

The Market Cycle and Its Impact on Reserves

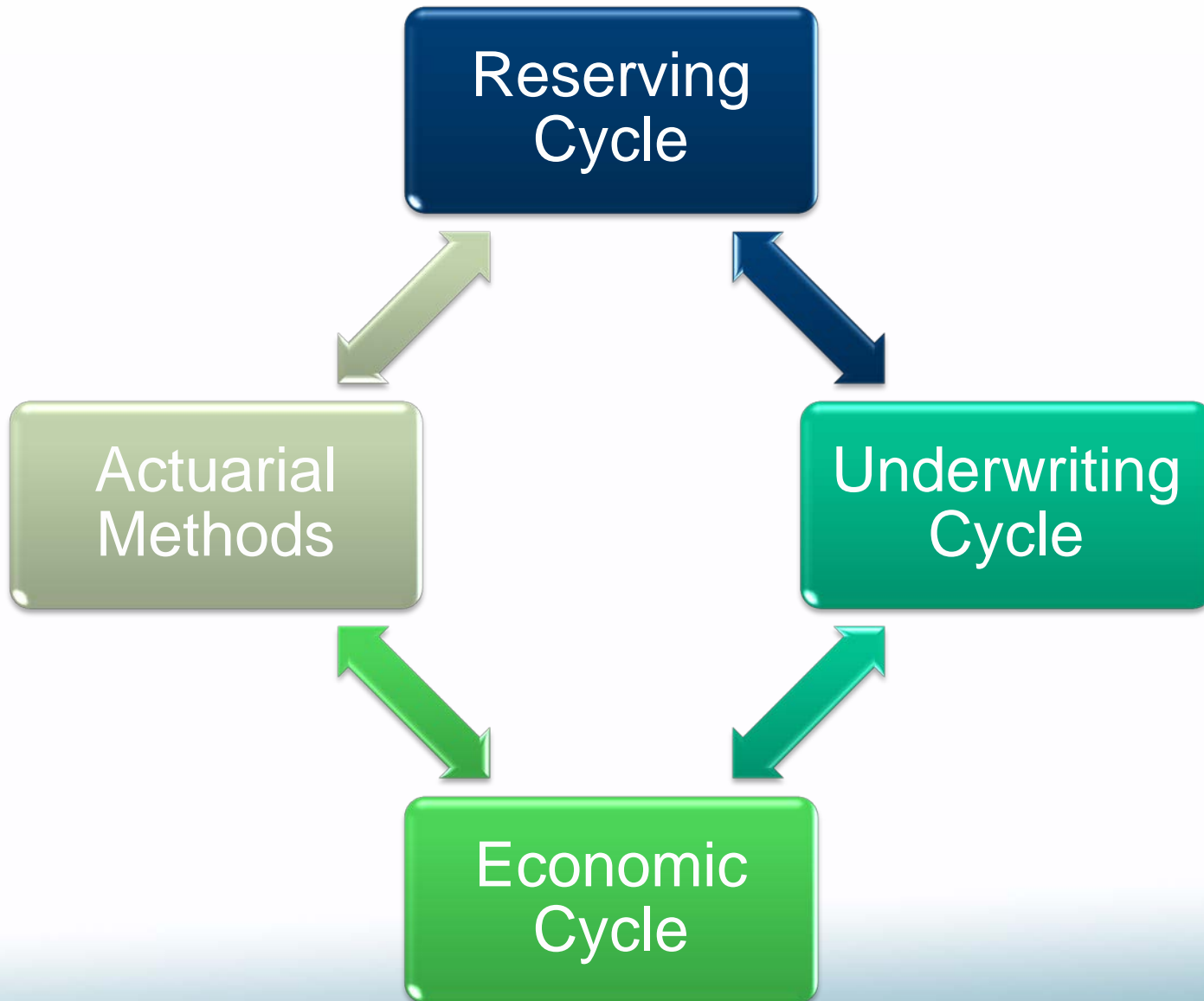
Prepared for: **Casualty Loss Reserve Seminar**

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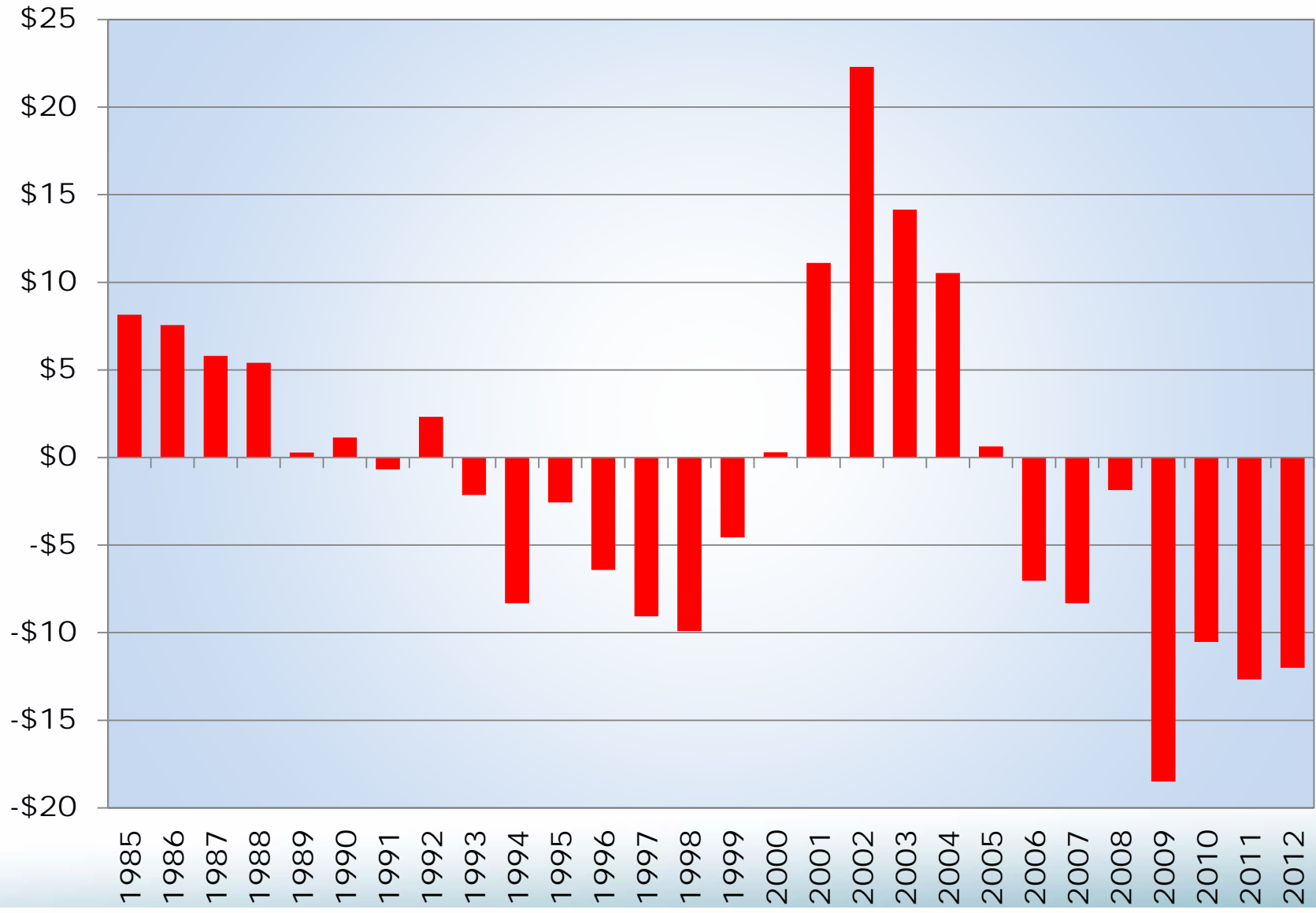
Overview



