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Workers Compensation and the Business Cycle An Overview

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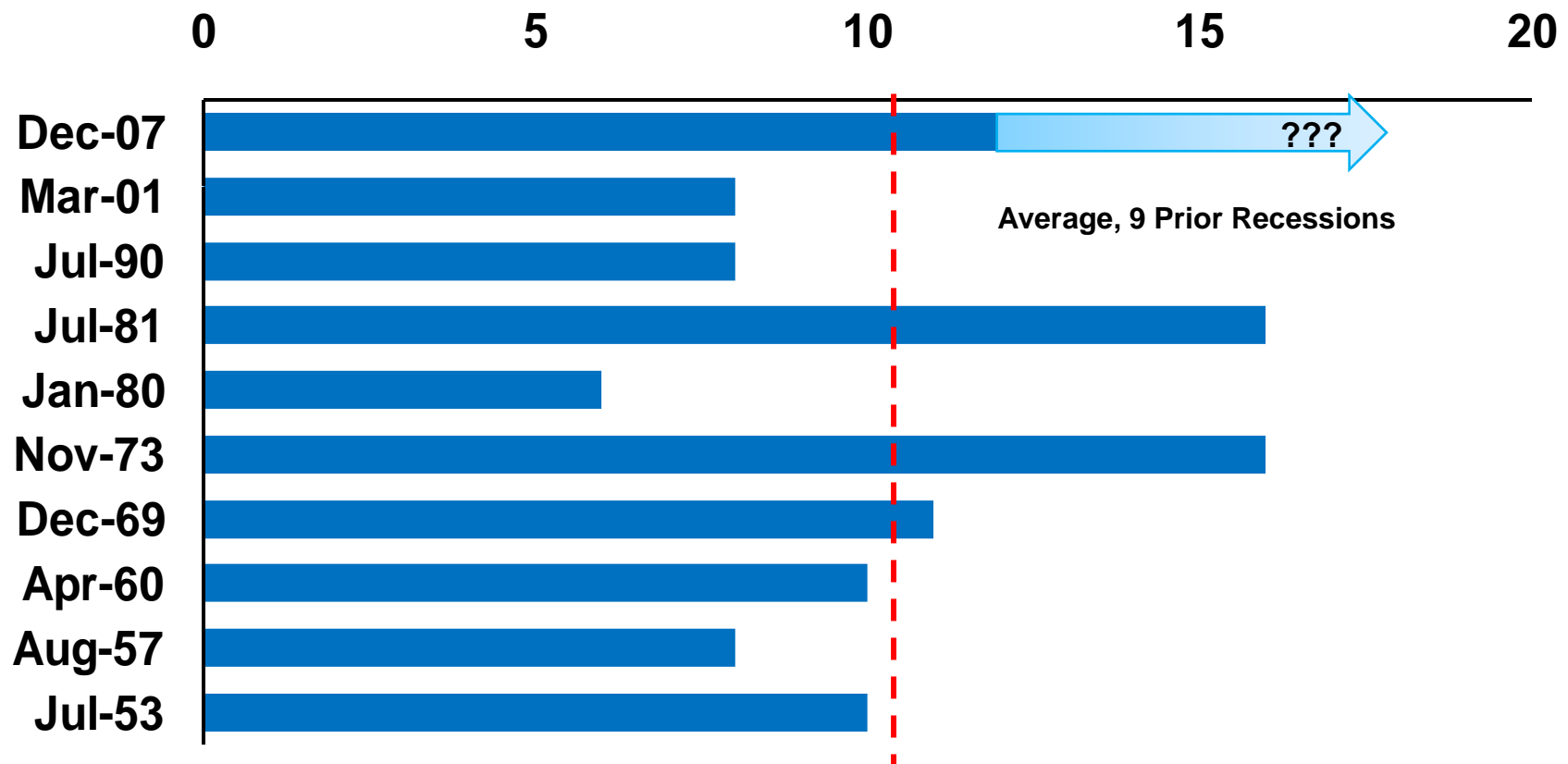
CAS Ratemaking and Product Management Seminar
March 9, 2009
Las Vegas, Nevada



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



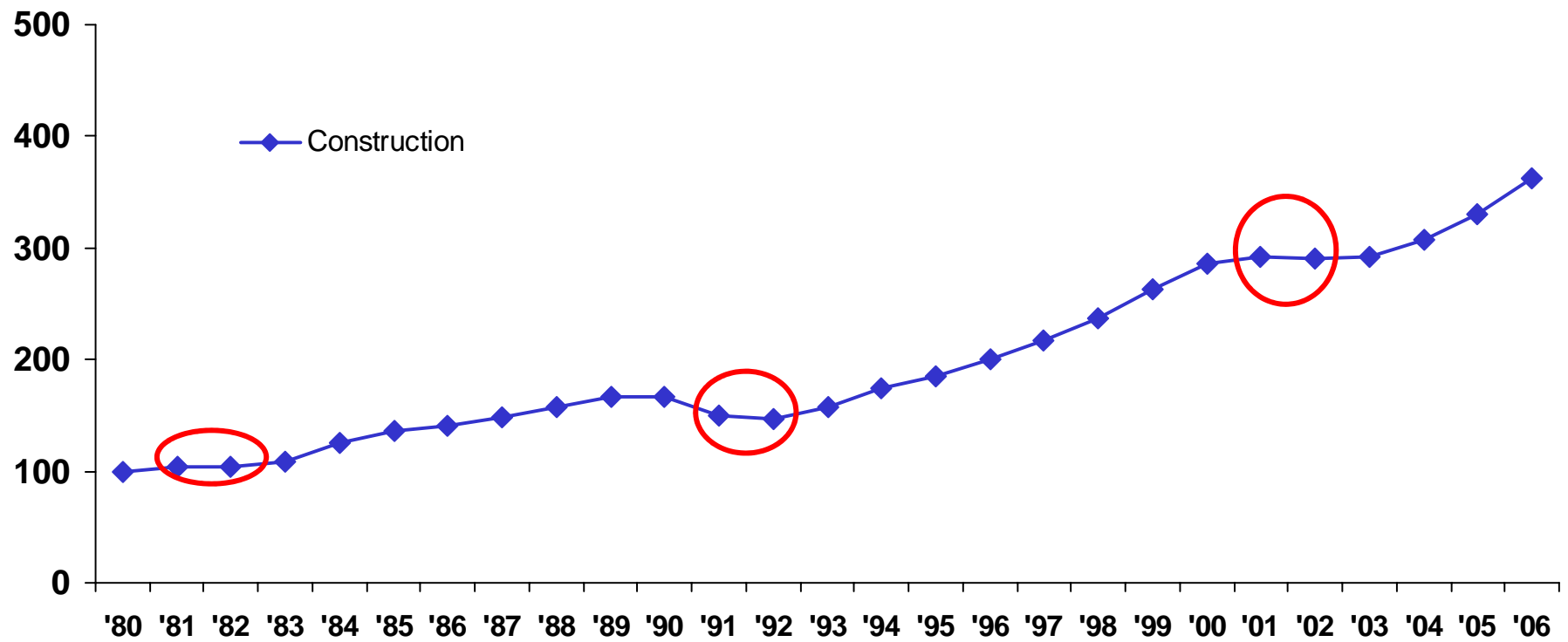
Source: National Bureau of Economic Research

Focus on . . .

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

Construction Payrolls Are Even More Cyclical

Index of Aggregate Weekly Payrolls, 1980 = 100

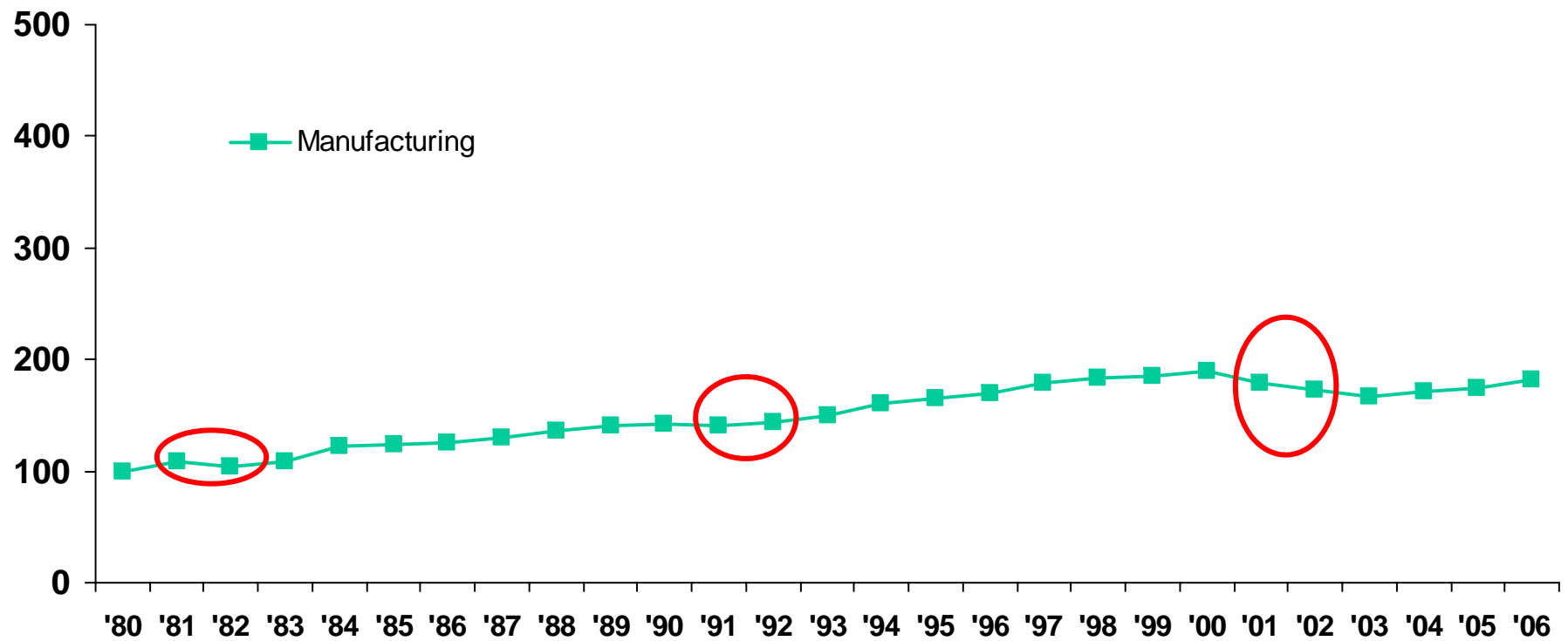


Source: U.S. Bureau of Labor Statistics

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Manufacturing Payrolls Typically Dip in Recessions

Index of Aggregate Weekly Payrolls, 1980 = 100

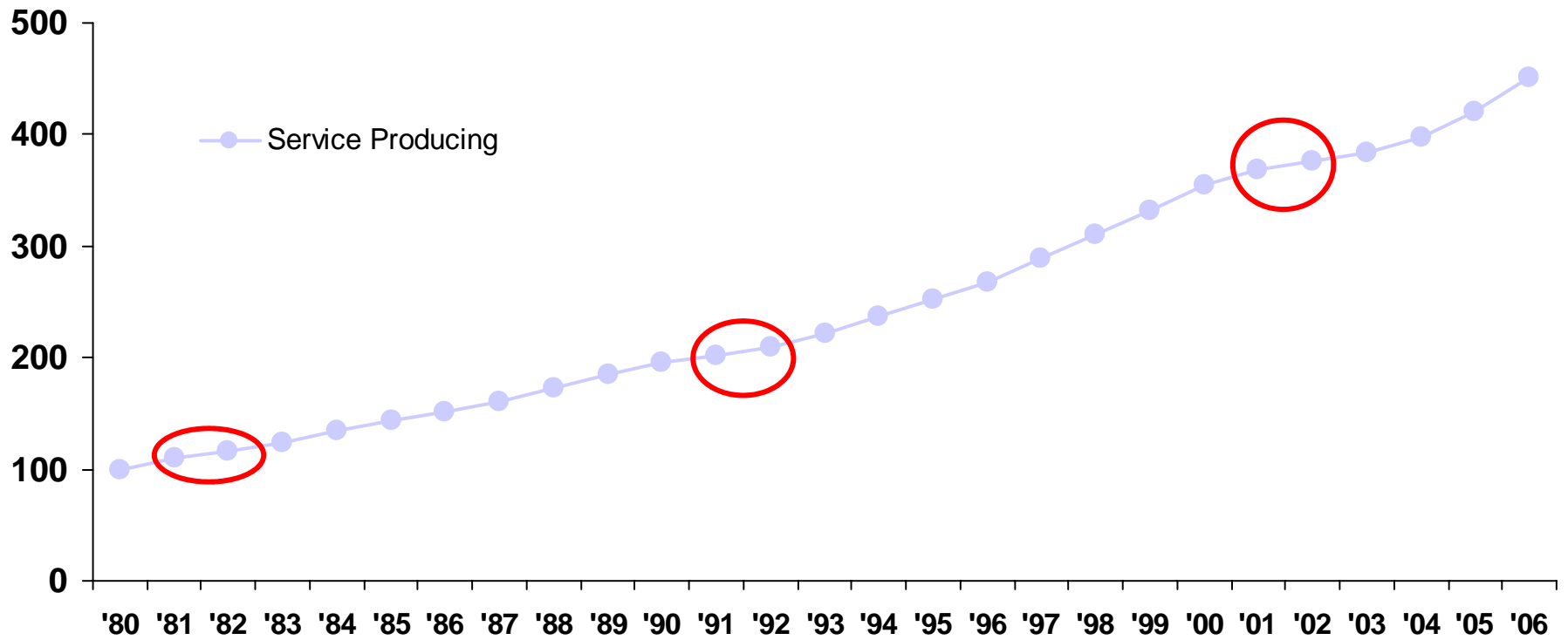


Source: U.S. Bureau of Labor Statistics

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Growth in Service Producing Payrolls Eases but Remains Positive

