
ORACLE®

INSURANCE INFORMATION INSTITUTE

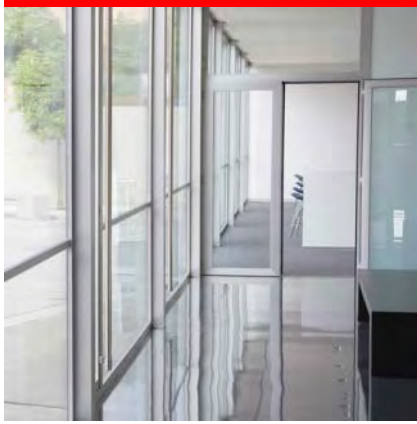
ORACLE INSURANCE

ORACLE

Underwriting Profitability: Leveraging Policy and Claims Data Together

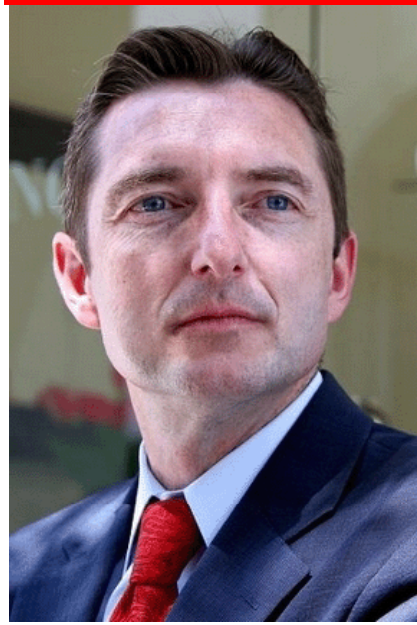
Robert Hartwig, President & Economist, Insurance Information Institute
Jason McDonald, Director of Development and Strategy, Oracle

Program Agenda



- P&C Industry financial overview
- Underwriting performance by segment
- Catastrophe loss developments and trends
- Other contributing factors to underwriting cycle and profitability
- Taking the “what” and asking “why”?

Speaker Bio: Robert Hartwig



- Robert P. Hartwig is president of the Insurance Information Institute. Since joining the I.I.I. in 1998 and becoming chief economist in 1999, Dr. Hartwig has focused his work on improving understanding of key insurance issues across all industry stakeholders
- Dr. Hartwig received his Ph.D. and Master of Science degrees in economics from the University of Illinois at Urbana-Champaign. He also received a Bachelor of Arts degree in economics cum laude from the University of Massachusetts at Amherst. He has served as an instructor at the University of Illinois and at Florida Atlantic University. Dr. Hartwig also holds the Chartered Property Casualty Underwriter (CPCU) credential.

Speaker: Jason McDonald

Director, Product Strategy and Development, Oracle

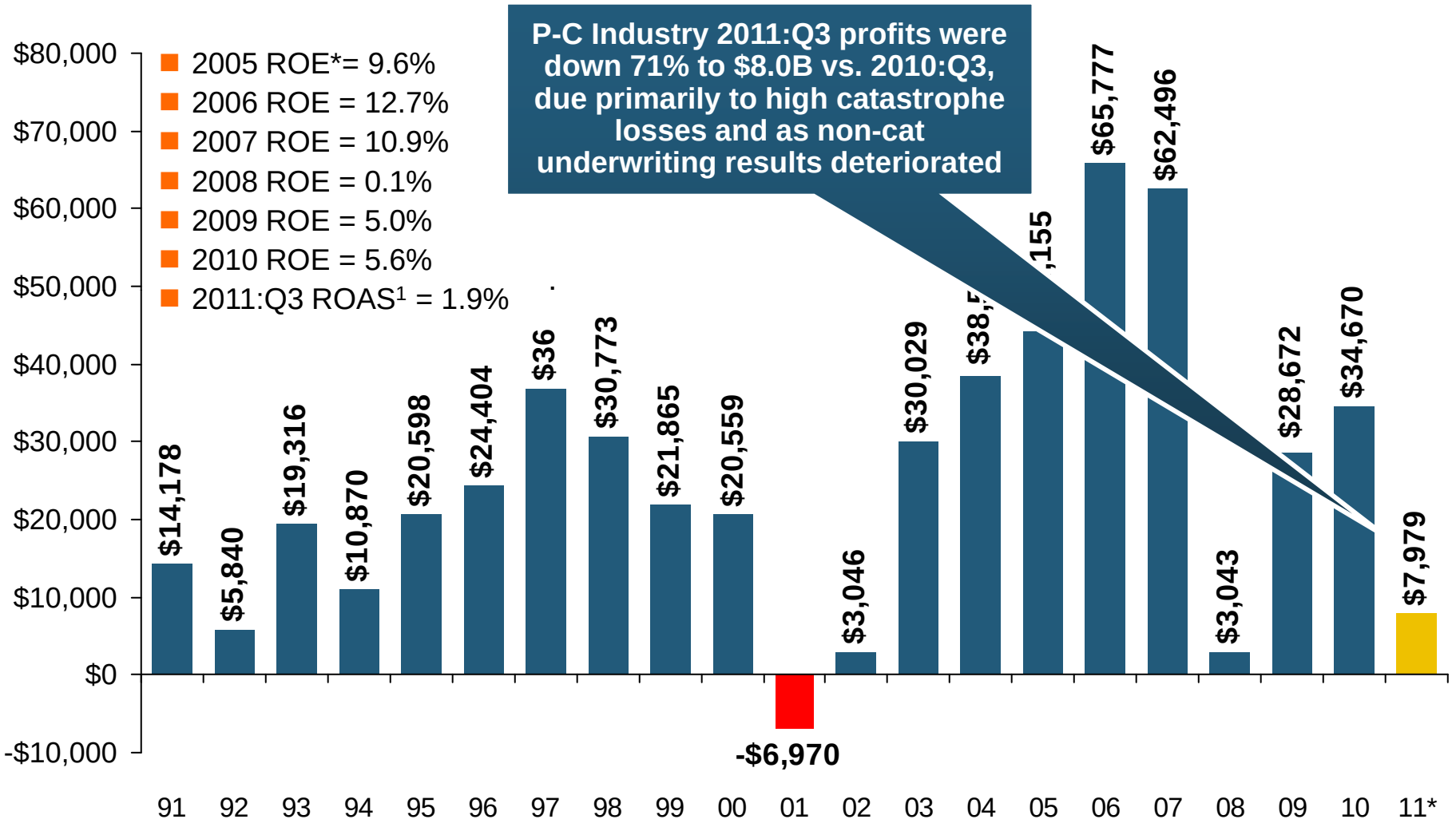
- Jason McDonald is the director of product strategy and development for Oracle insurance business intelligence and analytics platforms
- As an industry thought leader, Jason originated and continues to champion the concept of “adaptive data modeling,”
- He has more than 13 years experience in the software development industry, and has worked in marketing, development and strategy capacities, giving him unique insight on both the business and technical aspects of software applications. Jason has been published in various insurance publications on a number of topics ranging from business intelligence to underwriting.

INSURANCE INFORMATION INSTITUTE

P/C Insurance Industry Financial Overview

Profit Recovery Was Set Back in 2011 by High Catastrophe Loss & Other Factors

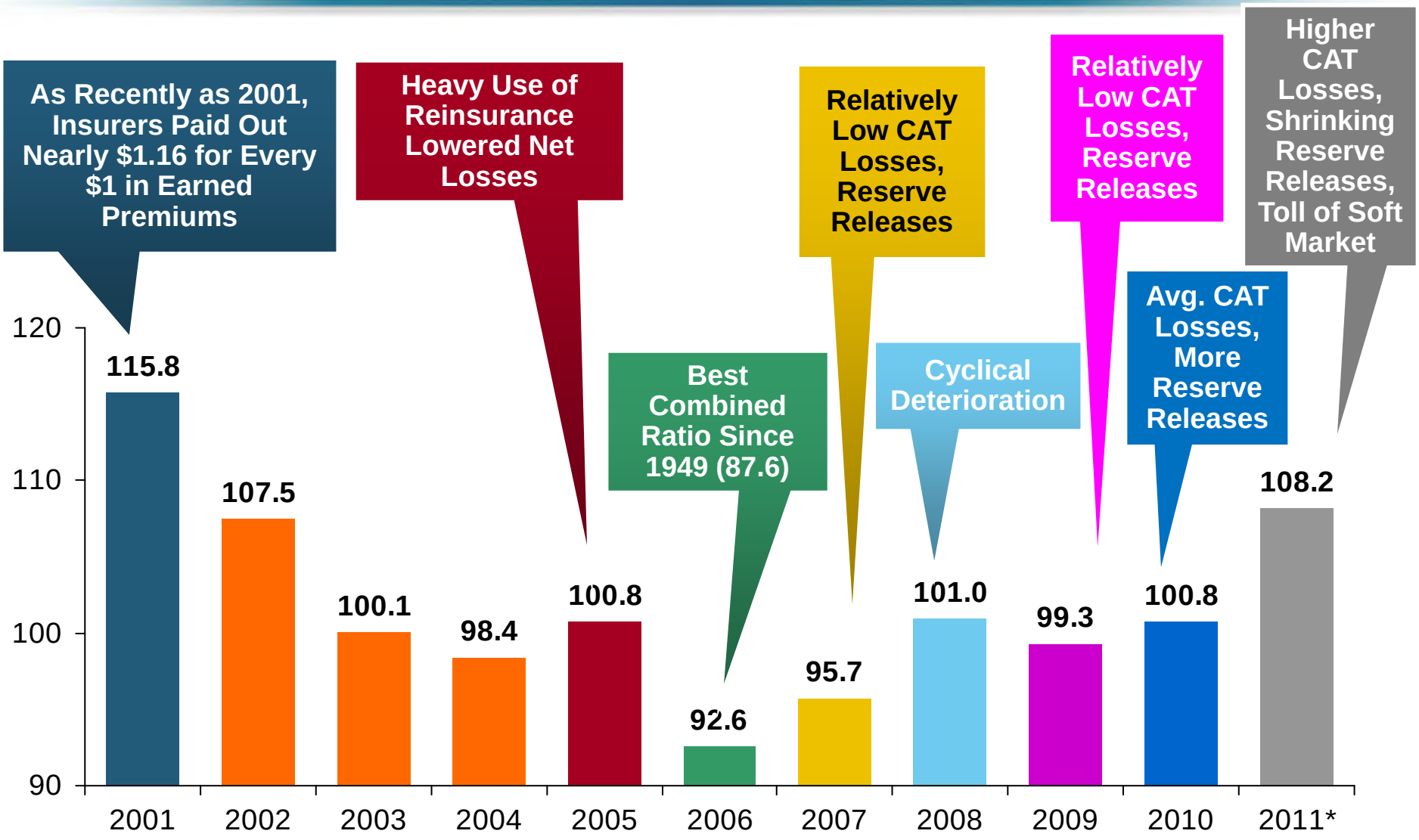
P/C Net Income After Taxes 1991–2011:Q3 ($ Millions)



* ROE figures are GAAP; [1]Return on avg. surplus. Excluding Mortgage & Financial Guaranty insurers yields a 3.0% ROAS for 2011:Q3, 7.5% for 2010 and 7.4% for 2009.

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

P/C Insurance Industry Combined Ratio, 2001–2011:Q3*



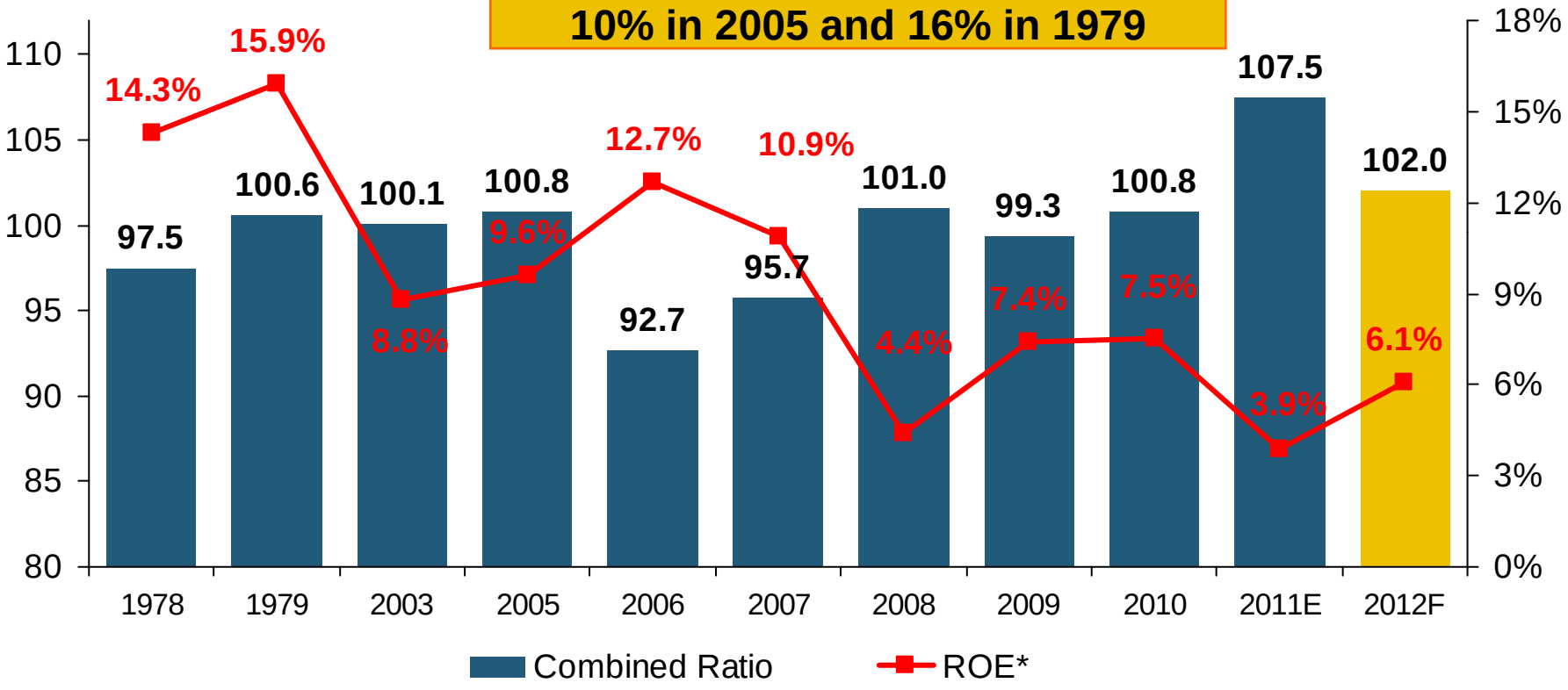
* Excludes Mortgage & Financial Guaranty insurers 2008--2011. Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=109.9
Sources: A.M. Best, ISO.

A 100 Combined Ratio Isn't What It Once Was: Investment Impact on ROEs

INSURANCE INFORMATION INSTITUTE

Combined Ratio / ROE

A combined ratio of about 100 generated ~7.5% ROE in 2009/10, 10% in 2005 and 16% in 1979

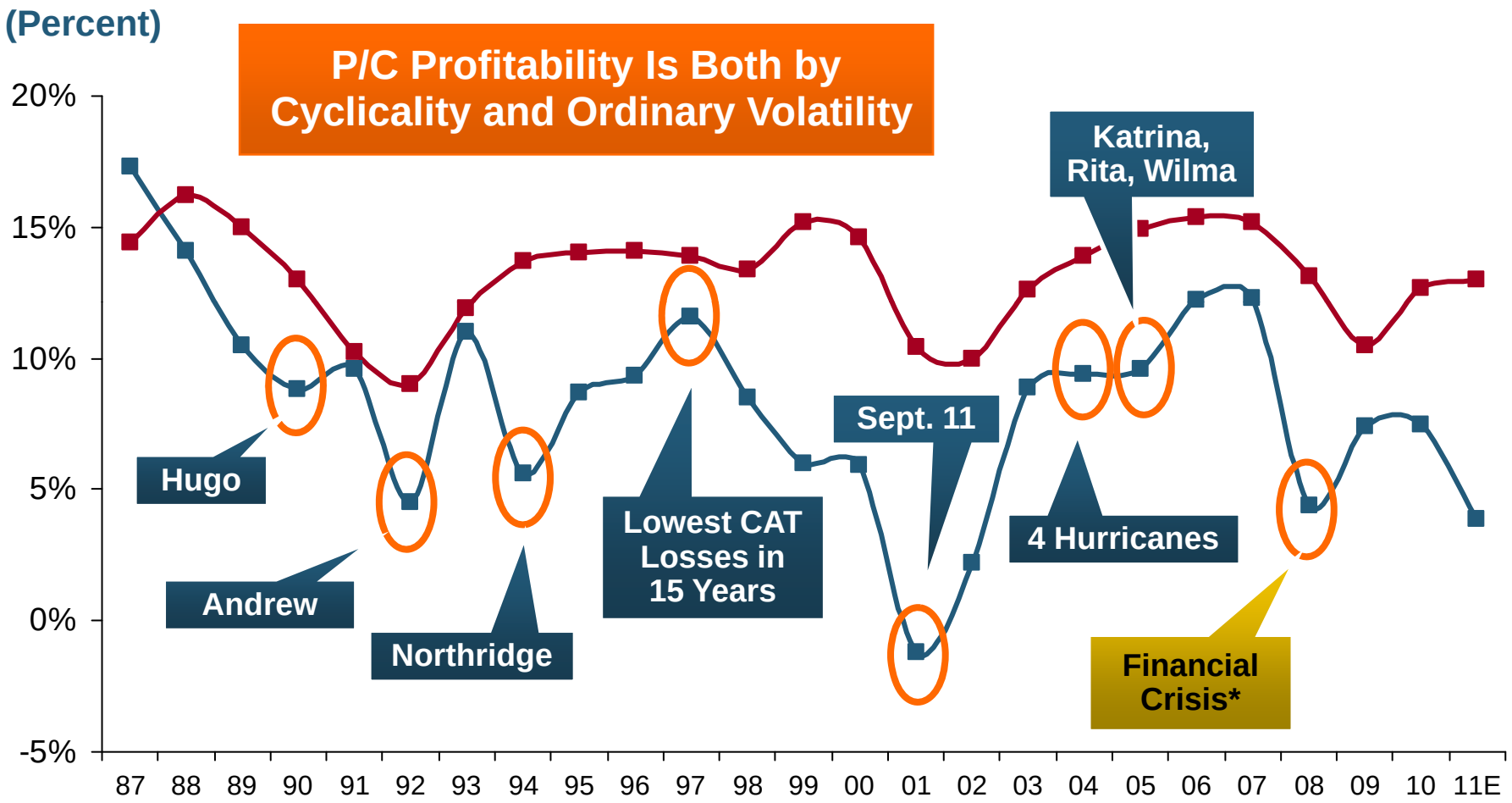


Combined Ratios Must Be Lower in Today's Depressed Investment Environment to Generate Risk Appropriate ROEs

* 2008 -2010 figures are return on average surplus and exclude mortgage and financial guaranty insurers. 2011-12 combined ratios are A.M. Best estimate excl. M&FG insurers.

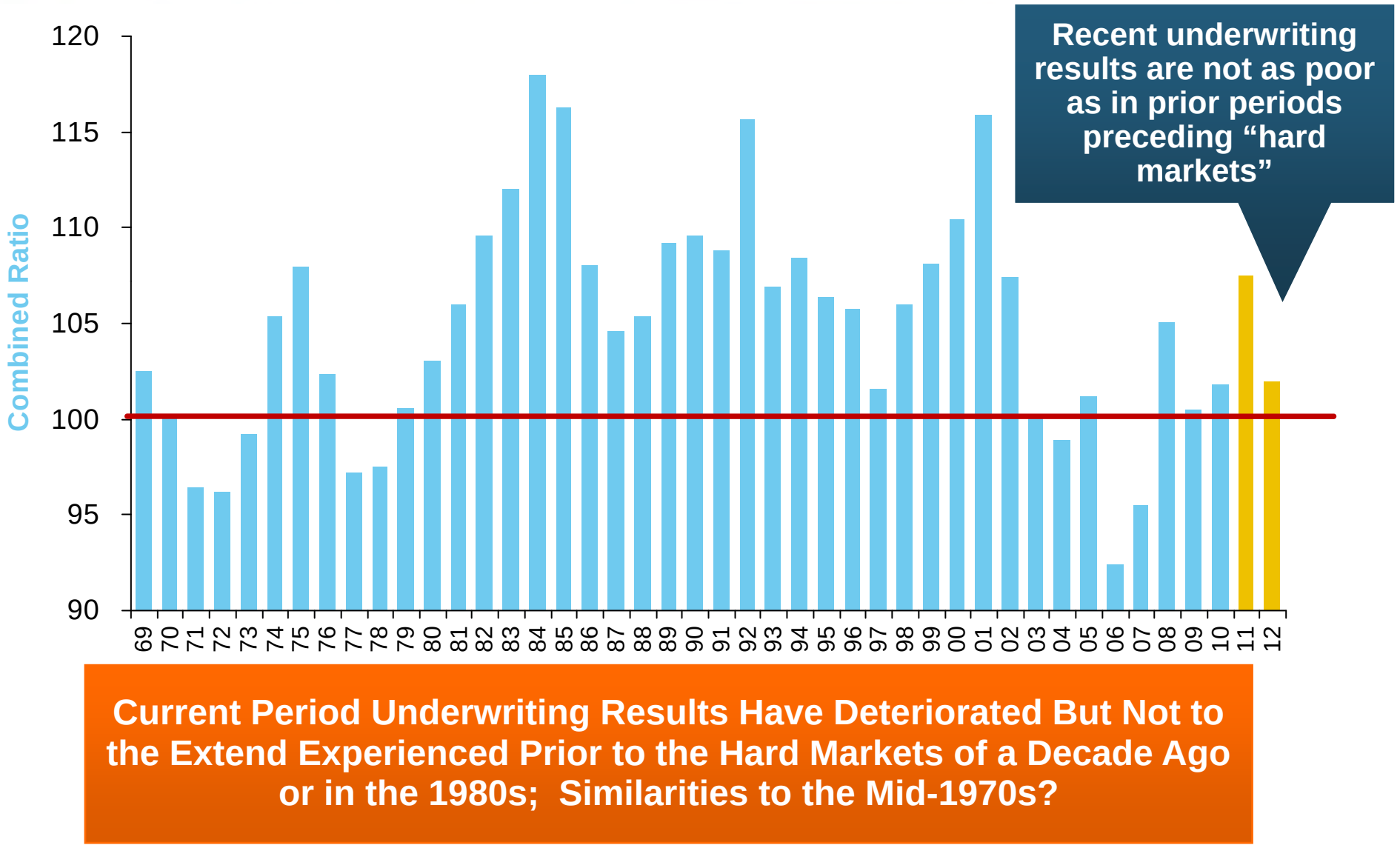
Source: Insurance Information Institute from A.M. Best and ISO data.

