

# Economic Advisory Panel Meeting November 5, 2010

**Agenda:**

**Overview of Forecast and Risks  
(Dick Peach and Simon Potter)**

**Go-round on Monetary Policy**



# Forecast Overview

Dick Peach



# FRBNY Outlook

November '10

(May '10)

<u>Q4/Q4 growth rate</u>	2009	2010	2011	2012
GDP	0.2 (0.1)	2.3 (3.0)	4.0 (4.3)	4.5
Core PCE Inflation	1.7 (1.5)	1.0 (0.9)	1.2 (1.4)	1.6
Unemployment (End of Period Level)	10.0 (10.0)	9.9 (10.1)	8.3 (8.4)	7.0
Personal Saving Rate (End of Period Level)	5.5 (3.9)	5.0 (3.3)	5.8 (4.8)	6.4

# FRBNY Outlook

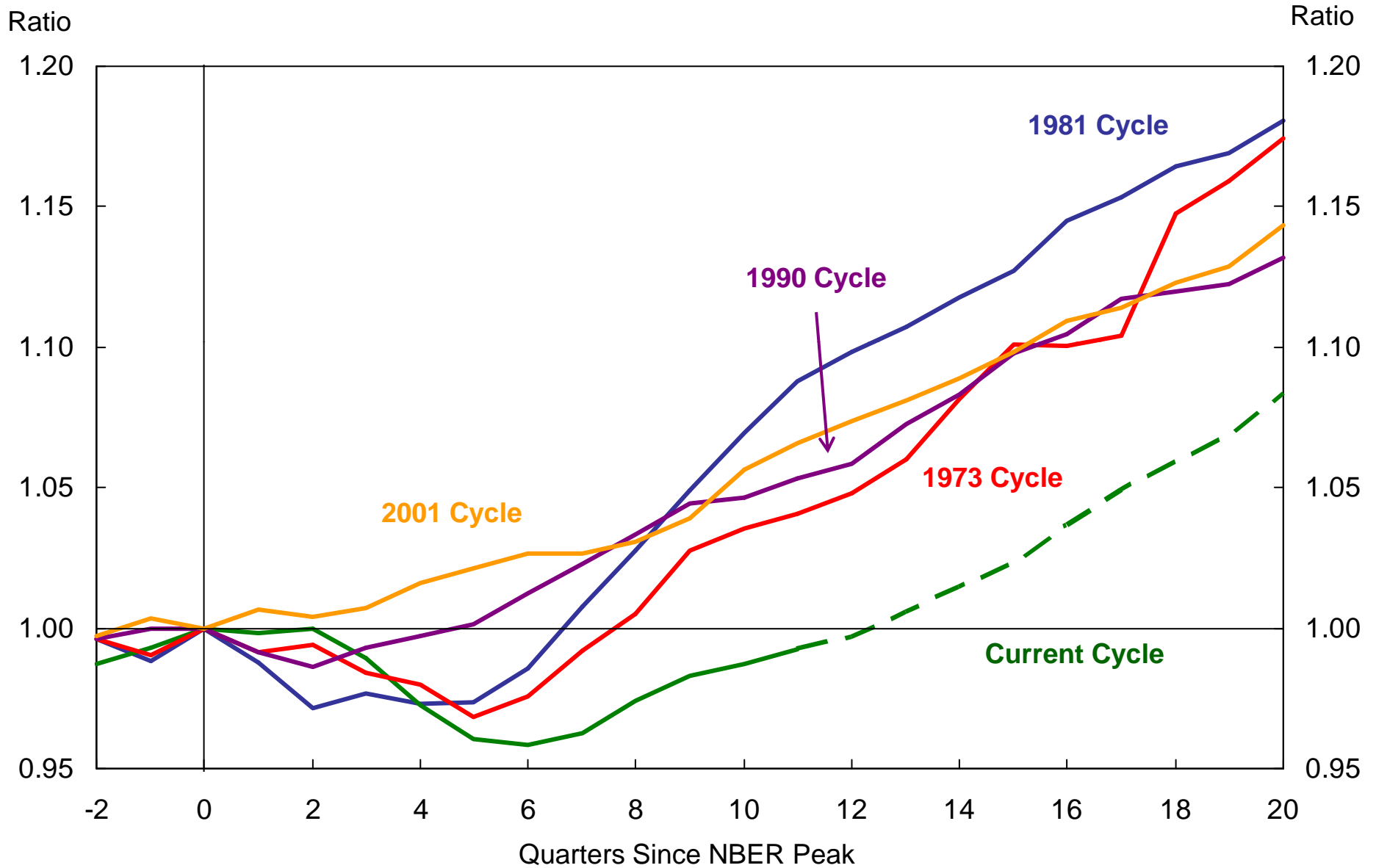
November '10

(May '10)

<u>Q4/Q4 growth rate</u>	2009	2010	2011	2012
GDP	0.2 (0.1)	2.3 (3.0)	4.0 (4.1)	4.5
Consumption	0.2 (1.0)	2.2 (2.8)	2.6 (2.7)	3.4
Residential Investment	-13.4 (-12.6)	-8.2 (-1.4)	21.2 (21.7)	20.0
Business Fixed Investment	-12.7 (-14.1)	10.1 (6.6)	7.6 (11.8)	9.4
Inventory Investment (Growth Contributions)	0.5 (0.1)	0.8 (0.5)	0.2 (0.2)	0.3
Net Exports (Growth Contributions)	1.2 (1.0)	-1.1 (-0.2)	0.5 (0.0)	0.4

# Level of Real GDP

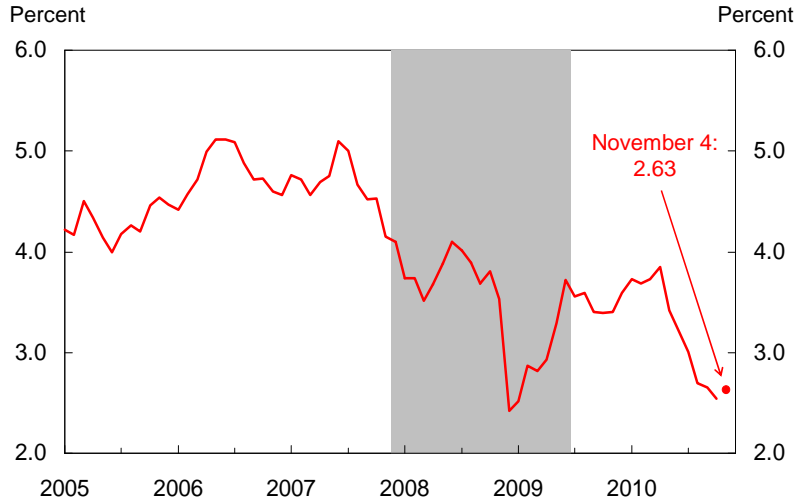
(Series Set to 1.00 at NBER Peak)



Source: Bureau of Economic Analysis

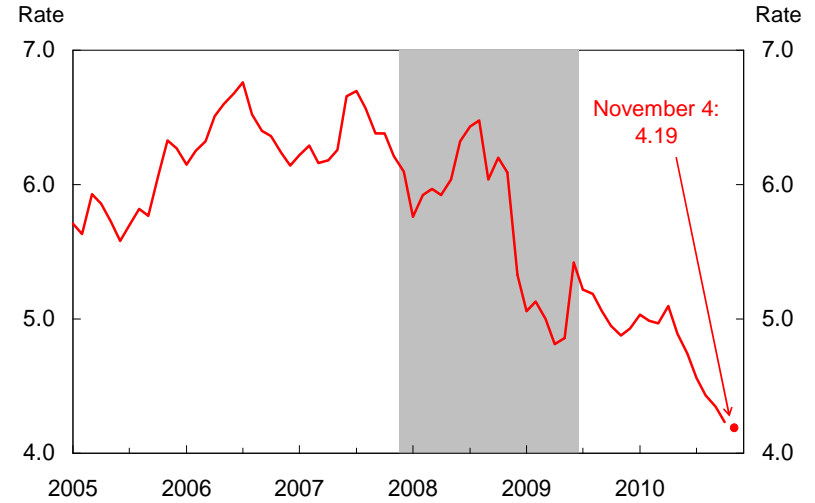
# A General Improvement in Financial Conditions

10-Year Treasury Note



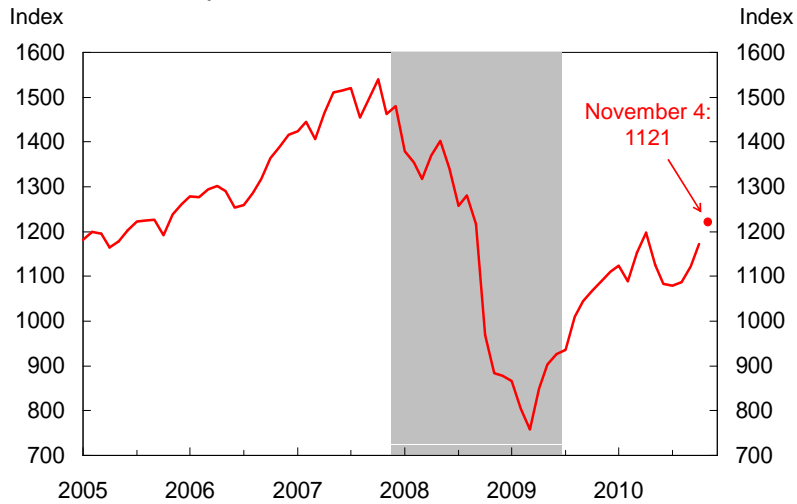
Source: Federal Reserve Board

30-Year Conforming Mortgage



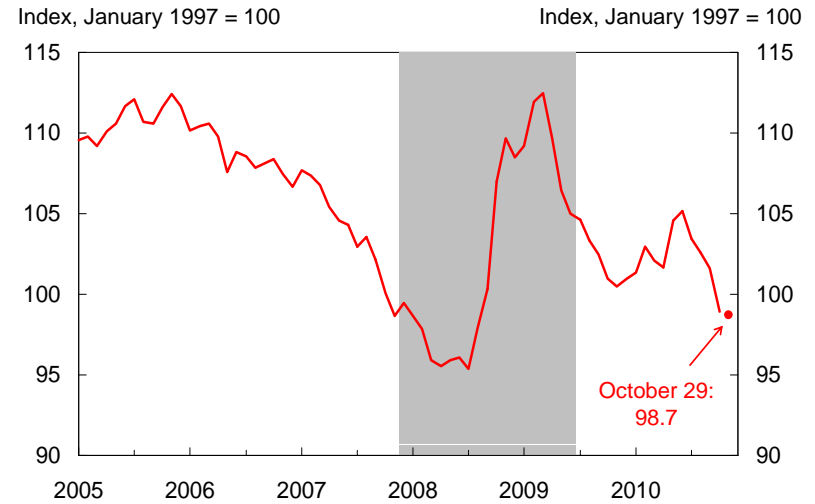
Source: Federal Reserve Board

S&P 500 Composite



Source: Wall Street Journal

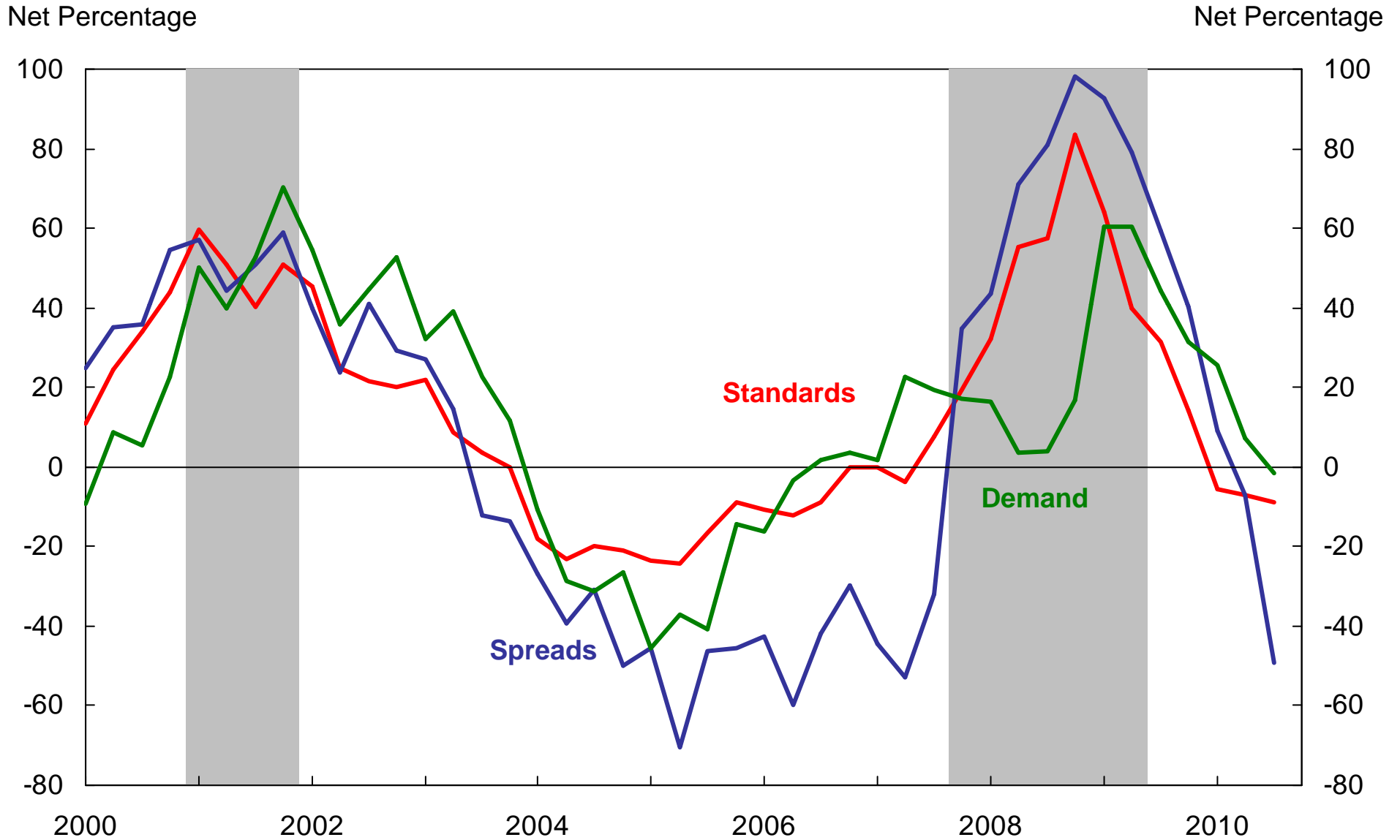
Nominal Broad Dollar



Source: Federal Reserve Board

Note: Trade-Weighted.

# Banks Tightening Terms and Standards for Business Loans to Large and Mid-Sized Firms

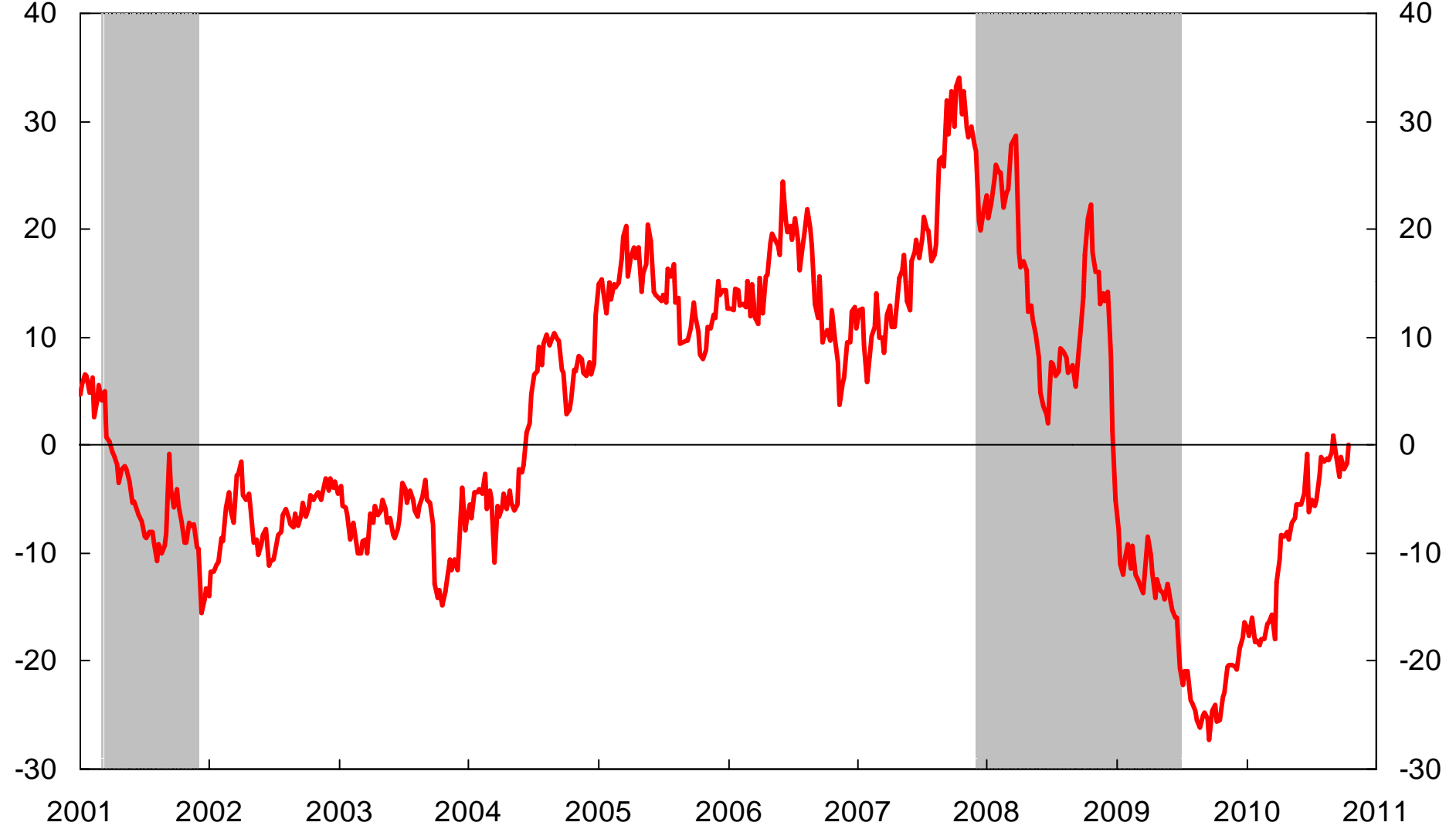


Source: FRB Senior Loan Officer Opinion Survey

# C&I Loans: All Commercial Banks

% Change – 13-week AR

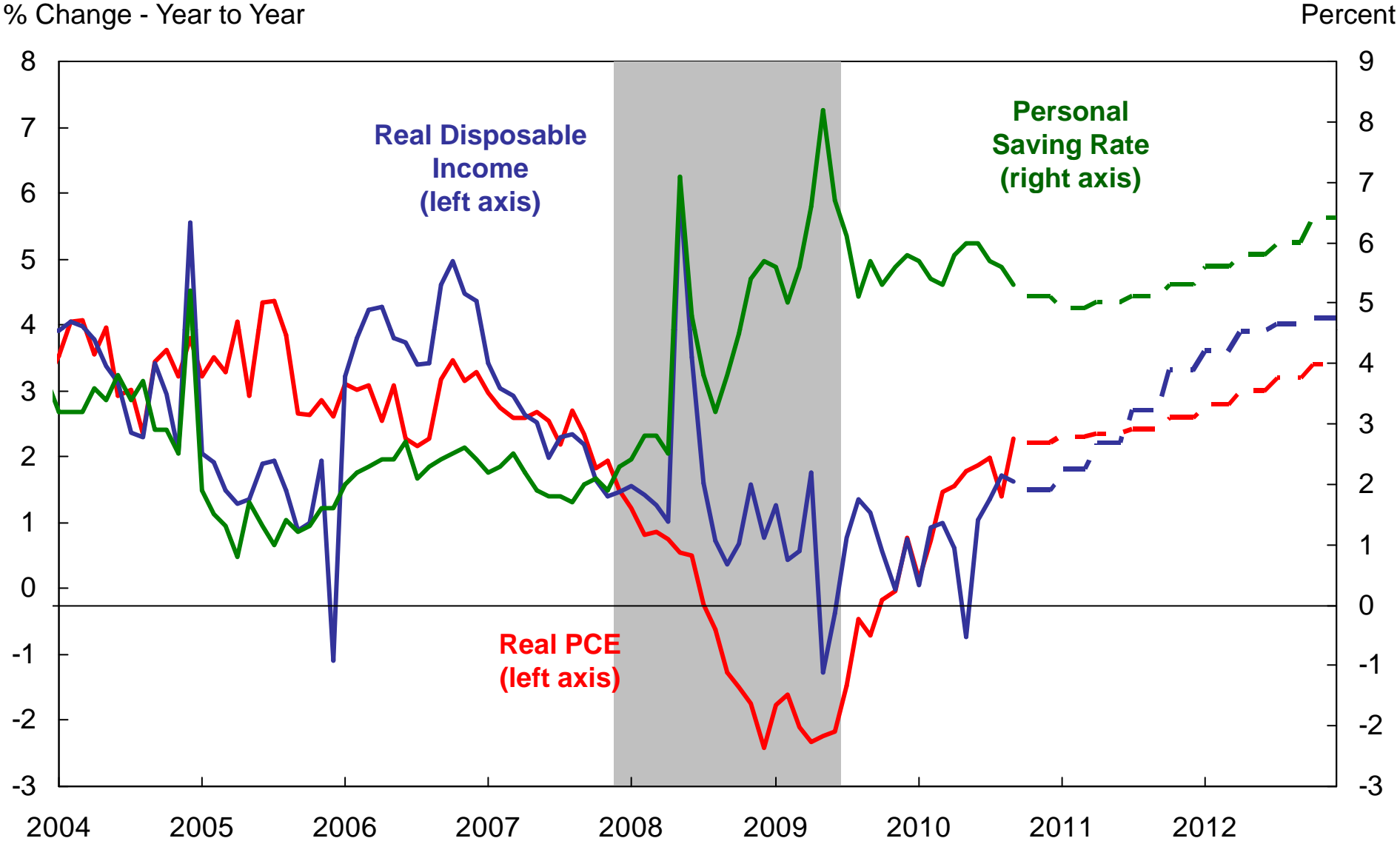
% Change – 13-week AR



Source: Federal Reserve Board

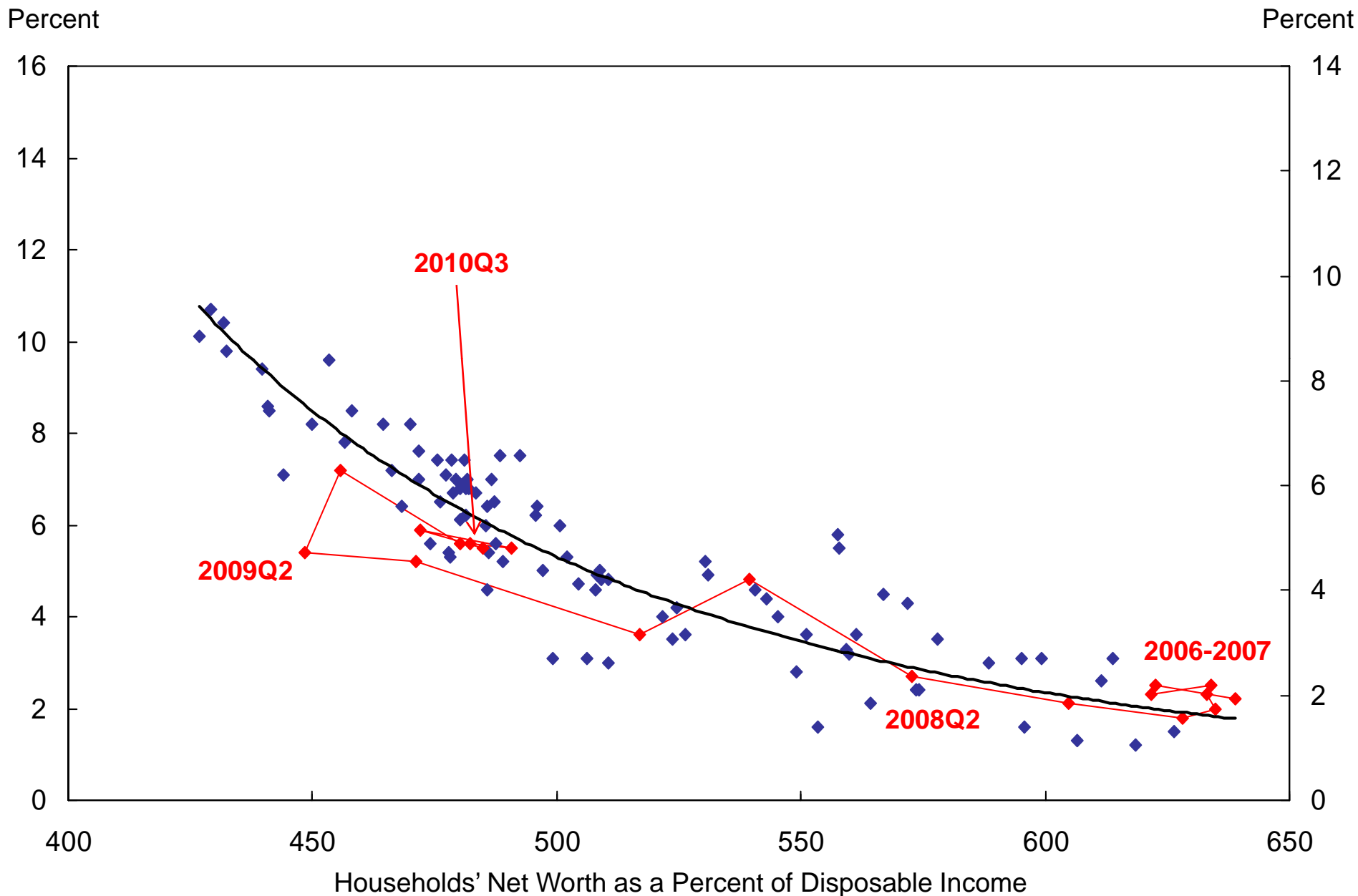


# Real PCE, Disposable Income and Personal Saving Rate



Source: Bureau of Economic Analysis

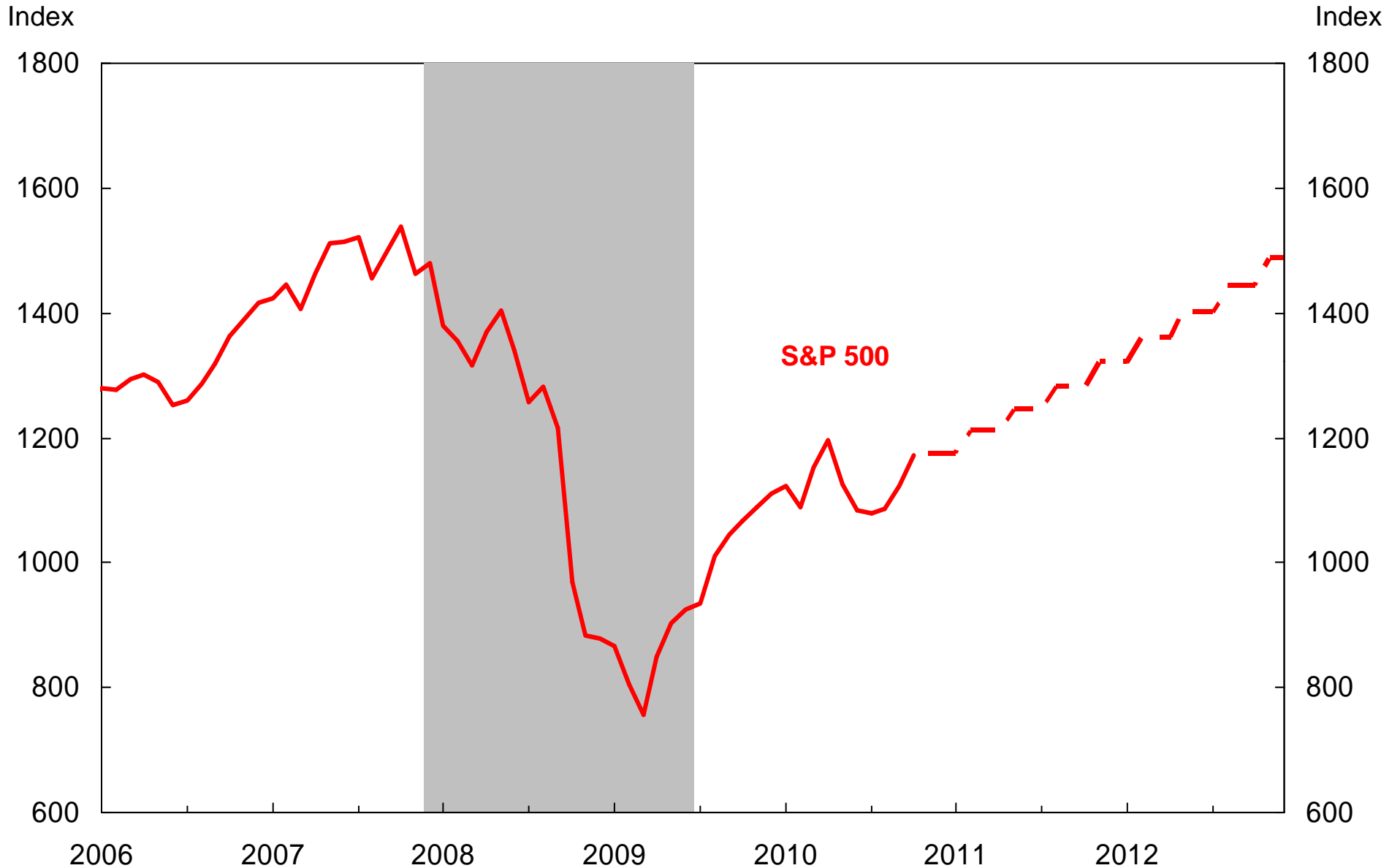
# Personal Saving Rate and Household Net Worth



Source: Bureau of Economic Analysis and Federal Reserve Board

Note: Fitted line is from 1983Q1 to 2005Q4.

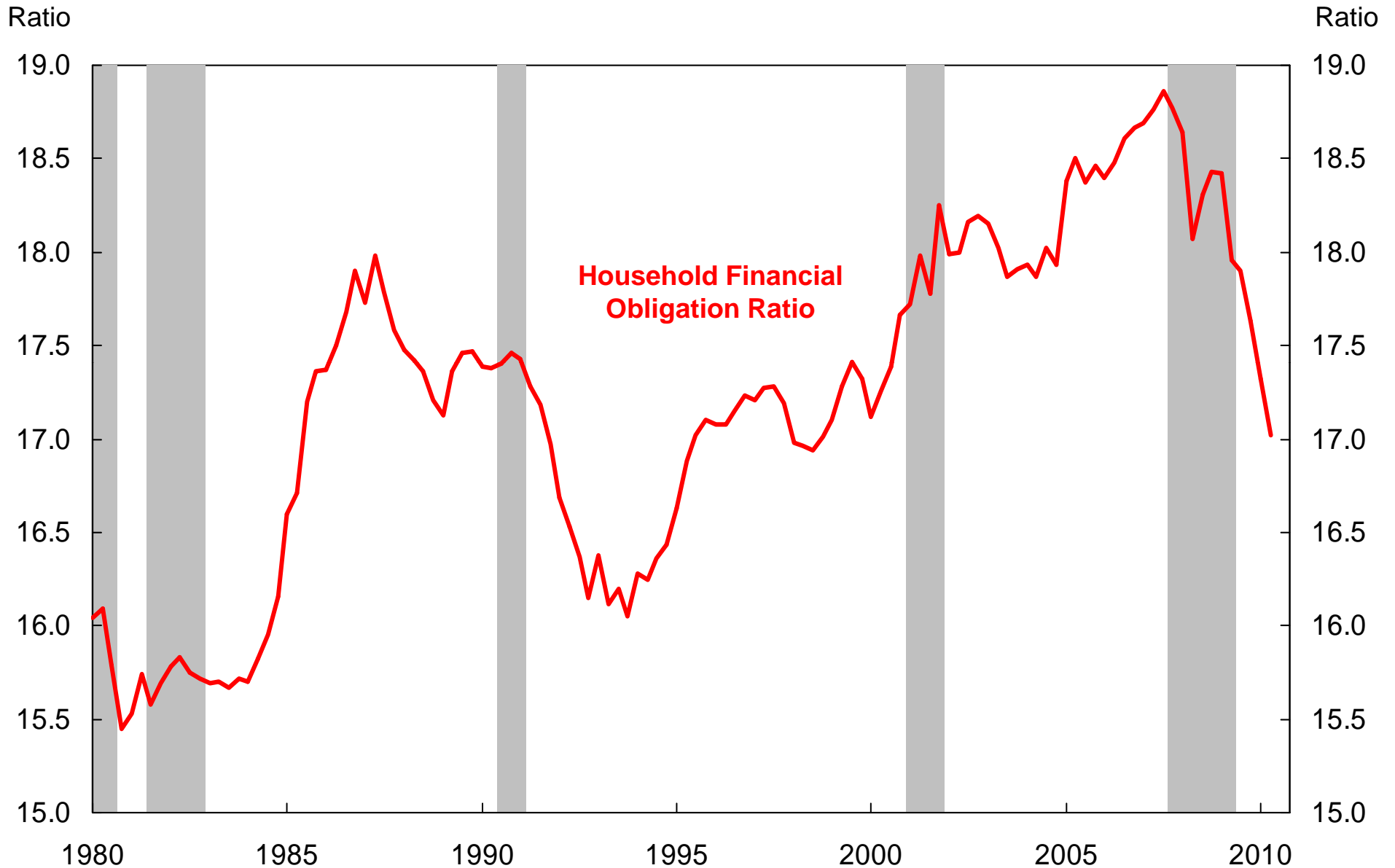
# Equity Price Assumption



Note: Wall Street Journal and FRBNY

Note: Dashed line represents FRBNY assumption.

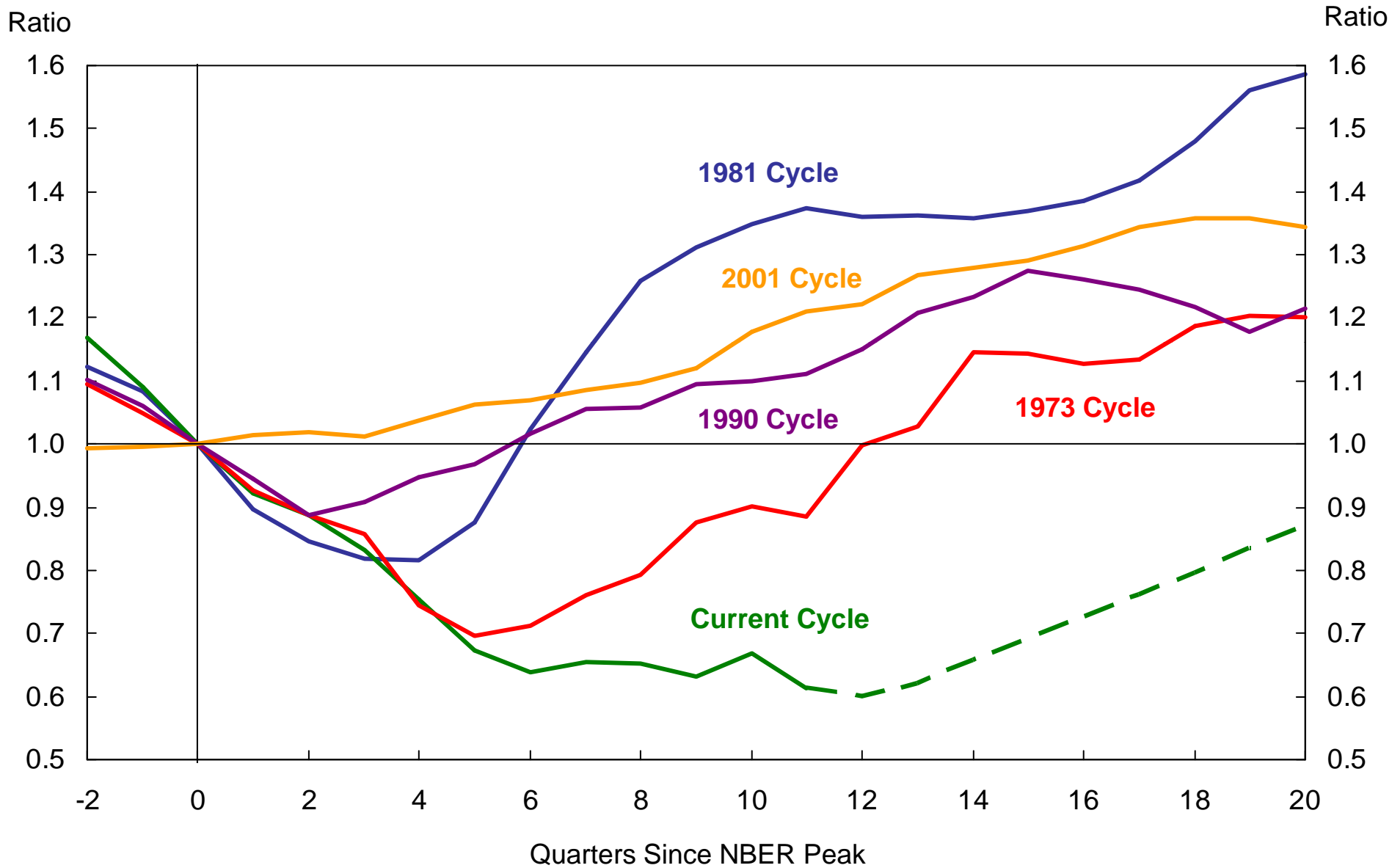
# Household Financial Obligation Ratio



Source: Federal Reserve Board

# Real Residential Investment

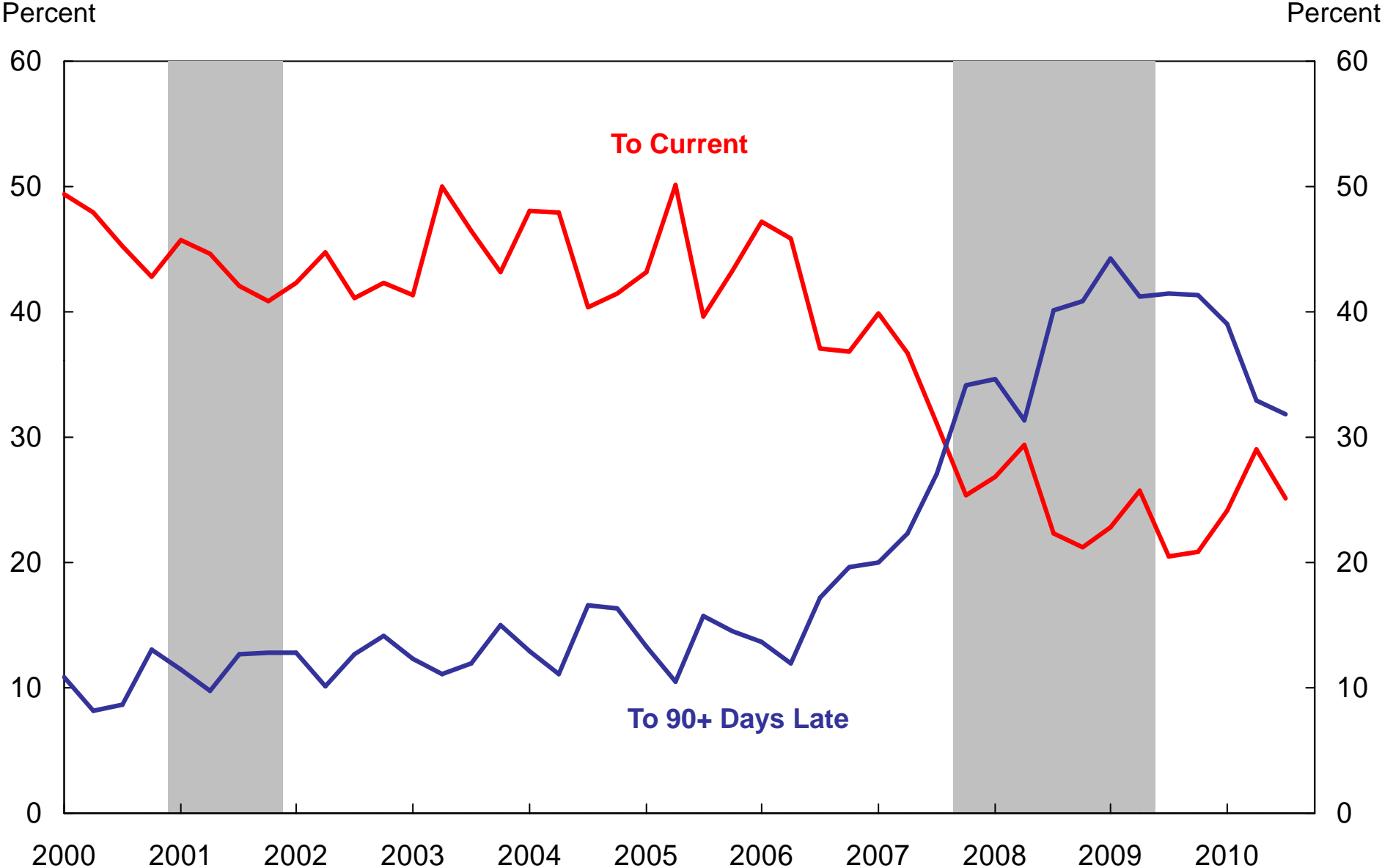
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Economic Analysis

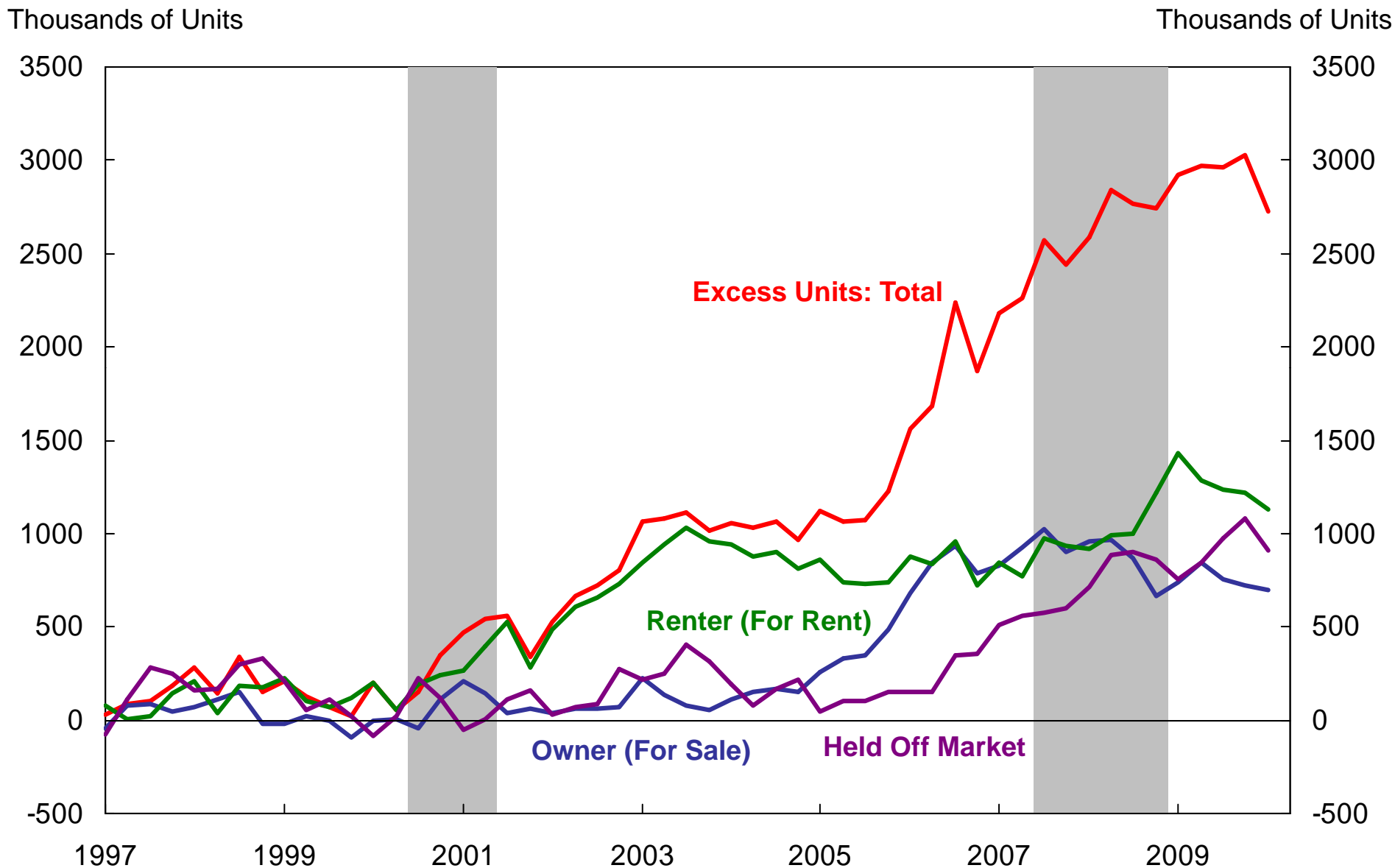
Note: Dashed line represents FRBNY forecast.

