



NCCI Holdings, Inc.

Workers Compensation and The Business Cycle—An Overview

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June 4, 2009

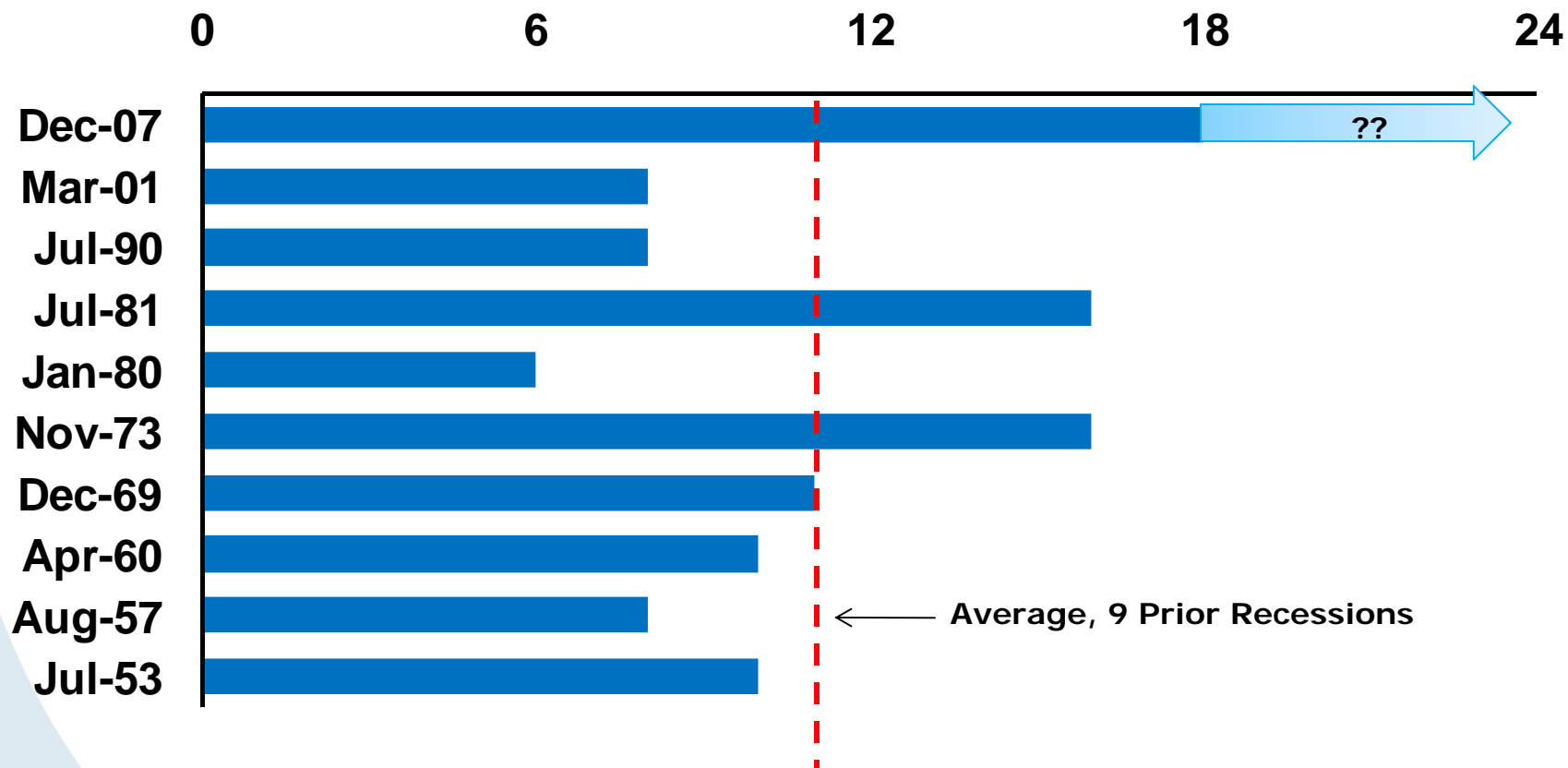
Princeton, New Jersey

Impact of Recessions on Workers Compensation



The Average Duration of Prior Recessions Has Been a Bit Less Than One Year

Recession Length (in Months); Date Indicates Start of the Recession



Source: National Bureau of Economic Research



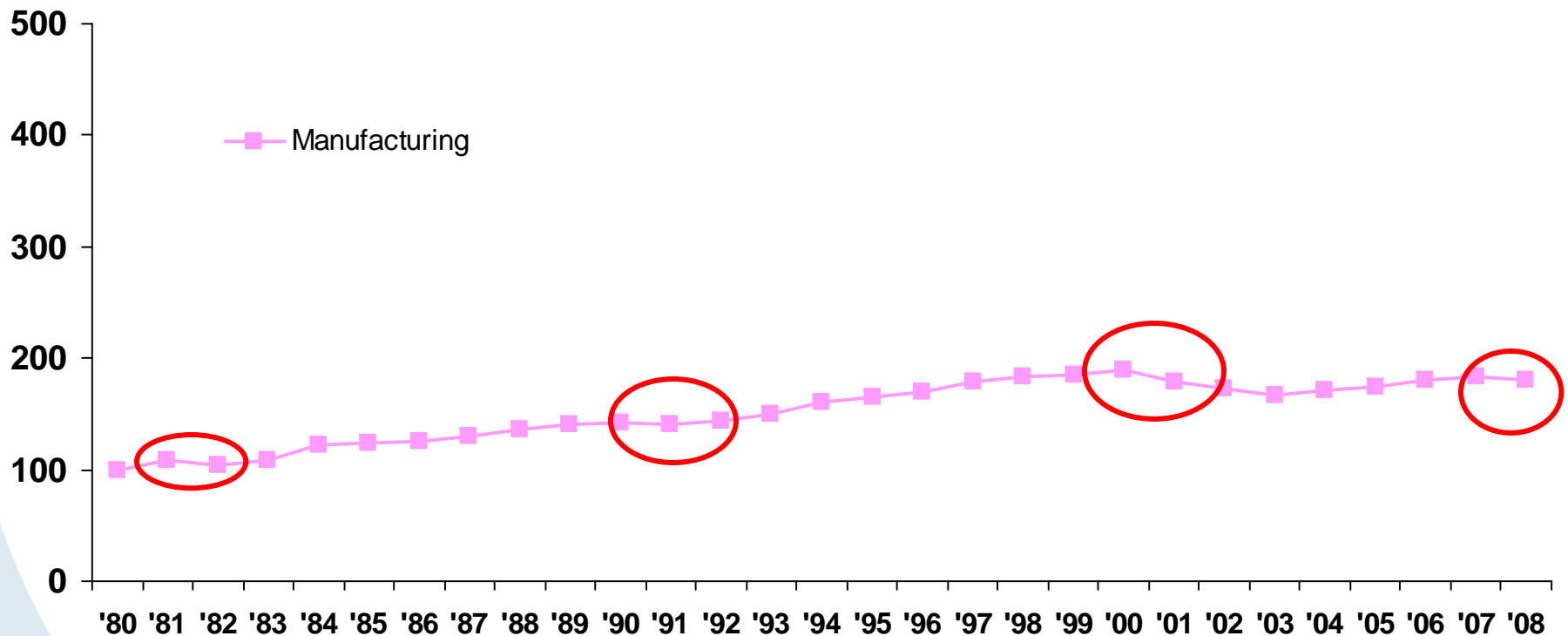
Focus on:

- Exposure
- Claim Frequency
- Indemnity and Medical Severity
- Indemnity and Medical Loss Costs
- Investment Income



Manufacturing Payrolls Typically Dip in Recessions

Index of Aggregate Weekly Payrolls, 1980 = 100

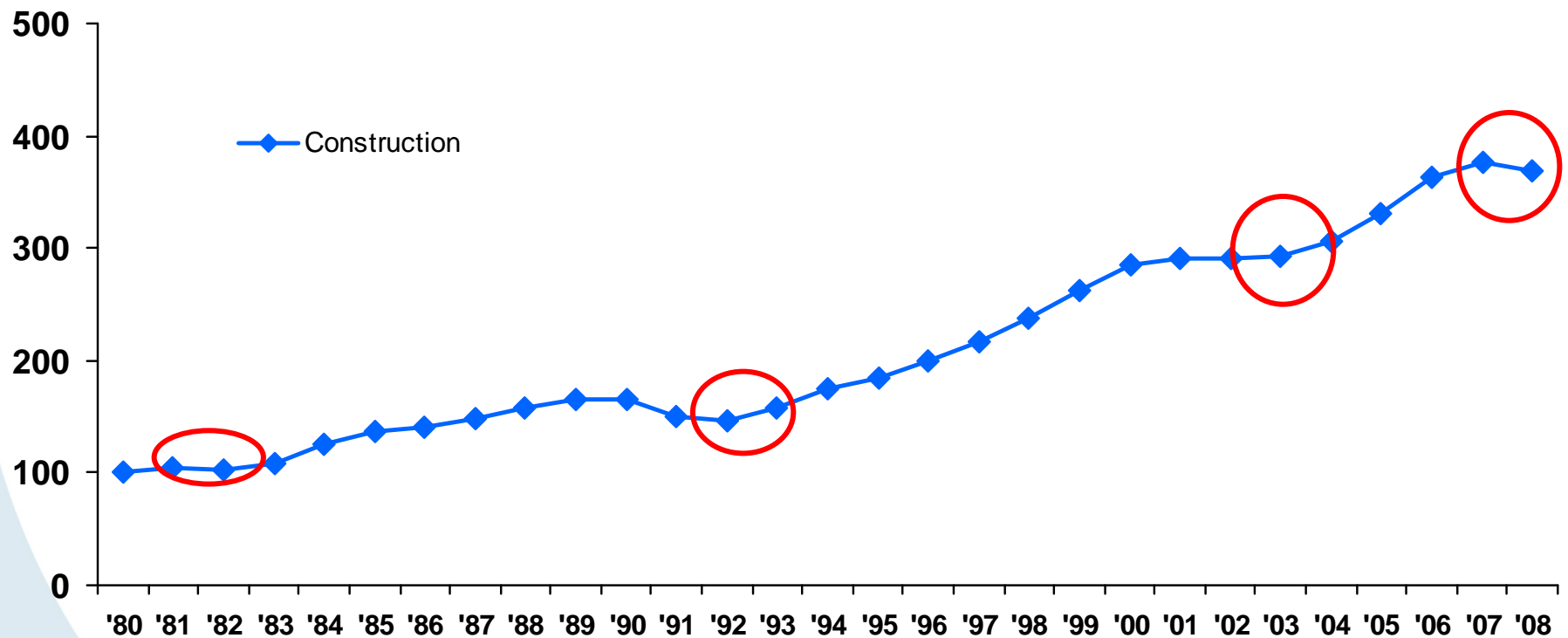


Source: US Bureau of Labor Statistics



Construction Payrolls Are Even More Cyclical

Index of Aggregate Weekly Payrolls, 1980 = 100



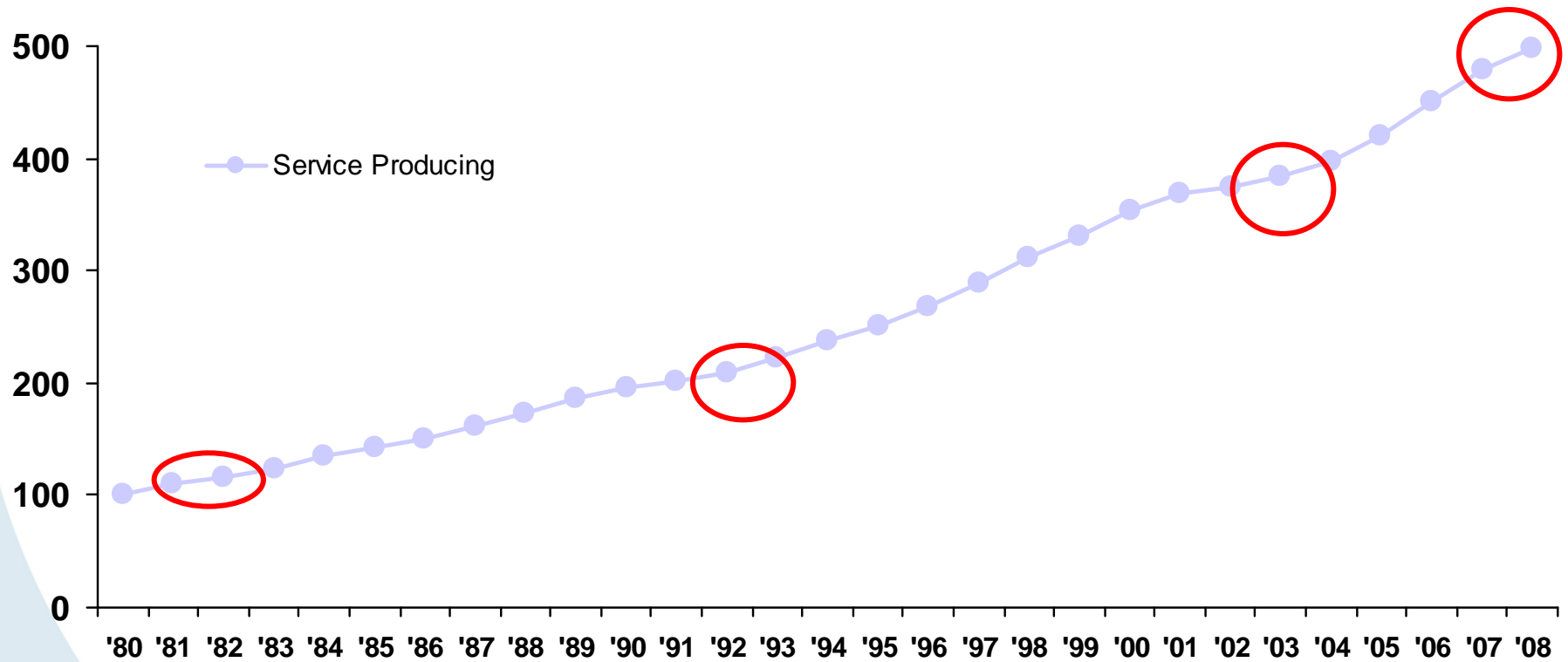
Source: US Bureau of Labor Statistics

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Growth in Service Producing Payrolls Eases but Remains Positive