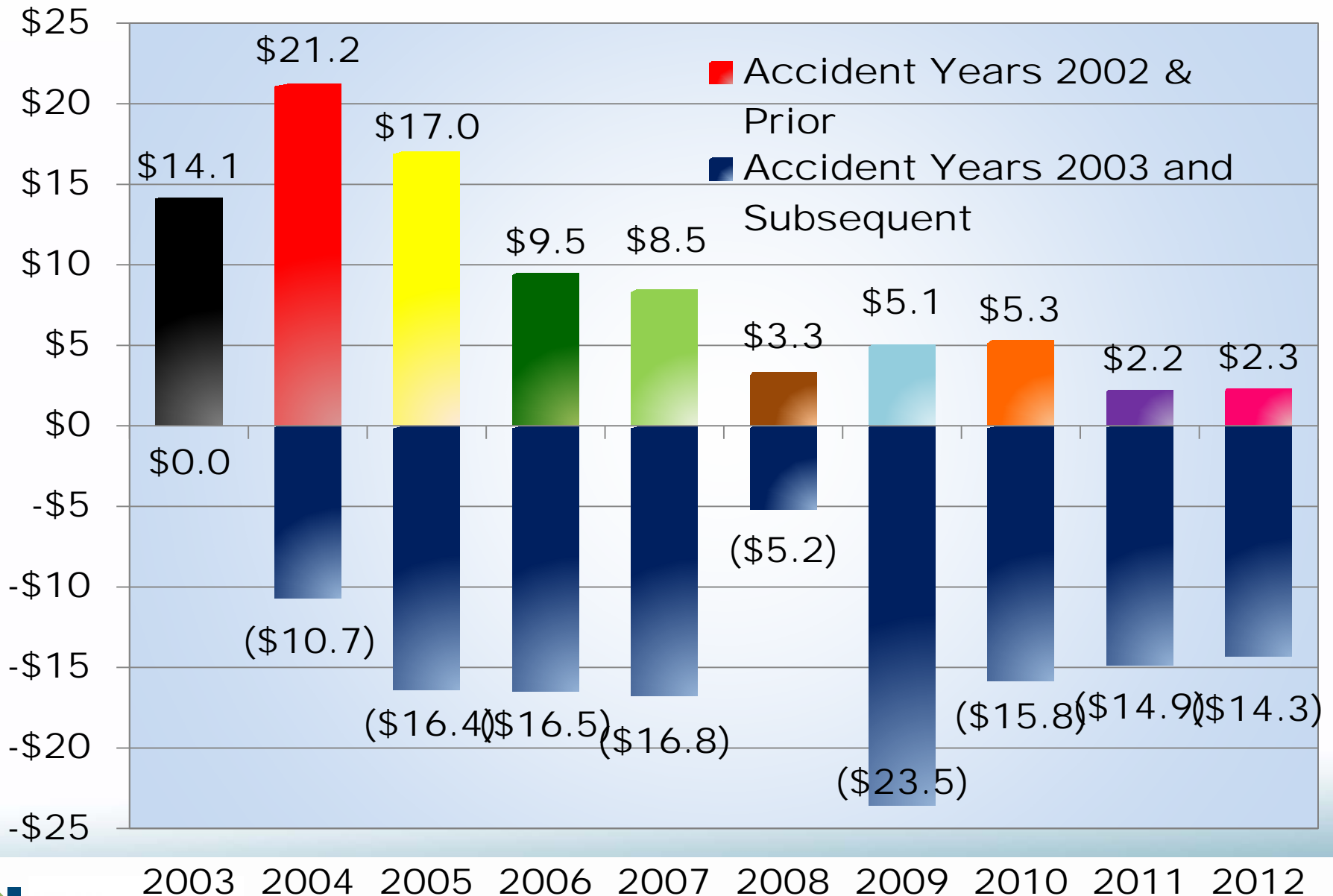
Discussion

THE RESERVING CYCLE

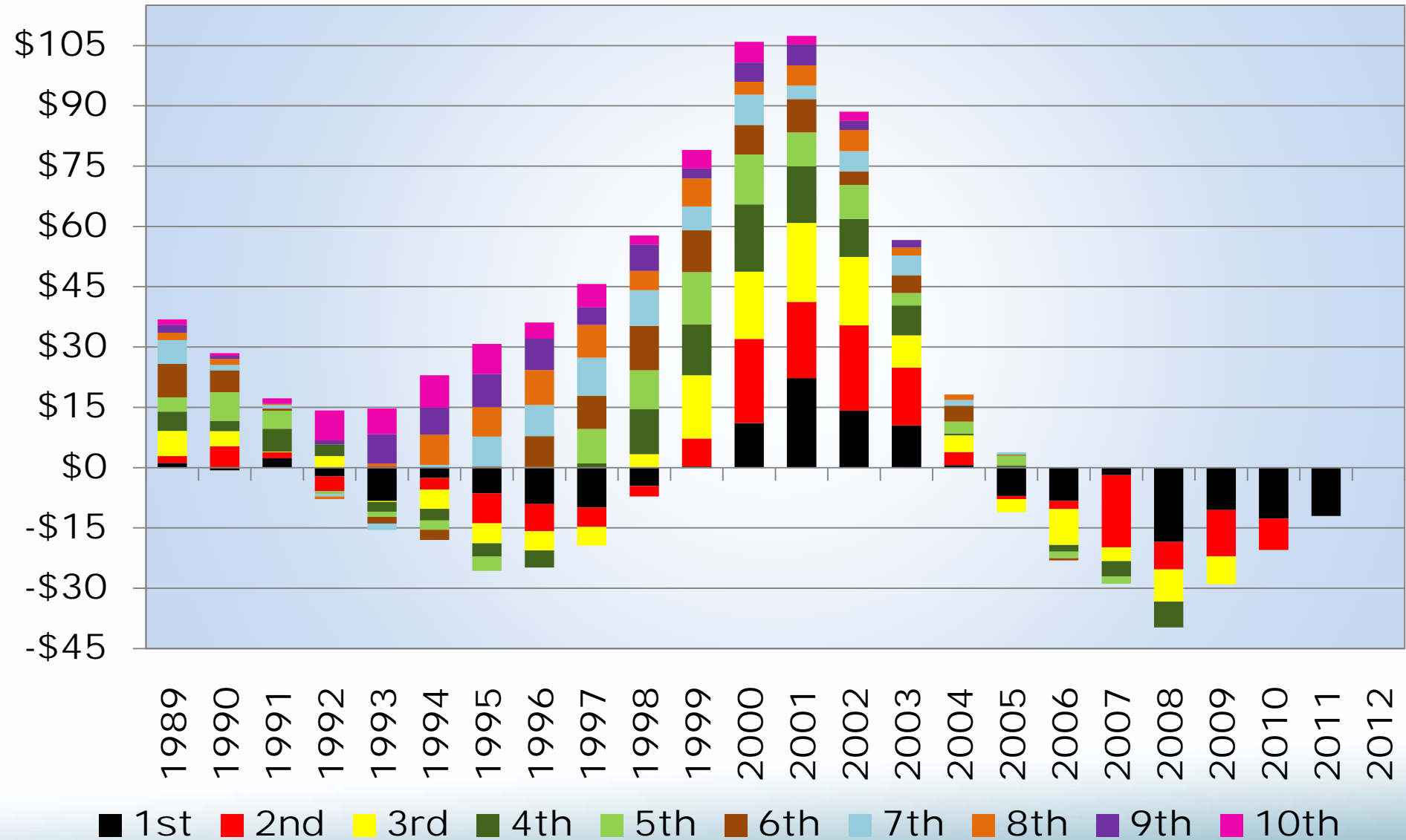
Reserve Development by Calendar Year (\$B)