# Transition of Mortgage Accounts from 30-60 Days Late



Source: FRBNY Equifax Panel Dataset

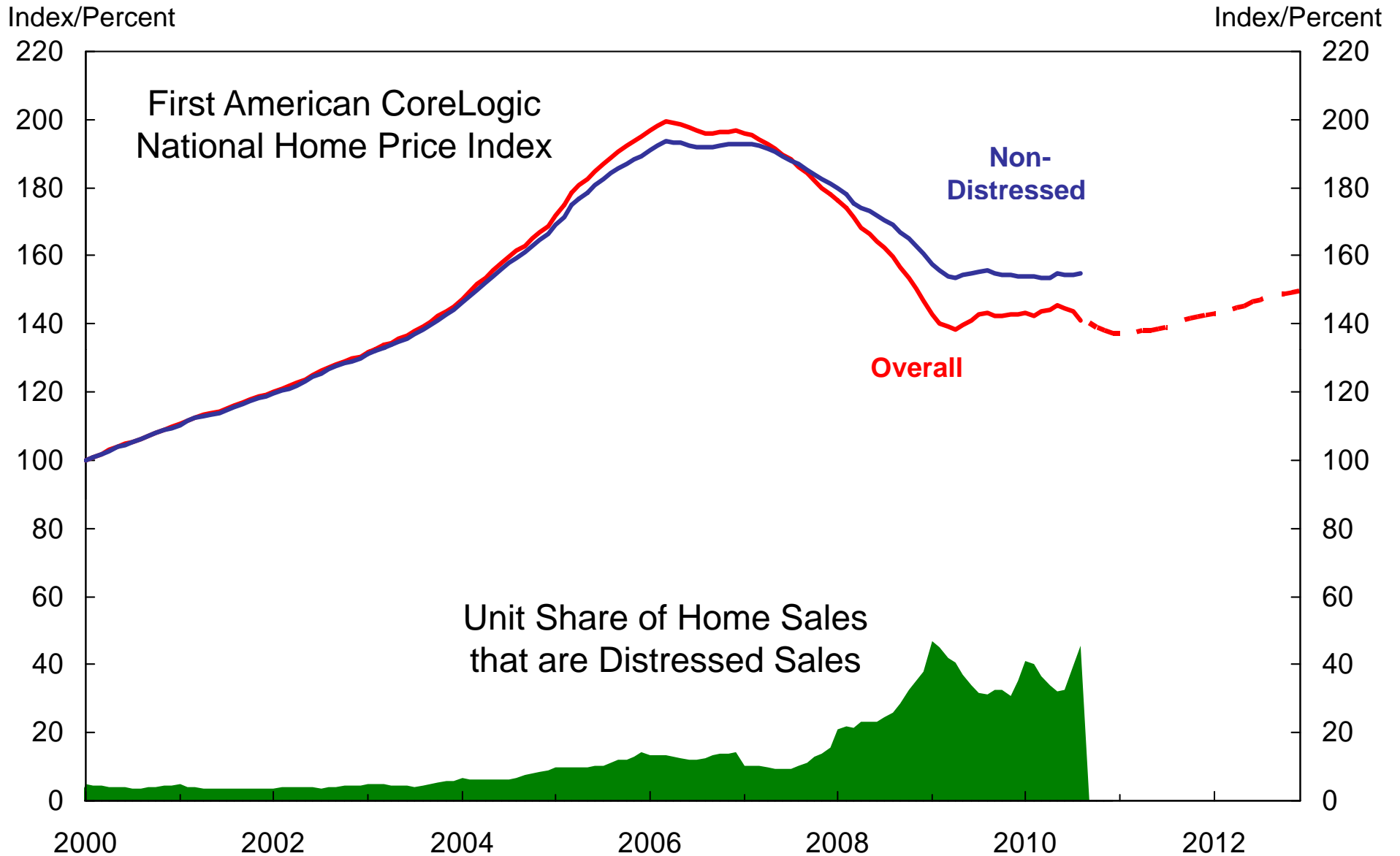
# Excess Supply of Housing



Source: Federal Reserve Board

Note: Shading represents NBER recessions.

# Home Prices and Distressed Sales

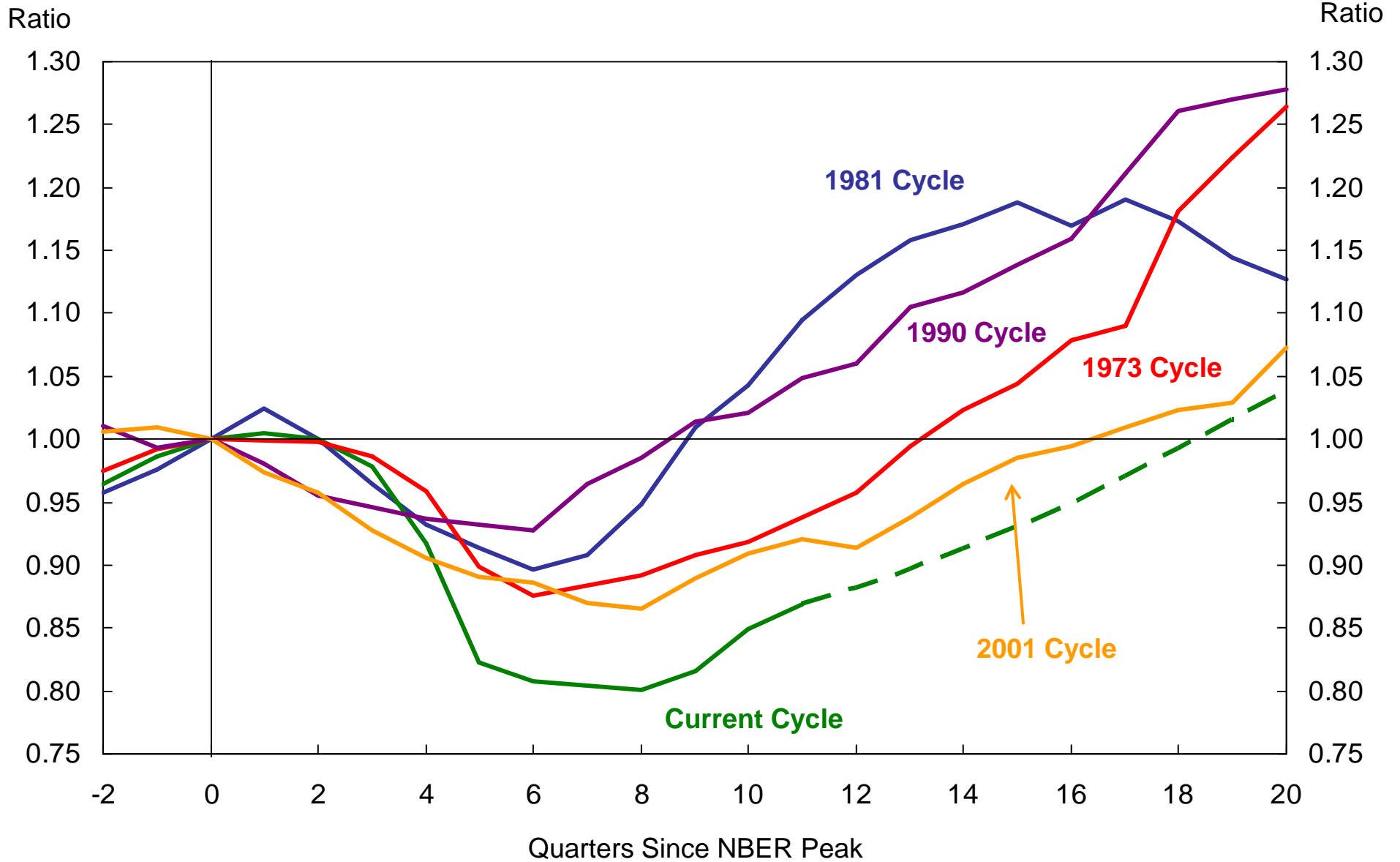


Source: First American CoreLogic



# Real Business Fixed Investment

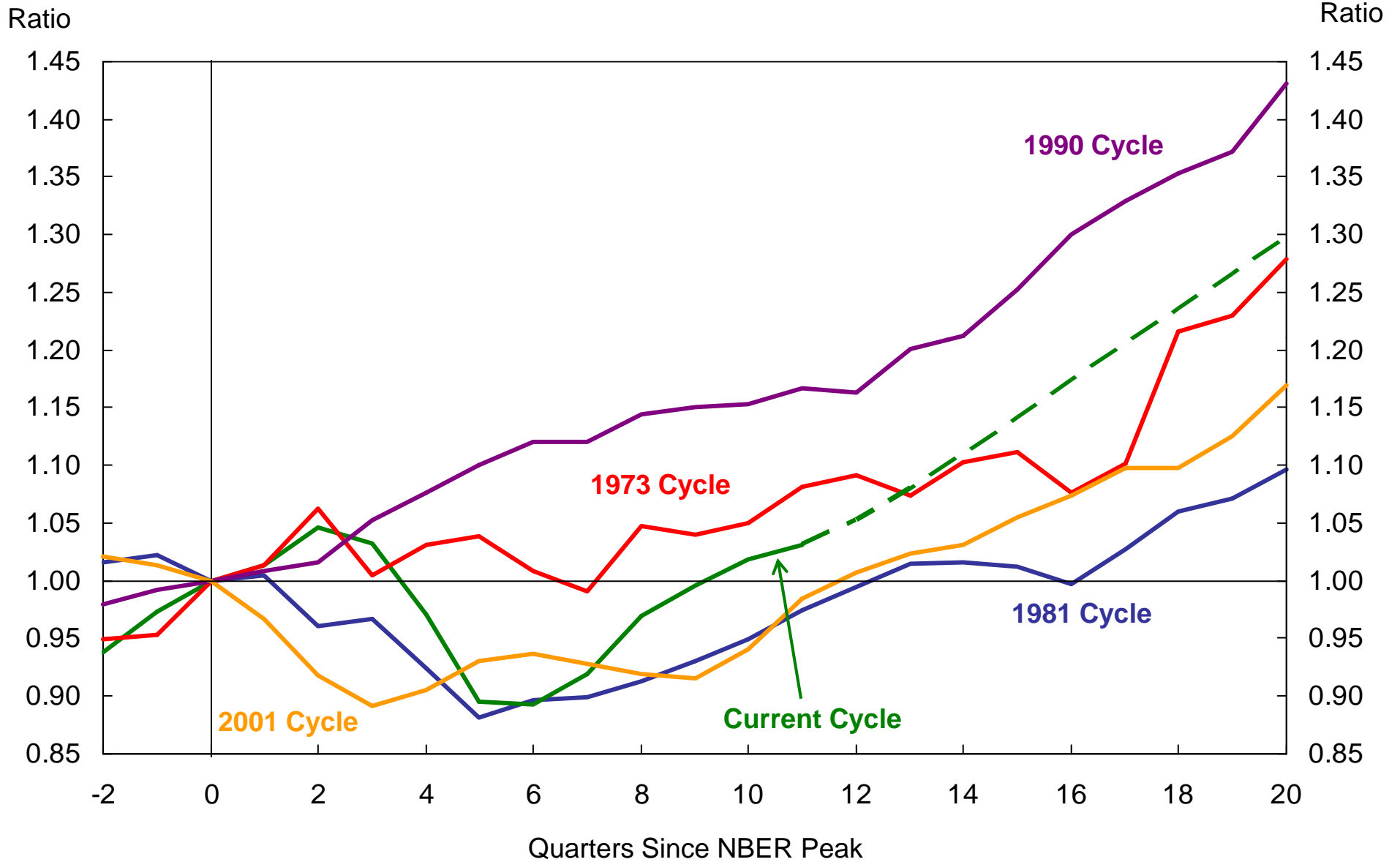
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Economic Analysis

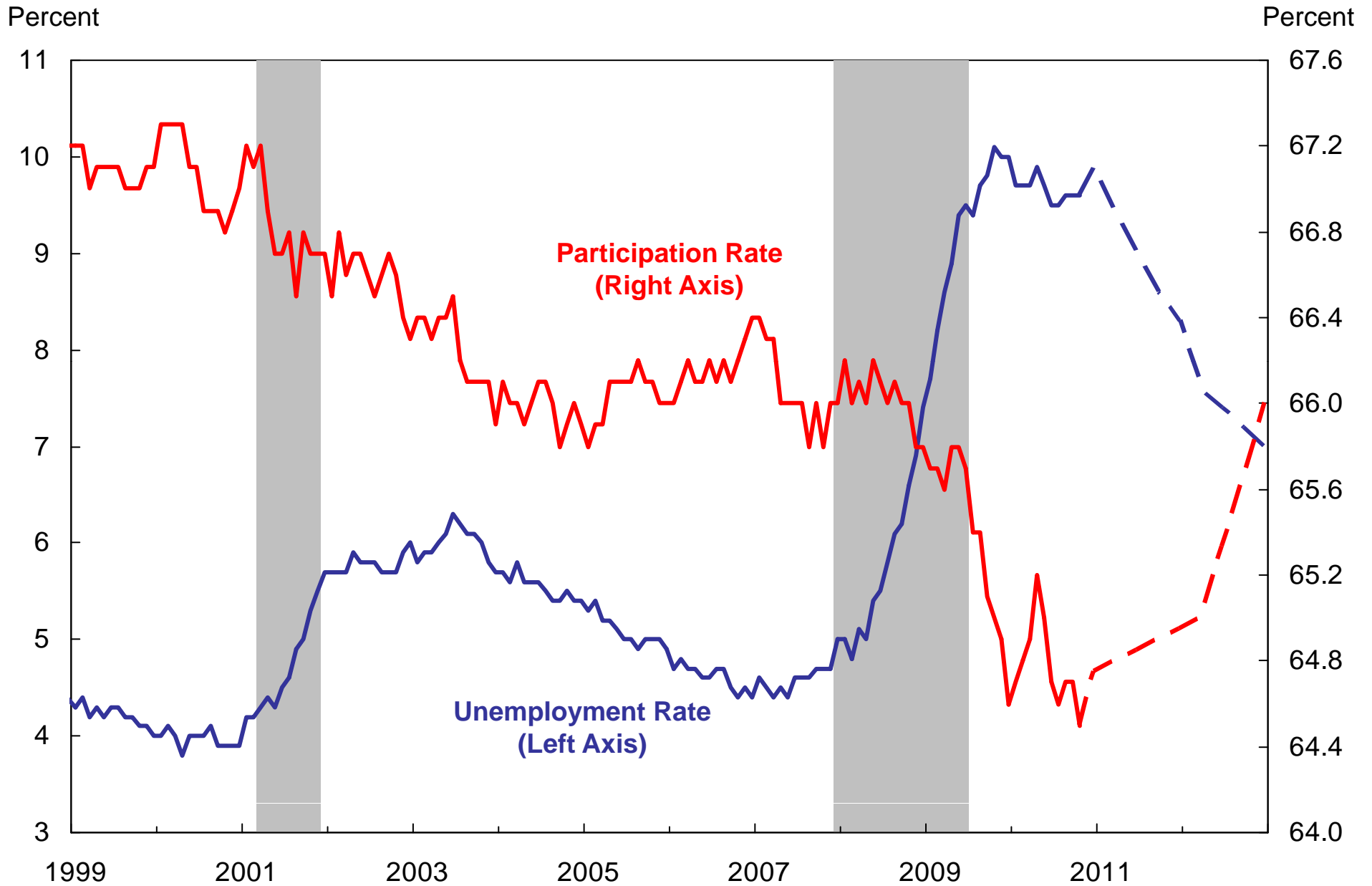
# Real Exports

(Series Set to 1.0 at NBER Peak)



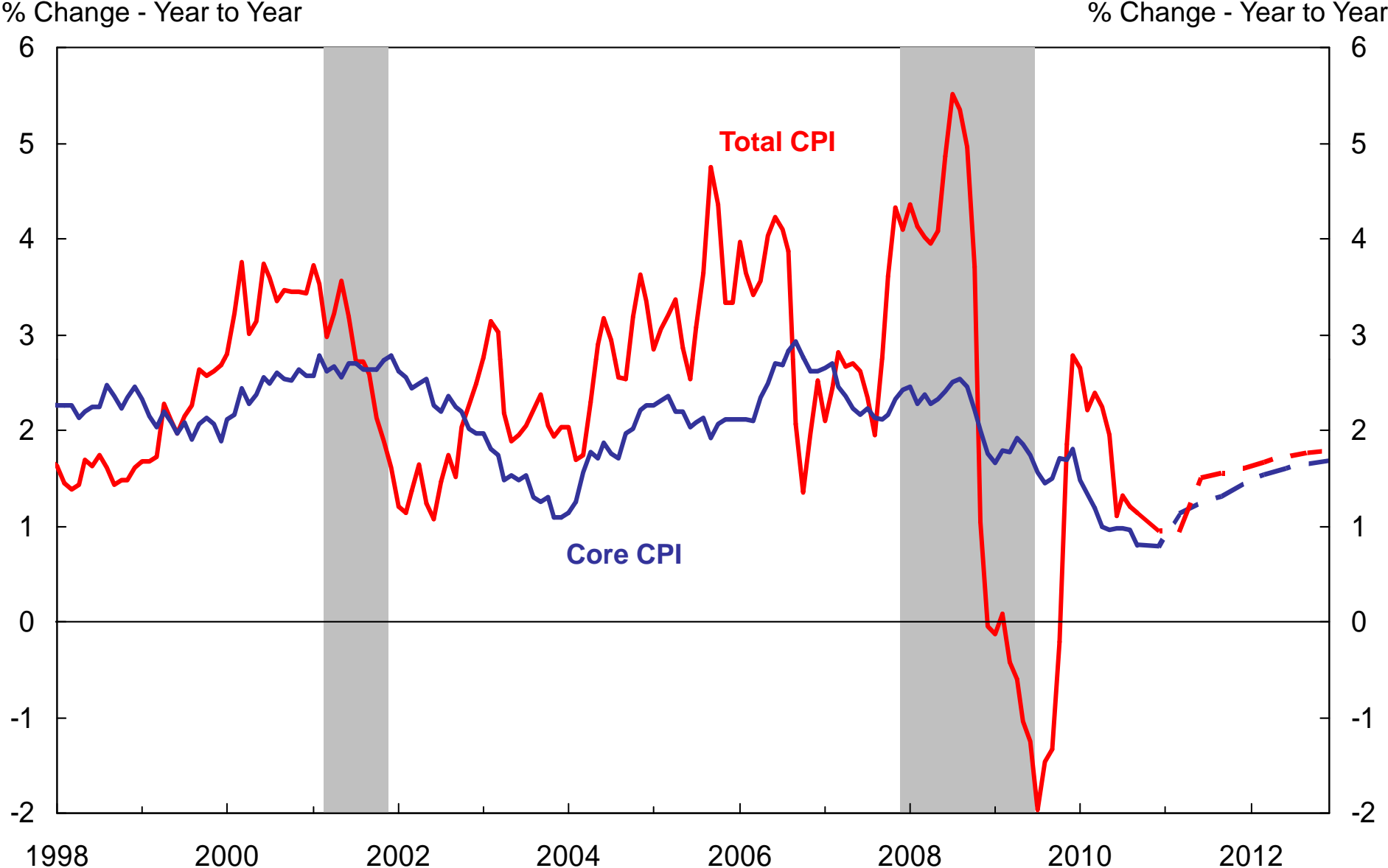
Source: Bureau of Economic Analysis

# Unemployment and Labor Force Participation Rates



Source: Bureau of Labor Statistics

# Total and Core CPI



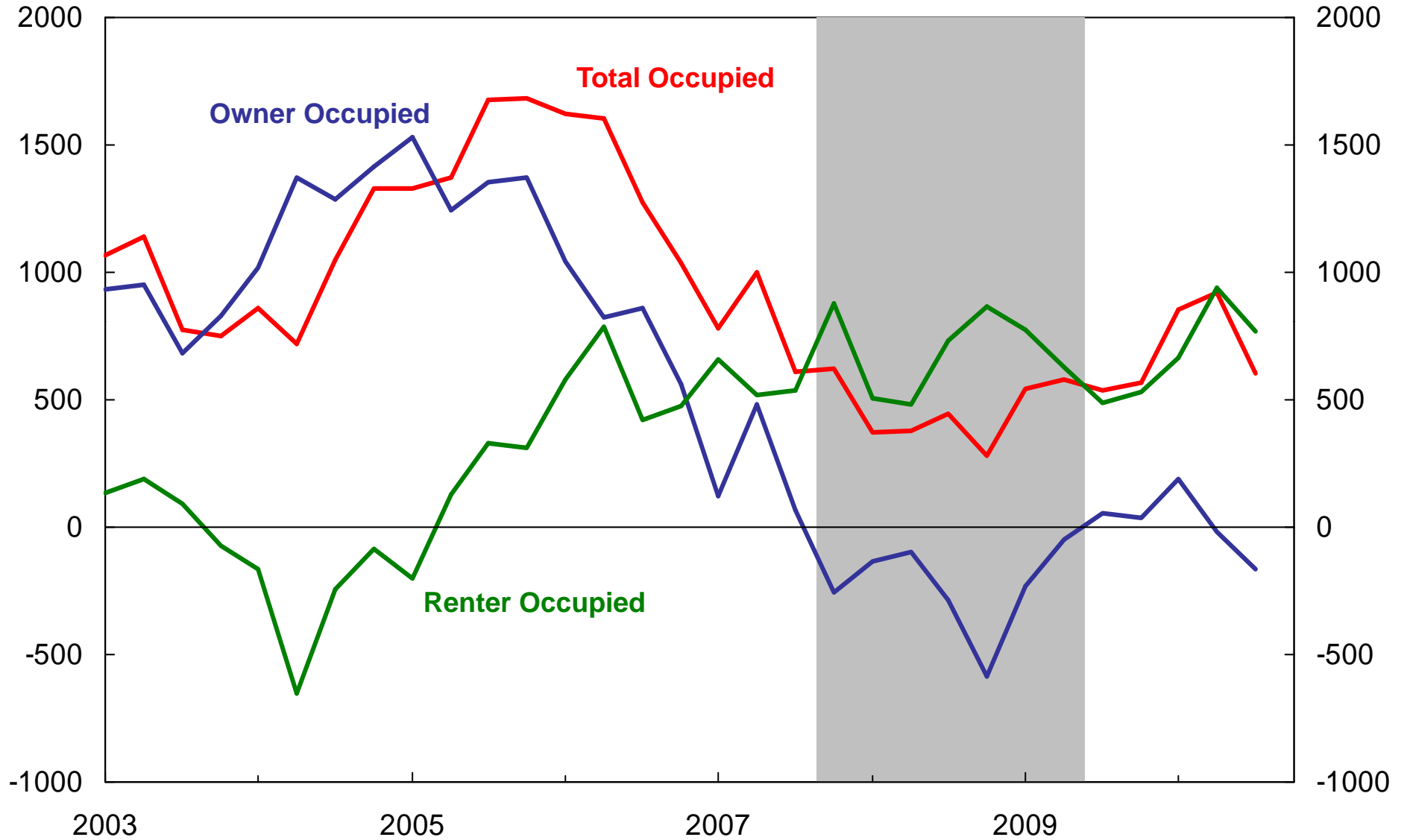
Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions.

# Household Formations

Annual Rate

Annual Rate

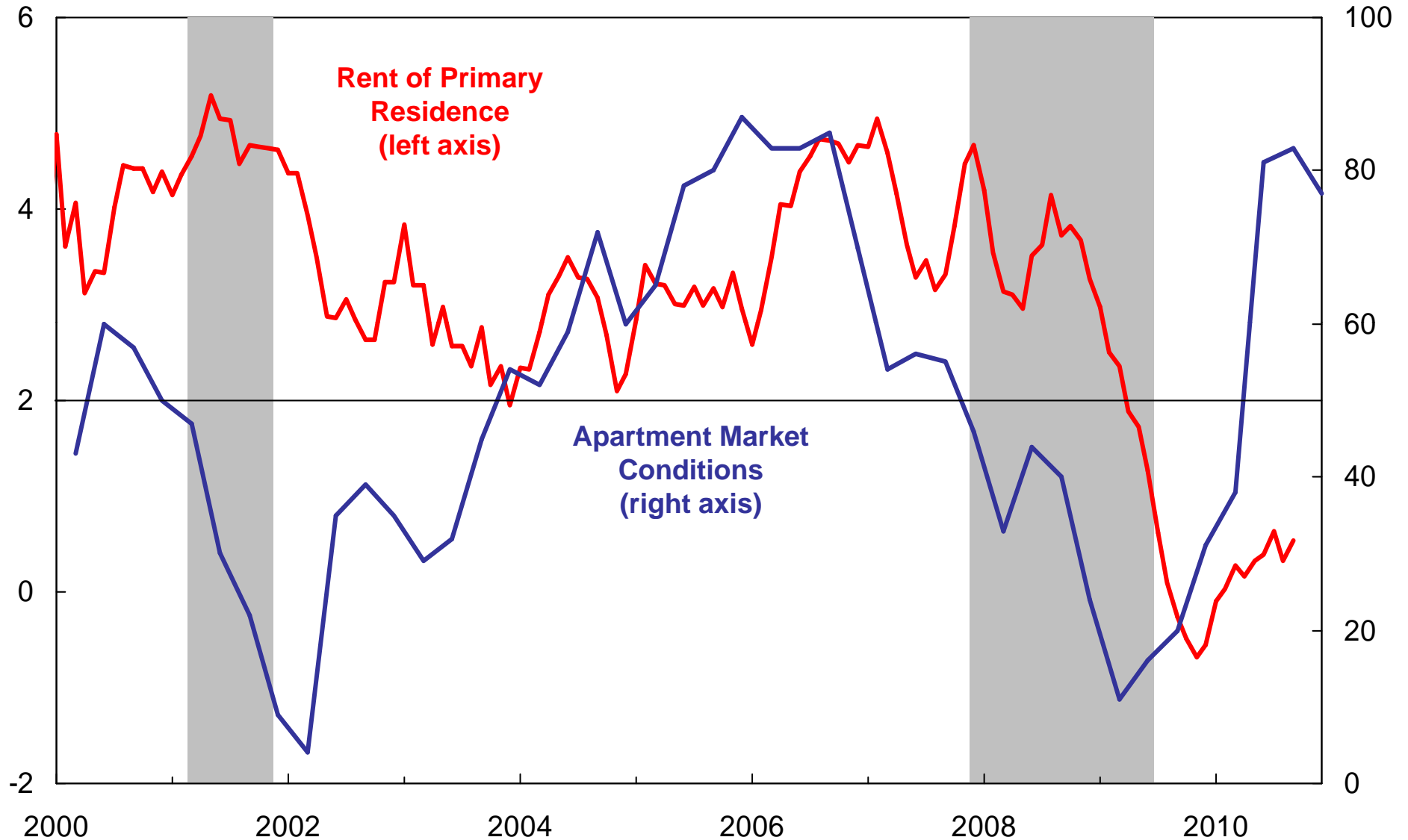


Source: Bureau of the Census

# Rental Market Conditions

% Change – 3-month AR

Above 50 = Tighter

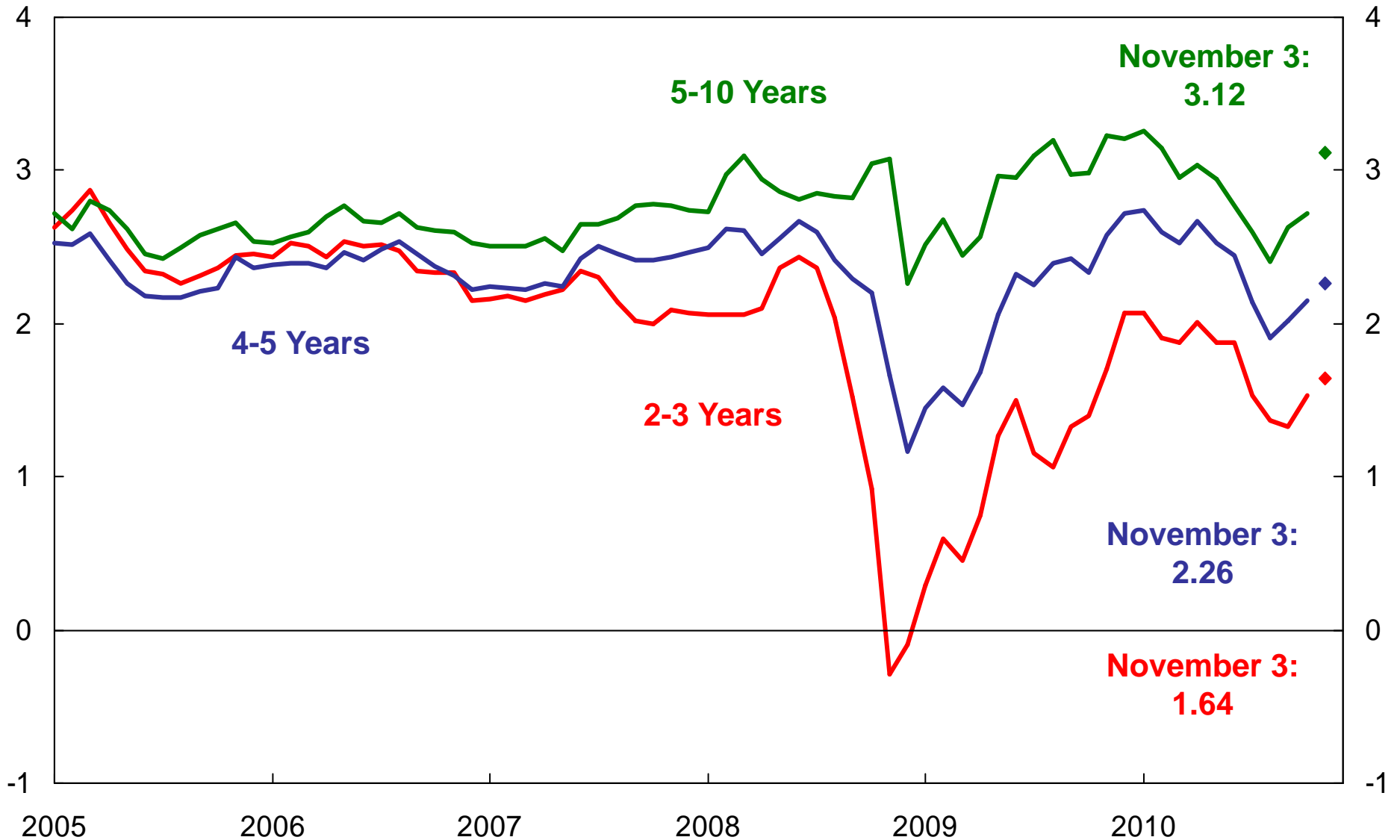


Source: Bureau of Labor Statistics, NMHC

# TIPS Implied Inflation: 2-3, 4-5, and 5-10 Year Horizons

Percentage Points

Percentage Points



Source: Federal Reserve Board

Note: Carry-adjusted.

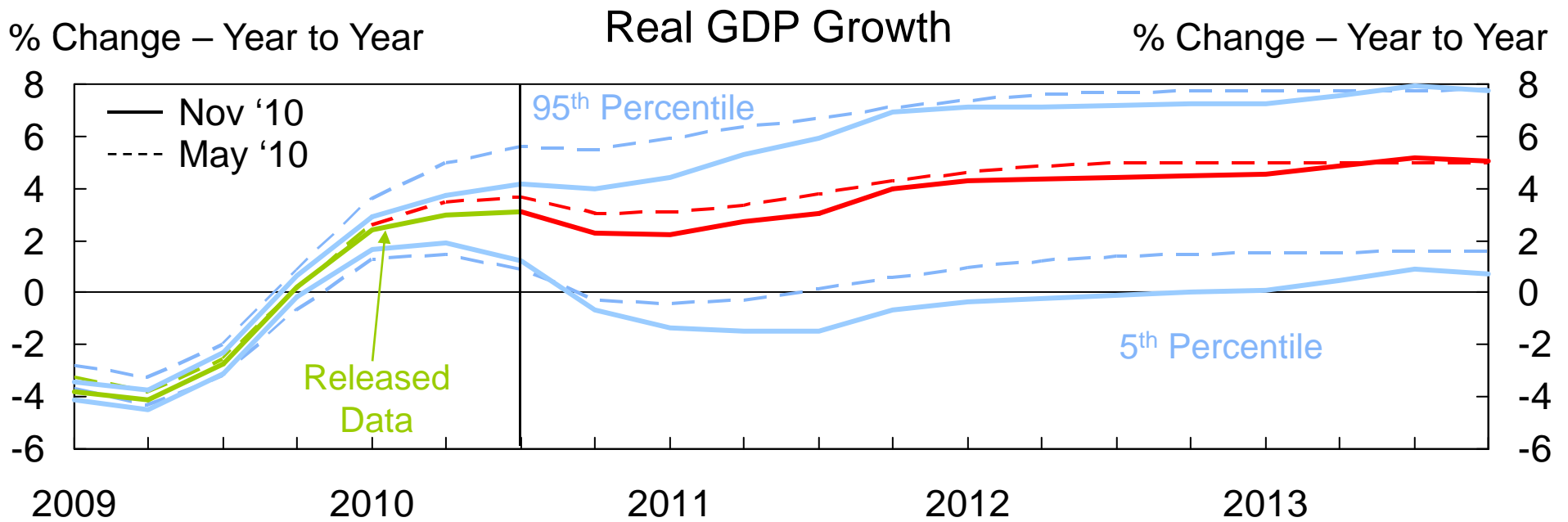
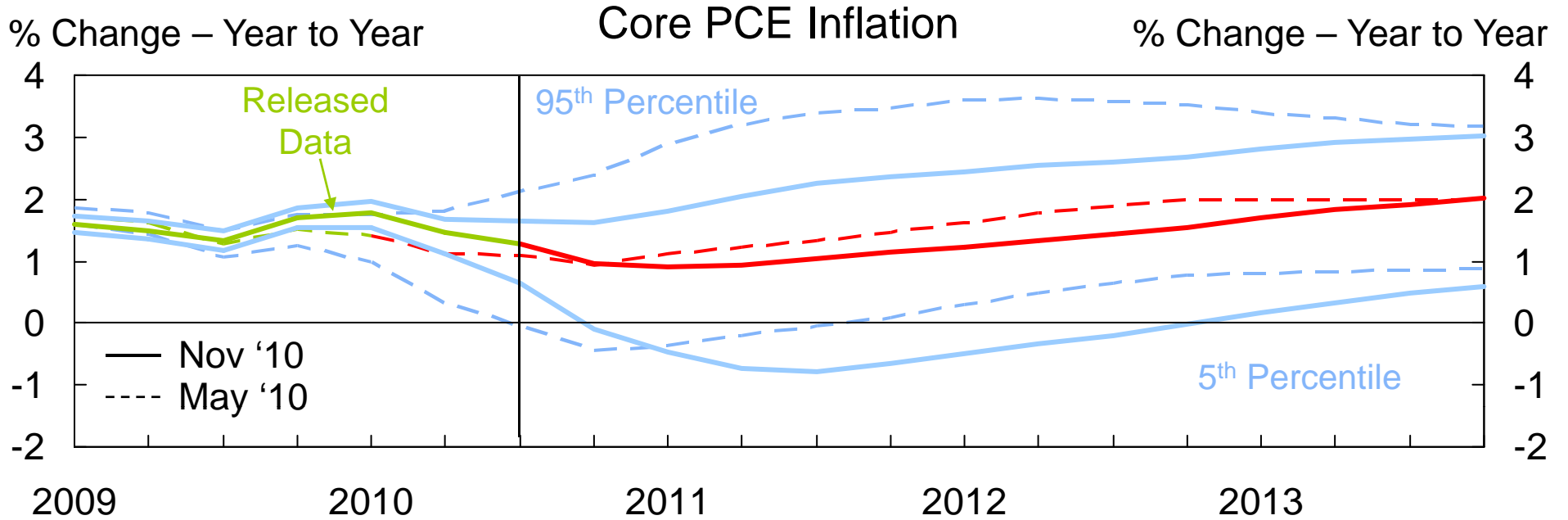
# Risks and Stance of Policy

Simon Potter

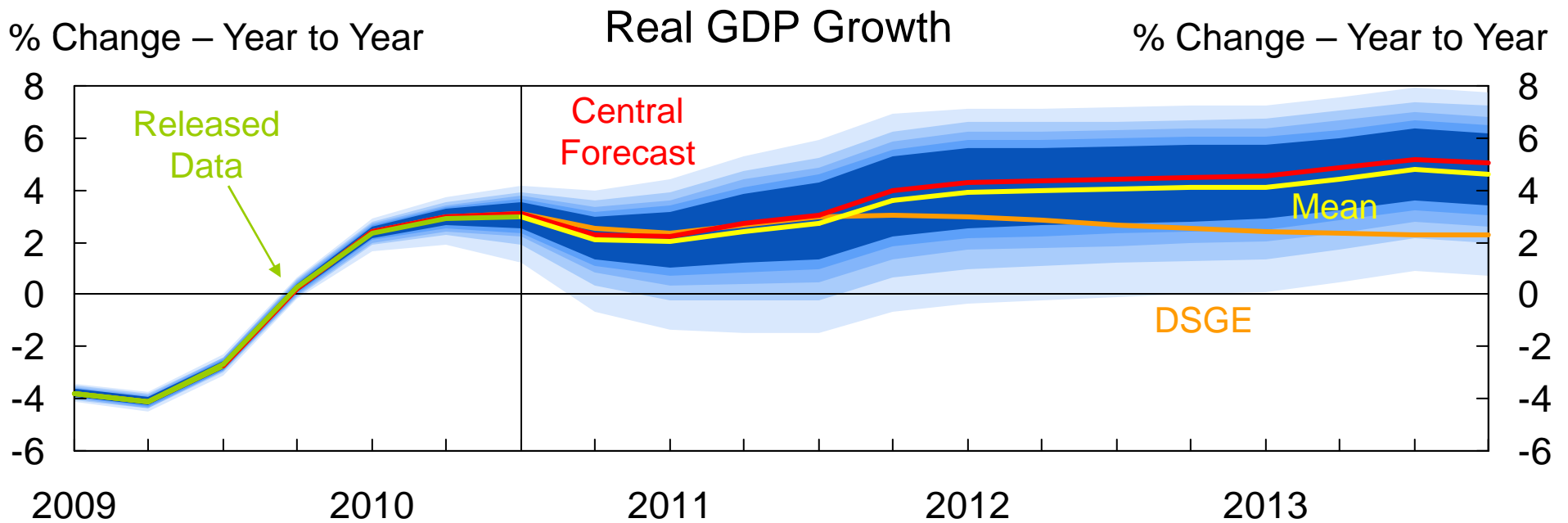
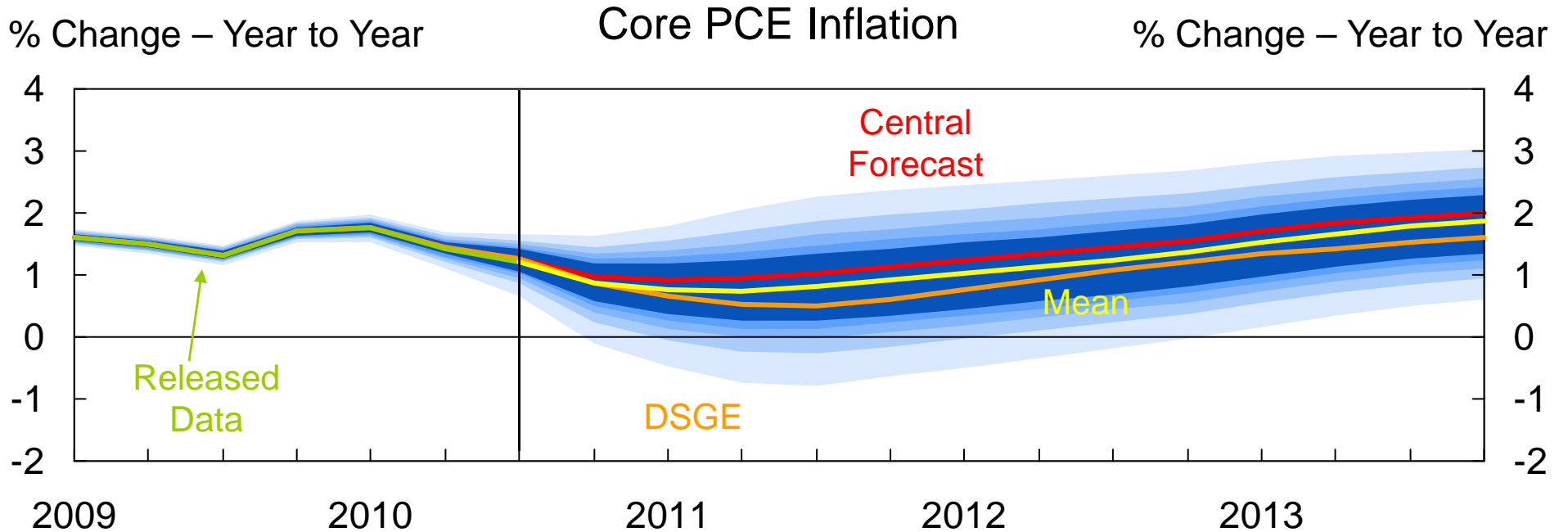




