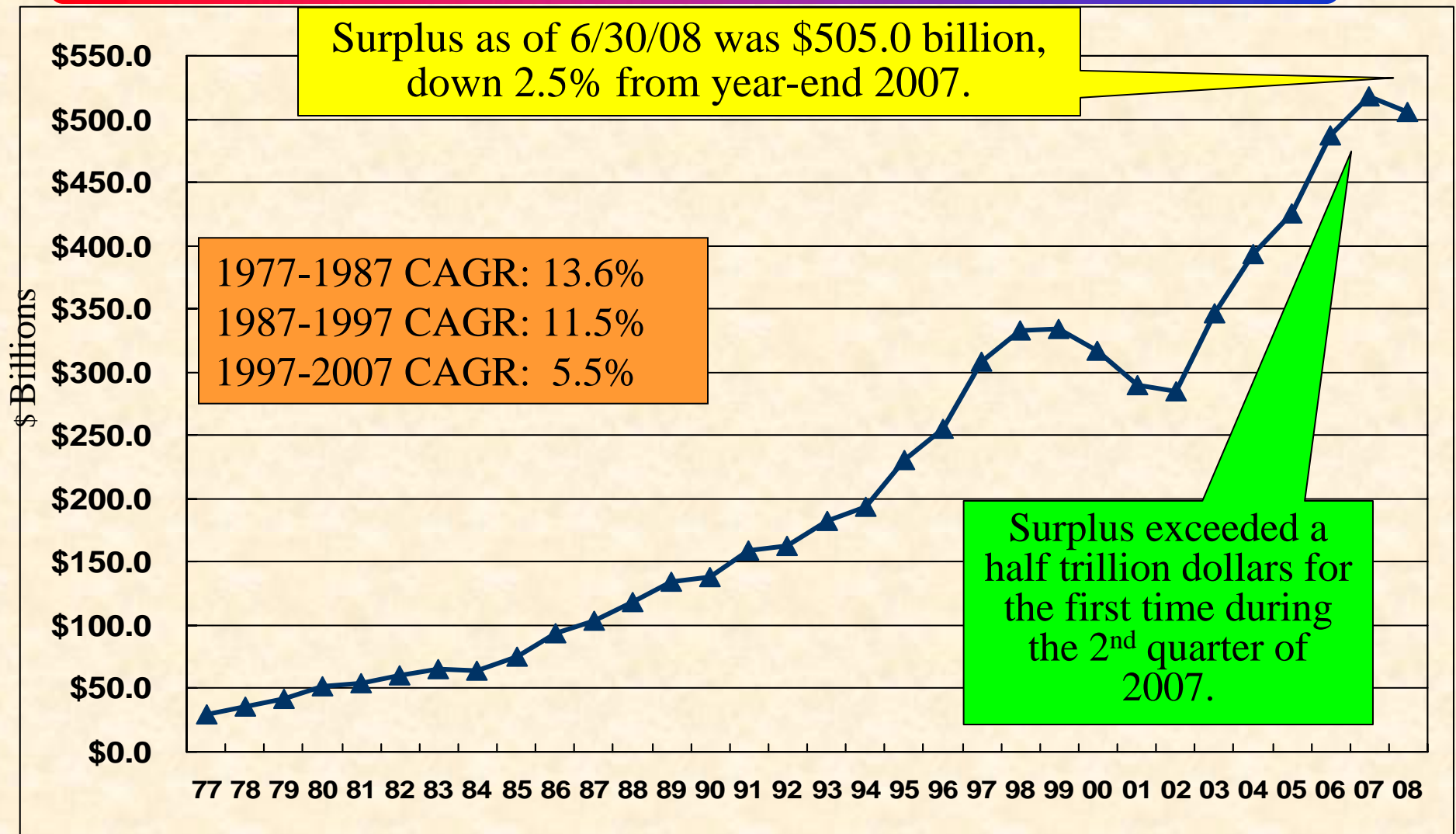
Source: ISO, *Fortune*; Insurance Information Institute.