ROE: Property/Casualty Insurance vs. Fortune 500, 1987–2011*



* Excludes Mortgage & Financial Guarantee in 2008 - 2011.
Sources: ISO, *Fortune*; A.M. Best (2011 P/C ROE); Insurance Information Institute (2011 Fortune 500 est.)

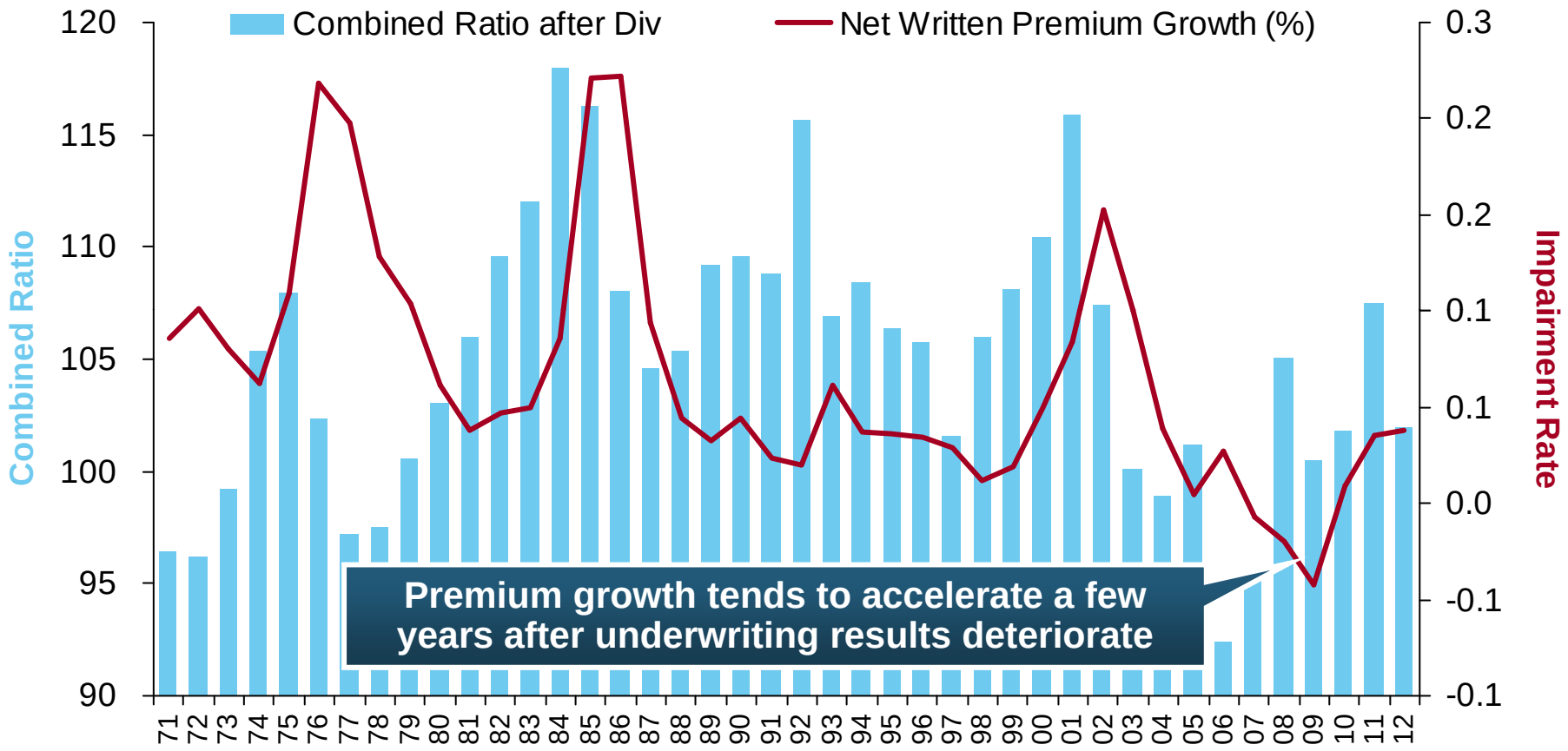
US Non-Life Combined Ratio, 1969-2012F



Current Period Underwriting Results Have Deteriorated But Not to the Extend Experienced Prior to the Hard Markets of a Decade Ago or in the 1980s; Similarities to the Mid-1970s?

Source: A.M. Best; Insurance Information Institute

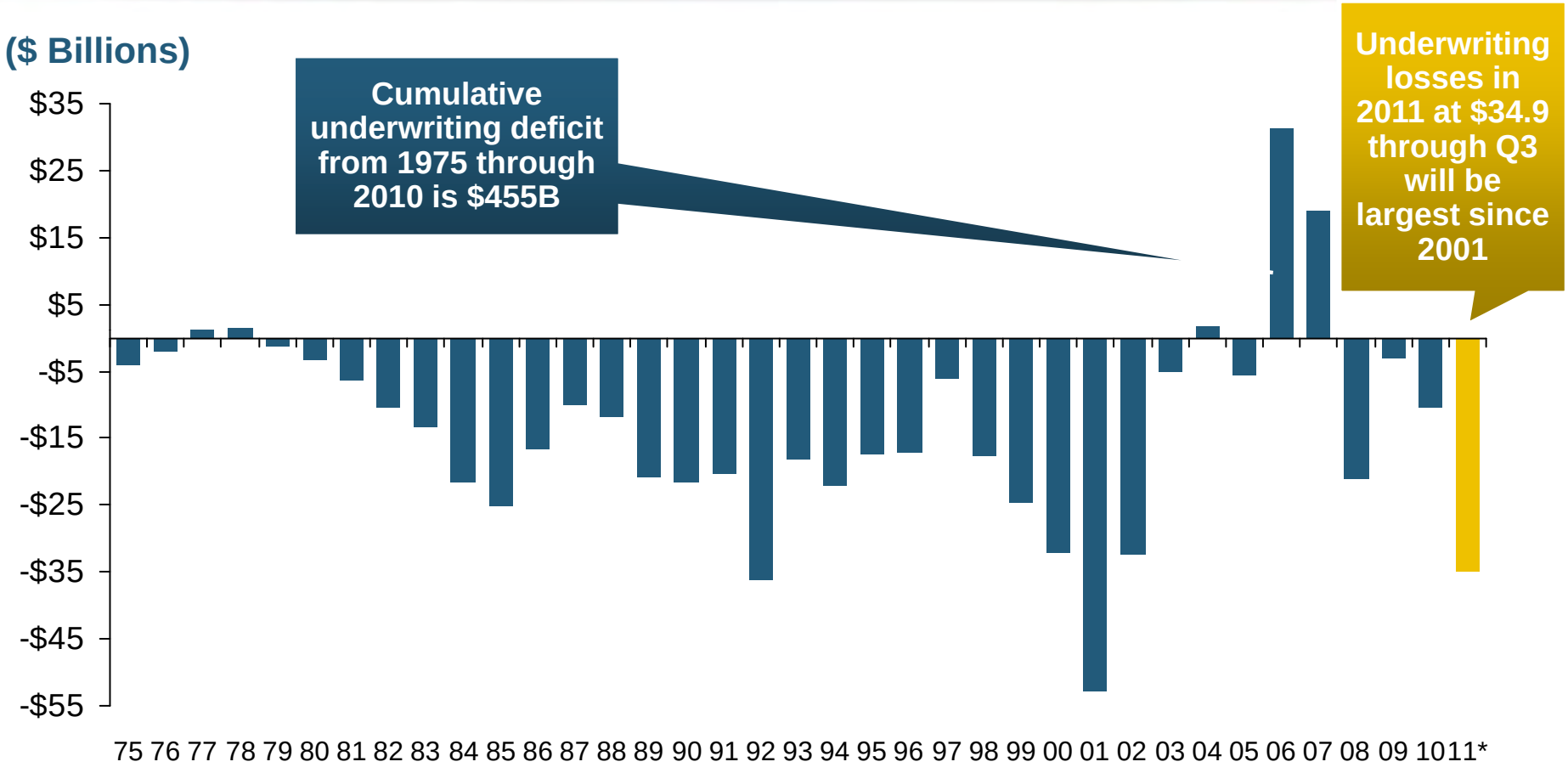
US Non-Life Net Written Premium Growth vs. Combined Ratio, 1971-2012F



Premium Growth and Underwriting Results Are Highly Correlated, But the Relationship is Lagged

Source: A.M. Best; Insurance Information Institute

Underwriting Gain (Loss) 1975–2011*

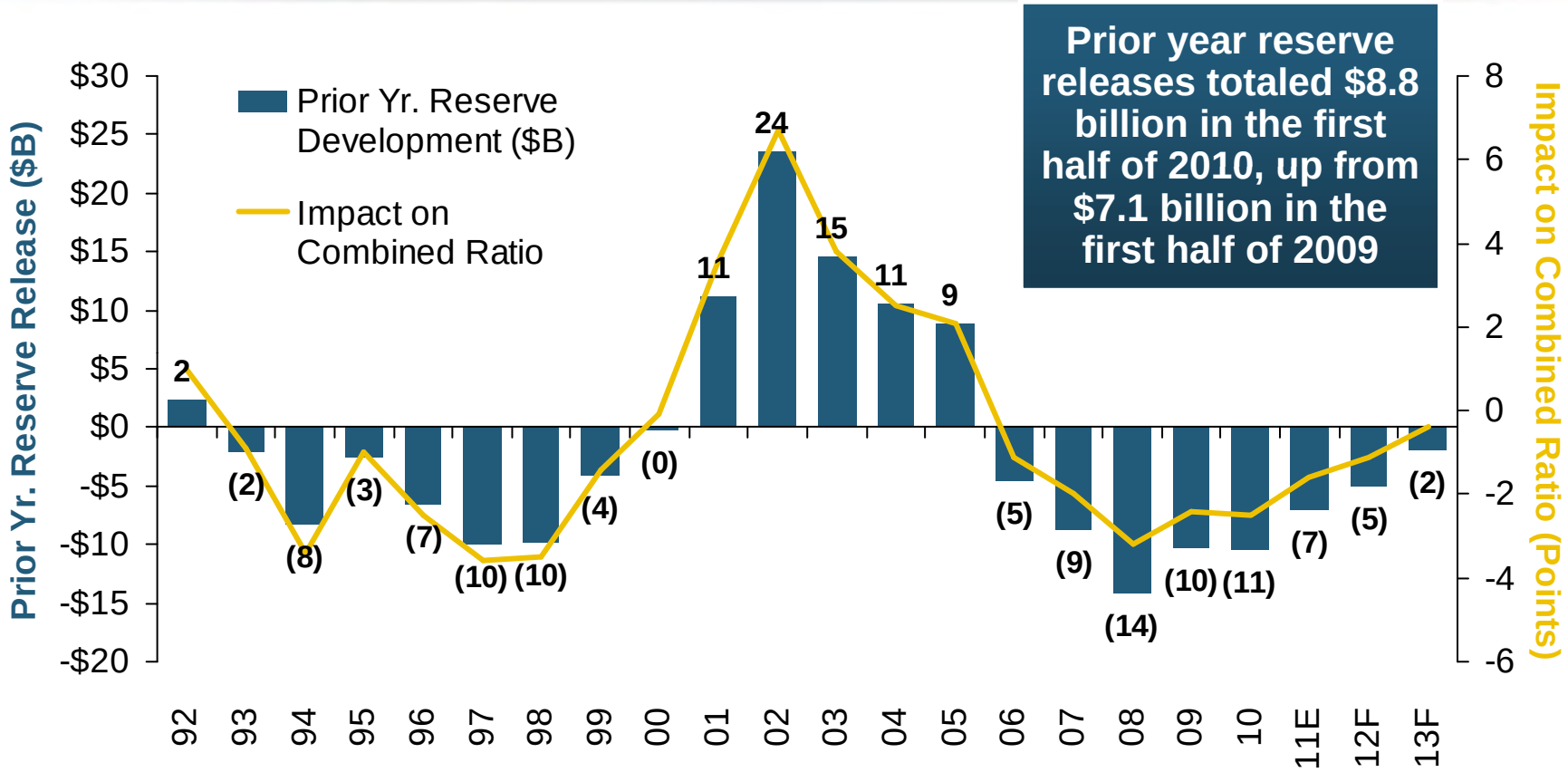


Large Underwriting Losses Are *NOT* Sustainable in Current Investment Environment

* Includes mortgage and financial guaranty insurers in all years

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

P/C Reserve Development, 1992–2013F



Reserve Releases Remained Strong in 2010 But Tapered Off in 2011. Releases Are Expected to Further Diminish in 2012 and 2103

Note: 2005 reserve development excludes a $6 billion loss portfolio transfer between American Re and Munich Re. Including this transaction, total prior year adverse development in 2005 was $7 billion. The data from 2000 and subsequent years excludes development from financial guaranty and mortgage insurance.

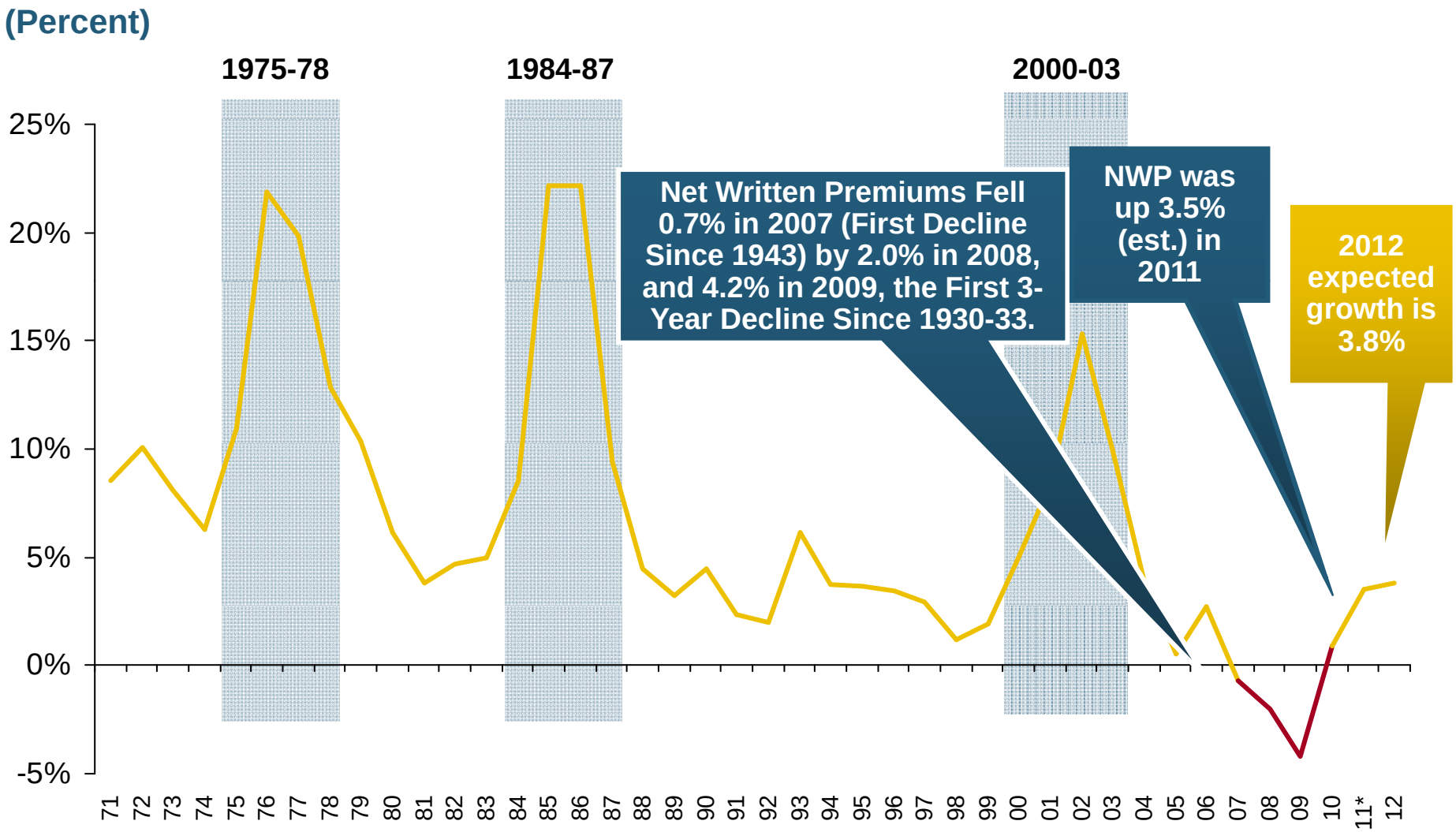
Sources: Barclays Capital; A.M. Best.

INSURANCE INFORMATION INSTITUTE

RENEWED PRICING DISCIPLINE?

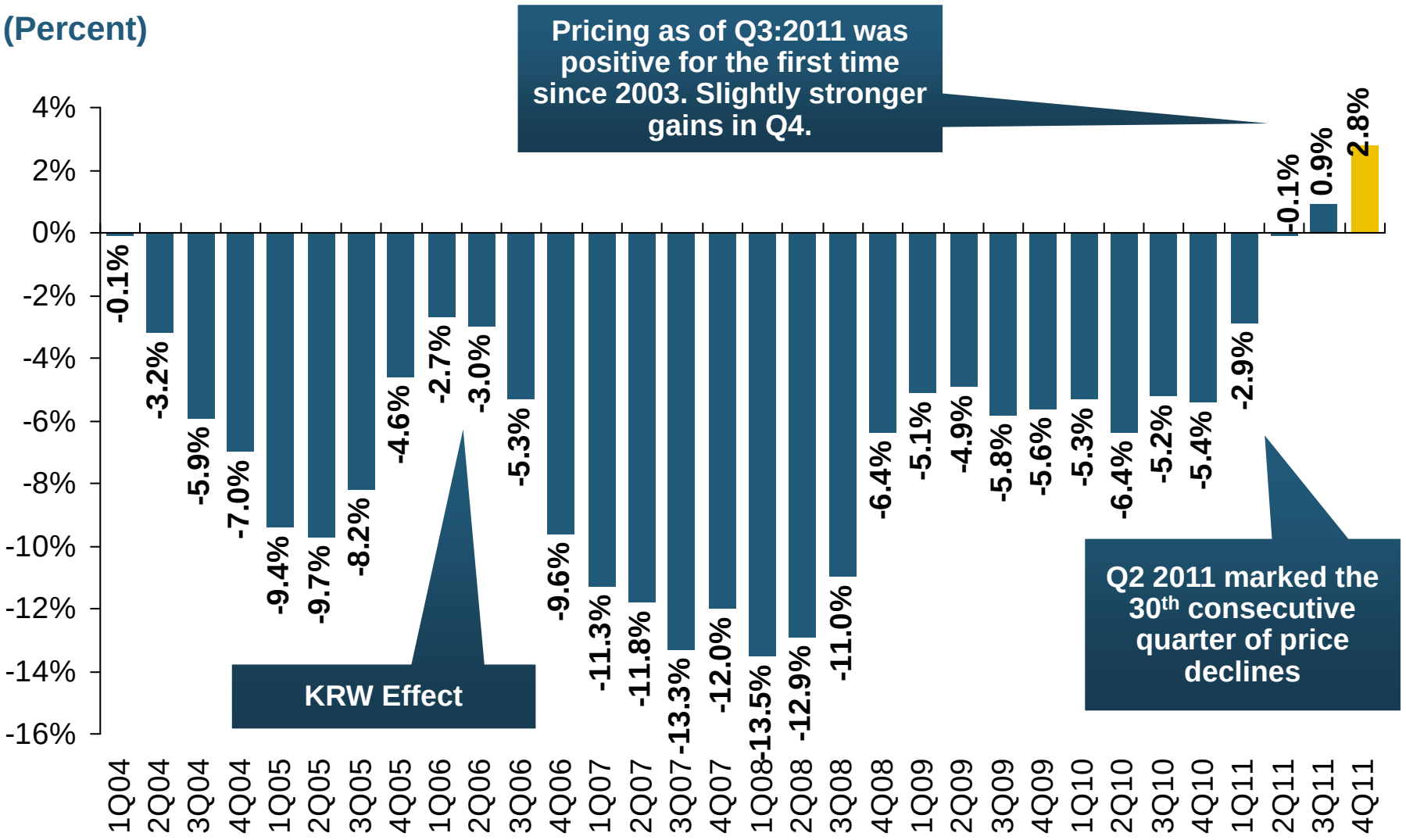
Is There Evidence of a Broad and Sustained Shift in Pricing Showing Up in Premium Growth?

Soft Market Persisted into Early 2011 but Growth Returned: More in 2012?