Index of Aggregate Weekly Payrolls, 1980 = 100

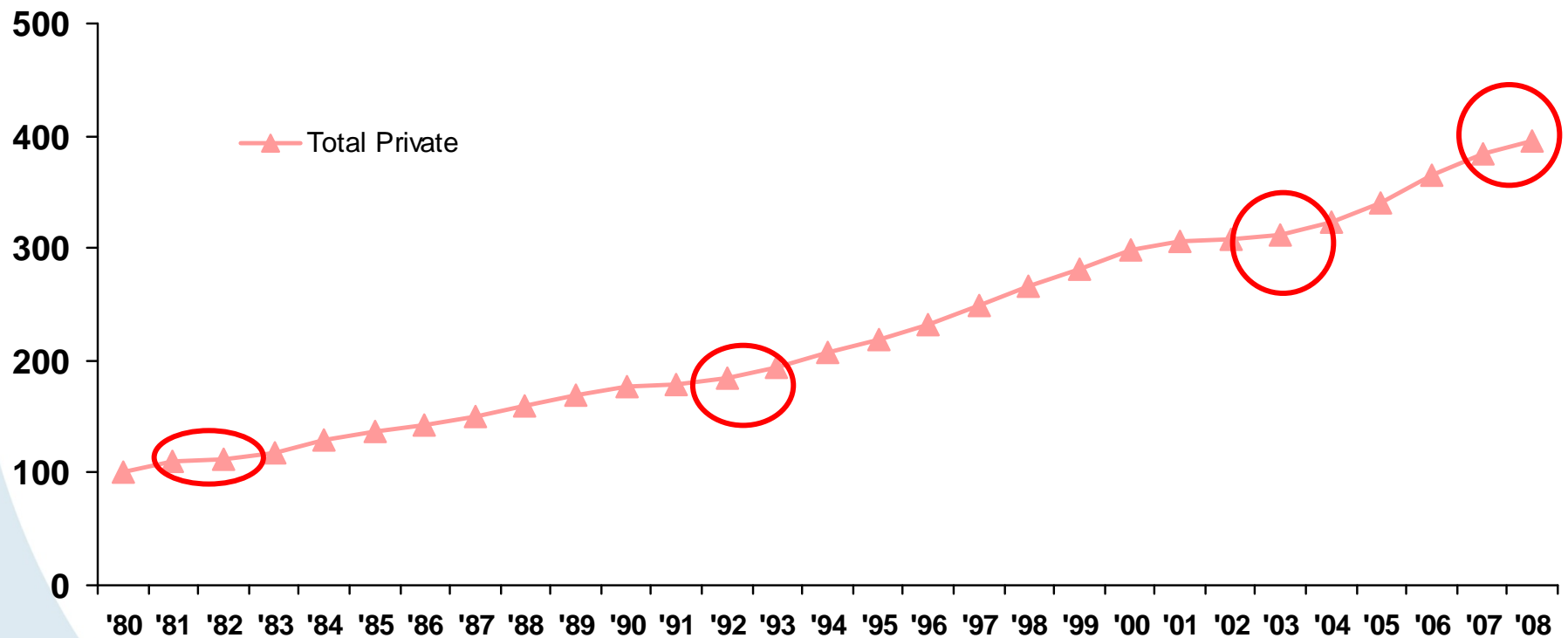


Source: US Bureau of Labor Statistics



Total Private Sector Payroll Growth Is Slightly Cyclical

Index of Aggregate Weekly Payrolls, 1980 = 100



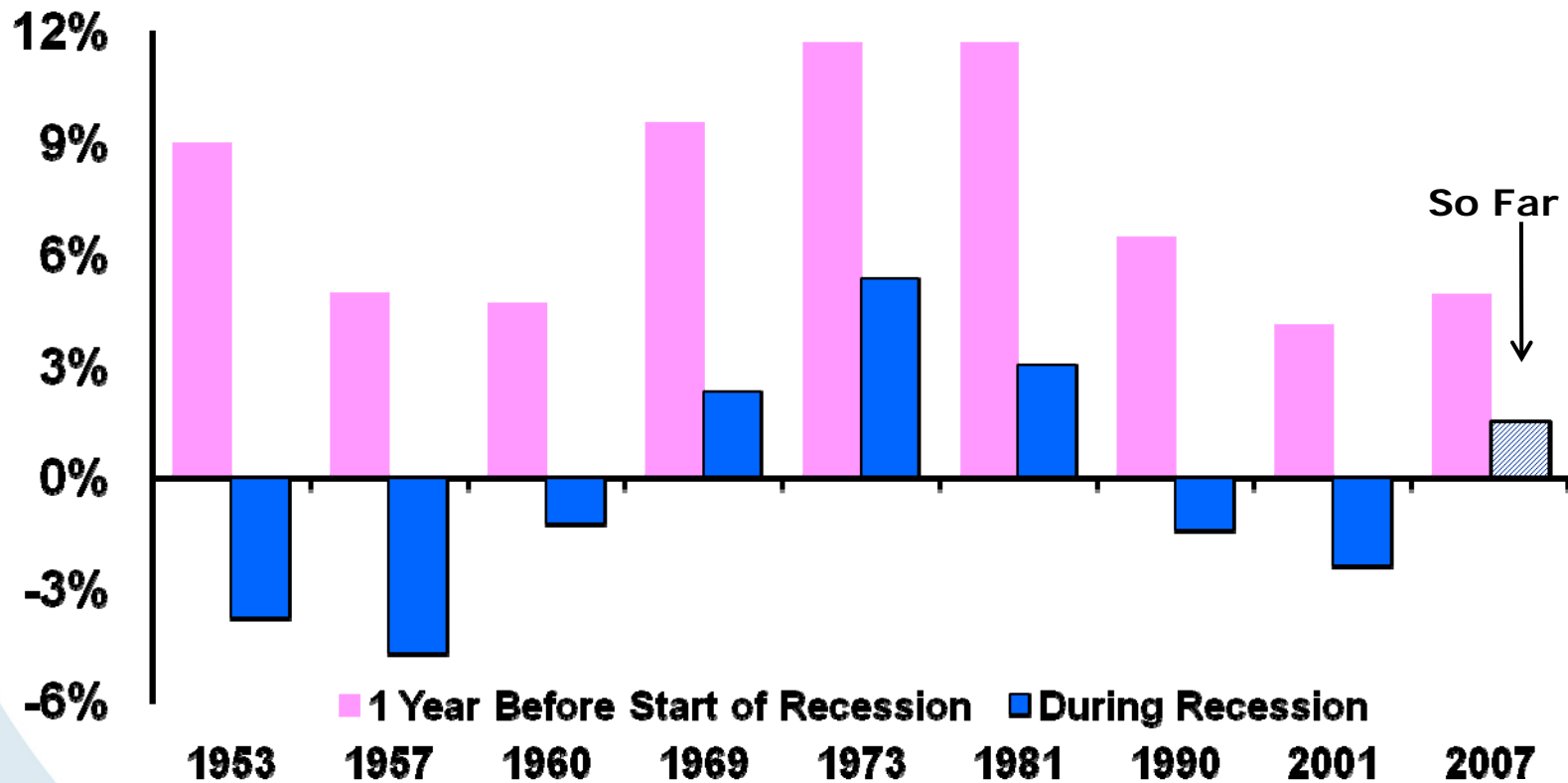
Source: US Bureau of Labor Statistics

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Recessions Result in Slower Growth or Declines in Wages and Salaries

Percent Change, Annual Rate, in Wage and Salary Disbursements, *During* Year Before the Start of Recession vs. *During* Recession; Years Indicate Start of Recession



Excludes 1980 "mini" recession
 Source: US Bureau of Labor Statistics; National Bureau of Economic Research



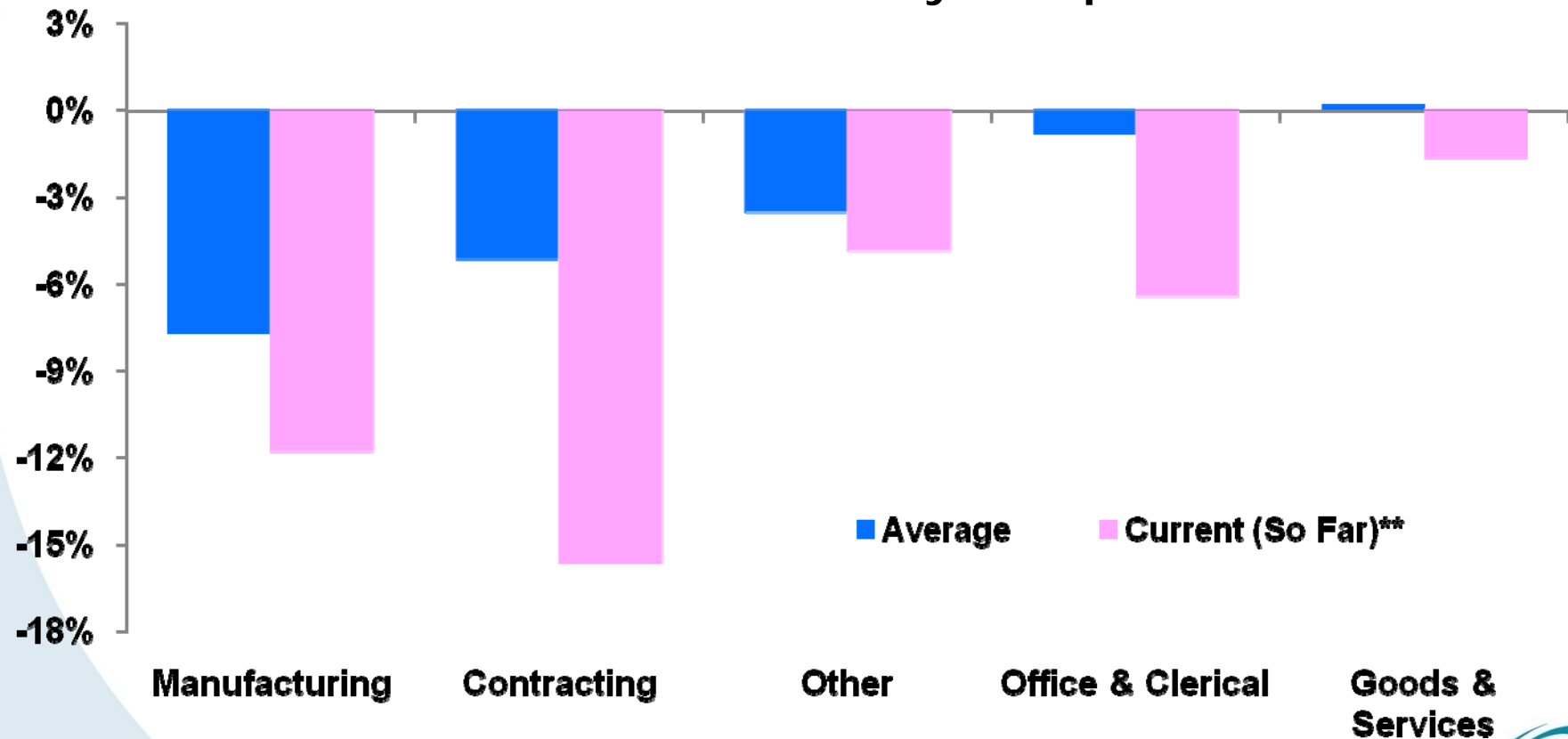
Changes in Exposure (Payroll) During Business Cycles Reflect:

- Changes in employment
- Changes in wages



The Impact of Recessions on Employment Differs Markedly by Industry Sector

Average Percent Decline in Employment in Eight Prior Recessions* Compared to the Current Recession** for NCCI's Five Industry Groups



* Excludes 1980 "mini" recession

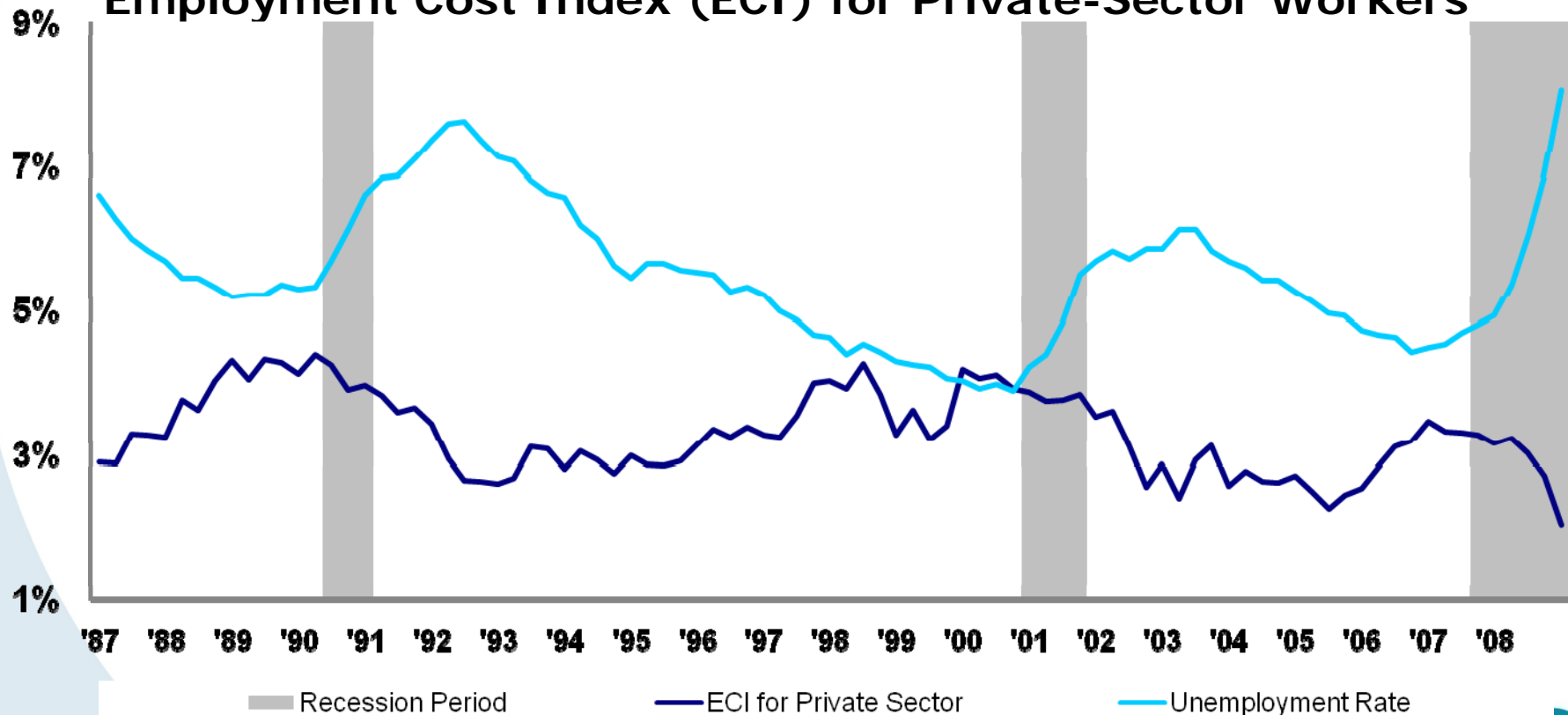
** Begins in December 2007 and includes data available through April 2009

Source: US Bureau of Labor Statistics, National Bureau of Economic Research



Recession-Related Increases in the Unemployment Rate Tend to Place Downward Pressure on Wage Increases

Unemployment Rate vs. Year-Ago Percent Change in the Employment Cost Index (ECI) for Private-Sector Workers



Includes data available through March 2009
 Source: US Bureau of Labor Statistics, Moody's Economy.com



Implications for Exposure

Recessions tend to place downward pressure on exposure (payroll as reflected in wages and salaries)

- Declines in employment
- Slower growth or declines in wage rates



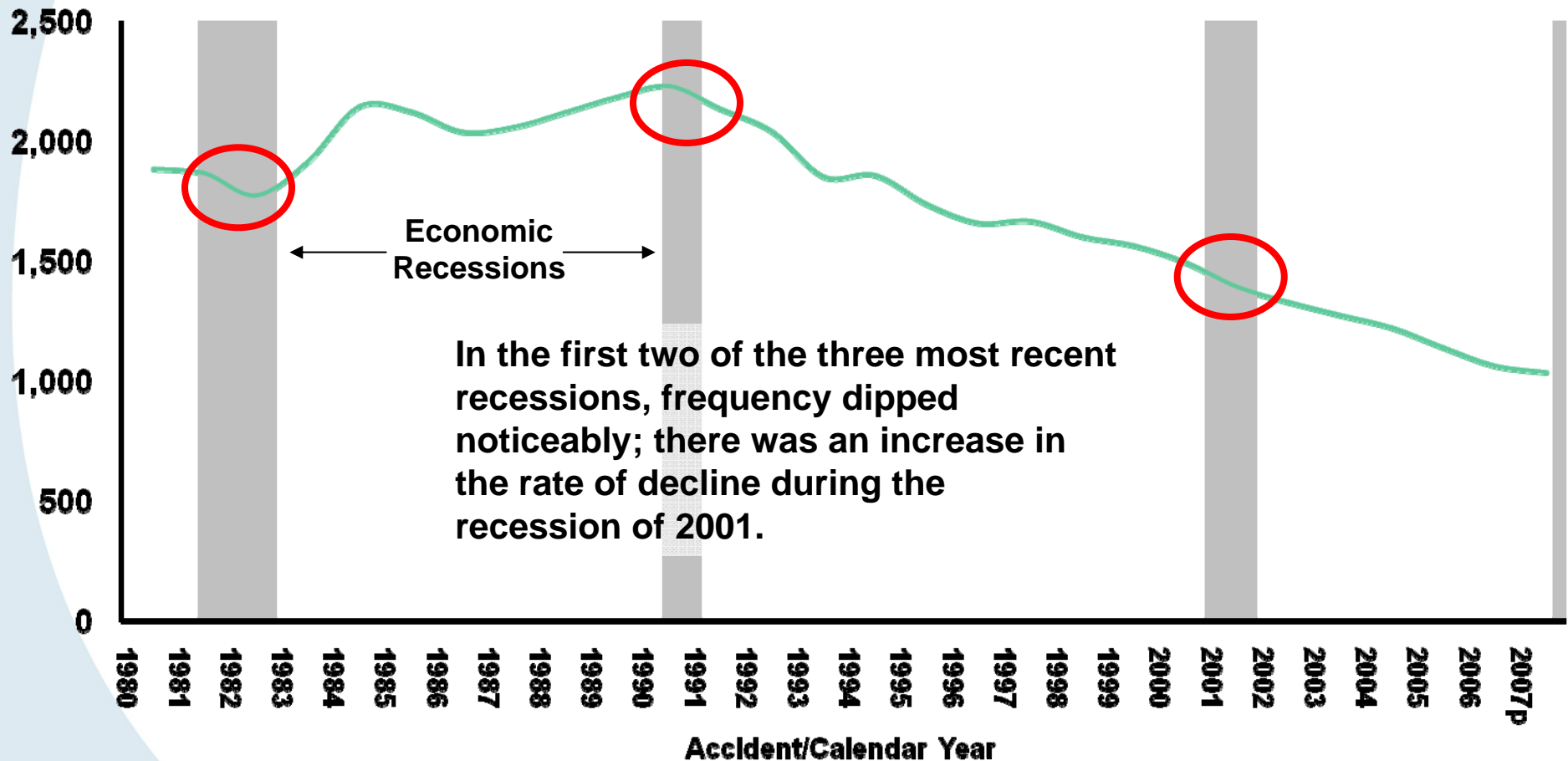
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NCCI Lost-Time Claim Frequency