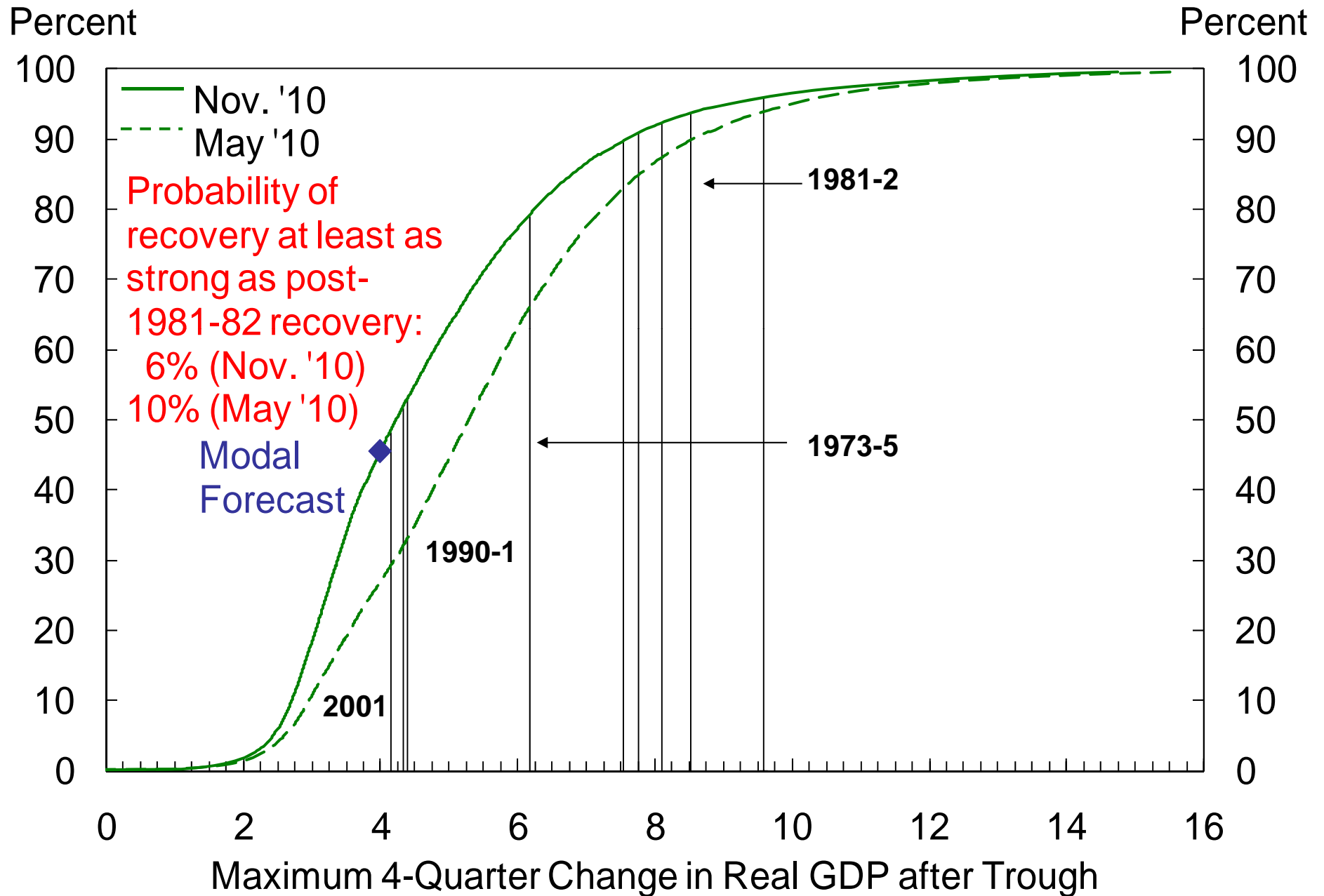
# Change from May '10 to Nov '10



# Nov '10 Forecast Distributions



# Scale of Recovery Through End of 2011



# Large Downward Price Level Deviations

Conditional on Average Inflation Below 0.5%

Percent

100

— Nov. '10

- - - May '10

90

80

70

60

50

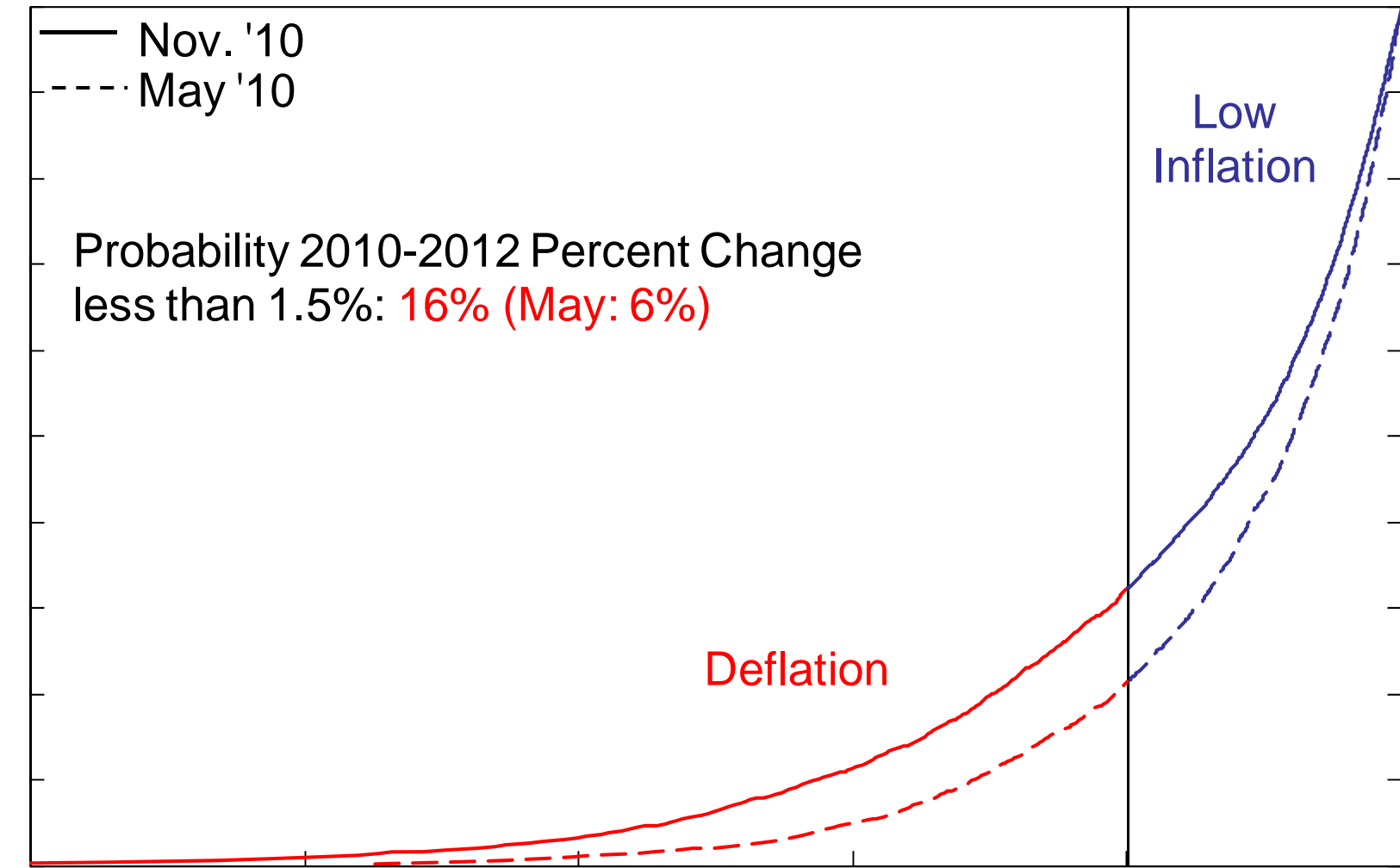
40

30

20

10

0



Percent

100

90

80

70

60

50

40

30

20

10

0

-6

-4.5

-3

-1.5

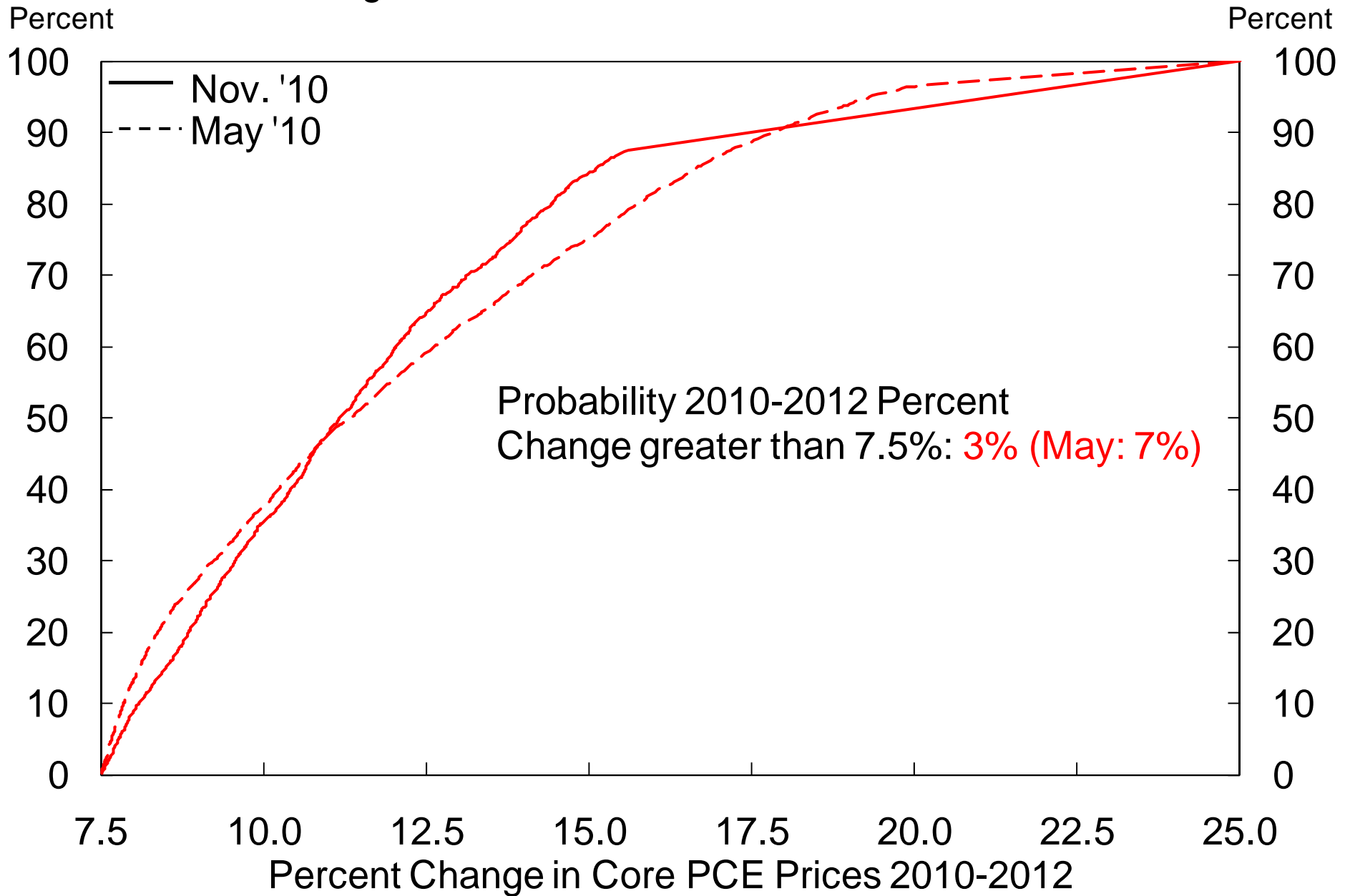
0

1.5

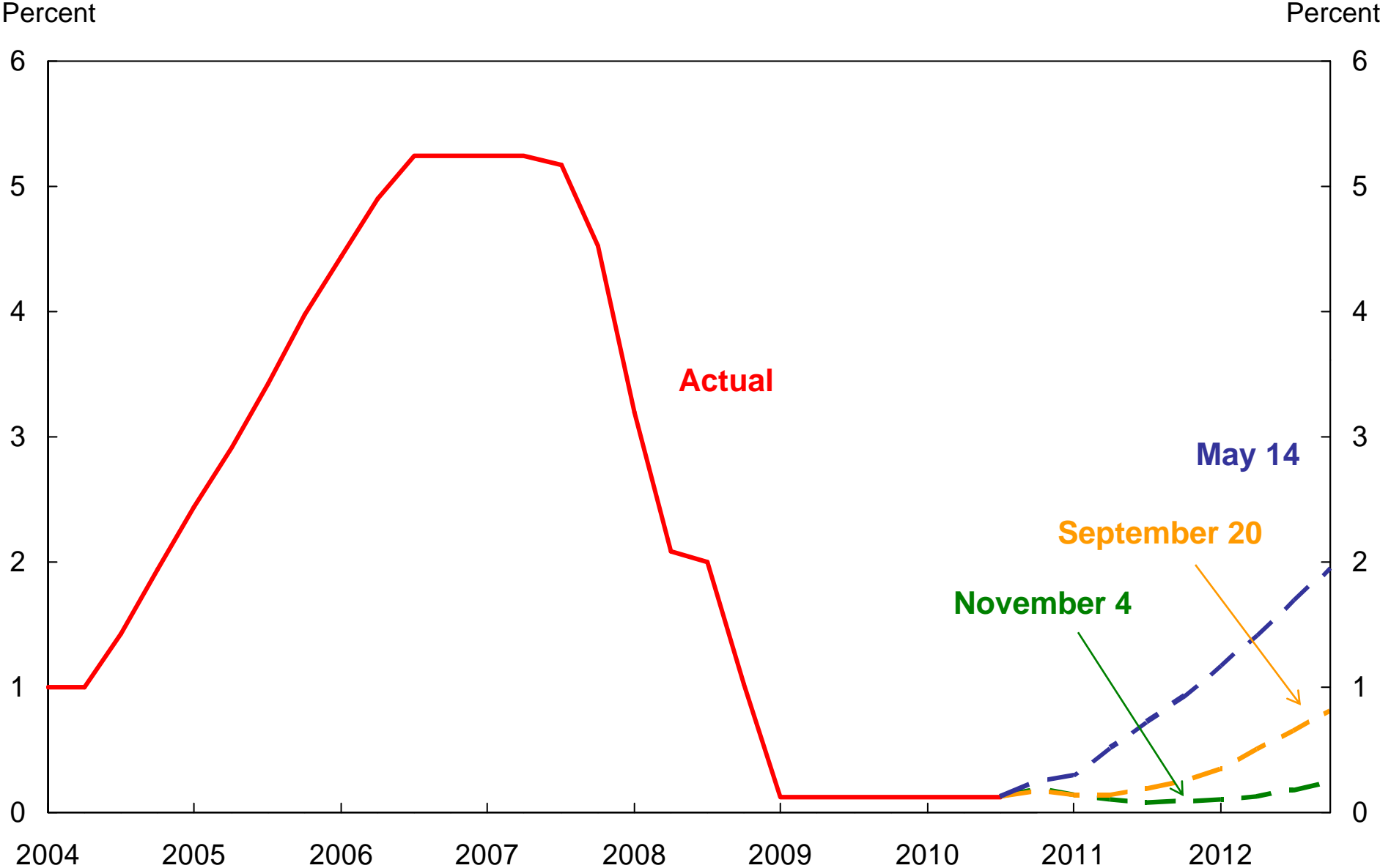
Percent Change in Core PCE Prices 2010-2012

# Large Upward Price Level Deviations

Conditional on Average Inflation Above 2.5%



# Actual and Expected Fed Funds Target



Source: Federal Reserve Board

# Current Stance of Policy

<b>Policy Rule</b>	<b>Rate Prescription</b>
Taylor rule, Contemporaneous Feedback	-2.5 to 0
Taylor rule, Forecast-Based	-2.0 to 0.5
Taylor rule, Forecast-Based with Risks	-2.2 to 0.2
Contemporaneous Difference Rule	0.1 decrease
Forecast-Based Difference Rule	0.2 decrease
Counterfactual with DSGE-VAR	0 to 0.25
Counterfactual with DSGE	0 to 0.5
Optimal Rate in DSGE with credit frictions	0

# Consequences of New LSAP Program

Intended Consequences	Channels	Real Economy Effect
Faster Recovery	Lower privately held duration risk { Competitive exchange rate Lower real rate Wealth effect	Point estimate: 0.2 to 0.3 on GDP growth
Insurance	Confidence	Potentially very large given risks of a liquidity trap
Possible Unintended Consequences	Channels	Mitigants
Instability in Asset Valuations	Over-exuberant investors searching for yield	Intensive monitoring of valuations, leverage, and new products
Destabilizing Capital Flows	Exchange rate interventions	Reforms to international financial system
(Geo-) Political Risk	Appearance of monetization of debt	Robust exit procedures; clarification of framework



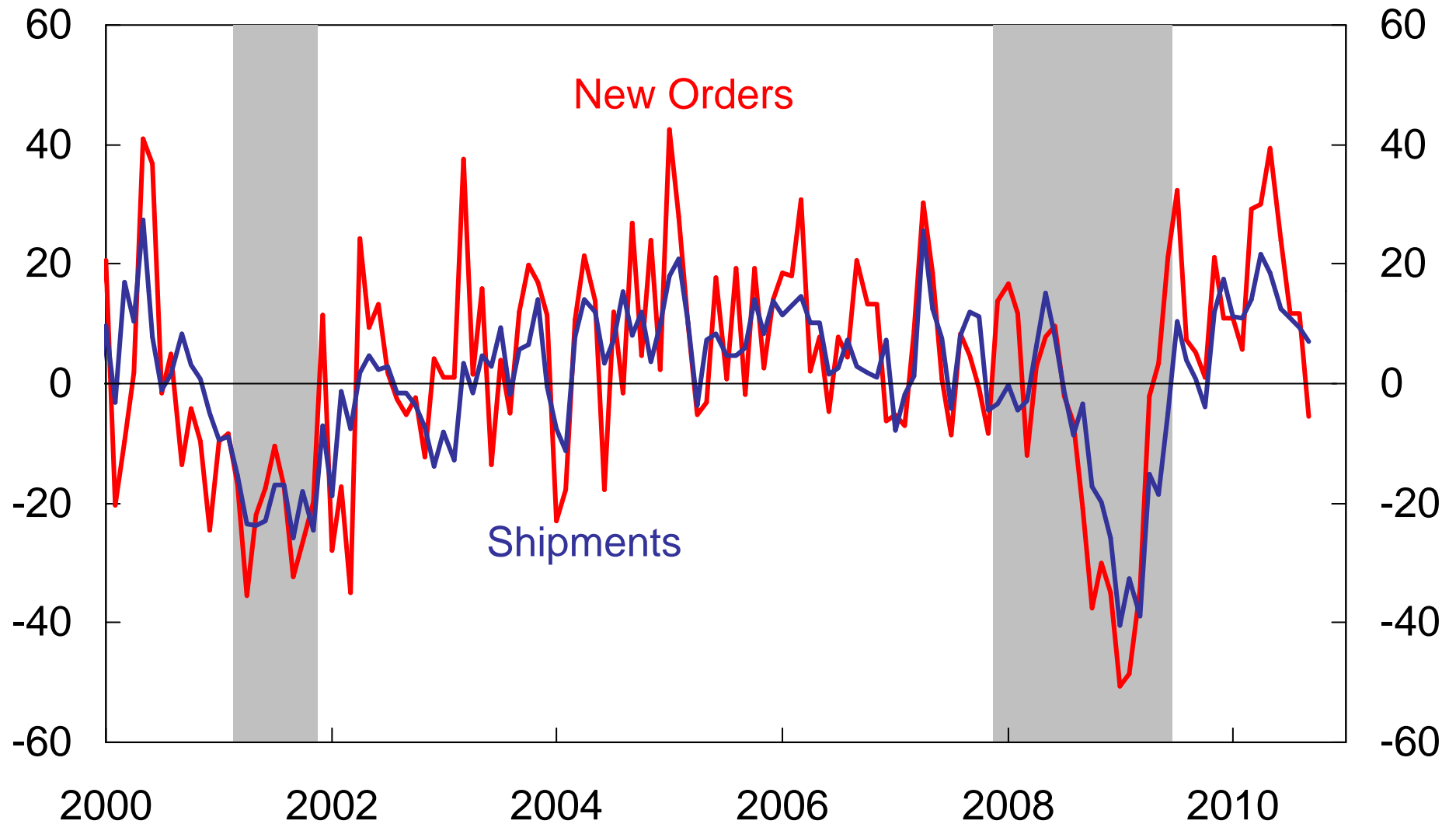
# Reference



# Nondefense Capital Goods Excluding Aircraft

% Change - 3 months (AR)

% Change - 3 months (AR)

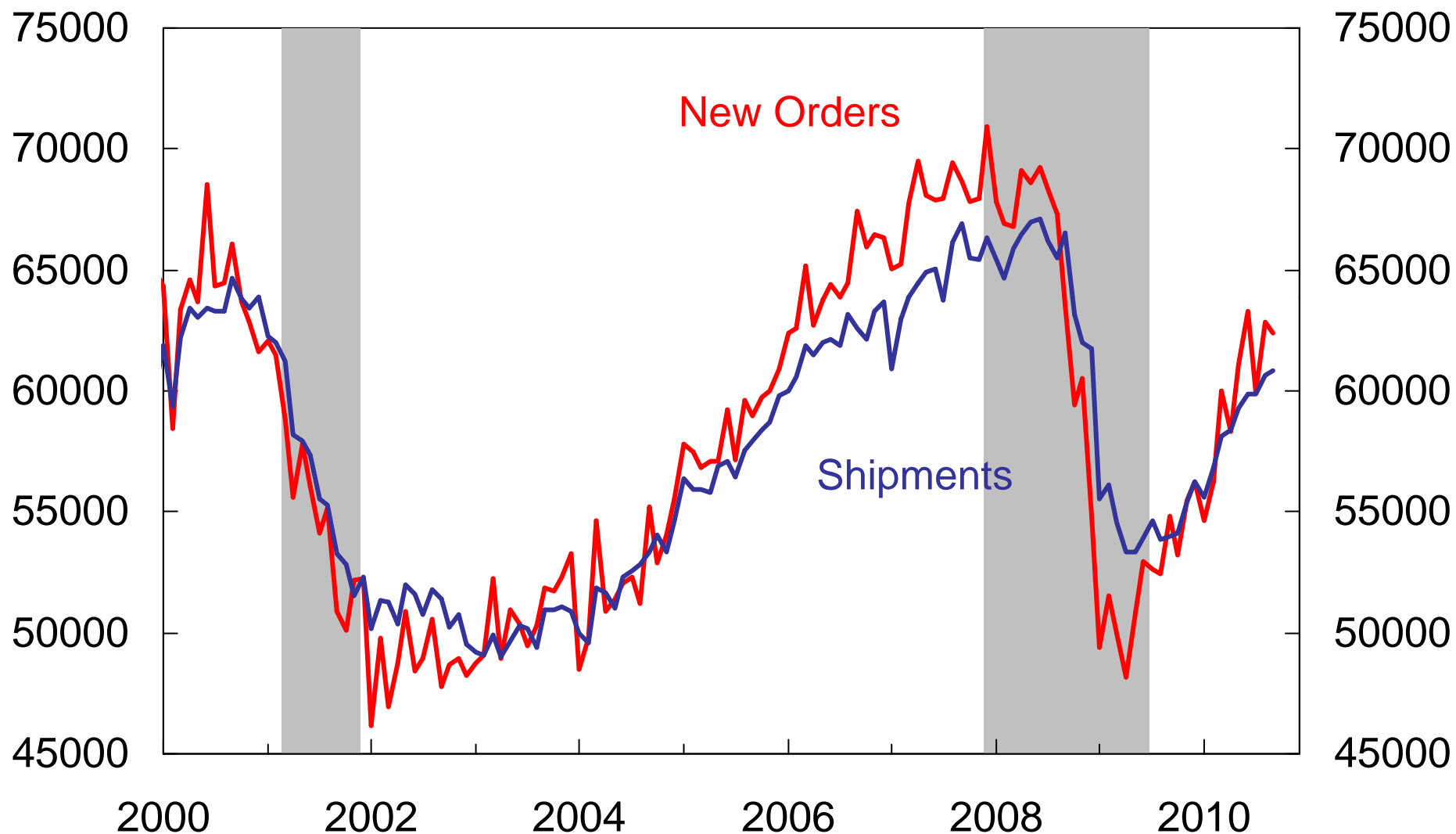


Source: Census Bureau

# Nondefense Capital Goods Excluding Aircraft

Millions of Dollars

Millions of Dollars



Source: Census Bureau

# Manufacturers' New Orders

(current dollars)

(percent change at annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-5.7	9.8	1.0	-1.5	-3.4
Durable Goods	-4.7	12.2	4.8	0.5	-10.8
Primary Metals	-7.4	28.4	5.1	-3.3	-19.0
Fabricated Metals	-4.3	8.5	2.6	6.3	16.8
Machinery	-6.0	26.0	29.0	-4.3	85.0
Computers and Electronic Products	3.1	14.8	21.6	9.8	53.0
Computers	3.1	14.8	21.6	9.8	53.0
Nondefense Communications	-2.5	4.5	36.6	231.7	305.3
Electrical Equipment	-4.9	12.4	17.7	9.8	47.7
Transportation Equipment	-7.1	8.1	-11.2	2.8	-66.7
Motor Vehicle Bodies, Parts, and Trailers	5.3	11.1	26.8	2.5	-35.6
Nondefense Aircrafts and Parts	-7.5	51.6	-68.3	-38.7	-98.6
Furniture	-9.9	3.9	1.1	-4.9	196.4
Nondurable Goods	-6.6	7.8	-2.3	-3.2	3.8
Topical Series					
Construction Materials and Supplies	-6.7	1.6	-1.4	-13.4	-5.4
Information Technology Equipment	2.2	14.2	22.8	13.4	77.2
Capital Goods	-3.7	19.2	-0.9	0.5	8.6
Nondefense Capital Goods	-4.2	23.5	3.8	6.0	12.9
Nondefense Capital Goods Ex. Aircraft	-3.4	19.8	24.8	11.7	74.9
Defense Capital Goods	-0.1	-4.2	-26.7	-29.7	-17.4
Consumer Goods	-7.2	7.2	-2.6	-1.6	-3.2
Durable Consumer Goods	-8.0	4.3	8.8	14.0	-34.9
Nondurable Consumer Goods	-7.1	7.8	-4.4	-4.0	3.7

Source: Census Bureau

Note: Data through August 2010.

# Manufacturers' Shipments

(current dollars)

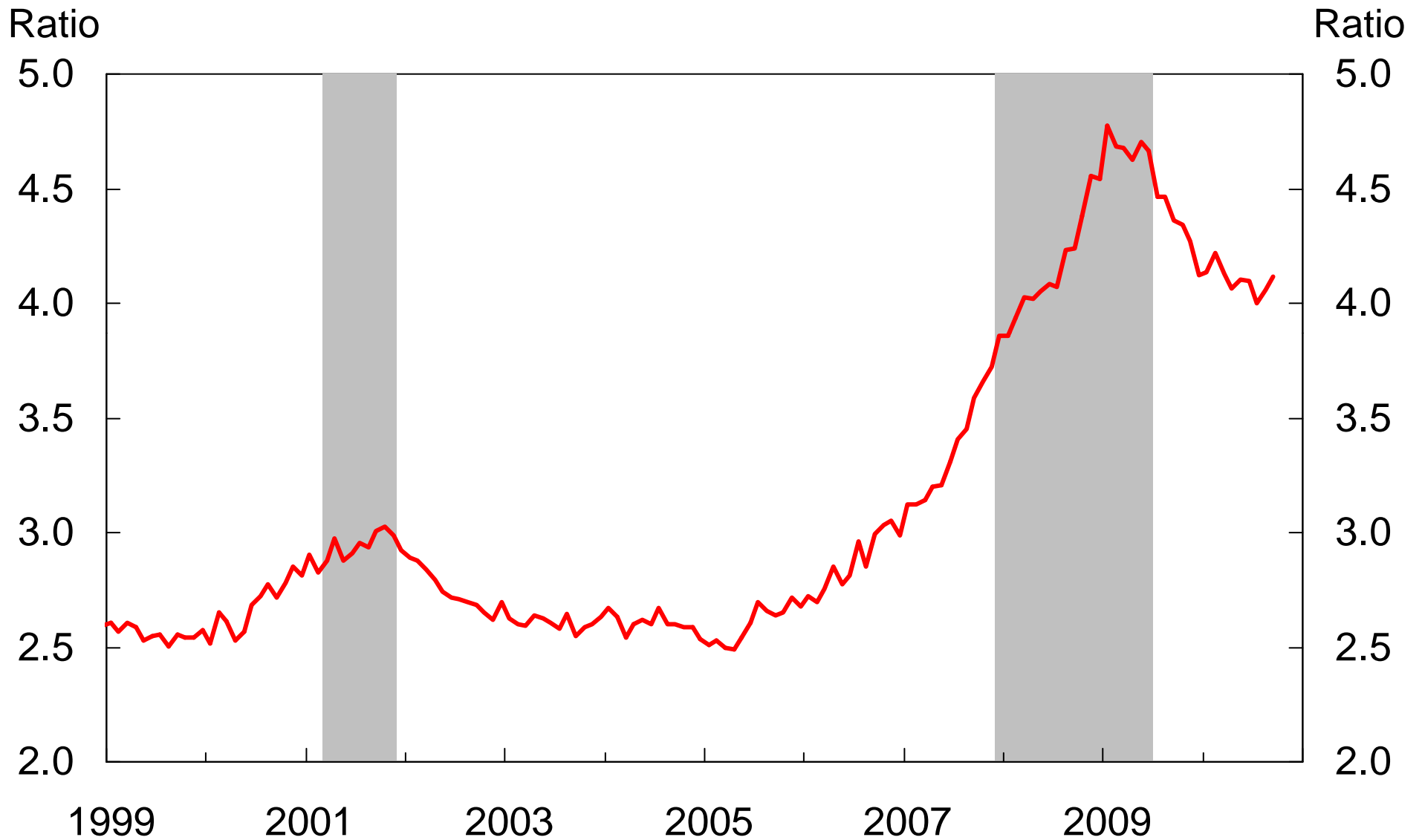
(percent change at annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-5.7	8.2	3.2	0.7	-6.0
Durable Goods	-4.6	8.8	9.7	5.2	-15.5
Primary Metals	-11.1	31.9	11.1	-3.8	7.5
Fabricated Metals	-4.9	6.2	4.6	-4.9	11.9
Machinery	-8.0	14.3	15.7	5.7	48.6
Computers and Electronic Products	3.0	10.8	17.4	19.8	-7.1
Computers	7.5	32.9	47.8	61.4	127.2
Nondefense Communications	-10.3	-9.5	-11.7	-21.8	-5.9
Electrical Equipment	-7.2	9.9	11.0	8.4	5.0
Transportation Equipment	-3.7	3.4	9.5	16.9	-55.3
Automobiles	-5.3	17.1	36.4	31.0	-40.9
Light Trucks	-15.2	0.7	27.9	48.2	-61.2
Heavy Trucks	7.0	15.9	-1.8	40.3	-6.4
Nondefense Aircrafts and Parts	-5.7	6.0	24.8	109.9	-82.4
Furniture	-9.4	2.0	3.7	-3.8	-7.3
Nondurable Goods	-6.6	7.8	-2.3	-3.2	3.8
Topical Series					
Construction Materials and Supplies	-7.0	1.2	-0.3	-16.7	-10.4
Information Technology Equipment	0.8	7.3	7.5	3.8	1.8
Capital Goods	-3.7	7.5	6.8	10.1	-13.4
Nondefense Capital Goods	-4.0	12.1	15.2	17.0	-8.6
Nondef. Capital Goods Ex. Aircrafts	-3.8	12.6	13.8	9.3	16.3
Defense Capital Goods	-1.0	-17.1	-33.2	-26.6	-40.1
Consumer Goods	-7.3	7.5	-2.1	-1.5	-2.5
Durable Consumer Goods	-8.2	5.7	12.9	15.4	-31.3
Nondurable Consumer Goods	-7.1	7.8	-4.4	-4.0	3.7

Source: Census Bureau

Note: Data through August 2010.

# Unfilled Orders/Shipments: Durable Goods



Source: Census Bureau

# Auto Sales

Light-Weight Vehicle Sales, Production, and Inventories  
(millions of units, SAAR)

	2009Q3	2009Q4	2010Q1	2010Q2	2010Q3 (to-date)
Sales					
Total	11.6	10.8	11.0	11.4	11.6
Retail Auto	6.4	5.7	5.8	5.6	5.7
Domestic	4.2	3.8	3.9	3.8	3.6
Imported	2.2	1.9	1.9	1.9	2.1
Light Truck	5.2	5.1	5.2	5.7	5.9
Domestic	4.1	4.2	4.3	4.8	4.9
Imported	1.1	0.9	1.0	0.9	1.0
Total Domestic	8.4	8.1	8.2	8.6	8.5
Domestic Auto Inventories (units)*	734.0	747.9	769.1	838.1	875.9
Domestic Auto I-S Ratio (level)*	2.2	2.4	2.3	2.5	2.8
IP: Autos and Light Trucks (Index, 2002=100)*	62.6	68.9	71.5	72.5	81.2
Domestic Light Vehicle Production (units)*	6.4	7.1	7.4	7.5	8.0
North American Light Vehicle Production (units)*	9.7	10.8	11.7	12.3	12.6

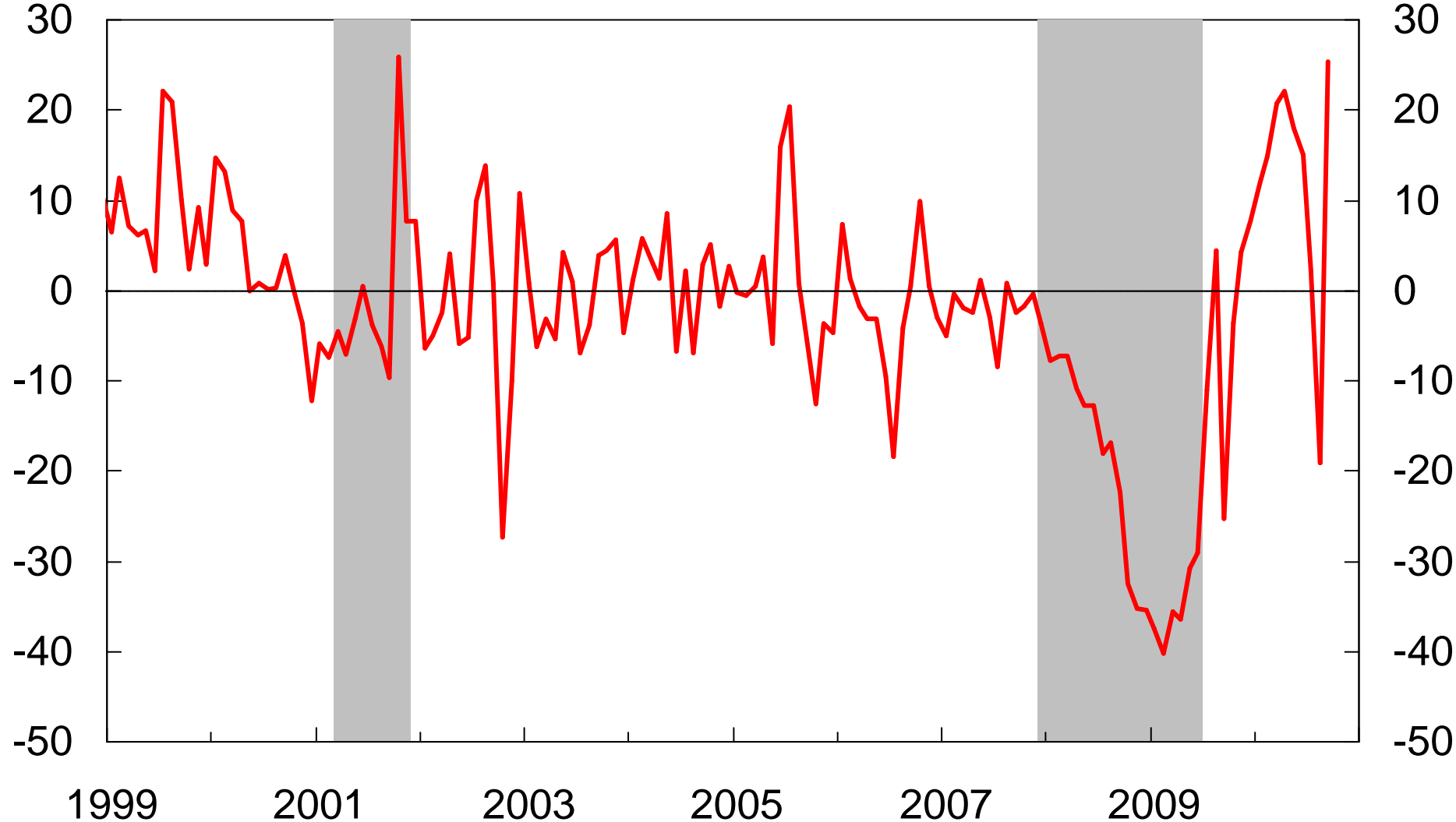
Source: Bureau of Economic Analysis, Autodata Corporation

\* Based on data through August 2010.

# Auto Sales

% Change - Year to Year

% Change - Year to Year



Source: Autodata Corporation



# Consumer Price Index

(current dollars)  
(percent change at annual rate)

Consumer Price Data  
(percent change at an annual rate)

	Weights (December 2009)		24 Month	12 Month	6 Month	3 Month	1 Month
	Total	Core					
Consumer Price Index	100.00		-0.1	1.1	0.6	2.7	1.2
Energy	8.55		-9.9	3.9	-3.8	24.5	8.2
All Items Ex. Energy	91.447		1.1	0.9	1.0	0.9	0.6
Food & Beverages	14.80		0.7	1.4	1.2	1.7	3.8
Food	13.74		0.6	1.4	1.1	1.6	3.9
Food at Home	7.80		-0.6	1.4	0.6	1.2	4.2
Food away from Home (NSA)	5.94		2.0	1.4	1.9	2.3	3.5
Alcoholic Beverages	1.06		1.8	1.2	2.1	3.0	2.5
All Items Ex. Food and Energy	77.709	100.00	1.1	0.8	1.0	0.7	0.0
Core Chain-Weight CPI (NSA)			0.8	0.5	0.5	0.8	1.8
Core Goods	21.28	27.38	1.1	0.7	0.1	0.3	-2.9
Apparel	3.70	4.75	-0.1	-1.2	0.2	-0.9	-7.3
Medical Care Commodities	1.61	2.07	3.4	2.6	1.1	1.2	3.6
Durable Goods	9.98	12.84	0.5	1.6	0.3	0.7	-3.3
New Vehicles	3.57	4.60	1.9	2.1	1.3	2.2	1.5
Used Vehicles	2.01	2.59	4.9	12.9	4.9	3.3	-7.6
Tobacco and Smoking Prods.	0.87	1.12	17.4	6.8	9.5	9.0	1.6
Core Services	56.43	72.62	1.1	0.8	1.4	0.9	1.1
Rent of Primary Residence	5.97	7.68	0.9	0.2	0.5	0.5	1.6
Owners' Equivalent Rent	25.21	32.44	0.6	-0.1	0.4	0.5	0.4
Lodging Away from Home	0.77	0.99	-2.9	1.4	8.1	-5.1	-2.4
Medical Care Services	4.90	6.31	3.5	3.7	3.3	3.9	9.4
Transportation Services	6.06	7.80	2.5	3.0	2.3	1.3	3.4
Other Services	11.35	14.60	2.0	1.5	1.8	0.5	-2.1

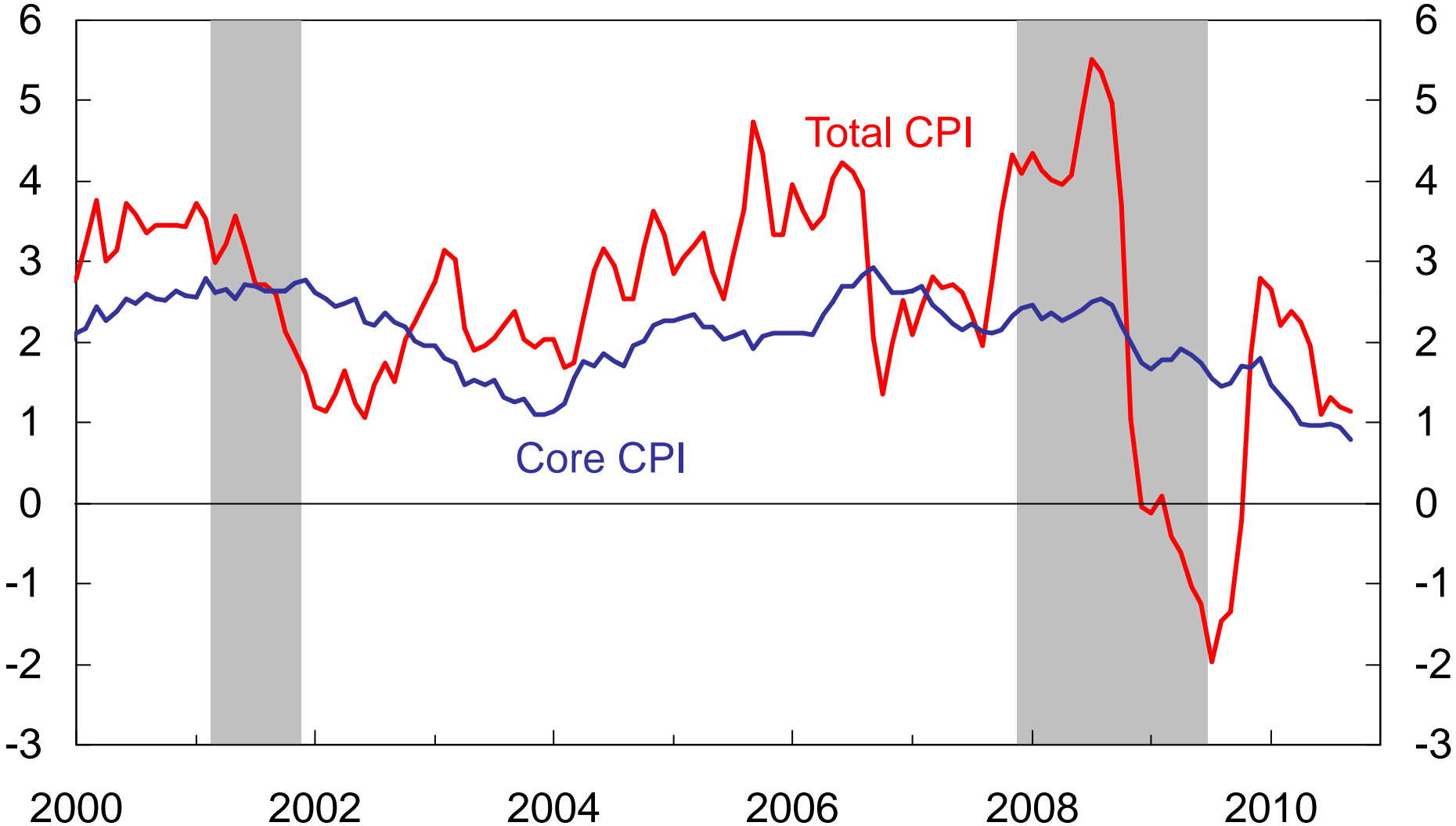
Source: Bureau of Labor Statistics

Note: Data through September 2010.

# Total and Core CPI Deflator

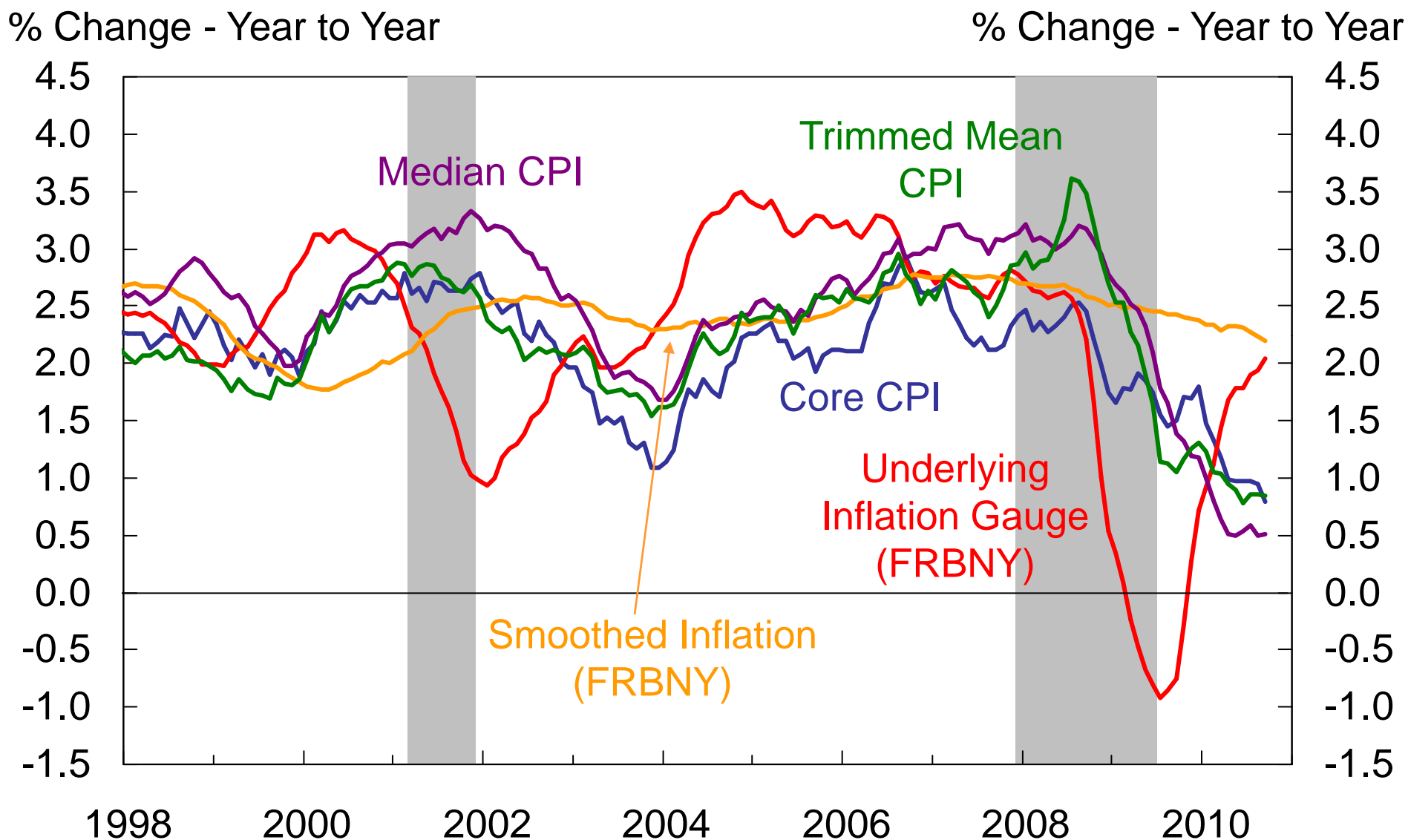
% Change - Year to Year

% Change - Year to Year



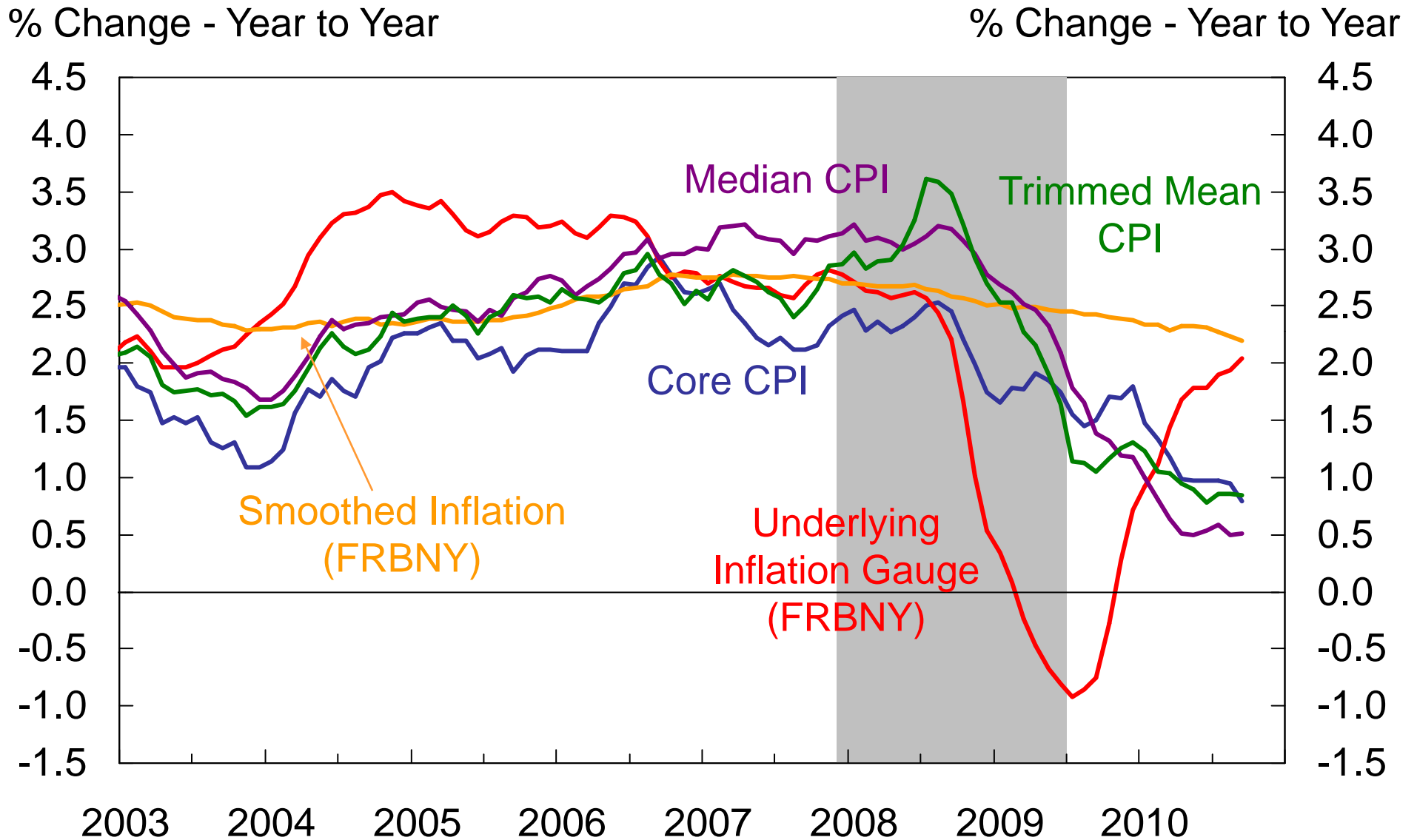
Source: Bureau of Labor Statistics

# Measures of CPI Inflation since 1998



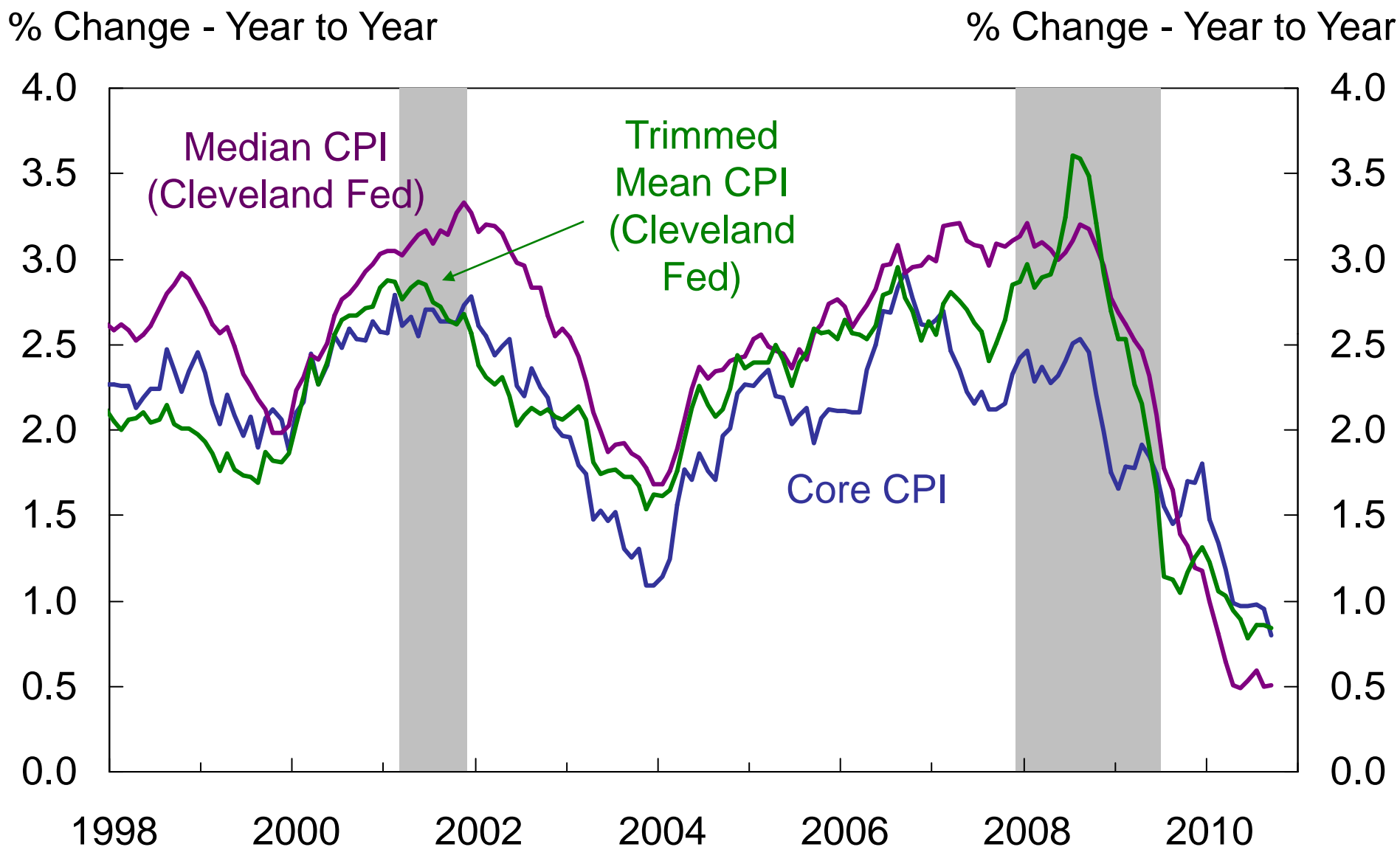
Source: Bureau of Labor Statistics and FRBNY