Index of Aggregate Weekly Payrolls, 1980 = 100

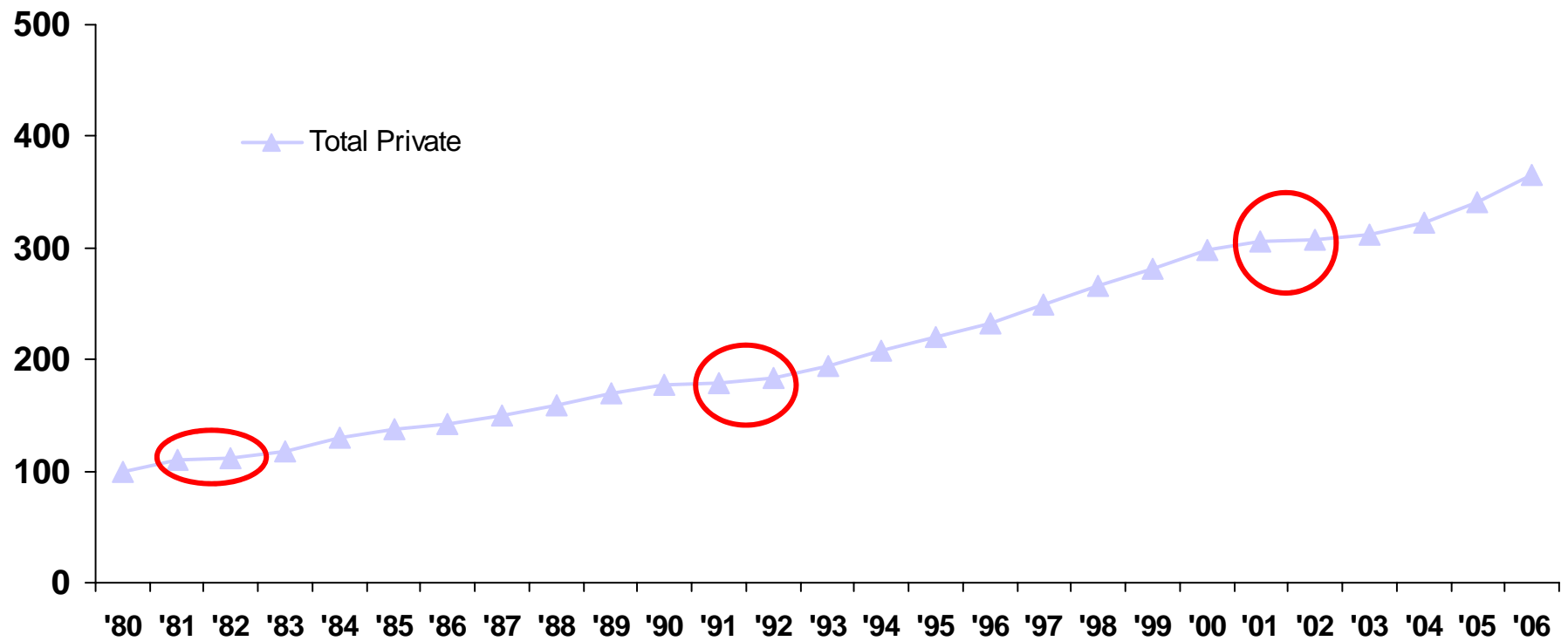


Source: U.S. Bureau of Labor Statistics

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Total Private Sector Payroll Growth Is Slightly Cyclical

Index of Aggregate Weekly Payrolls, 1980 = 100

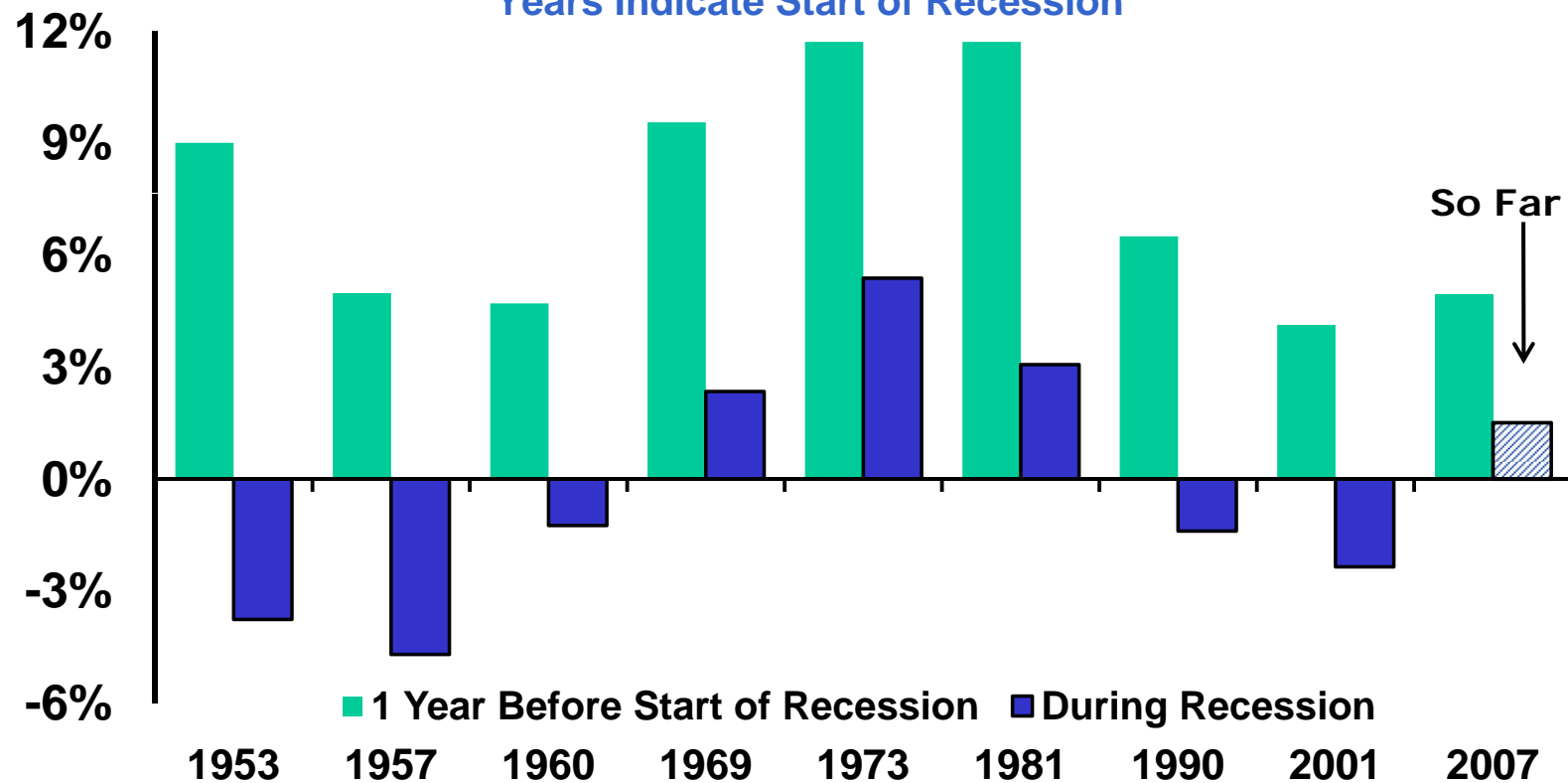


Source: U.S. Bureau of Labor Statistics

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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

Implications for Exposure

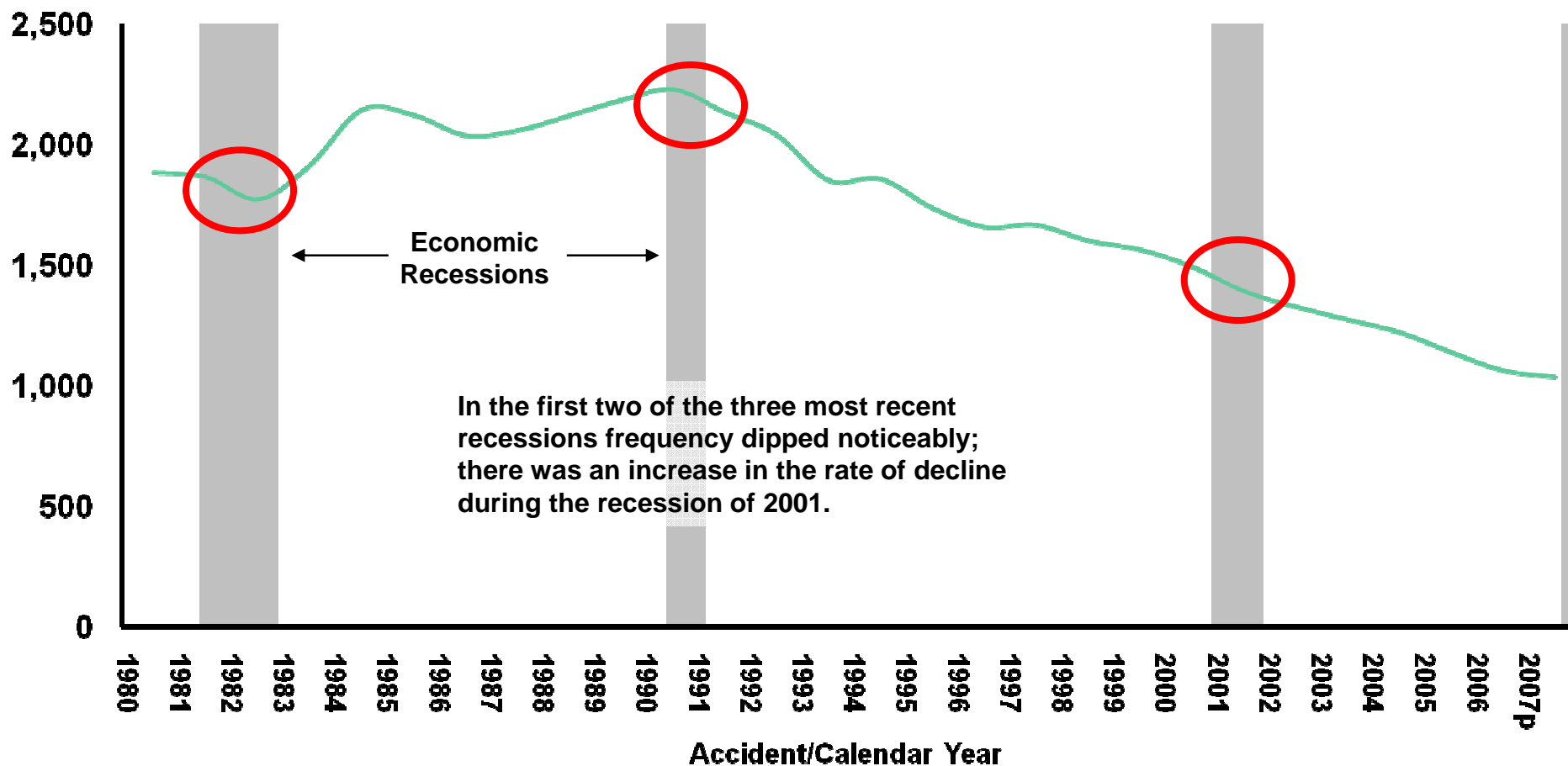
- **Recessions** tend to place **downward pressure** on exposure (payroll as reflected in wages & salaries)
 - Declines in employment
 - Slower growth or declines in wage rates

Focus on . . .