Financial Strength



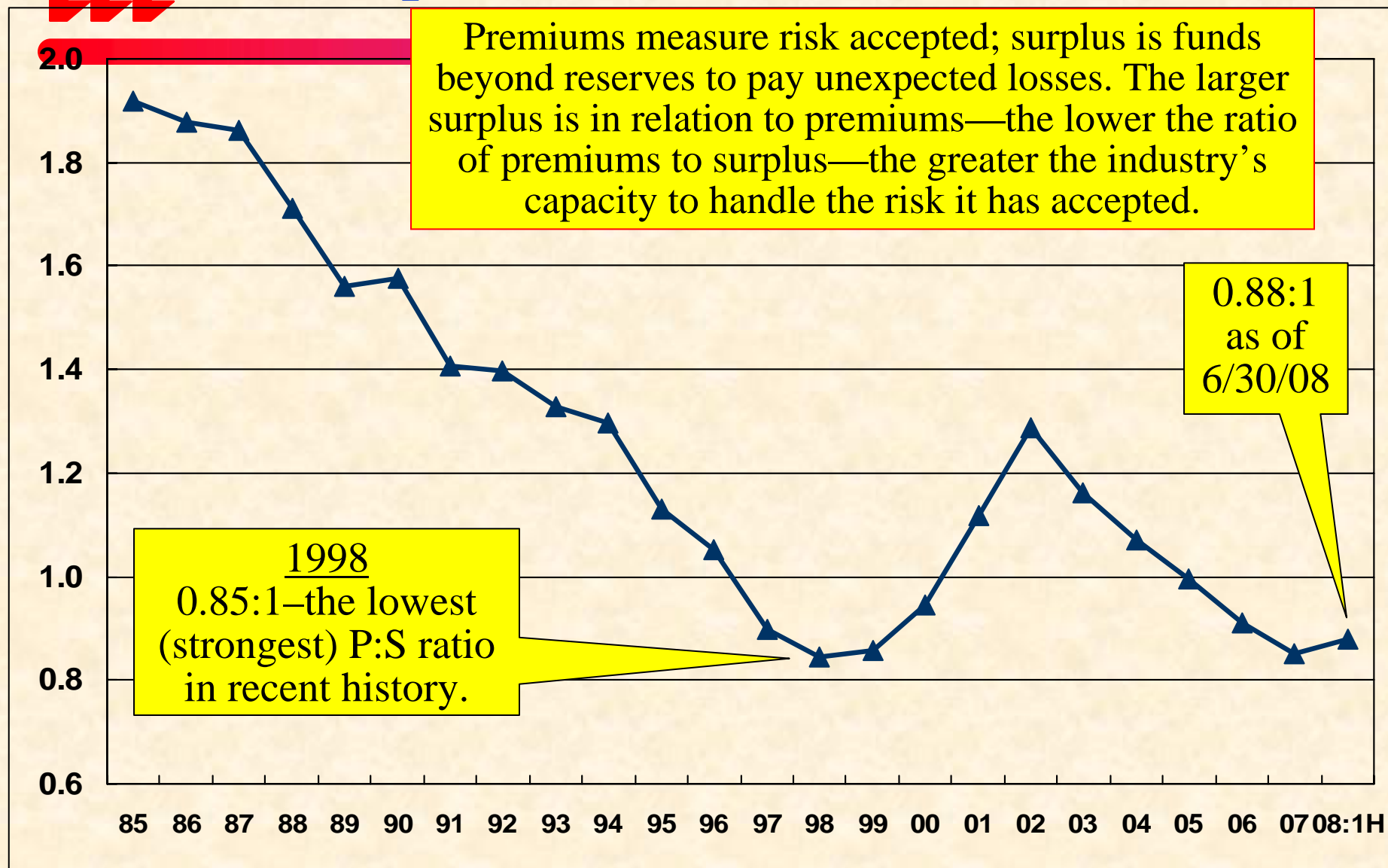


U.S. P/C Industry Policyholder Surplus: 1977-2008:1H



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

U.S. P/C Industry Premiums-to-Surplus Ratio: 1985-2008:1H