# Measures of CPI Inflation since 2003



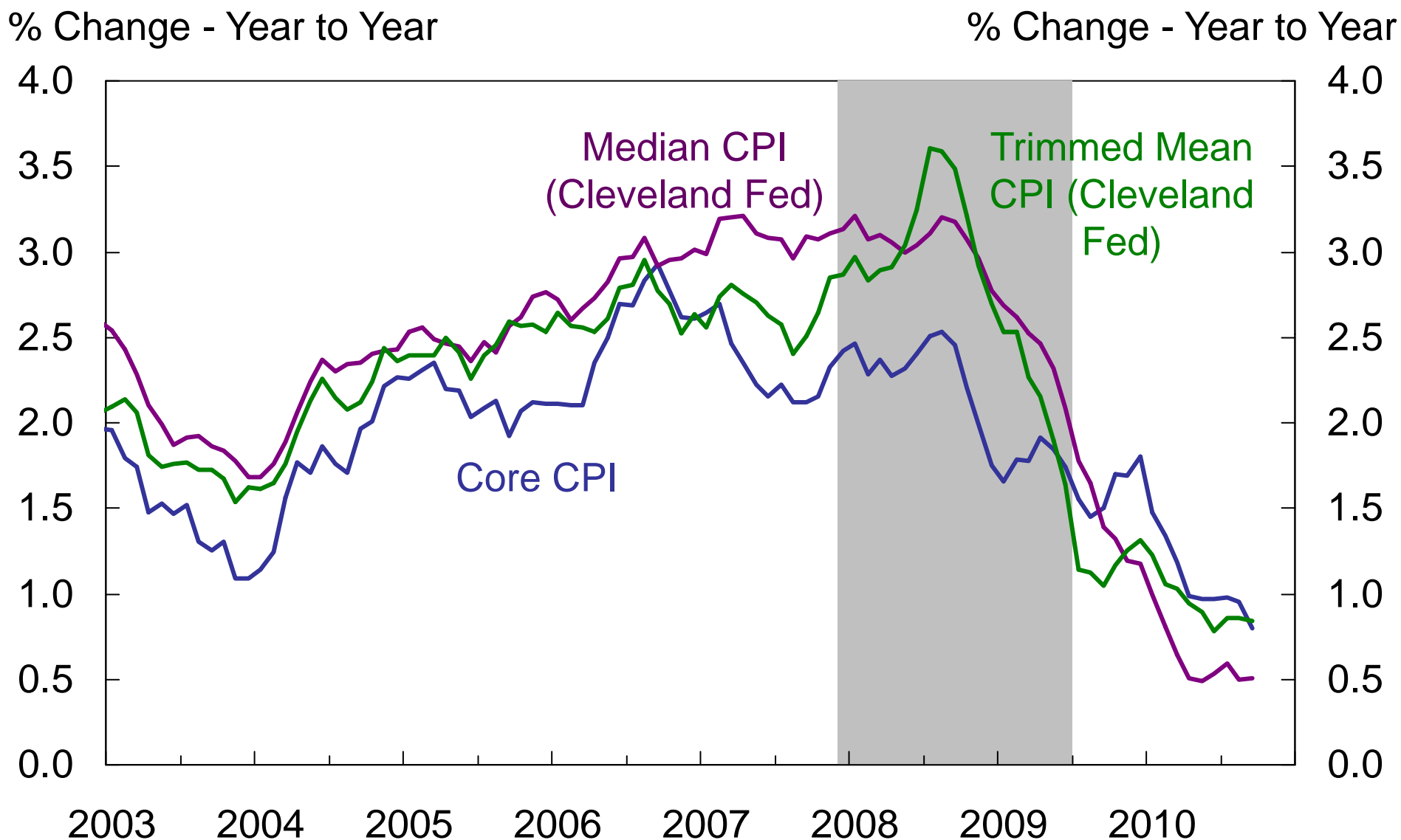
Source: Bureau of Labor Statistics and FRBNY

# Measures of CPI Inflation Since 1998



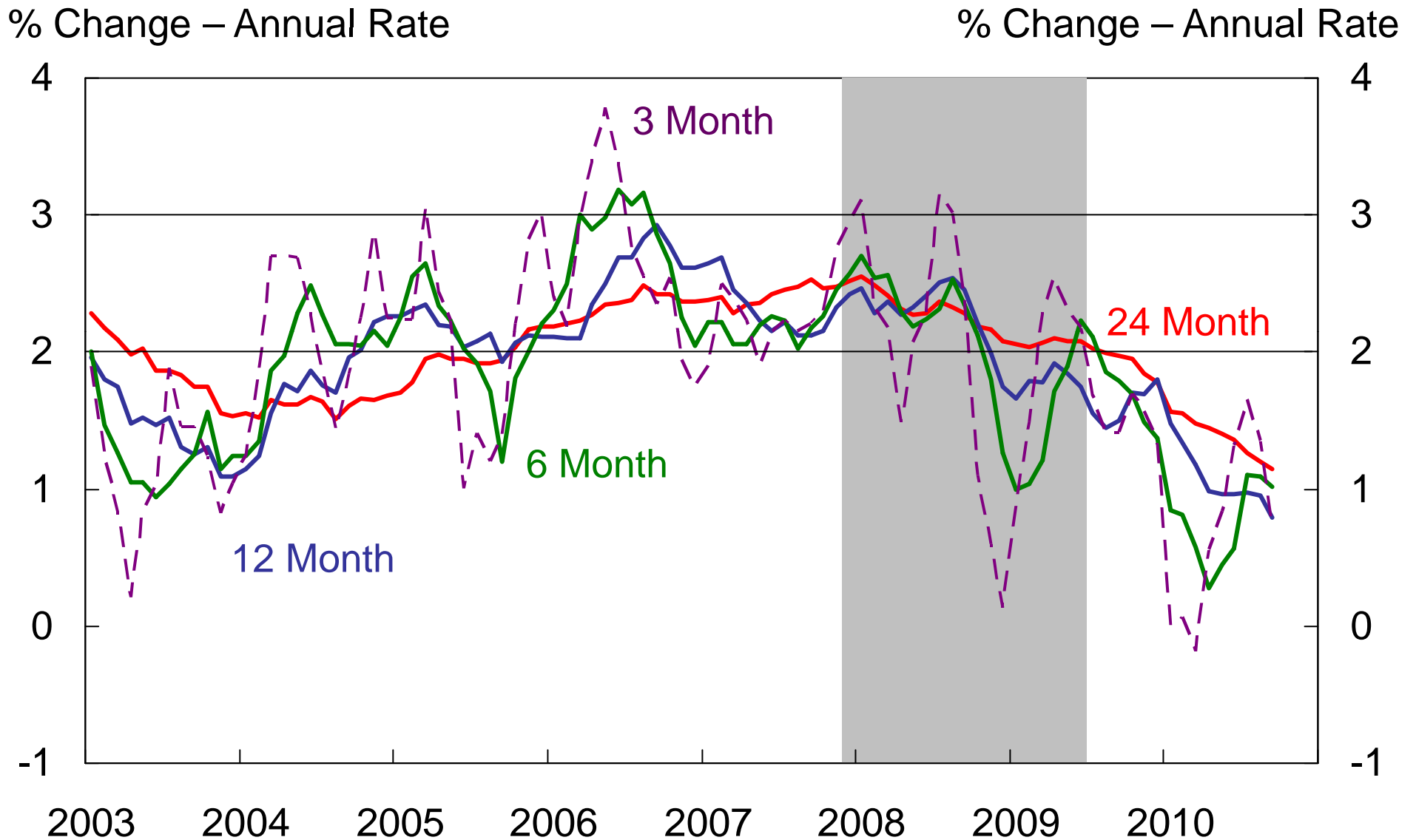
Source: Bureau of Labor Statistics and Cleveland Fed

# Measures of CPI Inflation Since 2003



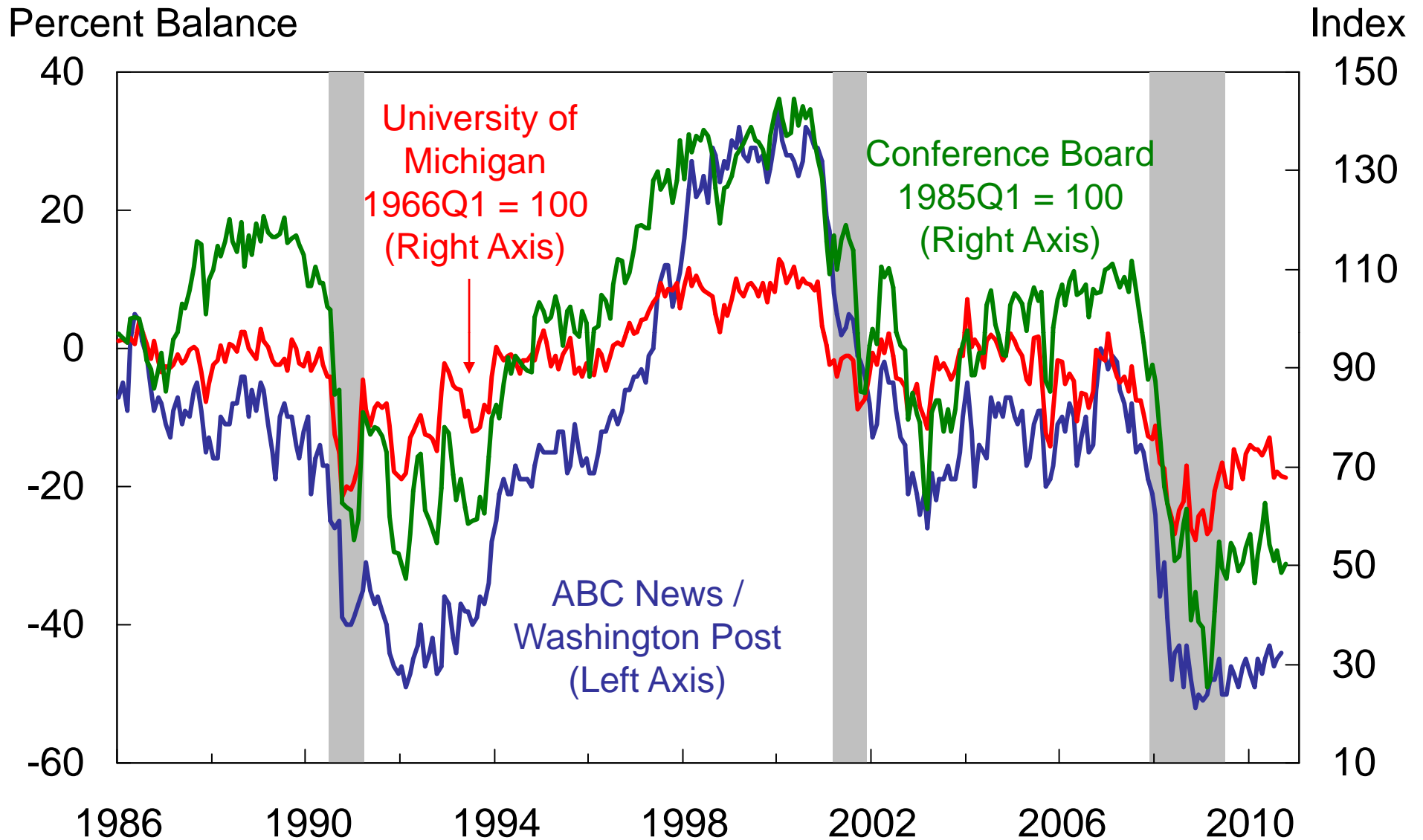
Source: Bureau of Labor Statistics and Cleveland Fed

# Core CPI Inflation over Various Horizons



Source: Bureau of Labor Statistics

# Consumer Confidence/Sentiment Indices



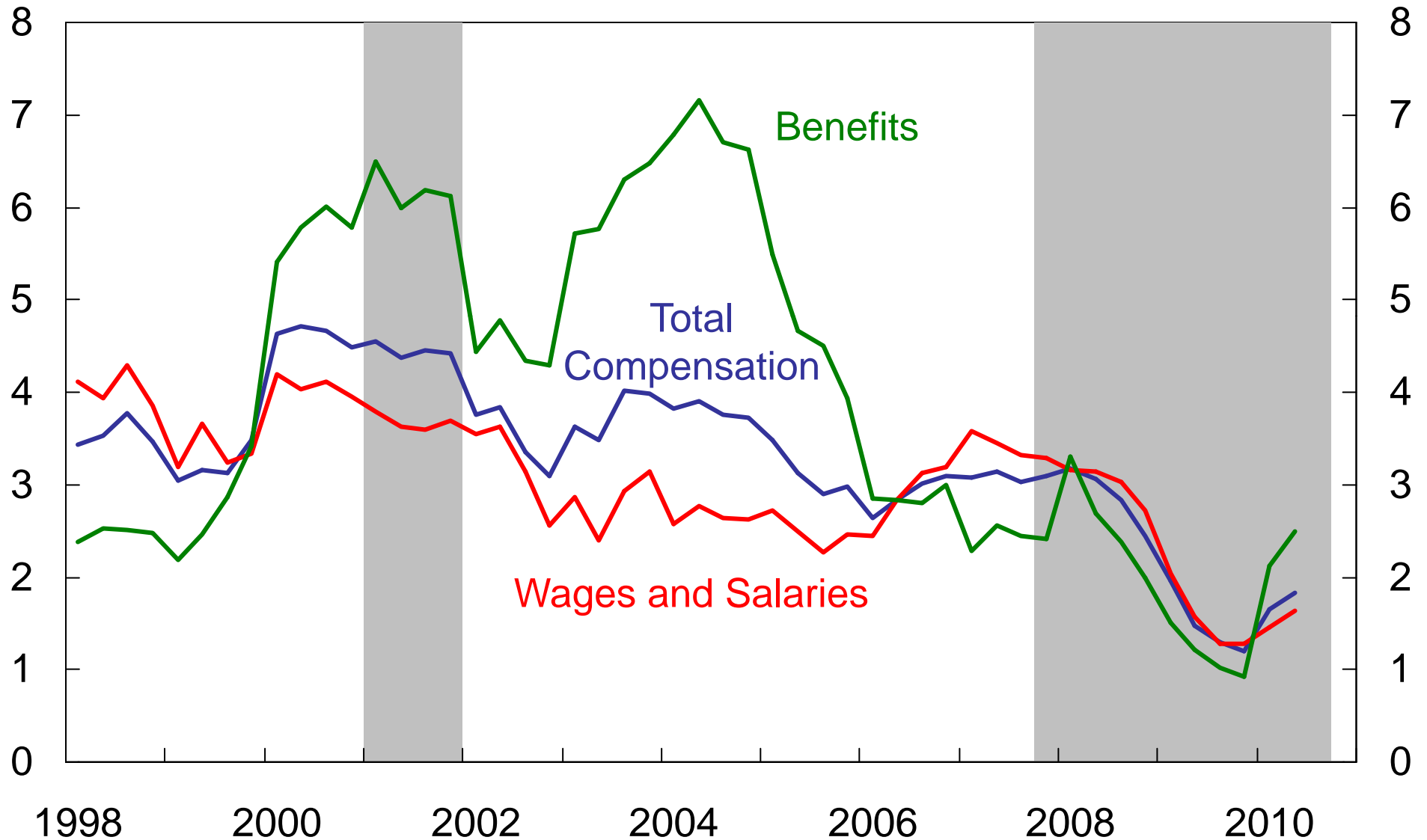
Source: University of Michigan, ABC News, Washington Post, and the Conference Board



# Employment Cost Index: Private Industry Workers

% Change - Year to Year

% Change - Year to Year

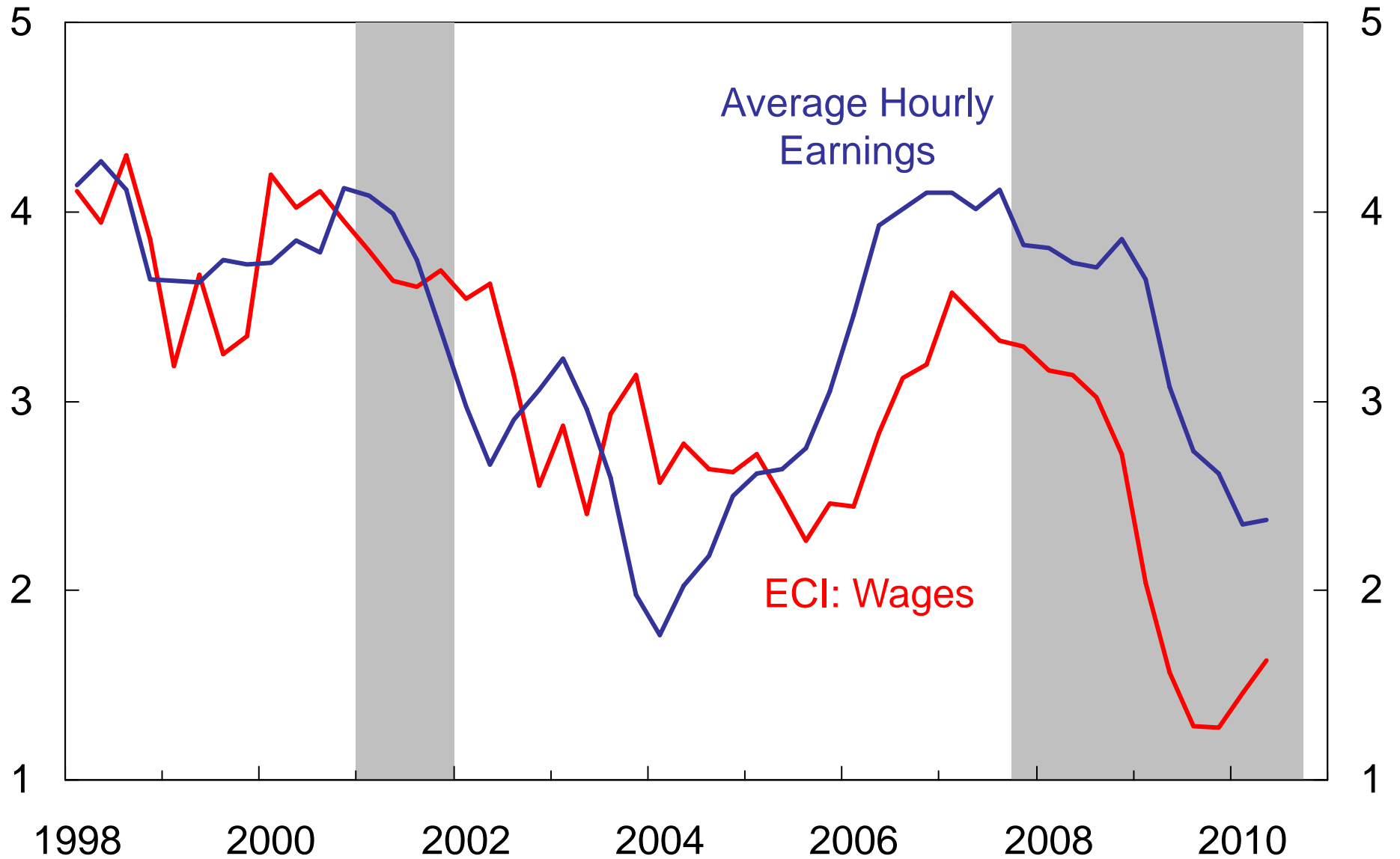


Source: Bureau of Labor Statistics

# Wages and Earnings: Total Private Industries

% Change - Year to Year

% Change - Year to Year

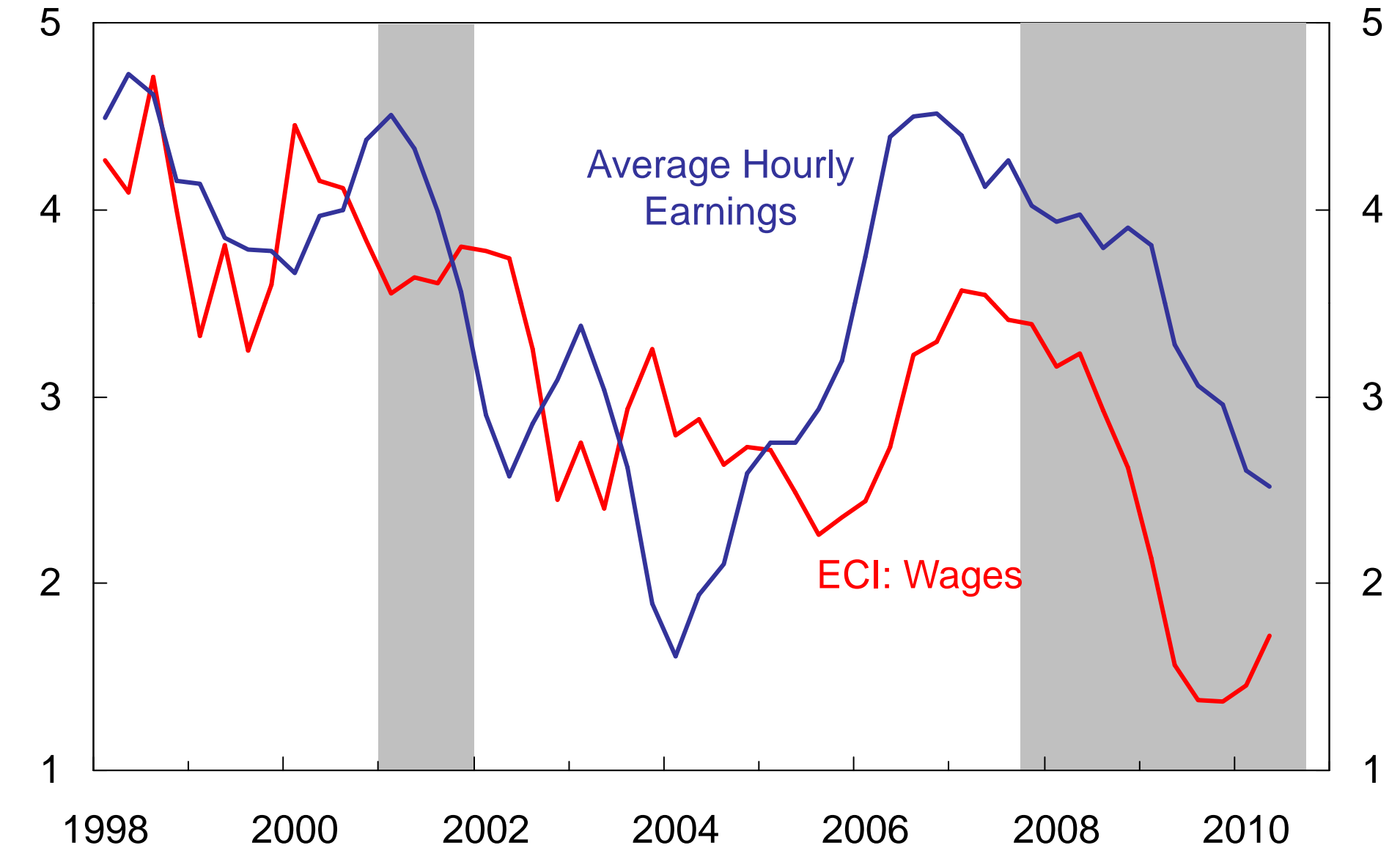


Source: Bureau of Labor Statistics

# Wages and Earnings: Service-Providing Industries

% Change - Year to Year

% Change - Year to Year

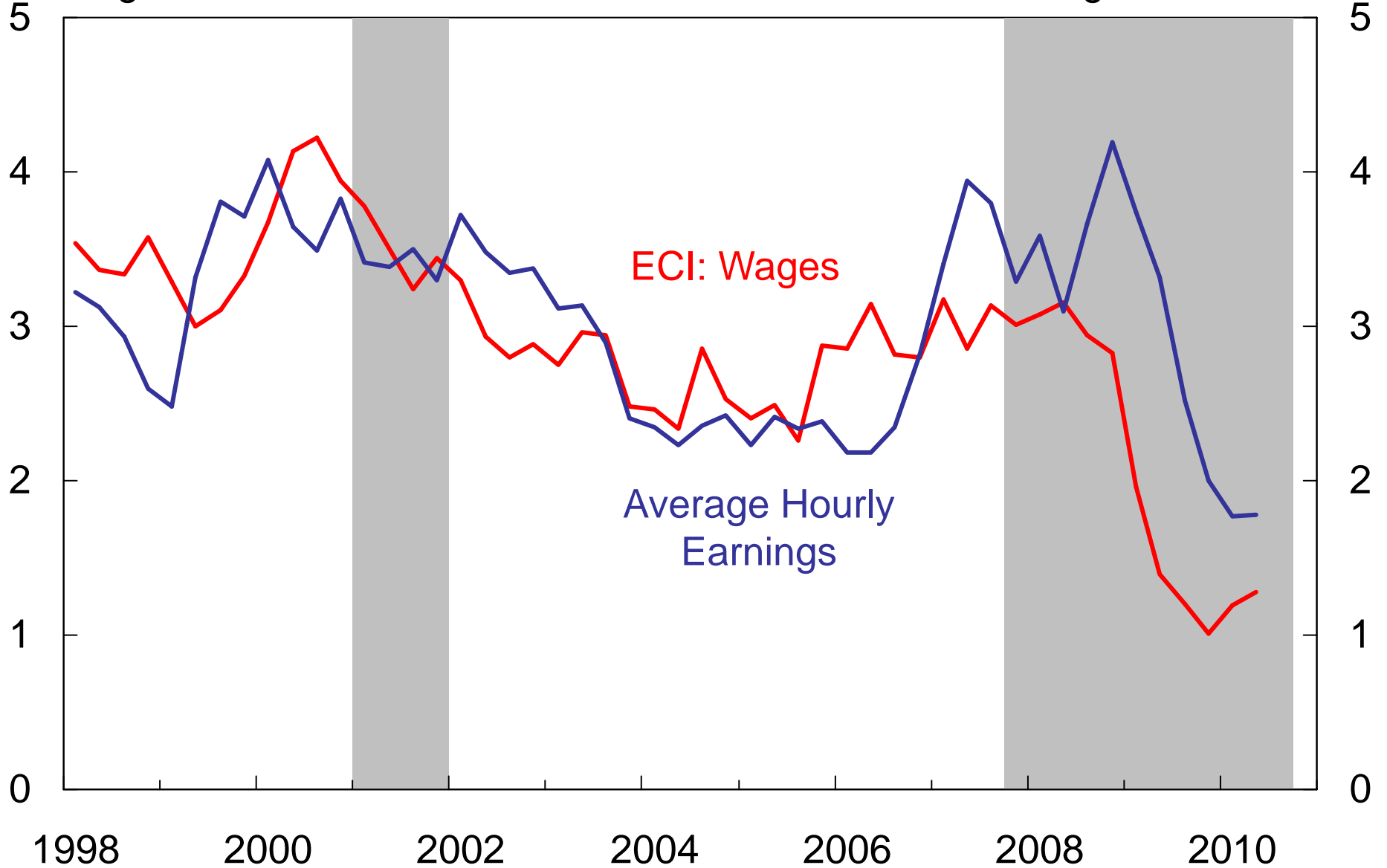


Source: Bureau of Labor Statistics

# Wages and Earnings: Goods-Producing Industries

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Labor Statistics

# Nonfarm Payroll Employment

Annualized Growth of Nonfarm Payroll Employment  
(percent change at an annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-2.3	0.3	0.5	-0.7	-0.9
Private	-2.6	0.6	1.2	1.0	0.7
Goods-Producing	-7.6	-0.6	1.3	0.6	-1.5
Construction	-10.8	-3.6	-0.3	0.6	-4.4
Manufacturing	-6.2	0.3	1.4	-0.1	-0.6
Durables	-7.4	0.9	2.3	0.6	0.0
Nondurables	-4.3	-0.6	-0.1	-1.1	-1.6
Private Service Providing	-1.5	0.8	1.2	1.1	1.2
Wholesale Trade	-2.8	0.2	0.6	0.6	0.5
Retail Trade	-2.4	0.1	0.1	0.4	0.5
Transportation and Warehousing	-3.2	0.4	2.6	2.4	2.8
Utilities	-0.8	-1.8	-2.6	-3.1	-4.3
Information	-4.4	-2.4	-1.2	0.0	-2.2
Financial Activities	-3.3	-1.4	-0.8	-0.7	-0.2
Professional and Business Services	-2.5	2.4	2.0	0.9	1.0
Temporary Help Services	-3.2	23.4	10.1	5.4	10.0
Education and Health Services	1.7	1.9	1.7	1.6	1.0
Leisure and Hospitality	-0.8	0.5	1.8	2.1	3.5
Food and Drinking Places	-0.5	0.7	1.0	1.9	4.4
Other Services	-1.3	0.4	1.6	2.6	1.6
Government	-0.7	-1.1	-2.4	-8.4	-8.2
Federal Government	1.3	0.9	-4.6	-35.5	-27.1
State Government	-0.5	-0.6	-1.3	-1.5	-1.6
Local Government	-1.2	-1.7	-2.4	-3.9	-6.2

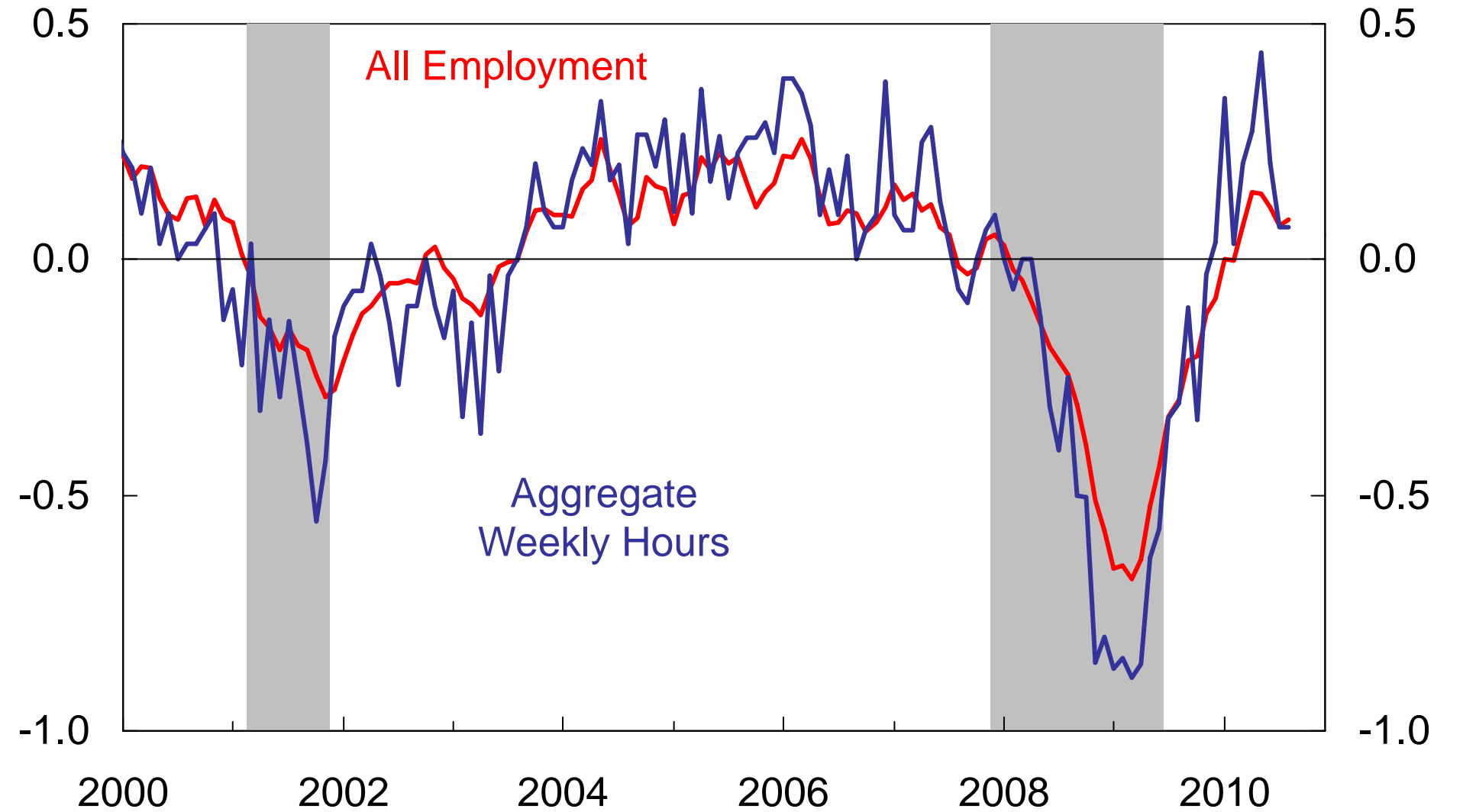
Source: Bureau of Labor Statistics

Note: Data through September 2010.

# Private Nonfarm Payroll Employment and Total Hours Worked

3-Month Moving Average of One-Month Change

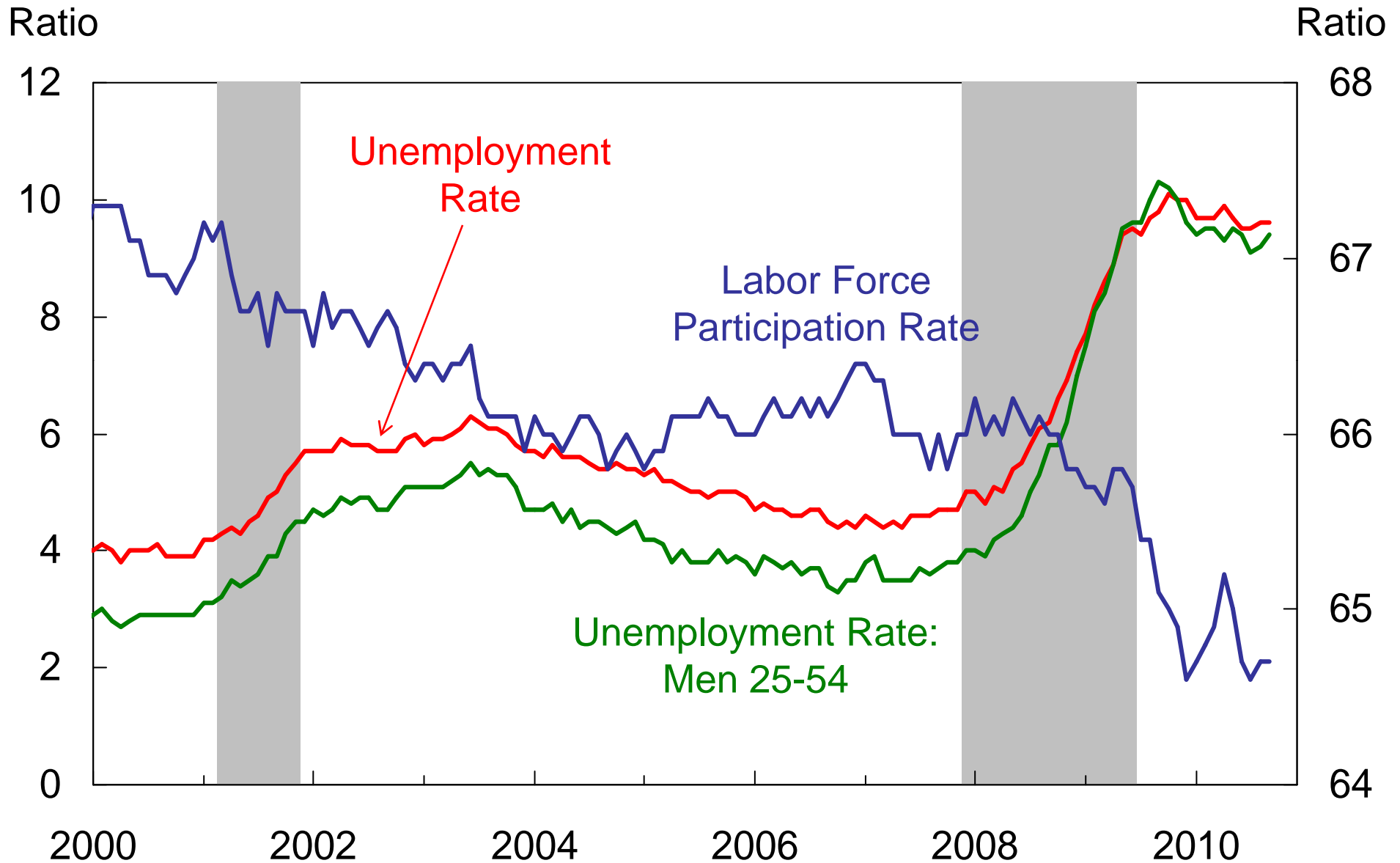
Percent



Percent

Source: Bureau of Labor Statistics

# Measures of the Employment Situation

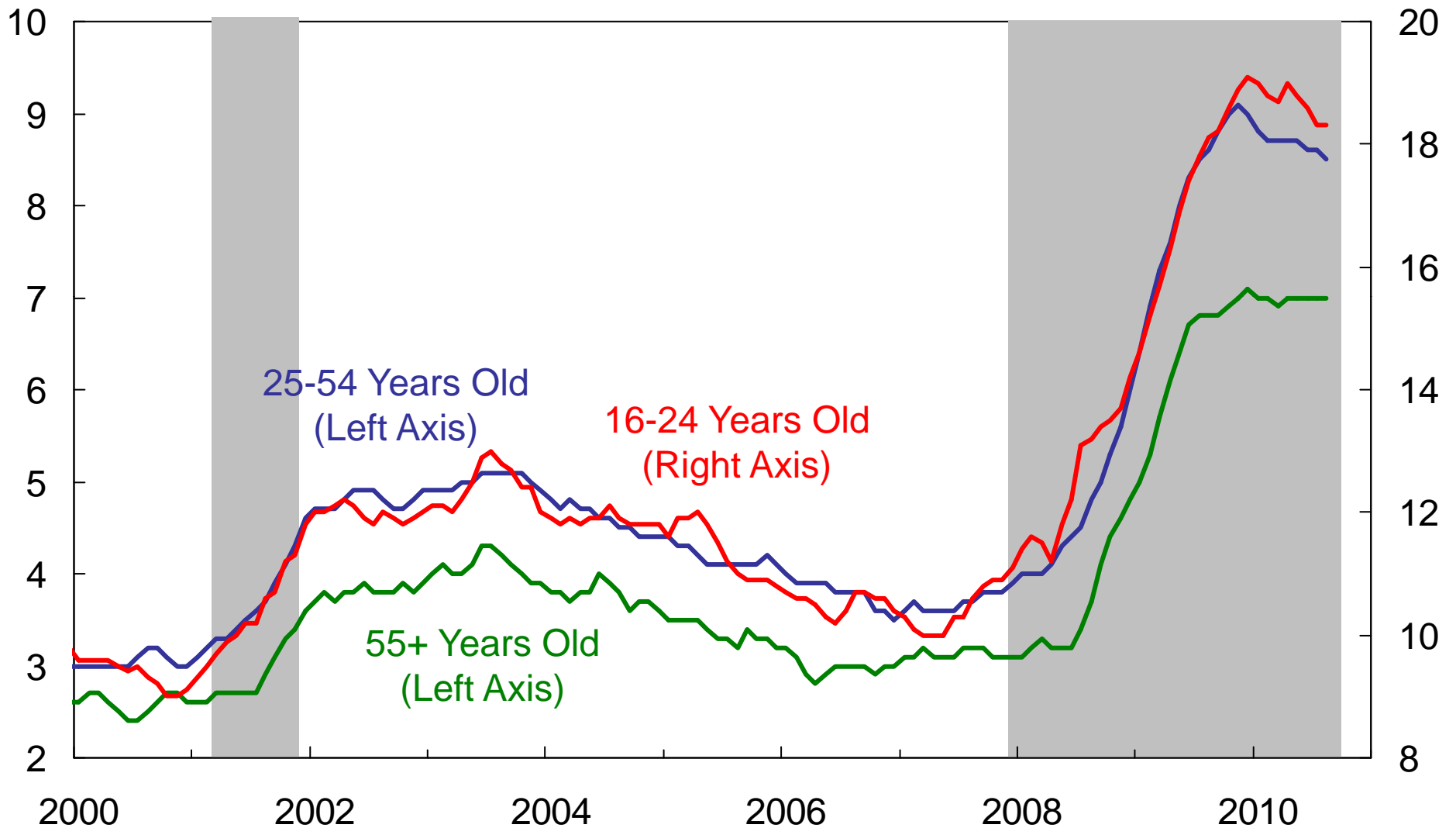


Source: Bureau of Labor Statistics

# Total Unemployment Rate by Age Group

3-month Moving Average

3-month Moving Average

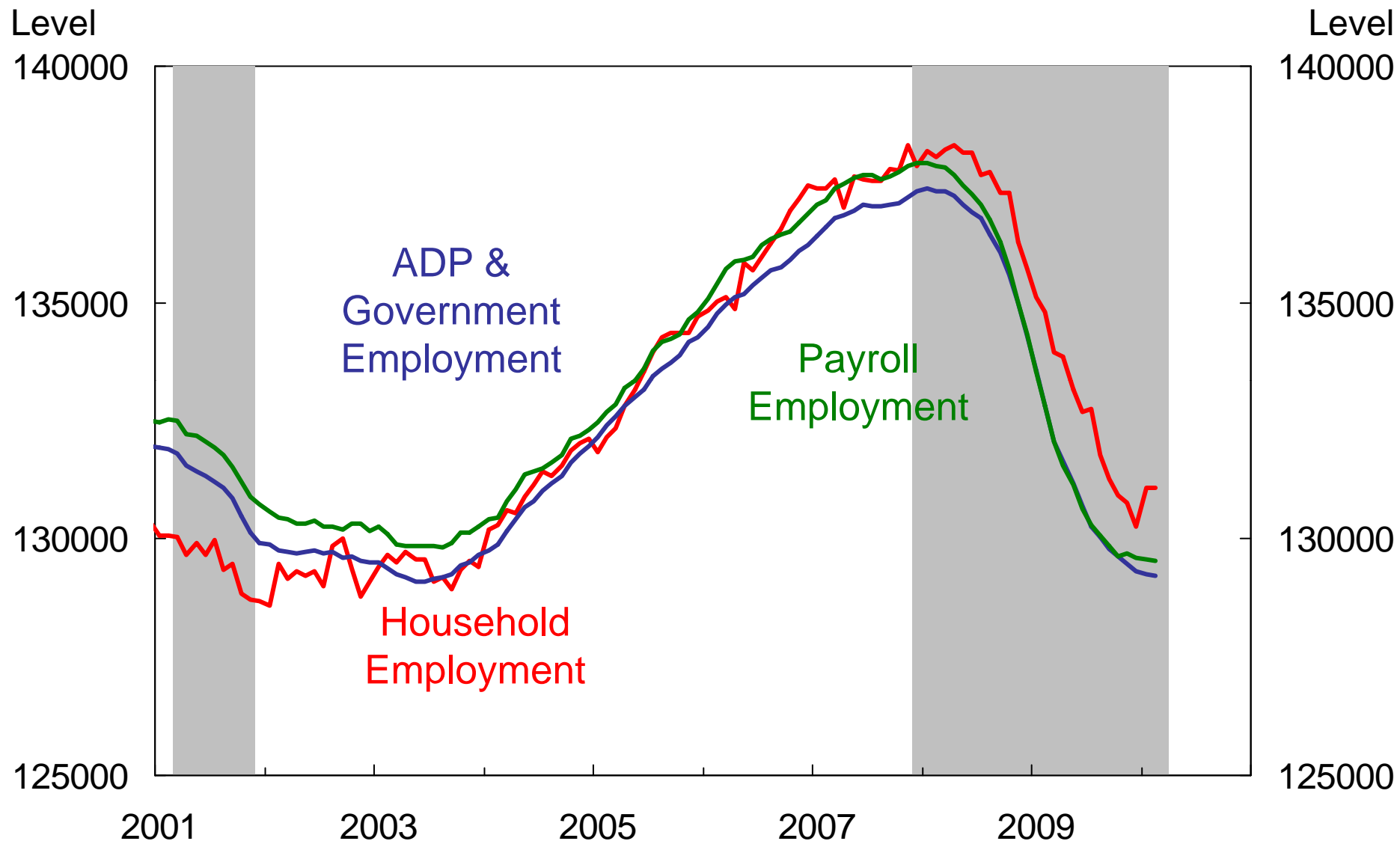


Note: Includes both male and female labor force participants.