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

NCCI Lost-Time Claim Frequency

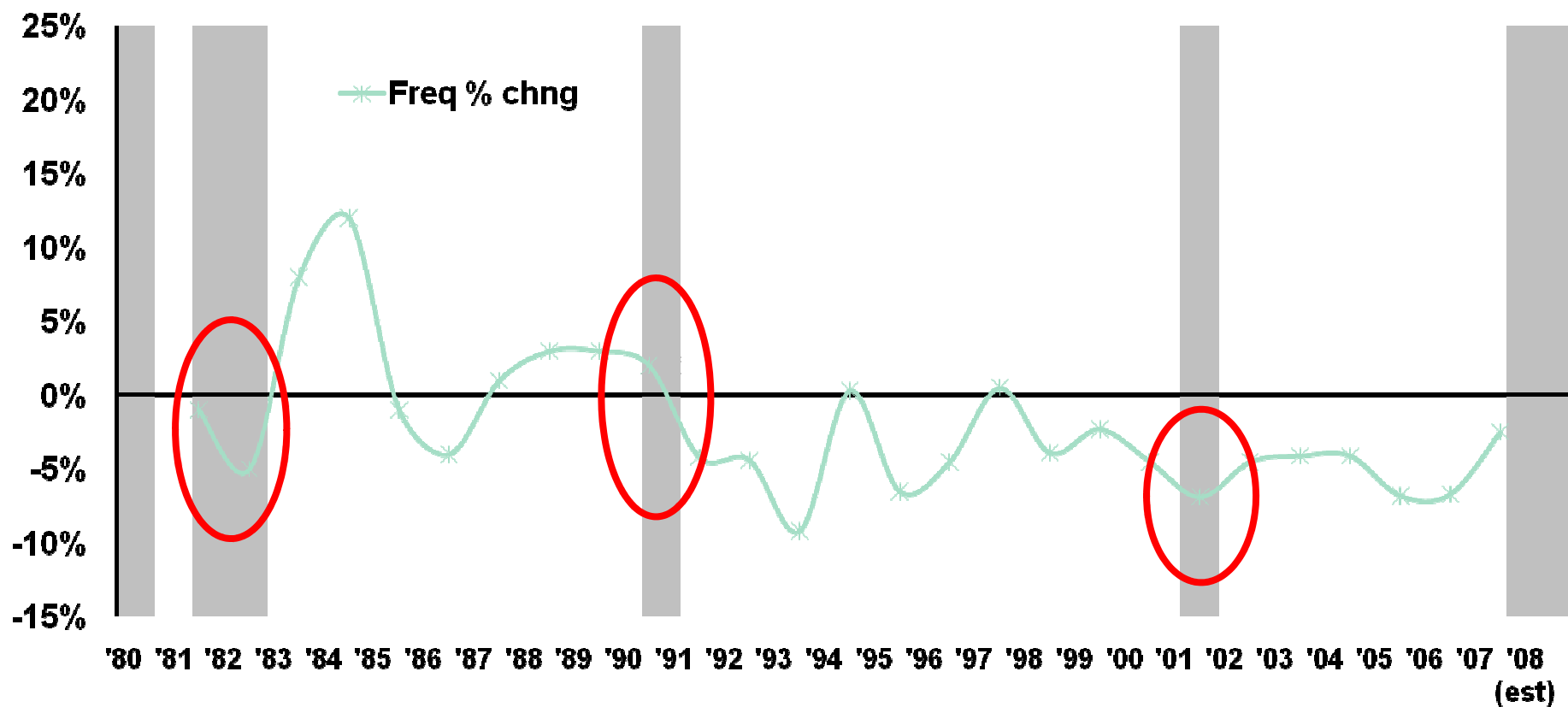
Claims per 100,000 Workers



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

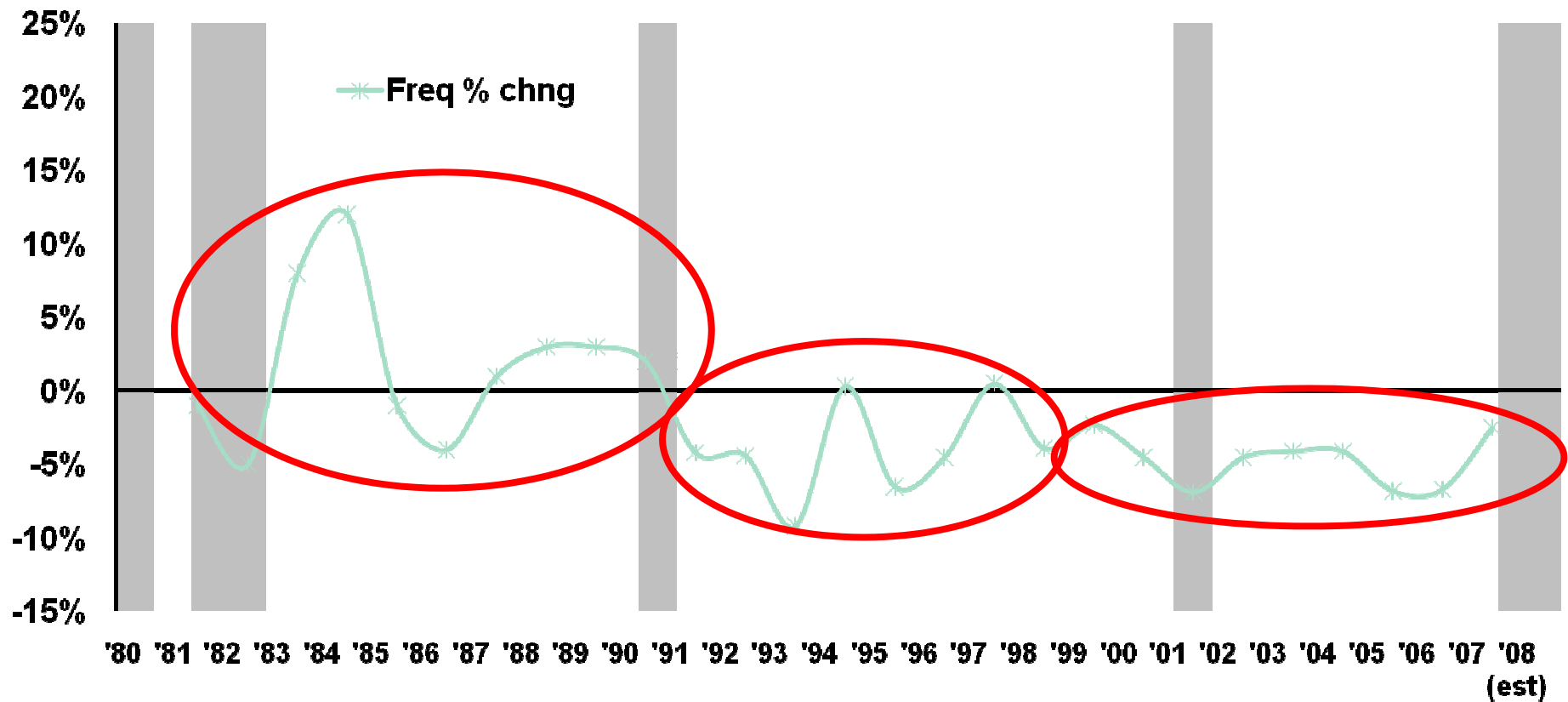


Source: NCCI

Three Distinct Phases in Frequency Changes

Frequency and Severity

Percent Change—Lost-Time Claims



Source: NCCI

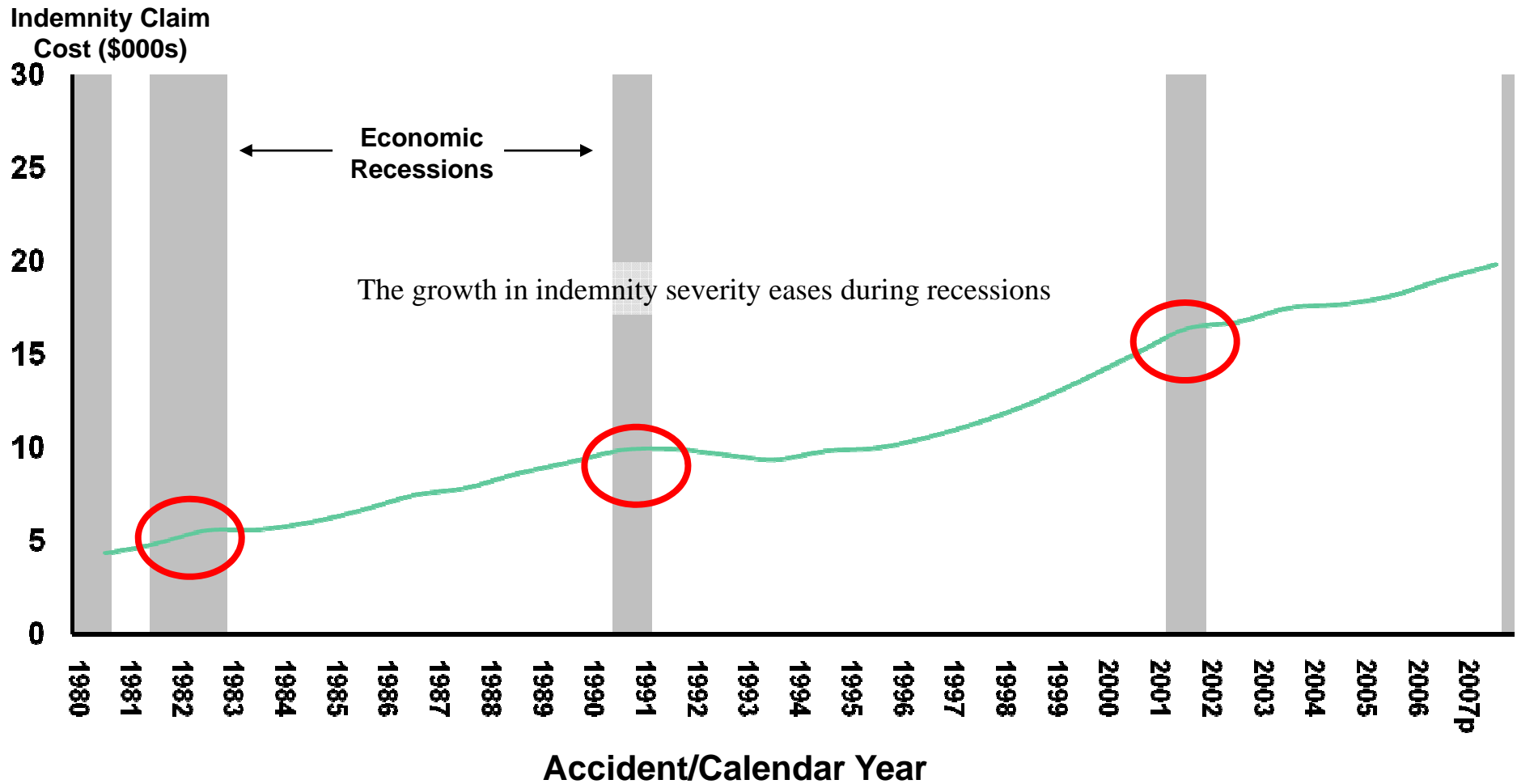
Implications for Claim Frequency

- **Recessions**, by increasing the skill level of the workforce (“last hired—first fired”), tend to place **downward pressure** on claim frequency
- **Strong expansions** tend to place **upward pressure** on claim frequency

Focus on . . .

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

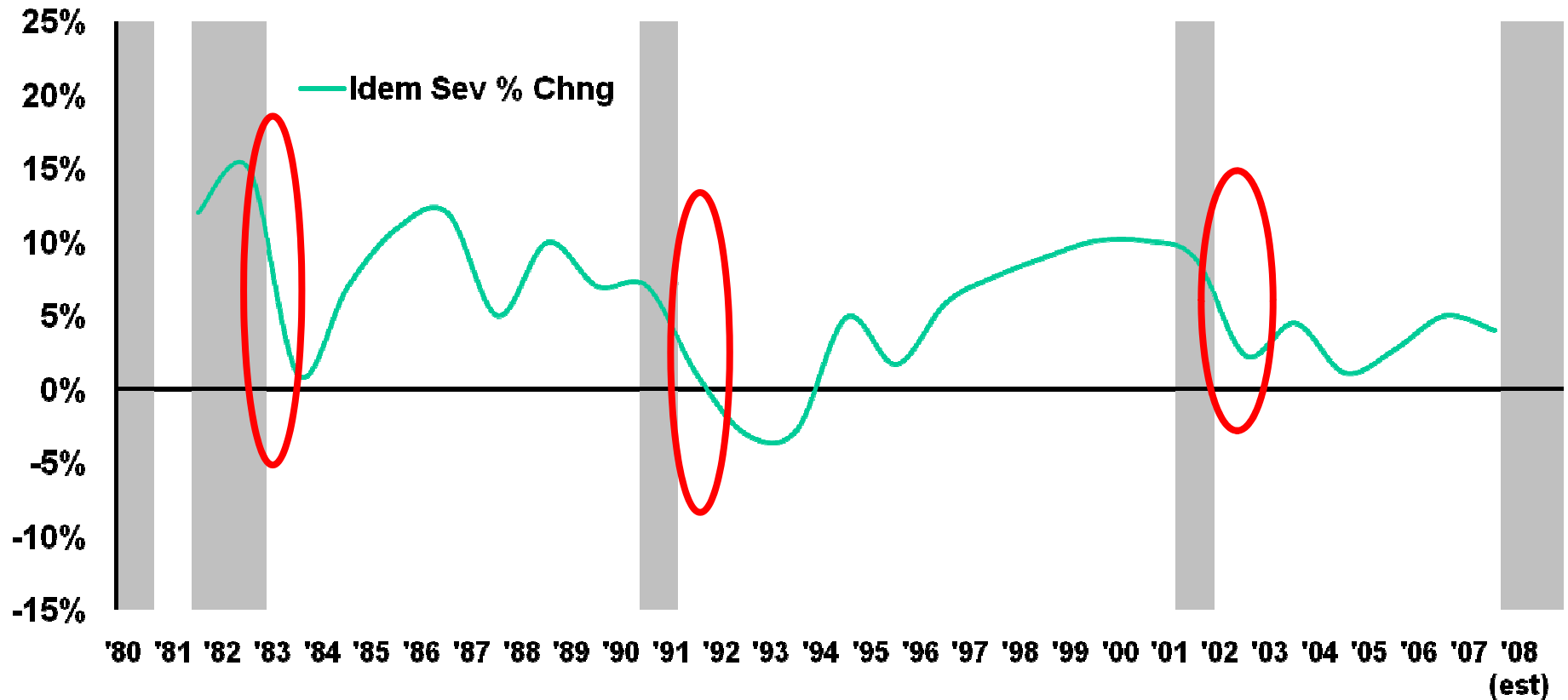
Indemnity Claim Costs



2007p: Preliminary based on data valued as of 12/31/2007
 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