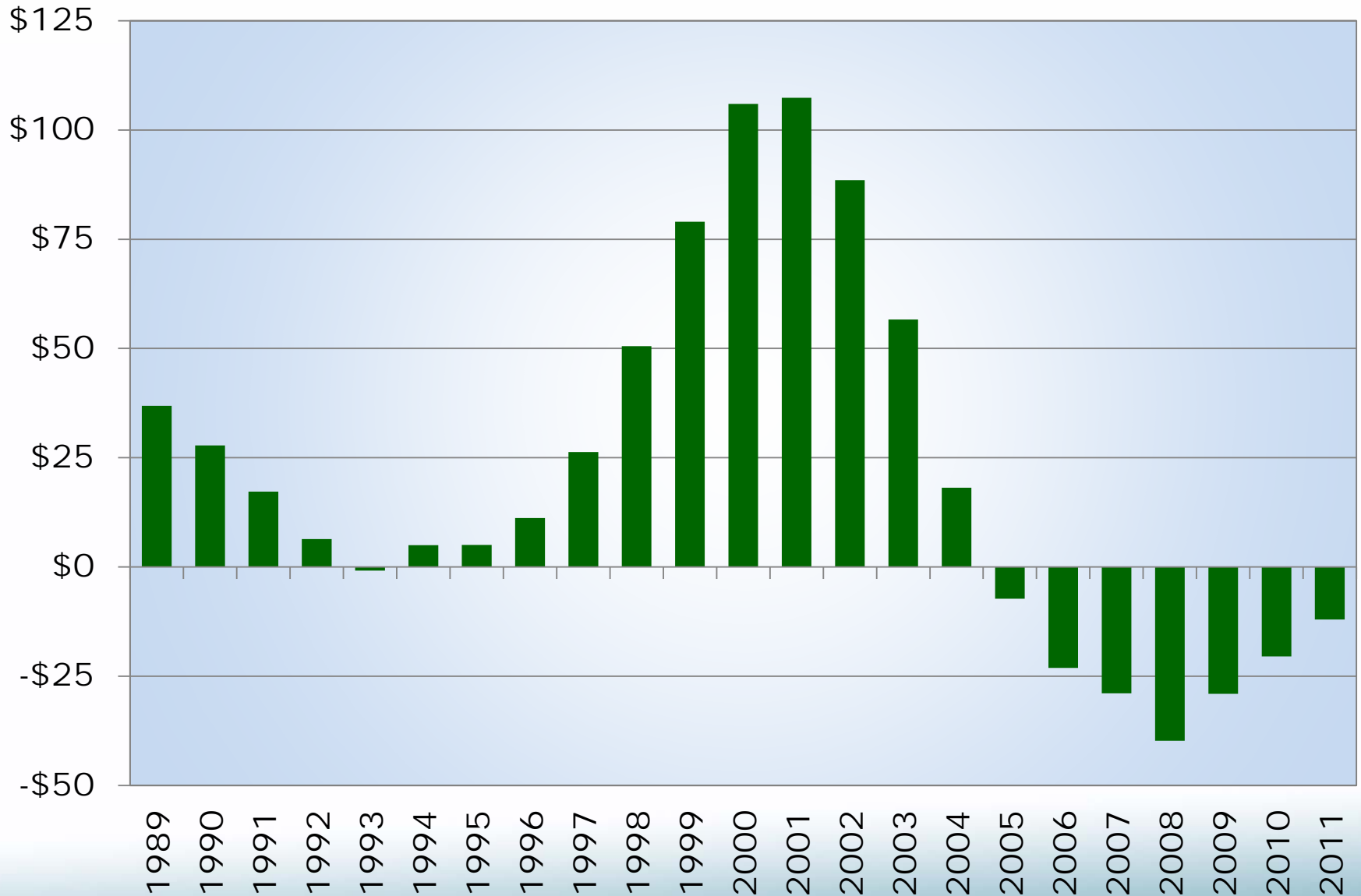
Reserve Development by Calendar Year (\$B)



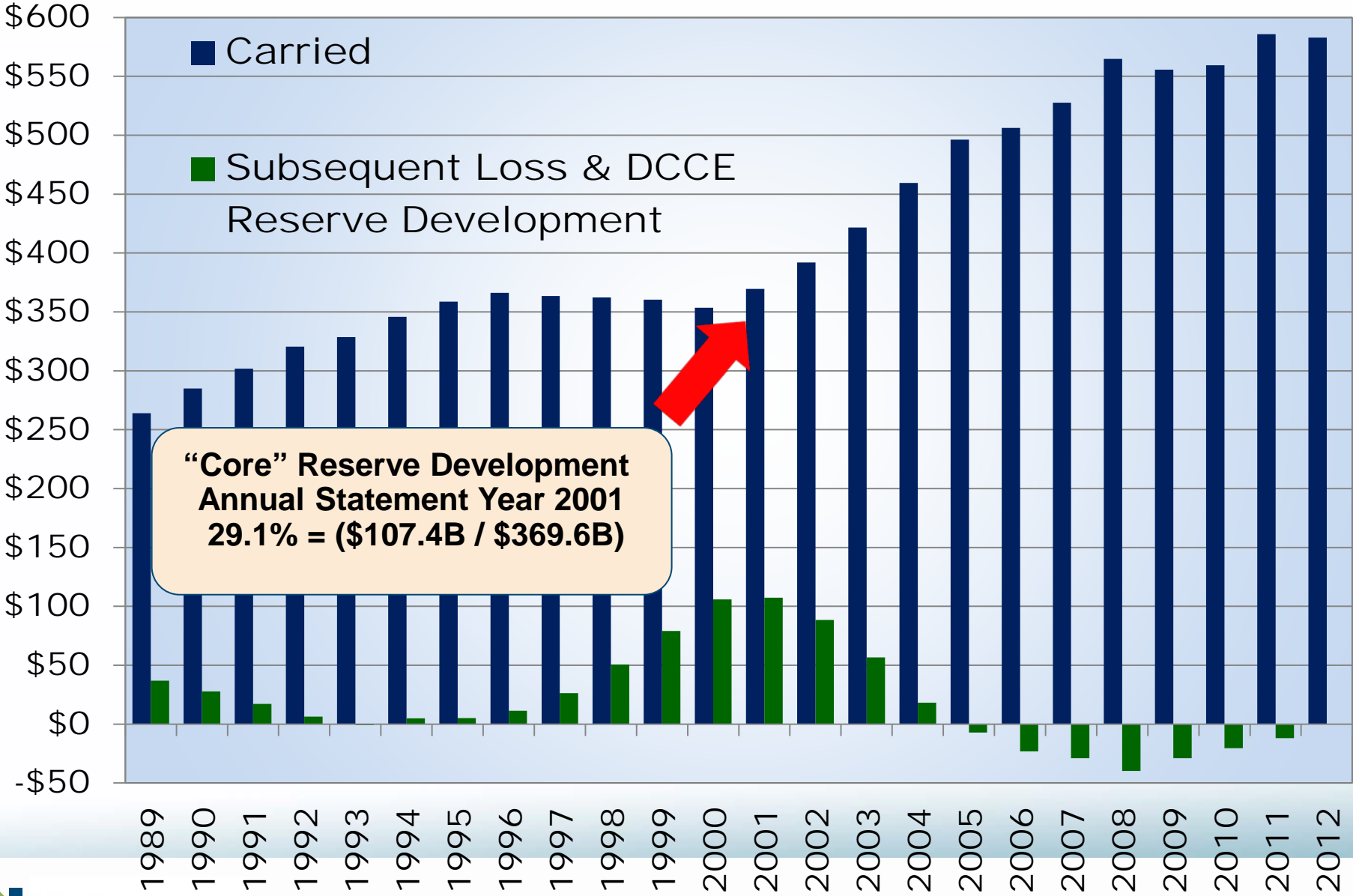
Reserve Development by Statement Year (\$B)