Source: Bureau of Labor Statistics



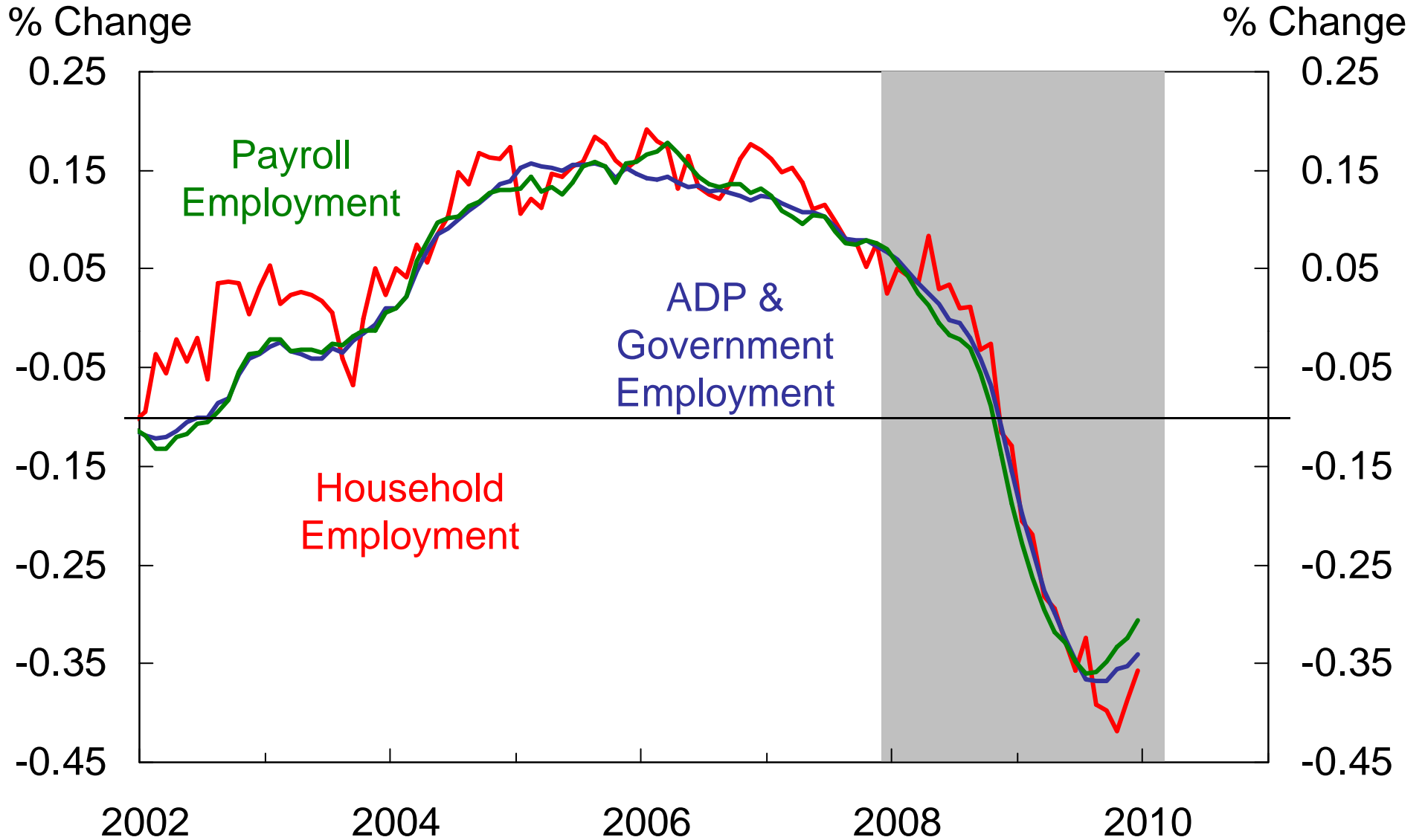
# Three Measures of Employment



Source: ADP and Bureau of Labor Statistics

# Three Measures of Employment

12-month moving average of 1-month changes



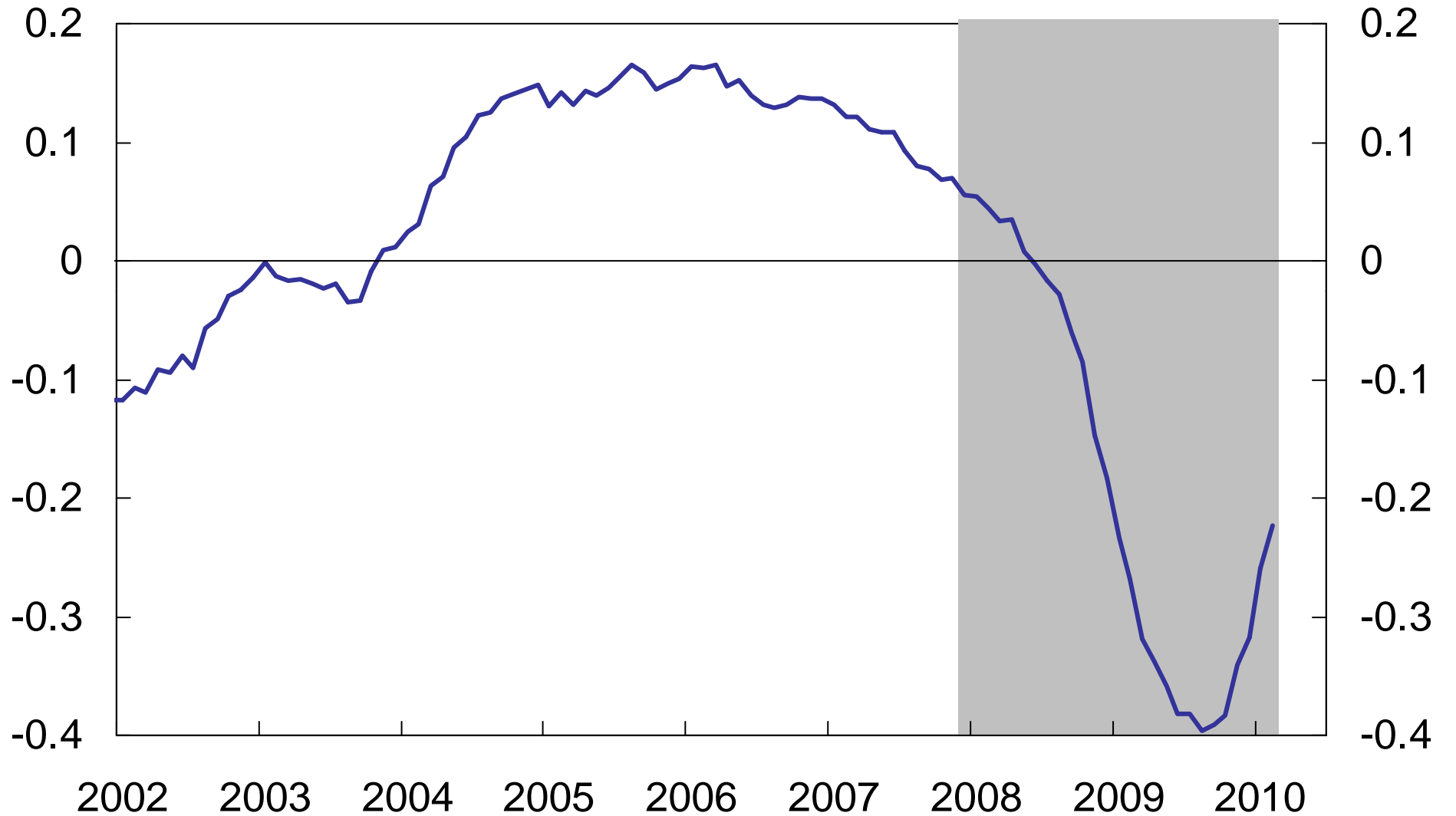
Source: ADP and Bureau of Labor Statistics



# An Alternative Measure of Employment Changes

12-month moving average of 1-month changes

% Change



Source: ADP and  
Bureau of Labor Statistics

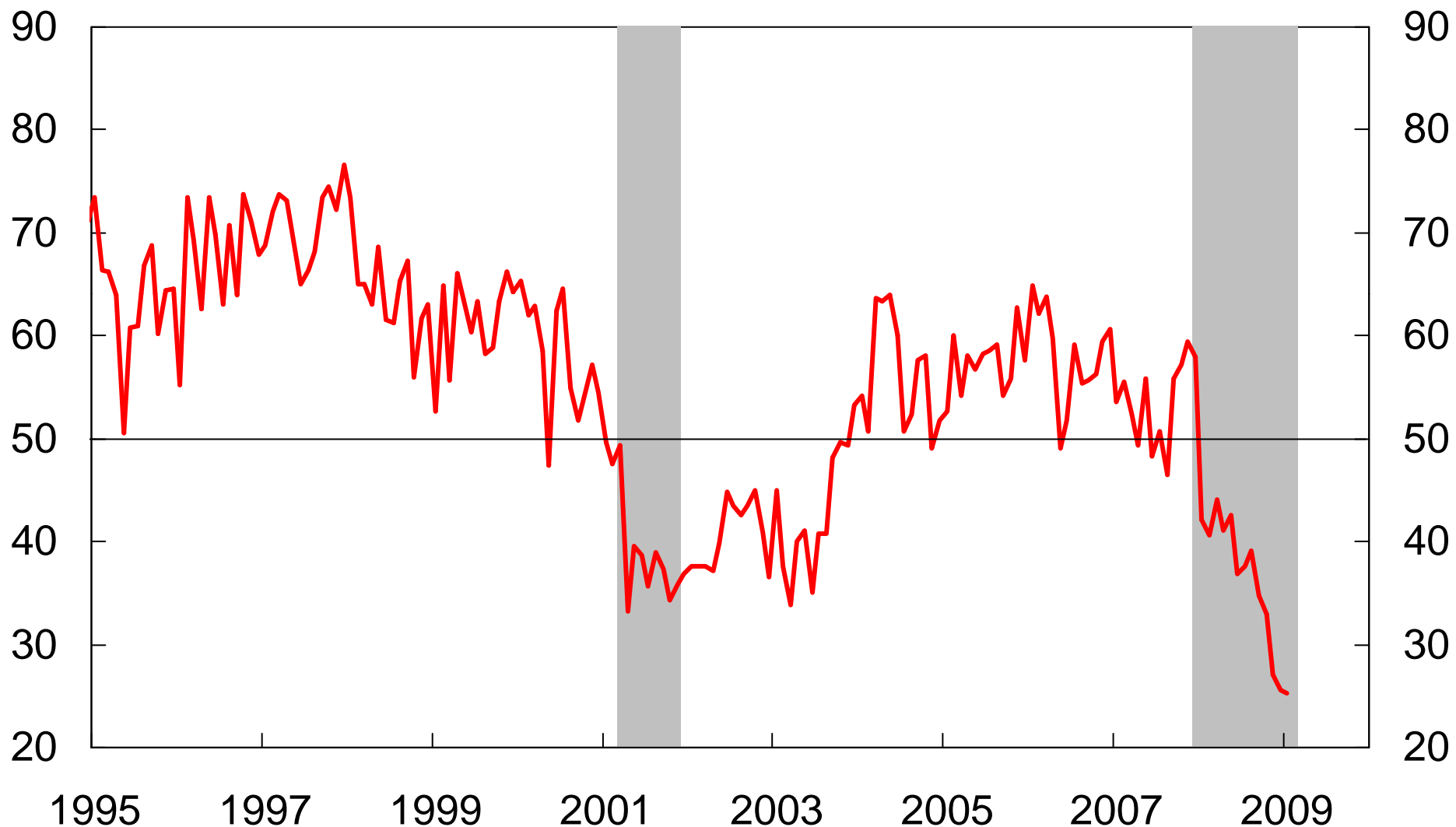
\* Weighted average of payroll, household adjusted to total payroll basis, and ADP using principal components.

# Diffusion Index of Employees on Private Nonagricultural Payrolls

1-Month Span

Percent Rising

Percent Rising

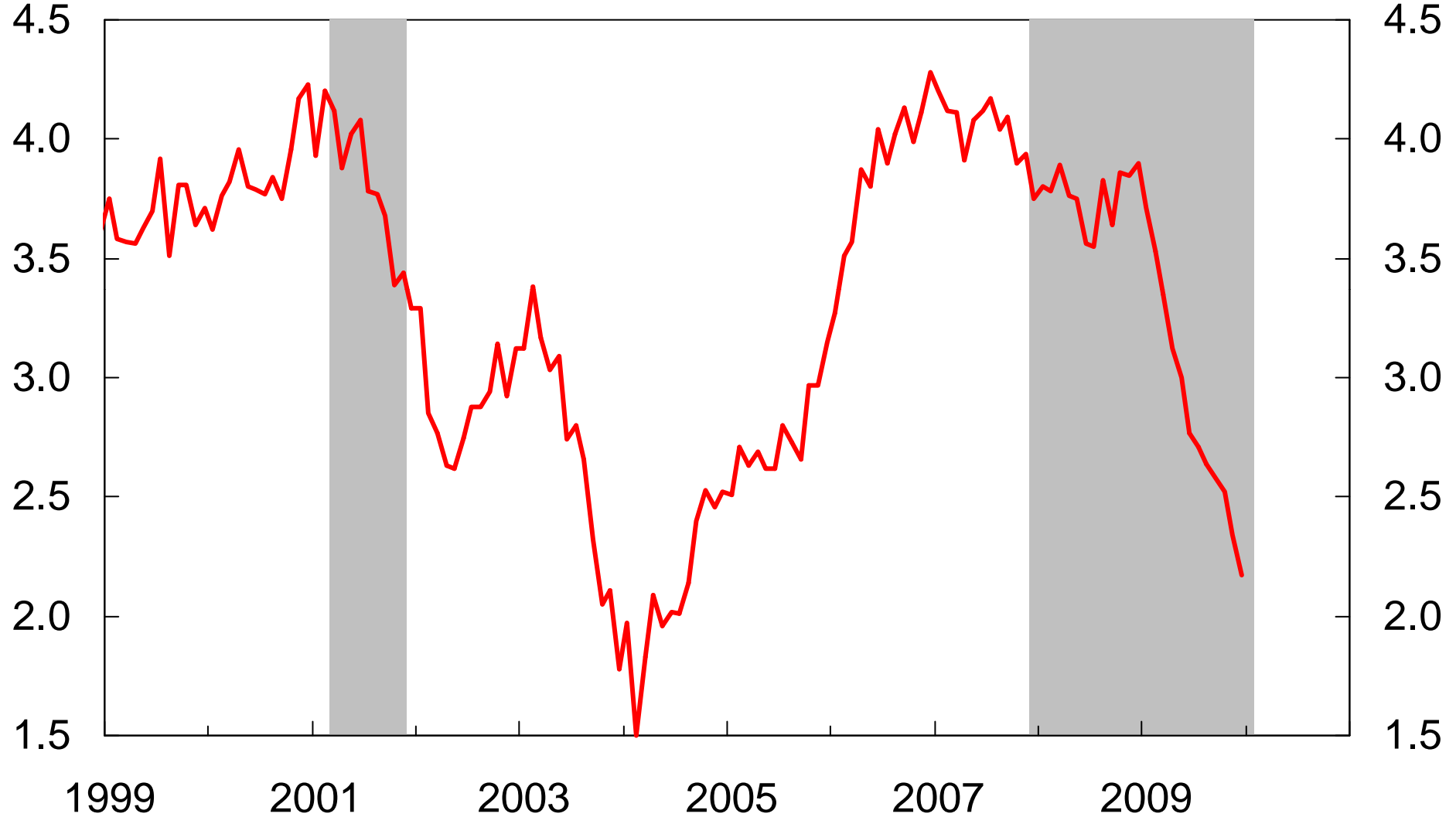


Source: Bureau of Labor Statistics

# Total Private Average Hourly Earnings

% Change - Year to Year

% Change - Year to Year



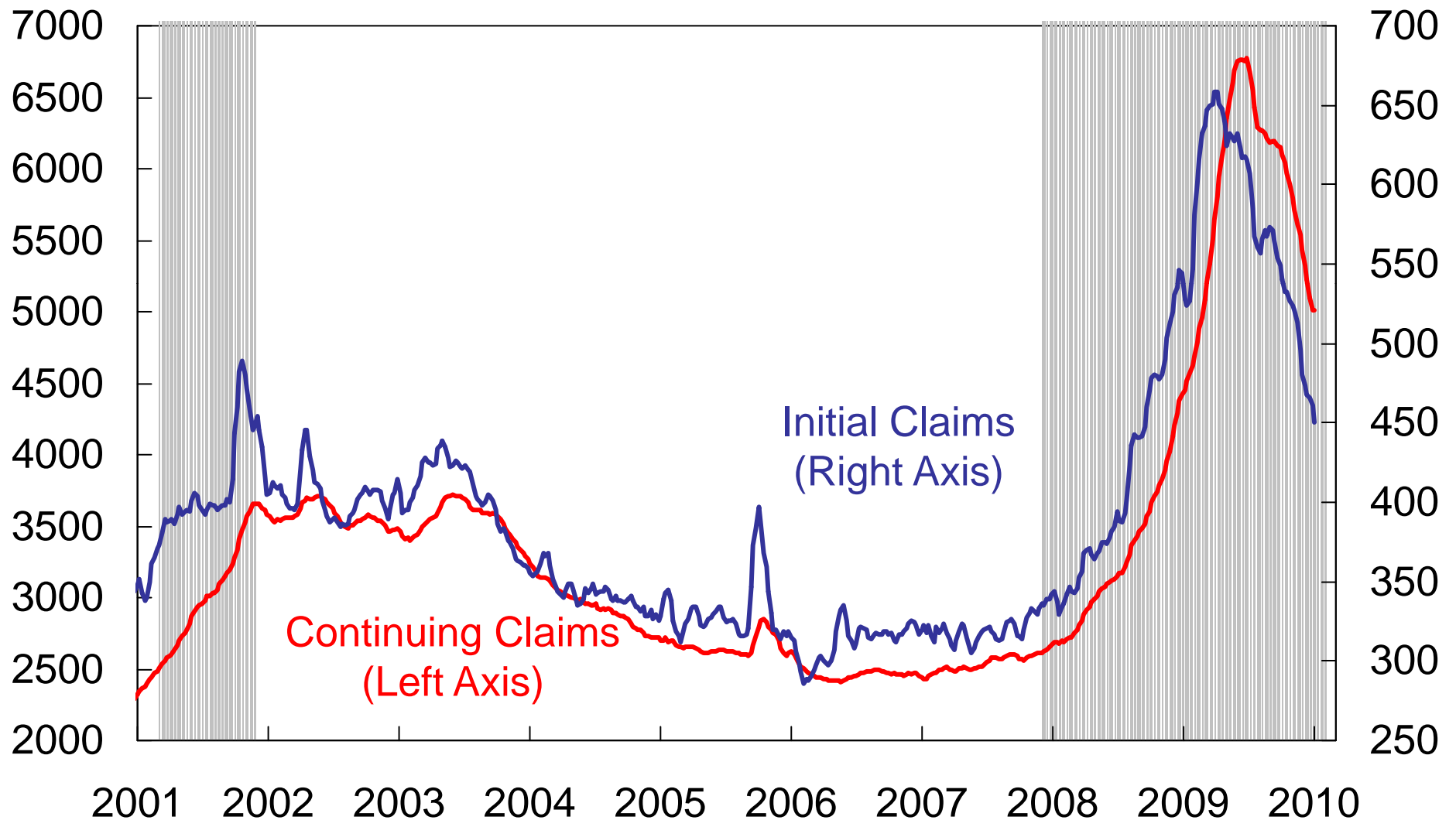
Source: Bureau of Labor Statistics



# Unemployment Insurance

4-Week Moving Average

4-Week Moving Average

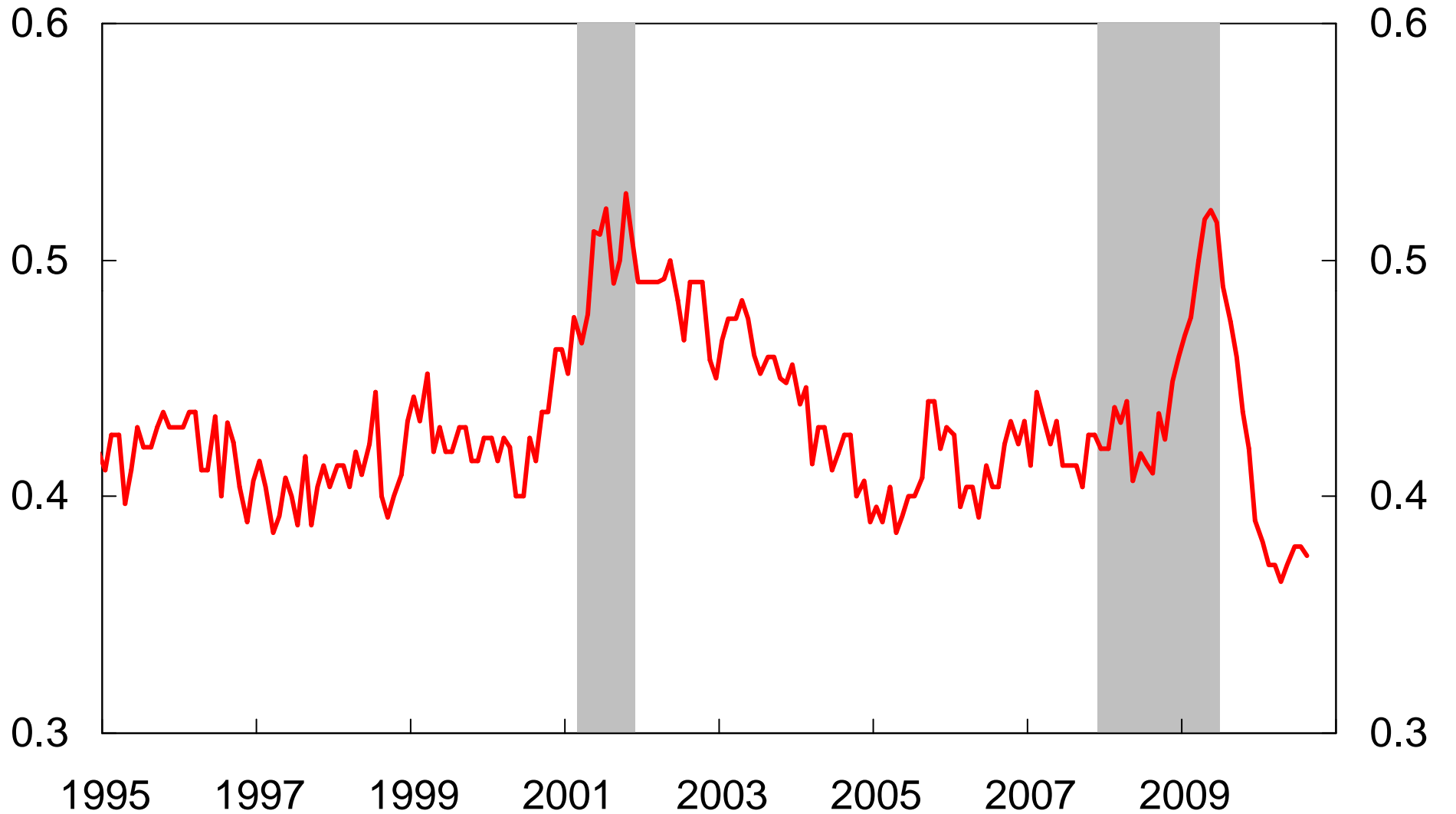


Source: Department of Labor

# Unemployment Rate (SA)

Insured/Total

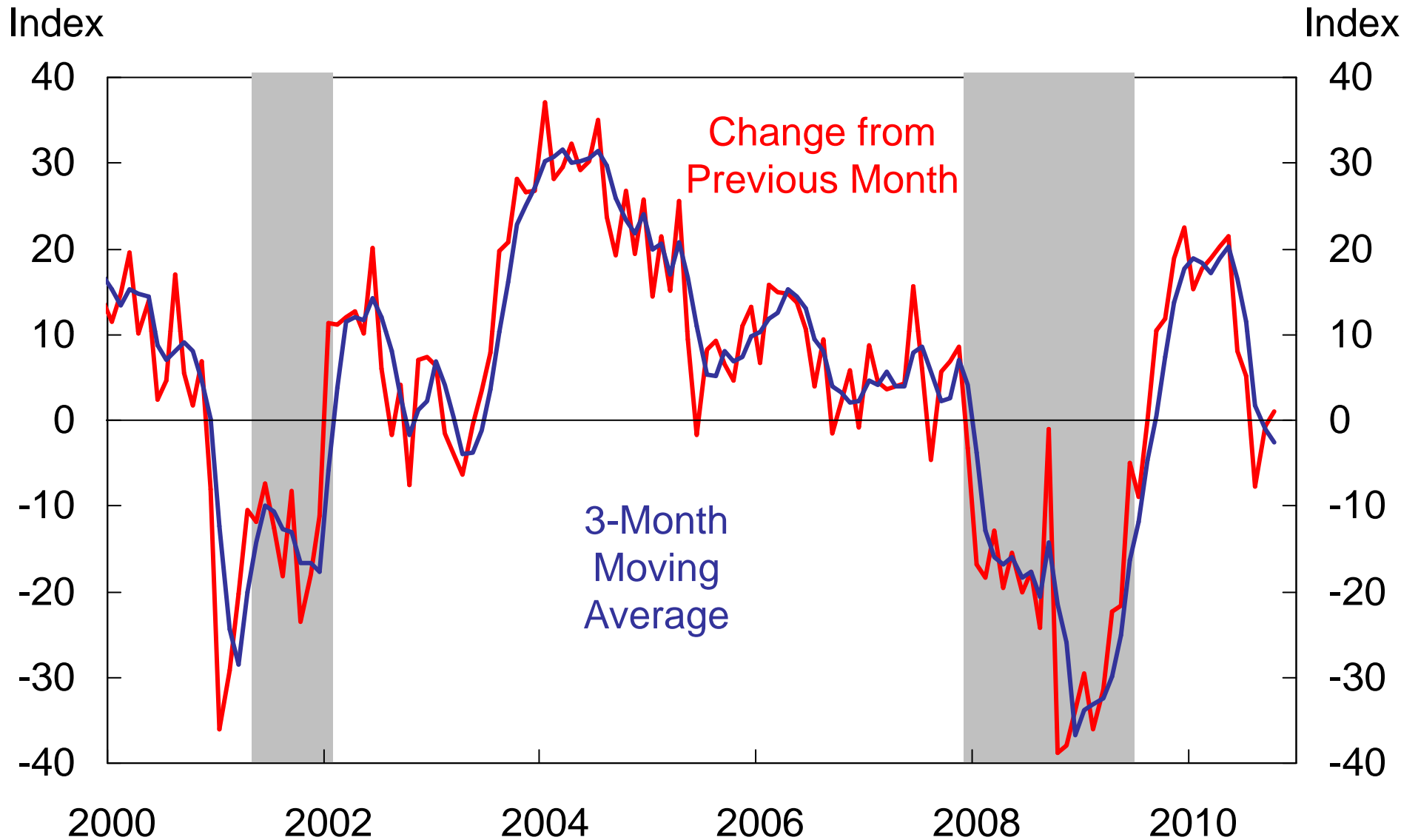
Ratio



Source: Bureau of Labor Statistics/Department of Labor

# Philadelphia Fed Survey

## General Business Conditions

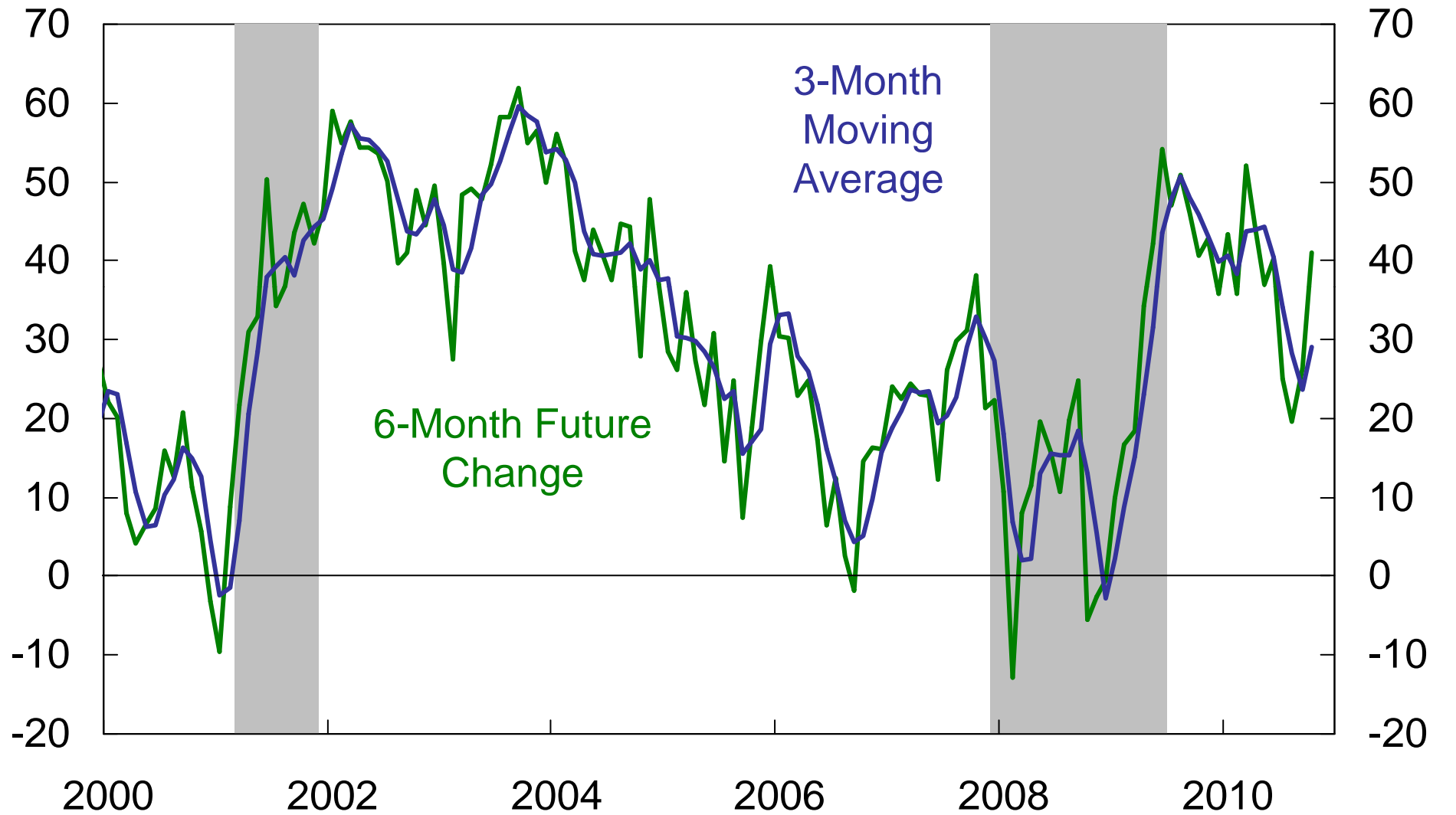


Source: Philadelphia Fed



# Philadelphia Fed Survey General Business Conditions

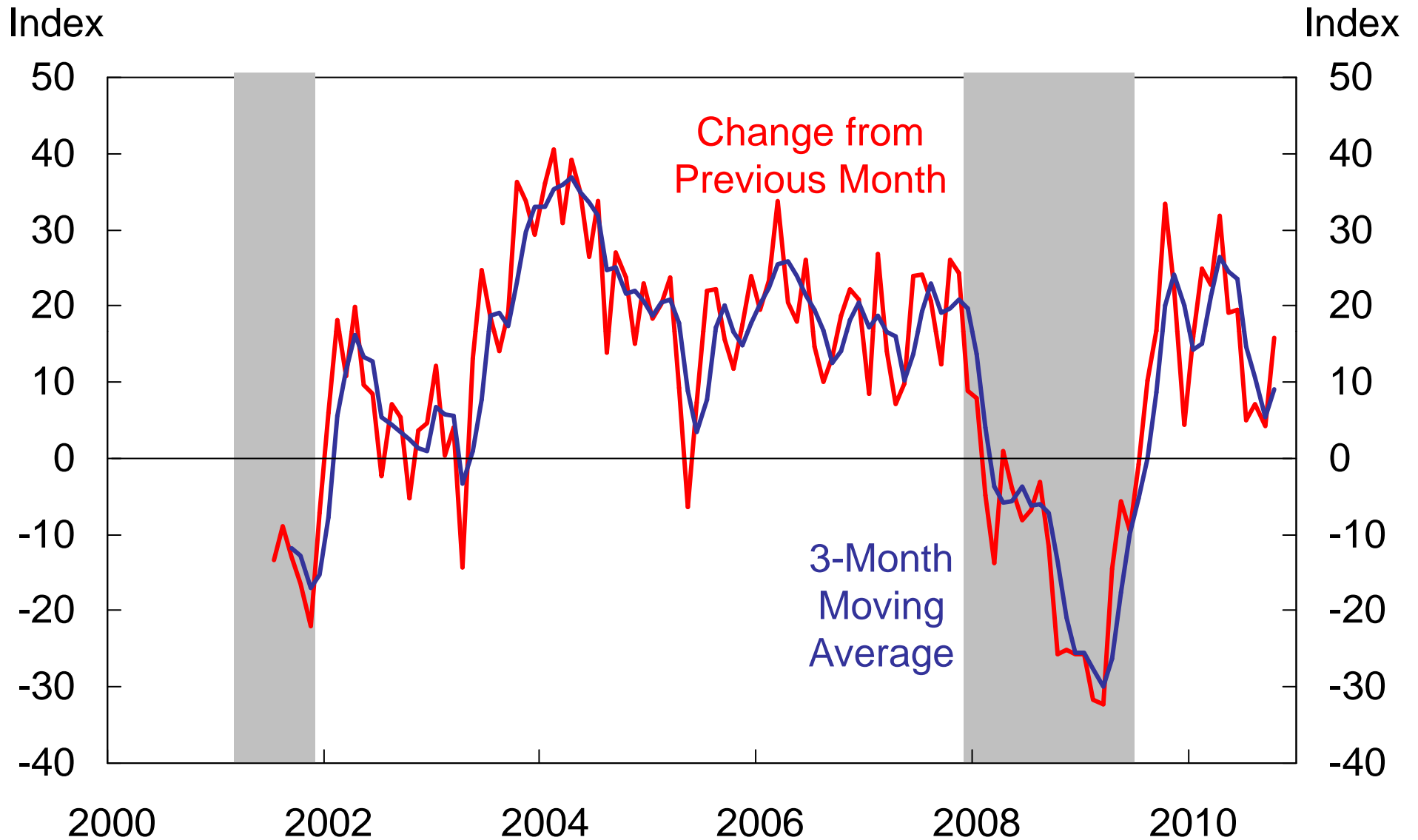
Index



Source: Philadelphia Fed

# Empire State Manufacturing Survey

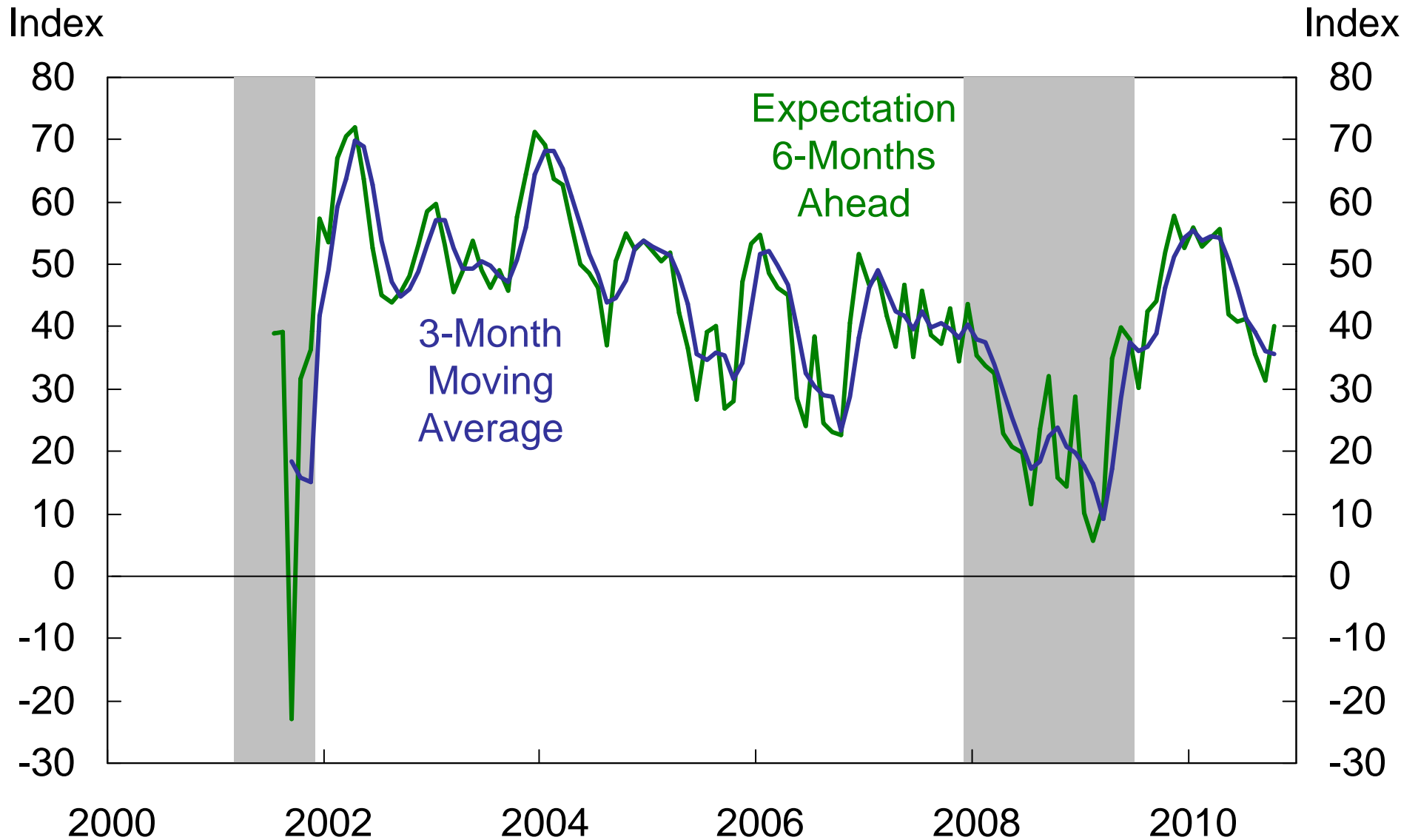
## General Business Conditions



Source: FRBNY

# Empire State Manufacturing Survey

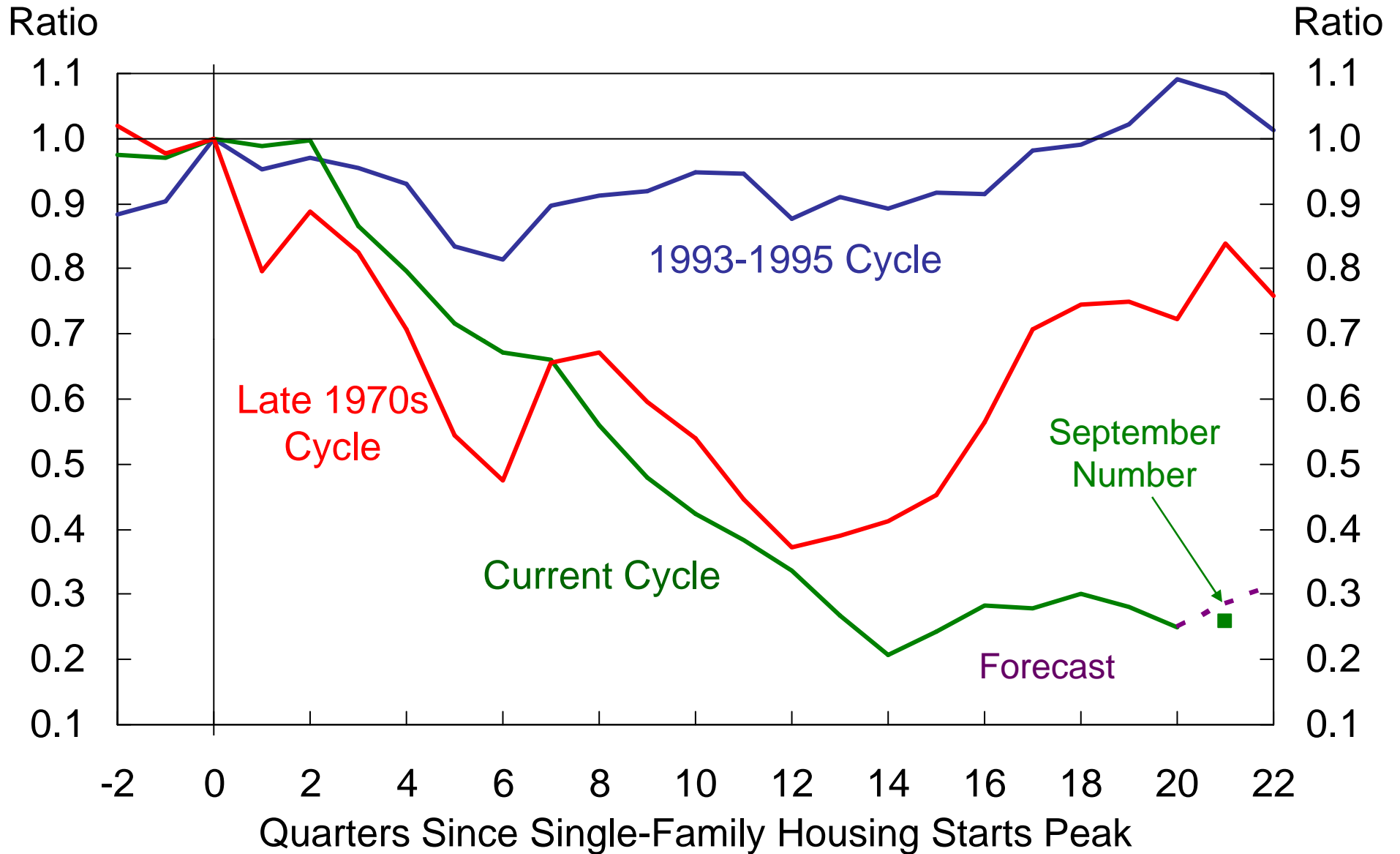
## General Business Conditions



Source: FRBNY

# Single-Family Housing Starts

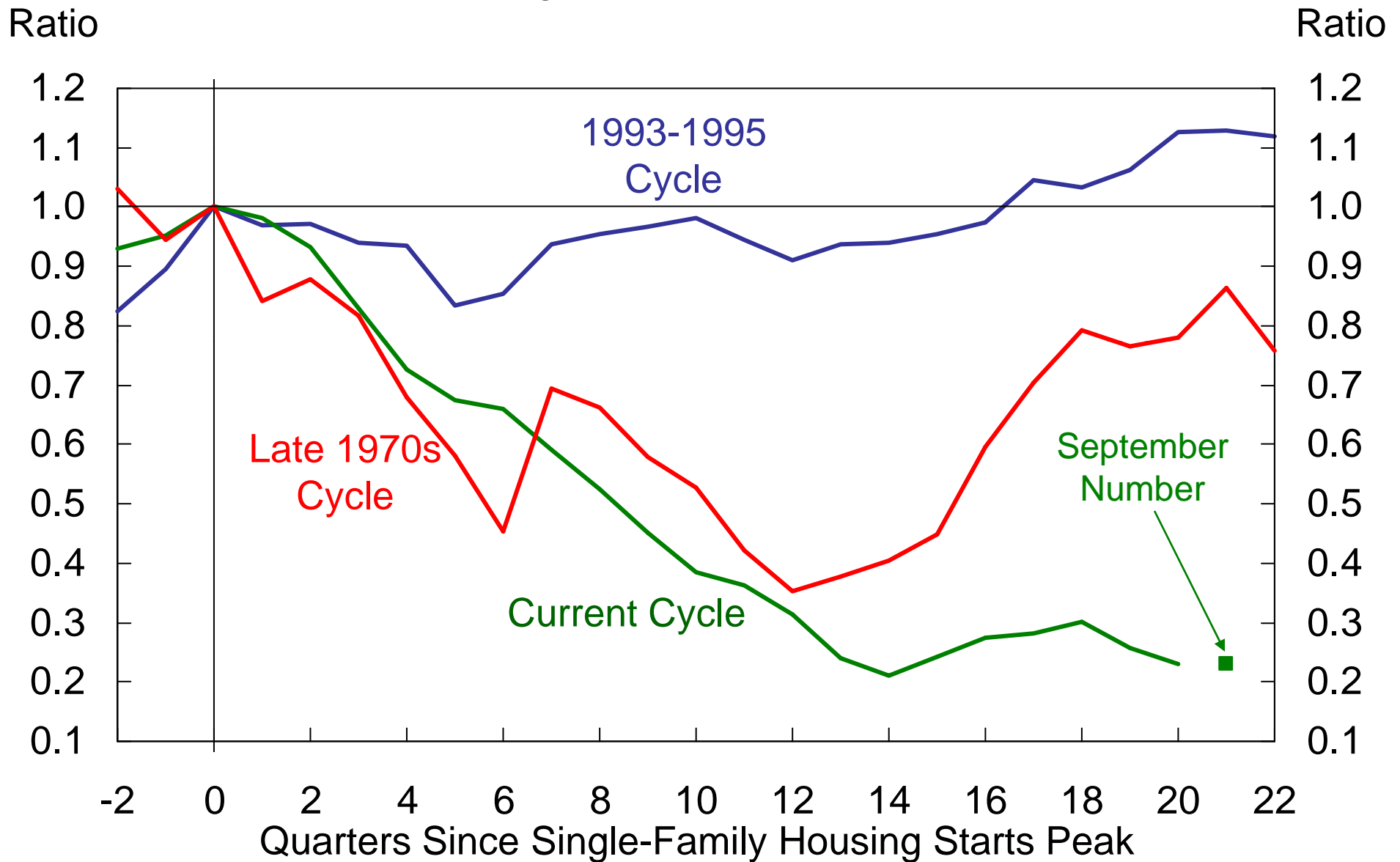
(Series Set to 1.0 at Housing Start Peak)



Source: Census Bureau

# Single-Family Housing Permits

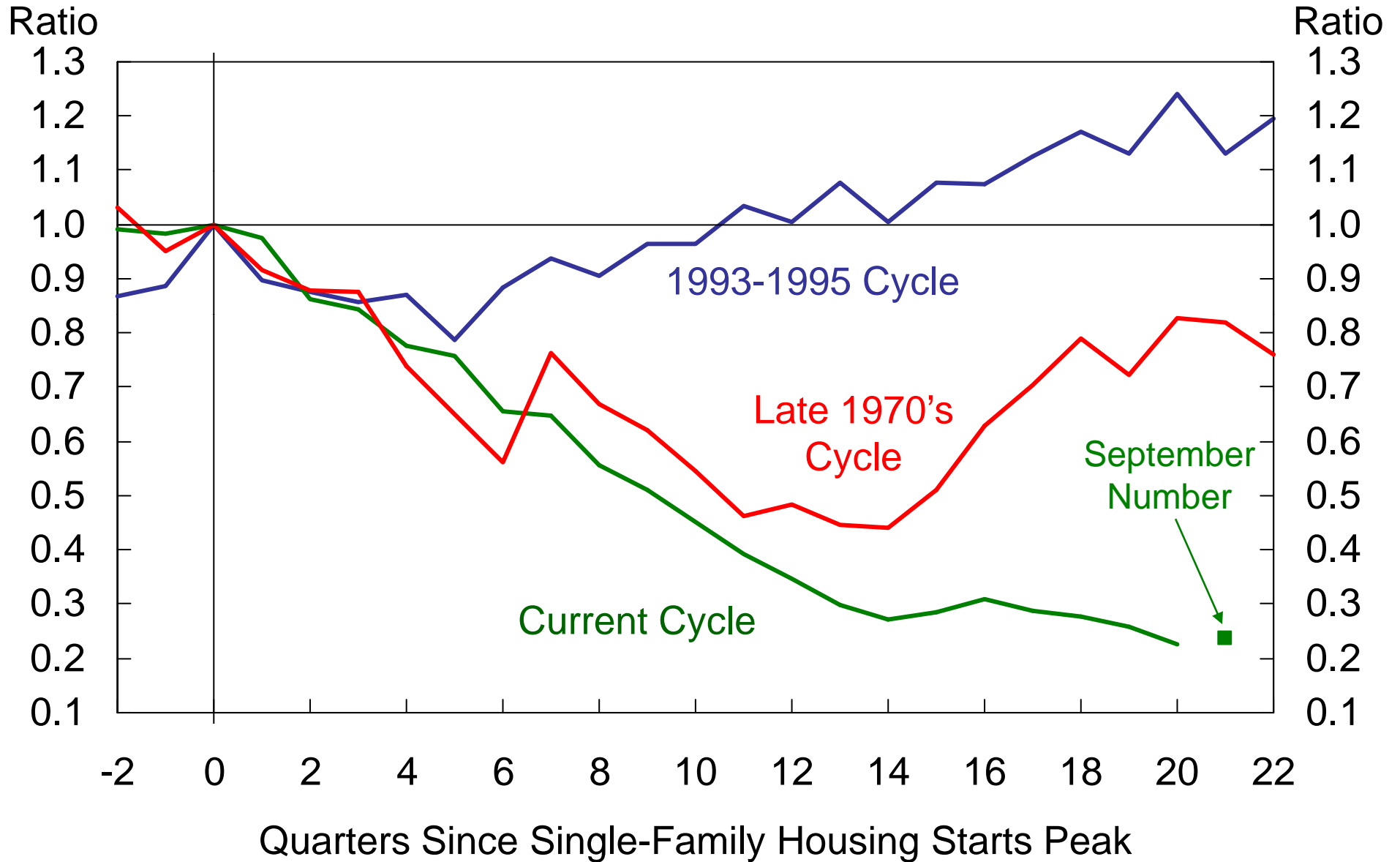
(Series Set to 1.0 at Housing Start Peak)