*2011 and 2012 figures are A.M. Best Estimates
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:2011)

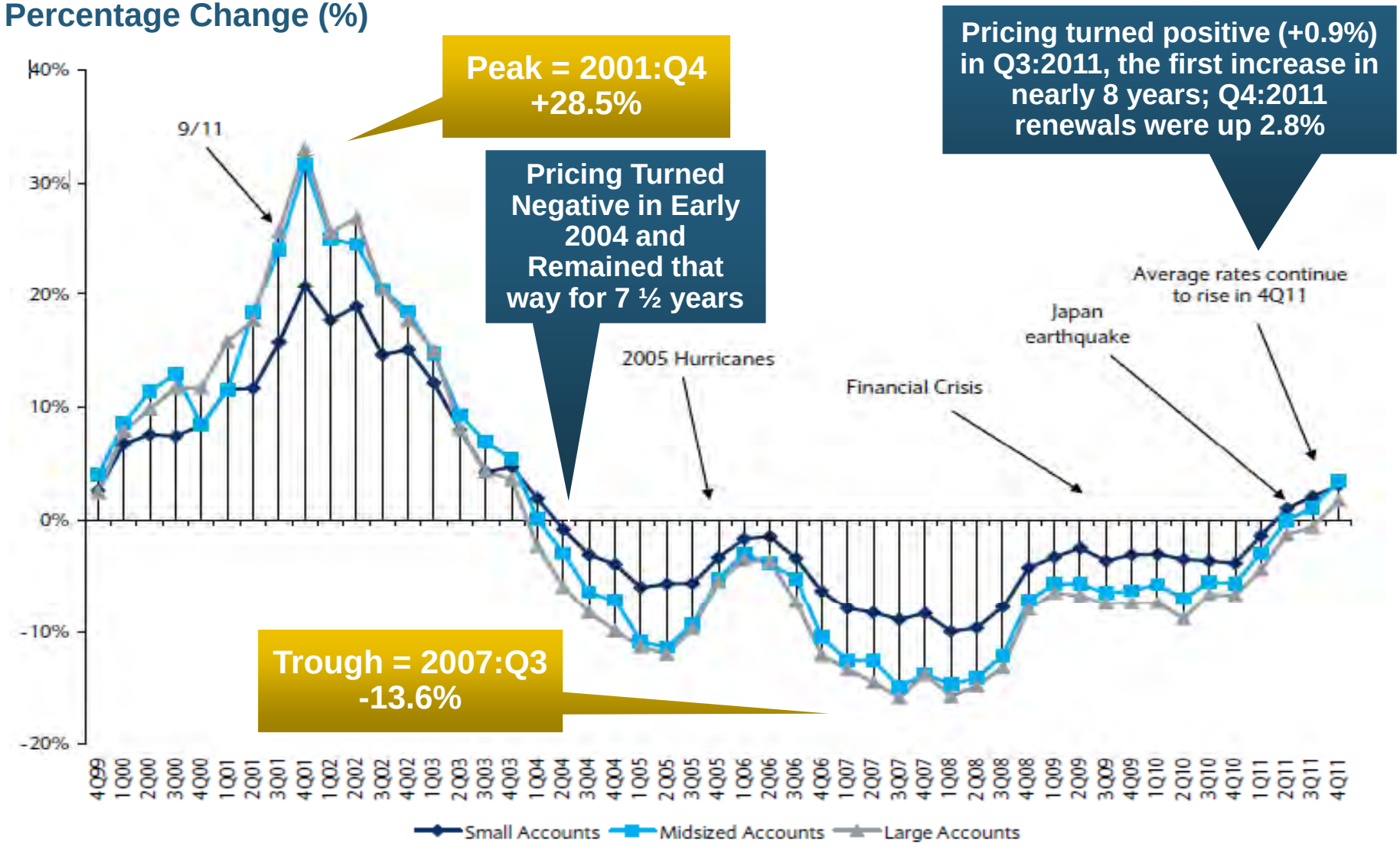


Source: Council of Insurance Agents & Brokers (1Q04-4Q11); Insurance Information Institute

Change in Commercial Rate Renewals, by Account Size: 1999:Q4 to 2011:Q4

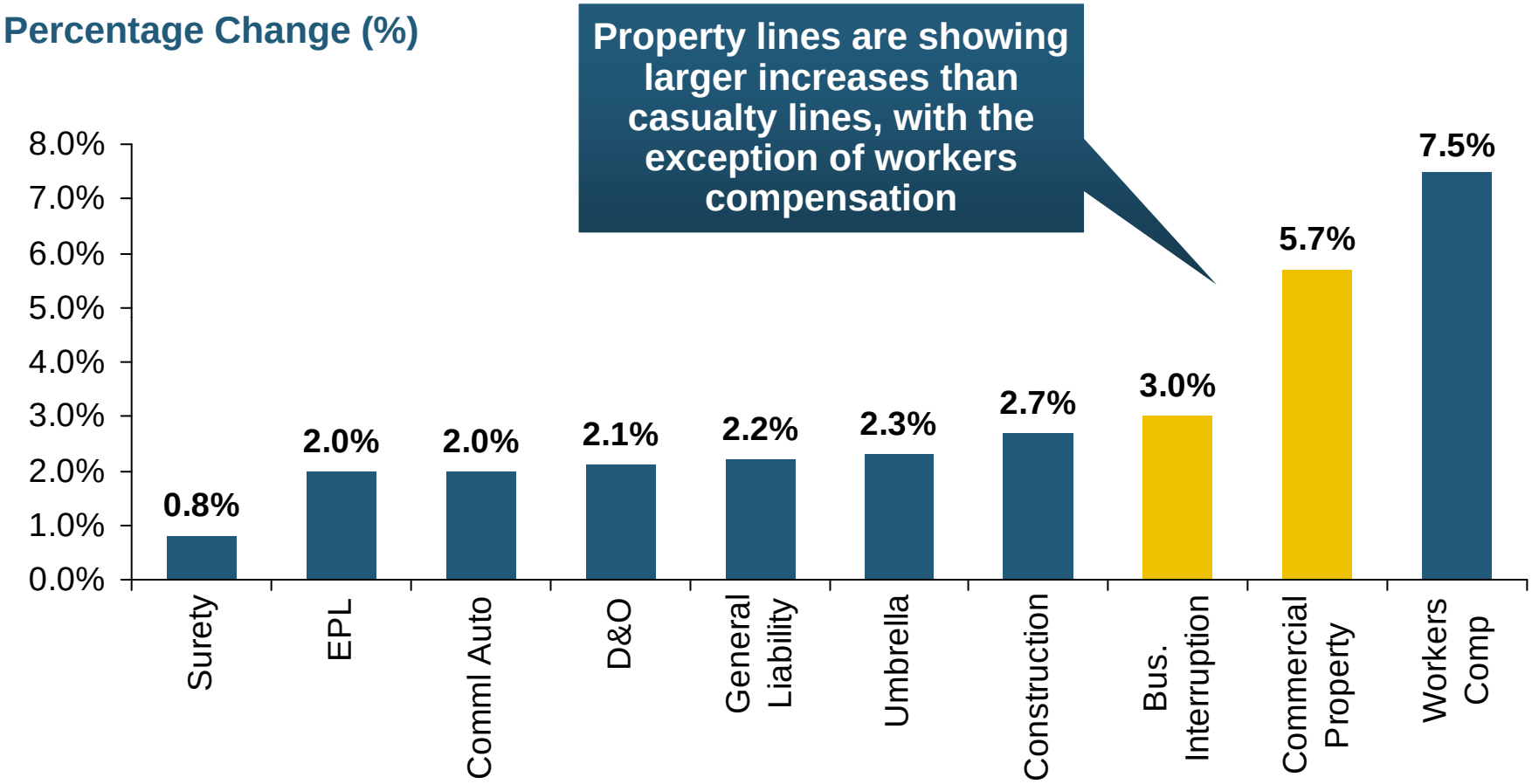
INSURANCE INFORMATION INSTITUTE

Percentage Change (%)



Source: Council of Insurance Agents and Brokers; Barclay's Capital; Insurance Information Institute.

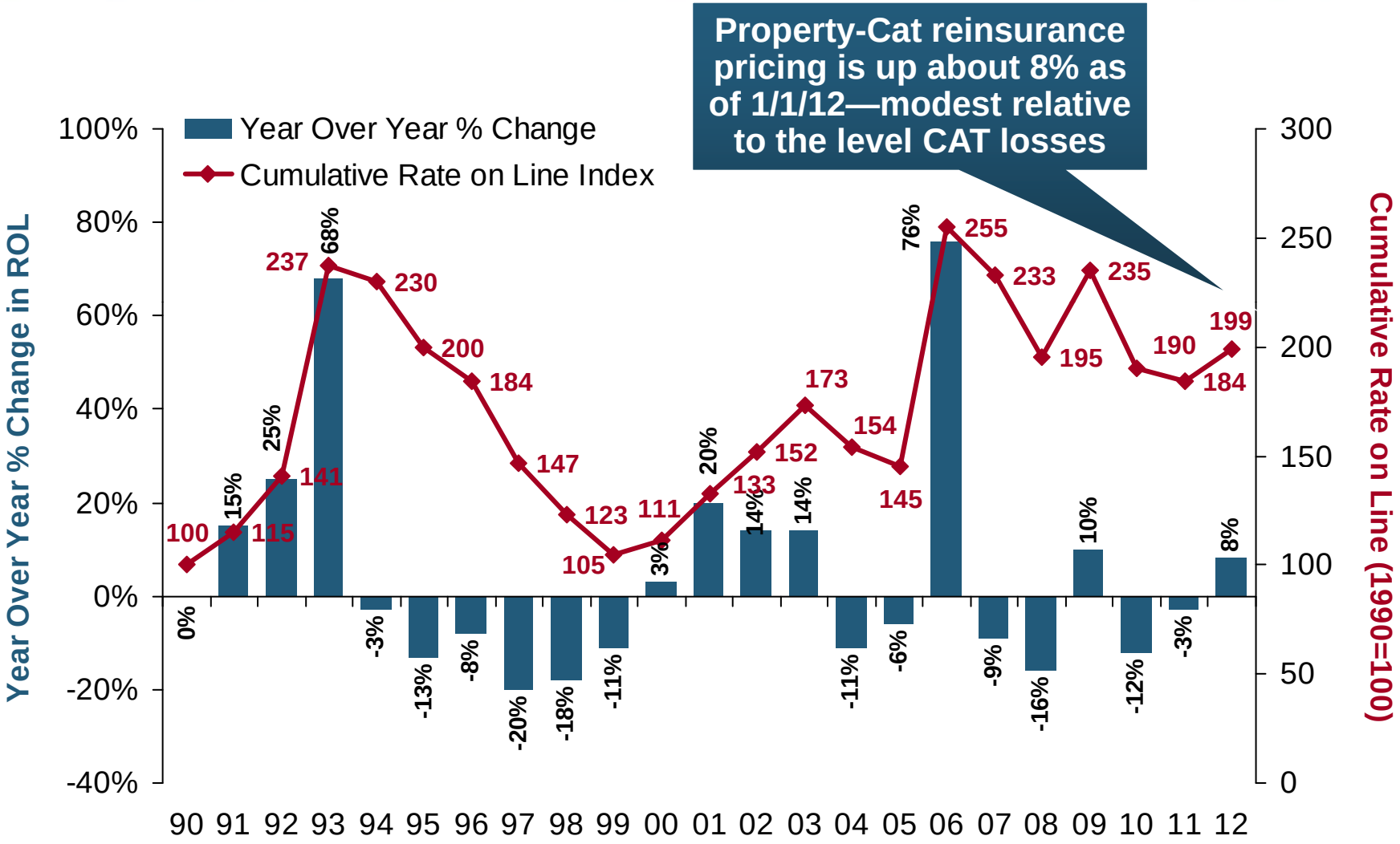
Change in Commercial Rate Renewals, by Line: 2011:Q4



Major Commercial Lines Renewed Uniformly Upward in Q4:2011 for Only the Second Time Since 2003; Property Lines & Workers Comp Leading the Way

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

Global Property Catastrophe Rate on Line Index, 1990—2012 (as of Jan. 1)

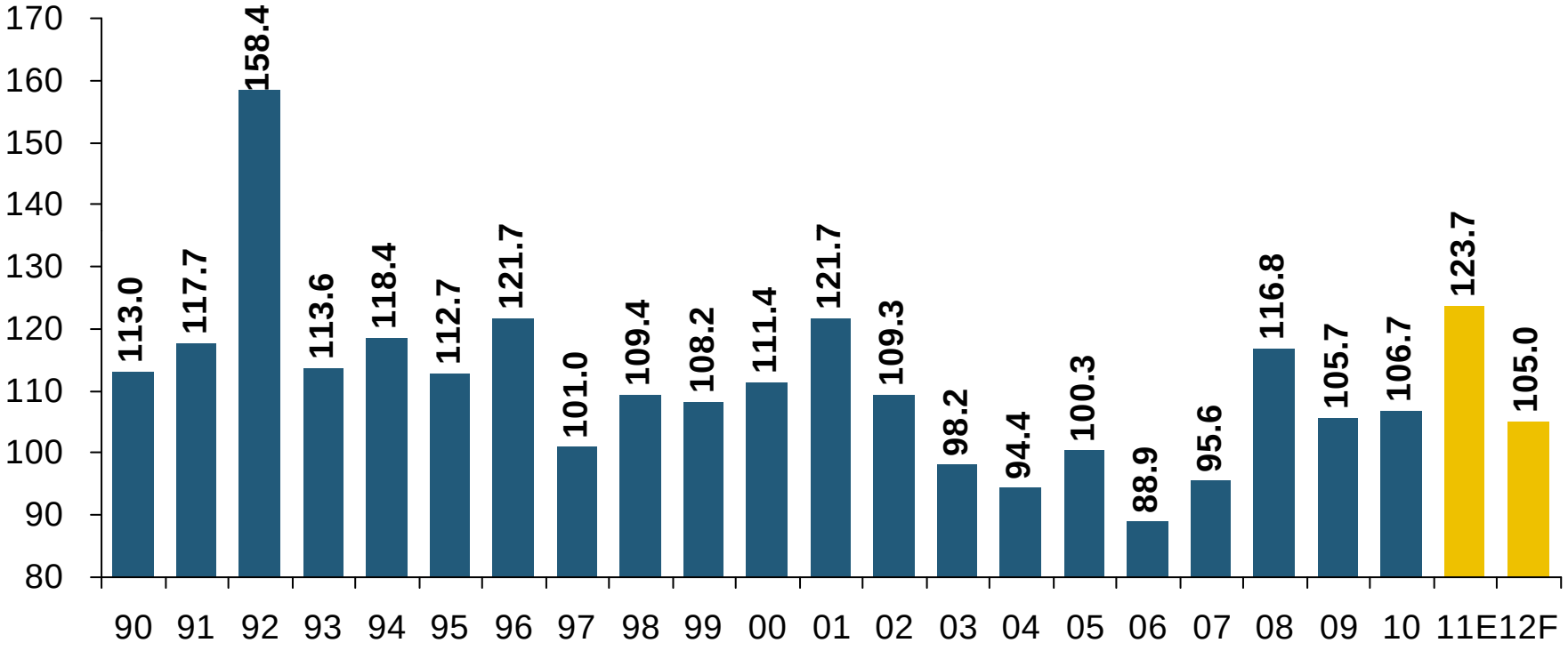


Sources: Guy Carpenter; Insurance Information Institute.

INSURANCE INFORMATION INSTITUTE

Underwriting Performance by Segment: Personal Lines

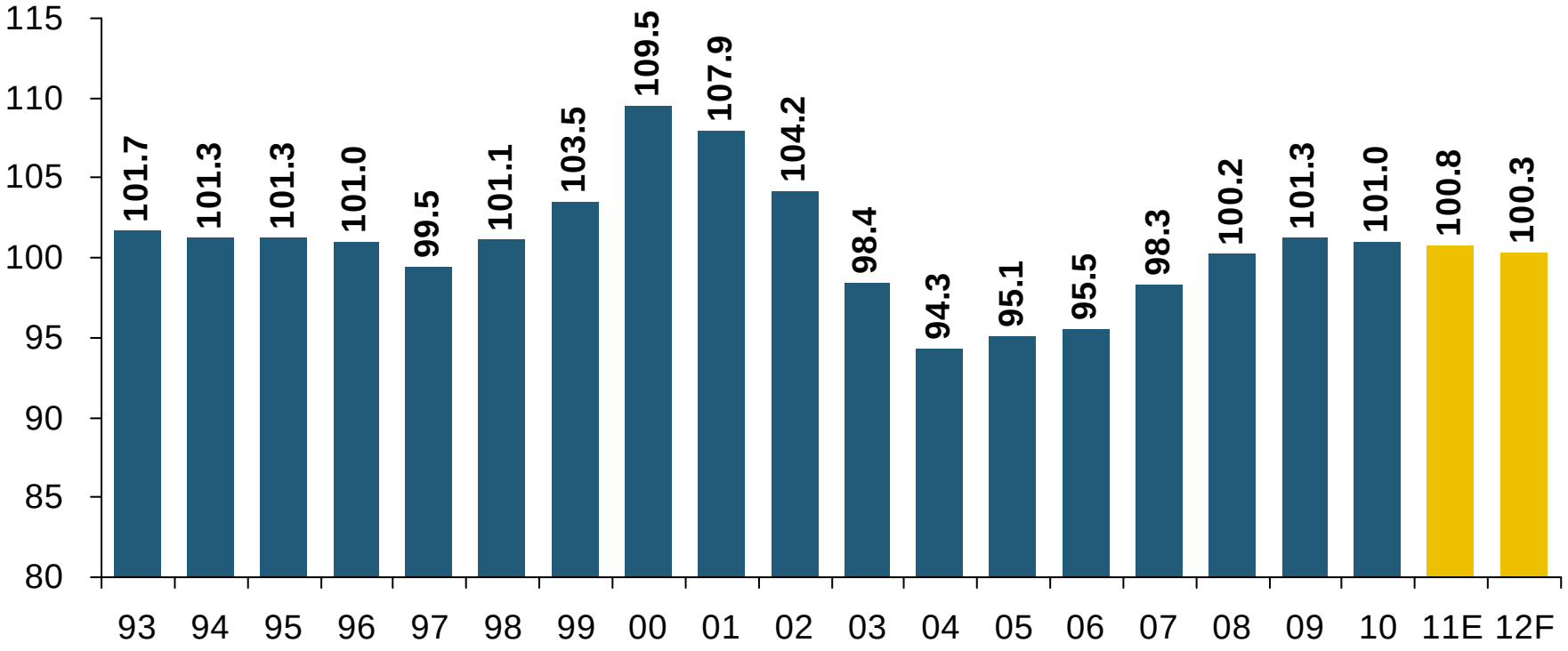
Homeowners Insurance Combined Ratio: 1990–2012F



Homeowners Line Could Deteriorate in 2011 Due to Large Cat Losses. Extreme Regional Variation Can Be Expected Due to Local Catastrophe Loss Activity

Sources: A.M. Best (1990-2012E); Insurance Information Institute.

Private Passenger Auto Combined Ratio: 1993–2012P



Private Passenger Auto Accounts for 34% of Industry Premiums and Remains the Profit Juggernaut of the P/C Insurance Industry

Sources: A.M. Best (1990-2012F); Insurance Information Institute.

INSURANCE INFORMATION INSTITUTE

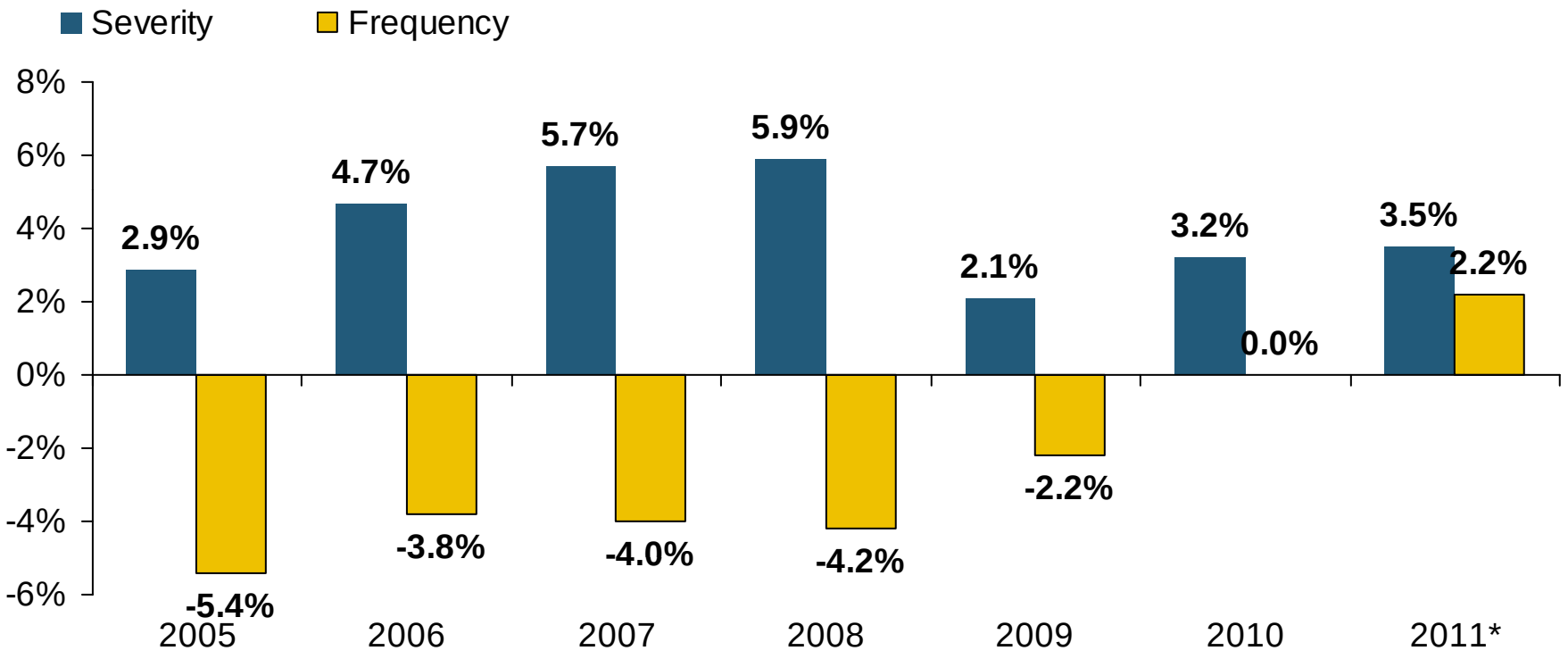
Claim Trends in Auto Insurance

Frequency and Severity Trends Are Mixed But On Net Have Deteriorated

Bodily Injury: Severity Trend Rising, Frequency Decline Has Ended

INSURANCE INFORMATION INSTITUTE

Annual Change, 2005 through 2011*



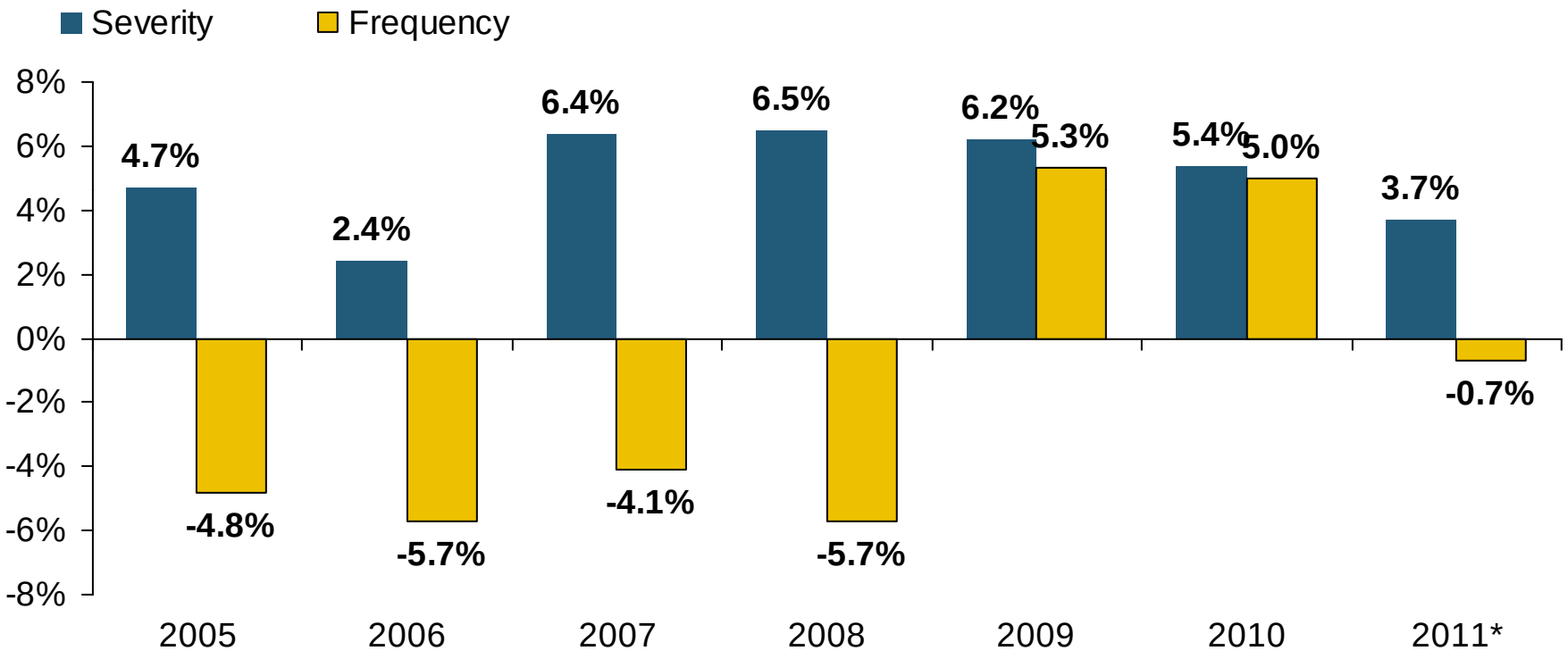
Cost Pressures Will Increase if BI Severity Frequency Increases Continue

*For 2011, data are for the 4 quarters ending with 2011:Q3.