Reserve Development by Statement Year (\$B)



Carried Reserves and Subsequent Development (\$B)

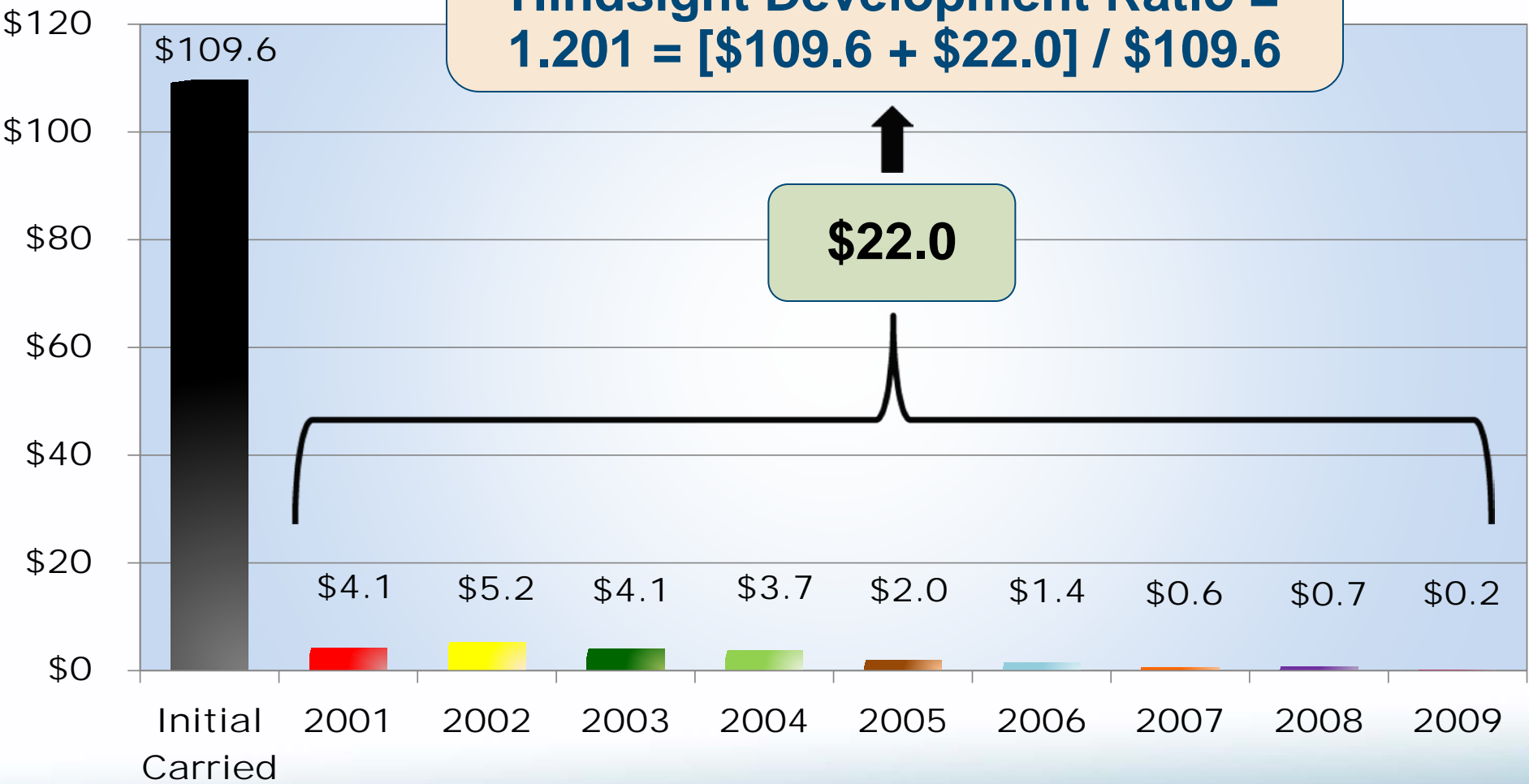


Hindsight Development Ratios

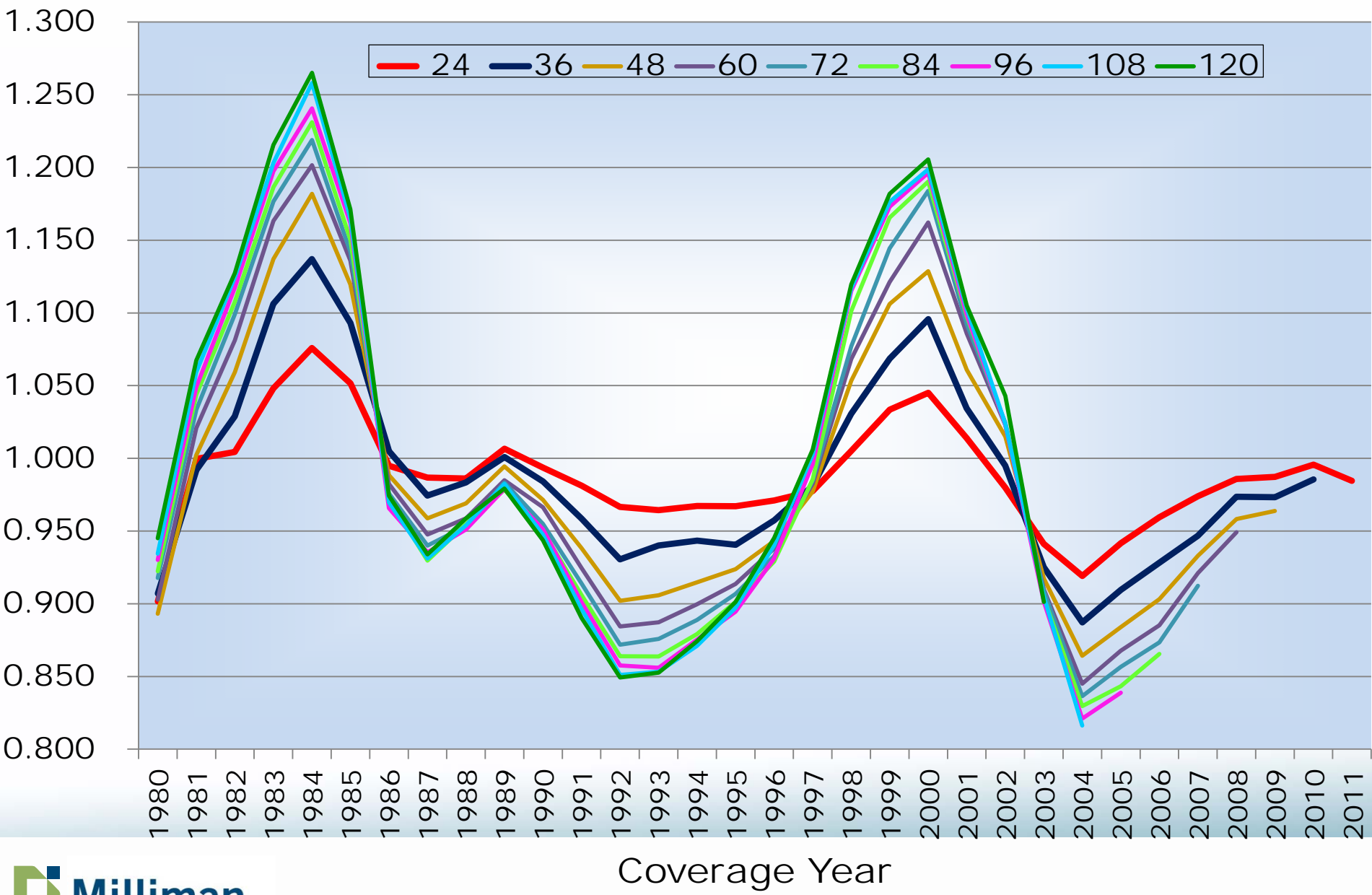
THE RESERVING CYCLE

Example – Coverage Year 2000 (\$B)