Source: Census Bureau

# Single-Family New Home Sales

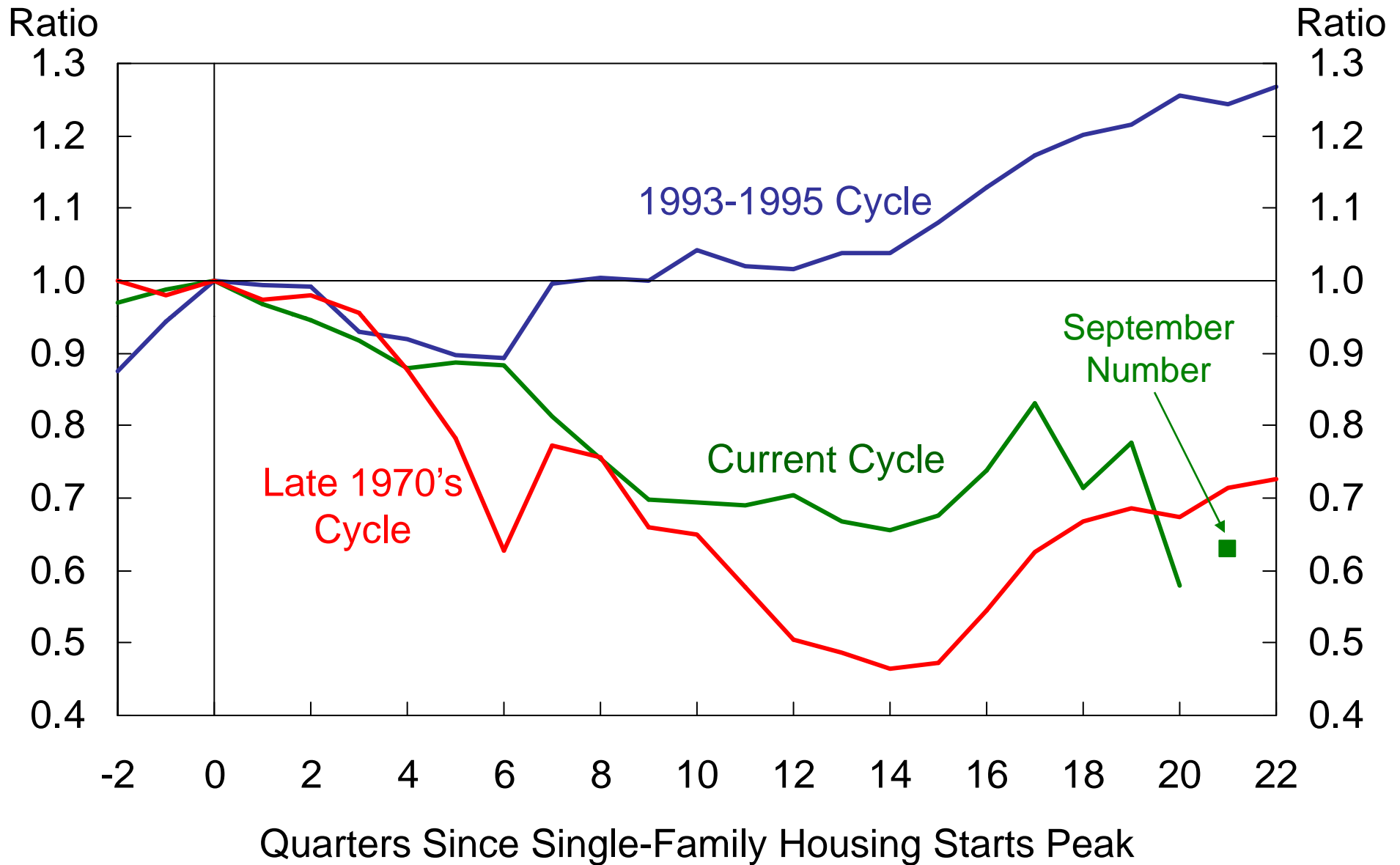
(Series Set to 1.0 at Housing Start Peak)



Source: Census Bureau

# Single-Family Existing Home Sales

(Series Set to 1.0 at Housing Start Peak)



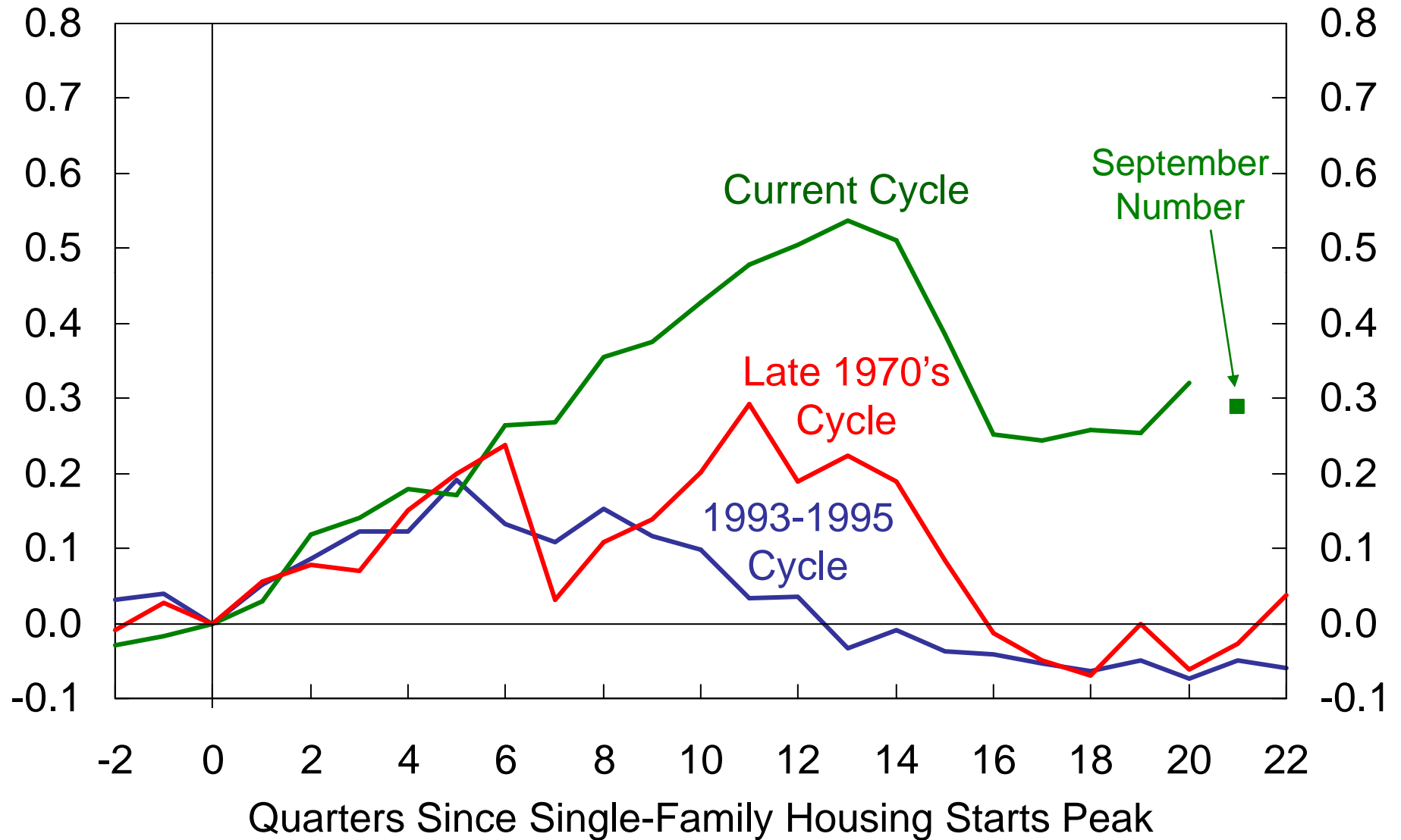
Source: Census Bureau

# New Home Inventory / Sales Ratio

(Series Set to 0.0 at Housing Start Peak)

Difference

Difference



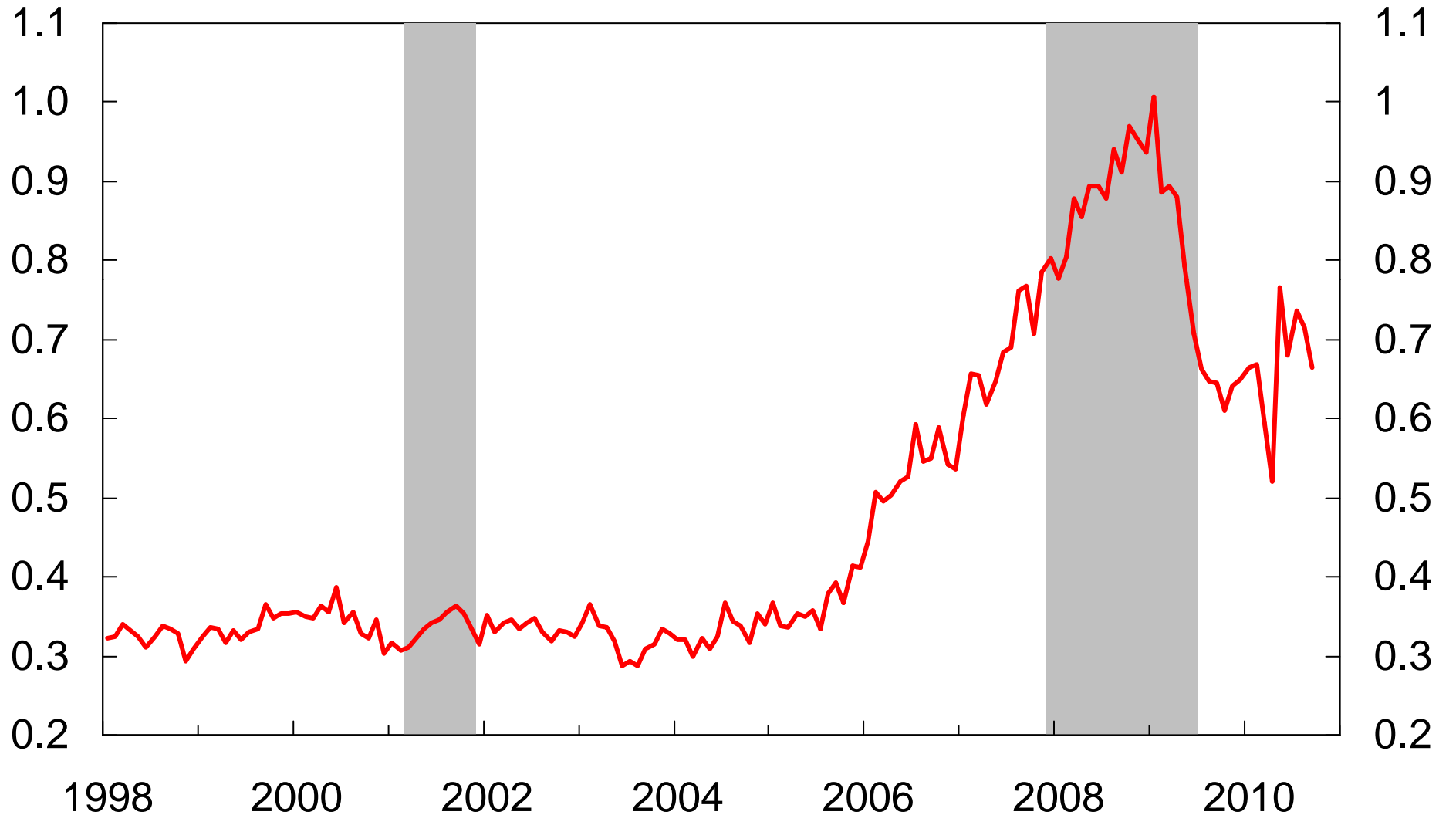
Source: Census Bureau



# Housing Inventory/Sales Ratio

New Single-Family Houses For Sale/New Single-Family Houses Sold

Ratio

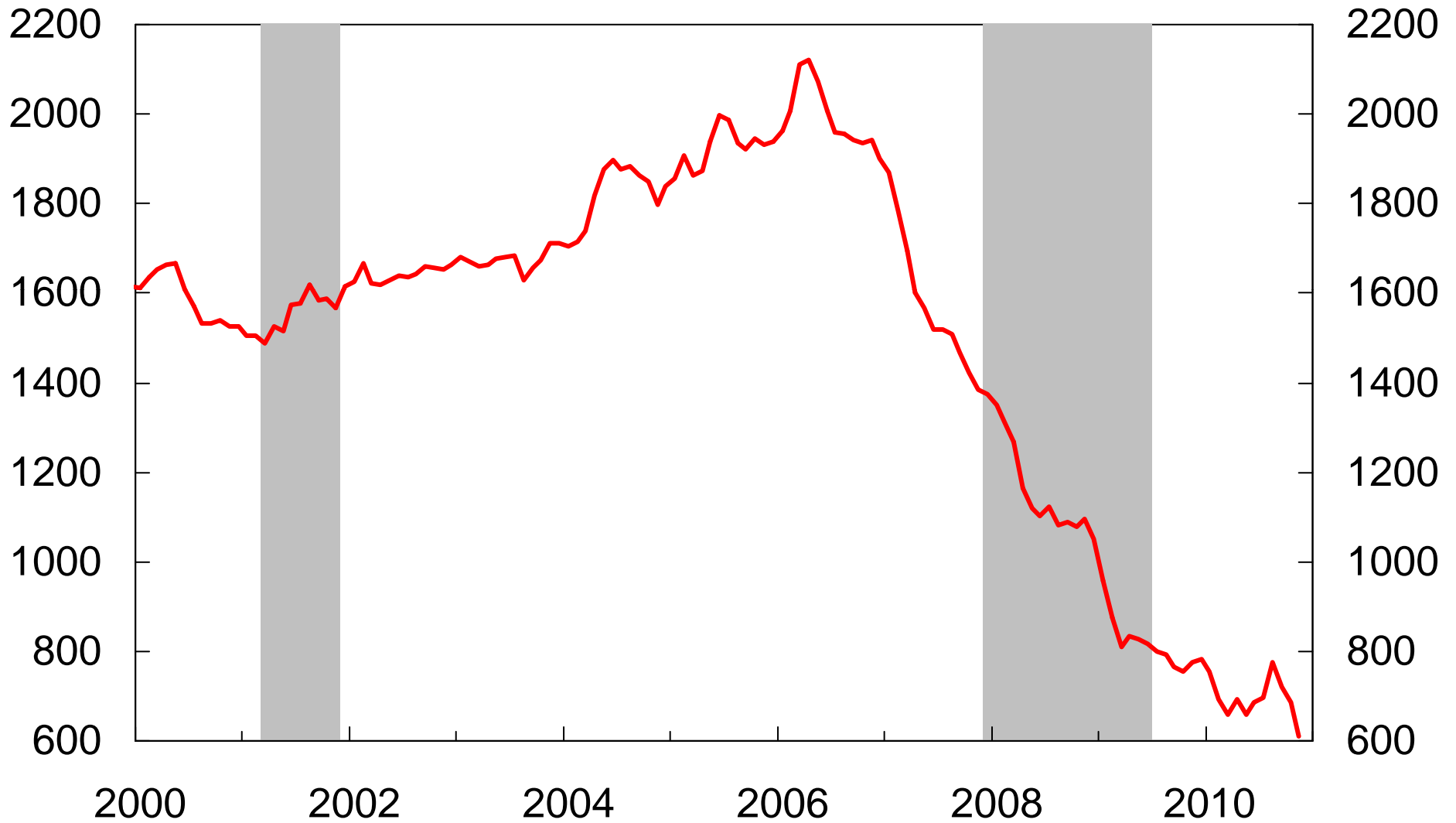


Source: Census Bureau

# Housing Completions

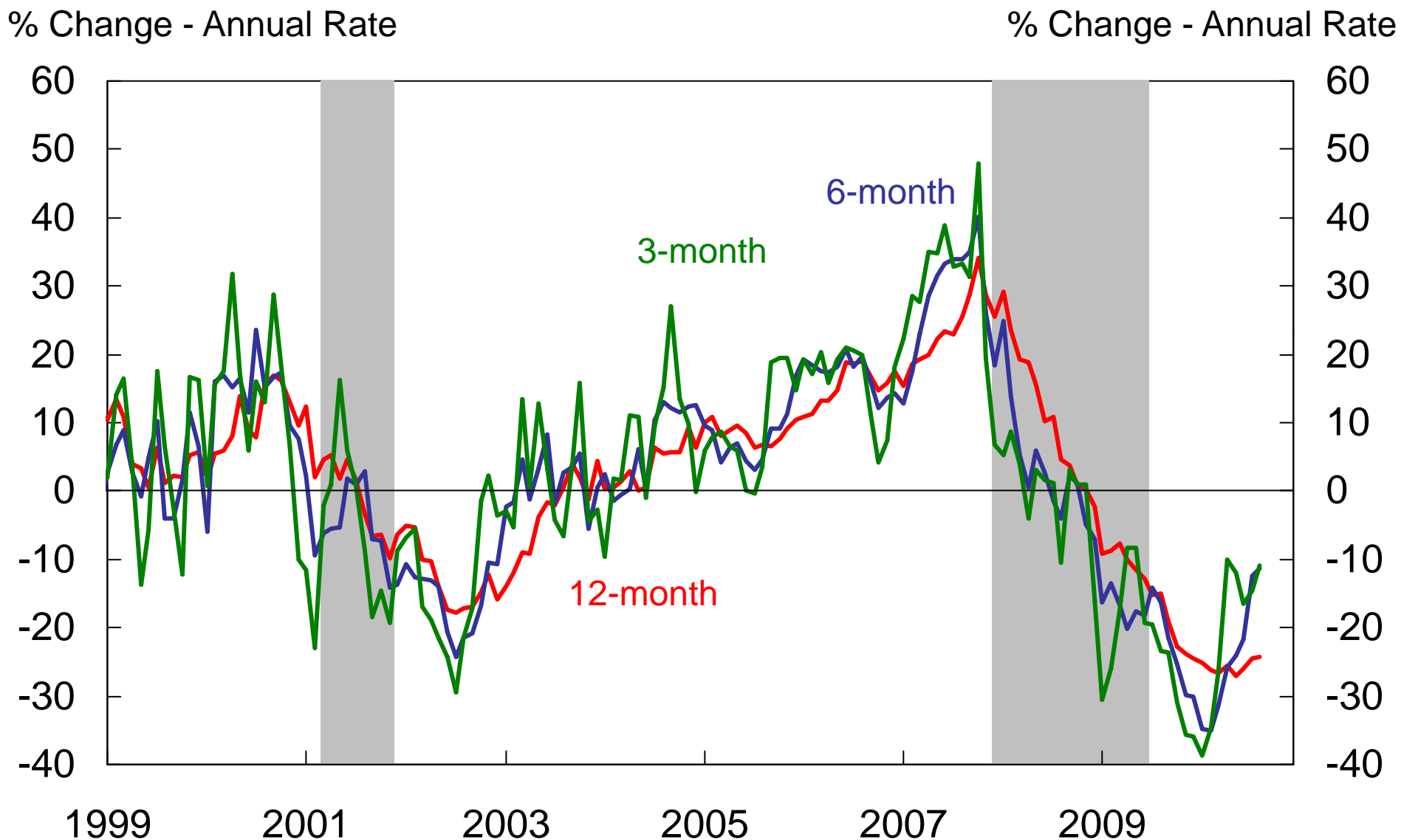
3-month Moving Average

3-month Moving Average



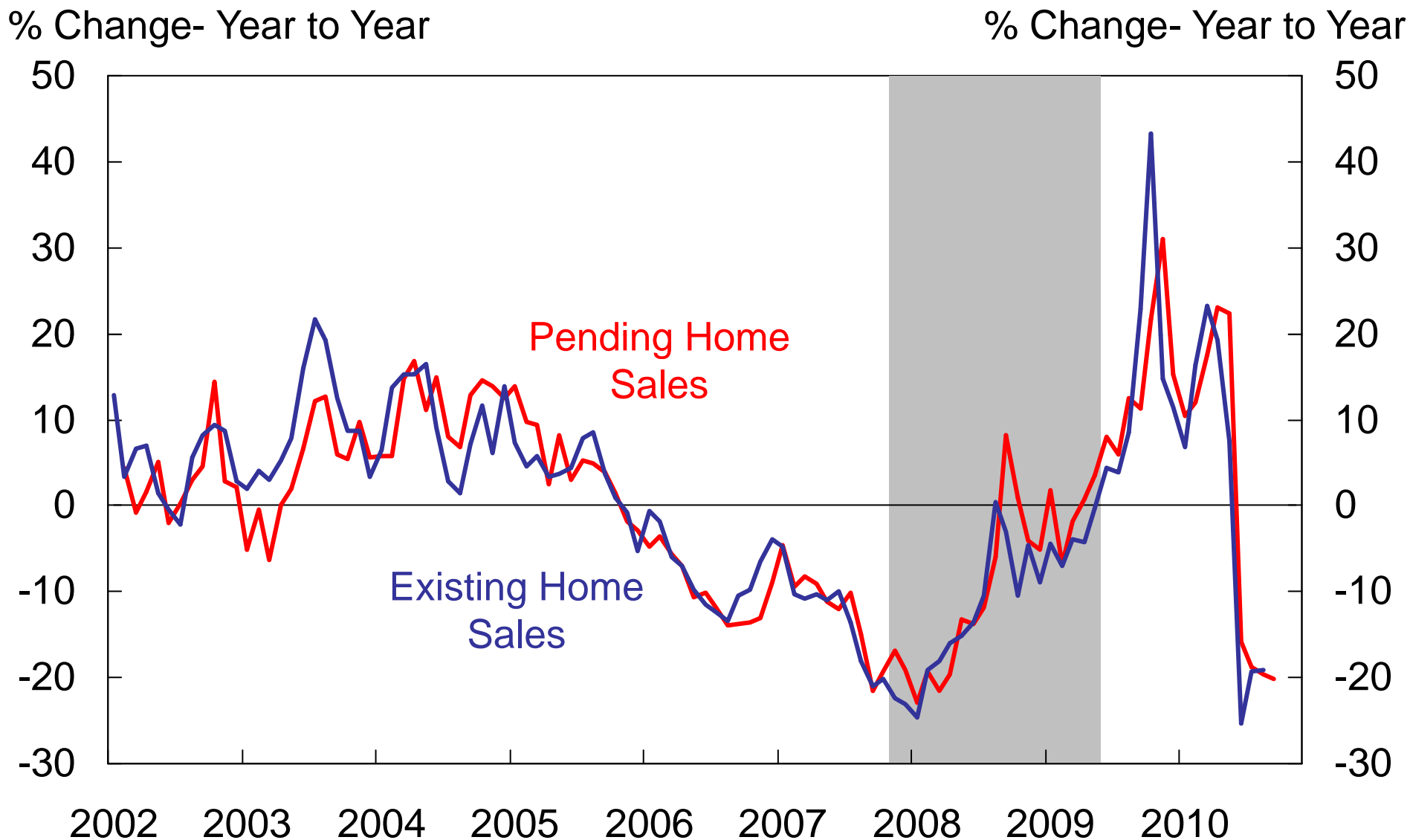
Source: Census Bureau

# Private Nonresidential Construction over Various Horizons



Source: Census Bureau

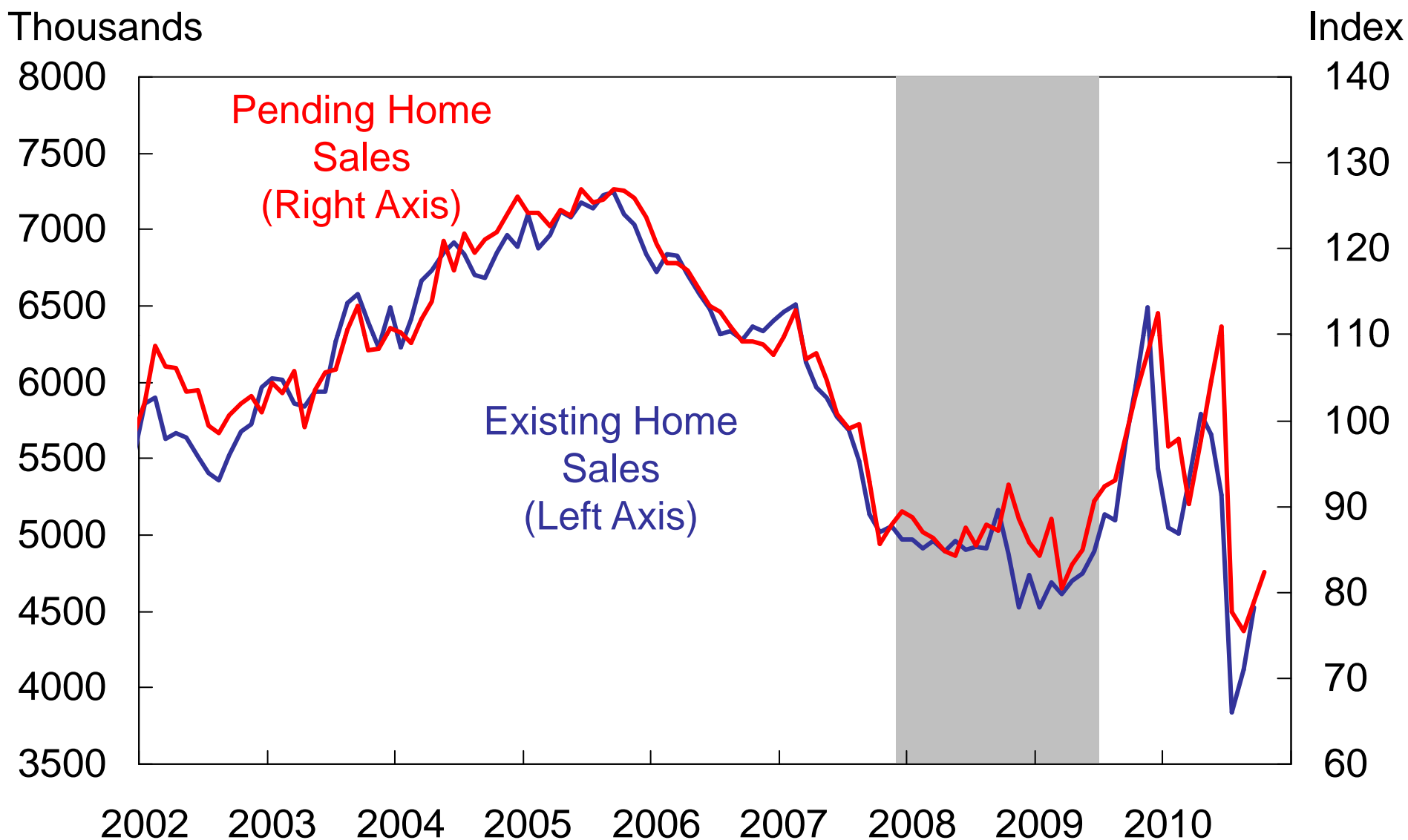
# Pending and Existing Home Sales



Source: National Association of Realtors

Note: For proper comparison, pending sales data leads existing sales by two months

# Pending and Existing Home Sales



Source: National Association of Realtors

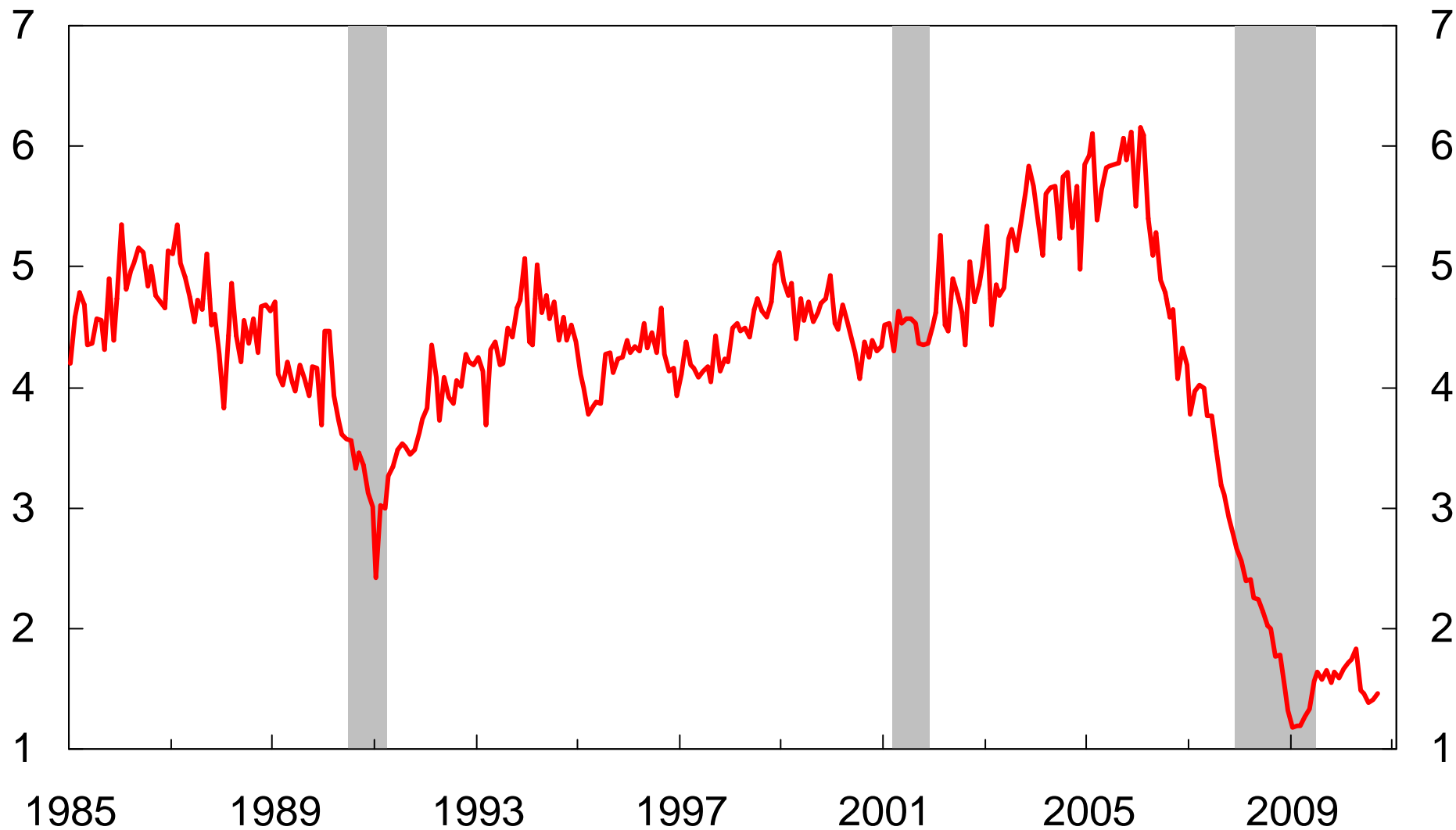
Note: For proper comparison, pending sales data leads existing sales by two months

# Ratio of Housing Starts to Population

Single-Family Homes

Starts per 1,000 people

Starts per 1,000 people

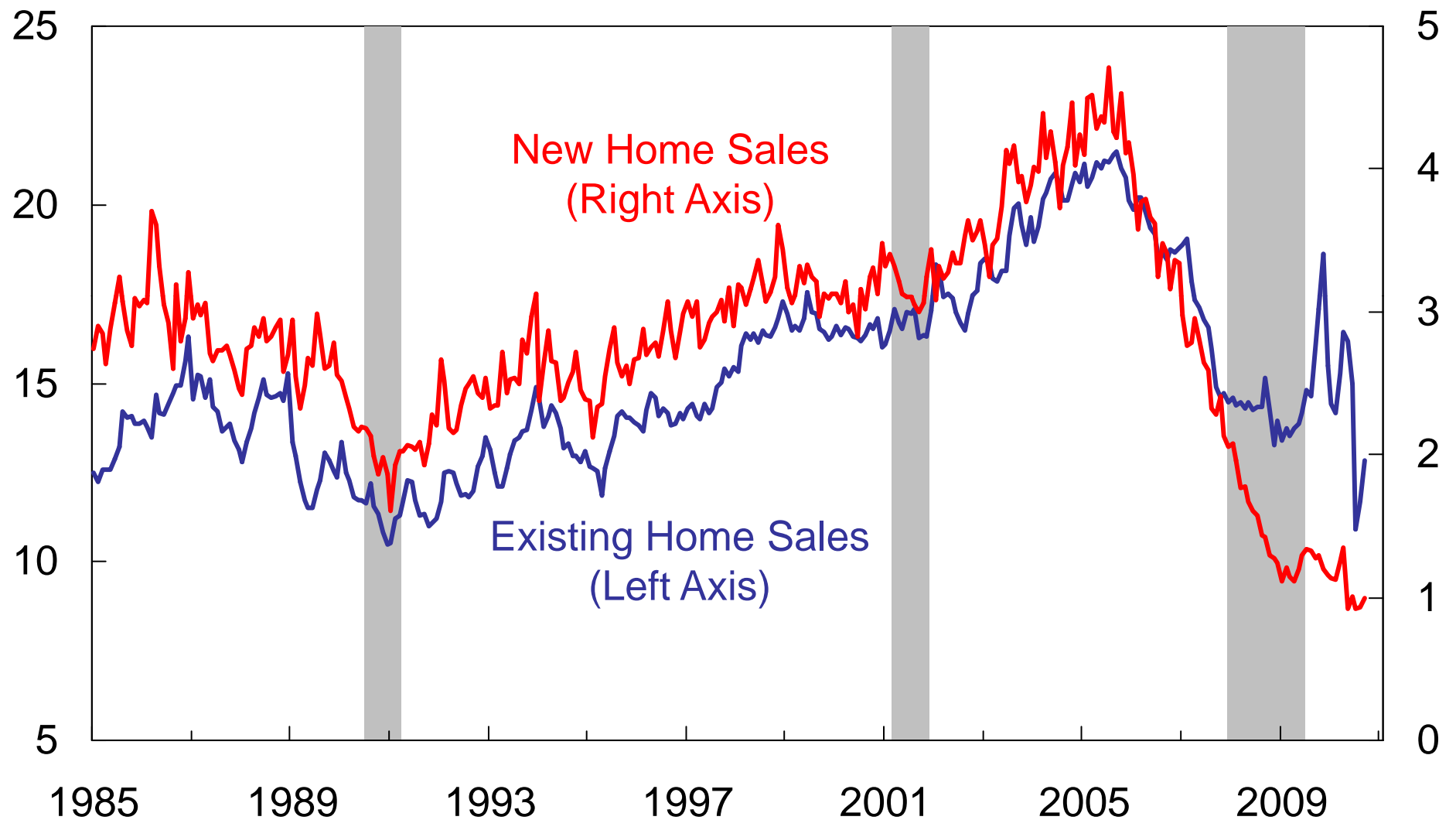


Source: Census Bureau

# Ratio of Sales to Population

Single-Family Homes

Sales per 1,000 People



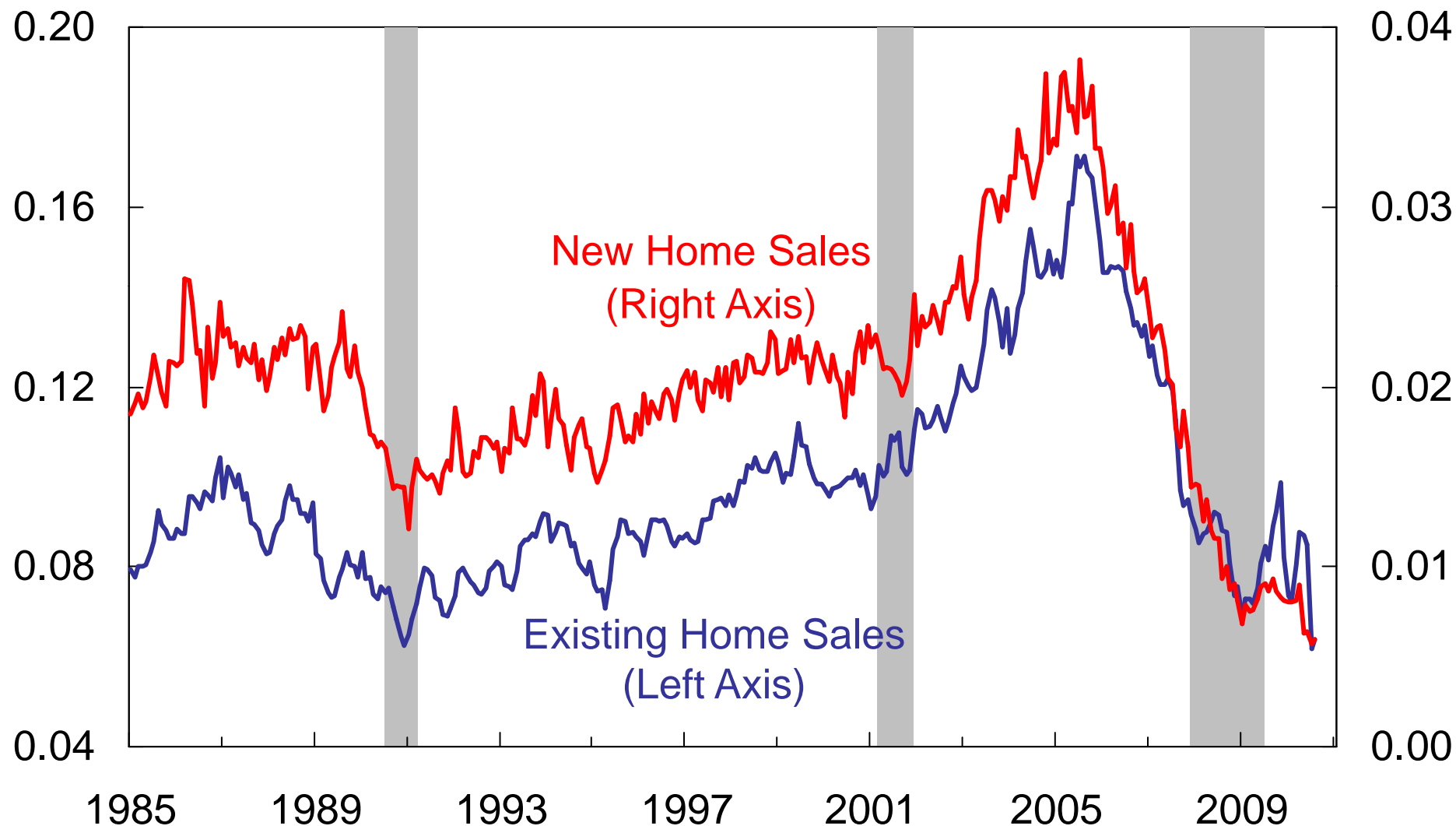
Source: Census Bureau

# Ratio of Sales Value to Personal Income

## Single-Family Homes

Sales Value per Dollar Earned

Sales Value per Dollar Earned



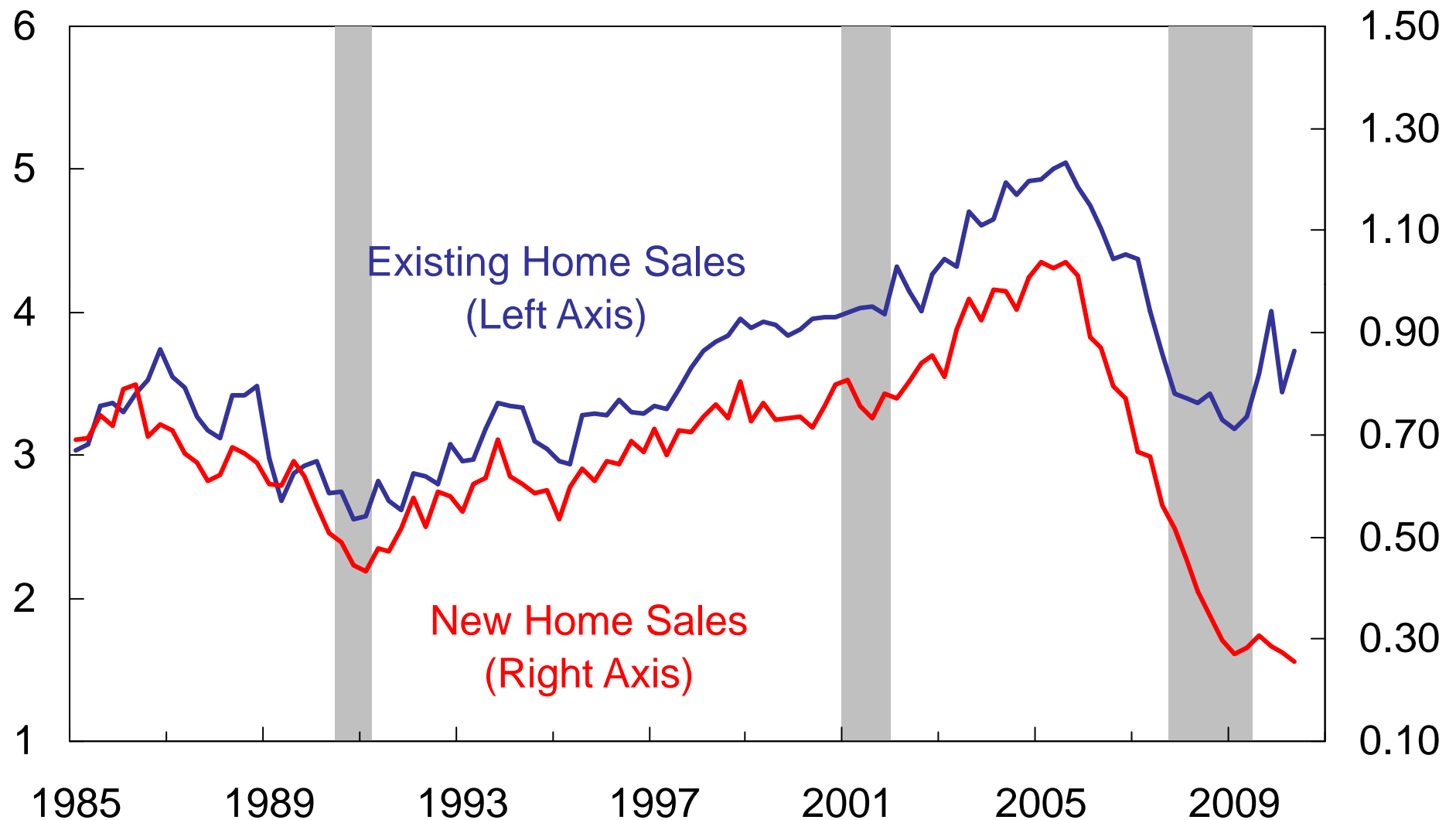
Source: Census Bureau and Bureau of Economic Analysis



# Ratio of Sales to Housing Stock

## Single-Family Homes

Ratio



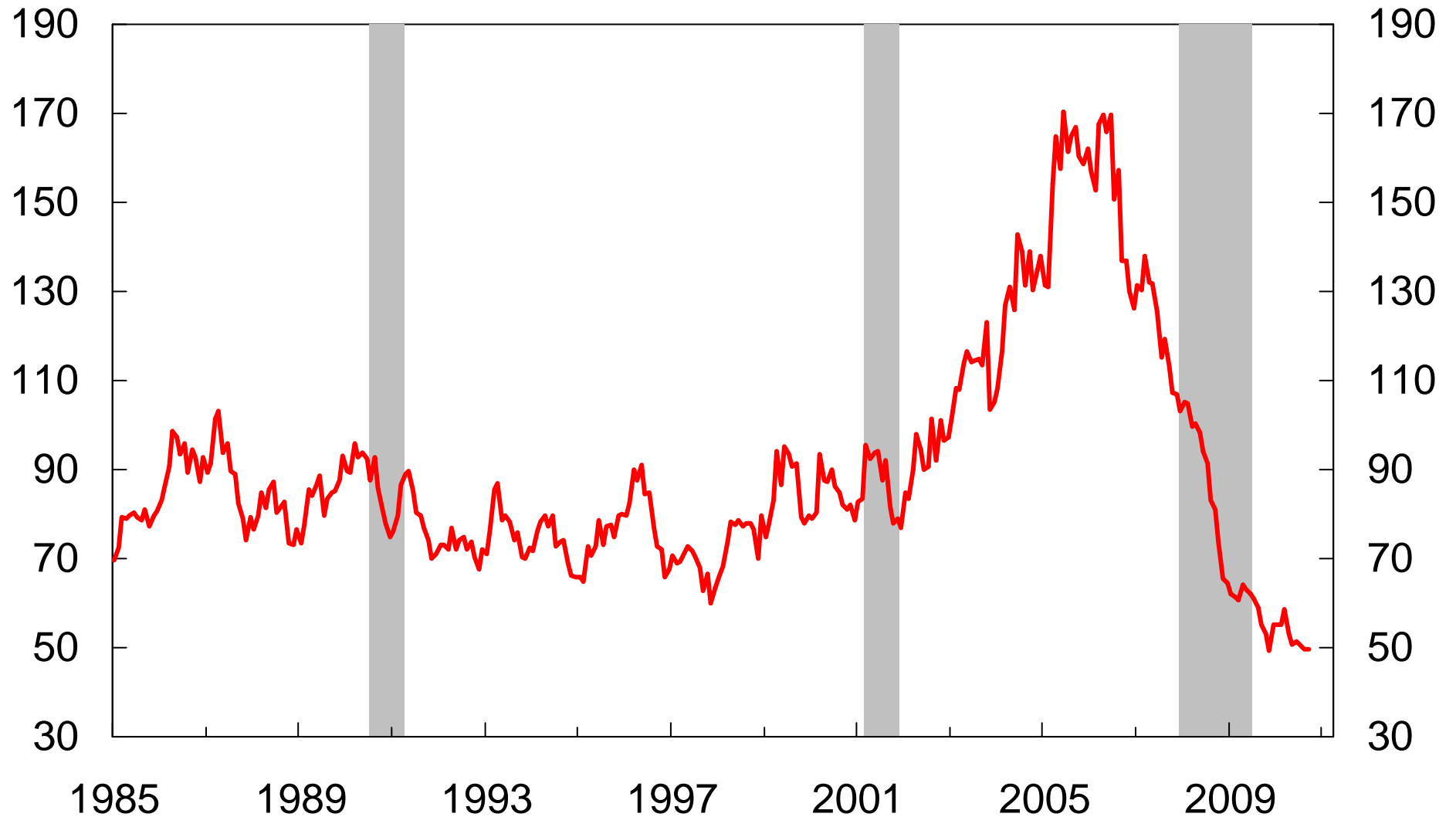
Source: Census Bureau

# Housing Units Authorized but Not Started

## Single-Family Homes

Thousands of Units

Thousands of Units



Source: Census Bureau

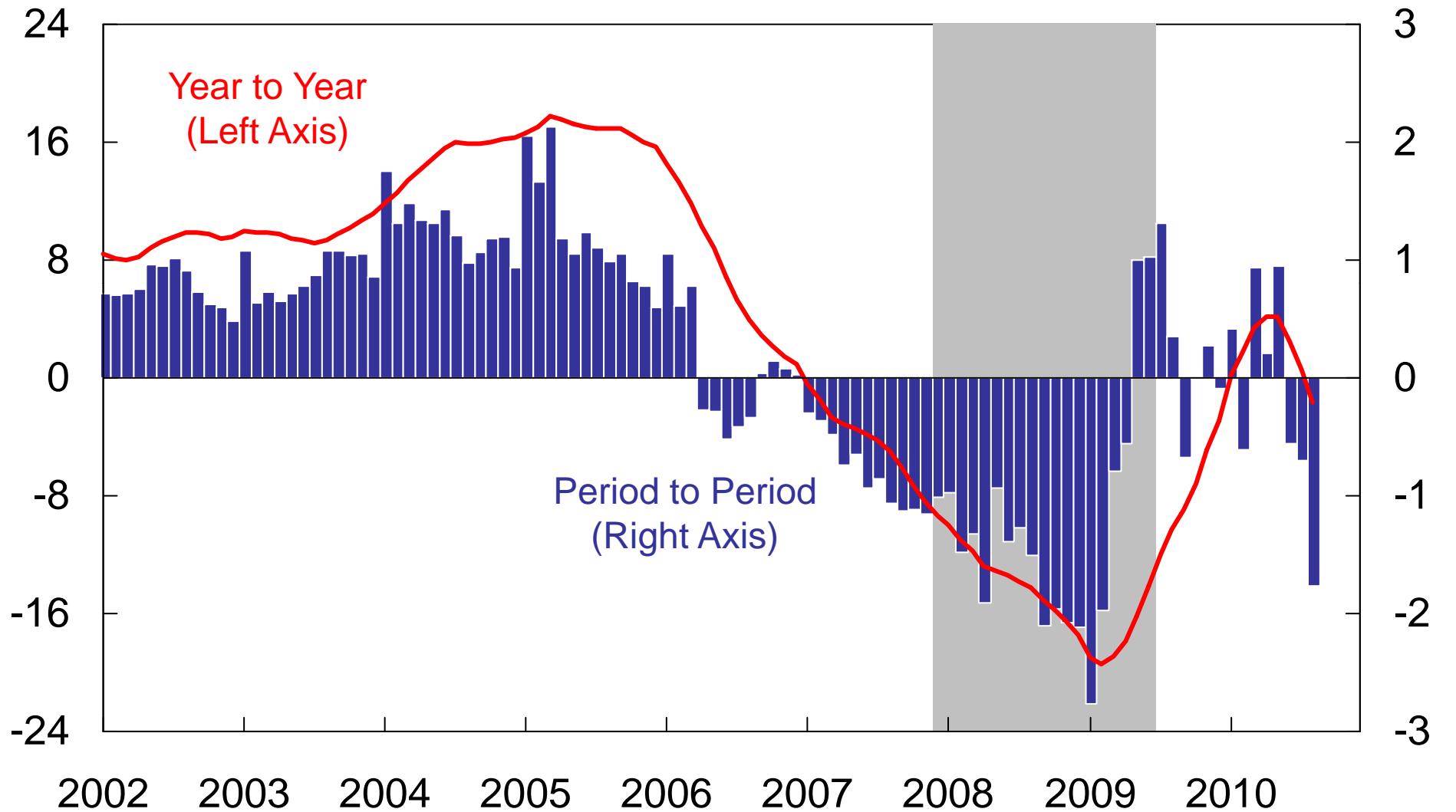
## Cities

- Boston
- Chicago
- Denver
- Las Vegas
- Los Angeles
- Miami
- New York City
- San Diego
- San Francisco
- Washington, DC
- Atlanta
- Charlotte
- Cleveland
- Dallas
- Detroit
- Minneapolis
- Phoenix
- Portland
- Seattle
- Tampa