Source: ISO/PCI *Fast Track* data; Insurance Information Institute

No-Fault (PIP) Liability: Frequency and Severity Trends Are Adverse*

Annual Change, 2005 through 2011*



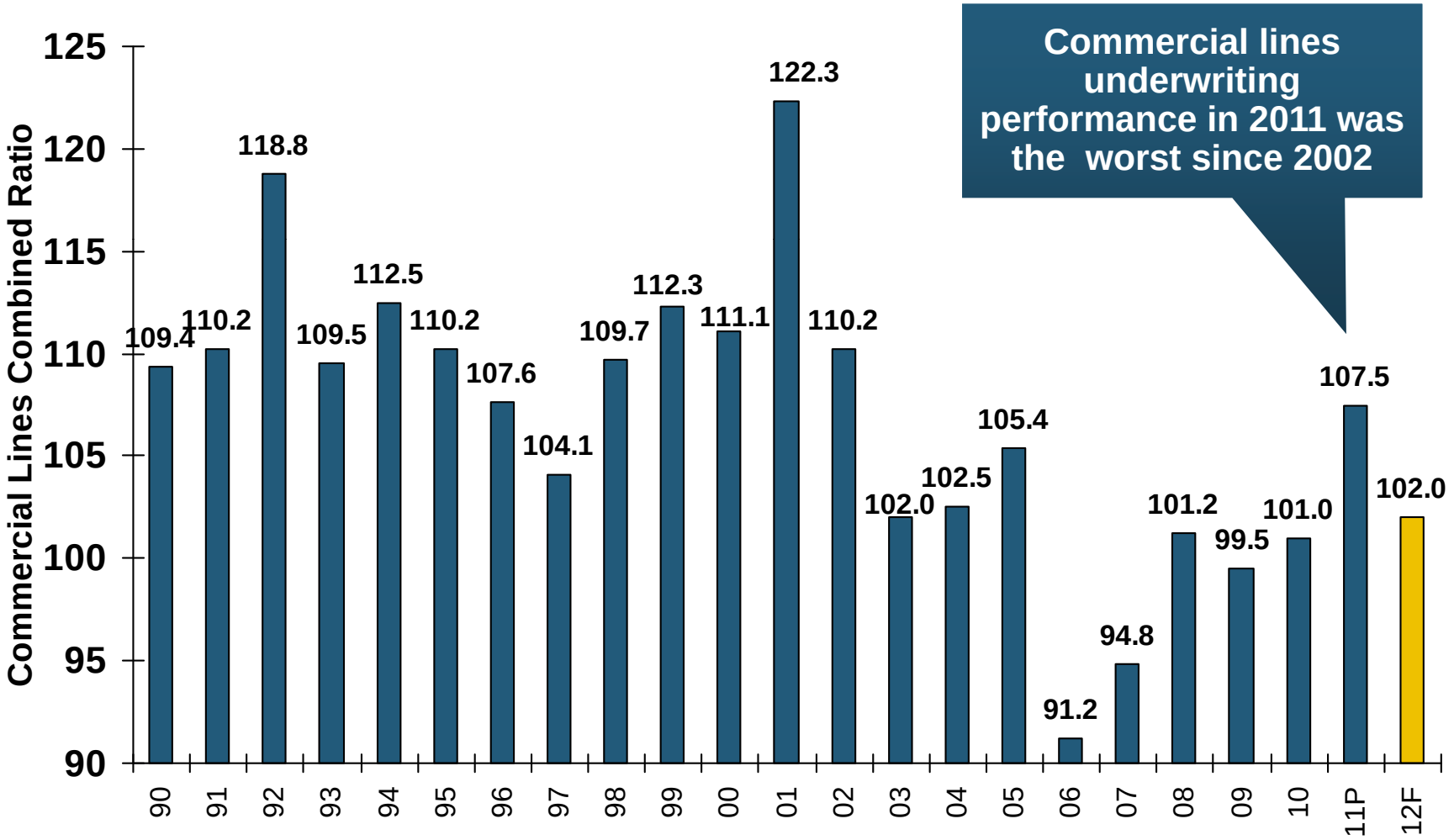
Multiple States Are Experiencing Severe Fraud and Abuse Problems in their No-Fault Systems, Especially FL, MI, NY and NJ

*No-fault states included are: FL, HI, KS, KY, MA, MI, MN, NY, ND and UT; 2010 data are for the 4 quarters ending 2011:Q3.
Source: ISO/PCI *Fast Track* data; Insurance Information Institute

INSURANCE INFORMATION INSTITUTE

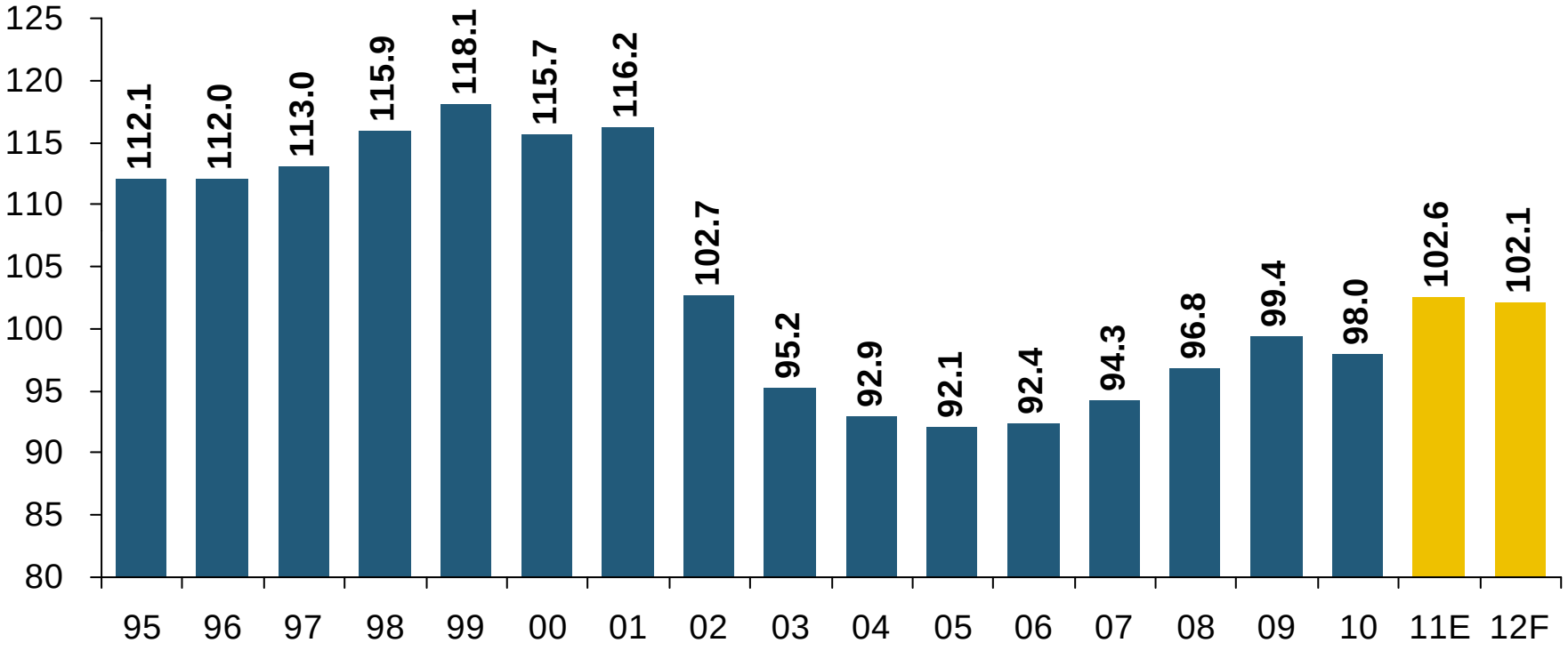
Performance by Segment: Commercial Lines

Commercial Lines Combined Ratio, 1990-2012F*



*2007-2012 figures exclude mortgage and financial guaranty segments.
Source: A.M. Best; Insurance Information Institute

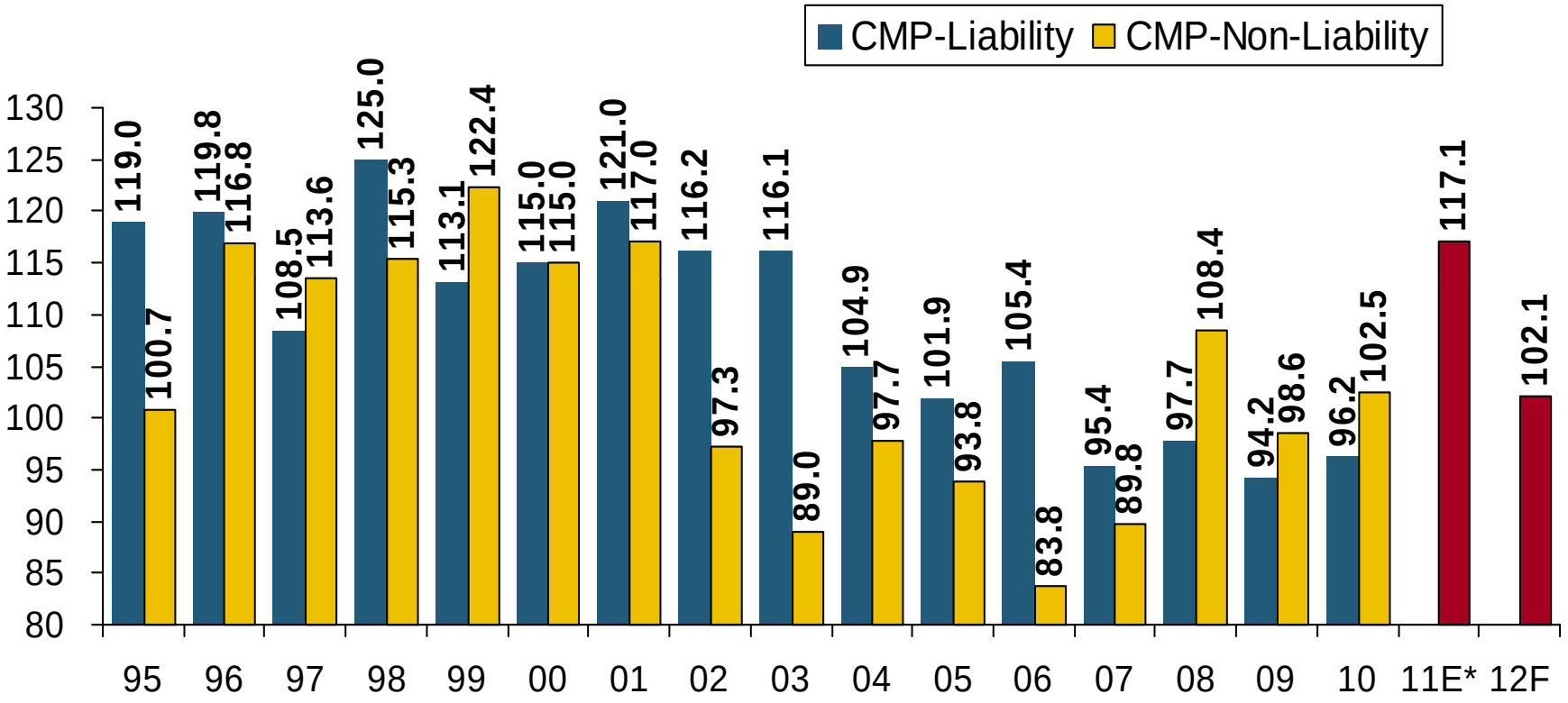
Commercial Auto Combined Ratio: 1993–2012F



Commercial Auto is Expected to Deteriorate as Loss Frequency and Severity Trends Deteriorate 2011-2012

Sources: A.M. Best Insurance Information Institute.

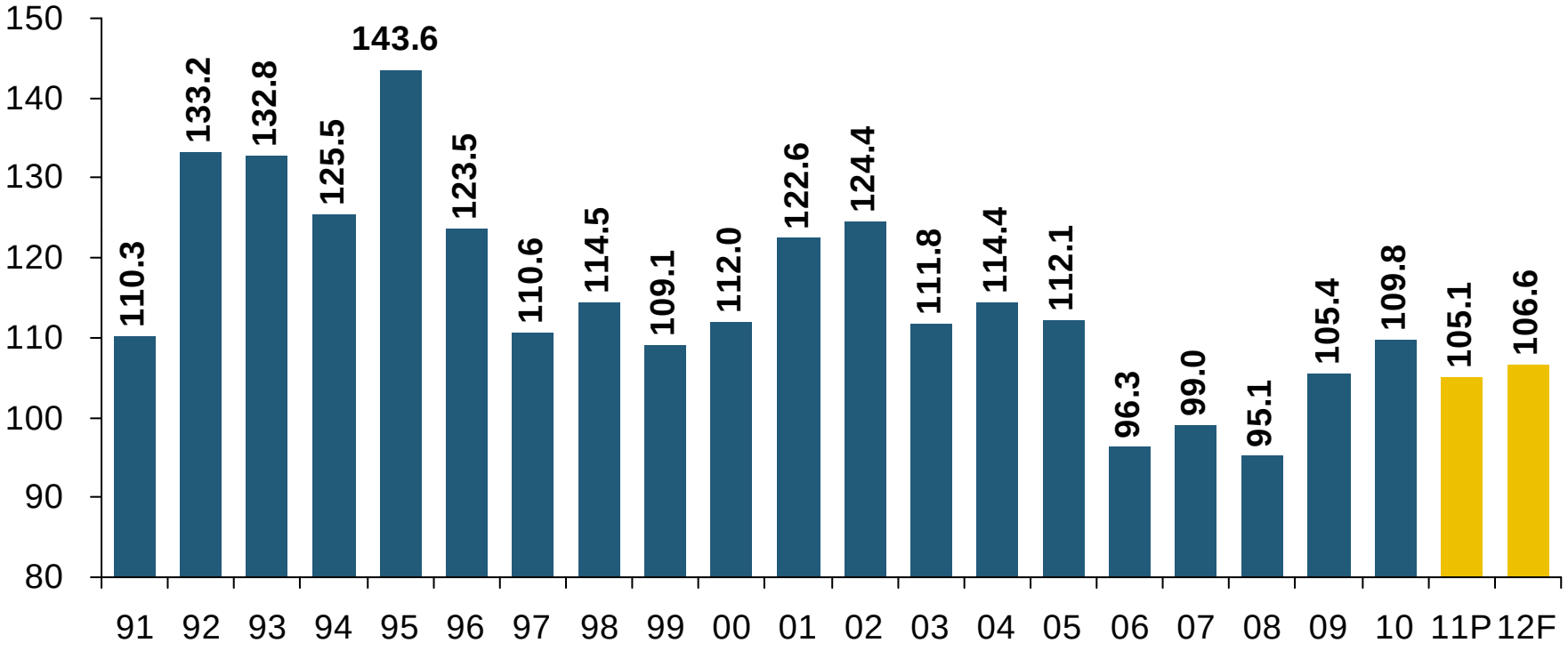
Commercial Multi-Peril Combined Ratio: 1995–2012F



Commercial Multi-Peril Underwriting Performance is Expected to Improve in 2012 Assuming Normal Catastrophe Loss Activity

*2011-12 figures are A.M. Best estimate/forecast for the combined liability and non-liability components.
Sources: A.M. Best; Insurance Information Institute.

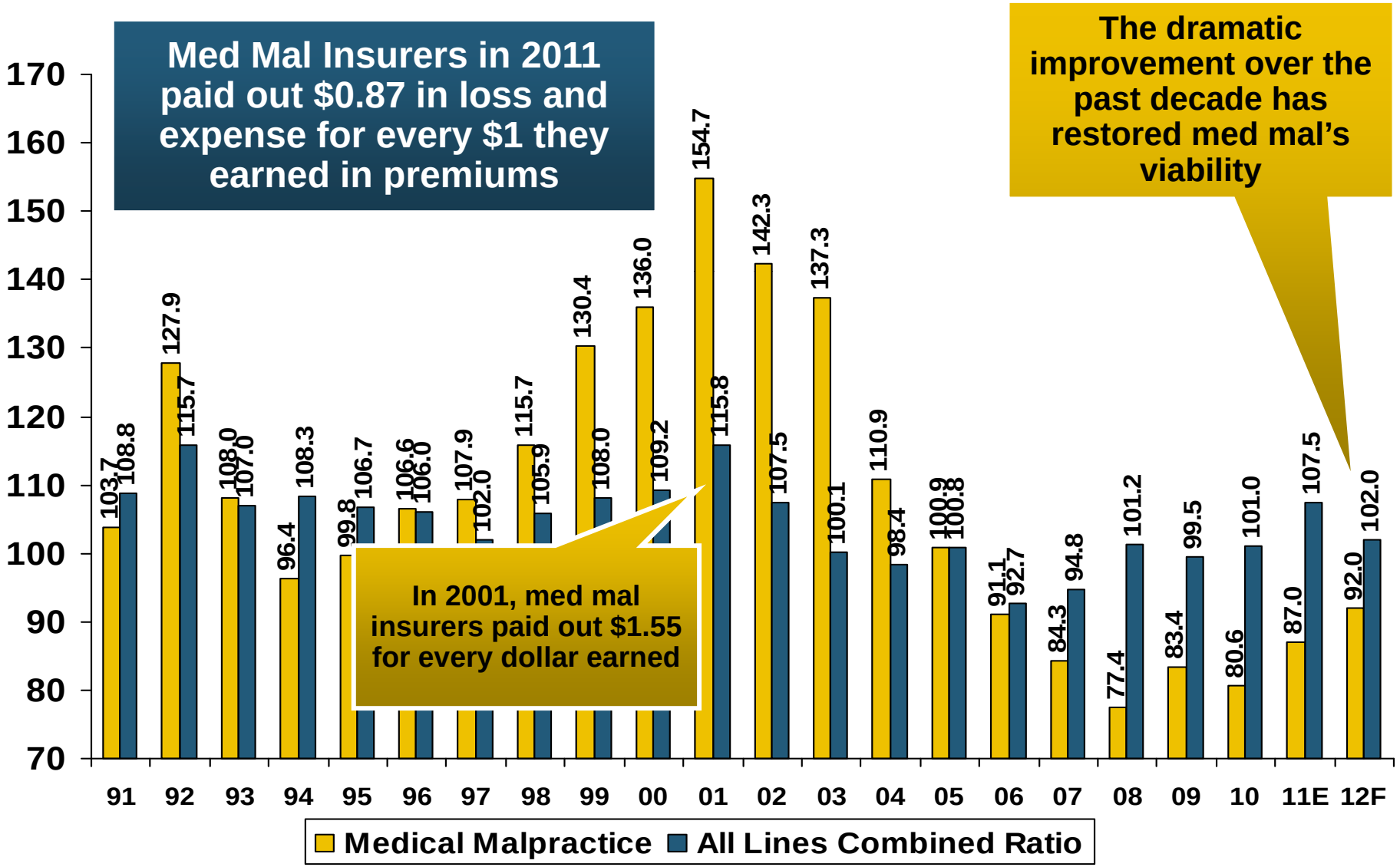
Other & Products Liability Combined Ratio: 1991–2012F



Liability Lines Have Performed Better in the Post-Tort Reform Era (~2005), but There Has Been Some Deterioration in Recent Years