Claims per 100,000 Workers

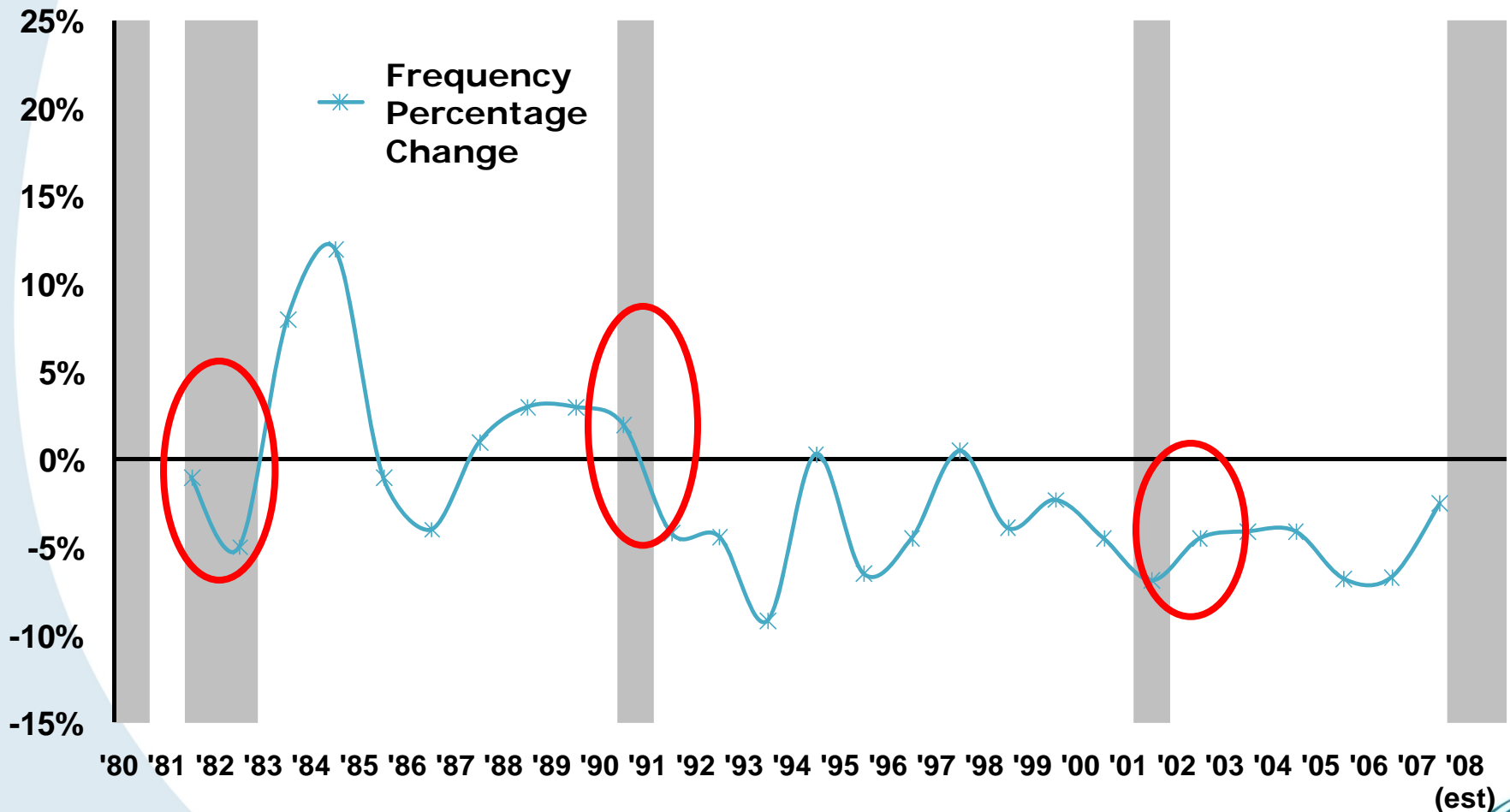


2007p: Preliminary based on data valued as of 12/31/2007
1980–2006: Based on Financial Call data, developed to ultimate
Based on the states where NCCI provides ratemaking services
Excludes the effects of deductible policies



Frequency Growth Rate Declined in Recent Recessions

Percent Change—Lost-Time Claims



Source: NCCI

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Changes in Employment Impact Claim Frequency via the “Experienced Worker” Effect

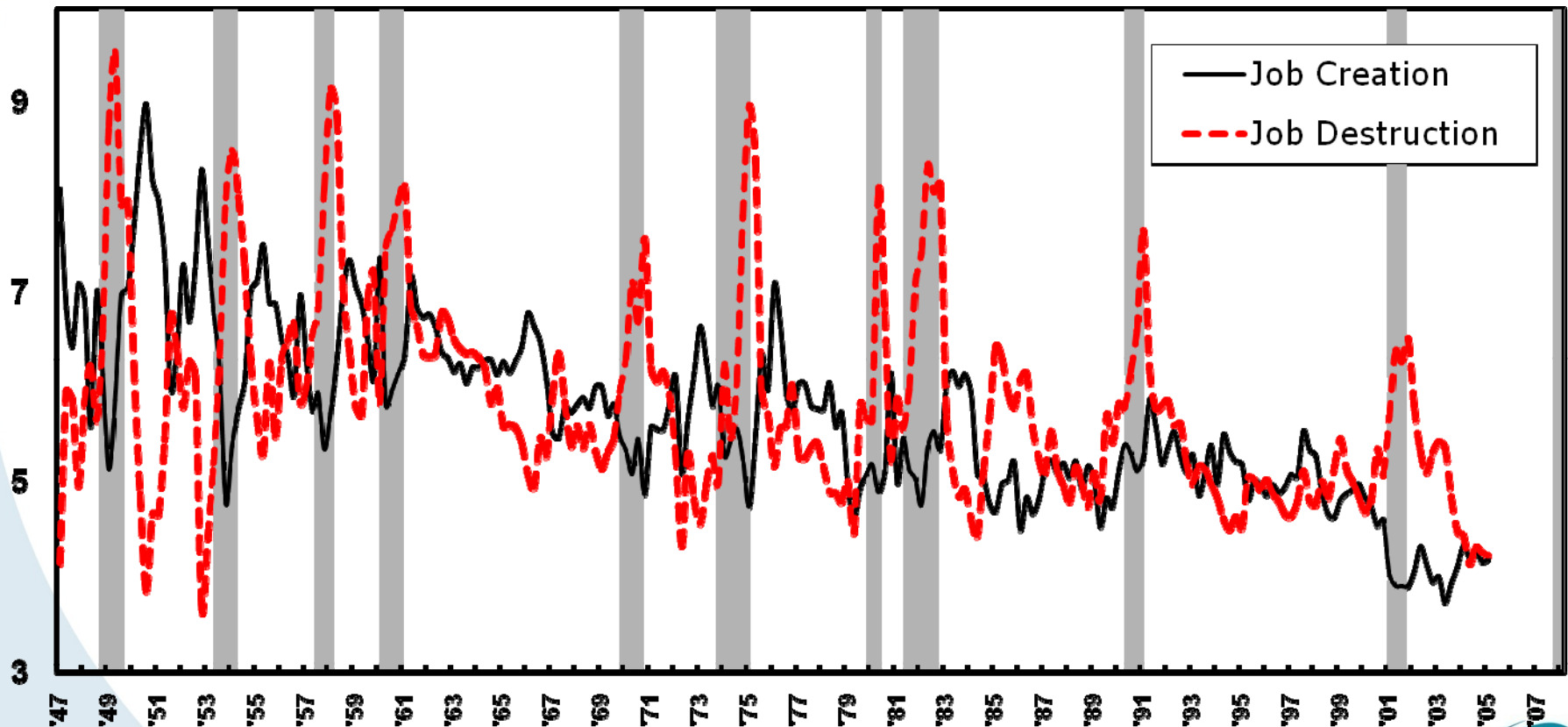
- In economic expansions, increases in new hires reduce the experience level of the workforce
- In recessions, the rate of new hires plummets, so the experience level of the workforce increases
- Impact of changes in new hires dominates any upward pressure on claim frequency because of possible “moral hazard” effects (e.g., from mass layoffs)
- As a result, frequency growth tends to come under upward pressure in expansions and downward pressure in contractions

Explaining the Business Cycle Behavior of Frequency Growth: Focus on Job Flows

- Job-flows data breaks down *net* changes in employment into changes related to **job creation** (the adding of new jobs) and **job destruction** (the elimination of existing jobs) at the establishment level (e.g., plant level)
- The rates of job creation and job destruction move in opposite directions during recessions

Cyclical Pattern of Job Creation and Job Destruction

Rates of Job Creation and Job Destruction—Manufacturing



Note: Recessions indicated by gray bars

Source: Davis, S.J., R.J. Faberman, and J. Haltiwanger (2006), "The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links," *Journal of Economic Perspectives* 20(3), pp. 3-26.

Impact of Job Flows on Frequency Growth: Results of Quantitative Analysis

- The decline in job creation at the onset of recessions causes the growth rate of frequency to decrease—reflective of the “experienced worker” effect
- At the same time, the increase in the rate of job destruction causes the growth rate of frequency to increase—the “job loss” effect (possibly indicative of morale hazard)

Impact of Job Flows on Frequency Growth: Results of Quantitative Analysis

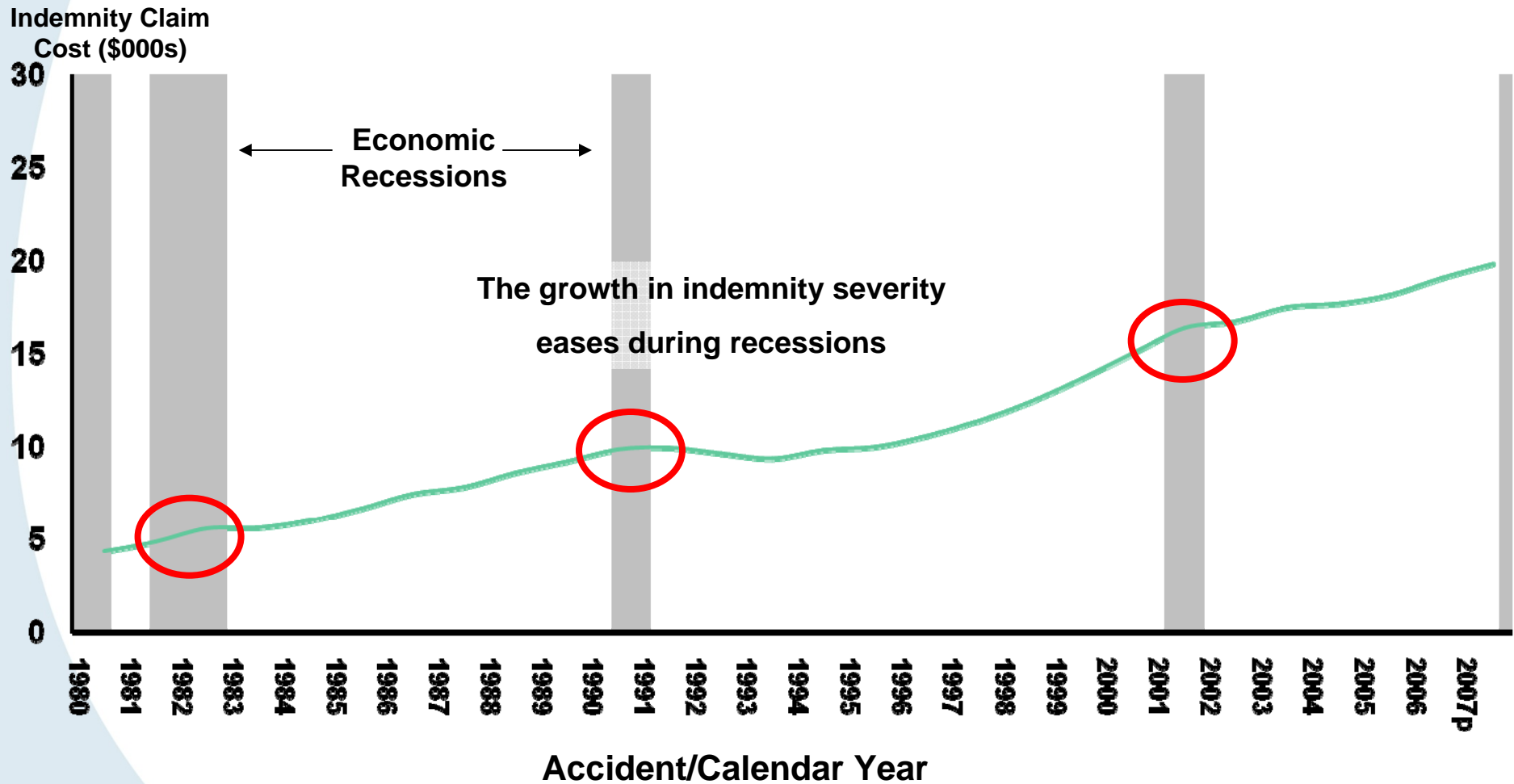
- Statistical modeling shows that the effect of the decline in job creation in recessions outweighs the effect of the increase in job destruction—so, *on net, recessions tend to cause a decline in the rate of frequency growth*
- Conversely, economic expansions come with an *increase* in the growth rate of frequency

Focus on:

- Exposure
- Claim Frequency
- Indemnity and Medical Severity
- Indemnity and Medical Loss Costs
- Investment Income