Coverage Year 2000
Hindsight Development Ratio =
 $1.201 = [\$109.6 + \$22.0] / \$109.6$



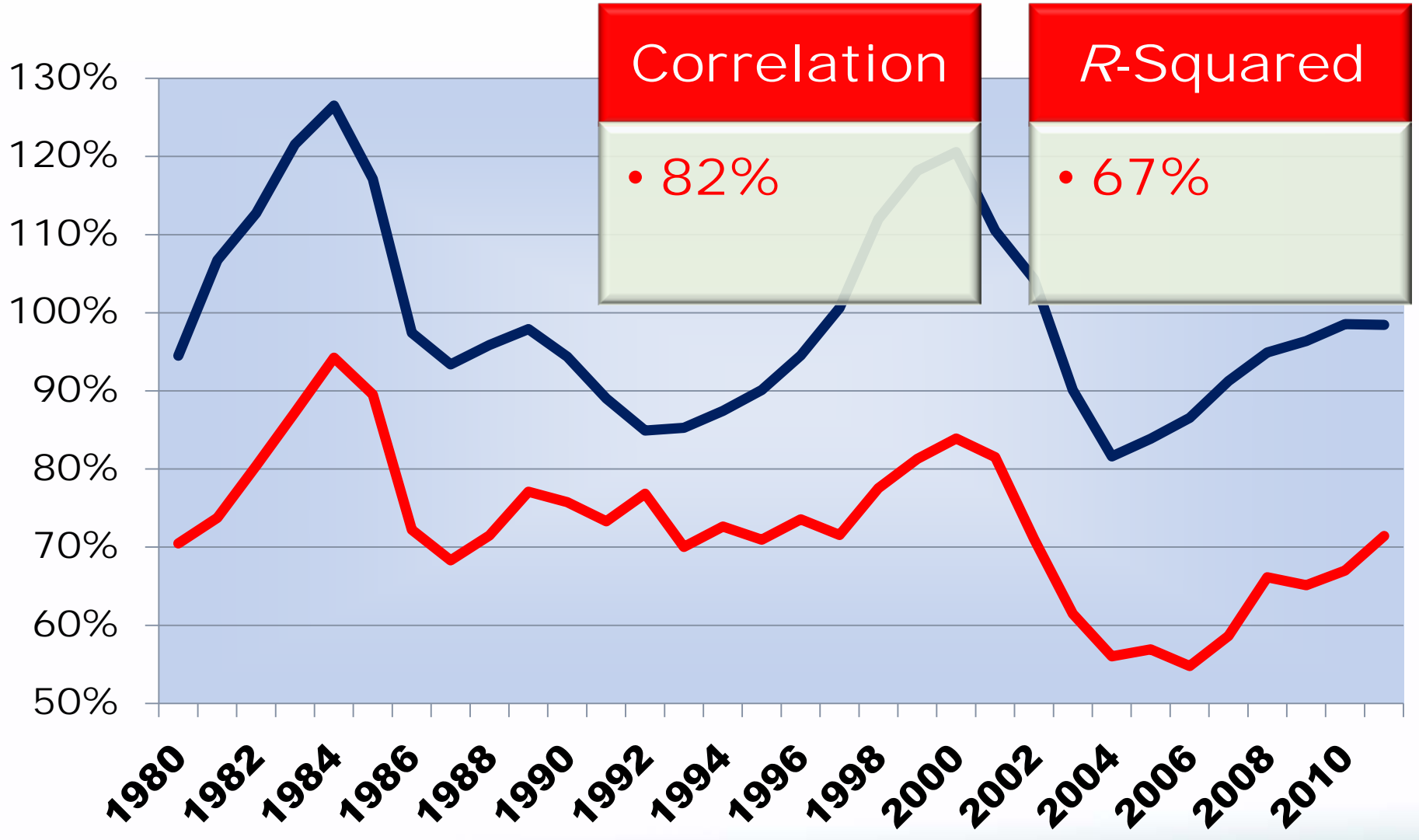
Hindsight Development by Evaluation Month



Analysis

THE UNDERWRITING CYCLE

The Underwriting and Reserving Cycles

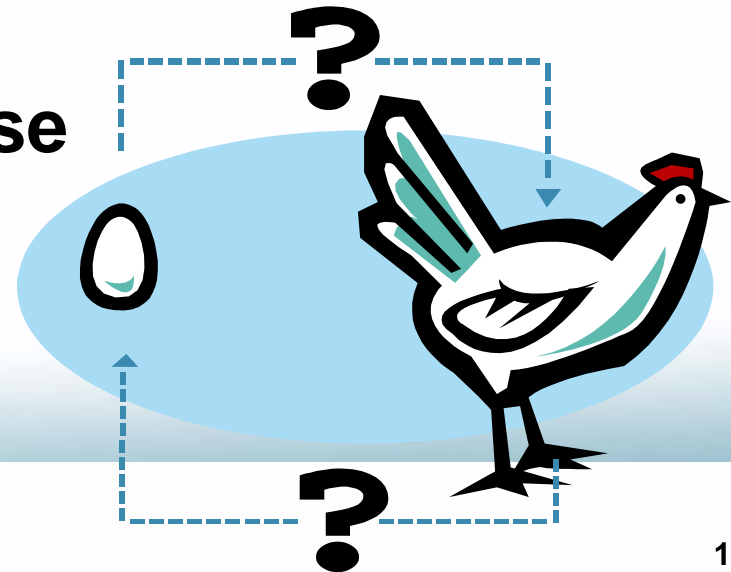


— Actual Loss & DCCE Ratio

— HDRs

The Pricing and Reserving Relationship

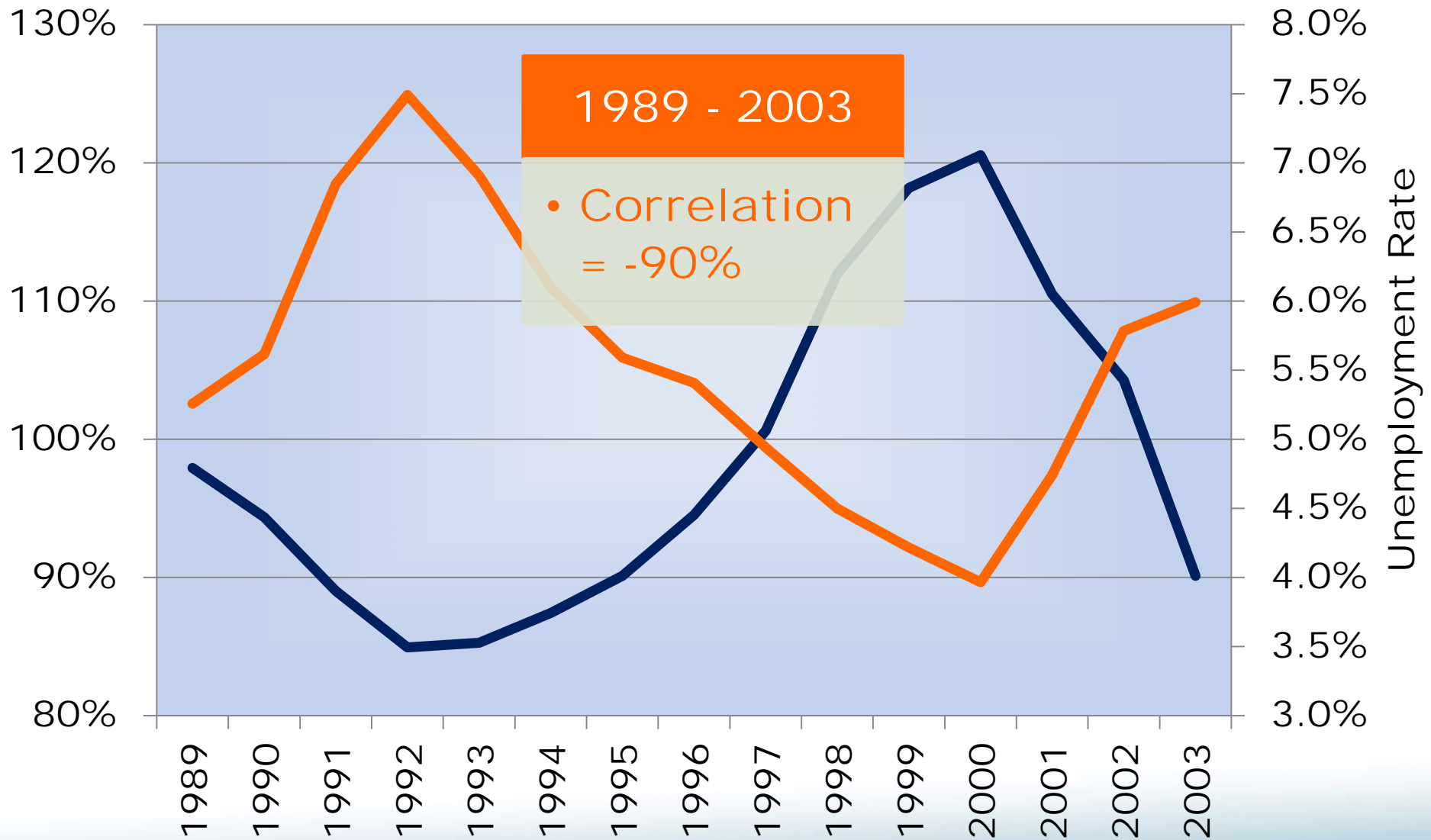
- **Reserving as a Response to Pricing**
 - Reinsurance Retentions
 - Policy Limits
 - Mix of Business, e.g., Self-Insured Exposure
- **Pricing as a Response to Reserving**
 - Price to Write More/Less
- **Common Underlying Cause**