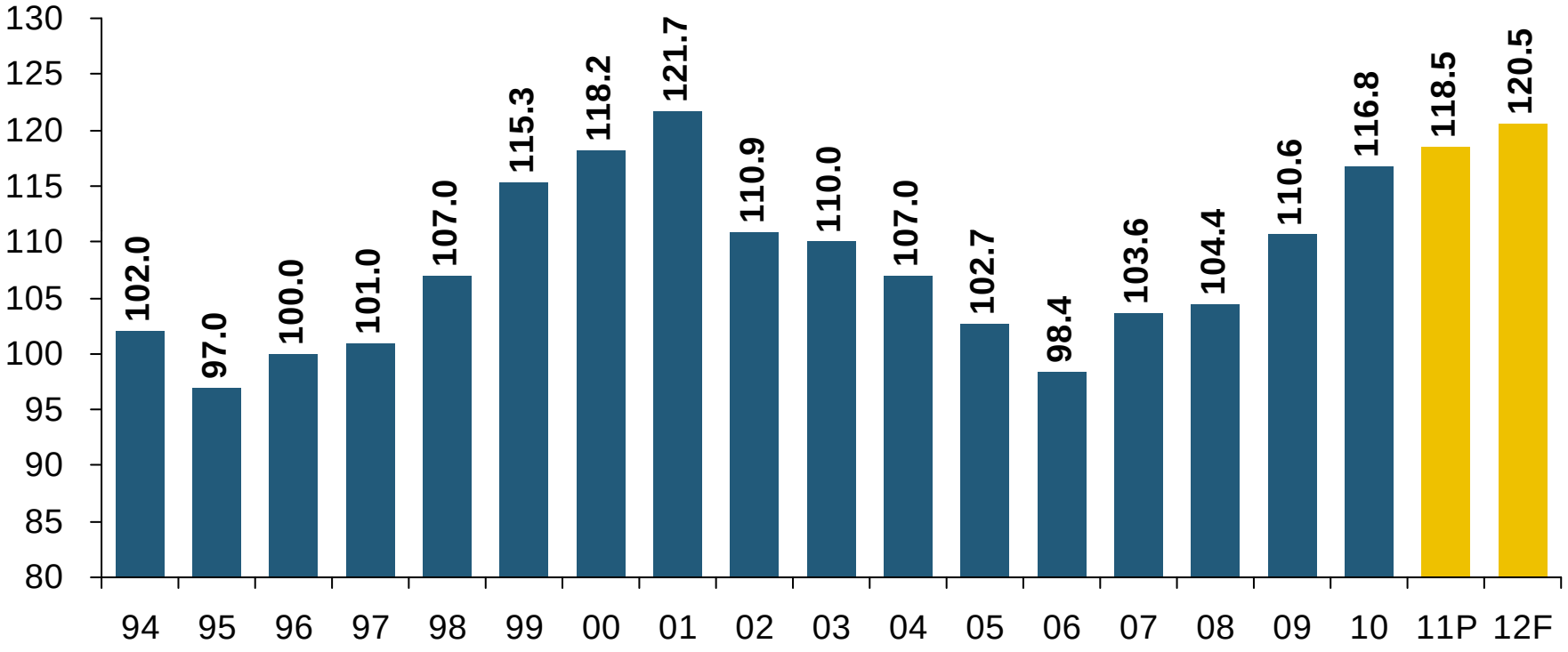
Sources: A.M. Best ; Insurance Information Institute.

Medical Malpractice Combined Ratio vs. All Lines Combined Ratio, 1991-2012F



Source: AM Best, Insurance Information Institute

Workers Compensation Combined Ratio: 1994–2012F



Workers Comp Underwriting Results Are Deteriorating Markedly and the Worst They Have Been in a Decade

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

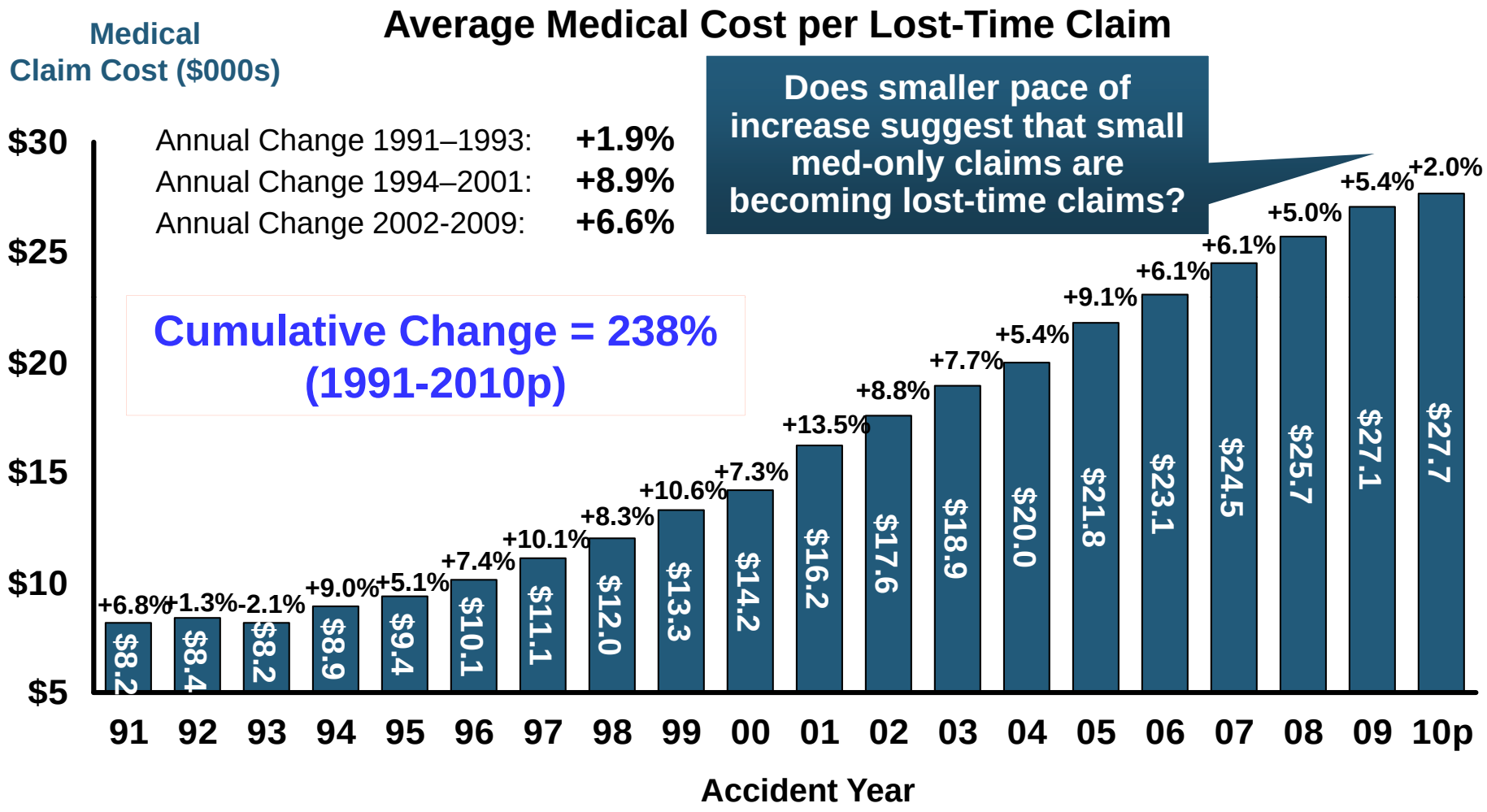
INSURANCE INFORMATION INSTITUTE

Workers Compensation Operating Environment

The Weak Economy and Soft Market Have Made the Workers Comp Operating Increasingly Challenging

Workers Comp Medical Claim Costs Continue to Rise

INSURANCE INFORMATION INSTITUTE

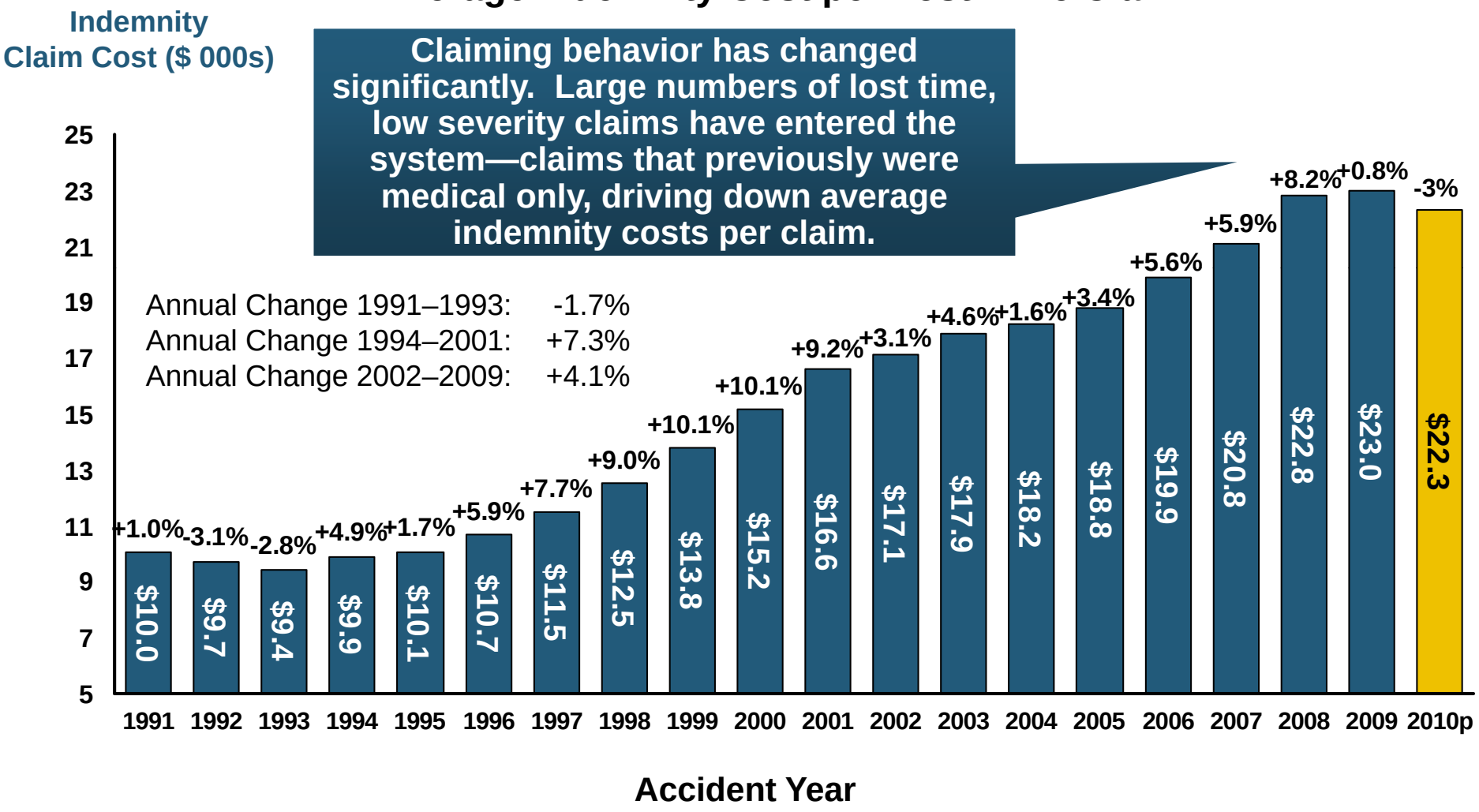


2010p: Preliminary based on data valued as of 12/31/2010
1991-2008: Based on data through 12/31/2008, developed to ultimate
Based on the states where NCCI provides ratemaking services; Excludes the effects of deductible policies

Workers Comp Indemnity Claim Costs Decline in 2010

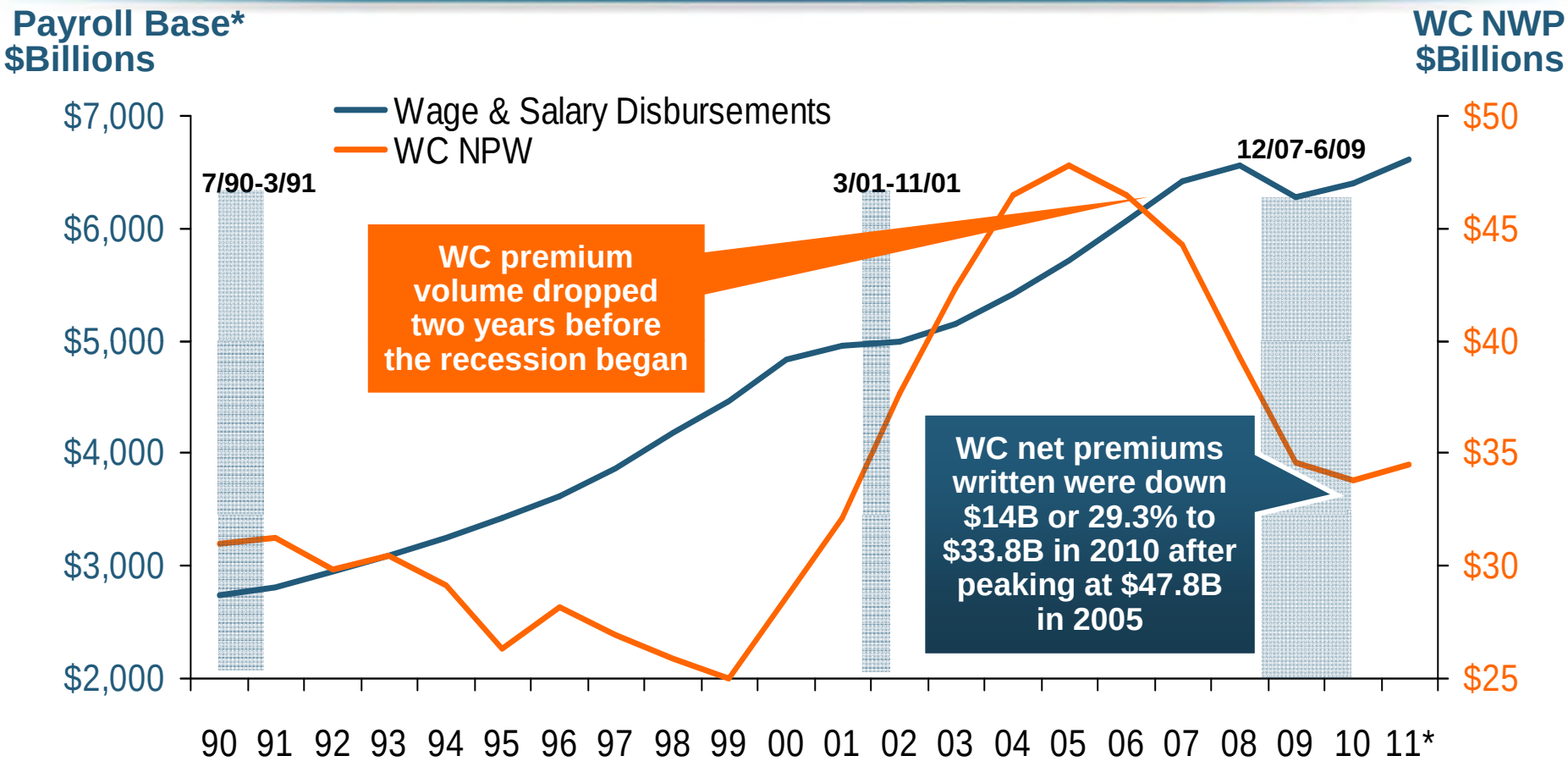
INSURANCE INFORMATION INSTITUTE

Average Indemnity Cost per Lost-Time Claim



2010p: Preliminary based on data valued as of 12/31/2010
1991–2008: Based on data through 12/31/2008, developed to ultimate
Based on the states where NCCI provides ratemaking services
Excludes the effects of deductible policies

Payroll vs. Workers Comp Net Written Premiums, 1990-2011

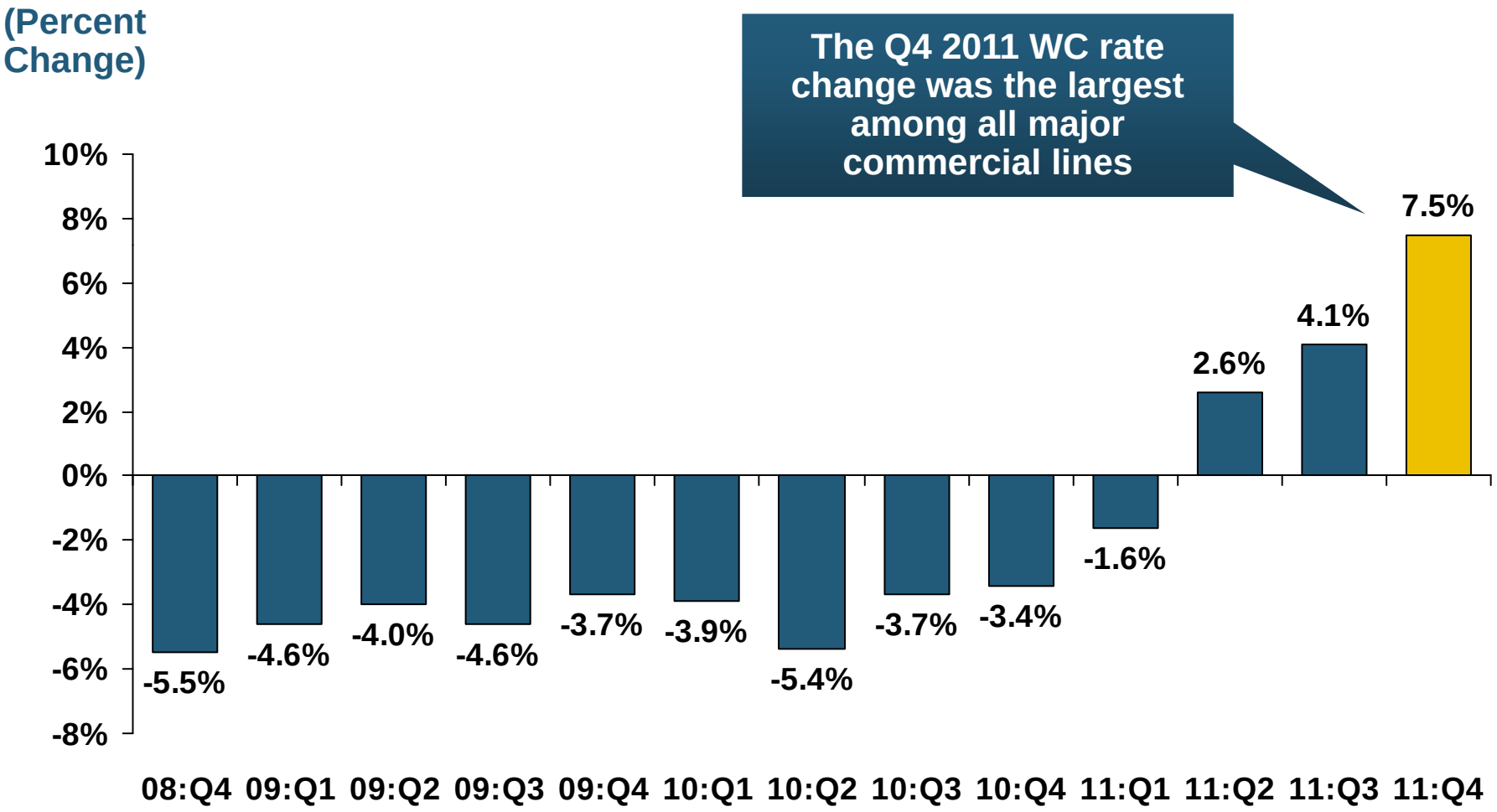


Resumption of payroll growth and rate increases suggests WC NWP will grow again in 2012

*Private employment; Shaded areas indicate recessions. Payroll and WC premiums for 2011 is I.I.I. estimate

Sources: NBER (recessions); Federal Reserve Bank of St. Louis at http://research.stlouisfed.org/fred2/series/WASCUR ; NCCI; I.I.I.