Indemnity Severity Growth Rates Show a Lagged Response to Recessions

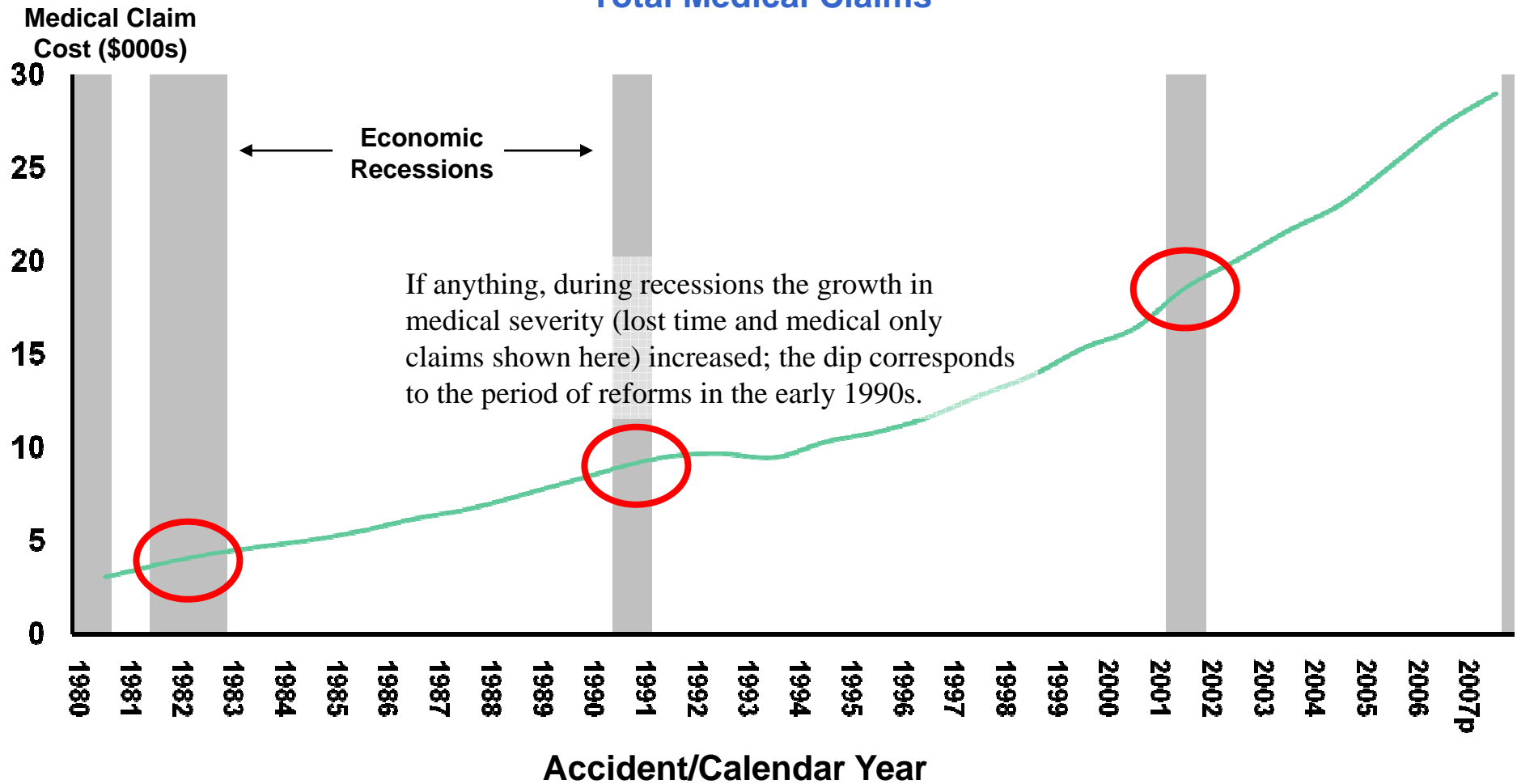
Percent Change—Lost-Time Claims



Source: NCCI

Medical Claim Costs

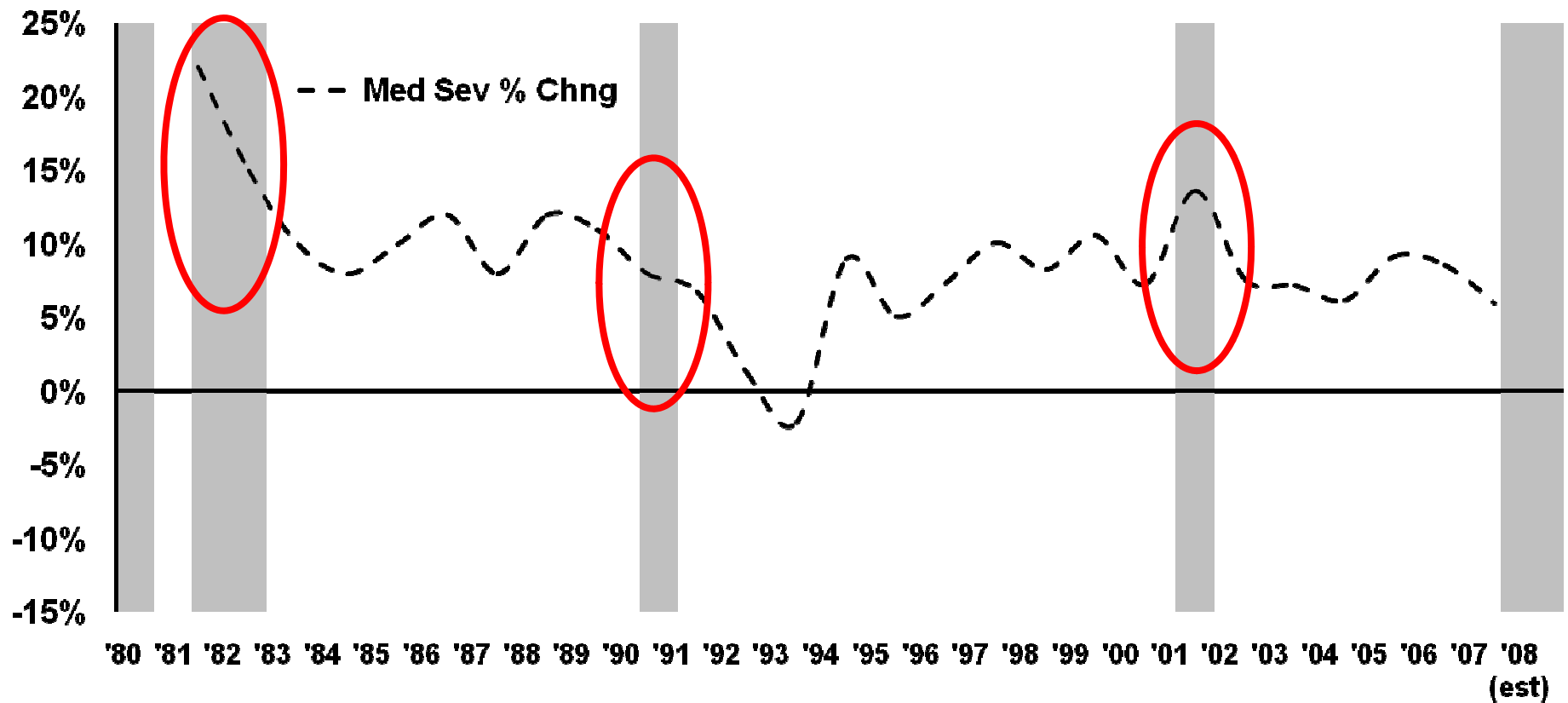
Total Medical Claims



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

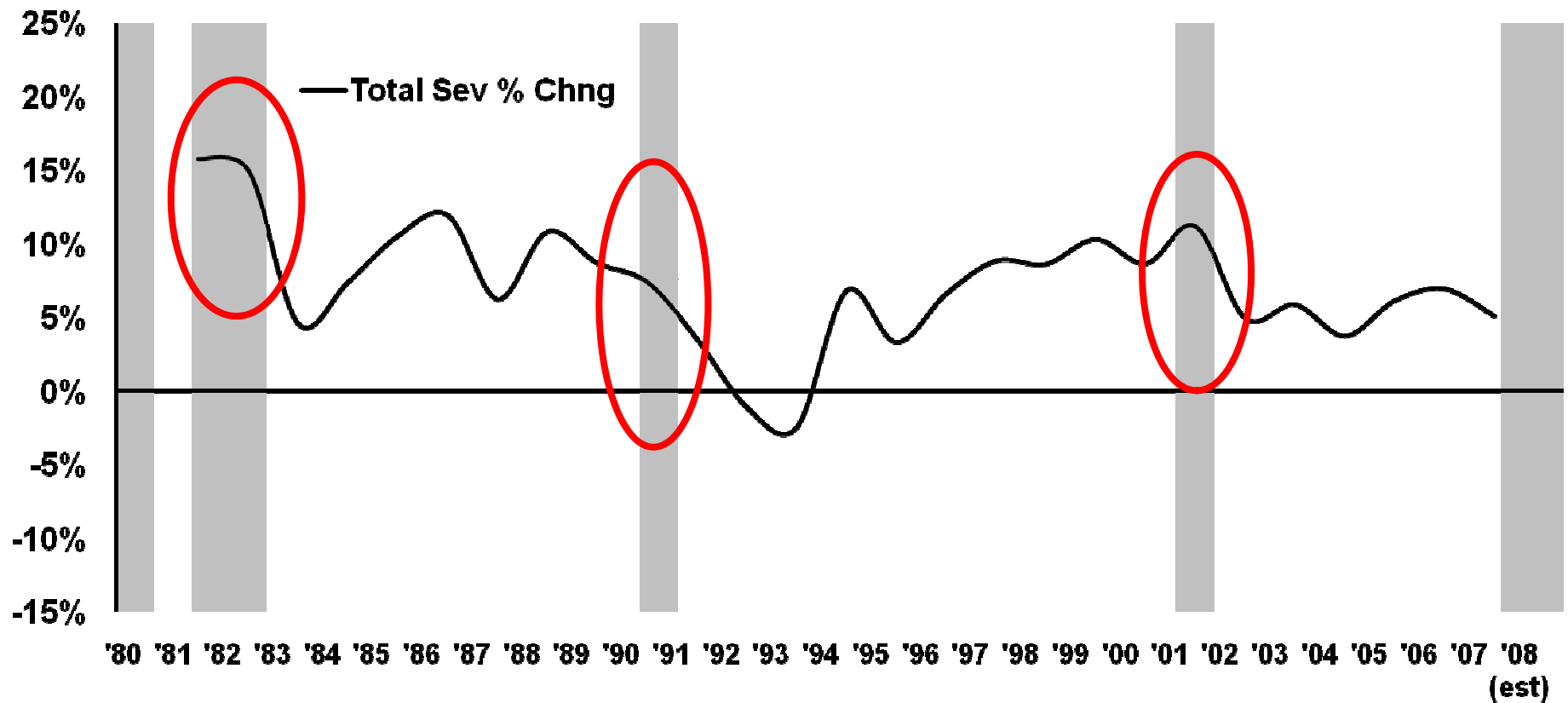


Source: NCCI

Total Severity Growth Rates —Up and Down

Frequency and Severity

Percent Change—Lost-Time Claims



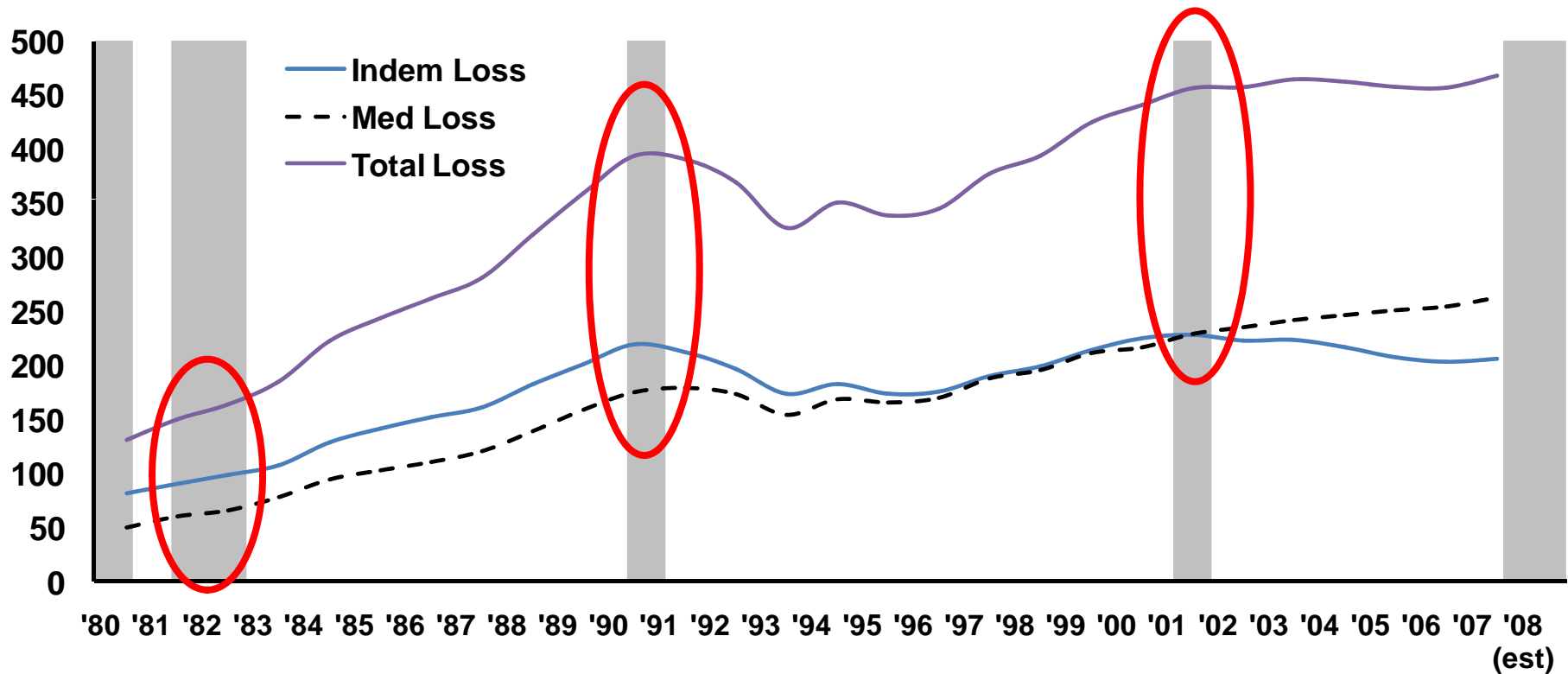
Source: NCCI

Focus on . . .

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

No Apparent Systematic Cyclical Pattern WC Loss Costs (Frequency x Severity)

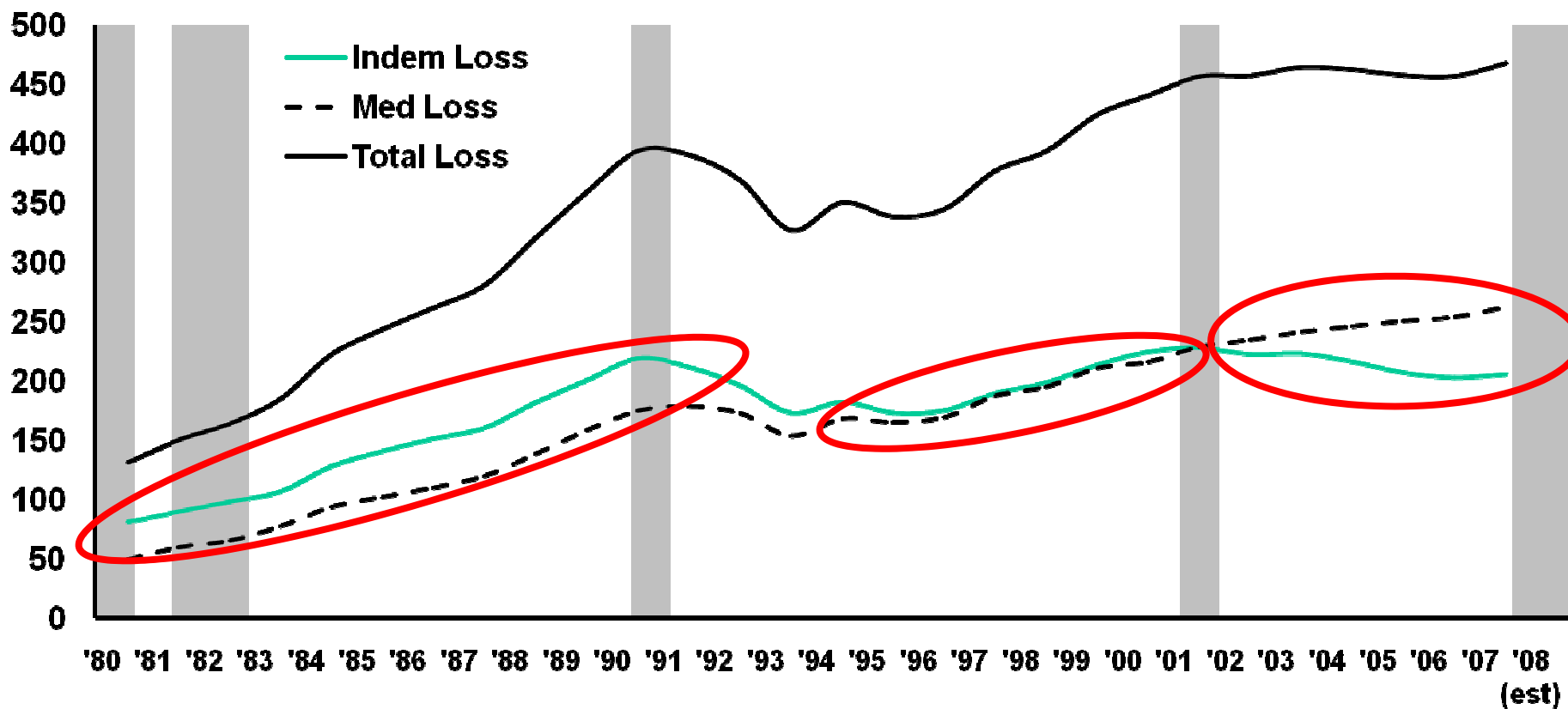
Loss Cost (\$ per 100,000 Workers)—Lost-Time Claims