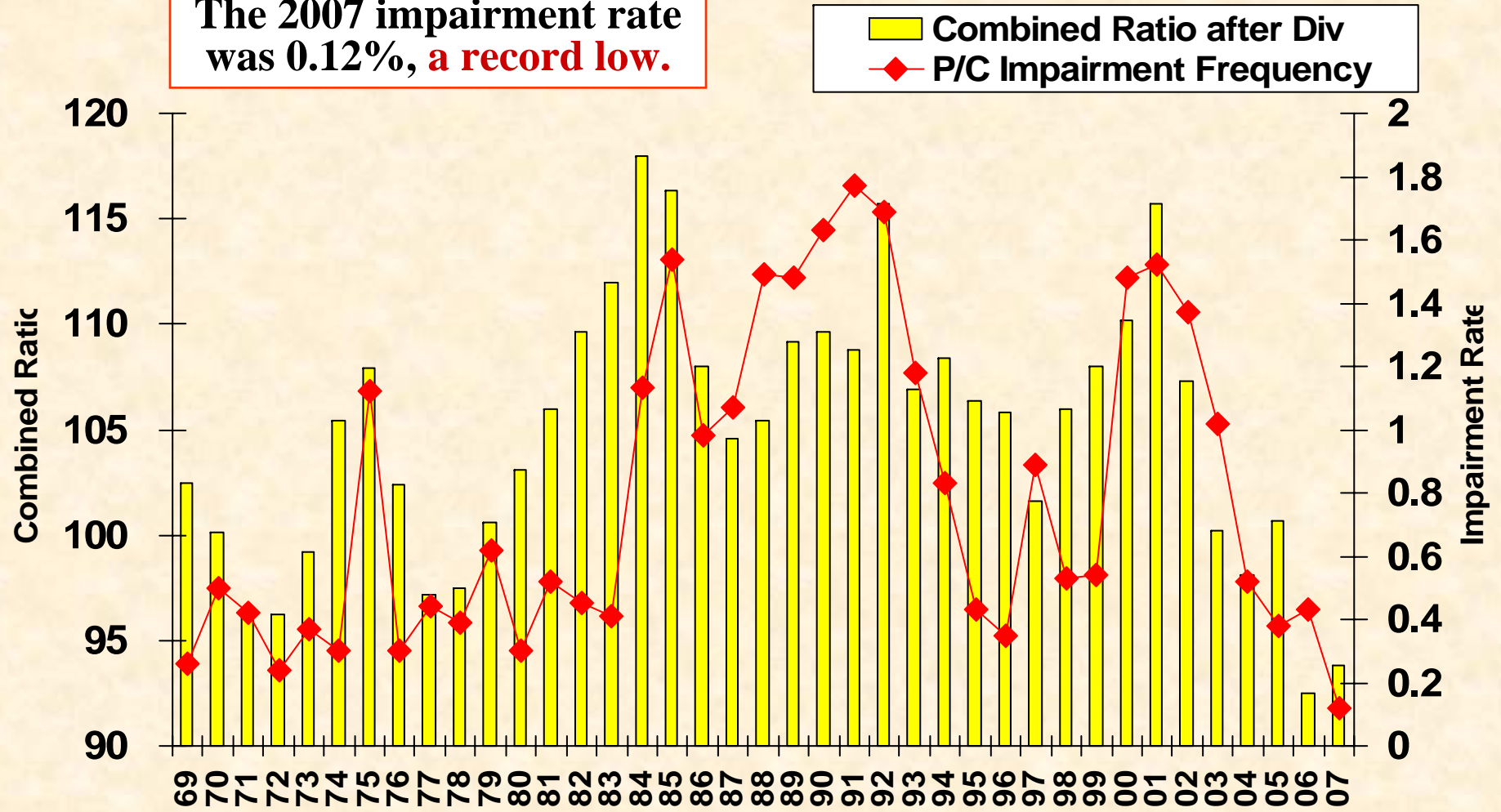


Sources: A.M. Best, ISO, Insurance Information Institute.



P/C Insurer Impairment Rates are Highly Correlated with Underwriting Performance

The 2007 impairment rate was 0.12%, a record low.