Workers Comp Rate Changes, 2008:Q4 – 2011:Q4



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

INSURANCE INFORMATION INSTITUTE

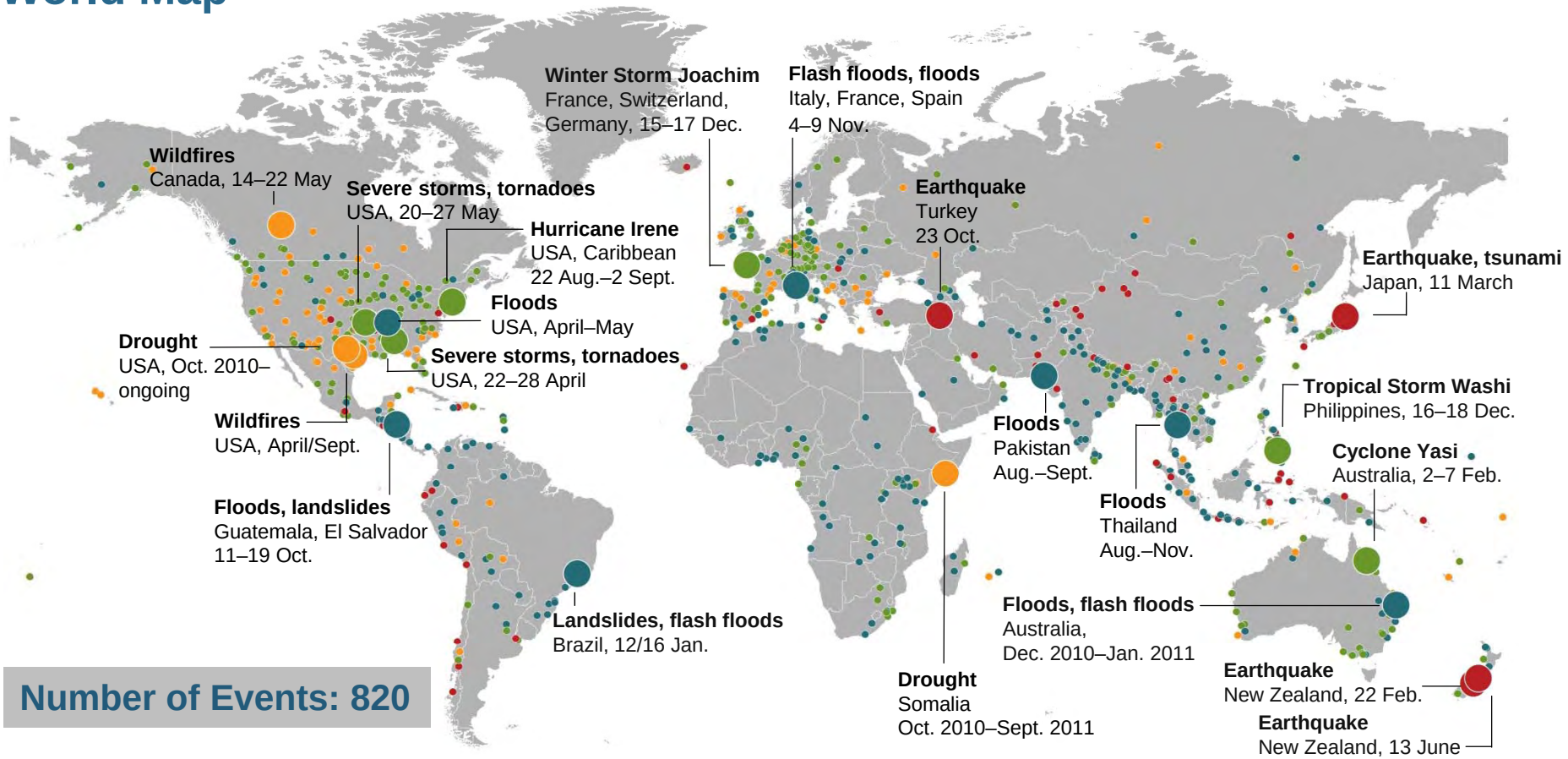
Catastrophe Loss Update

2011 Was One of the Most Expensive Years on Record

Natural Loss Events, 2011

INSURANCE INFORMATION INSTITUTE

World Map

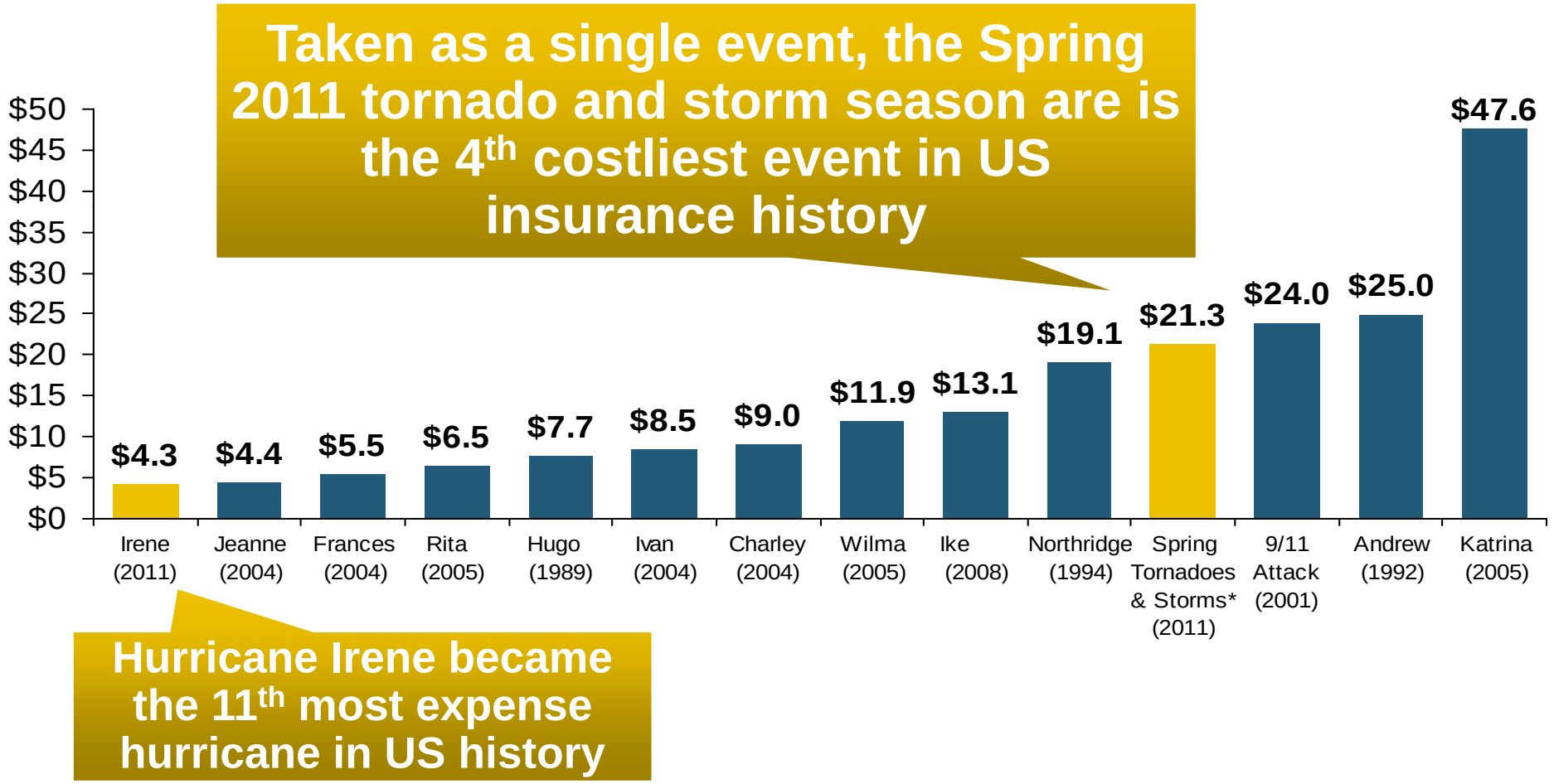


- **Natural catastrophes**
- **Selection of significant loss events (see table)**
- **Geophysical events** (earthquake, tsunami, volcanic activity)
- **Meteorological events** (storm)
- **Hydrological events** (flood, mass movement)
- **Climatological events** (extreme temperature, drought, wildfire)

Source: MR NatCat*SERVICE*

Top 14 Most Costly Disasters in U.S. History

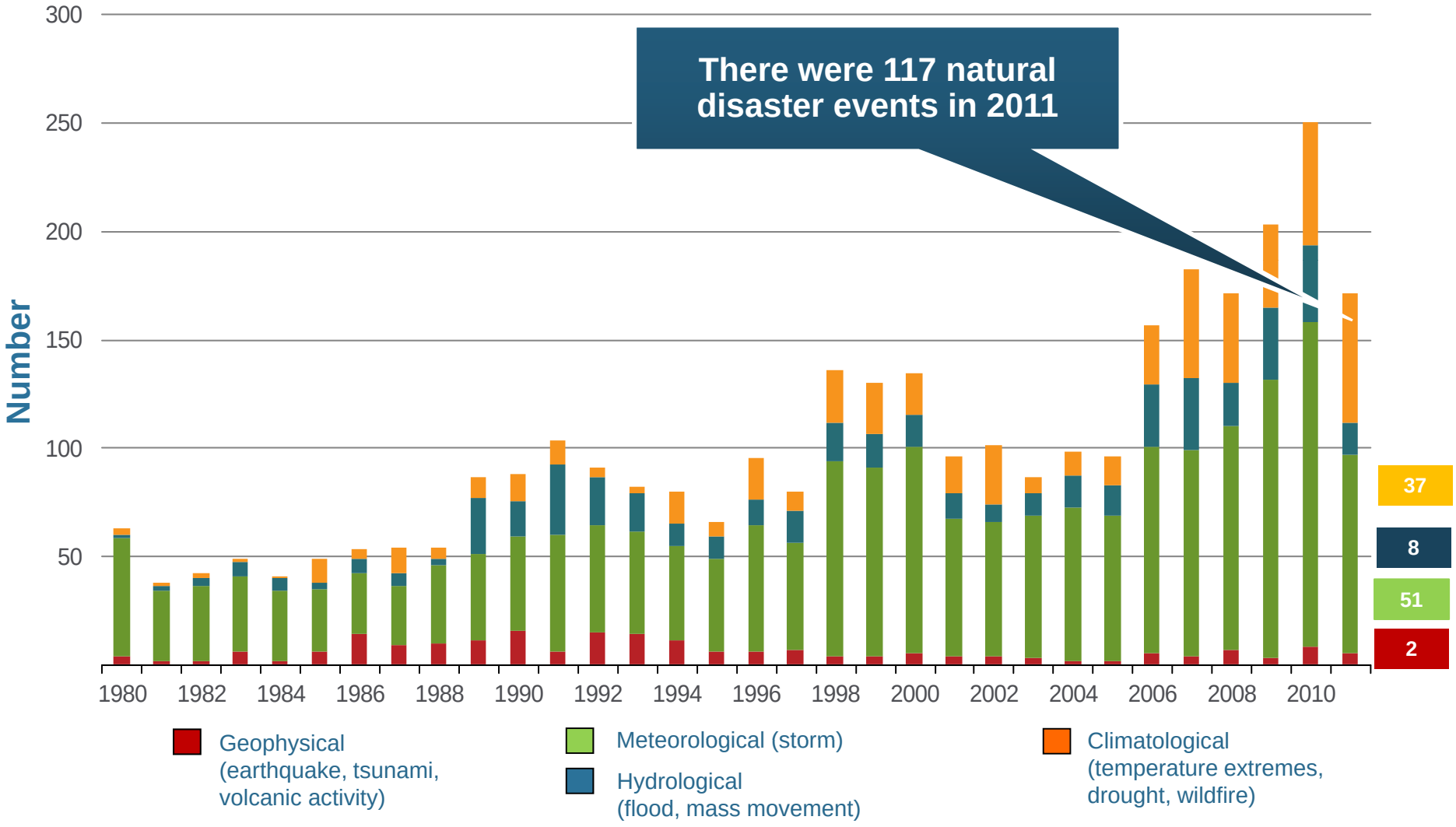
(Insured Losses, 2011 Dollars, $ Billions)



*Losses will actually be broken down into several "events" as determined by PCS. Includes losses for the period April 1 – June 30.
Sources: PCS; Insurance Information Institute inflation adjustments.

Natural Disasters in the United States, 1980 – 2011

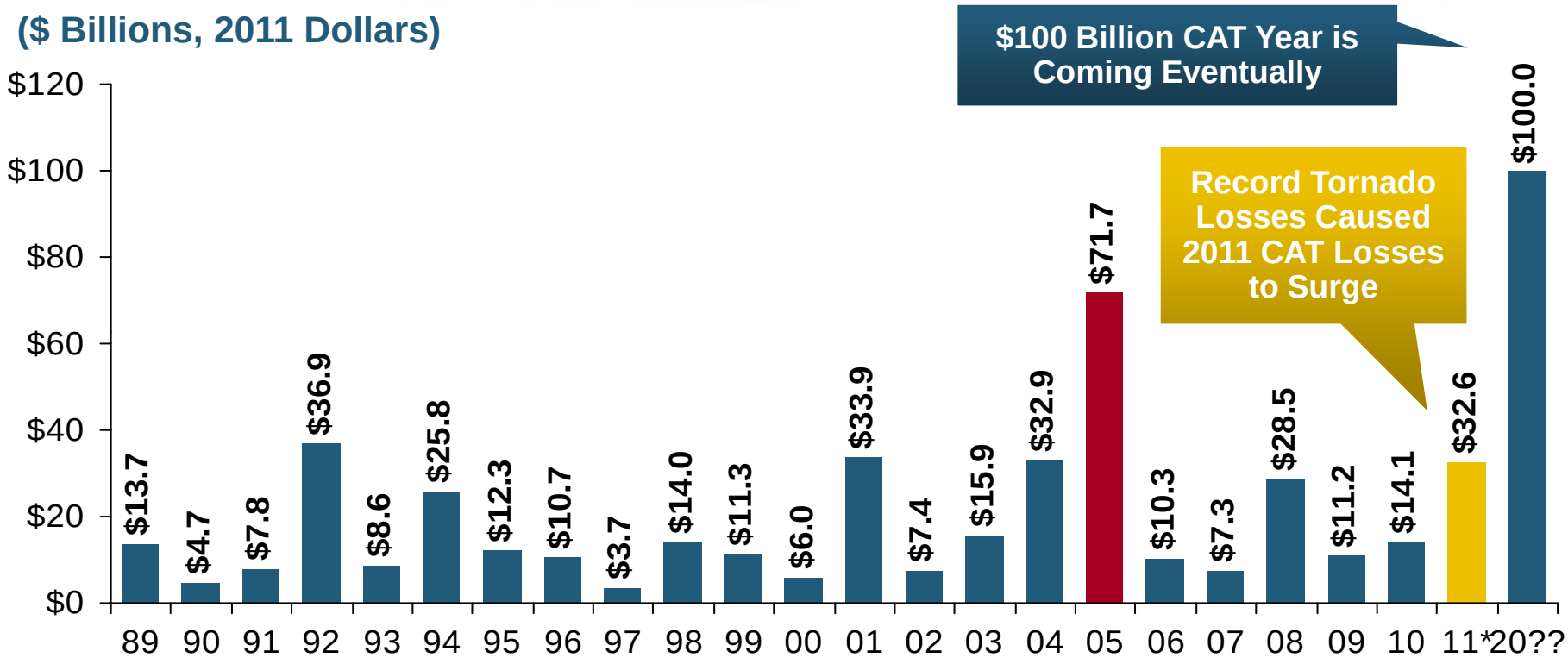
Number of Events (Annual Totals 1980 – 2011)



Source: MR NatCat*SERVICE*

US Insured Catastrophe Losses

($ Billions, 2011 Dollars)



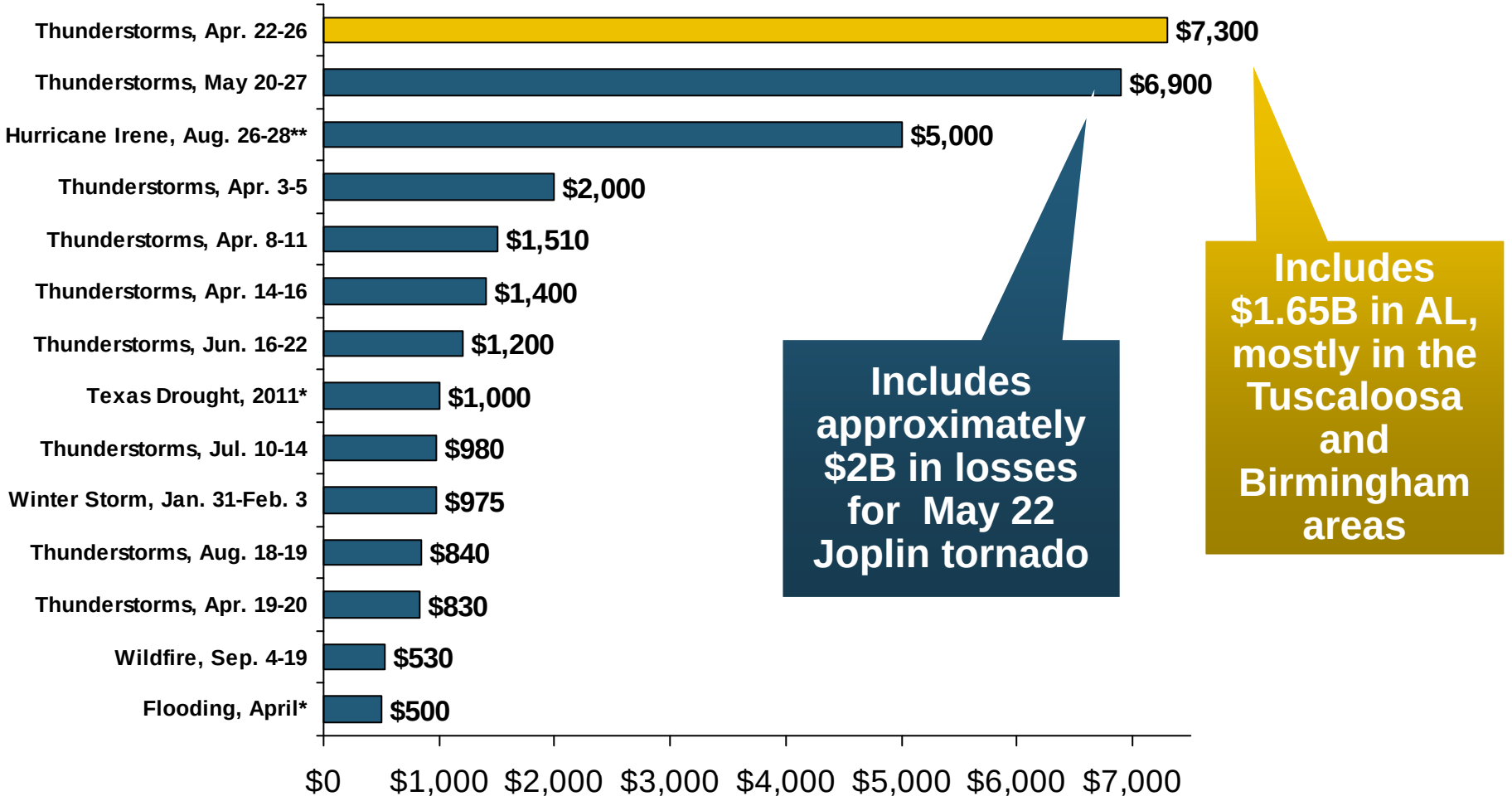
US CAT Losses in 2011 Were the 5th Highest in US History on An Inflation Adjusted Basis

*PCS estimate through Sept. 30, 2011.

Note: 2001 figure includes $20.3B for 9/11 losses reported through 12/31/01 ($25.9B 2011 dollars). Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = $12.2B ($15.6B in 2011 dollars.)

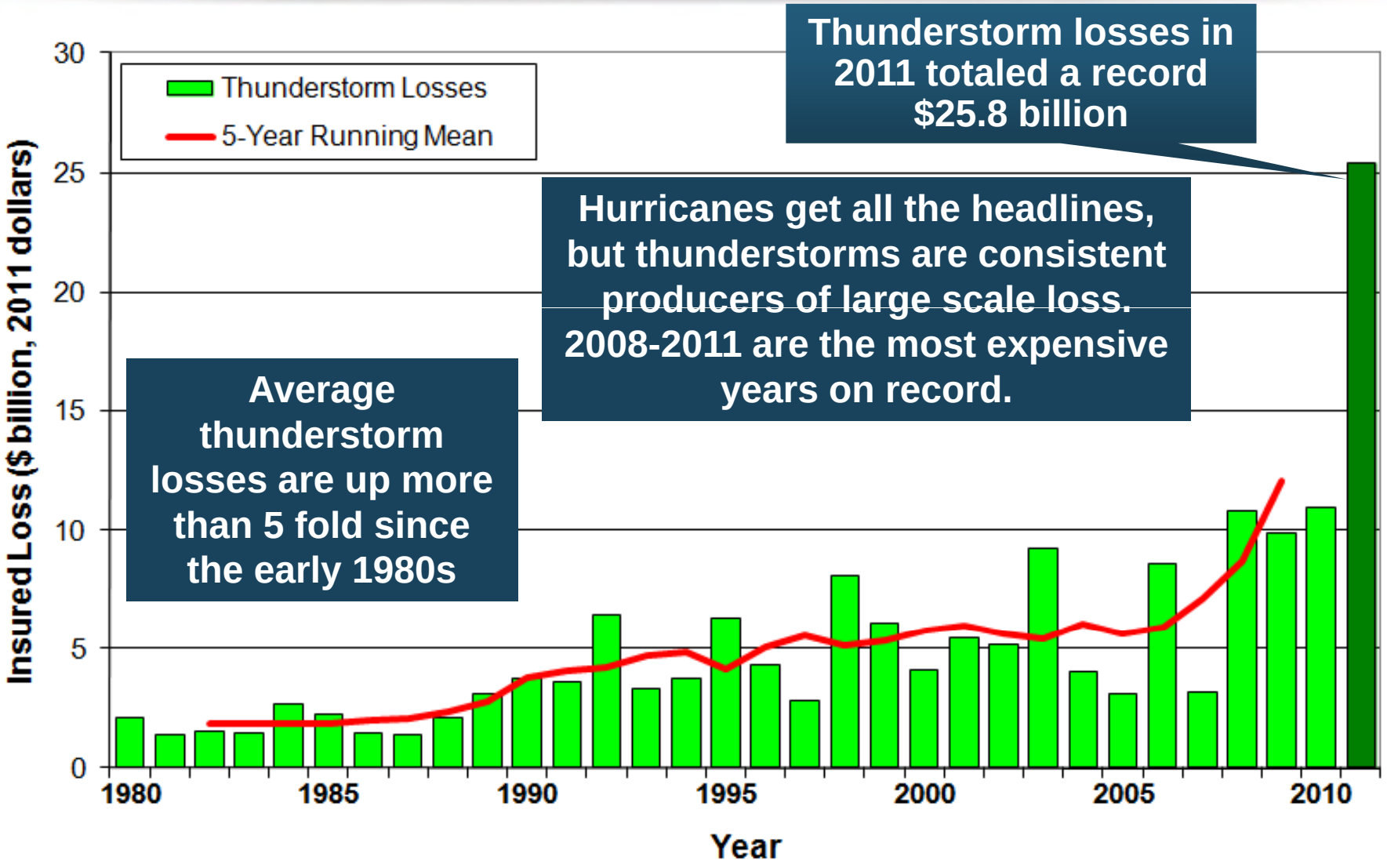
Sources: Property Claims Service/ISO; Insurance Information Institute.