Analysis

THE ECONOMIC CYCLE

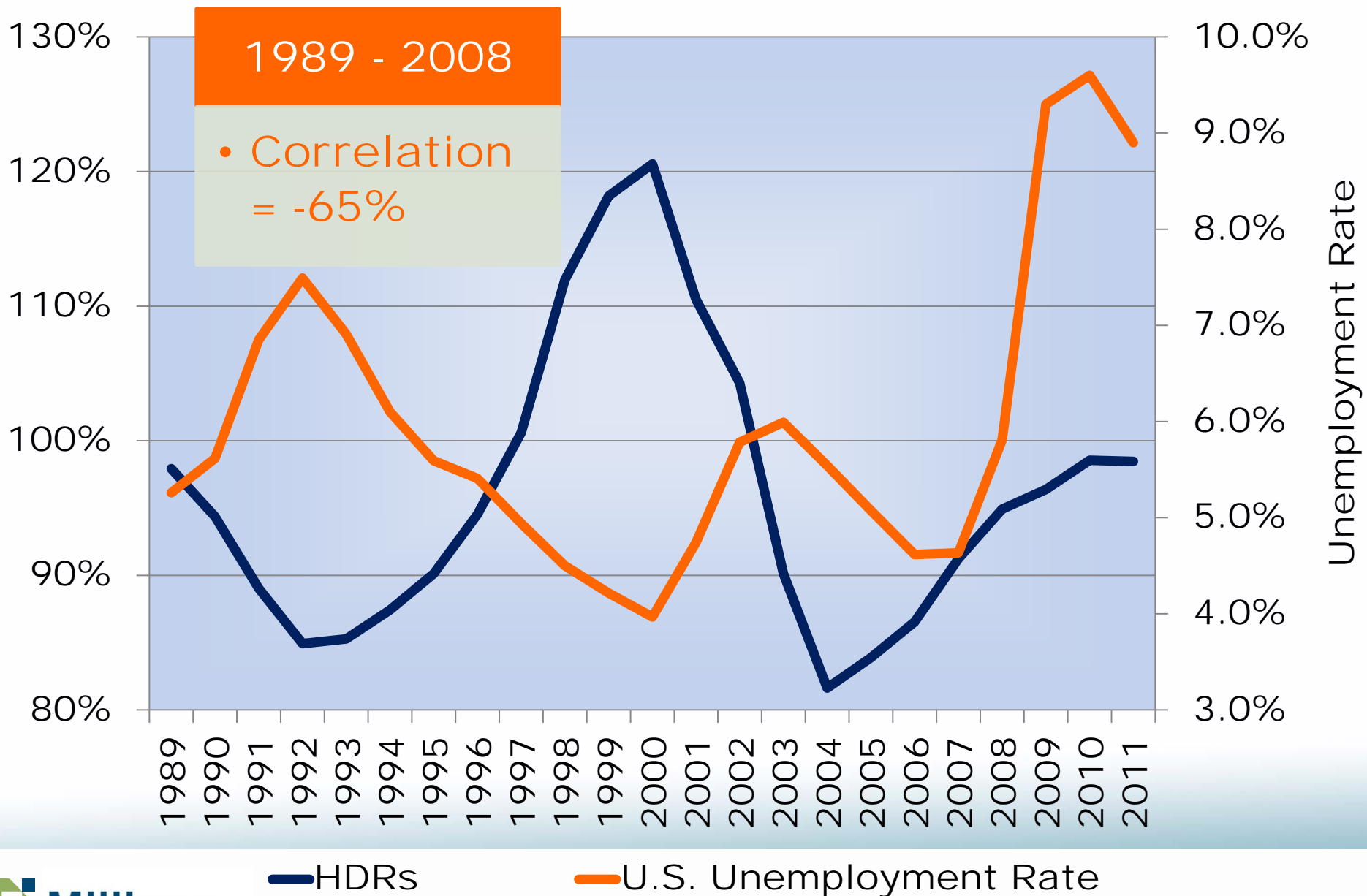
The Economic Cycle and the Reserving Cycle