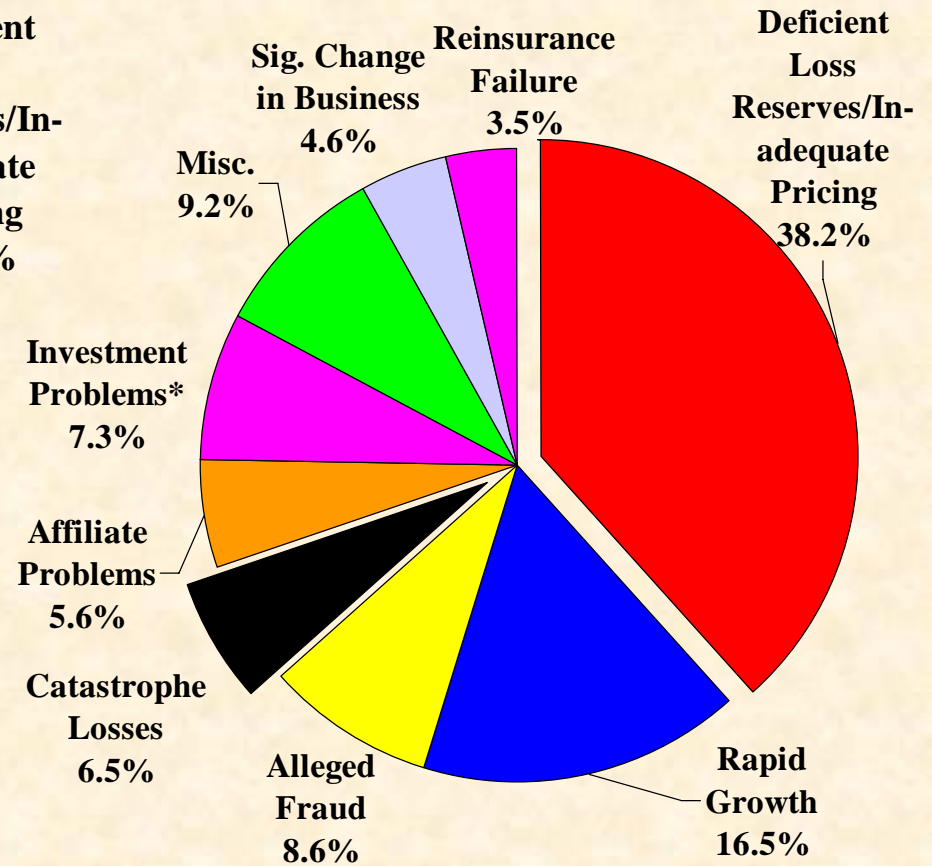
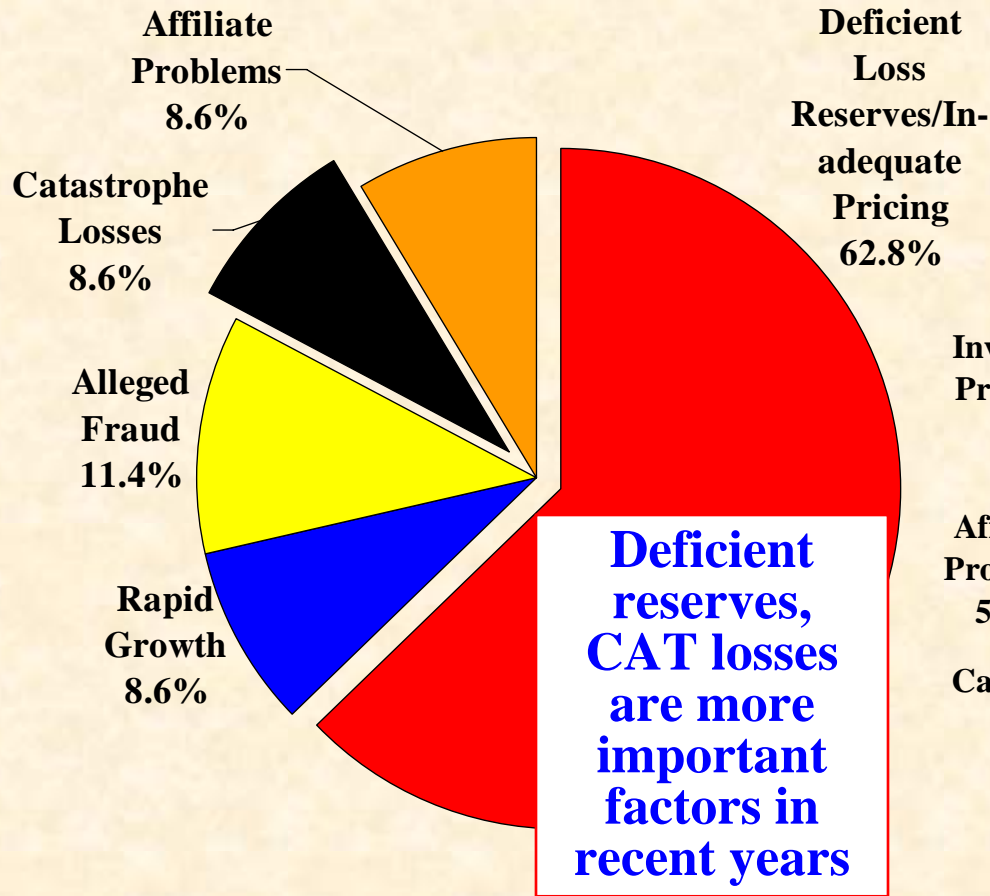




Reasons for US P/C Insurer Impairments, 1969-2005

2003-2005

1969-2005



*Includes overstatement of assets.