2011's Most Expensive Catastrophes, Insured Losses



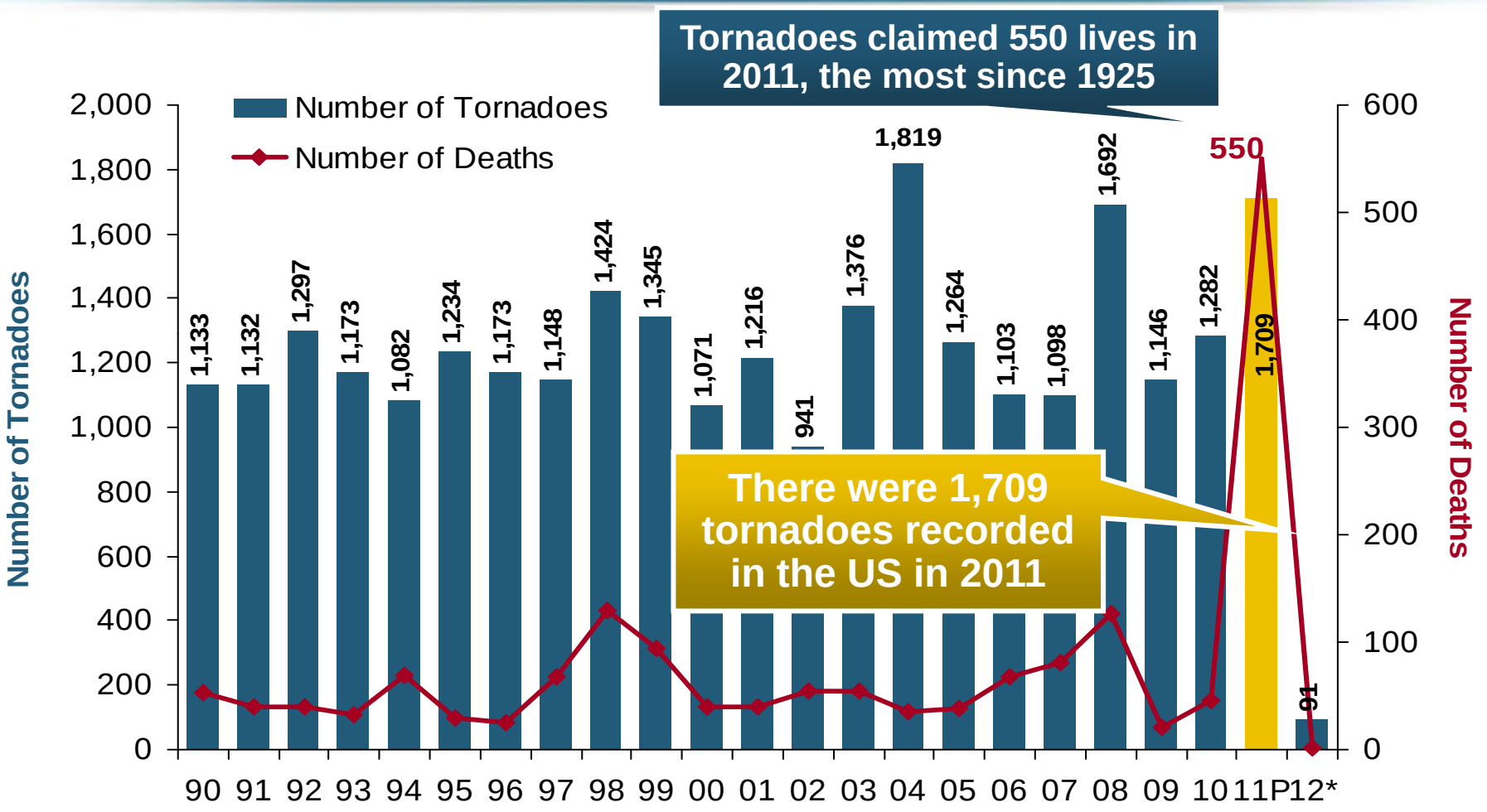
**Includes $700 million in flood losses insured through the National Flood Insurance Program.
Source: PCS except as noted by "*" which are sourced to Munich Re; Insurance Information Institute.

U.S. Thunderstorm Loss Trends, 1980 – 2011



Source: Property Claims Service, MR NatCat*SERVICE*

Number of Tornadoes and Related Deaths, 1990 – 2012*



Insurers Expect to Pay at Least $2 Billion Each for the April 2011 Tornadoes in Alabama and a Similar Amount for the May Storms in Joplin

*Through February 5, 2012.

Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service at http://www.spc.noaa.gov/climo/online/monthly/newm.html

INSURANCE INFORMATION INSTITUTE

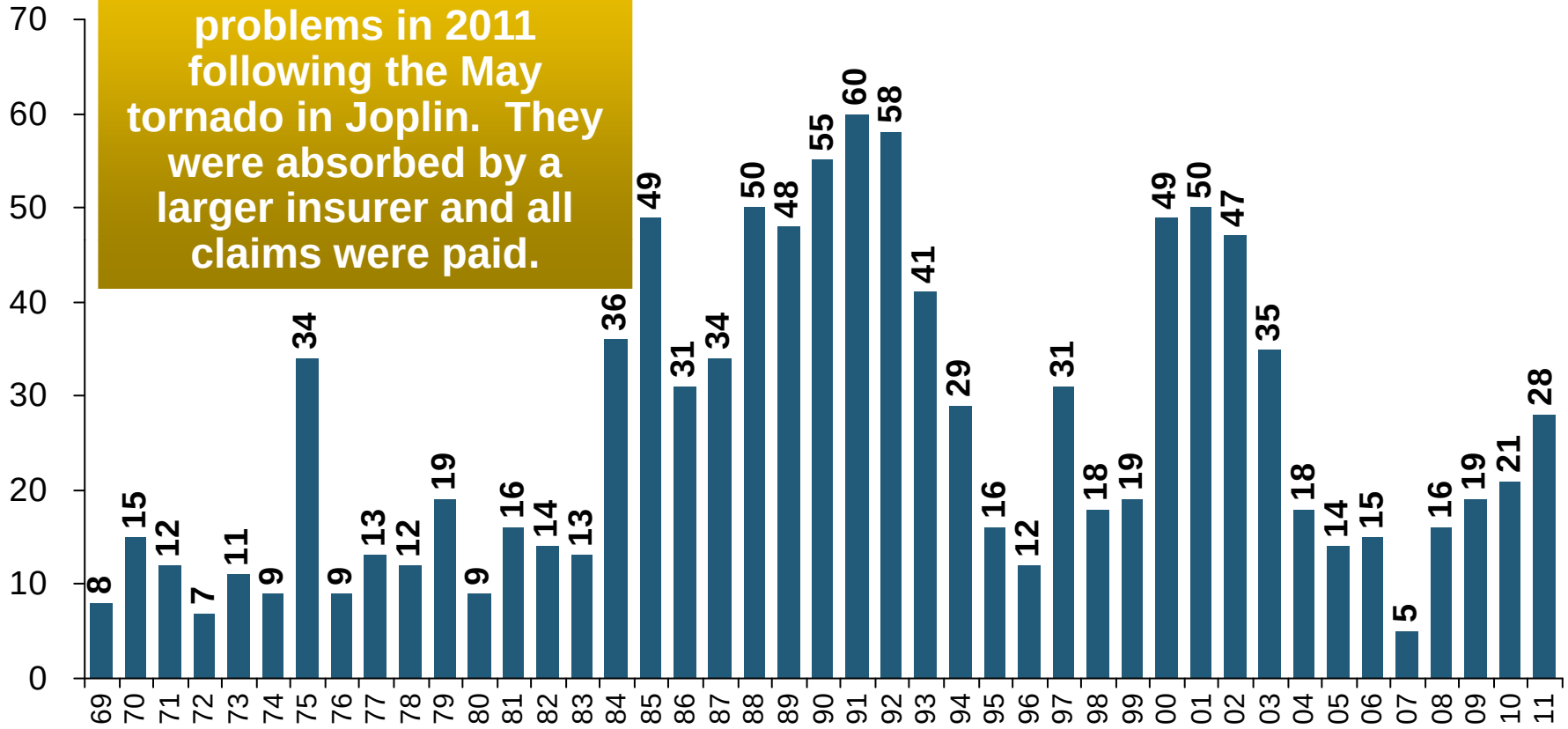
Financial Strength & Underwriting

Cyclical Pattern is P-C Impairment History is Directly Tied to Underwriting, Reserving & Pricing

P/C Insurer Impairments, 1969–2011

INSURANCE INFORMATION INSTITUTE

3 small insurers in Missouri did encounter problems in 2011 following the May tornado in Joplin. They were absorbed by a larger insurer and all claims were paid.

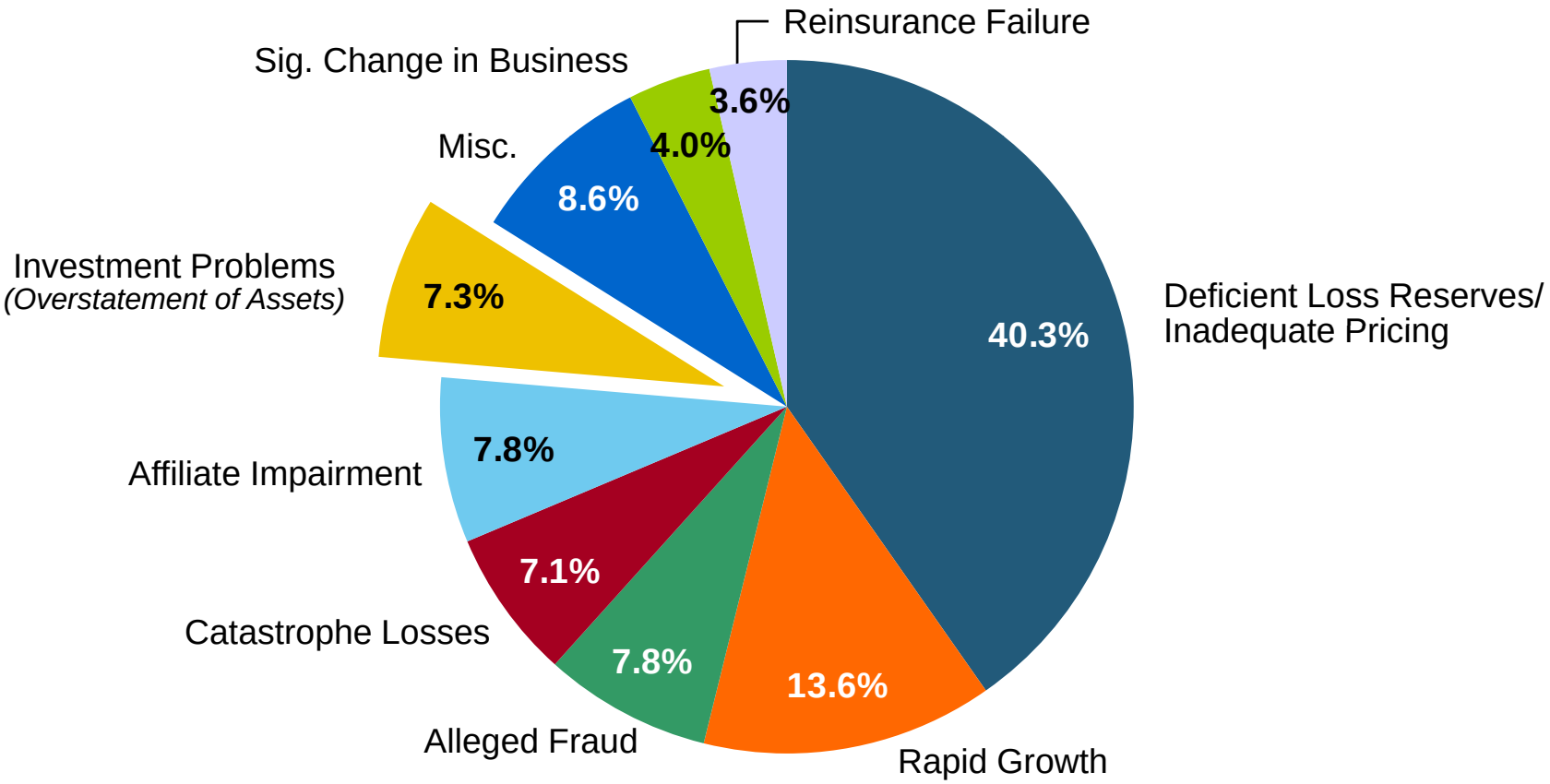


The Number of Impairments Varies Significantly Over the P/C Insurance Cycle, With Peaks Occurring Well into Hard Markets

Source: A.M. Best Special Report "1969-2011 Impairment Review," January 23, 2012; Insurance Information Institute.

Reasons for US P/C Insurer Impairments, 1969–2010

Historically, Deficient Loss Reserves and Inadequate Pricing Are By Far the Leading Cause of P-C Insurer Impairments. Investment and Catastrophe Losses Play a Much Smaller Role



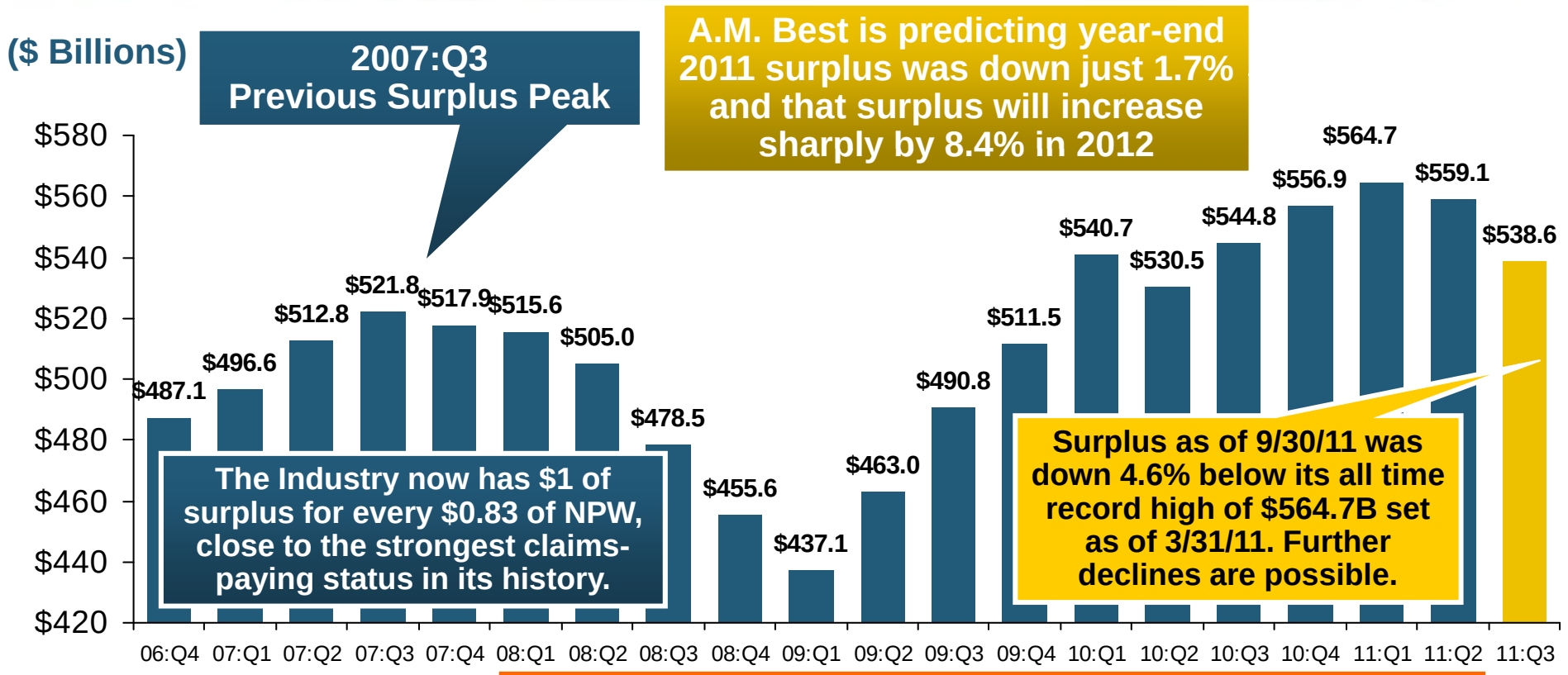
Source: A.M. Best: *1969-2010 Impairment Review*, Special Report, April 2011.

INSURANCE INFORMATION INSTITUTE

SURPLUS/CAPITAL/CAPACITY

Have Large Global Losses Reduced Capacity in the Industry, Setting the Stage for a Market Turn?

Policyholder Surplus, 2006:Q4–2011:Q3



*Includes $22.5B of paid-in capital from a holding company parent for one insurer's investment in a non-insurance business in early 2010.

Quarterly Surplus Changes Since 2011:Q1 Peak

11:Q2: -$5.6B (-1.0%)

11:Q3: -$26.1B (-4.6%)

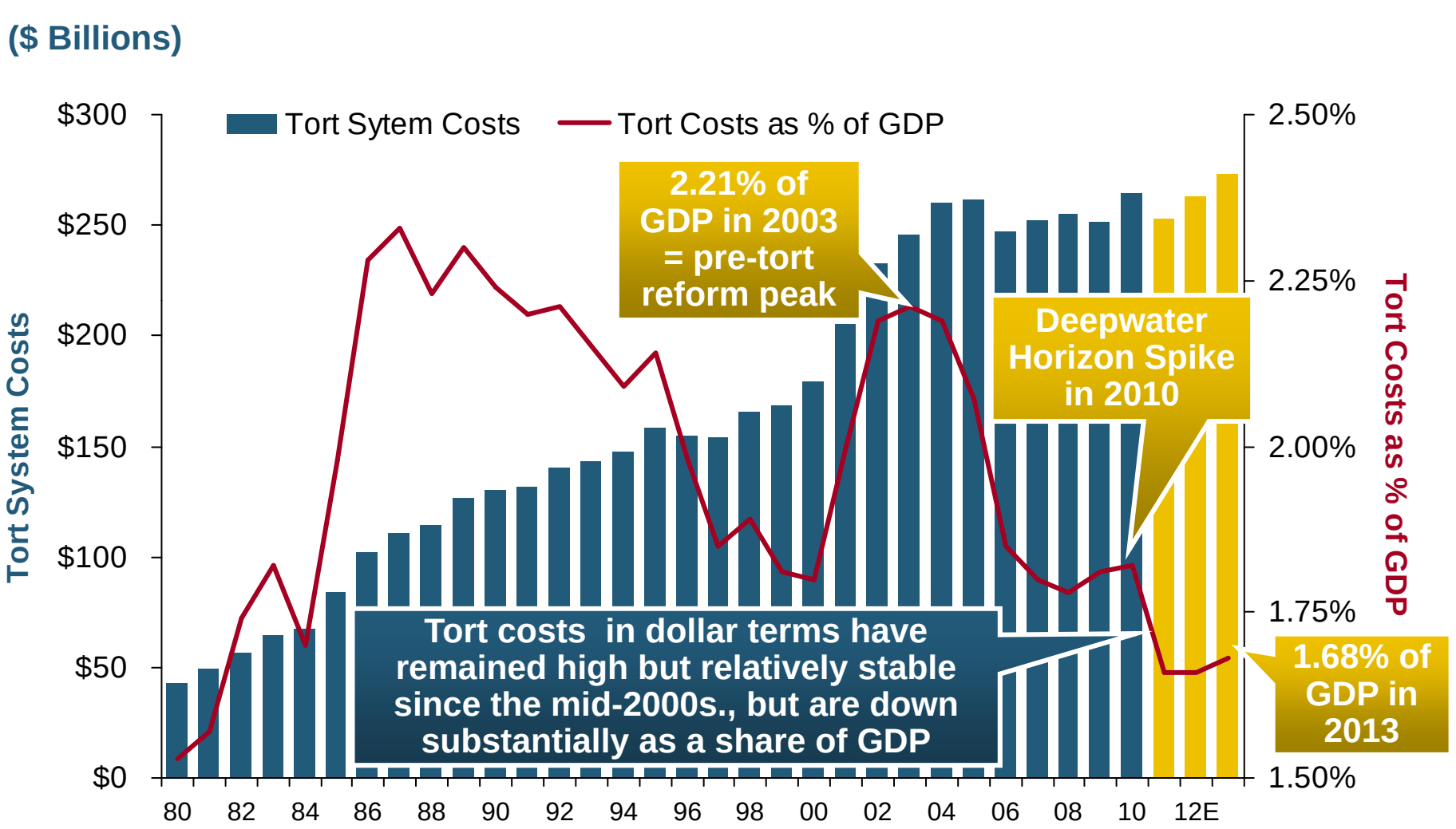
Sources: ISO, A.M .Best.

INSURANCE INFORMATION INSTITUTE

Shifting Legal Liability & Tort Environment

Is the Tort Pendulum Swinging Against Insurers?