# CoreLogic National Home Price Index Including Distressed-SA

% Change



% Change

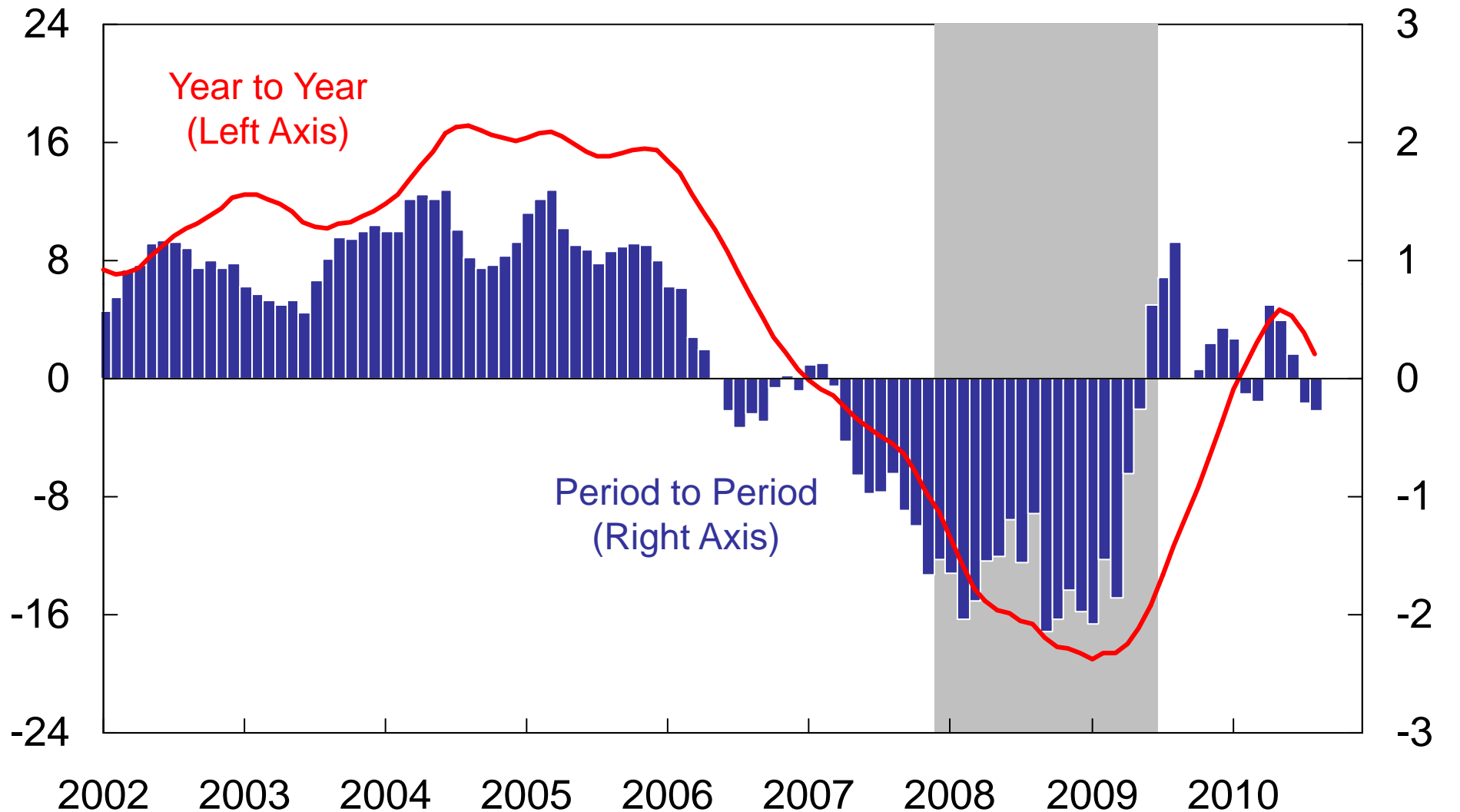
Source: CoreLogic/Haver Analytics

Note: Monthly Data

# Case-Shiller Home Price Index

Composite 20-SA

% Change



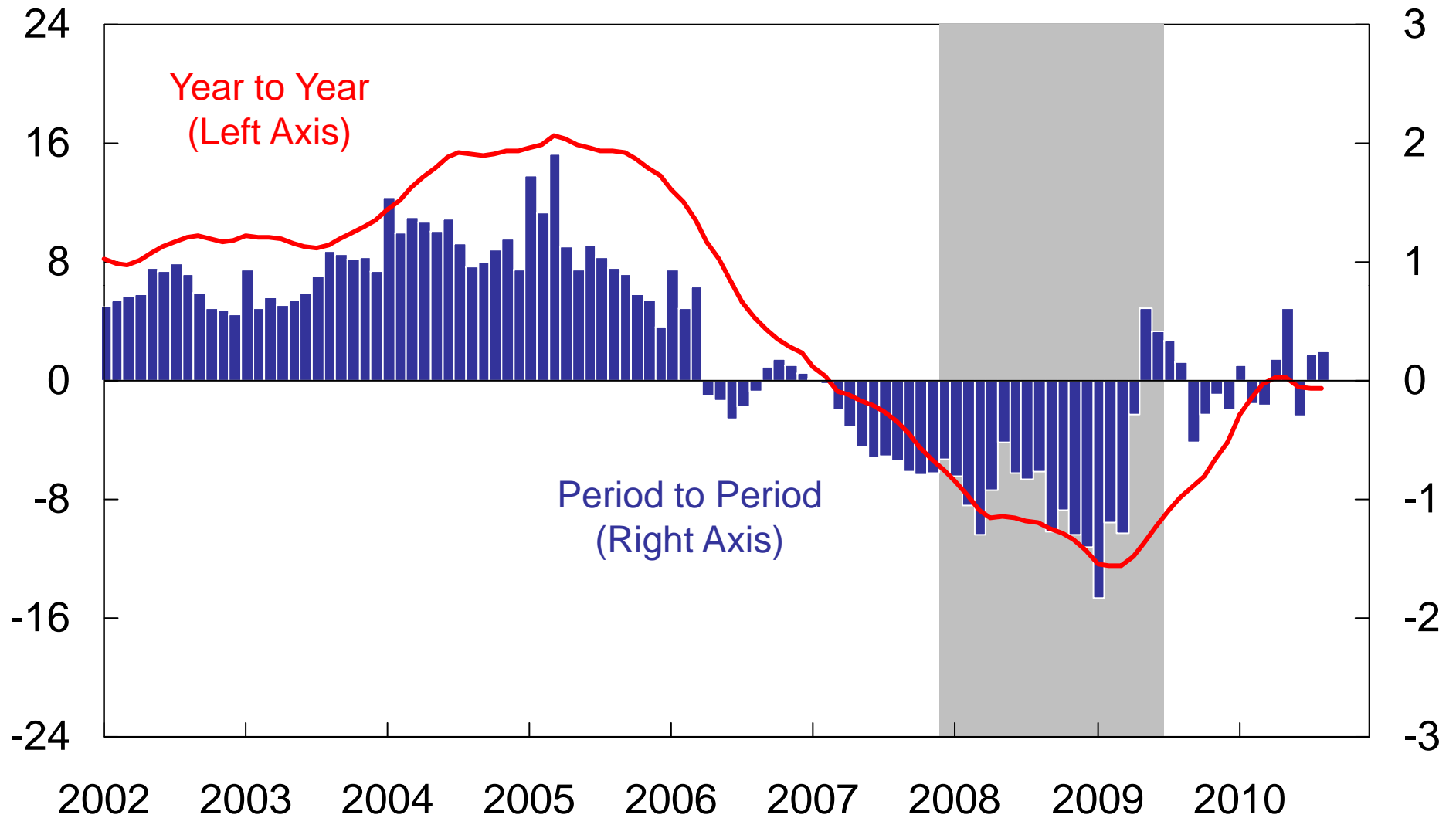
Source: S&P, Fiserv, and MacroMarkets LLC

Note: Monthly Data

# CoreLogic National Home Price Index Excluding Distressed-SA

% Change

% Change



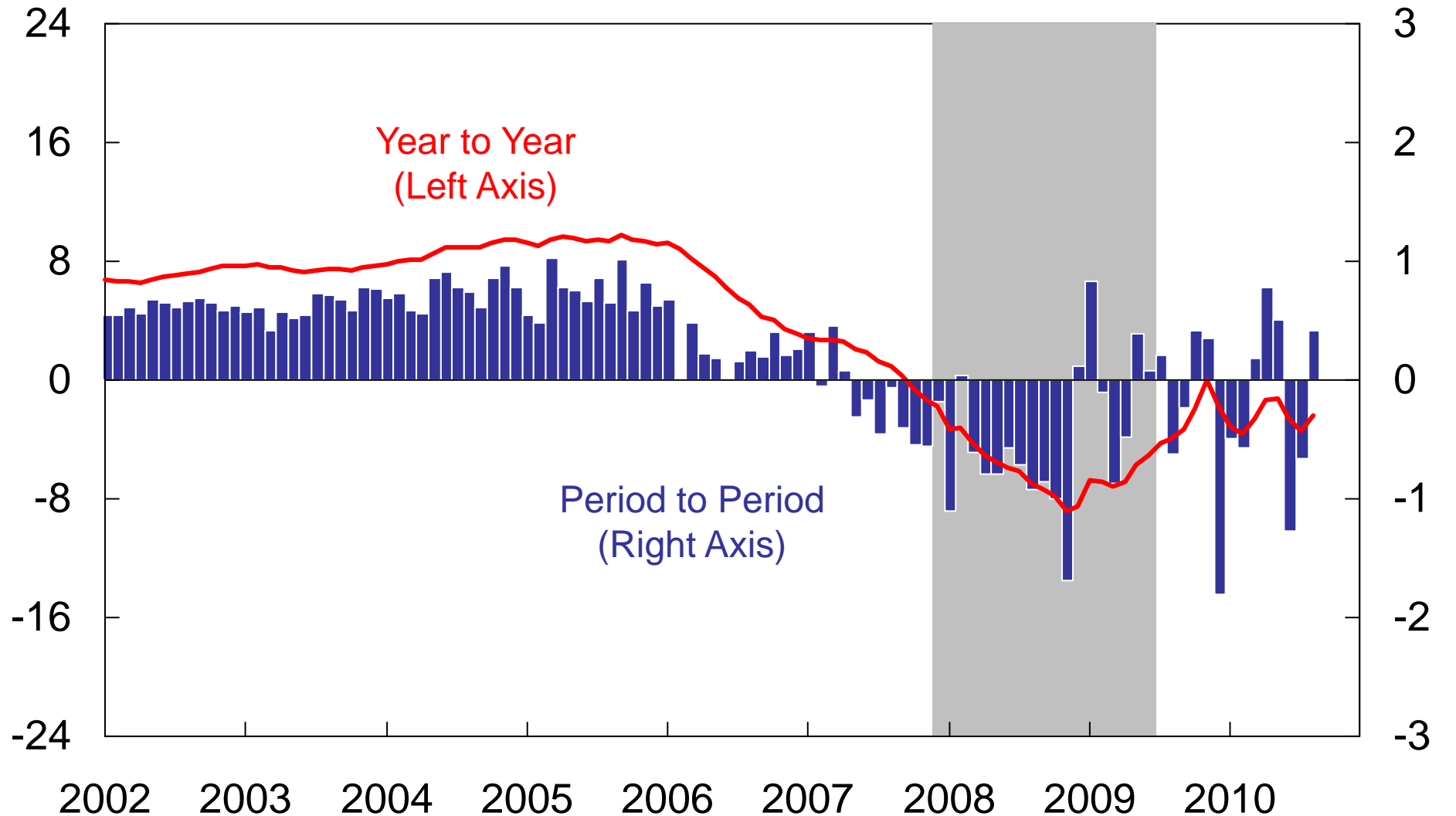
Source: CoreLogic/Haver Analytics

Note: Monthly Data

# FHFA Home Price Index

SA

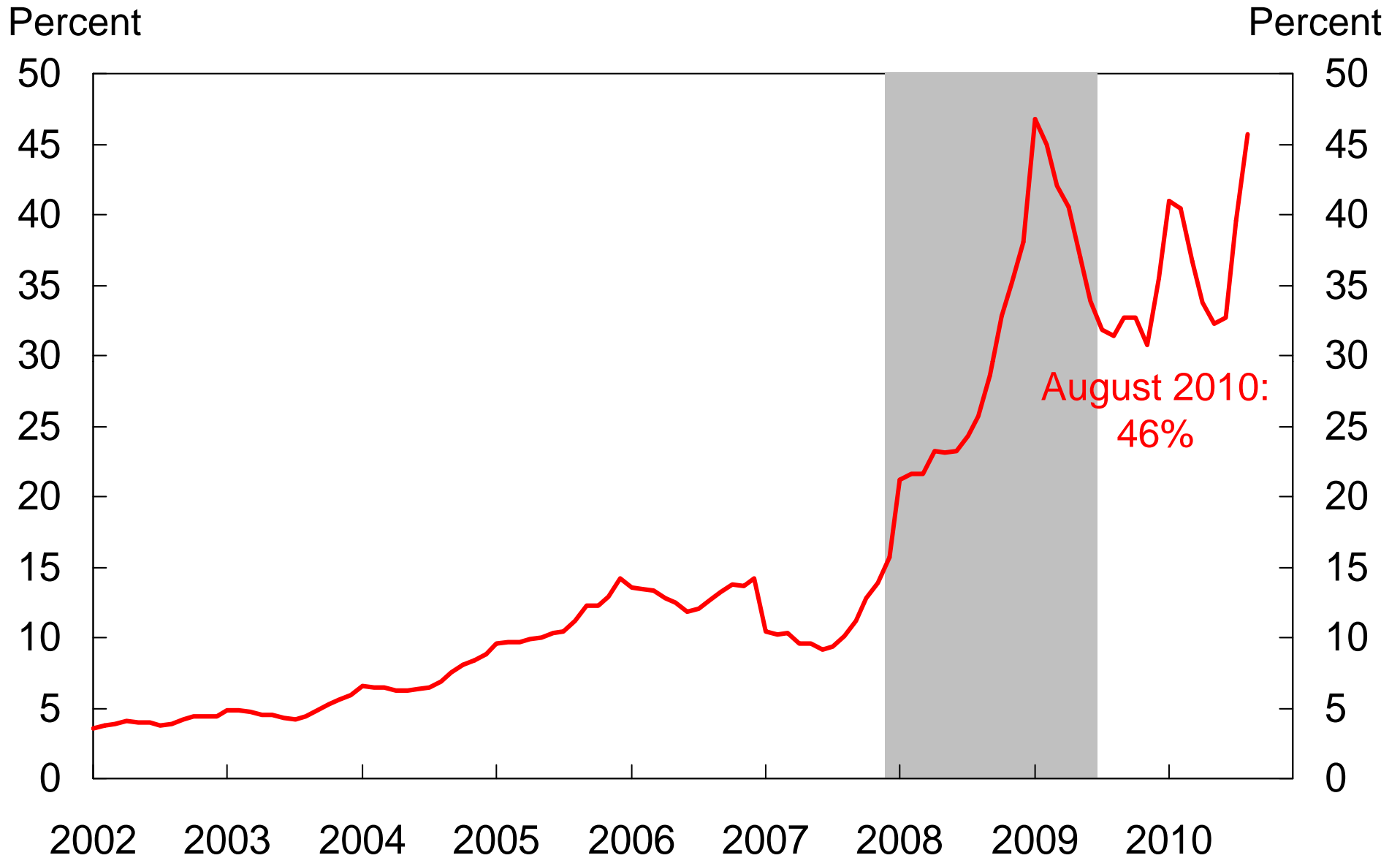
% Change



Source: Federal Housing Finance Administration

Note: Monthly Data

# CoreLogic: Distressed Sales as Share of Total Sales



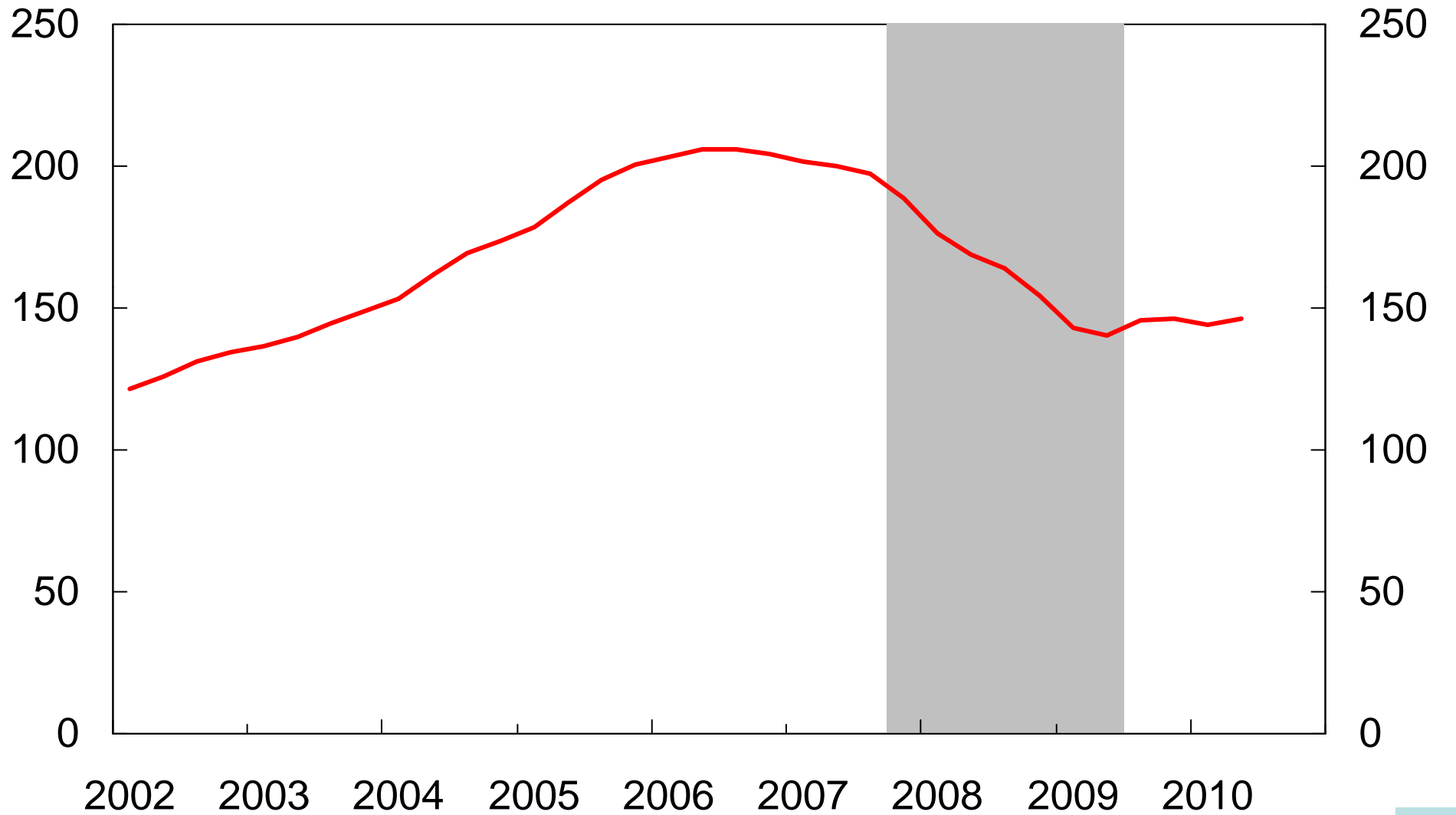
Source: CoreLogic/FRBNY Calculations



# Case-Shiller Home Price Index

## Composite 20

Level



Source: S&P, Fiserv, and MacroMarkets LLC

Note: Quarterly Data

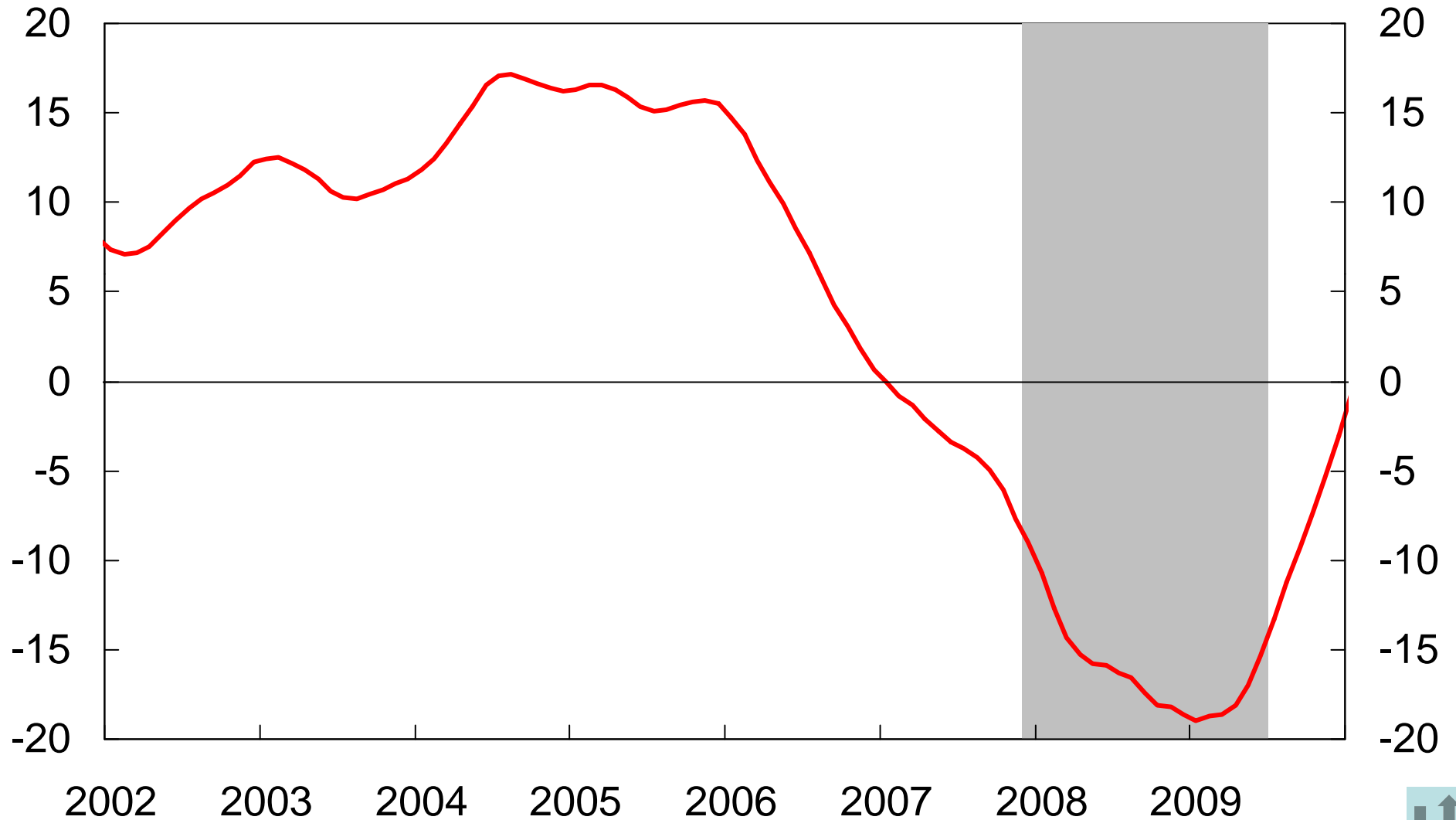


# Case-Shiller Home Price Index

## Composite 20

% Change - Year to Year

% Change - Year to Year



Source: S&P, Fiserv, and MacroMarkets LLC

Note: Monthly Data

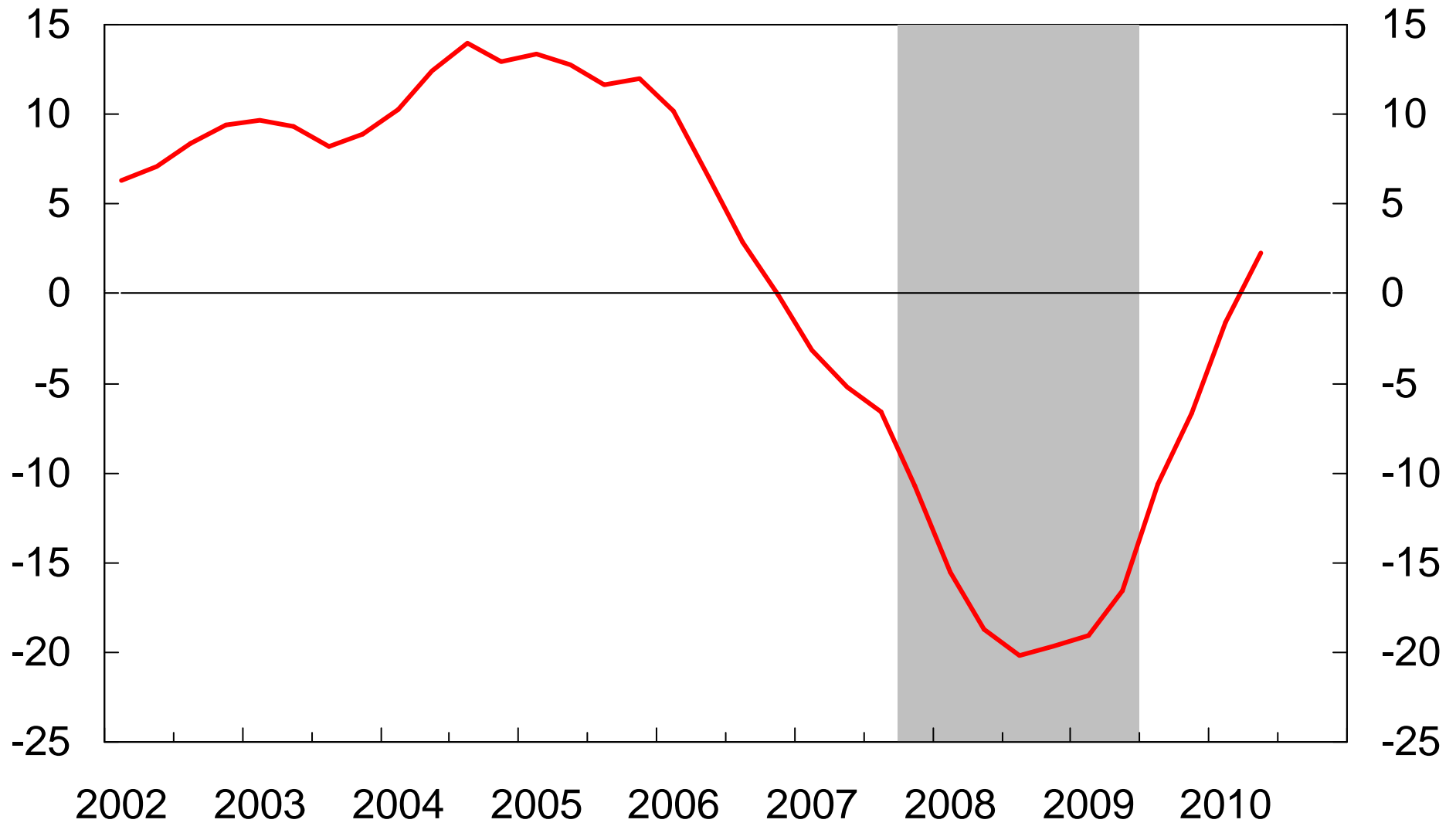


# Case-Shiller Home Price Index/PCE Deflator

Composite 20

% Change - Year to Year

% Change - Year to Year



Source: S&P, Fiserv, MacroMarkets LLC, and Bureau of Economic Analysis

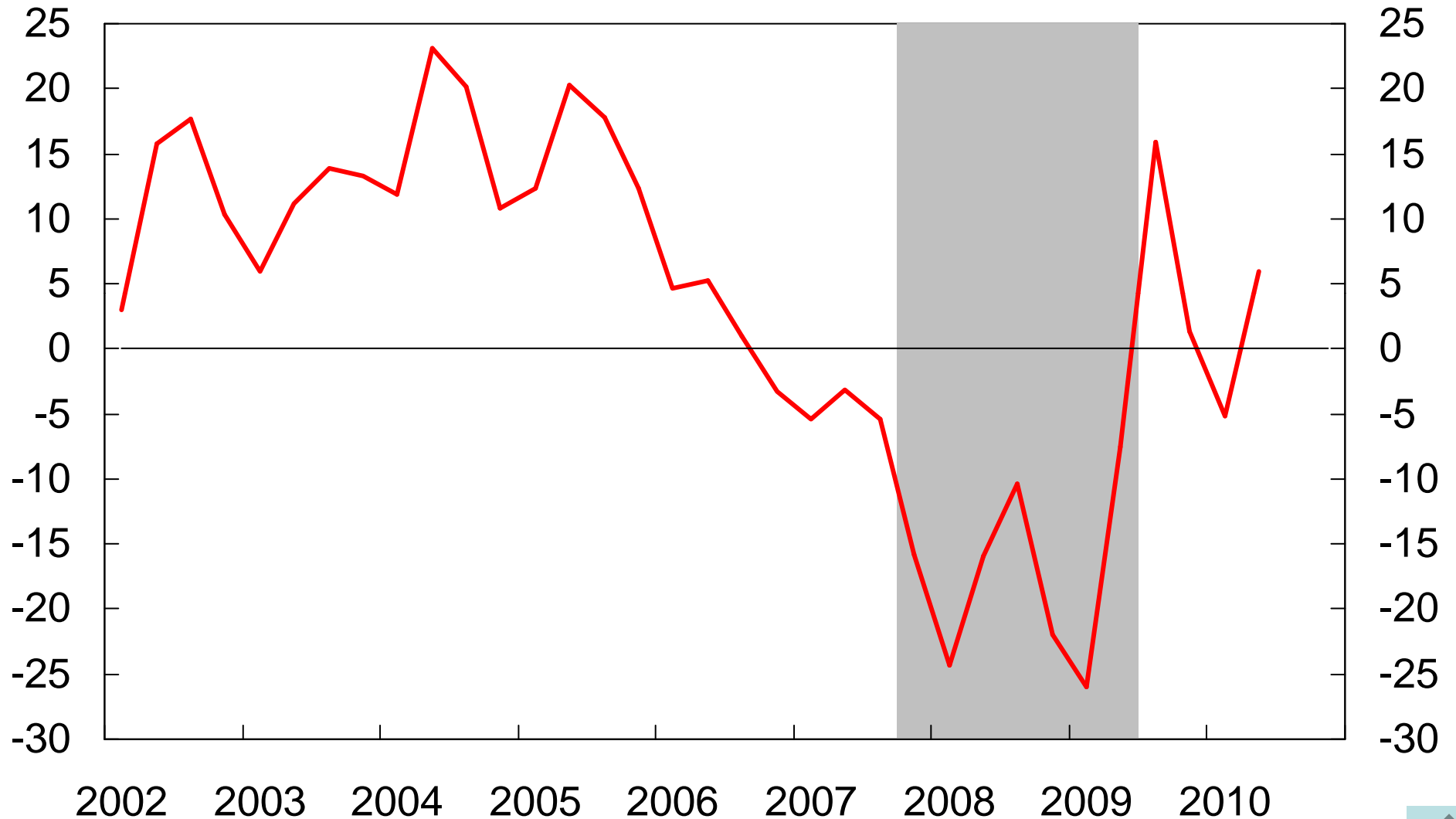


# Case-Shiller Home Price Index

## Composite 20

% Change - Annual Rate

% Change - Annual Rate



Source: S&P, Fiserv, and MacroMarkets LLC

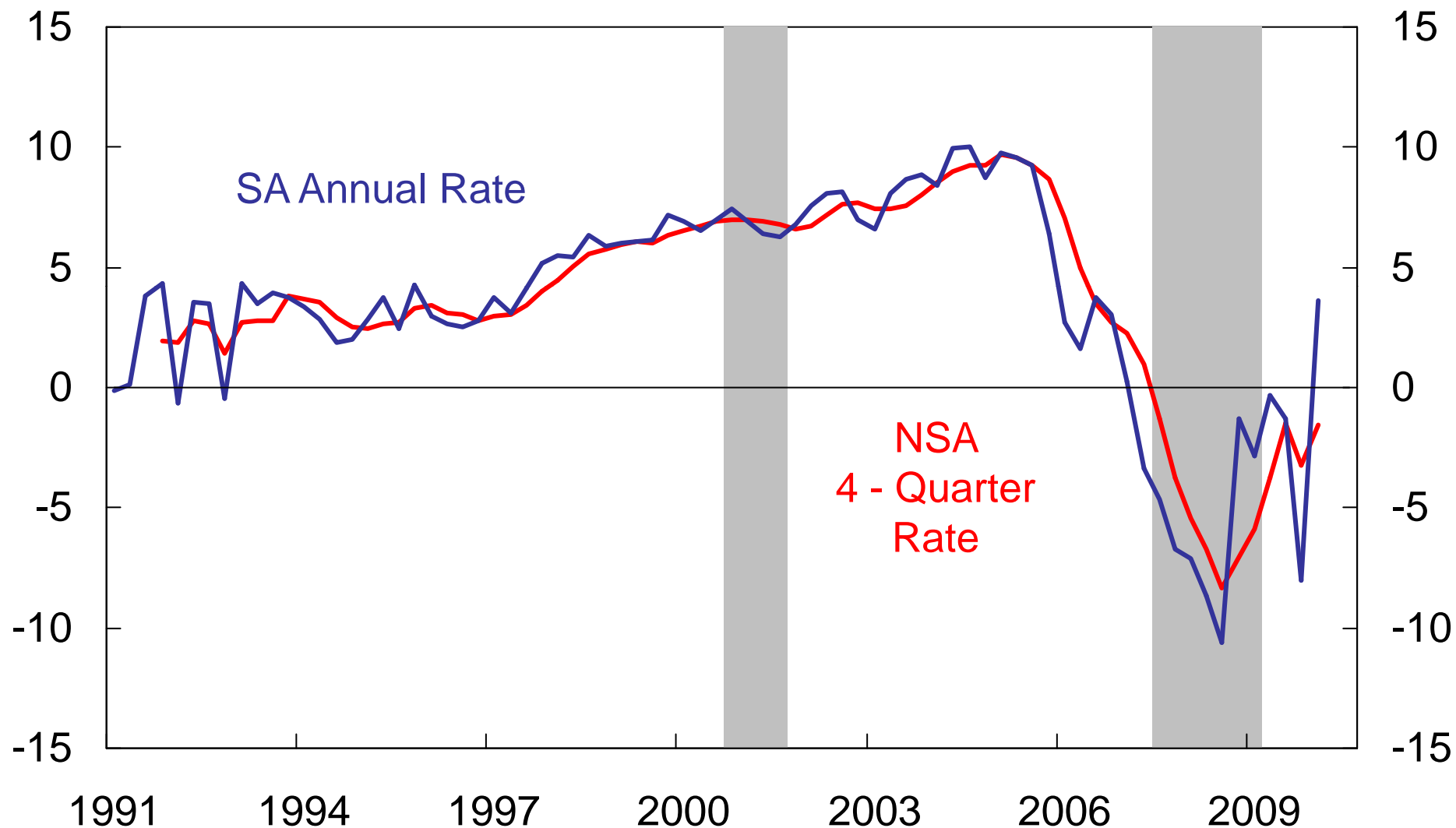
Note: Quarterly Data



# FHFA Purchases Only Index

% Change - Annual Rate

% Change - Annual Rate



Source: Federal Housing Finance Administration



# Industrial Production: Manufacturing Output

(percent change at an annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
<b>Total</b>	-1.0	5.5	4.8	2.7	-1.3
Durable Goods	-2.0	7.7	7.8	2.3	-2.6
Wood Products	-9.8	-1.3	-1.7	-10.4	-1.7
Nonmetallic Mineral Products	-5.8	2.0	12.3	4.9	0.0
Primary Metals	-8.1	12.7	-6.3	-21.5	-1.5
Fabricated Metals	-2.7	10.9	15.3	9.8	-5.2
Machinery	-6.6	15.5	13.9	-4.2	-8.2
Computers and Electronic Equipment	2.6	11.9	10.4	5.0	-5.0
Electrical Equipment, Appliances, and Components	-3.2	6.8	5.3	2.7	-7.7
Motor Vehicles and Parts	1.8	10.4	12.7	13.4	6.4
Aerospace and Misc. Transportation Equipment	4.4	-5.0	-2.6	3.1	-3.8
Furniture and Related Products	-9.8	1.3	0.0	-7.4	-6.4
Miscellaneous	-1.9	2.5	3.3	1.6	5.0
Nondurable Goods	1.1	4.1	2.8	4.4	1.3
Food, Beverages, and Tobacco	2.8	7.5	8.6	12.3	8.6
Textile Mill Products	-3.7	10.6	6.6	6.8	-1.5
Apparel Products	-7.0	7.3	3.8	8.3	7.0
Paper	-2.5	3.4	-0.9	-1.3	1.4
Printing and Related Activities	-8.9	-1.4	3.7	-2.1	-15.7
Chemicals	2.5	0.7	-2.7	1.3	1.3
Petroleum and Coal	7.2	1.8	4.2	-0.4	-2.4
Plastics and Rubber	-4.1	8.9	5.1	1.0	-9.7
<b>Memo Item: Special Aggregates</b>					
IT Equipment	1.6	12.5	11.3	5.2	4.1
Motor Vehicles and Parts	1.8	10.4	12.7	13.4	6.4
Nonenergy, Non IT, Non Auto	-1.4	4.8	4.1	1.8	-2.6

Source: Federal Reserve Board

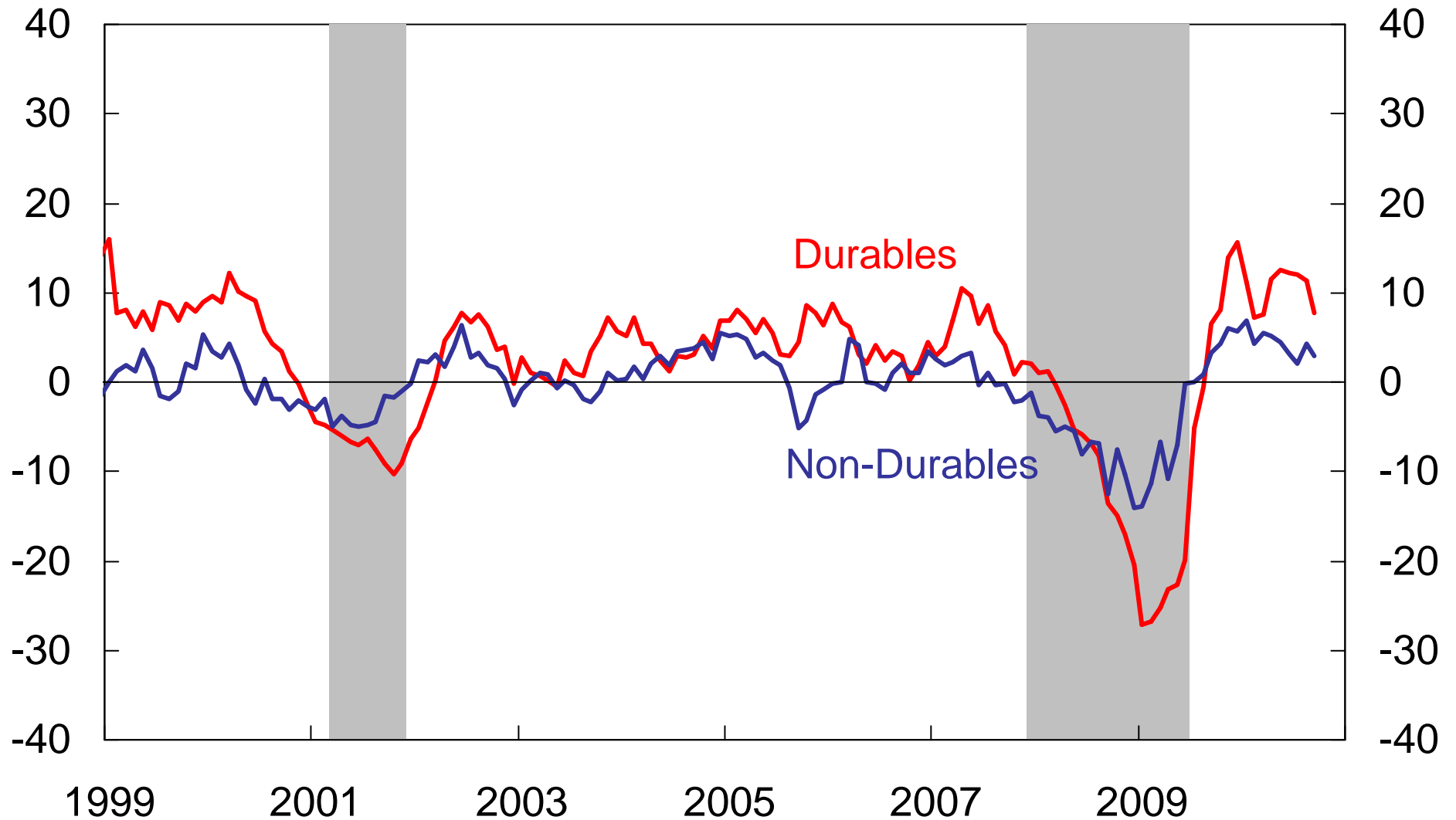
Note: Data through September 2010.