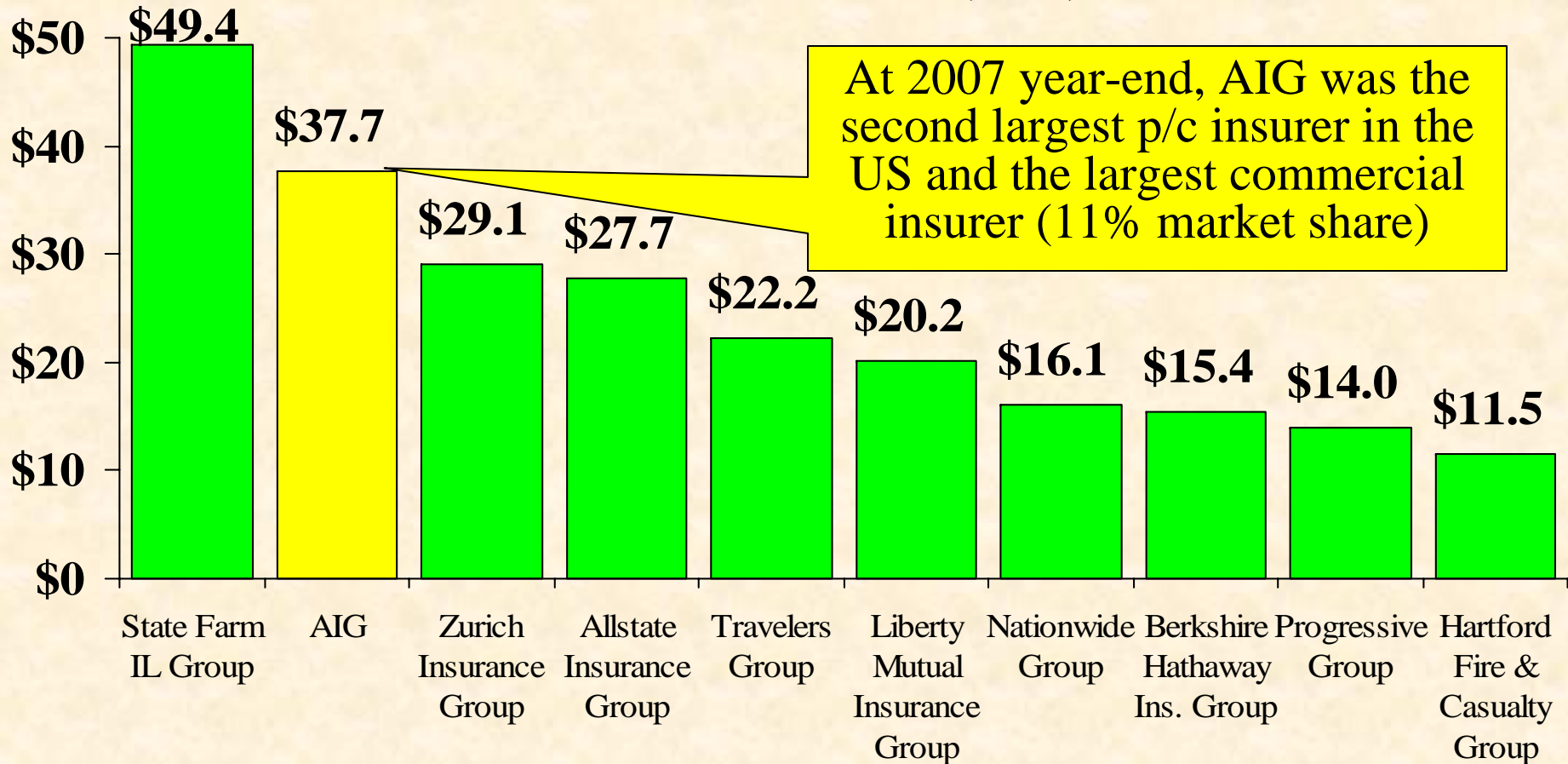
Government Rescue Package of AIG





Leading U.S. Writers of P/C Insurance By DWP, 2007¹

Direct Written Premiums (DWP) \$ Billions