Over the Last Three Decades, Total Tort Costs as a % of GDP Appear Somewhat Cyclical, 1980-2013E



Sources: Towers Watson, *2011 Update on US Tort Cost Trends*, Appendix 1A

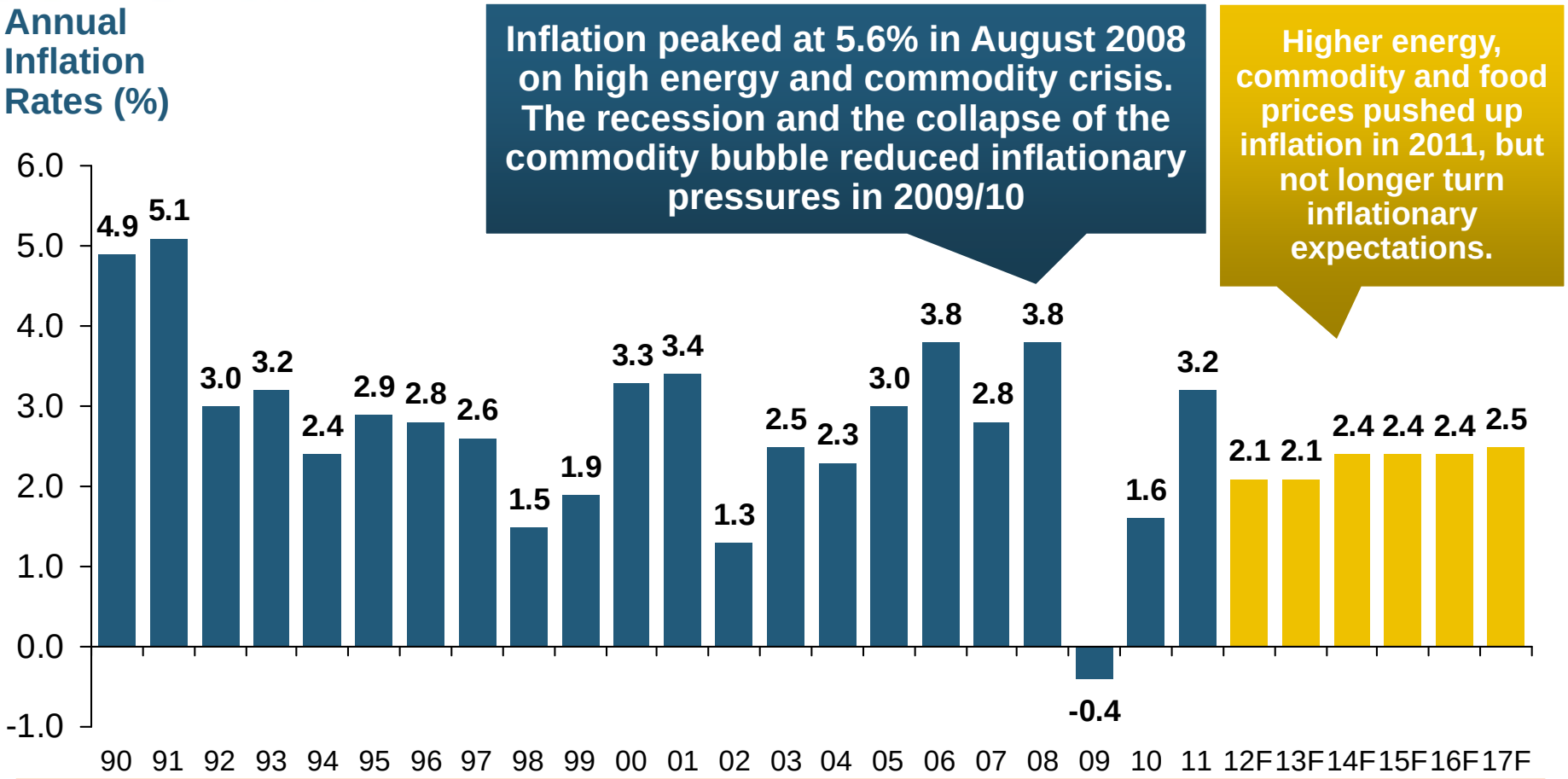
INSURANCE INFORMATION INSTITUTE

Inflation

Is it a Threat to Claim Cost Severities

Annual Inflation Rates, (CPI-U, %), 1990–2017F

INSURANCE INFORMATION INSTITUTE

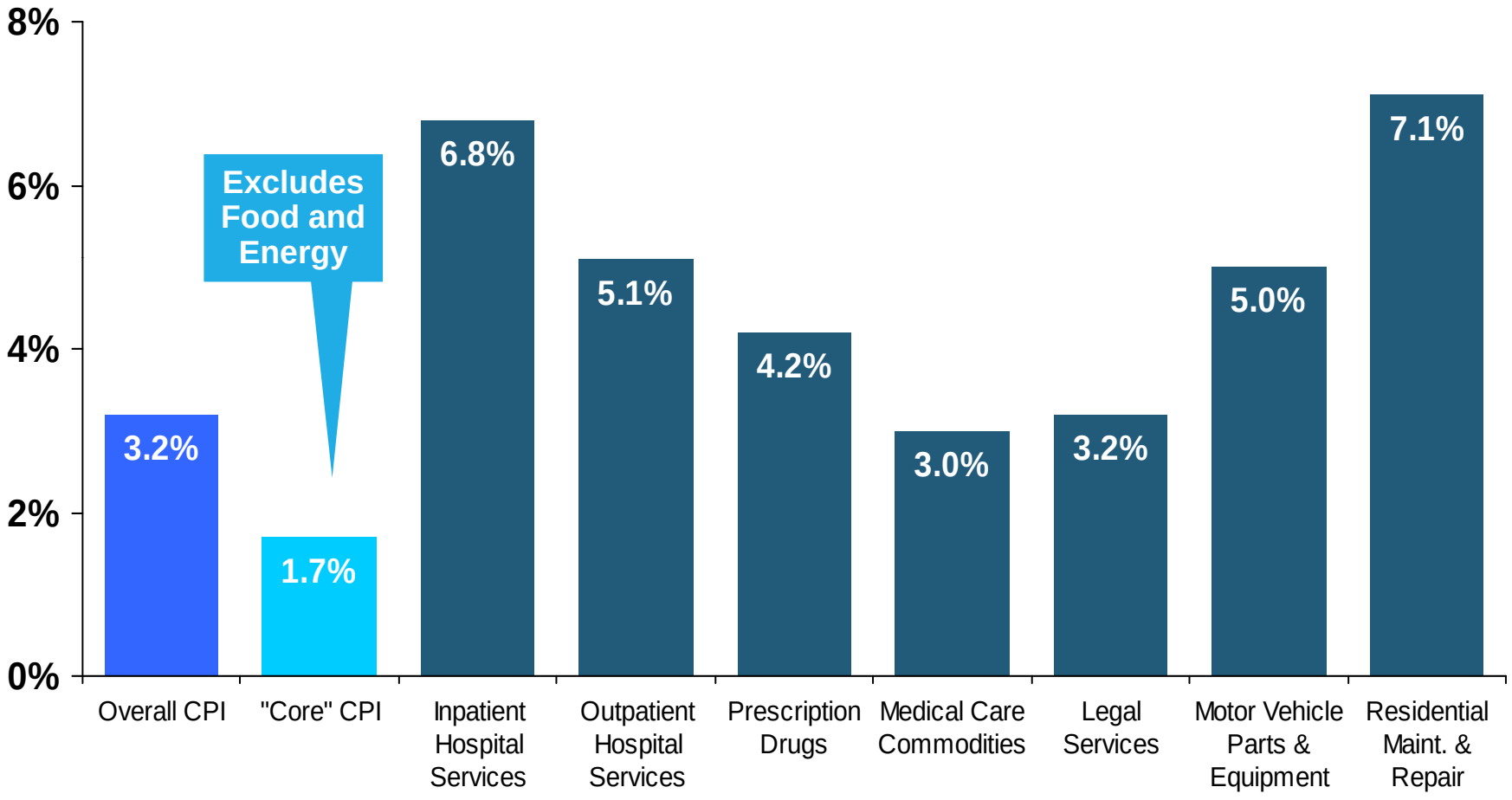


The slack in the U.S. economy suggests that inflationary pressures should remain subdued for an extended period of times. Energy, health care and commodity prices, plus U.S. debt burden, remain longer-run concerns

Sources: US Bureau of Labor Statistics; Blue Chip Economic Indicators, 10/11 and 1/12 (forecasts).

P/C Personal Insurance Claim Cost Drivers Grow Faster Than the Core CPI Suggests

Price Level Change: 2011 vs. 2010



Healthcare costs are a major liability, med pay, and PIP claim cost driver. They are likely to grow faster than the CPI for the next few years, at least

Sources: Bureau of Labor Statistics; Insurance Information Institute.

INSURANCE INFORMATION INSTITUTE

Insurance Information Institute Online:

www.iii.org

Thank you for your time and your attention!

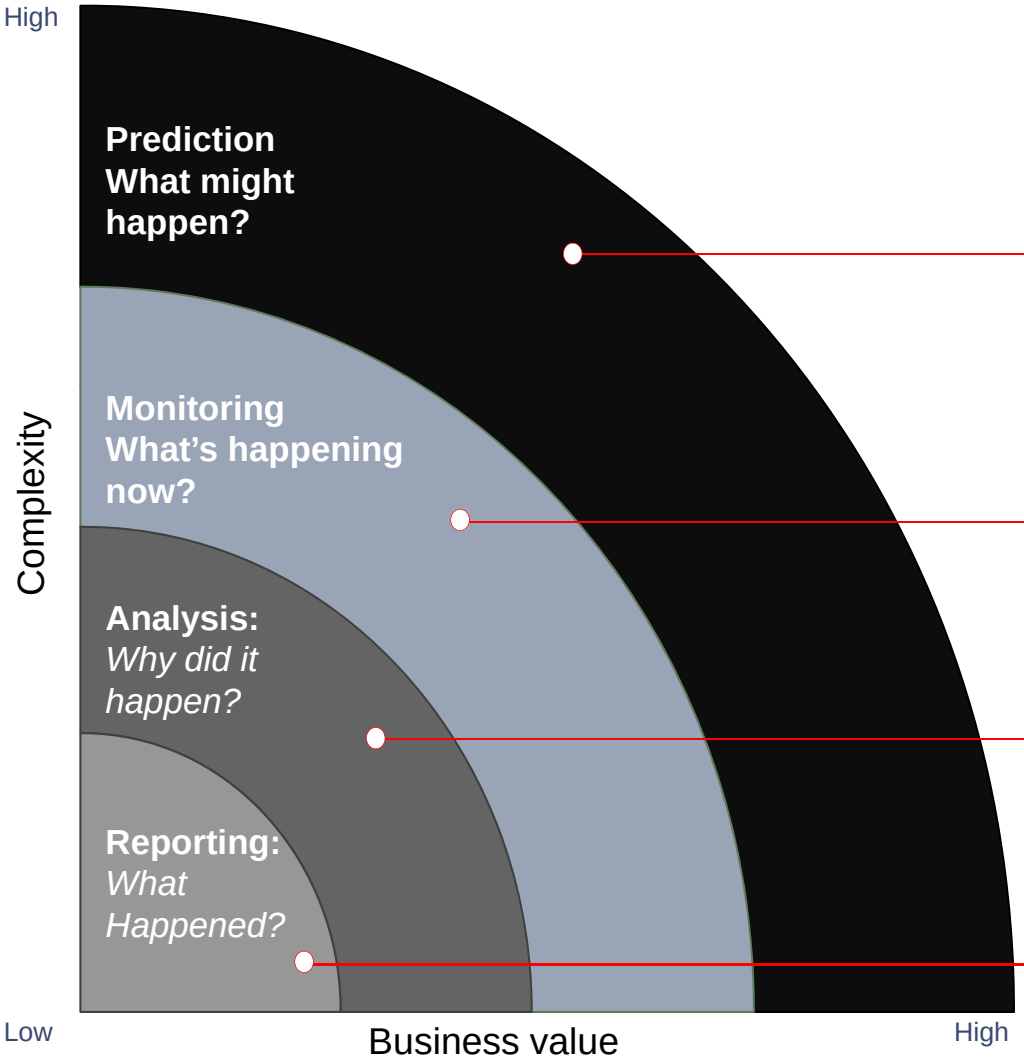
Twitter: twitter.com/bob_hartwig

Knowing What and Asking Why?

"Many underwriting decisions include subjective components, which leads to a great deal of variability in underwriting and pricing decisions."

-Advanced Analytics and the Art of Underwriting, Deloitte, 2007

BI Maturity Model



Predictive analytics and mining

Dashboards and scorecards

OLAP and advanced visualization tools

Query, reporting, data search

Polling Question #1

Knowing What and Asking Why?

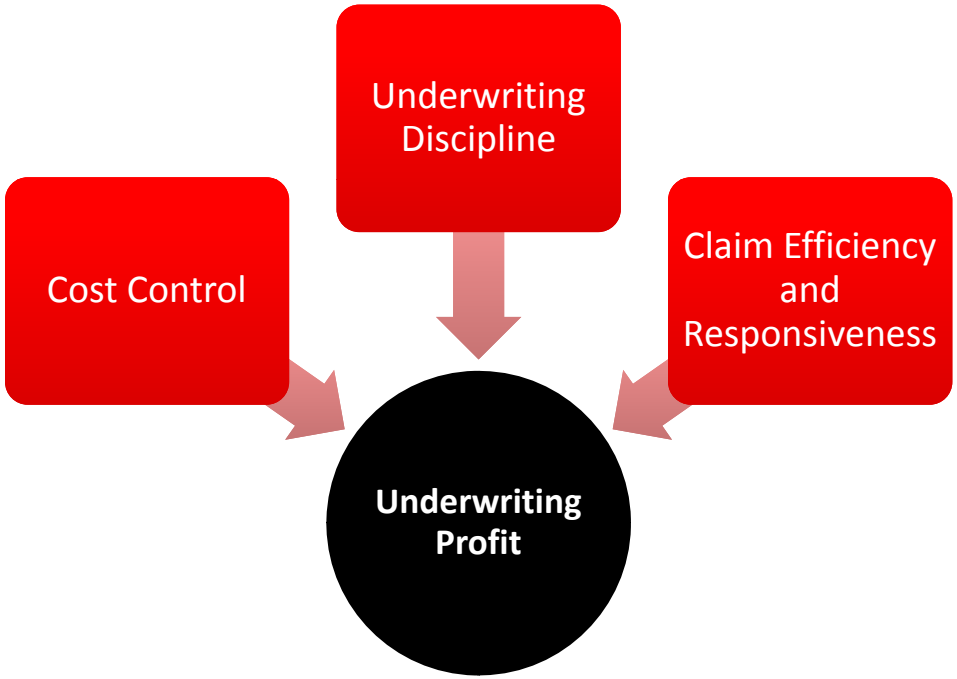
"[The] wish for all insurers to achieve this happy result (underwriting profitability) creates intense competition, so vigorous in most years that it causes the P/C industry as a whole to operate at a significant underwriting *loss*."

-Warren Buffet
Feb 2012

Underwriting Profit Drivers

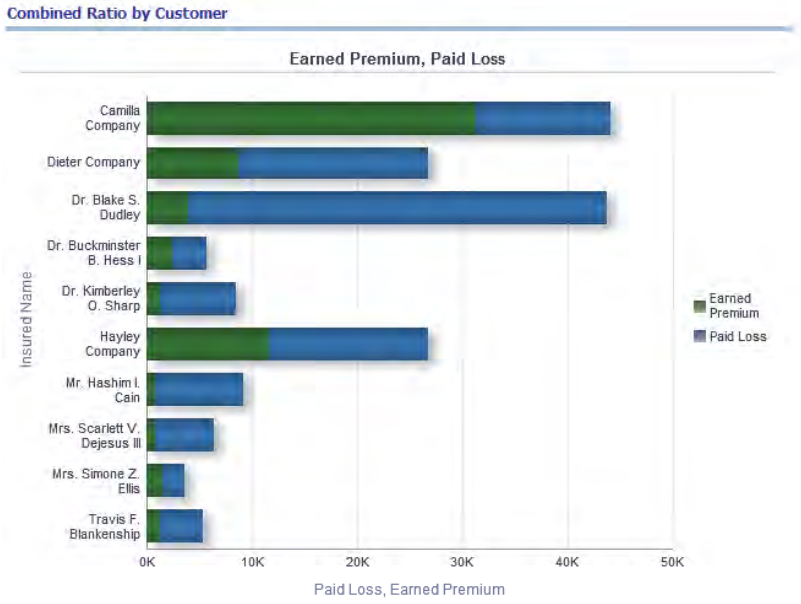
Three key items Oracle can help with

- Underwriting Discipline
  - The controlled effort of writing or refusing to write premium
- Cost Control
  - The controlled effort of containing costs as they pertain to the claim, underwriting and adjusting process within an insurer
- Claim Efficiency and Responsiveness
  - The controlled effort of quickly and effectively paying legal claims quickly.



Underwriting Discipline

- Commercial Lines
  - High Touch
  - Person to Person
  - Customer Specific
  - Within Underwriting Control
- Personal Lines
  - Low Touch
  - Automated
  - Demographic Specific
  - Hyper Segmentation

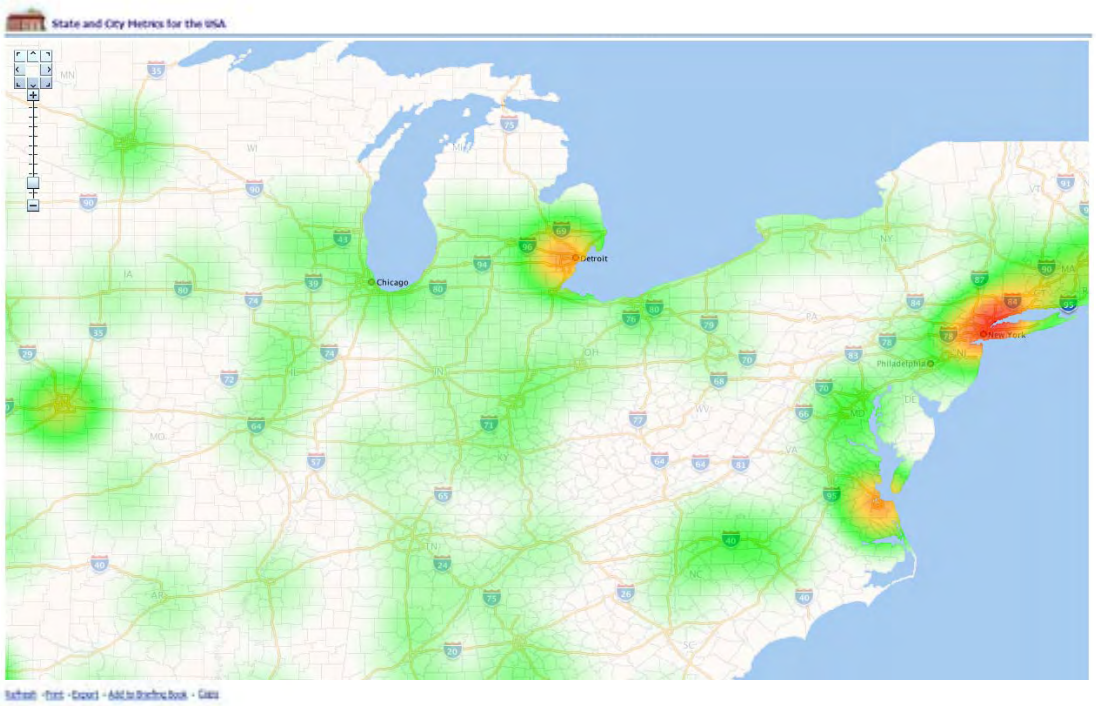


Insured Name	Earned Premium	Paid Loss	Combined Ratio
Dr. Blake S. Dudley	3,903	39,798	1,024.8%
Mr. Hashim I. Cain	828	8,314	1,003.9%
Mrs. Scarlett V. Dejesus III	835	5,550	664.5%
Dr. Kimberley O. Sharp	1,254	7,284	631.7%
Dr. Buckminster B. Hess I	2,471	3,236	575.0%
Mrs. Simone Z. Ellis	1,486	2,121	372.6%
Travis F. Blankenship	1,302	4,017	308.5%
Dieter Company	8,676	18,090	208.5%
Camilla Company	31,269	12,840	152.2%
Hayley Company	11,575	15,208	135.7%

Refresh - Print - Export - Add to Briefing Book - Copy

Cost Control

- Supplier Performance
  - Preferred vs. Non Preferred Suppliers
  - Fraud
- Adjustment Expenses
  - Internal vs. External
  - Speed
  - Training

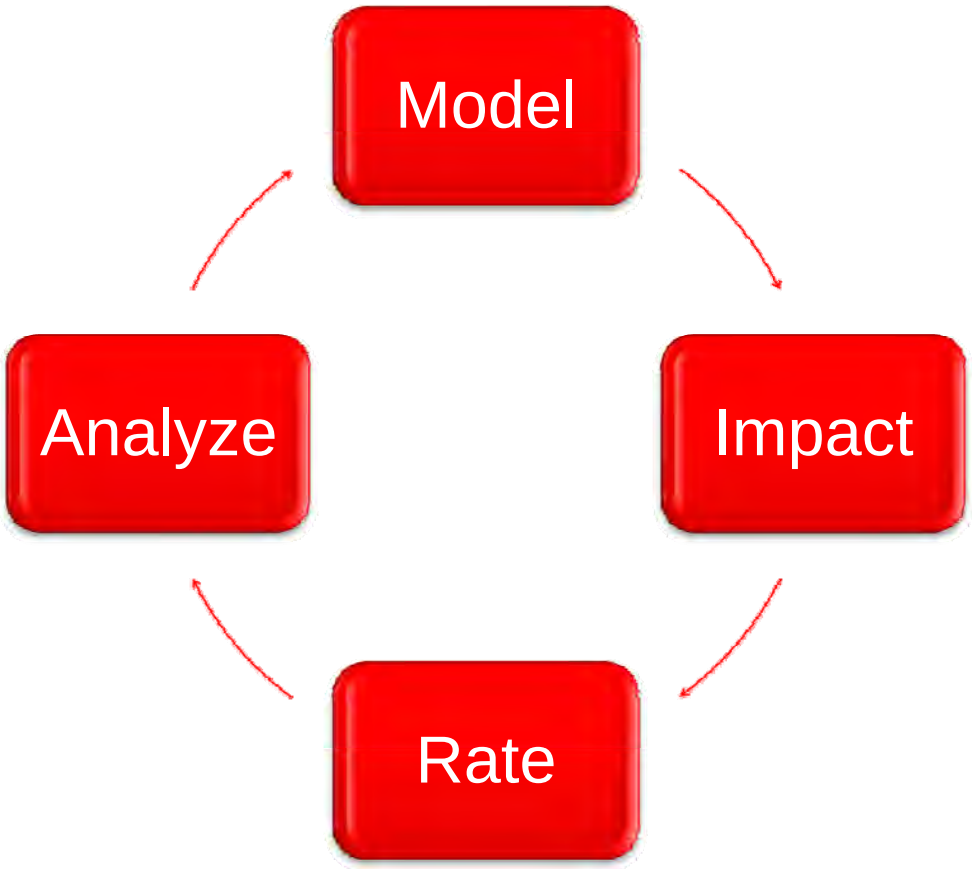


Claim Efficiency and Responsiveness

- Catastrophe Triaging
  - Lessens fraud
  - Quickly addresses claim area
  - Keeps Customers
- Fast/Accurate Adjustment Period
  - Decreases reserve dollars allocated
  - Onsite adjustment w/ analytics increases accuracy

Closing the Analytics Loop

- Typical/manual rating/pricing methodology
- ***Model*** the rate in Insbridge
- View the ***Impact*** of the rate
- Push ***Rate*** to production and put to use
- ***Analyze*** the results of the rating over time



Q&A

For more information

- Please contact insurance_ww@oracle.com for a copy of these slides

- For specific questions, contact jason.mcdonald@oracle.com or nicole.bruns@oracle.com

Hardware and Software

ORACLE

Engineered to Work Together


ORACLE®