Source: NCCI

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

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

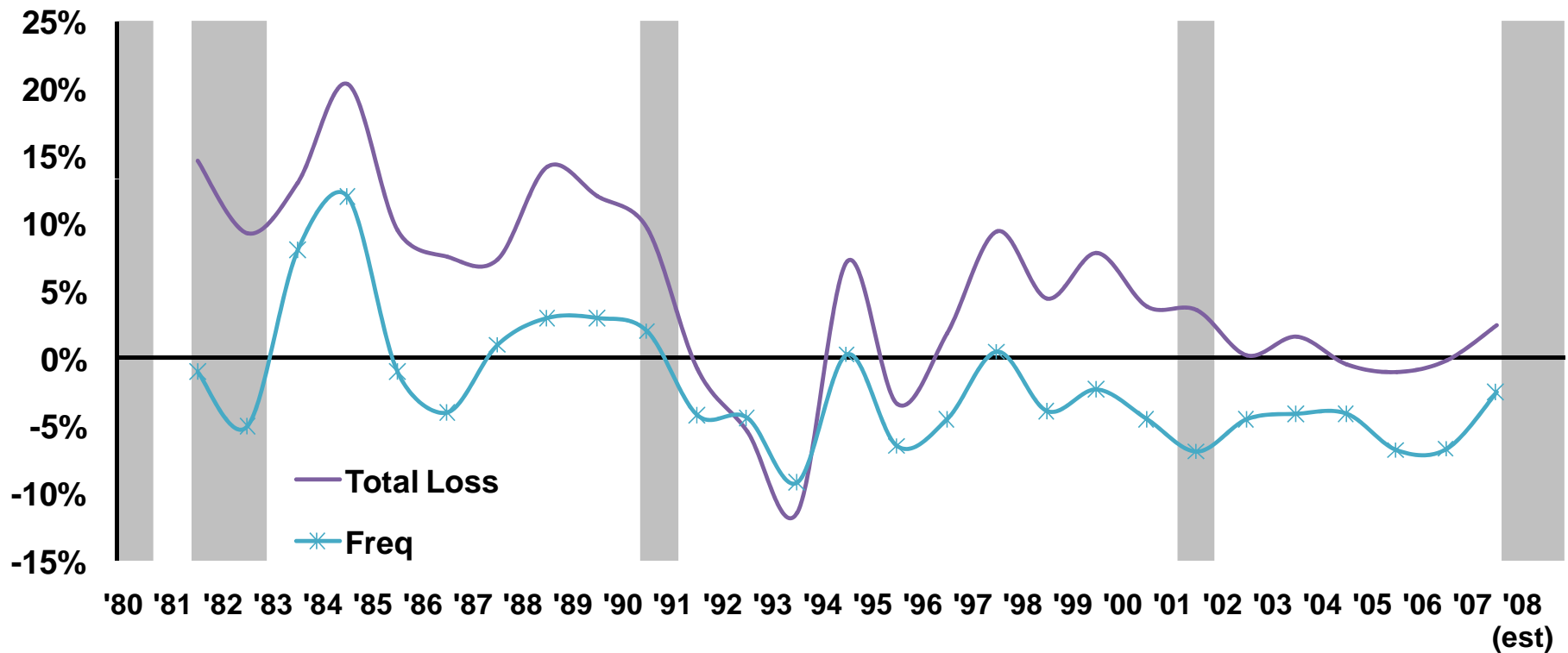


Source: NCCI

Frequency Changes → a Loss Cost Driver

WC Loss Cost (Frequency x Severity)

Percent Change—Lost-Time Claims

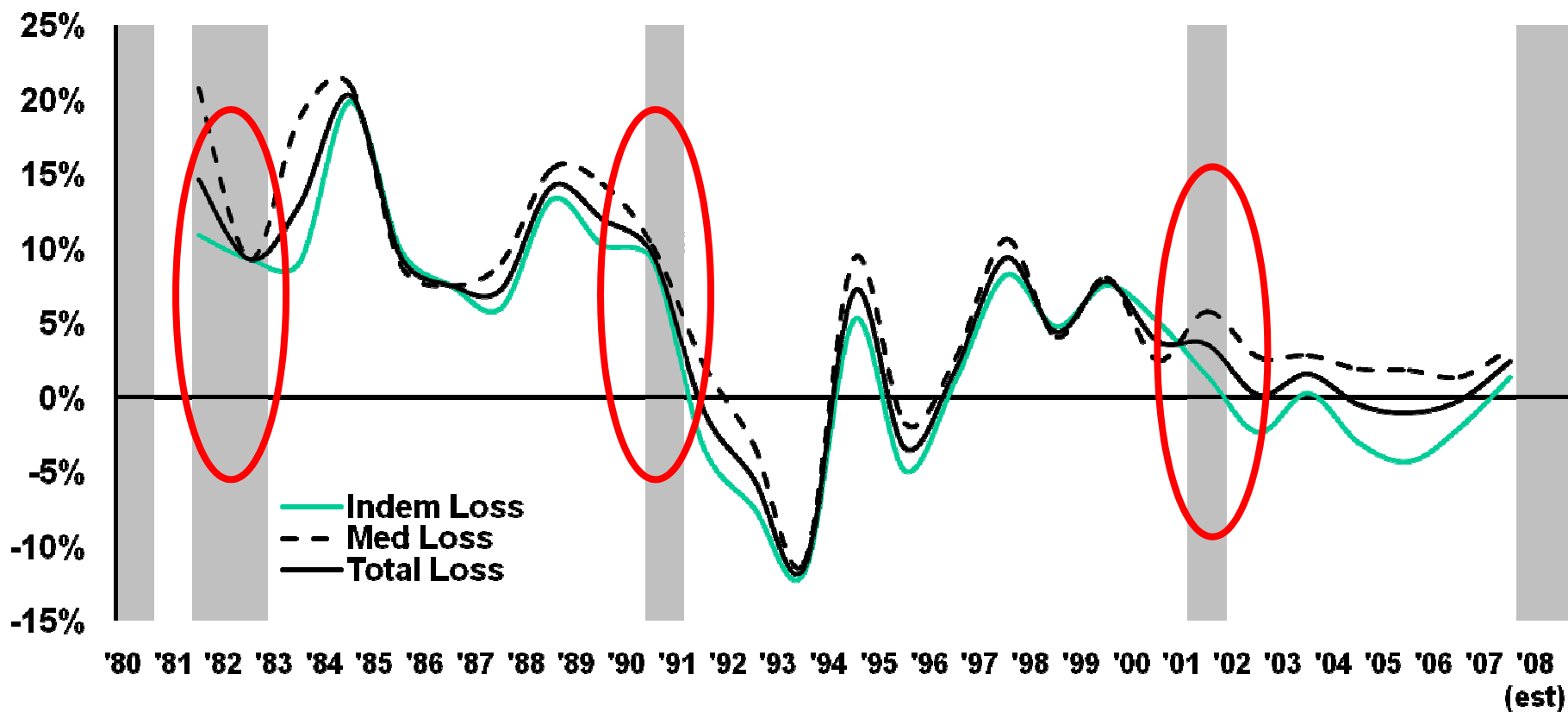


Source: NCCI

Growth Rates of Loss Cost Fall during Recessions

WC Loss Cost (Frequency x Severity)

Percent Change—Lost-Time Claims



Source: NCCI



Implications for Indemnity, Medical, and Total Loss Costs

Changes in the Growth Rates of Loss Costs

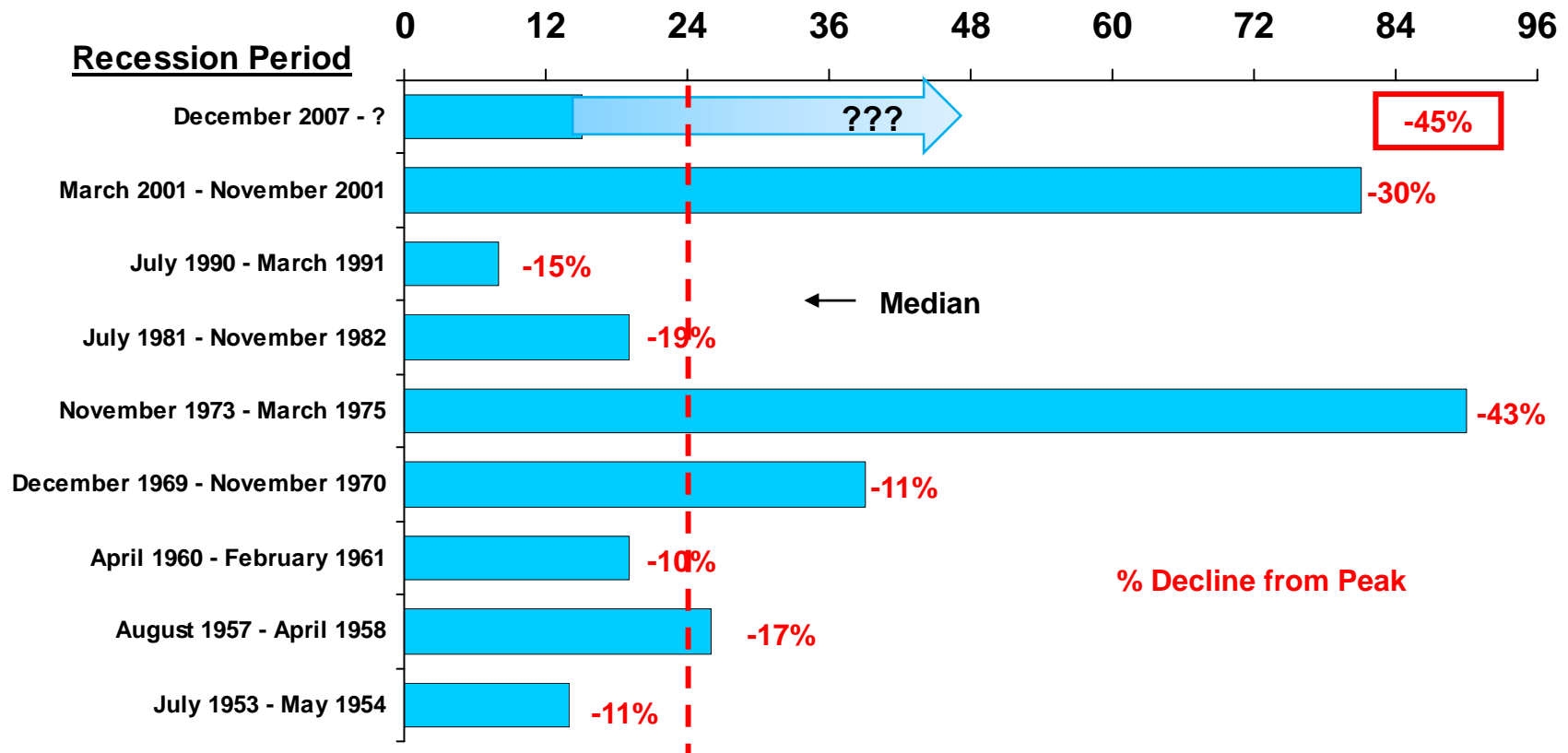
- Frequency is the Key Driver
- Indemnity and Medical Move Together

Focus on . . .

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

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



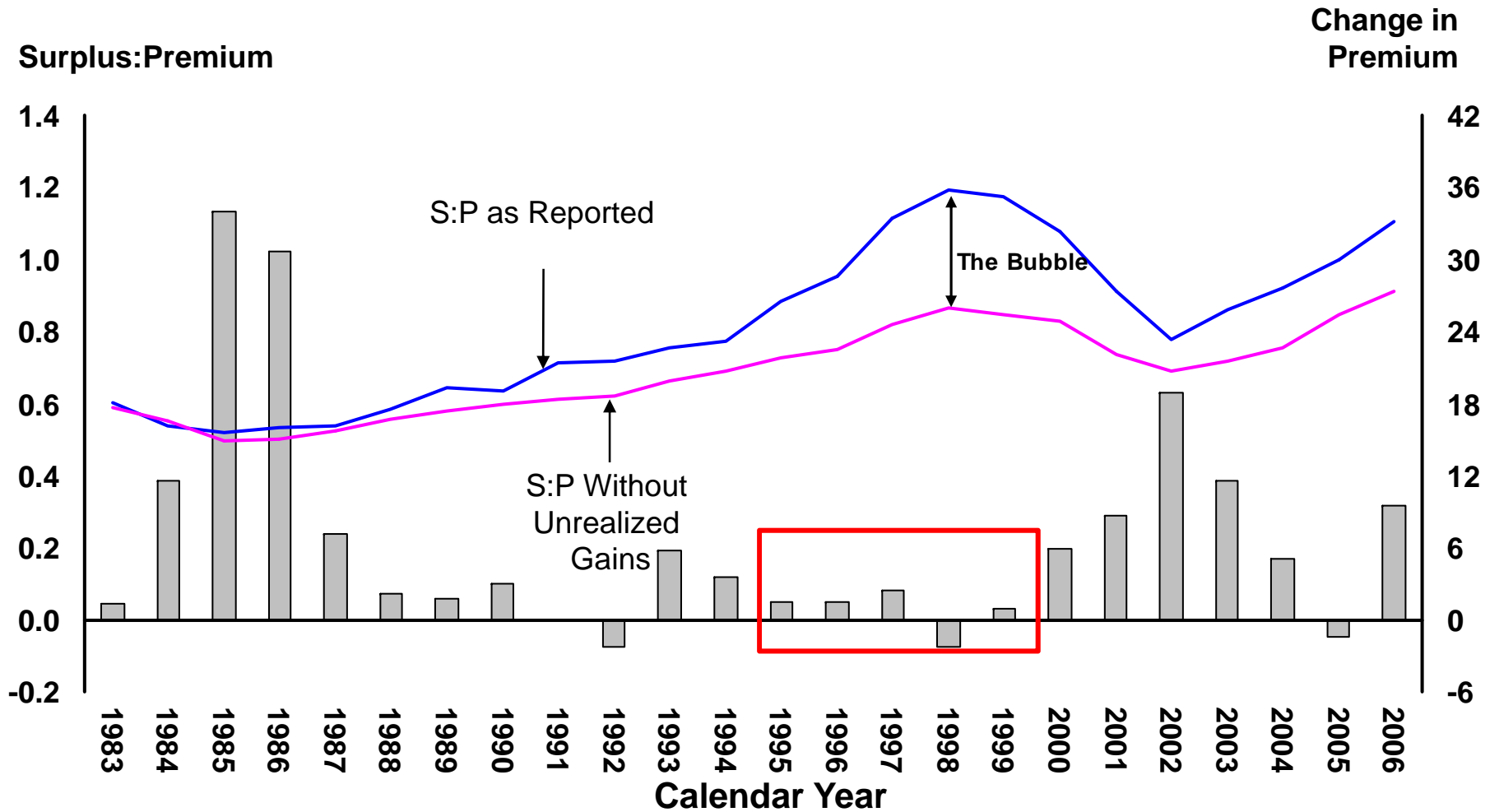
Anatomy of the Underwriting Cycle A Financial Economics Perspective

Greenspan's Stock Market "Exuberance" in the
1990s

and

Investment and Insurance Market Cycles

Did the Stock Market Bubble Impact Underwriting Practices?