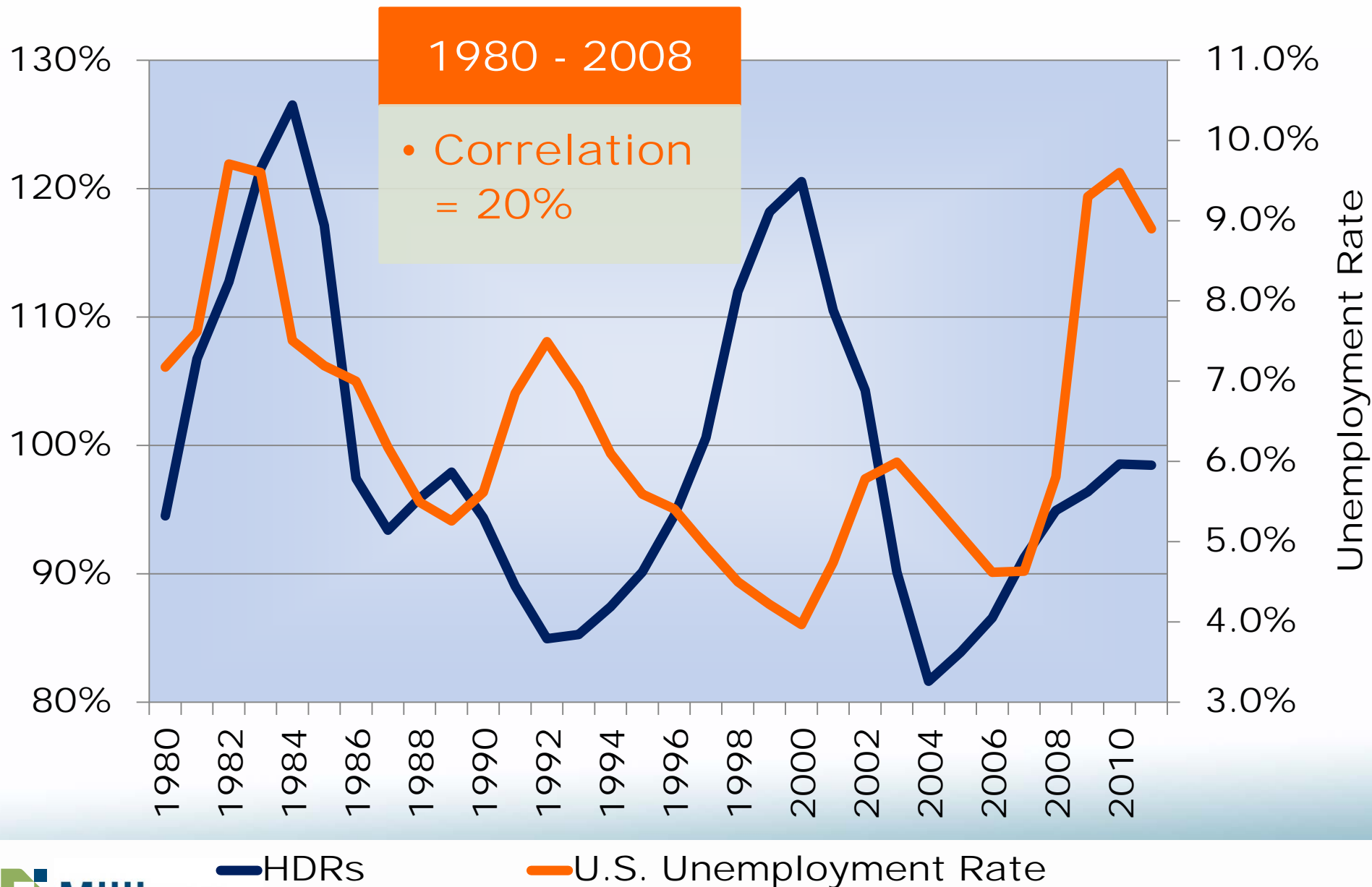
■ HDRs

■ U.S. Unemployment Rate

The Economic Cycle and the Reserving Cycle



The Economic Cycle and the Reserving Cycle



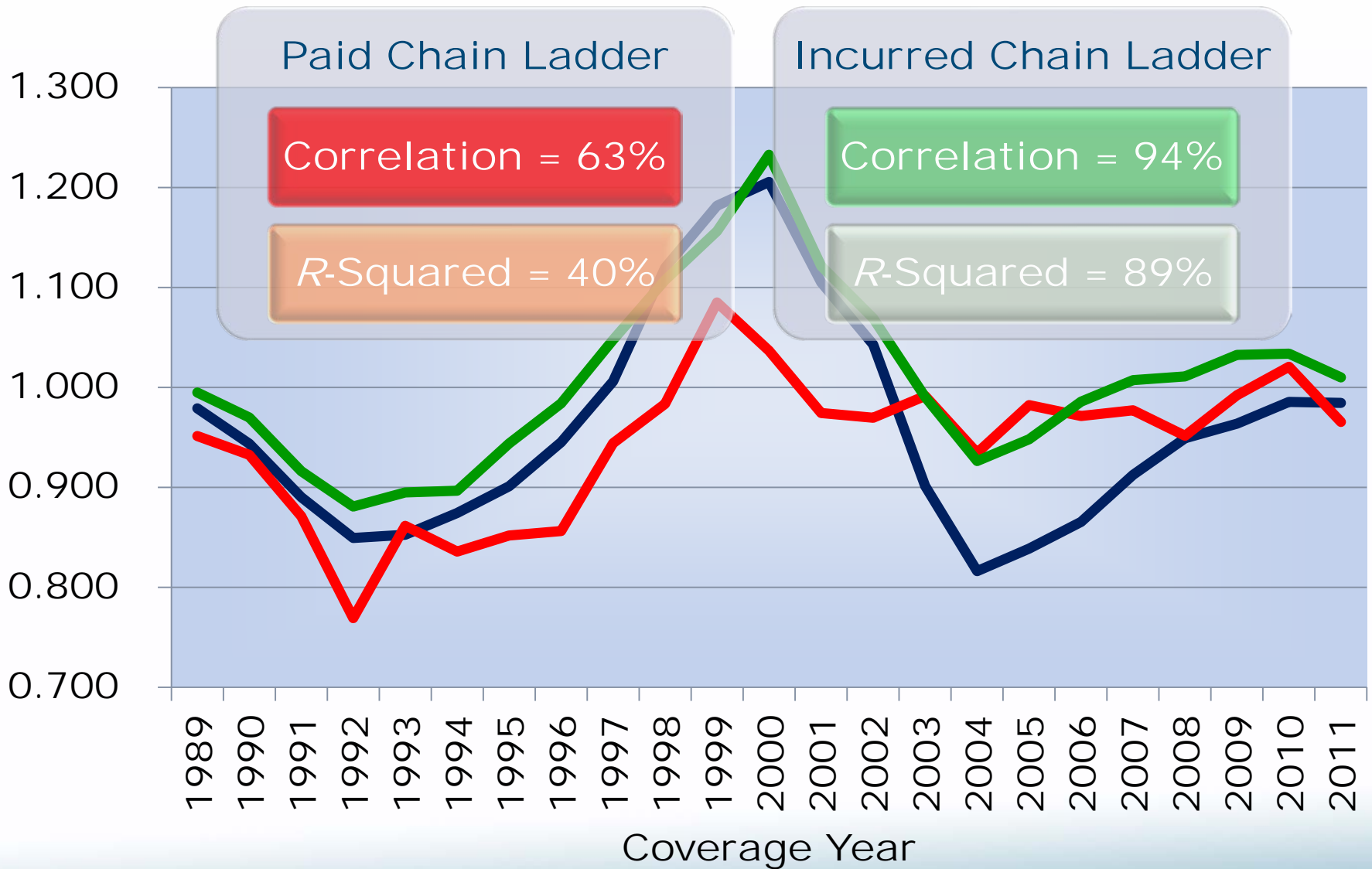
What Happens When the Economy Is Booming?

- **“More to Lose”**
 - **More driving, producing, working, etc.**
- **Inflation – may be higher**
- **“Supply” is high**
 - **Supply = Capital**
 - **Drives Down Pricing**
 - **But This Takes Time...**