Indemnity Claim Costs

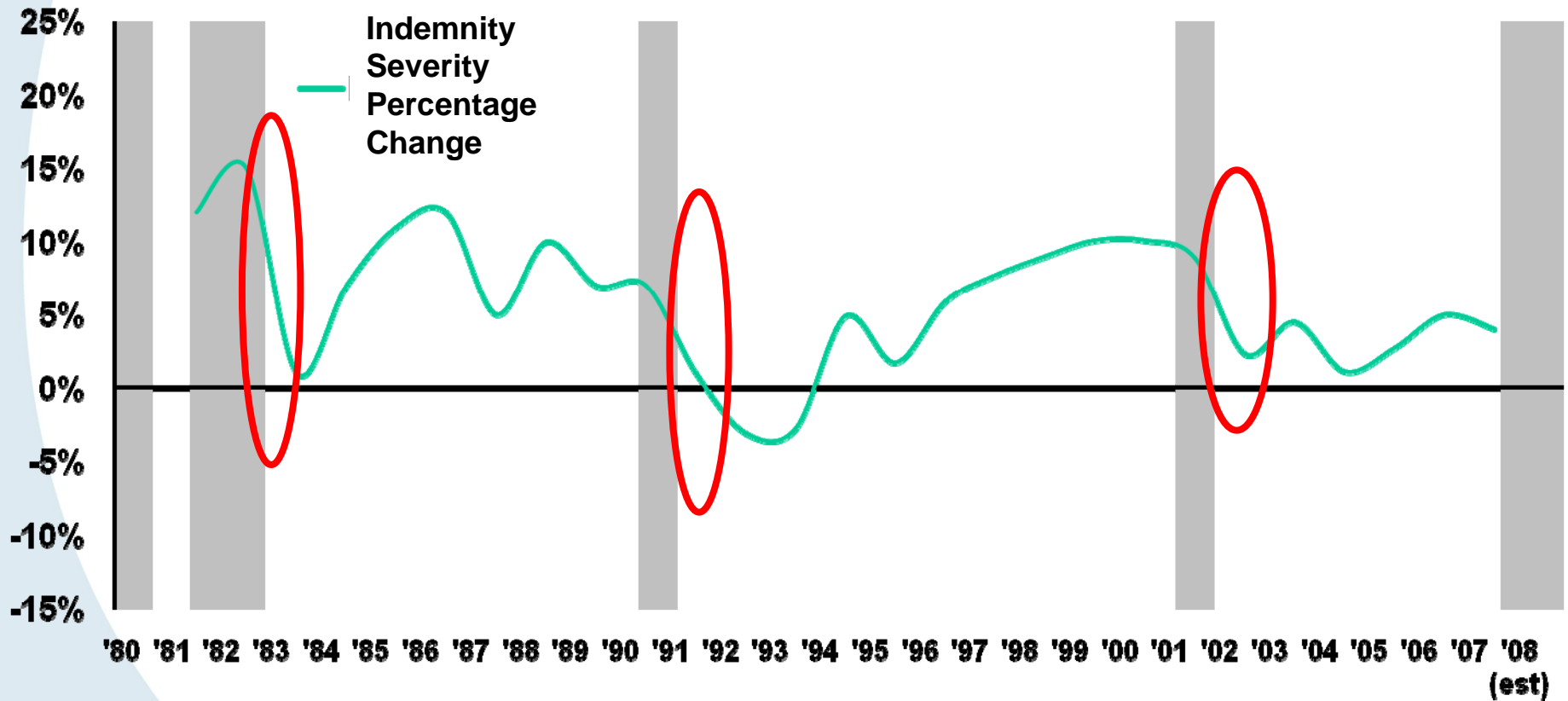


2007p: Preliminary based on data valued as of 12/31/2007
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 Excludes the effects of deductible policies



Indemnity Severity Growth Rates Show a Lagged Response to Recessions

Percent Change—Lost-Time Claims

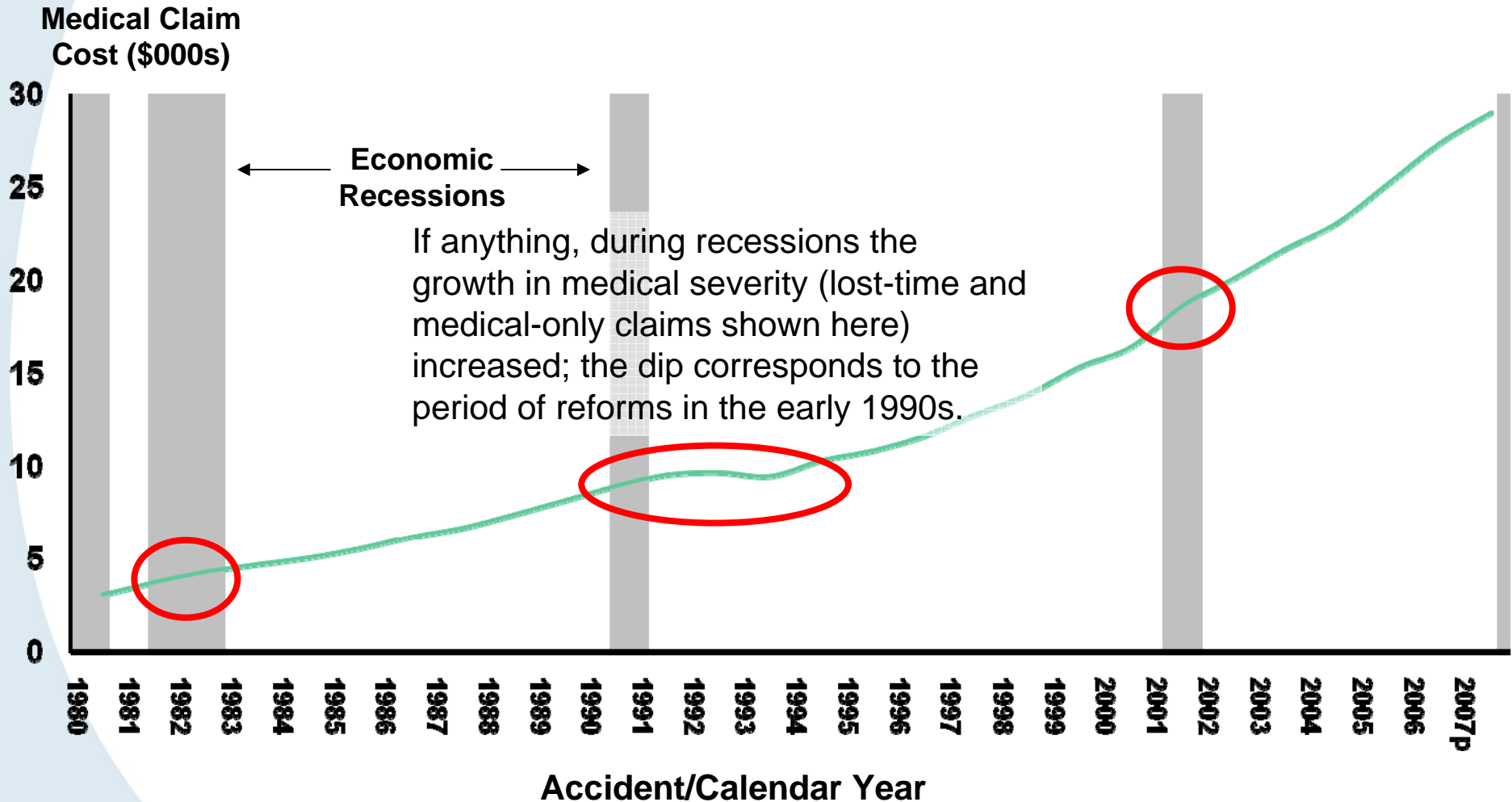


Source: NCCI



Medical Claim Costs

Total Medical Claims

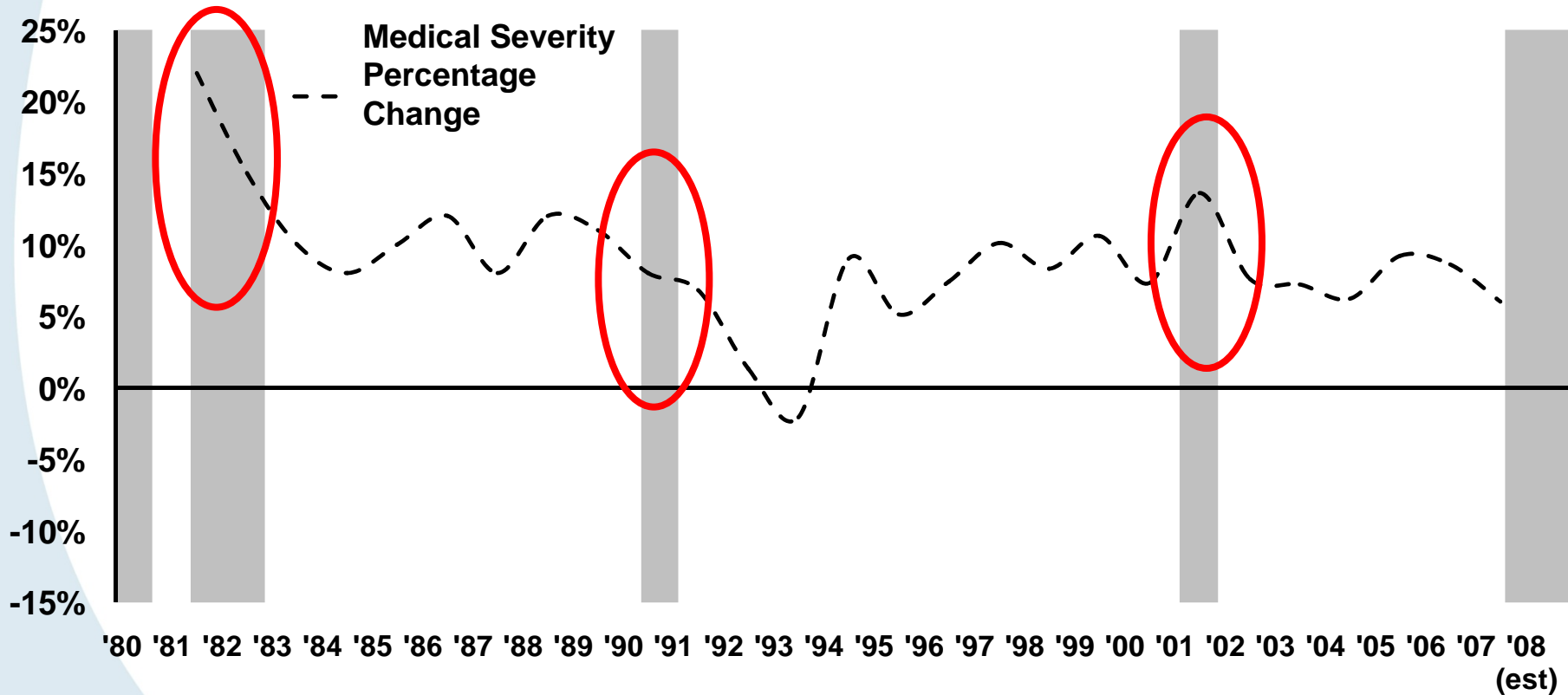


2007p: Preliminary based on data valued as of 12/31/2007
1980–2006: Based on Financial Call data, developed to ultimate
Based on the states where NCCI provides ratemaking services
Excludes the effects of deductible policies



Medical Severity Growth Rates Show a Varied Response

Percent Change—Lost-Time Claims

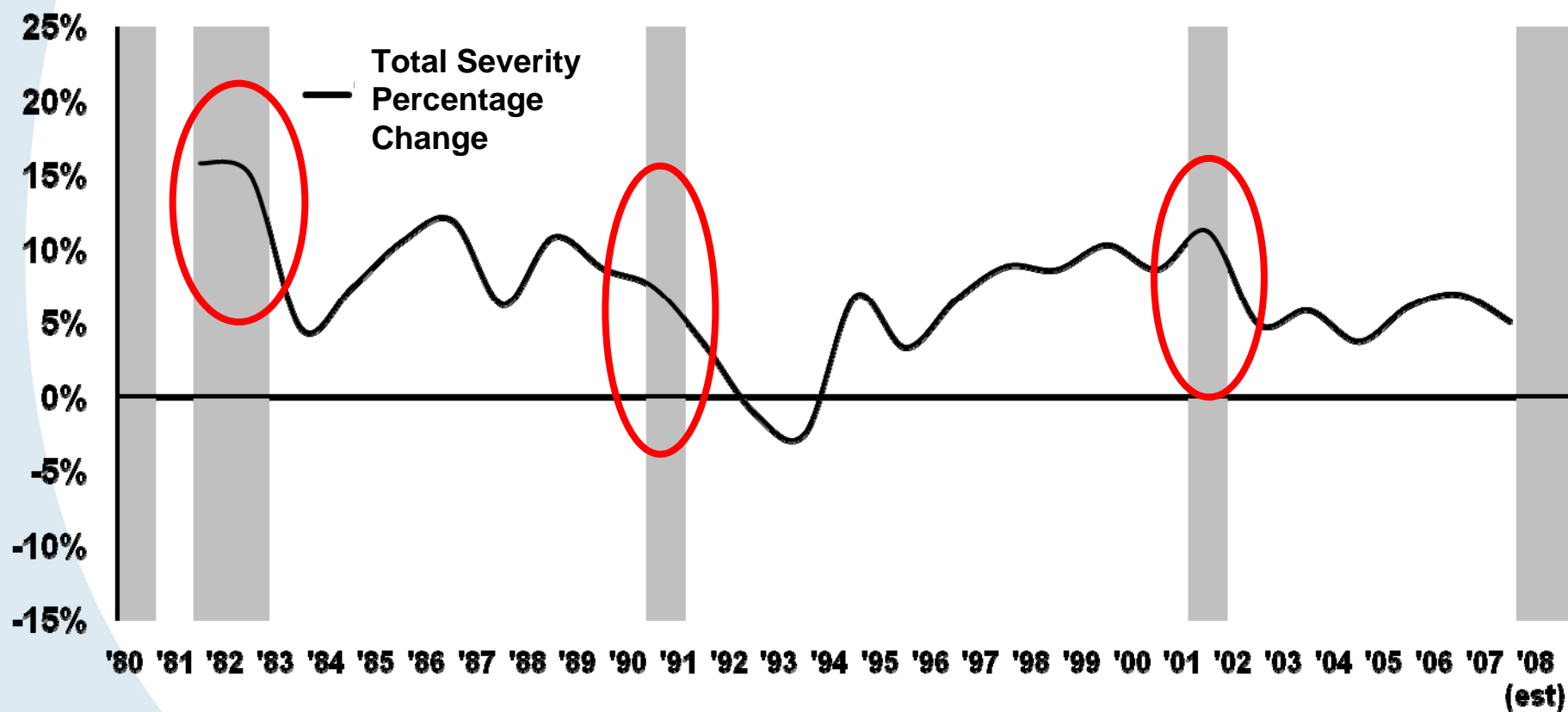


Source: NCCI



Total Severity Growth Rates— Up and Down

Percent Change—Lost-Time Claims



Source: NCCI

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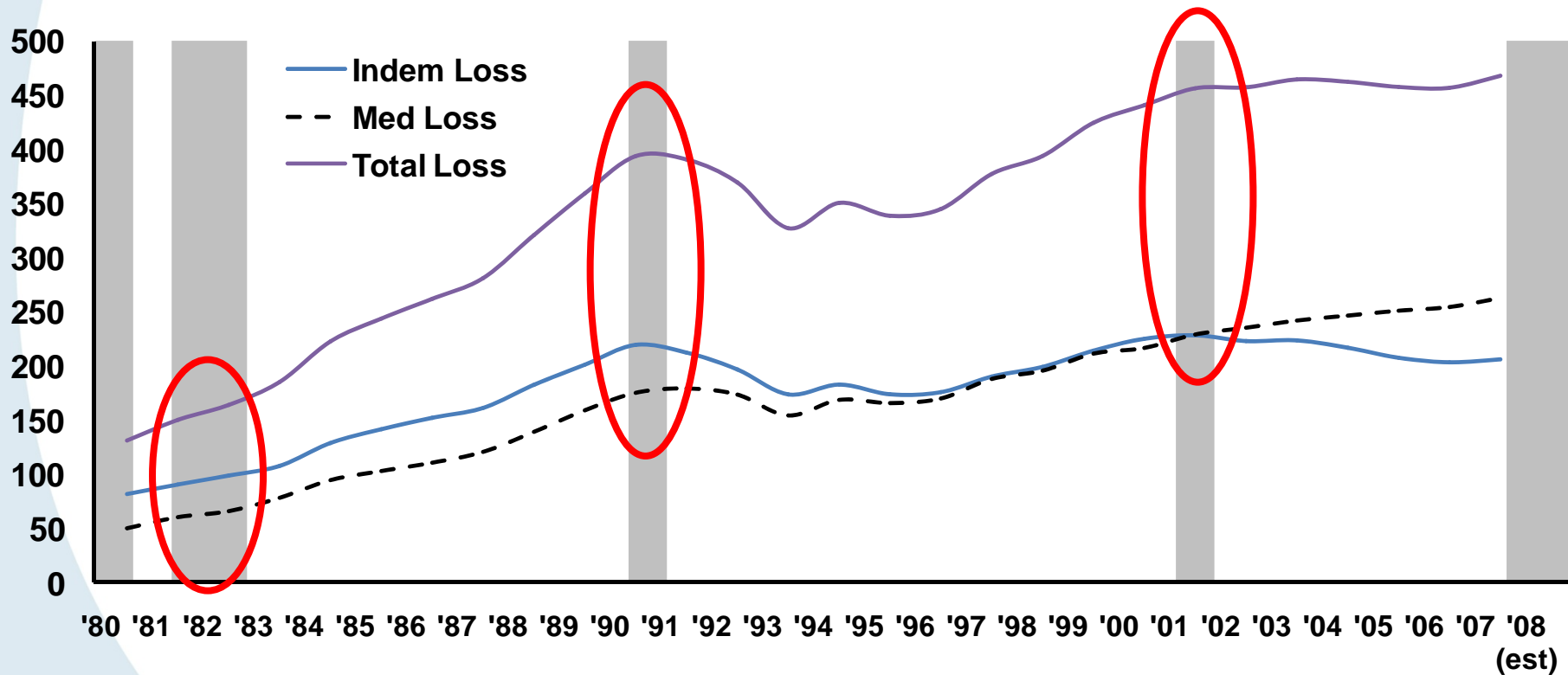
Focus on:

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- **Indemnity and Medical Loss Costs**
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No Apparent Systematic Cyclical Pattern WC Loss Costs (Frequency x Severity)

Loss Cost (\$ per 100,000 Workers)—Lost-Time Claims

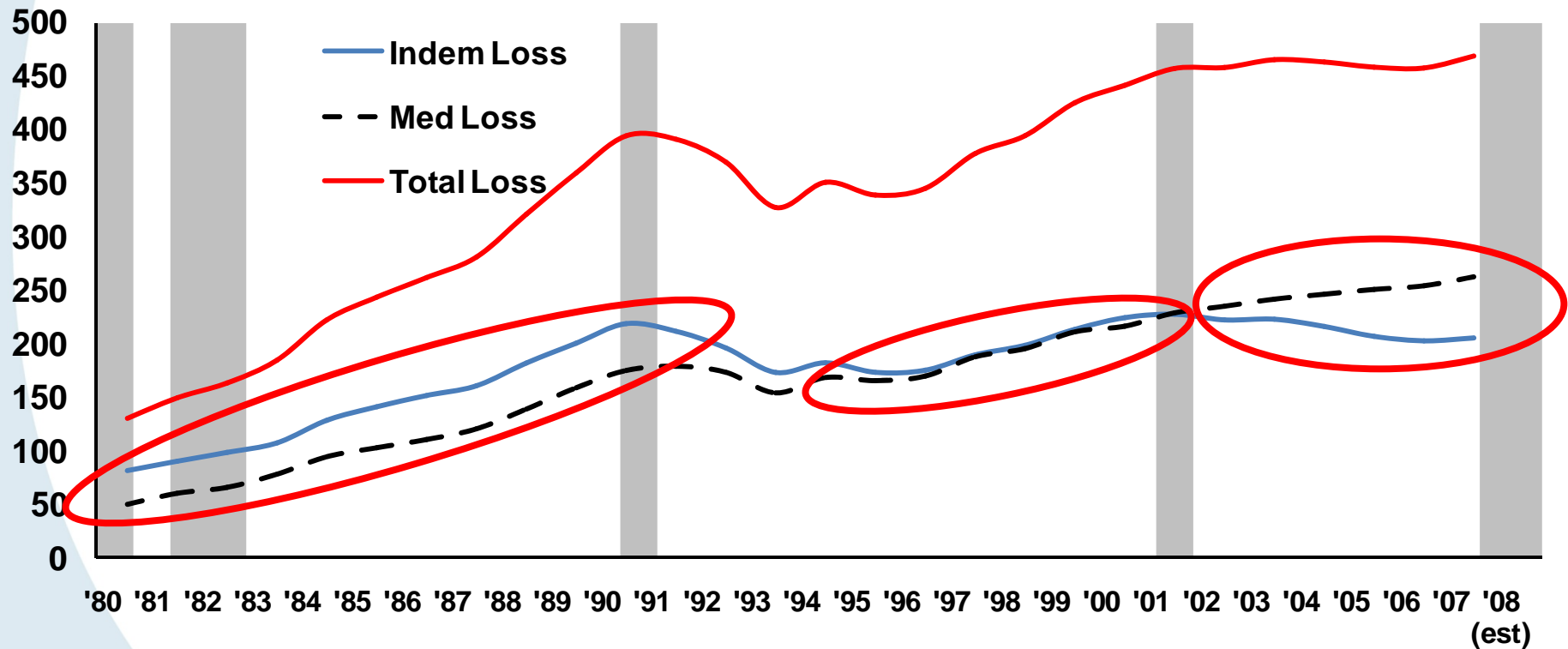


Source: NCCI



Three Distinct Phases in WC Loss Costs (Frequency x Severity)

Loss Cost (\$ per 100,000 Workers)—Lost-Time Claims



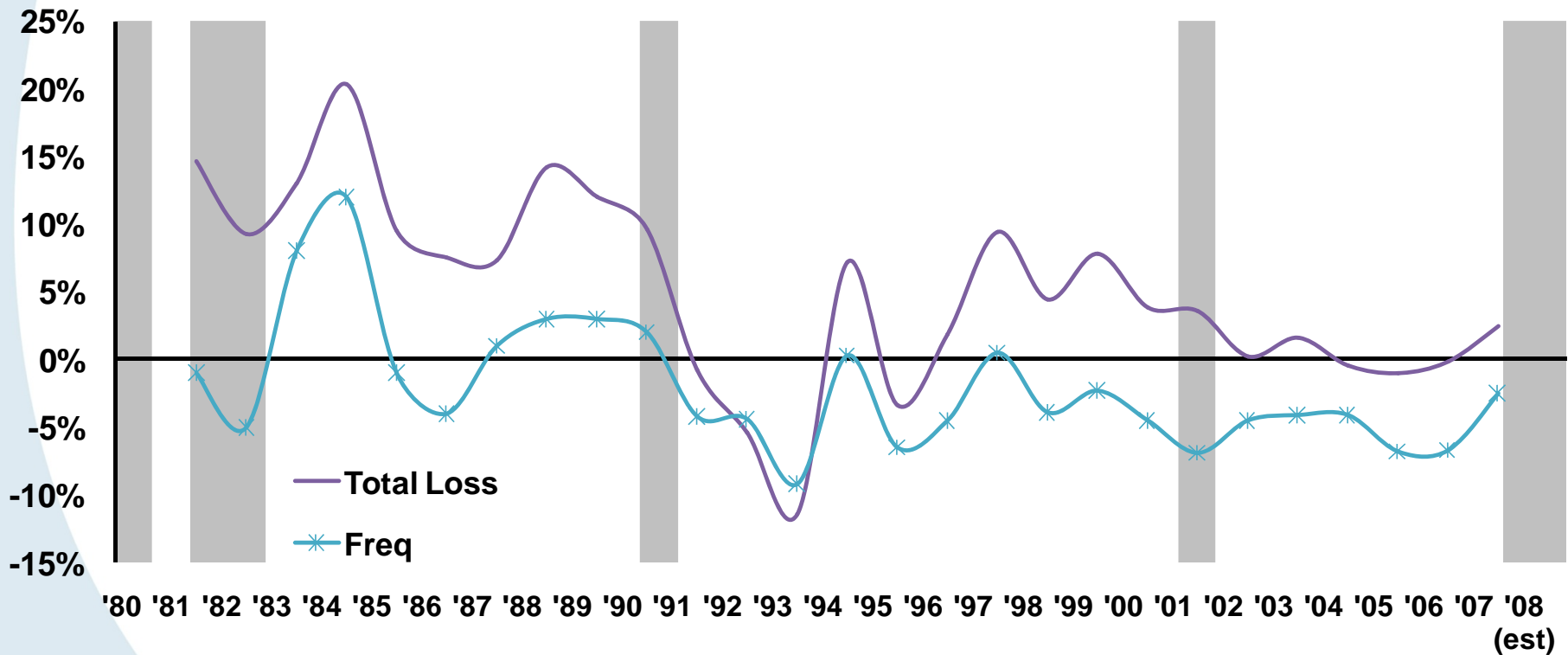
Source: NCCI



Frequency Changes—A Loss Cost Driver

WC Loss Cost (Frequency x Severity)

Percent Change—Lost-Time Claims



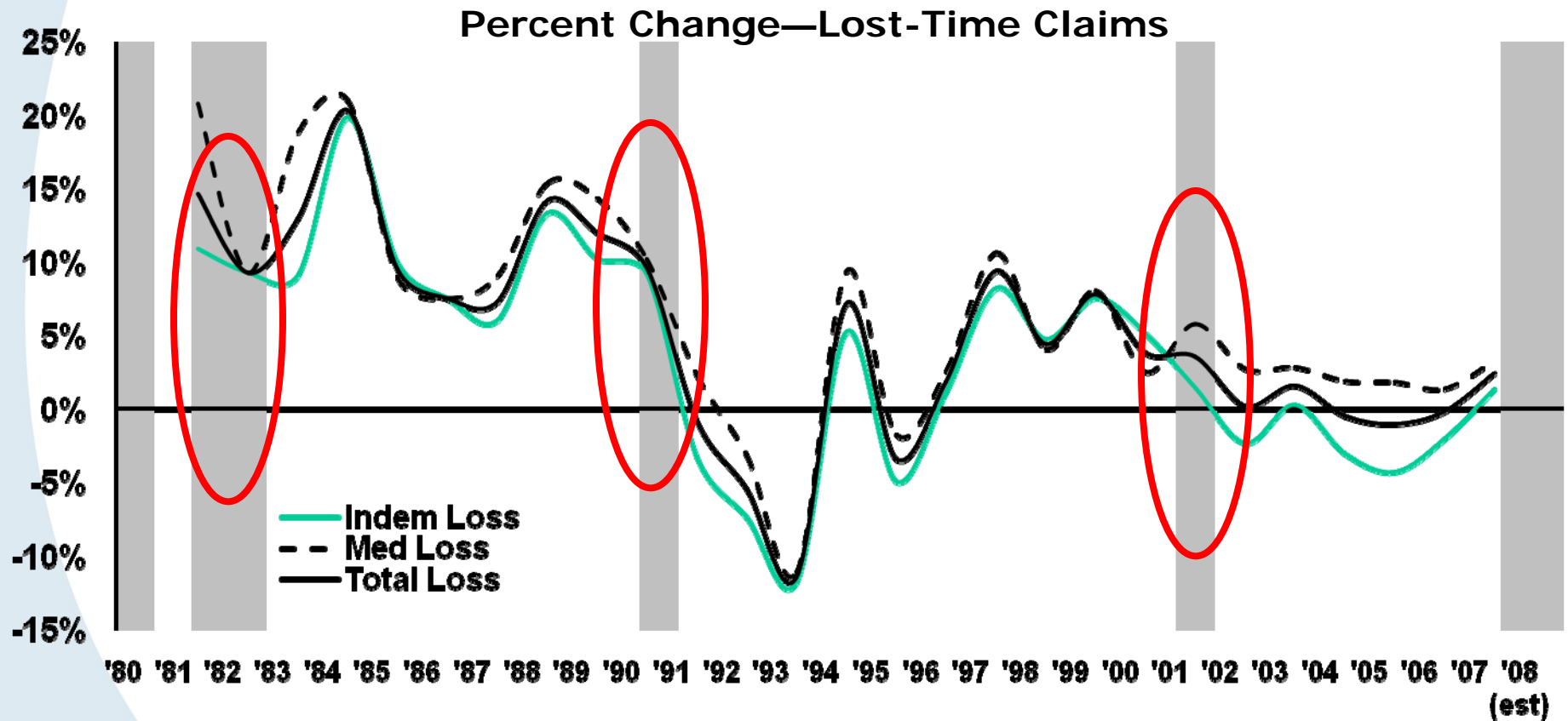
Source: NCCI

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Growth Rates of Loss Cost Decline During Recessions

WC Loss Cost (Frequency x Severity)



Source: NCCI

Implications for Indemnity, Medical, and Total Loss Costs

Changes in the growth rates of loss costs

- Frequency change is the key driver
- Indemnity and medical move together



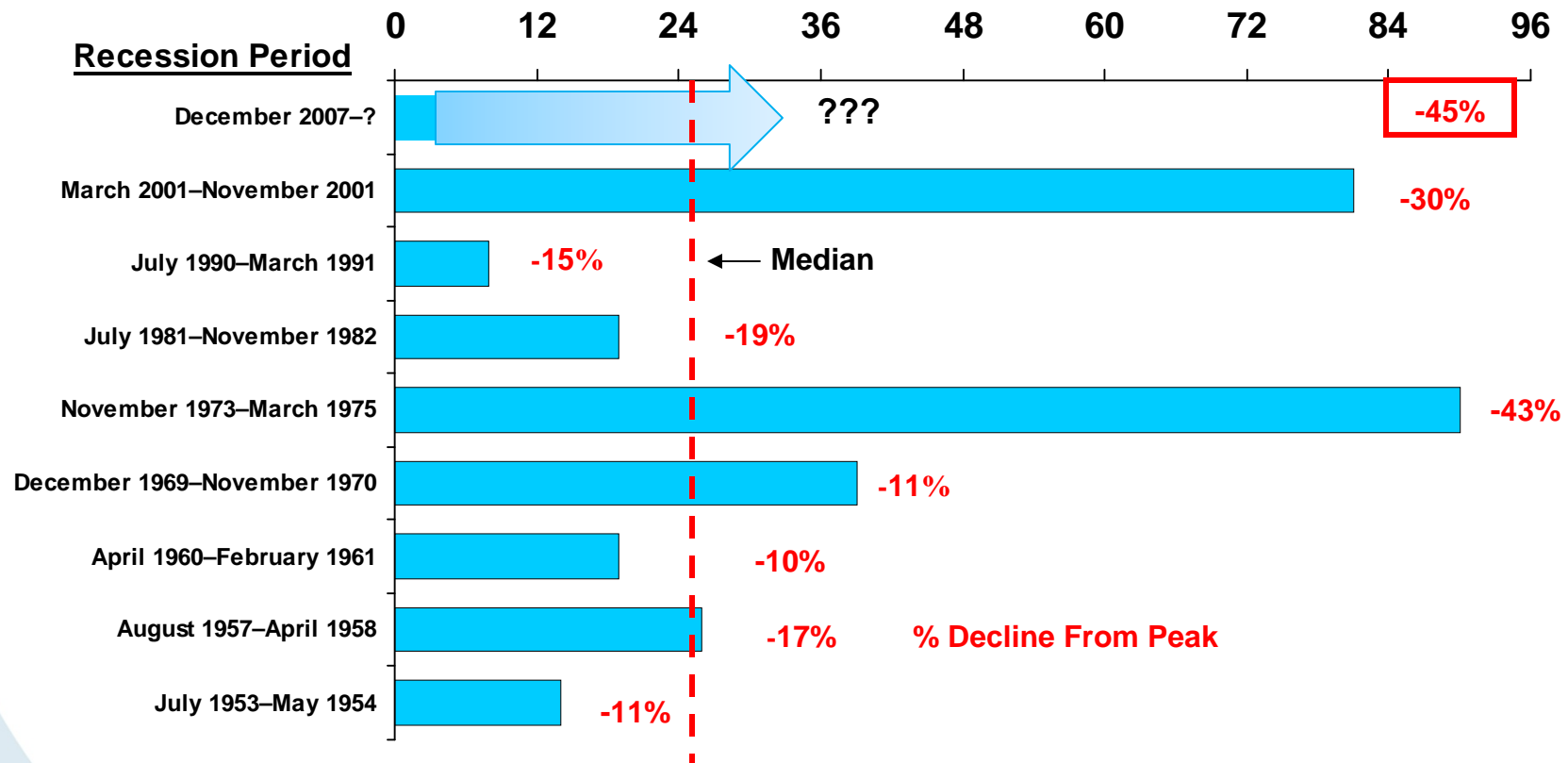
Focus on:

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- Indemnity and Medical Loss Costs
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There Has Been Marked Variability in the Time It Takes for the Stock Market to Fully Recover After a Recession