Source: Best's Aggregates & Averages

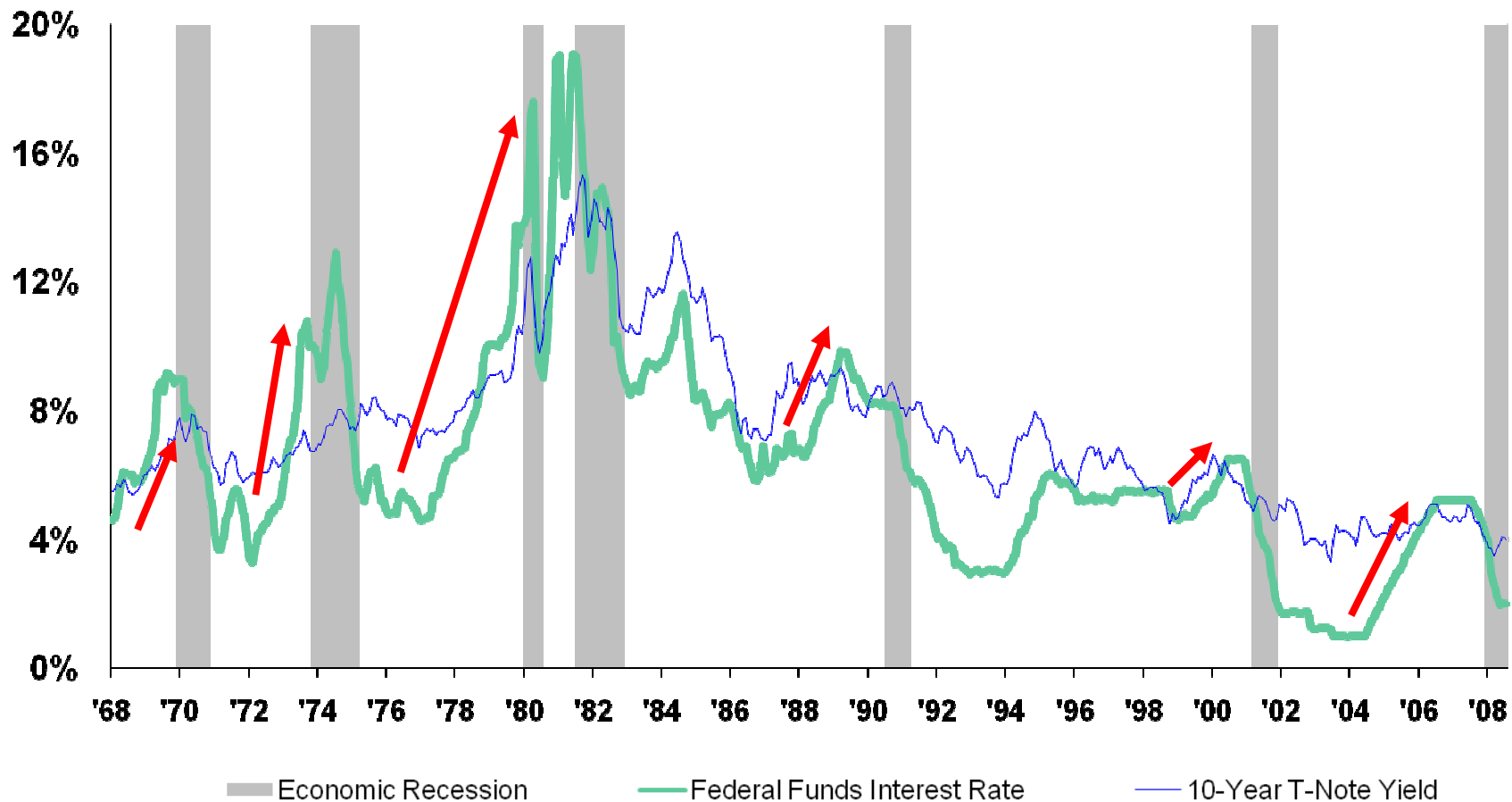


Anatomy of the Underwriting Cycle A Financial Economics Perspective

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

Percent

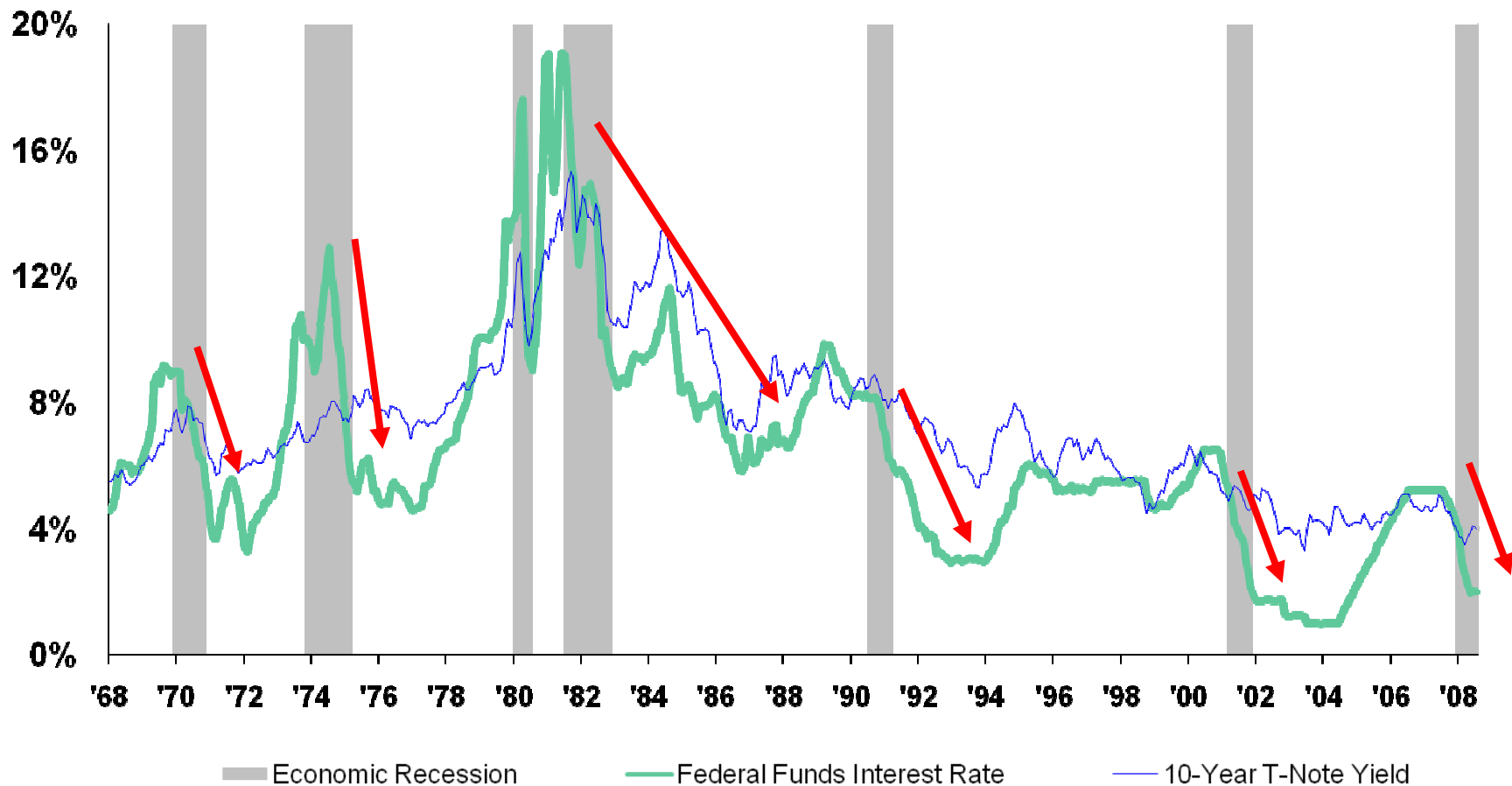


Source: Board of Governors of the Federal Reserve System

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

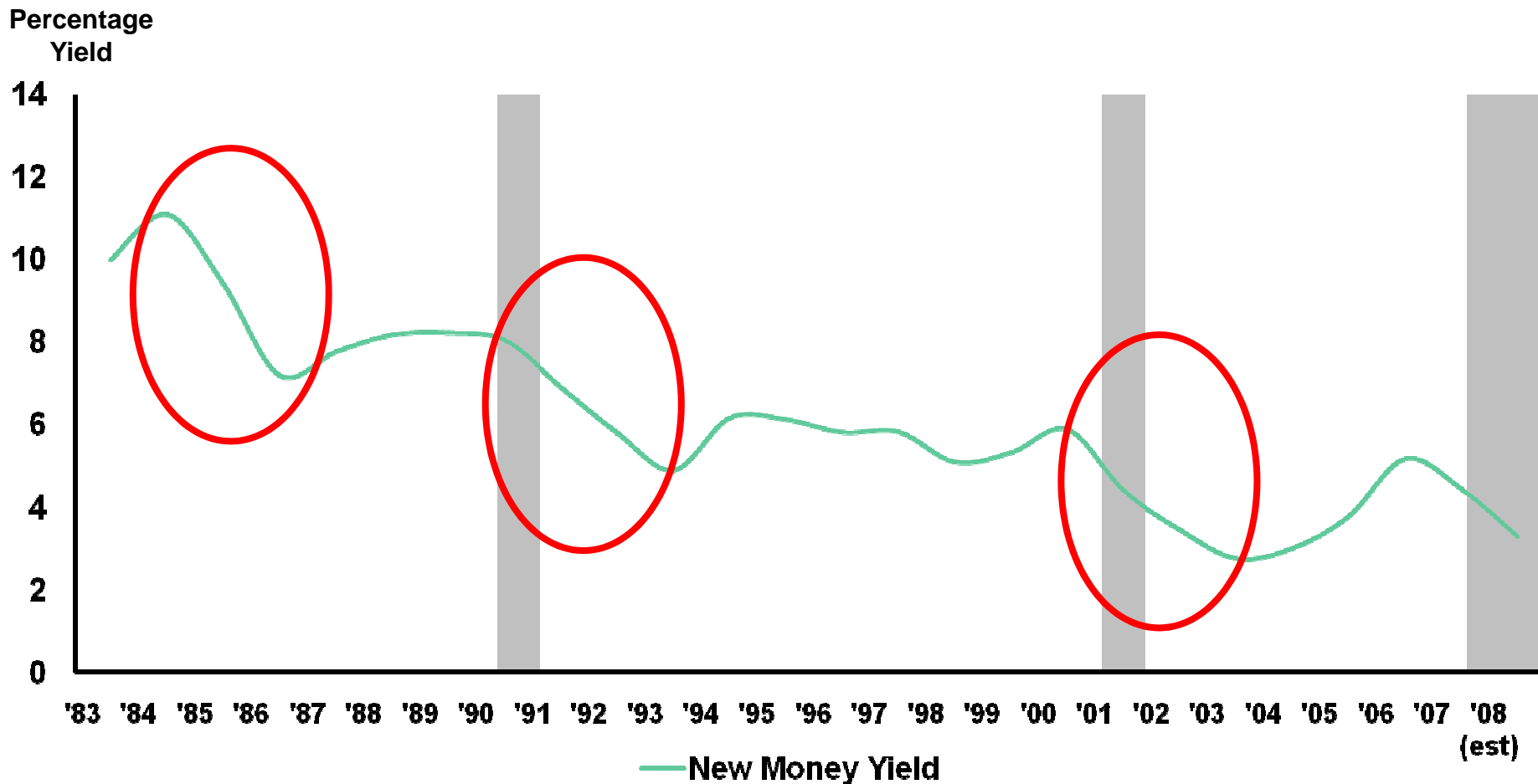
Percent



Source: Board of Governors of the Federal Reserve System

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



Source: NCCI

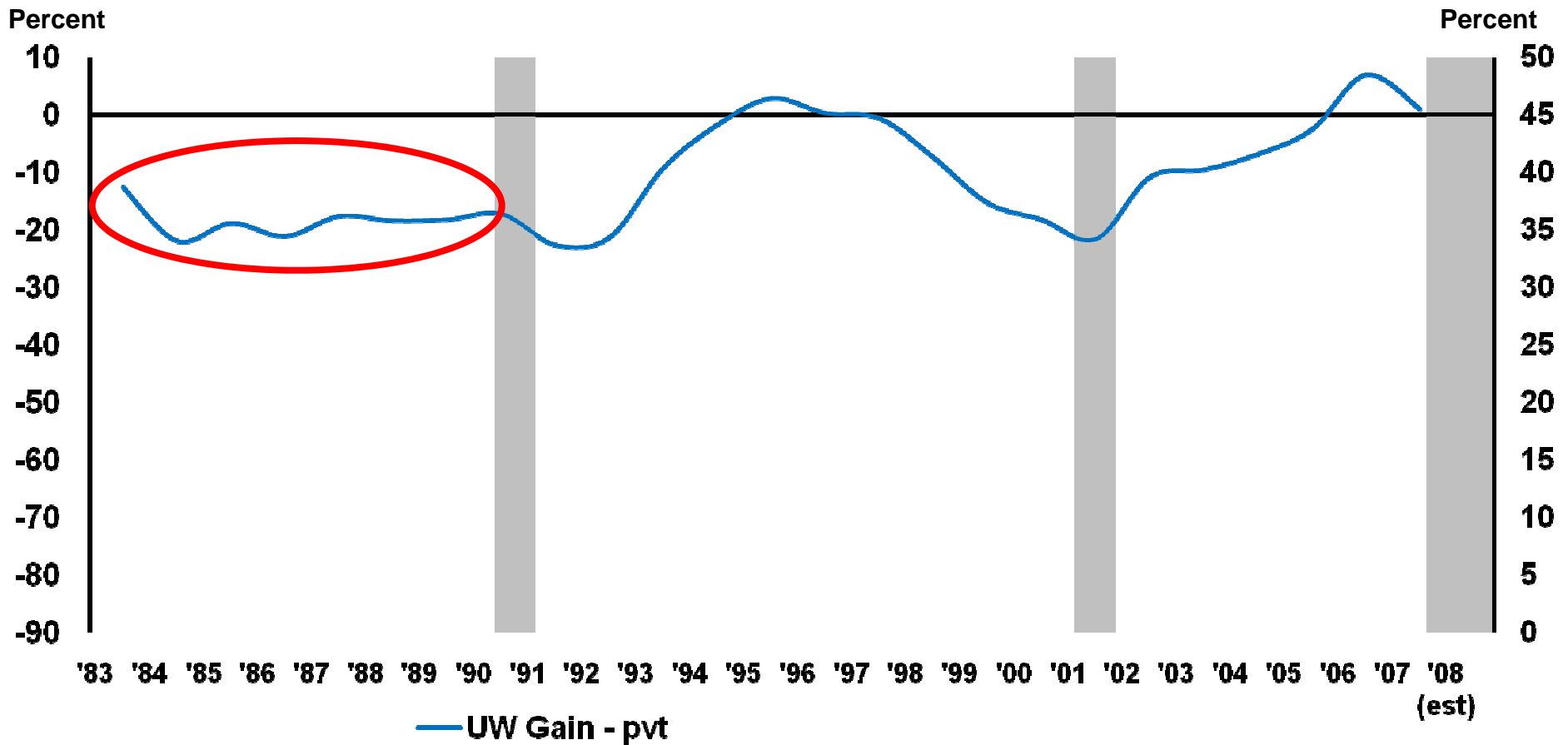


Anatomy of the Underwriting Cycle

A Financial Economics Perspective

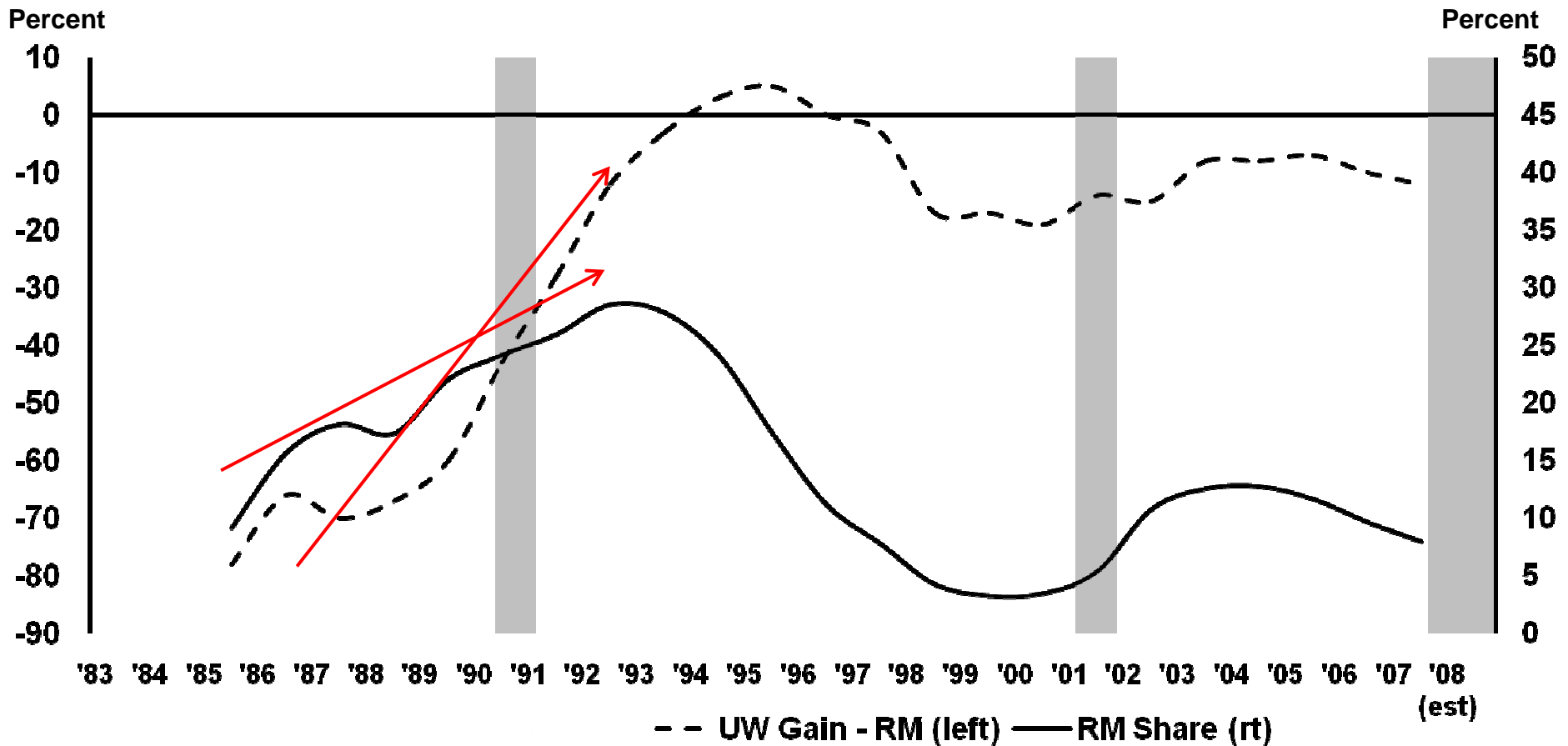
The WC Insurance Market in the 1980s:
Private Carriers and the Residual Market