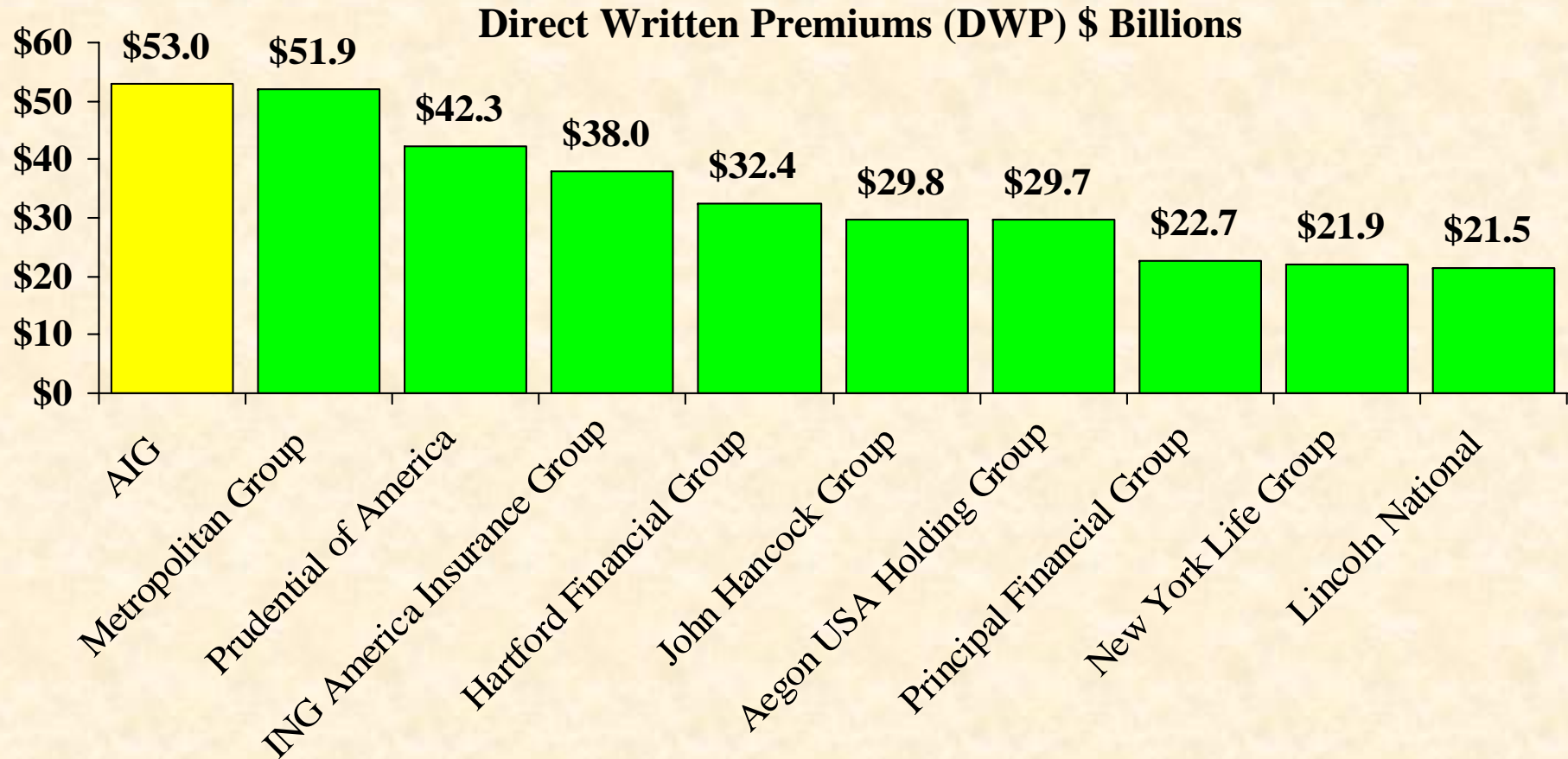


¹Before reinsurance transactions, excluding state funds.

Source: National Association of Insurance Commissioners (NAIC) Annual Statement Database, via Highline Data LLC.