Hindsight Development Ratios

ACTUARIAL METHODS

Hindsight Development Ratios

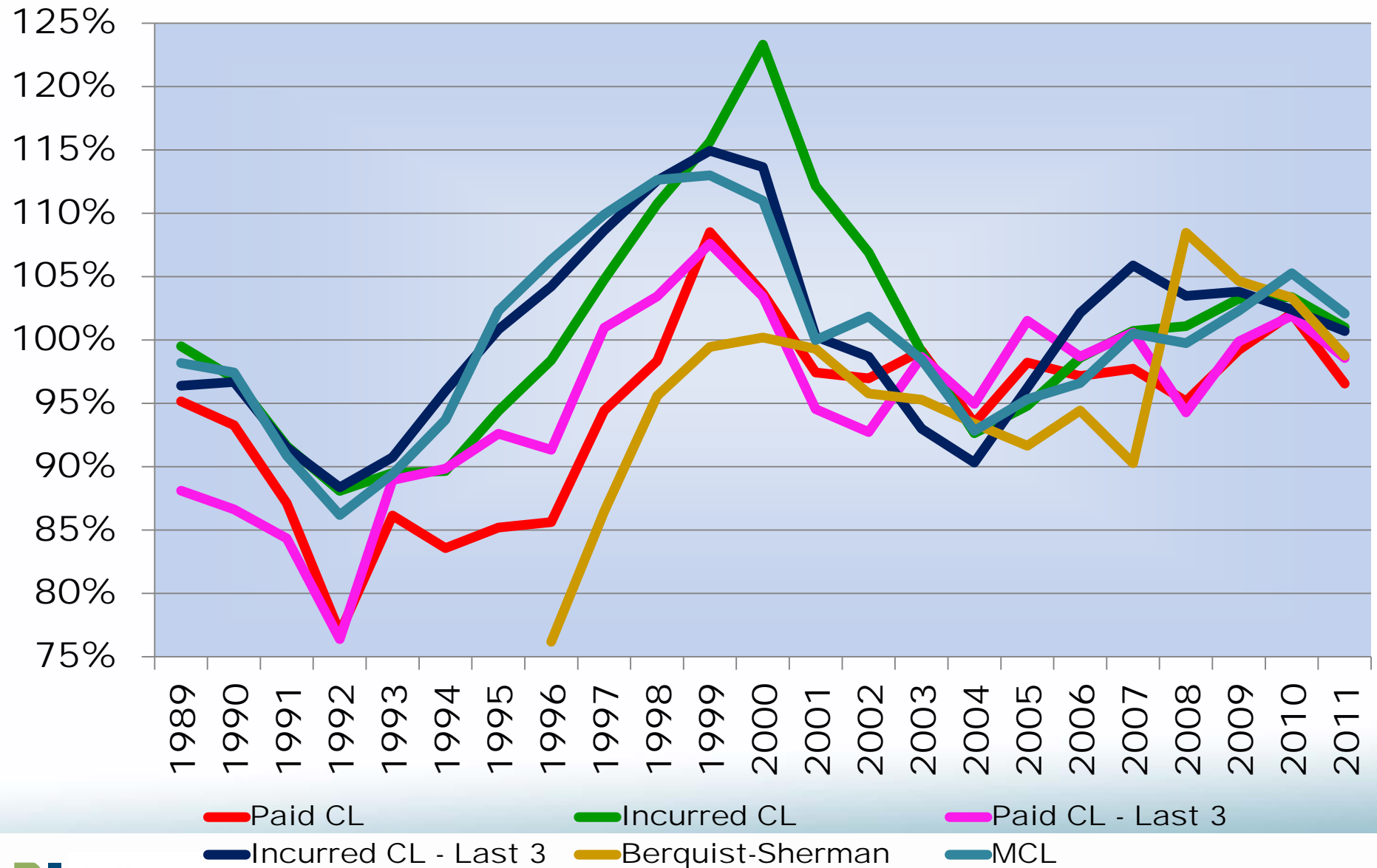


■ Carried

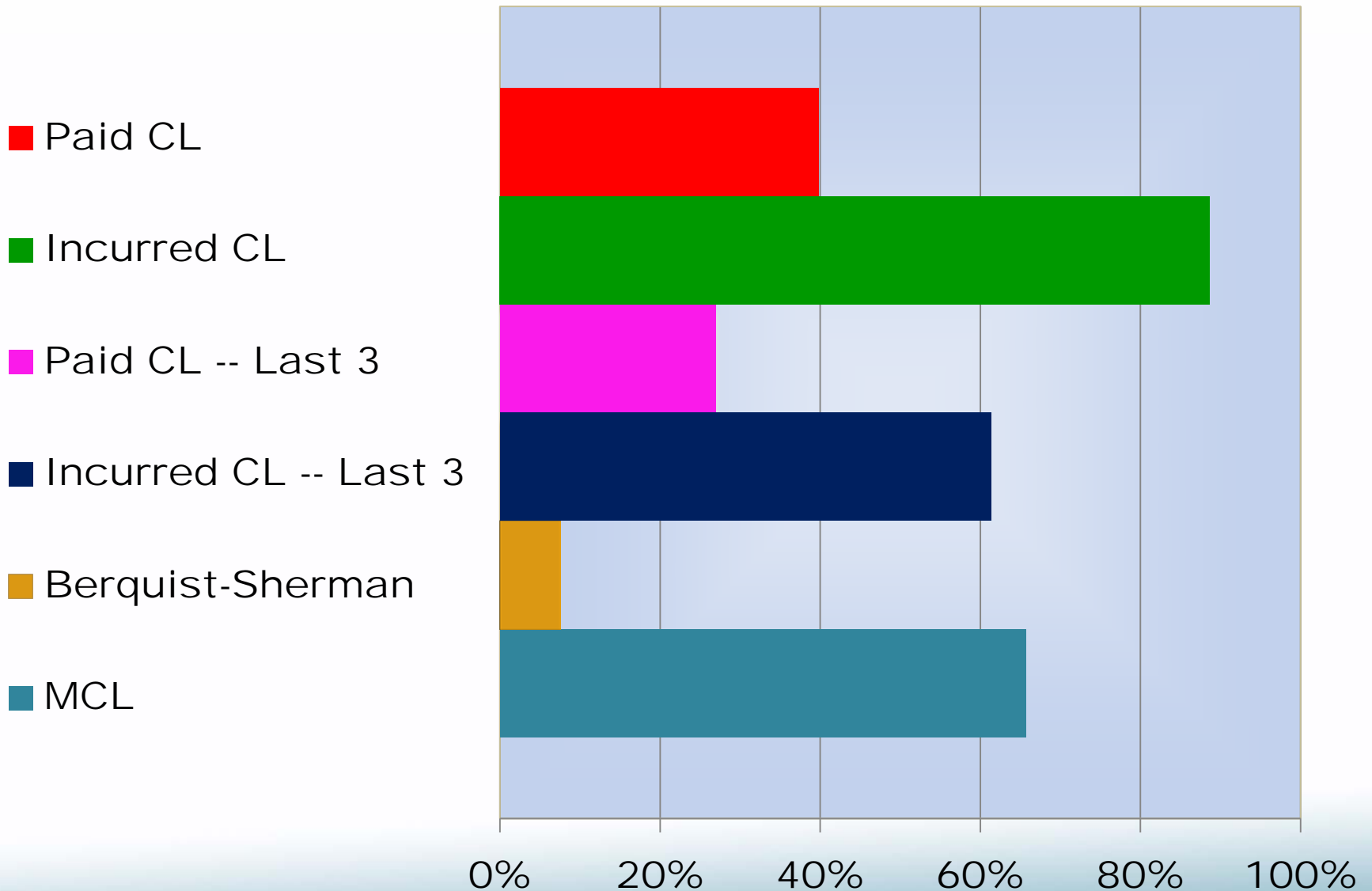
■ Paid Chain Ladder

■ Incurred Chain Ladder

Other Actuarial Methods



R-Squareds of Method HDRs with Carried HDRs



Discussion of Analysis

CONCLUSIONS

Why Are Actuarial Methods Cyclical?

➤ **Economic Reasons**

- **“More to Lose”**
- **Inflation**

➤ **Insurance Reasons**

- **Reinsurance Retentions**
- **Policy Limits**
- **More Cautious in Payments When Experience is Worse?**

Reserve Cycle: Where Does The Rest Come From?

- **Actuarial Methods**
 - **More Cyclical On Individual Books?**
- **“Anchoring” to Prior Years’ Loss Ratios**
- **Two Pricing Cycles:**
 - **Target Loss Ratio**
 - **Business Performance Above/Below Target**
 - **Contributes to Loss Development**
 - **Does Loss Development Contribute to Performance?**
 - **Implications for Loss Ratio & BF-Type Methods**

QUESTIONS

OTHER CONSIDERATIONS

Other Considerations

Accompanying Oral Discussion

- This document is not complete without the accompanying oral discussion and explanation of the underlying information and concepts as well as any interpretational limitations.

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Data Reliance

- We have relied upon data and other background information prepared by others, as documented throughout this presentation. We have performed a limited review of the data for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.