During the 1980s the Private Market Experienced Material UW Losses



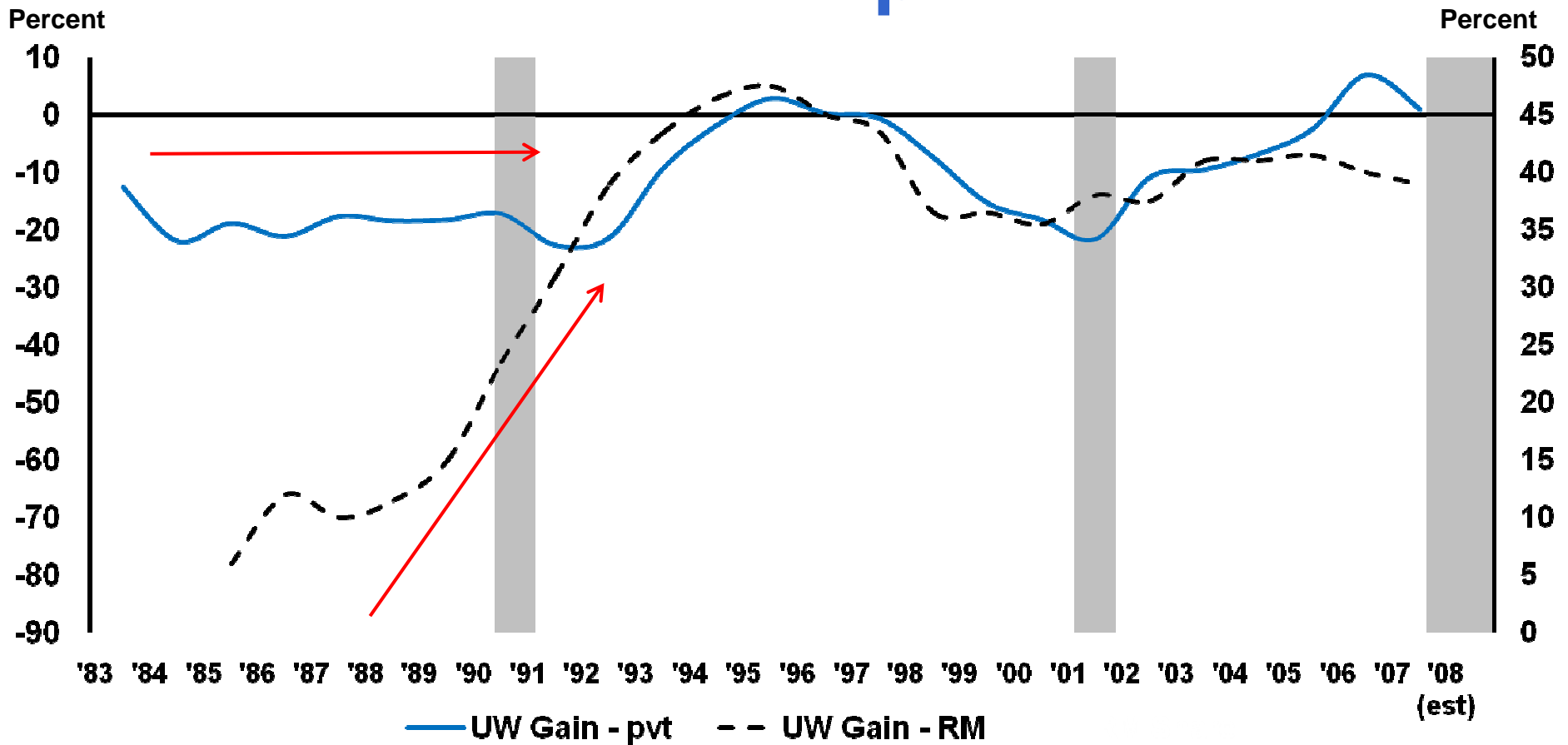
Source: NCCI

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



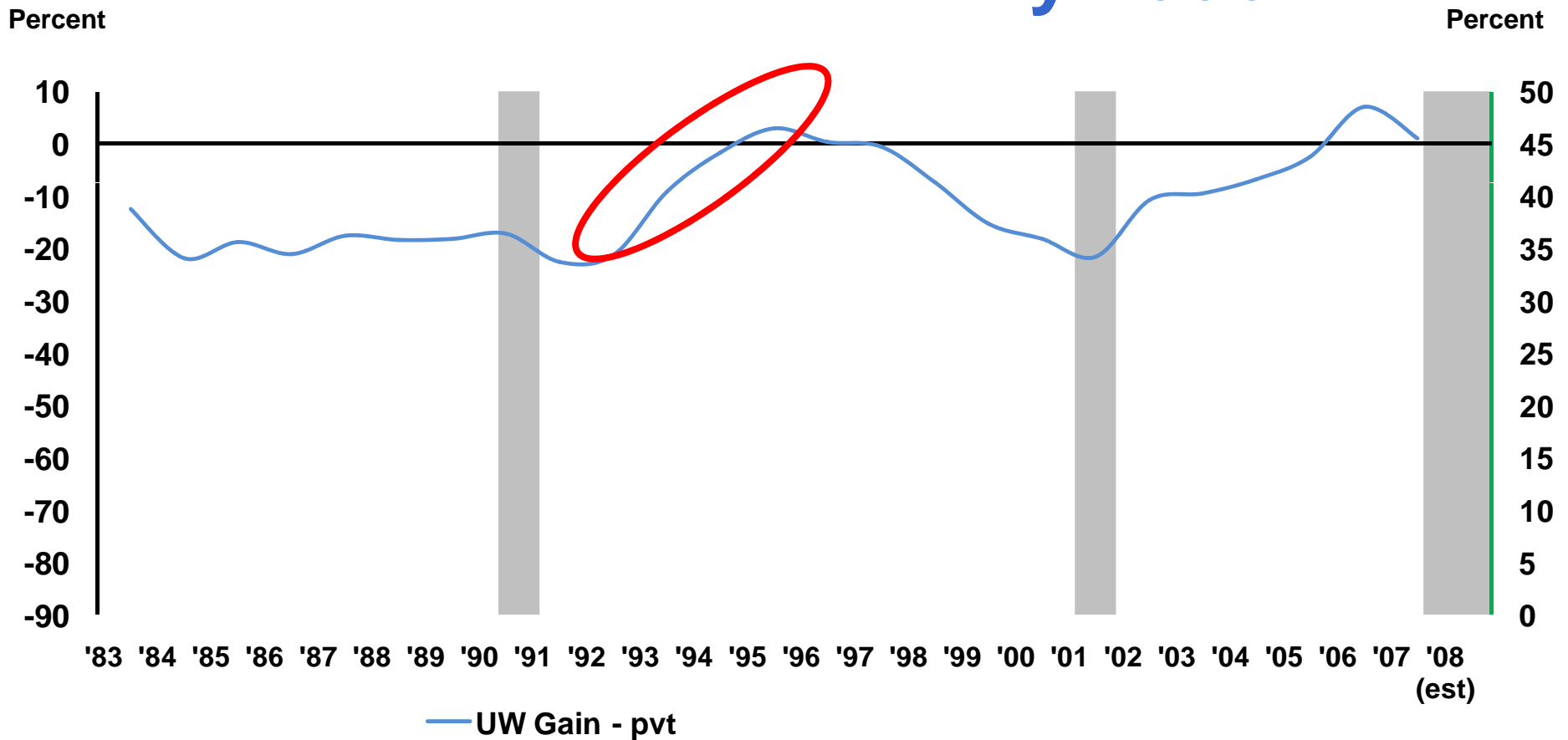
Source: NCCI



Anatomy of the Underwriting Cycle A Financial Economics Perspective

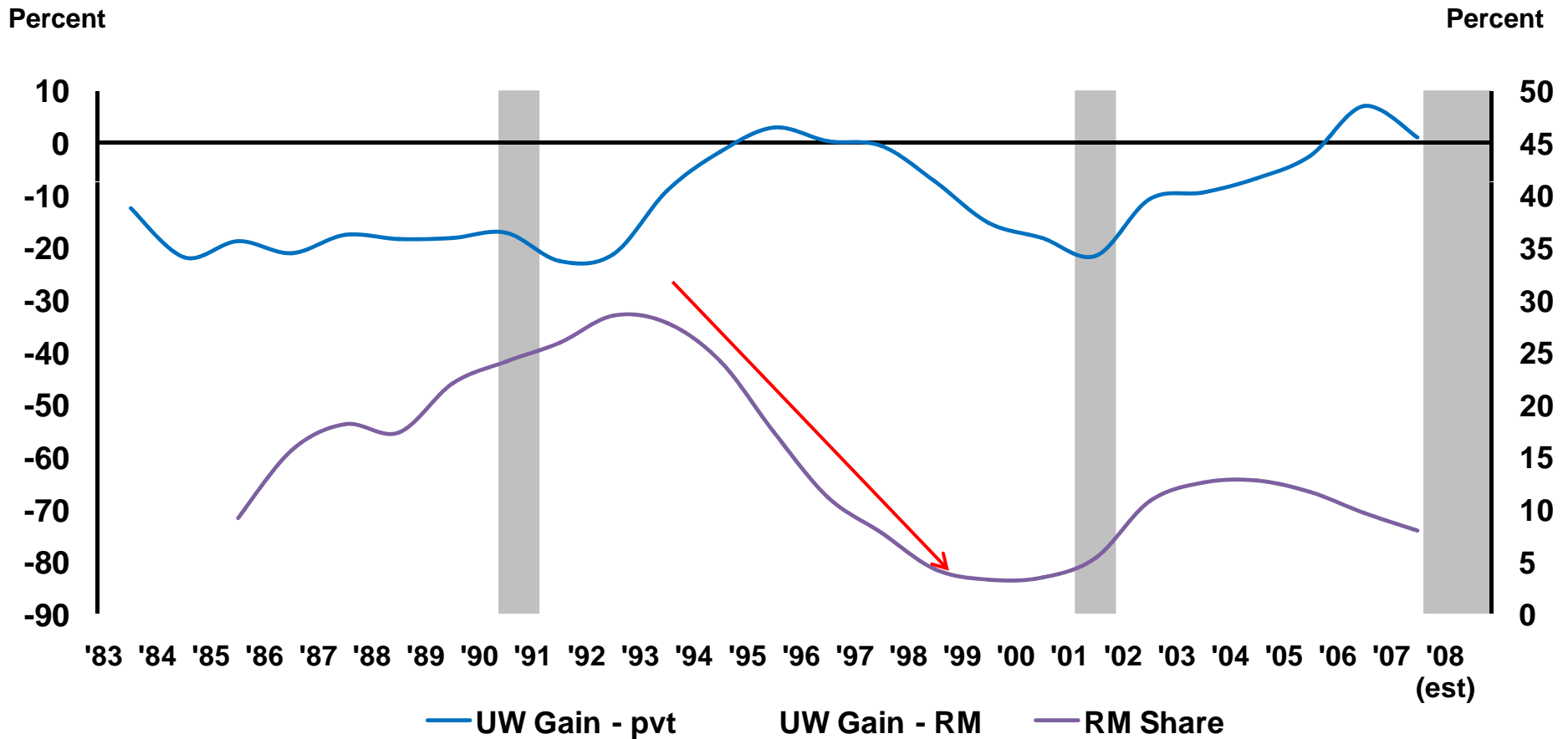
The WC Insurance Market
after the Reforms of the Early 1990s

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



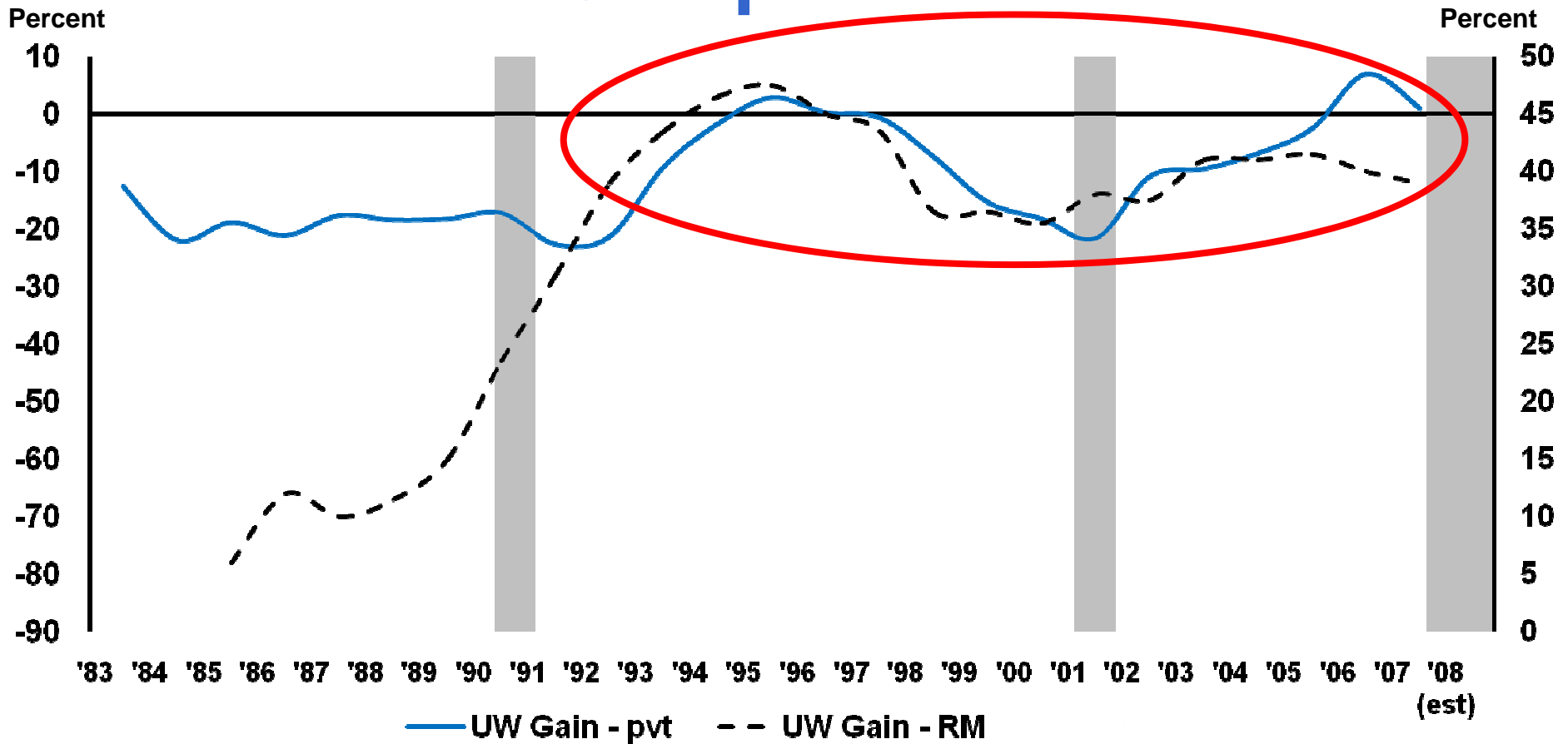
Source: NCCI

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



Source: NCCI