Number of Months for the S&P 500 to Regain Its Pre-Recession High



Excludes 1980 "mini" recession

Source: Standard and Poors, National Bureau of Economic Research



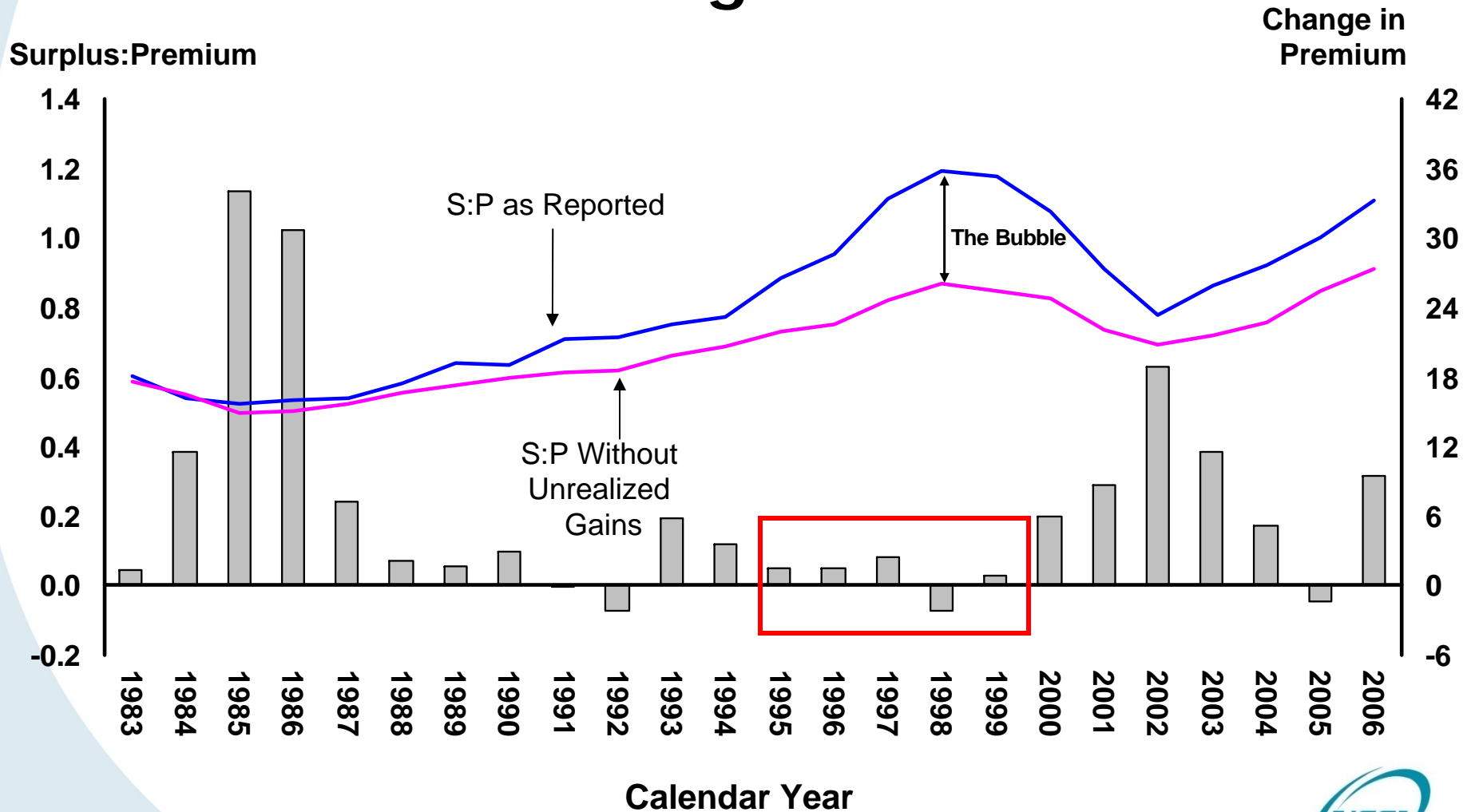
Anatomy of the Underwriting Cycle

A Financial Economics Perspective

- Greenspan's Stock Market "Exuberance" in the 1990s
- Investment and Insurance Market Cycles



Did the Stock Market Bubble Impact Underwriting Practices?



Source: Best's Aggregates & Averages



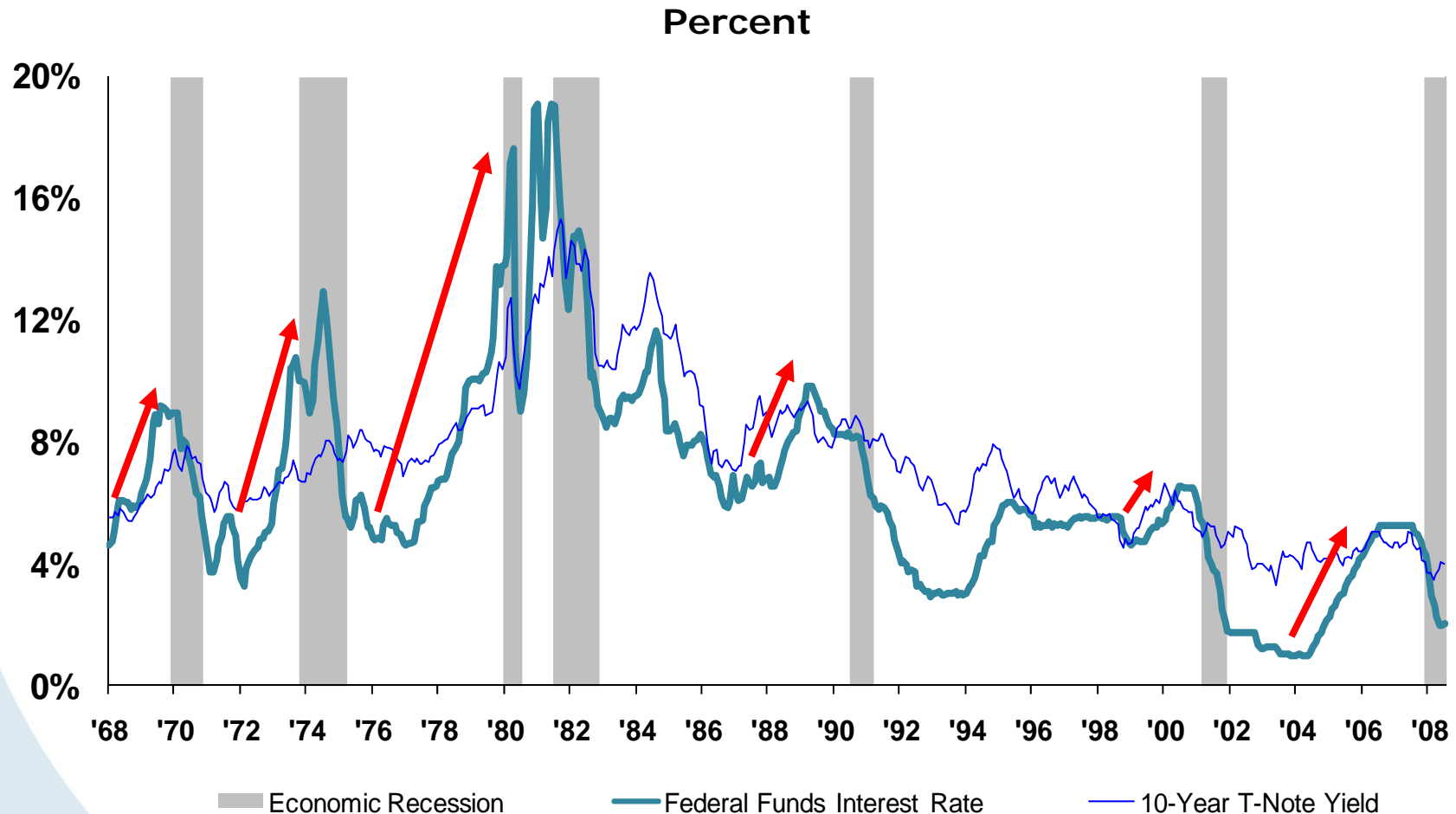
Anatomy of the Underwriting Cycle

A Financial Economics Perspective

Interest Rates and Insurance Market Cycles

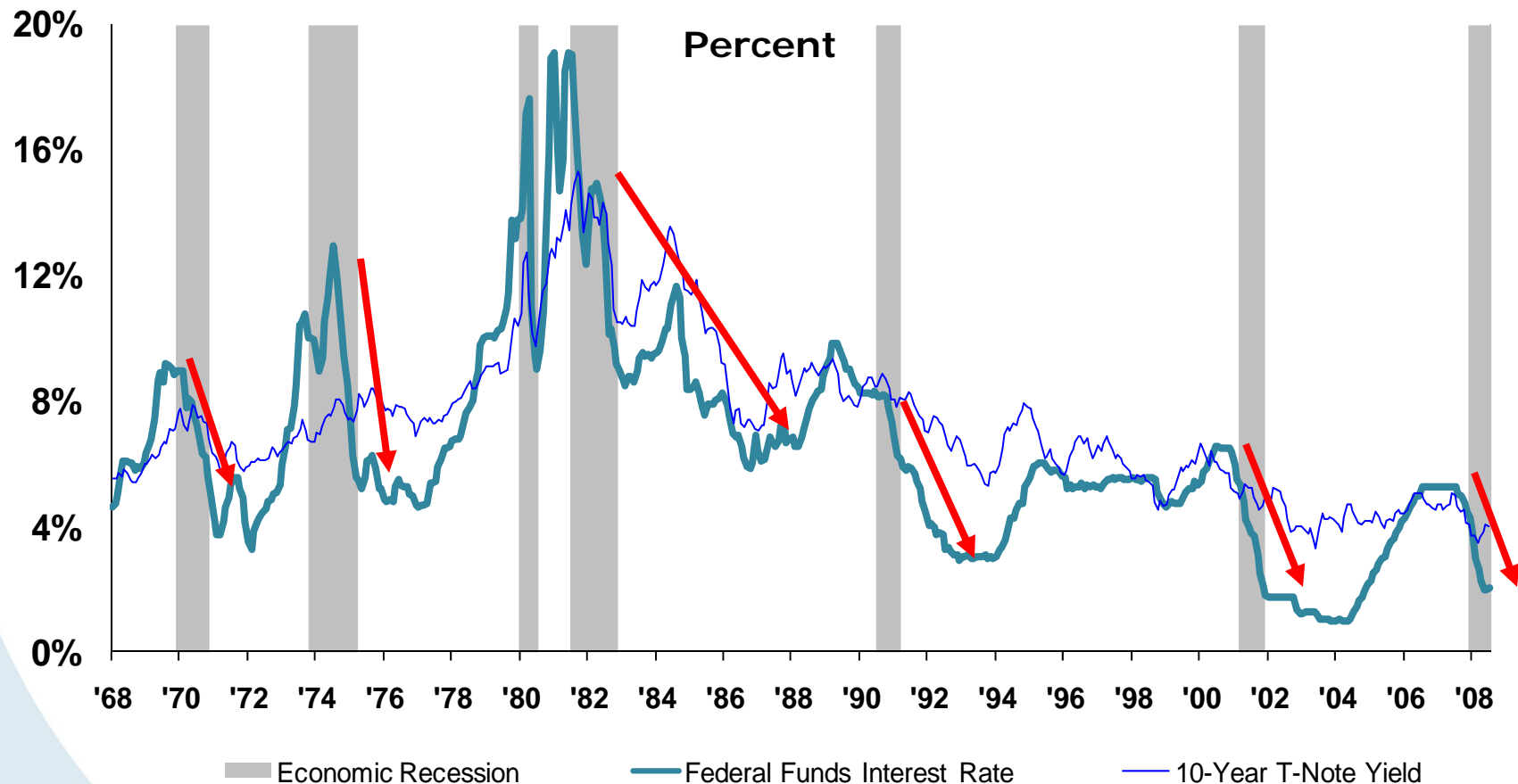


The Fed Typically Reduces Short-Term Interest Rates Before the Start of a Recession, With Declines Continuing After the Economy Begins to Expand



Source: Board of Governors of the Federal Reserve System

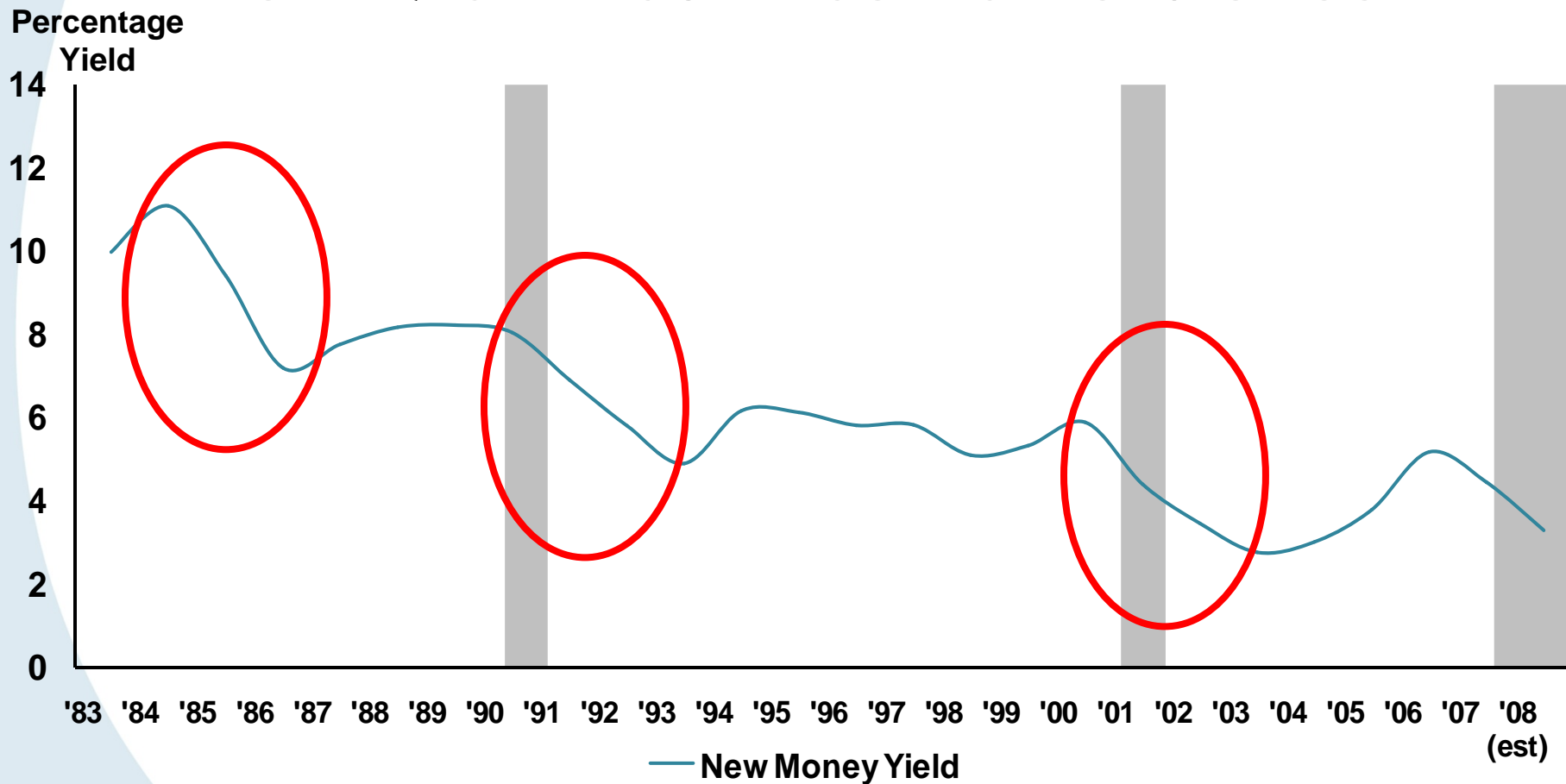
The Fed Typically Reduces Short-Term Interest Rates Before the Start of a Recession, With Declines Continuing After the Economy Begins to Expand (Cont'd)