Leading U.S. Writers of Life Insurance By DWP, 2007¹



¹Premium and annuity totals, before reinsurance transactions, excluding state funds.

Source: National Association of Insurance Commissioners (NAIC) Annual Statement Database, via Highline Data LLC.



Why Did AIG Need Rescuing?

- AIG—the holding company—had to raise billions instantly due to need for collateral to offset declining values of large positions, mostly associated with Credit Default Swaps, related to mortgage debt through its AIG Financial Products division
- The losses at AIGFP brought AIG's holding company to the brink of bankruptcy by Sept. 16 (AIG has 71 insurance divisions)
- AIG's separately regulated insurance subsidiaries were solvent at all times and met local capital requirements in all jurisdictions*



Revised “Rescue” Treatment of AIG vs. Eight Large Banks

	AIG	8 Large Banks*
U.S. Treasury’s ownership	\$40 billion in preferred stock	Non-voting preferred stock; no dilution of common stock ownership
Interest/ Dividends Payable to Treasury	<ul style="list-style-type: none">• 8.5% on unused line of credit up to \$60 billion• 8.5% + 3-month LIBOR on borrowed money (total as of 11/6 = 10.79%)• 2% one-time fee on credit line	<ul style="list-style-type: none">• 5% on preferred stock**, rising to 9% after 5 years• Can borrow from the Fed’s discount “window” for as little as 1.75%

*Citigroup, Bank of America (includes Merrill Lynch), JPMorganChase, Wells Fargo, Goldman, MorganStanley, State Street, Bank of New York Mellon. **\$25 billion for Citi, BoA, JPMorgan, and Wells; \$10 billion for Goldman and Morgan Stanley; \$3 billion for BONY; \$2 billion for State Street.

Sources: M. Karnitschnig, L. Plevin, and S. Ng, “Government Hikes AIG Bailout to \$150 Billion With New Deal,” *Wall Street Journal*, Nov. 10, 2008, p. A1; A. R. Sorkin and M. W. Walsh, “A.I.G. May Get More in Bailout,” *New York Times*, Nov. 10, 2008.



Revised “Rescue” Treatment of AIG vs. Eight Large Banks (cont’d)

	AIG	8 Large Banks*
Time limit to pay off credit line	5 years	Indefinite
“Toxic” assets to be bought by U.S. Treasury	\$50 billion	No specified cap on purchases
Access U.S. Treasury’s commercial paper program?	Yes, up to \$20.9 billion; this is a cheaper source of funds than \$85b loan (under 3.9% since program started)	Yes
Access U.S. Treasury liquidity for securities lending	Yes, up to \$38 billion	Yes

*Citigroup, Bank of America (includes Merrill Lynch), JPMorganChase, Wells Fargo, Goldman, MorganStanley, State Street, Bank of New York Mellon.



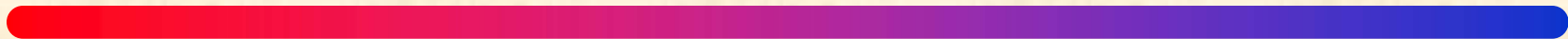
New U.S. Treasury Plan for AIG's "Troubled Assets"

- Create a \$35 billion fund to hold AIG's CDOs (credit default swaps?)
 - \$5 billion from AIG; \$30 billion from U.S. Treasury
 - Fund would buy AIG's CDOs for "50 cents on the dollar"—holding up to \$70 billion of CDOs
- Create a fund, from a \$20 billion U.S. Treasury investment—to hold AIG's residential mortgage-backed securities
- These funds would remove these "troubled assets" from AIG's balance sheet
 - AIG wouldn't have to provide more collateral as the value of its CDOs decline

AFTERSHOCK:

Regulatory Response Could Be
Revolutionary

It's Likely All Financial Segments
—Including Insurers—
Will Be Affected





Post-Crisis: U.S. Regulatory Issues & Insurance

- Removing the “O” from “OFC”?
 - In March Treasury proposed moving solvency and consumer protection authority to a federal “Office of National Insurance”
 - Will we get Federal regulation of insurance as part of an approach for regulating all financial services in one place, under the Fed or Treasury?
 - States will fight to maximize their role, arguing that the financial services firms under their control had the least problems
 - Will the drive for “principles-based reserving” be abandoned (because it relies heavily on regulated companies creating standards for themselves)?



*Insurance Information
Institute On-Line*

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