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



Source: NCCI



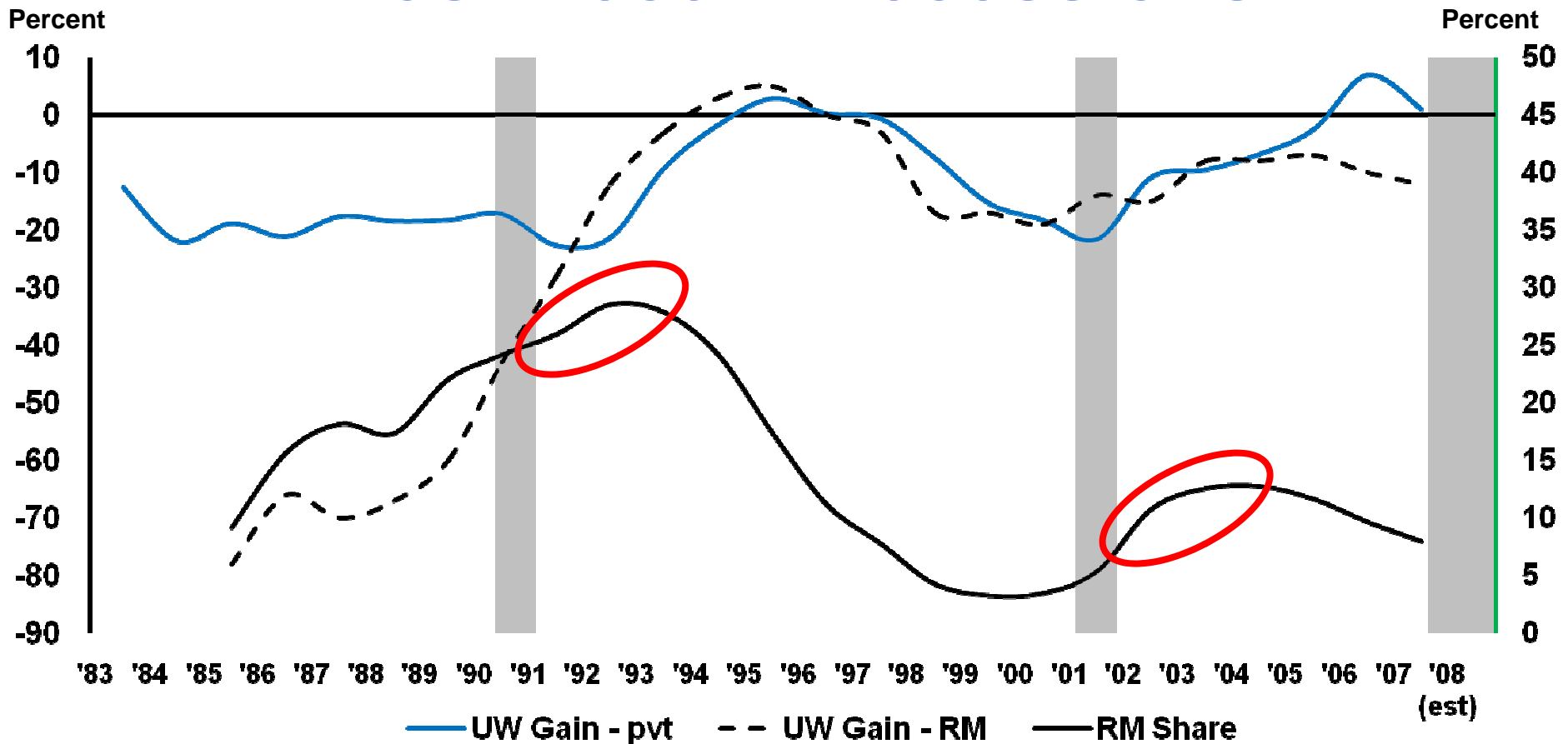
Anatomy of the Underwriting Cycle

A Financial Economics Perspective

The Residual Market in Recent Years

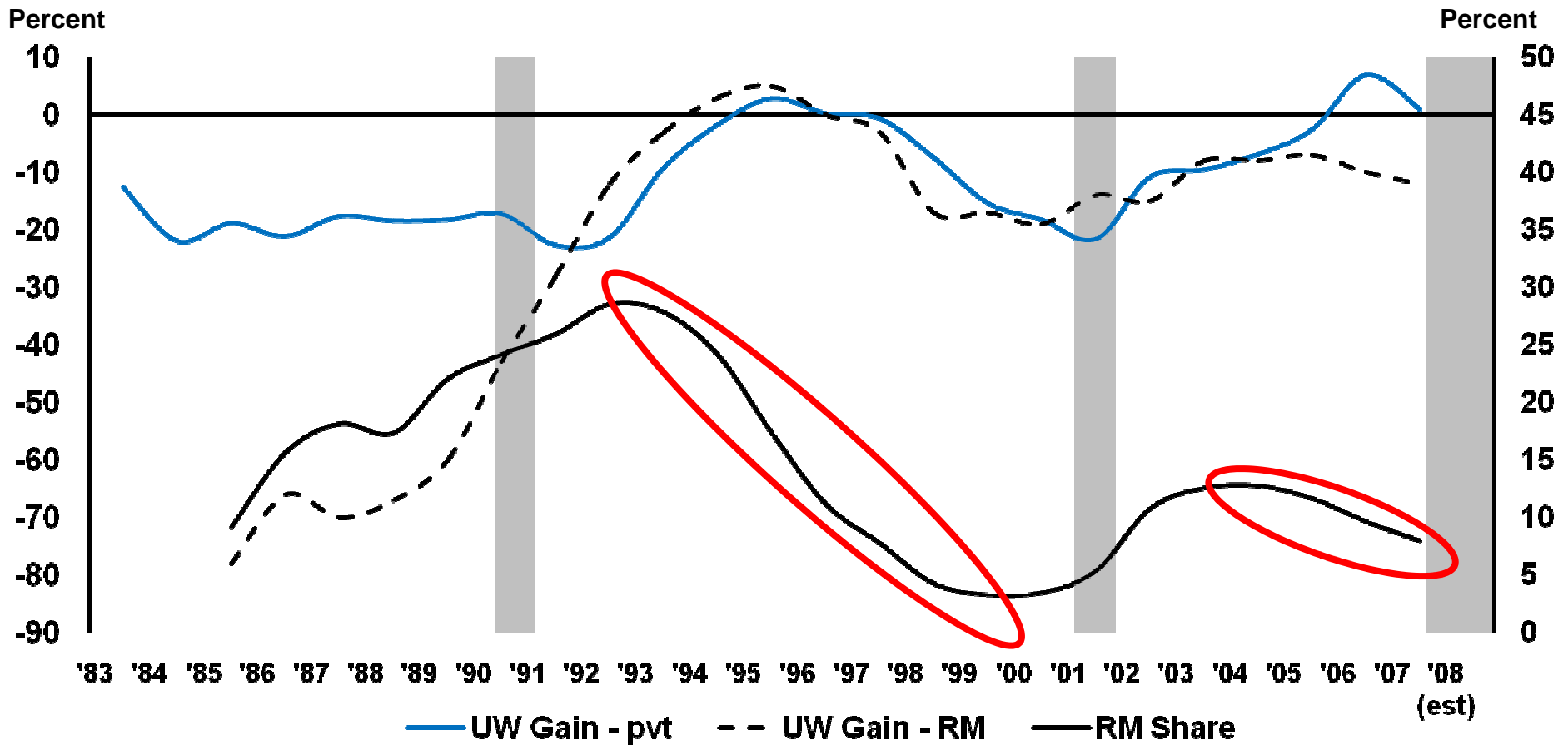
The Underwriting and Business Cycles

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



Source: NCCI

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



Source: NCCI

The Business Cycle and Workers Compensation

Economic Factors and the Residual Market - History Is Mixed

- In the 1980s – RM 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