Source: Board of Governors of the Federal Reserve System



Lower Interest During and Immediately After Recessions Results in Reduced Yields on P/C Fixed Income Portfolios



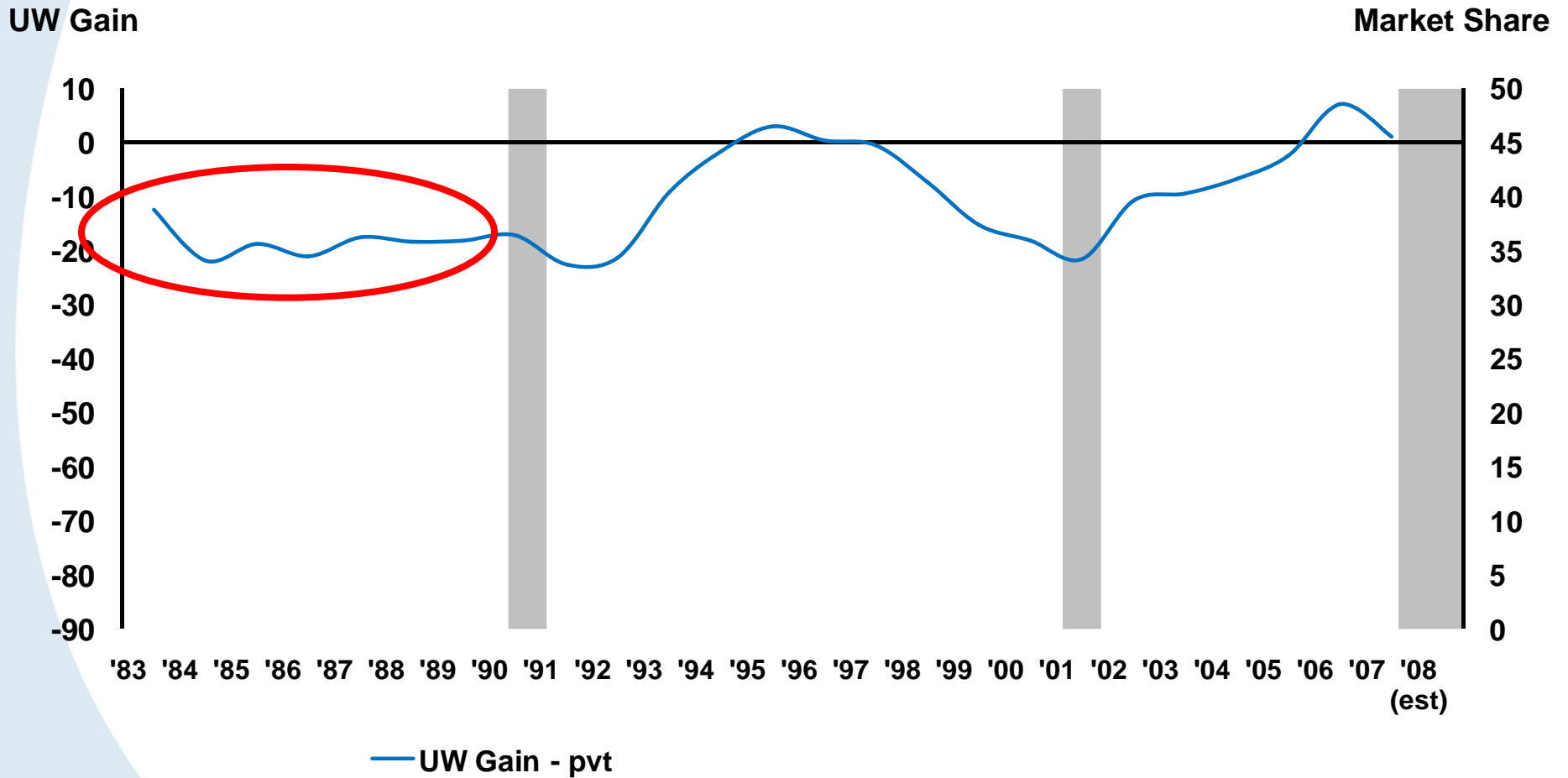
Source: NCCI

Anatomy of the Underwriting Cycle A Financial Economics Perspective

The Workers Compensation Insurance Market
in the 1980s:
Private Carriers and the Residual Market



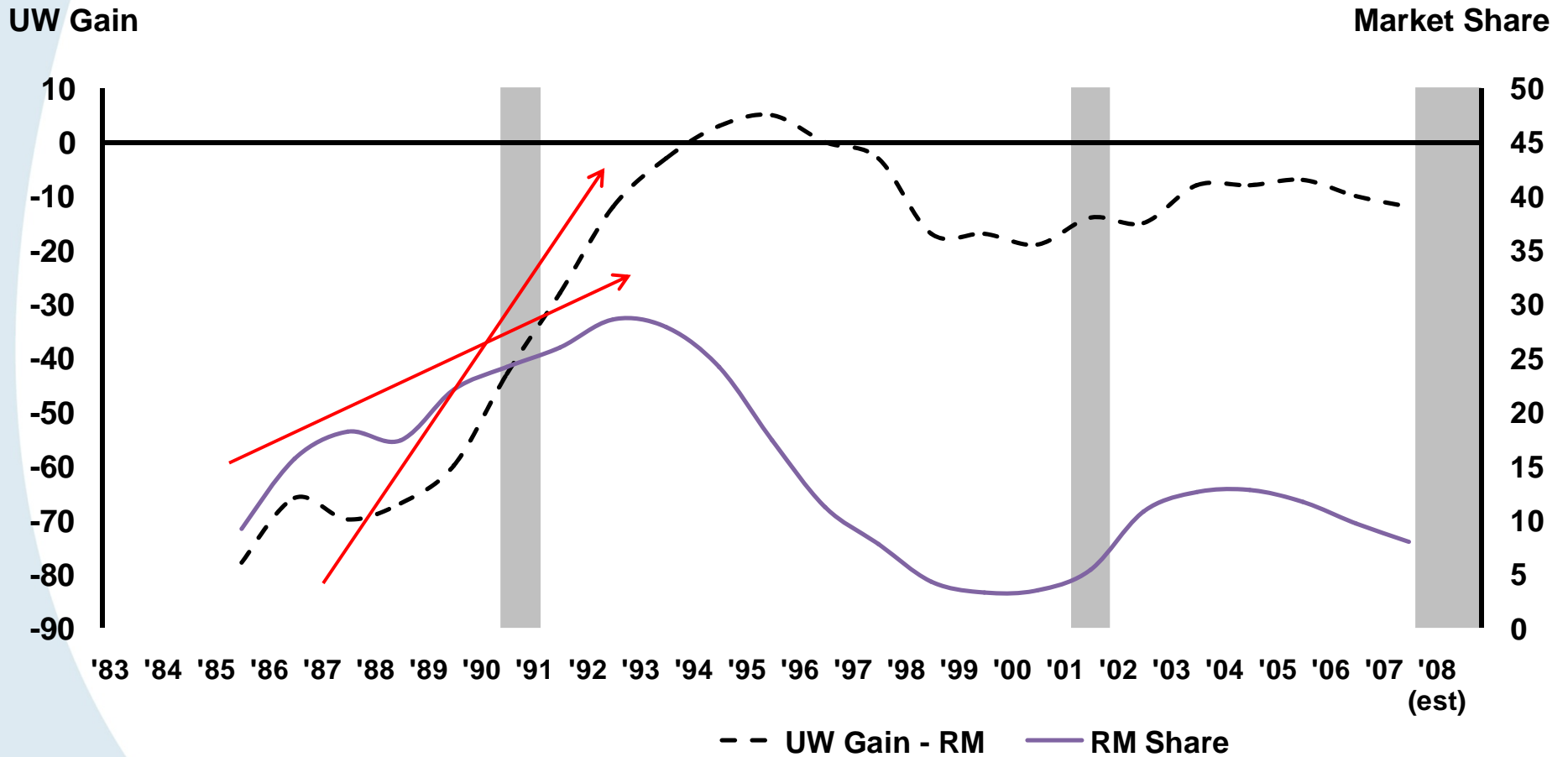
During the 1980s, the Private Market Experienced Material Underwriting Losses



Source: NCCI



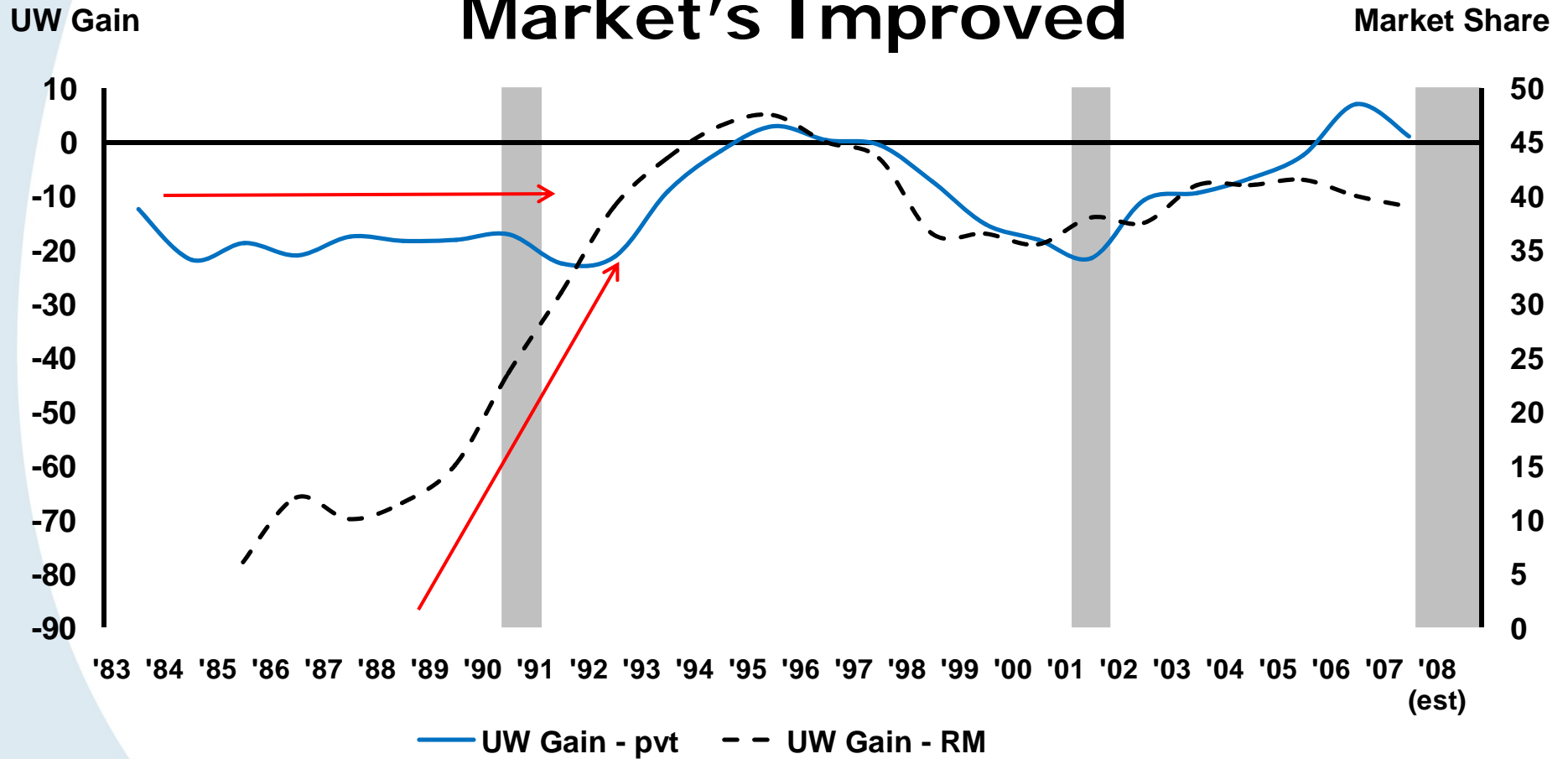
The Underwriting Results of the Residual Market Improved Steadily as It Grew



Source: NCCI



Underwriting Results of the Private Market Remained Level as the Residual Market's Improved



Source: NCCI

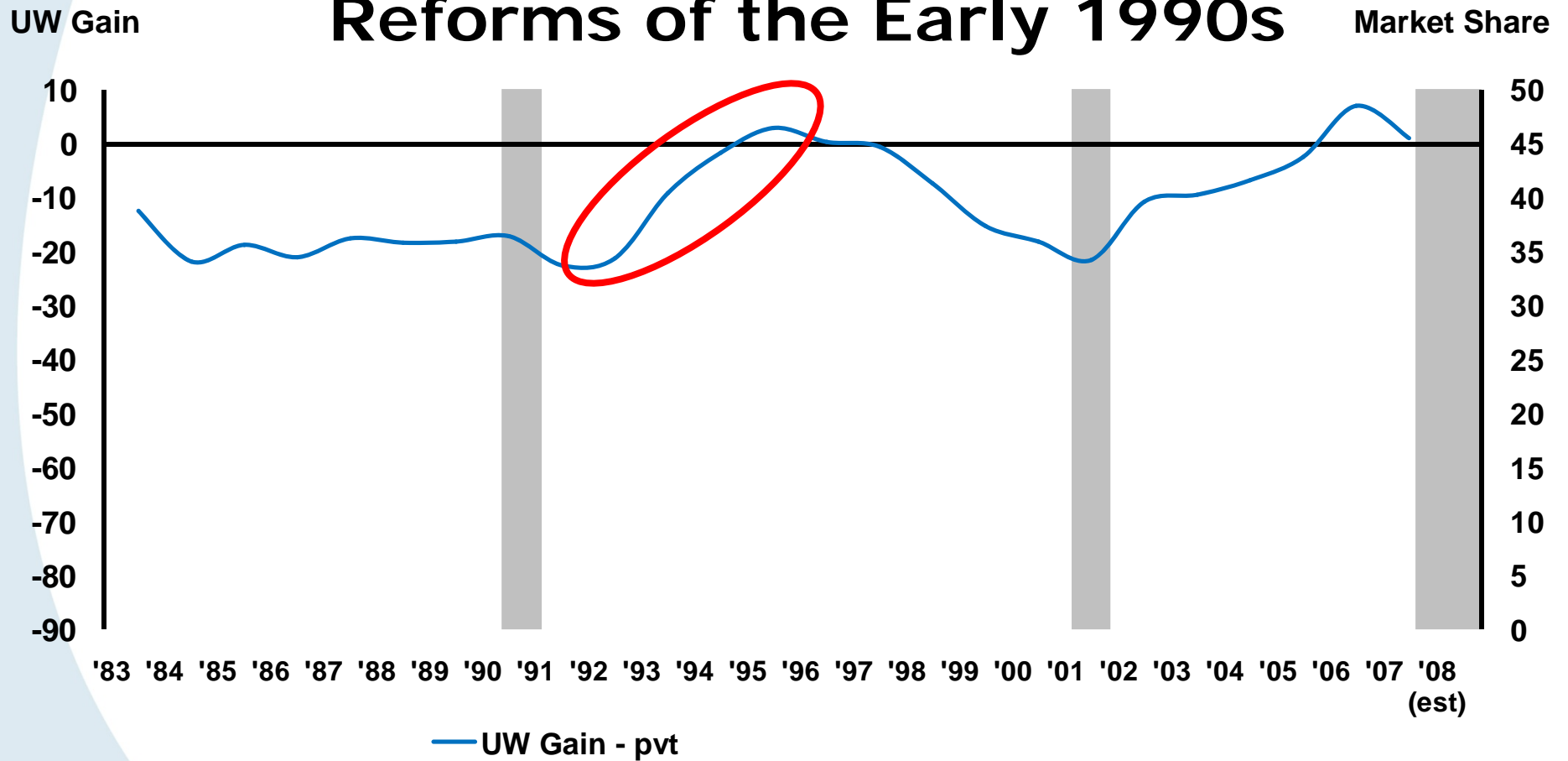


Anatomy of the Underwriting Cycle A Financial Economics Perspective

The Workers Compensation Insurance Market
After the Reforms of the Early 1990s



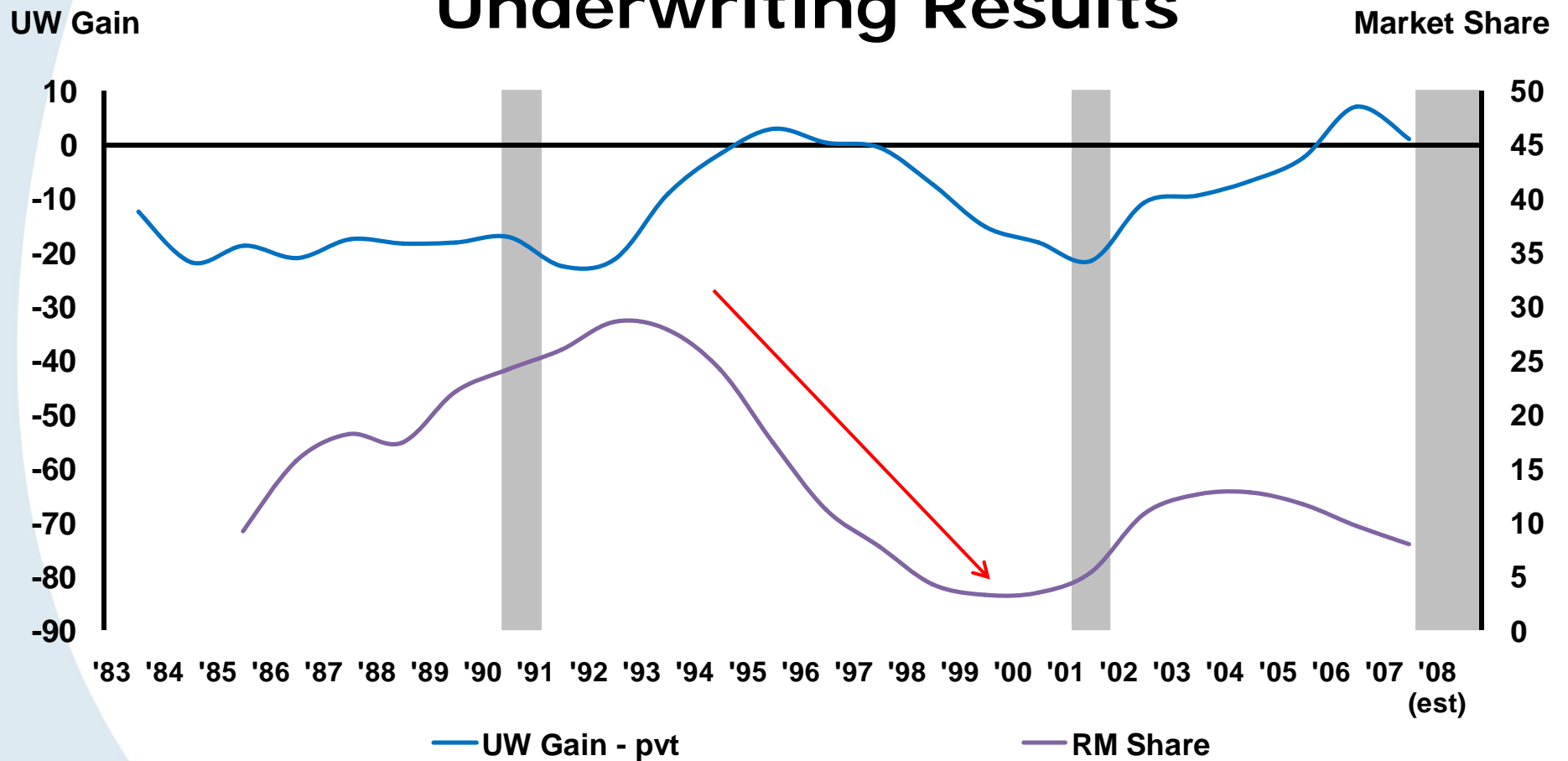
The UW Performance of the Private Market Improved After the WC Reforms of the Early 1990s



Source: NCCI



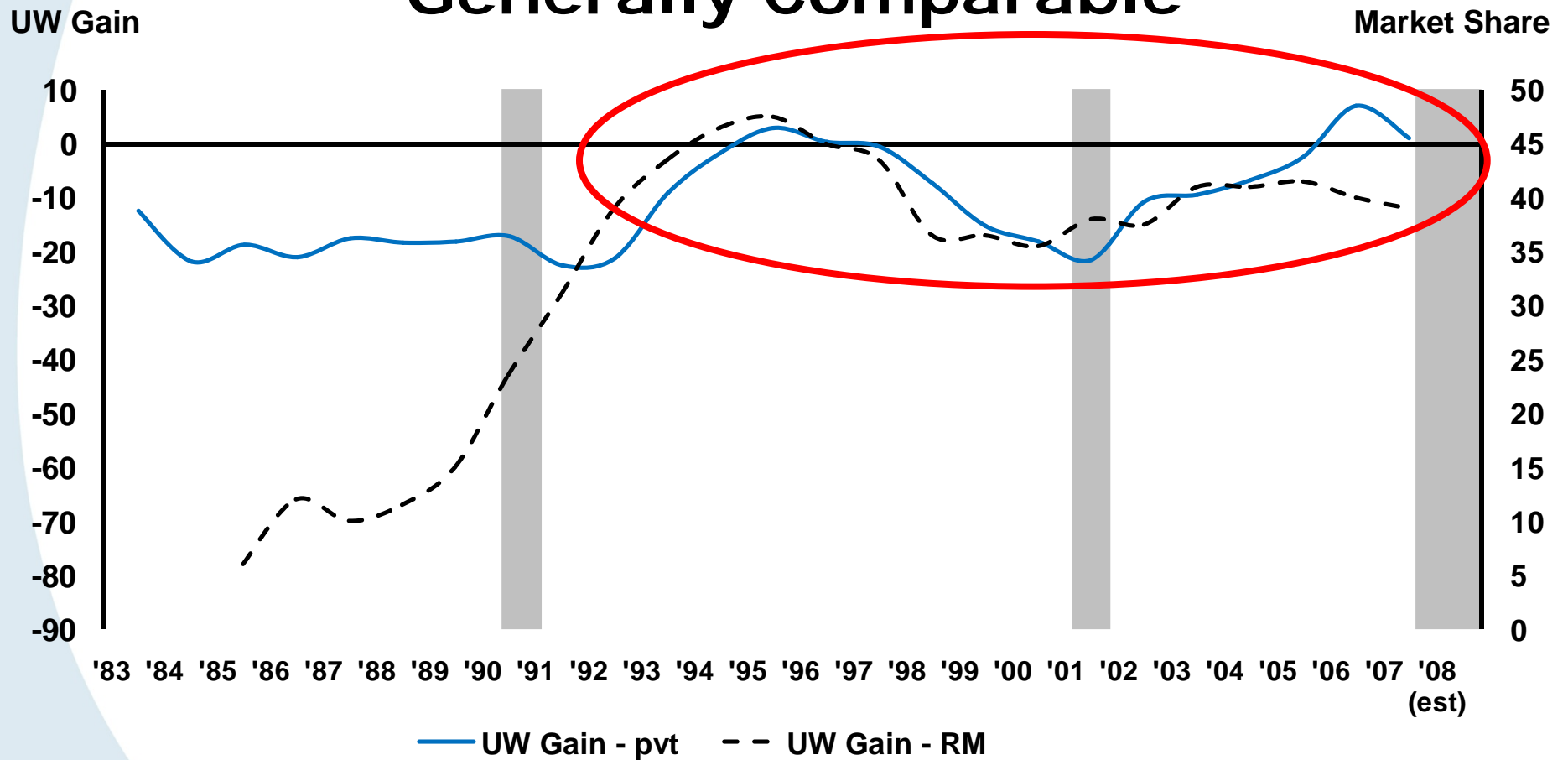
The Residual Market Shrank Following the Reforms and the Improved Underwriting Results



Source: NCCI



The Underwriting Results of the Private and Residual Markets Were Generally Comparable



Source: NCCI



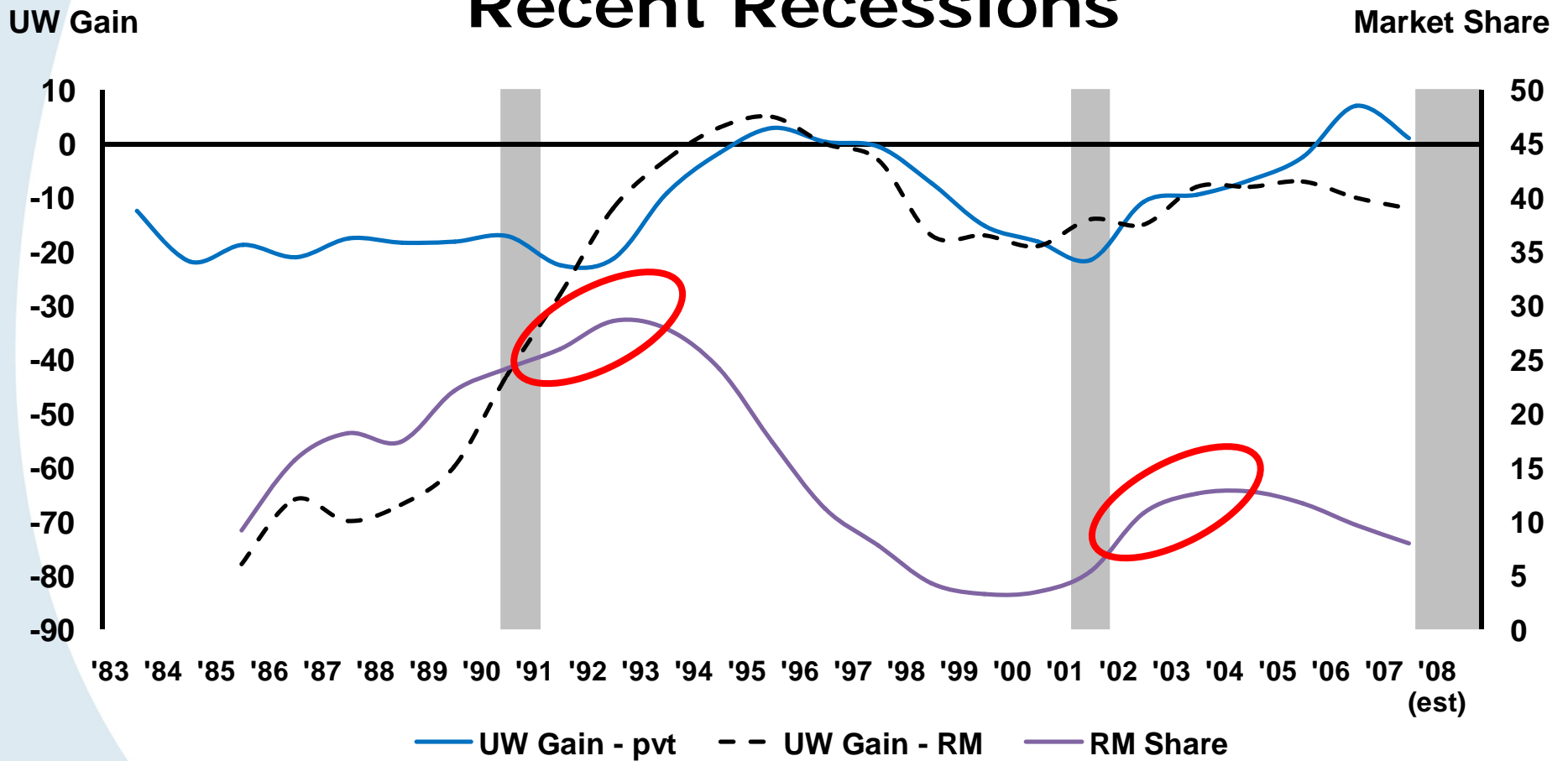
Anatomy of the Underwriting Cycle

A Financial Economics Perspective

- The Residual Market in Recent Years
- The Underwriting and Business Cycles



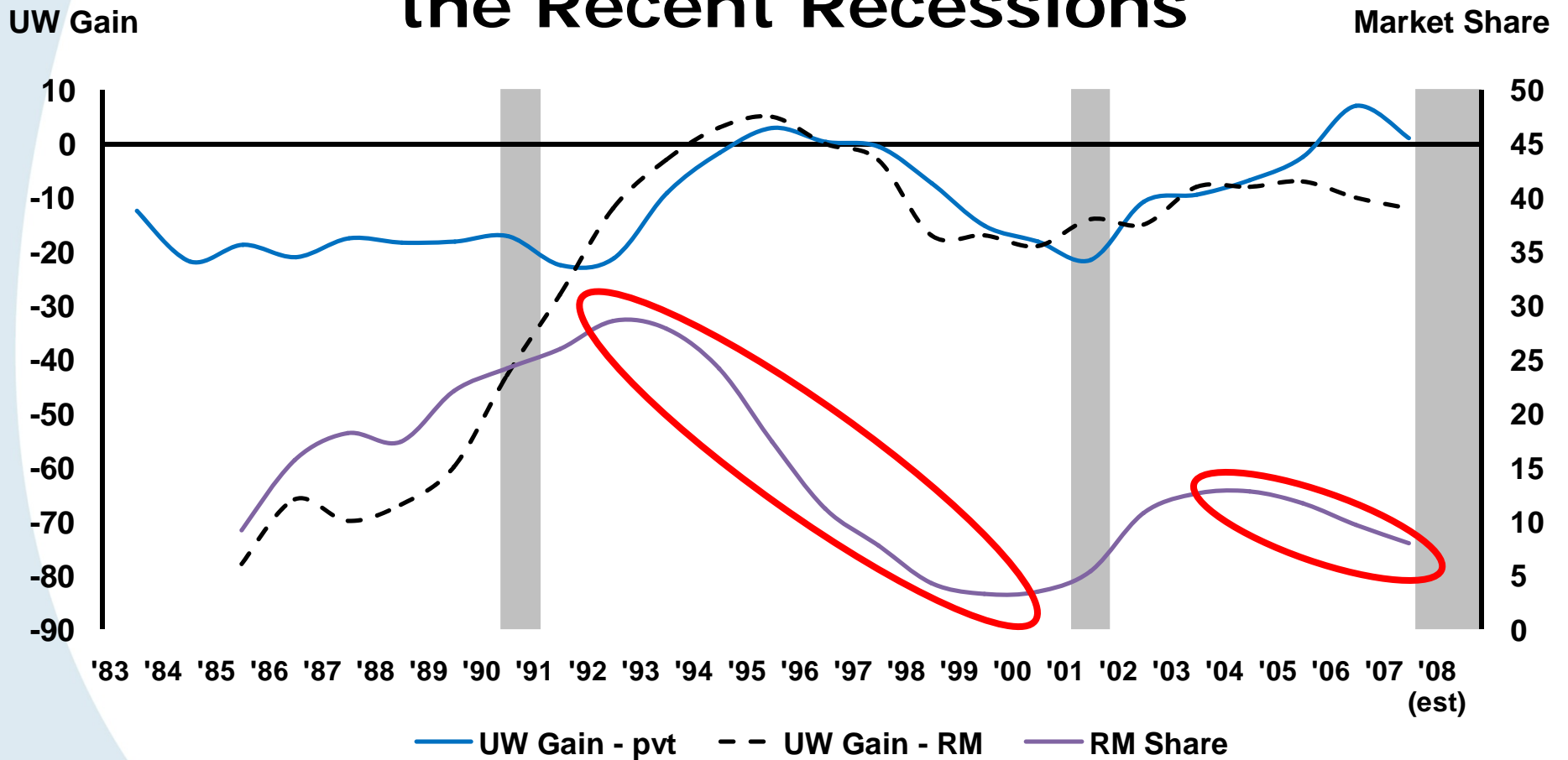
Residual Market Share of the WC Market Grew Following the Most Recent Recessions



Source: NCCI



Residual Market Share of the WC Market Declined During the Recoveries Following the Recent Recessions



Source: NCCI



Workers Compensation and the Business Cycle

Economic factors and the residual market—History is mixed

- In the 1980s, the residual market grew in response to private market losses
- Since then, the residual market:
 - Grew following recessions
 - Shrank during recovery

The residual market tracks the underwriting cycle.
The underwriting cycle tracks the business cycle.

??? **Questions** **???**