# Industrial Production

% Change - 6 months AR

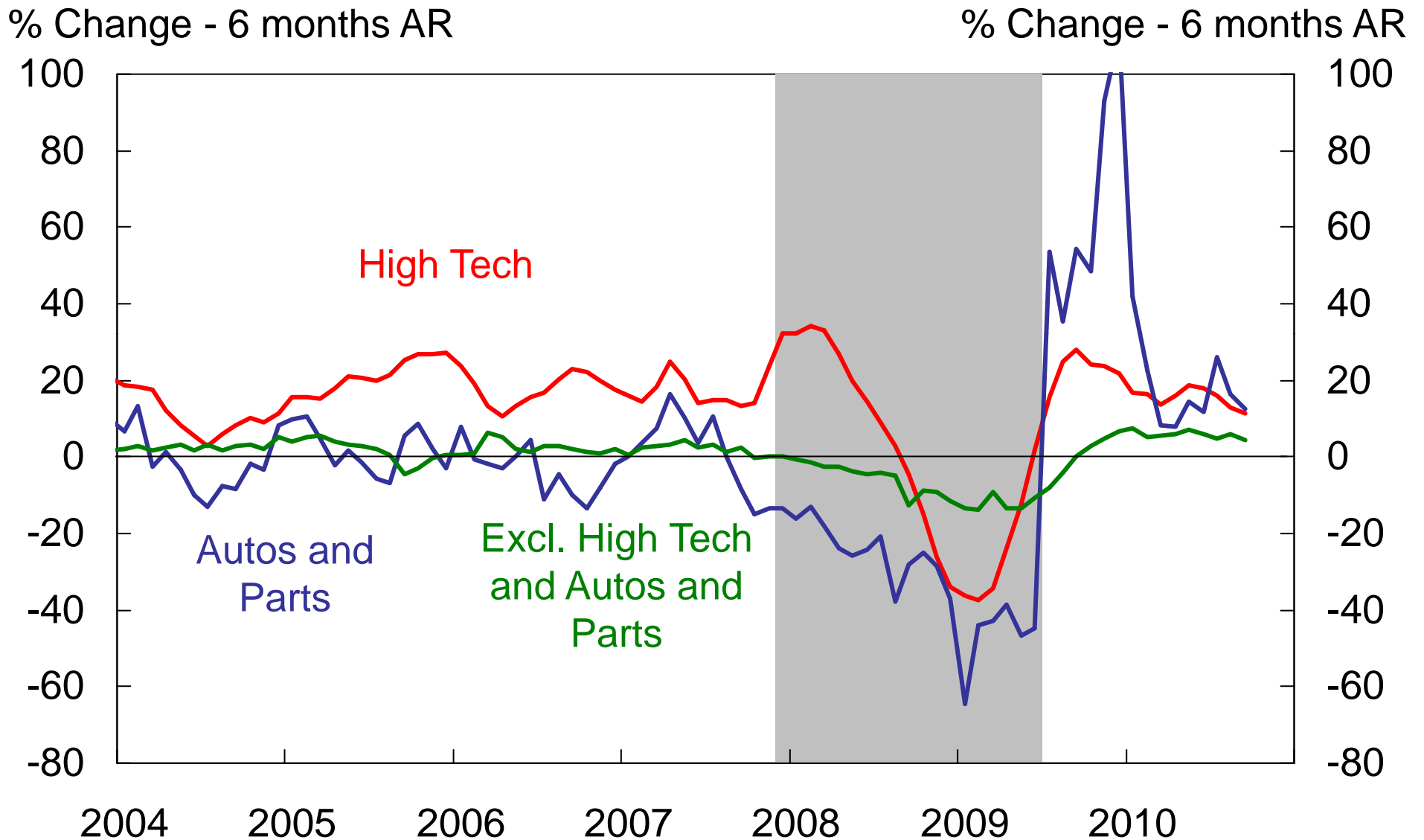
% Change - 6 months AR



Source: Federal Reserve Board



# Industrial Production

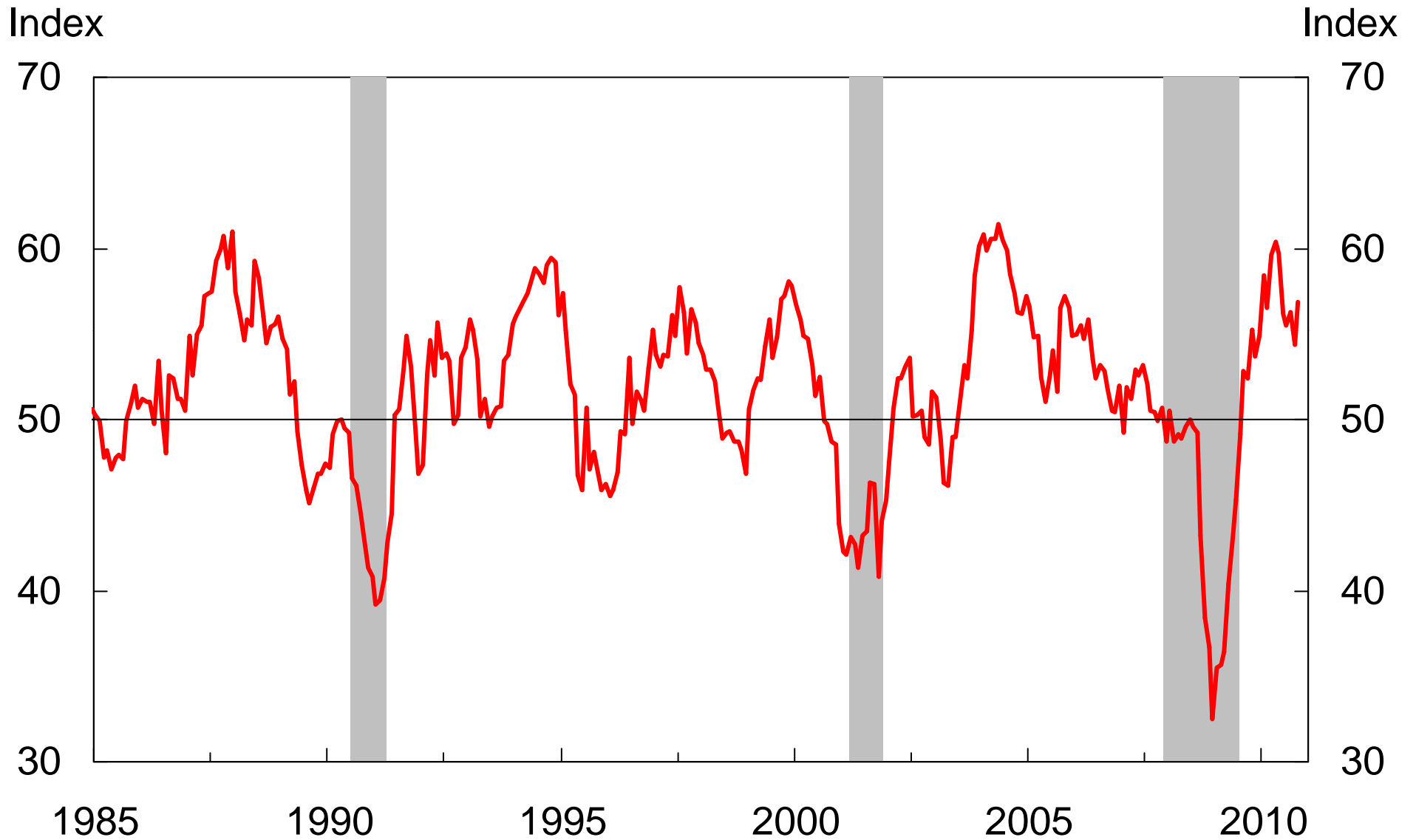


Source: Federal Reserve Board





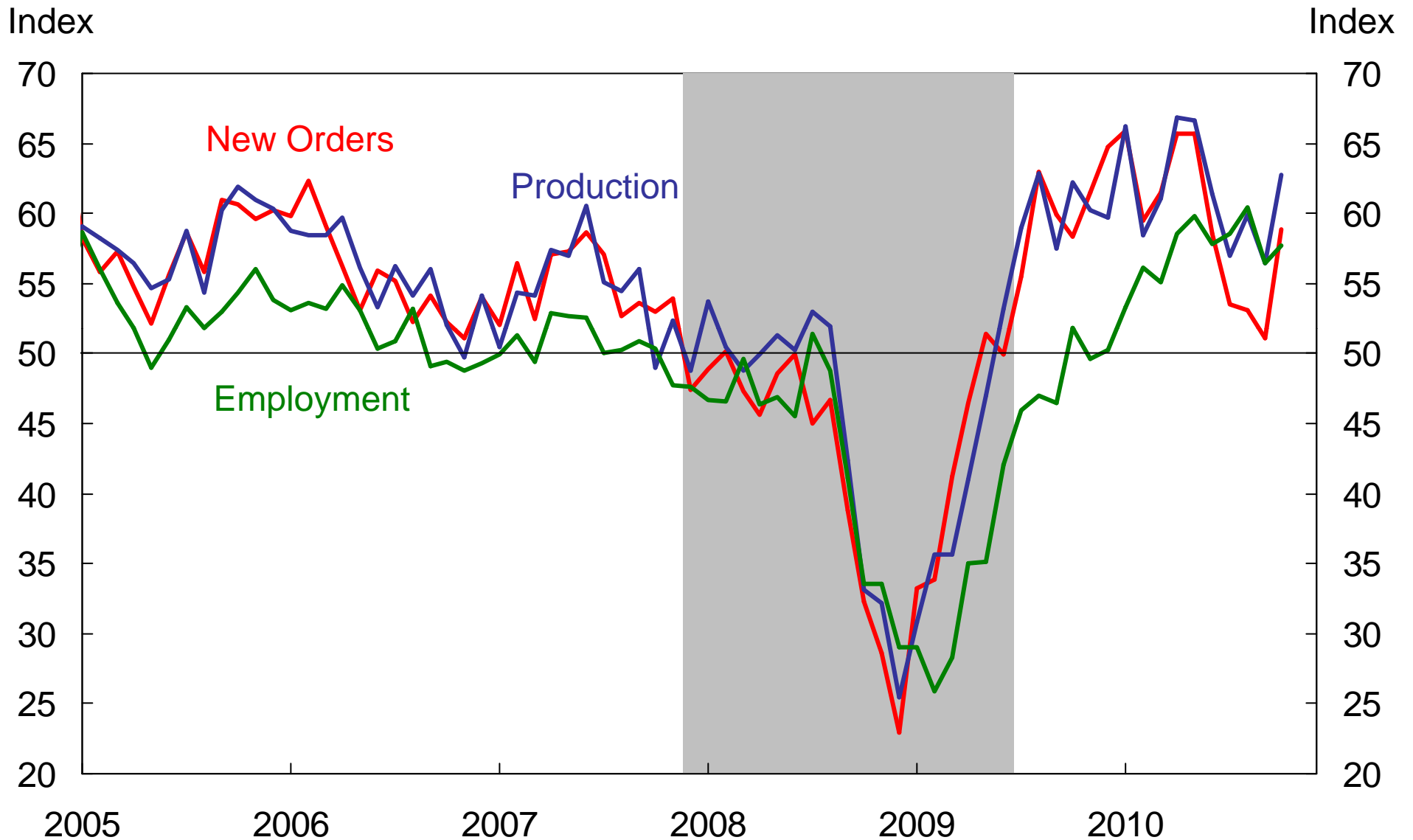
# ISM Manufacturing Index



Source: Institute for Supply Management



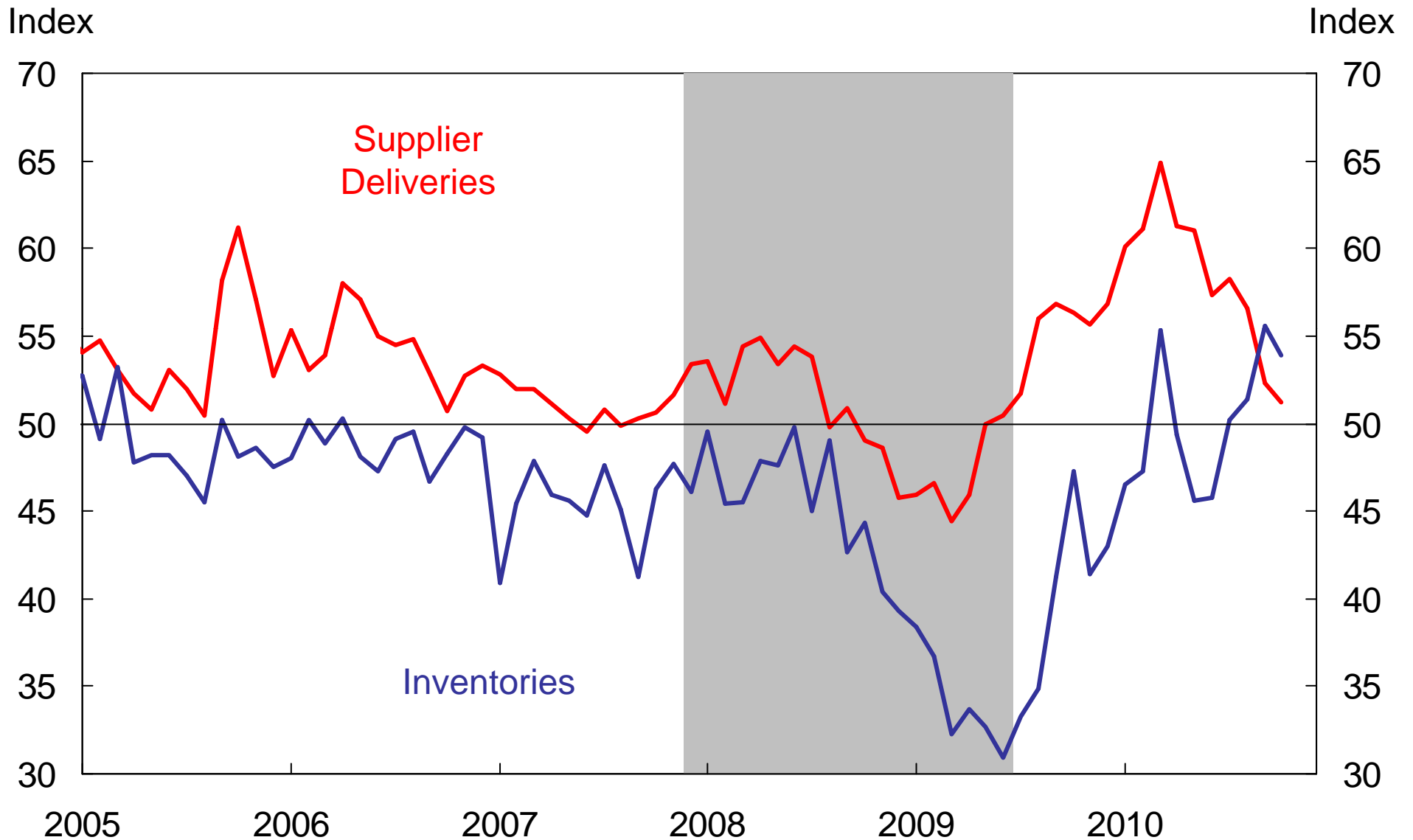
# Components of ISM Manufacturing Index



Source: Institute for Supply Management



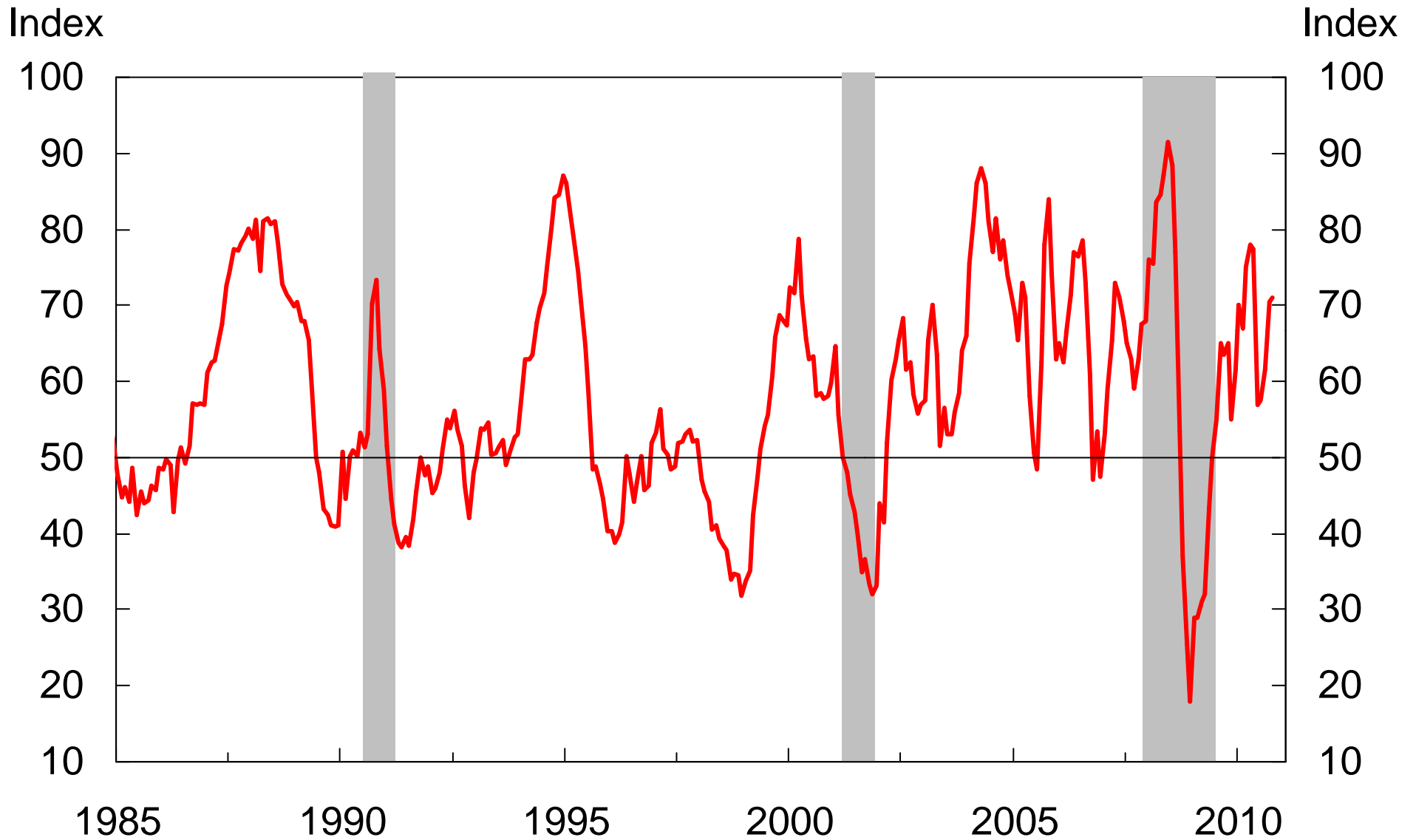
# Components of ISM Manufacturing Index



Source: Institute for Supply Management



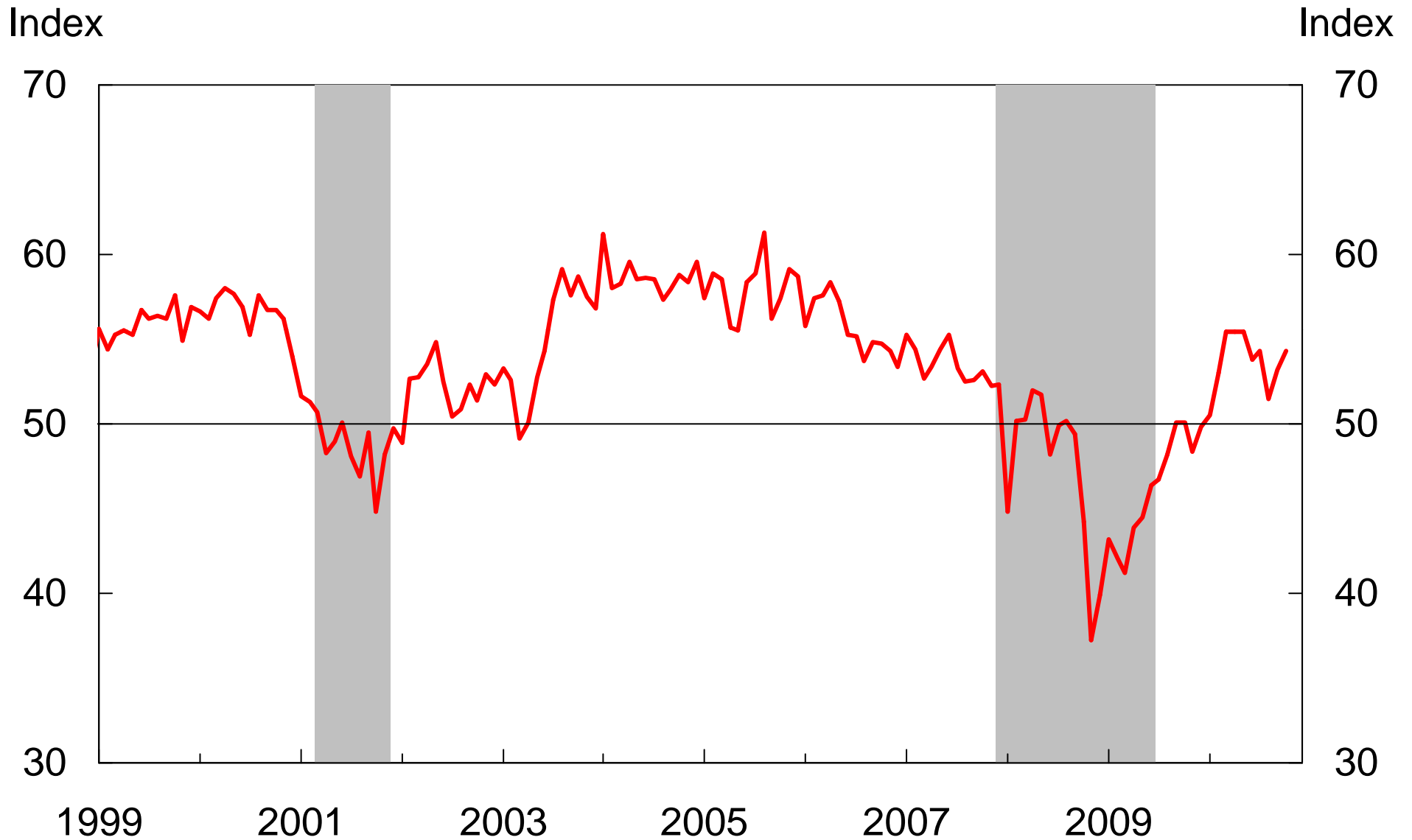
# ISM Manufacturing Price Index



Source: Institute for Supply Management



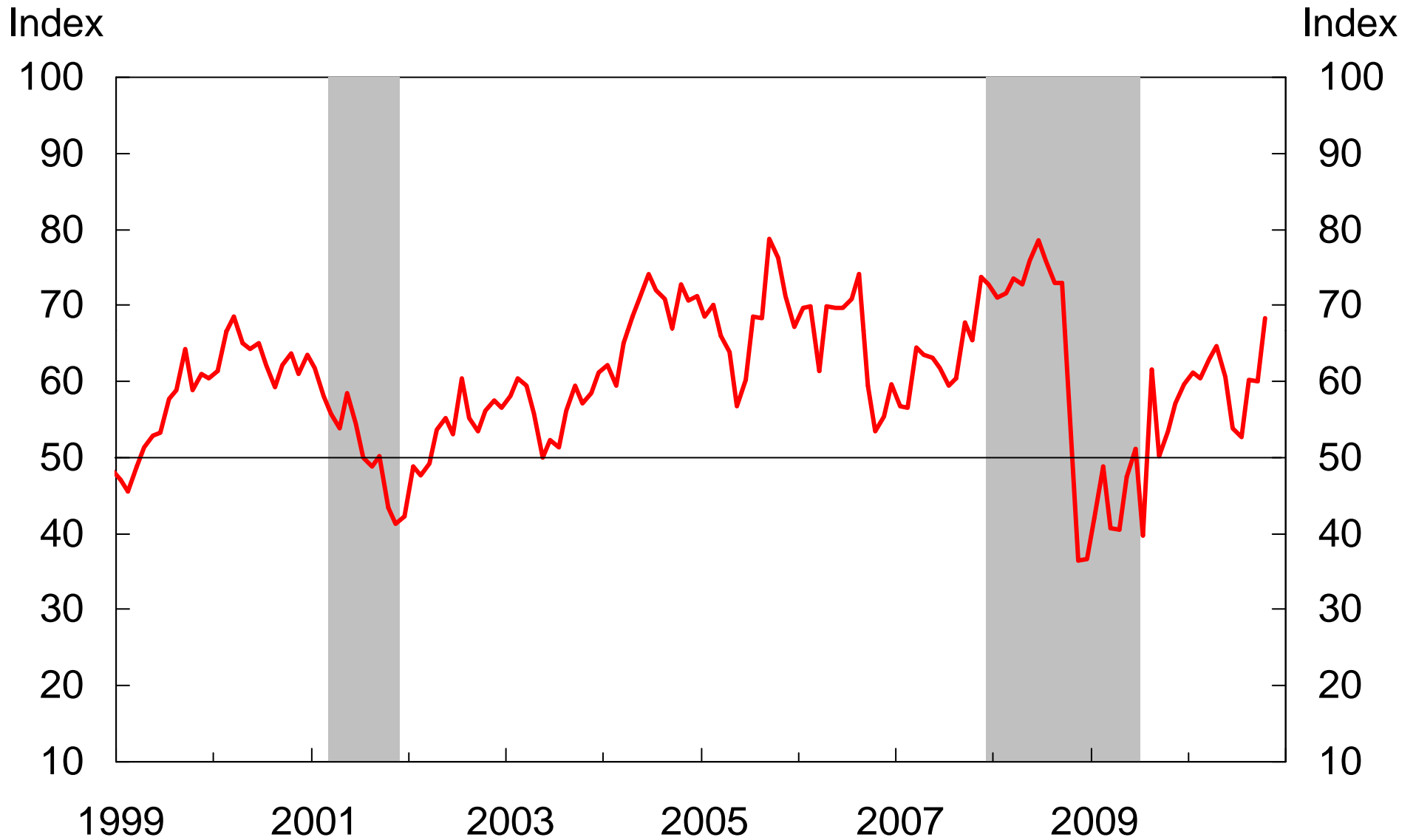
# ISM Non-Manufacturing Index



Source: Institute for Supply Management



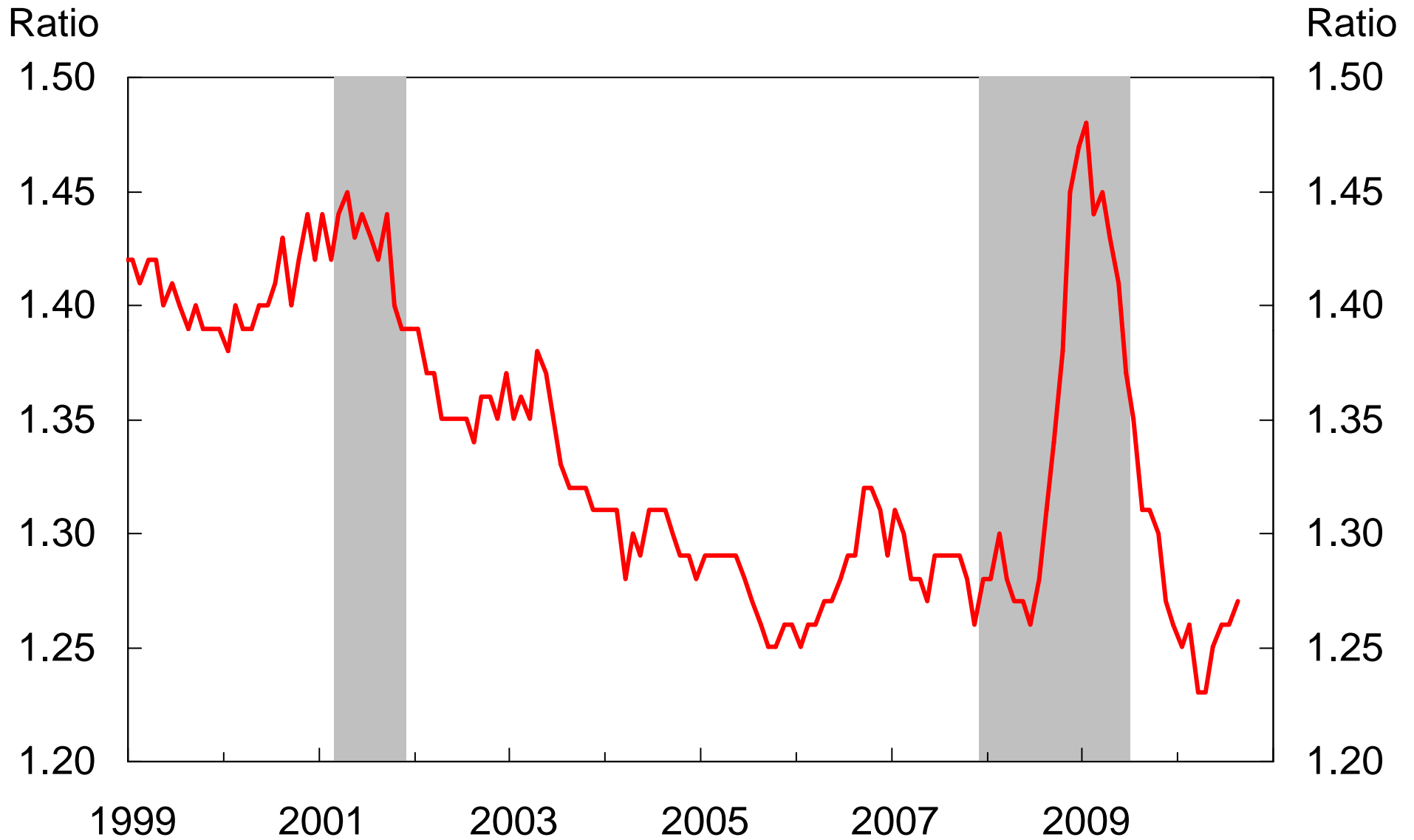
# ISM Non-Manufacturing Price Index



Source: Institute for Supply Management



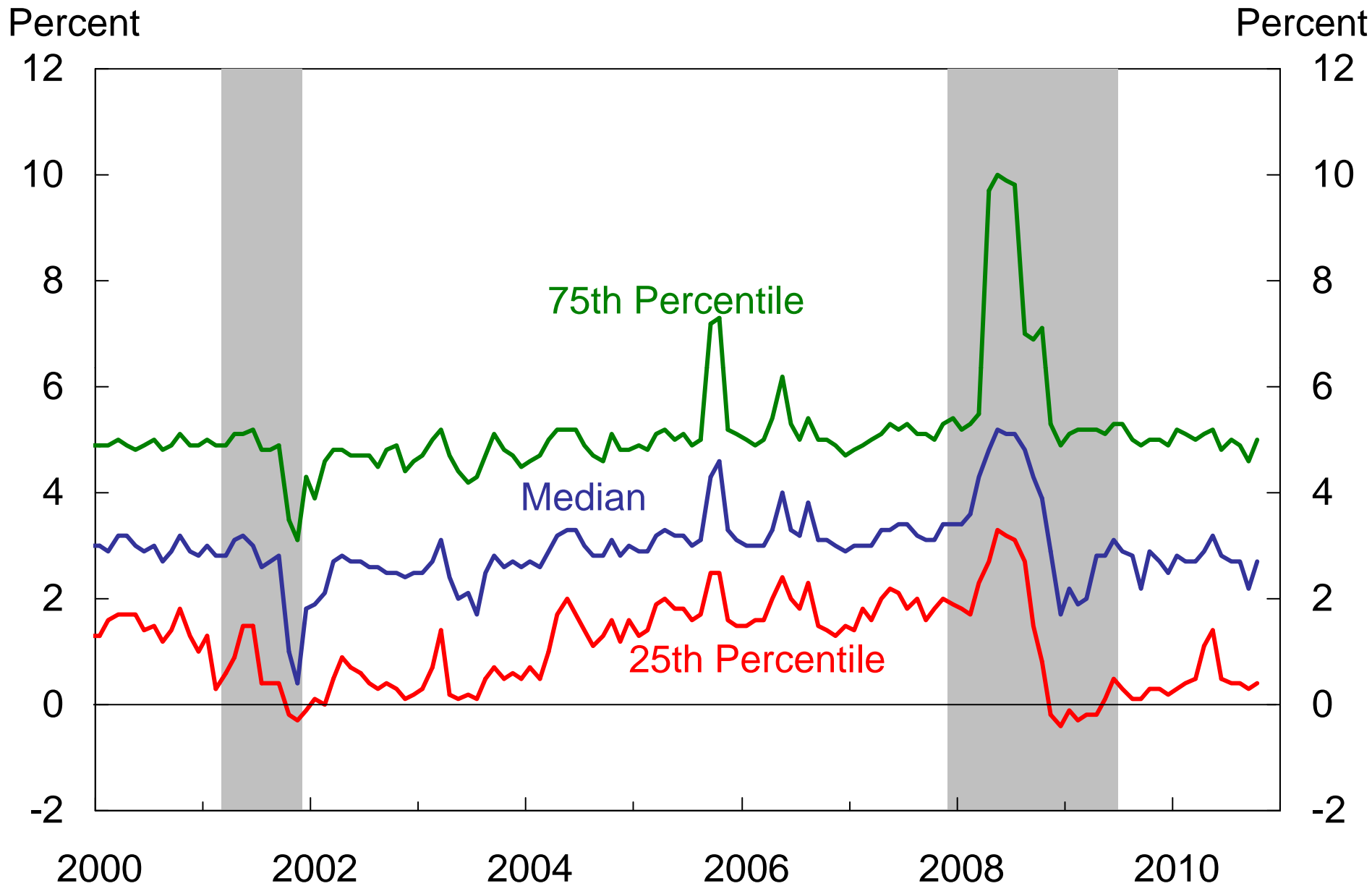
# Inventory / Sales: Total Business



Source: Census Bureau



# Michigan Survey Inflation Expectations: 1 Year Ahead

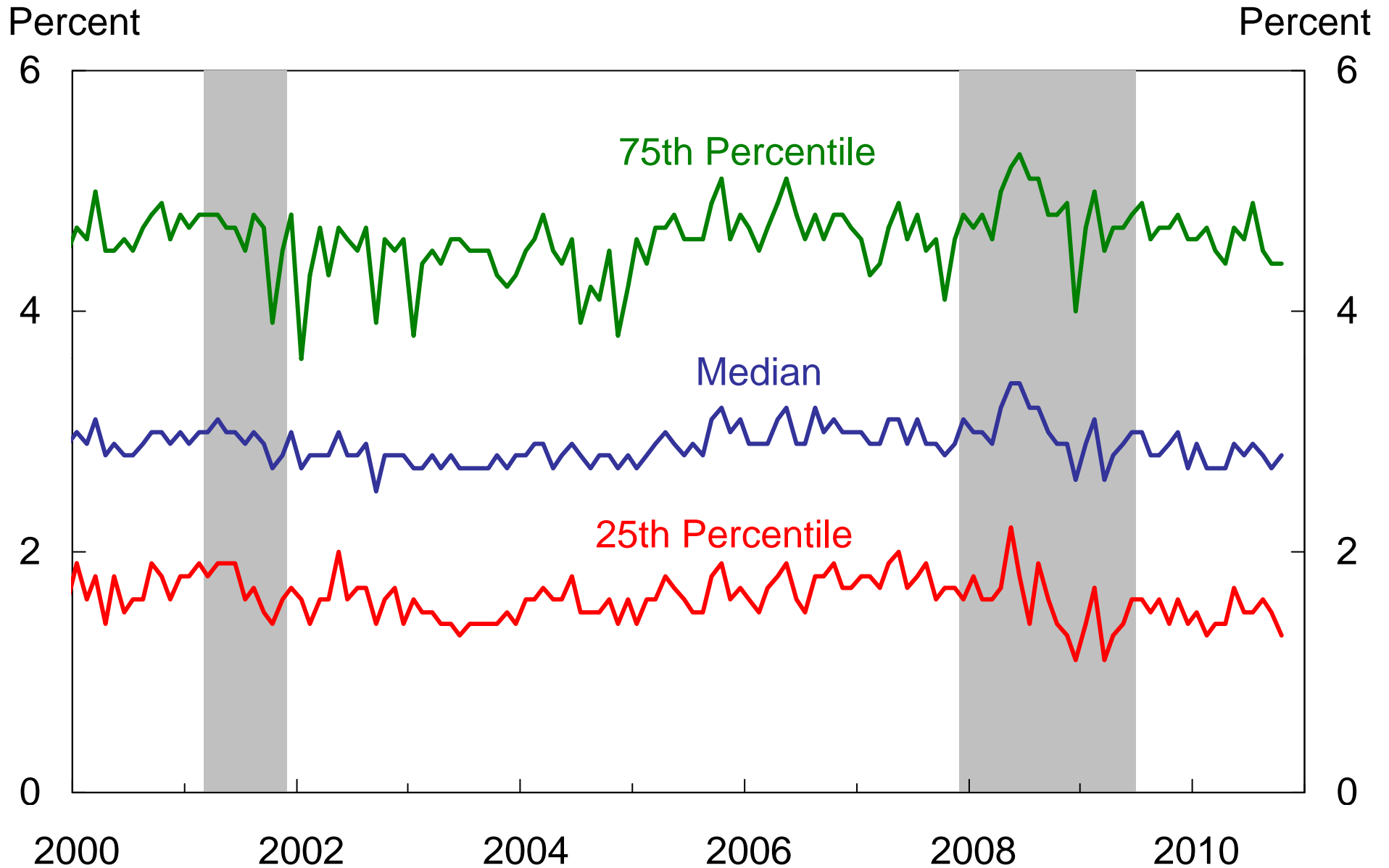


Source: University of Michigan





# Michigan Survey Inflation Expectations: 5-10 Years Ahead



Source: University of Michigan



# PCE Deflator

(percent change at annual rate)

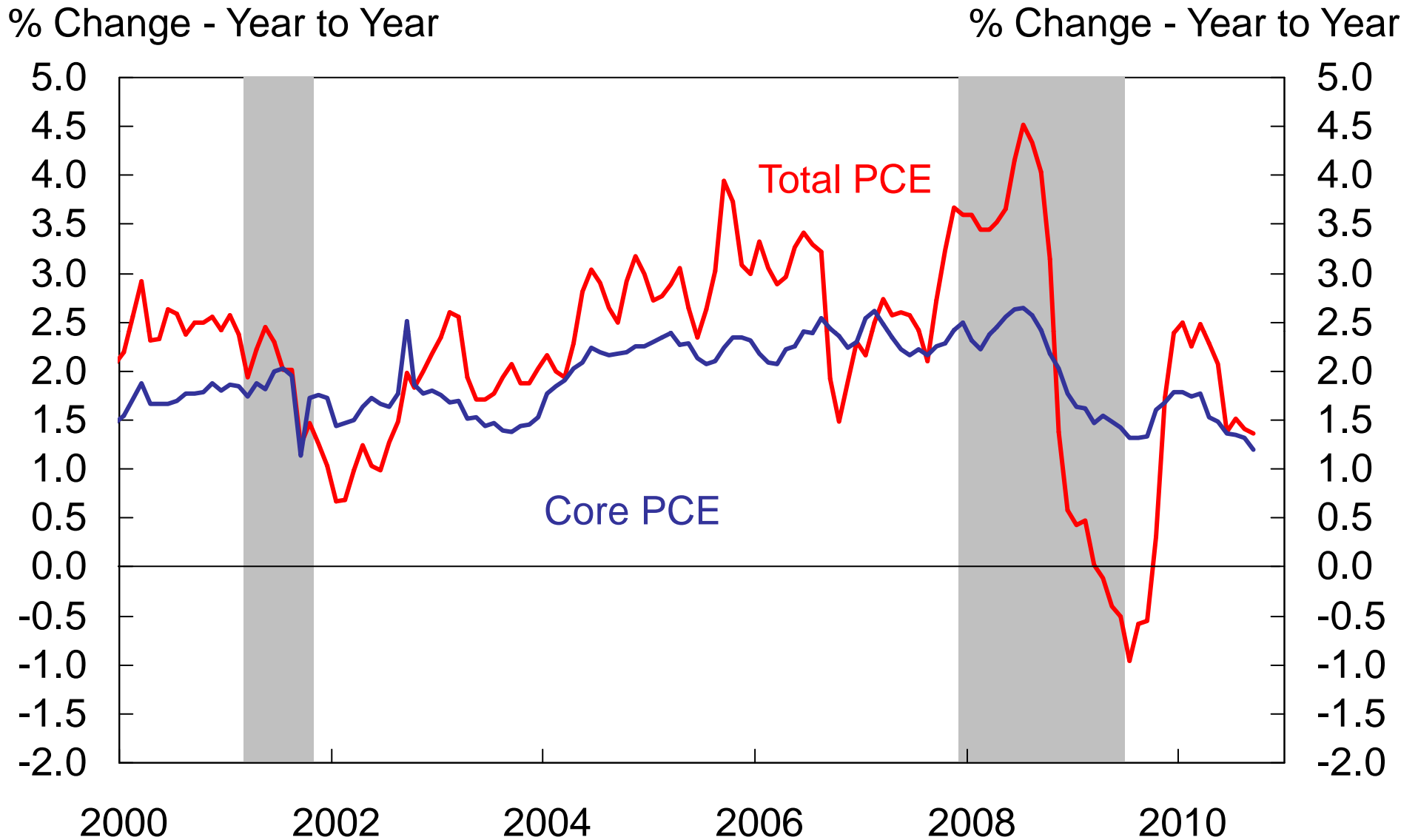
	24 Month	12 Month	6 Month	3 Month	1 Month
PCE Deflator	0.4	1.4	0.5	1.9	1.0
Market-Based	0.3	1.2	0.6	2.2	0.9
Durable Goods	-1.6	-1.4	-2.0	-1.3	-1.1
Motor Vehicles and Parts	2.7	4.0	2.0	1.5	-0.8
Nondurable Goods	-1.6	1.4	-0.2	6.3	3.0
Clothing and Shoes	-0.3	-1.6	-0.3	-1.7	-9.2
Services	1.4	1.8	1.1	1.0	0.7
Housing	0.7	-0.1	0.4	0.5	0.6
Transportation	1.5	1.2	-0.5	-2.5	-3.8
Medical Care	2.6	2.5	2.3	2.1	2.7
Recreation Services	0.7	0.7	1.8	0.1	-3.2
Other Services	2.3	2.5	1.4	0.9	1.3
PCE Deflator Excluding Food and Energy	1.3	1.2	0.7	0.7	0.3
Market-Based	1.3	0.9	1.0	0.7	0.1

Source: Bureau of Economic Analysis

Note: Data through September 2010.



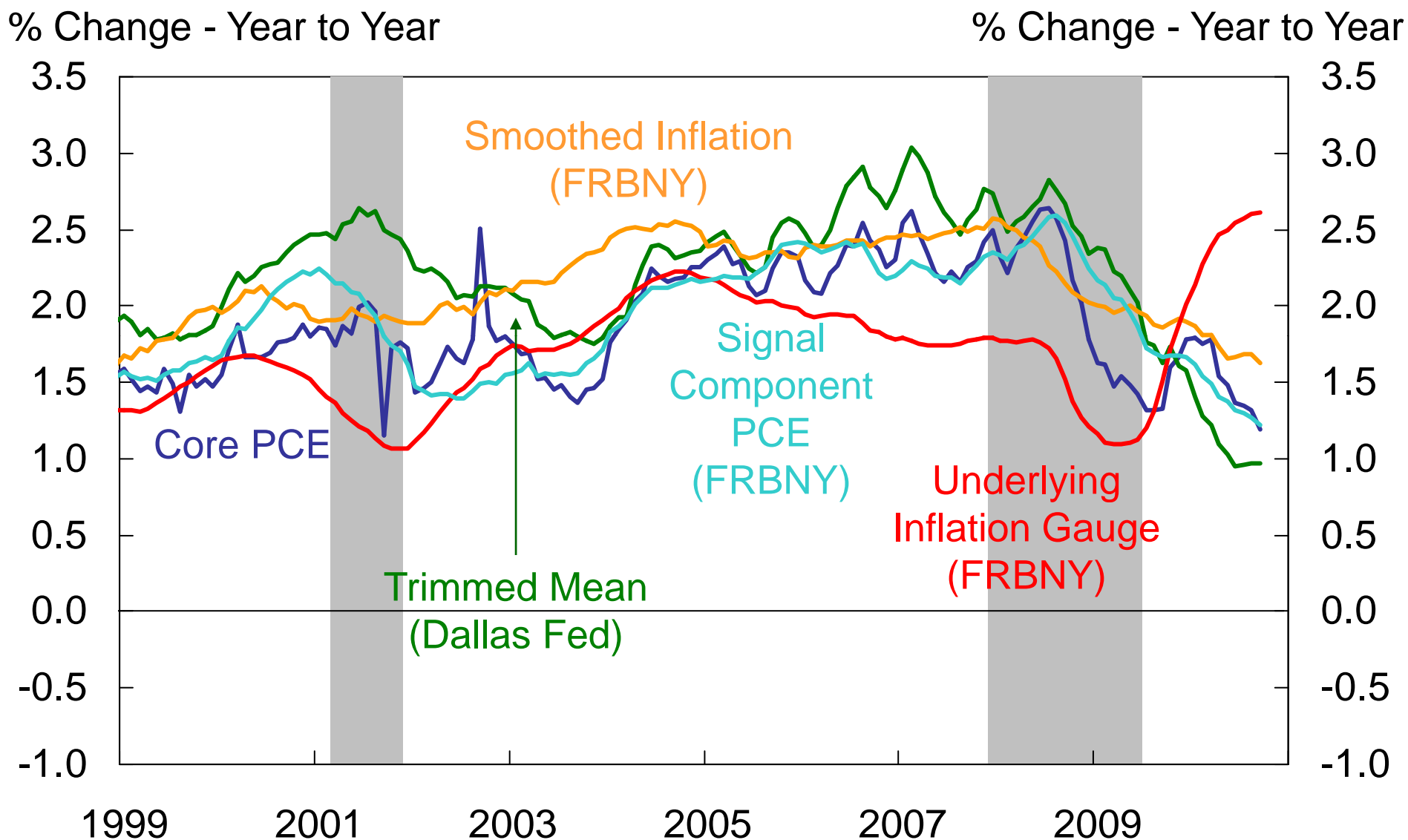
# Total and Core PCE Deflator



Source: Bureau of Economic Analysis



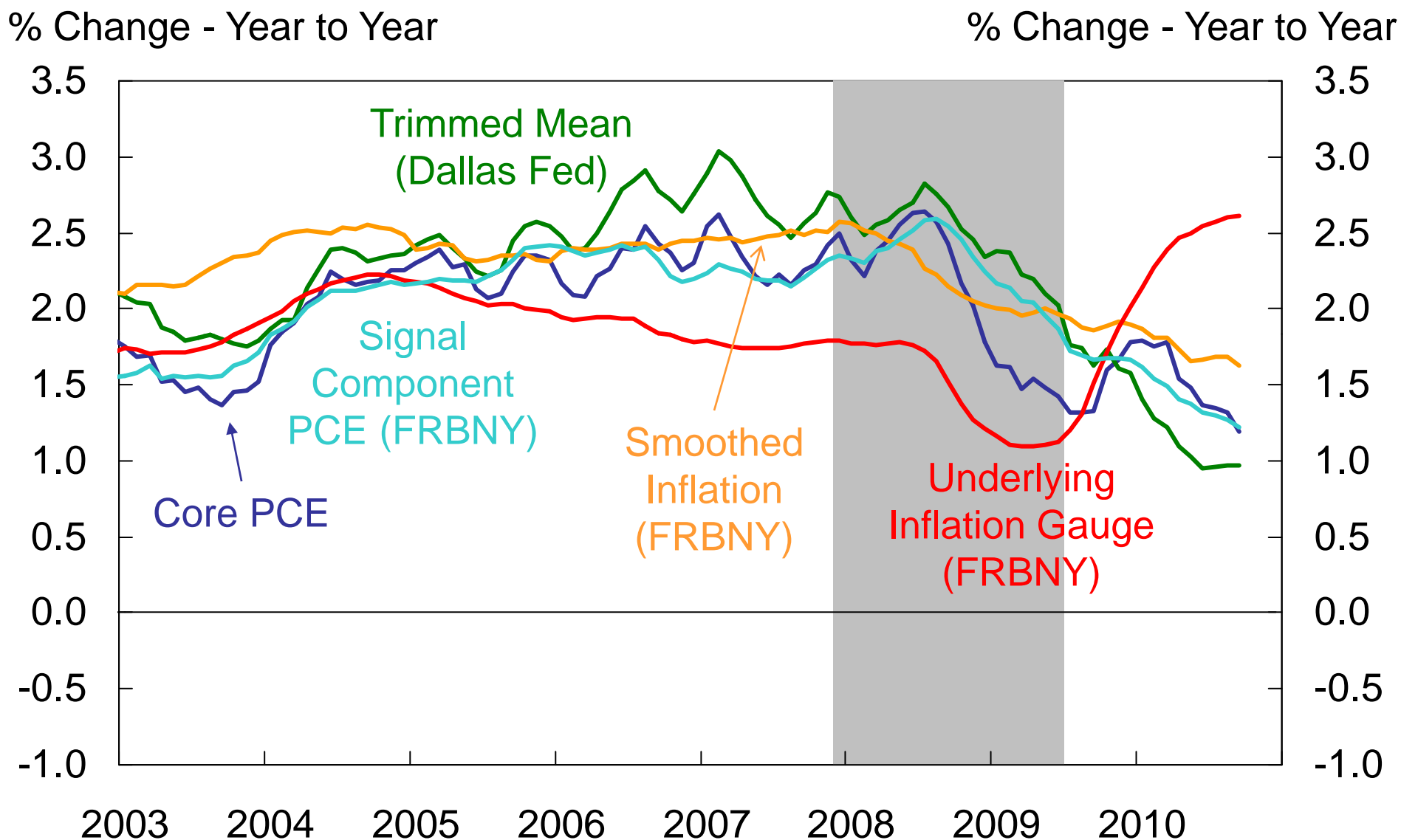
# Measures of PCE Inflation Since 1999



Source: Bureau of Economic Analysis, Dallas Fed, FRBNY and Bank of Switzerland



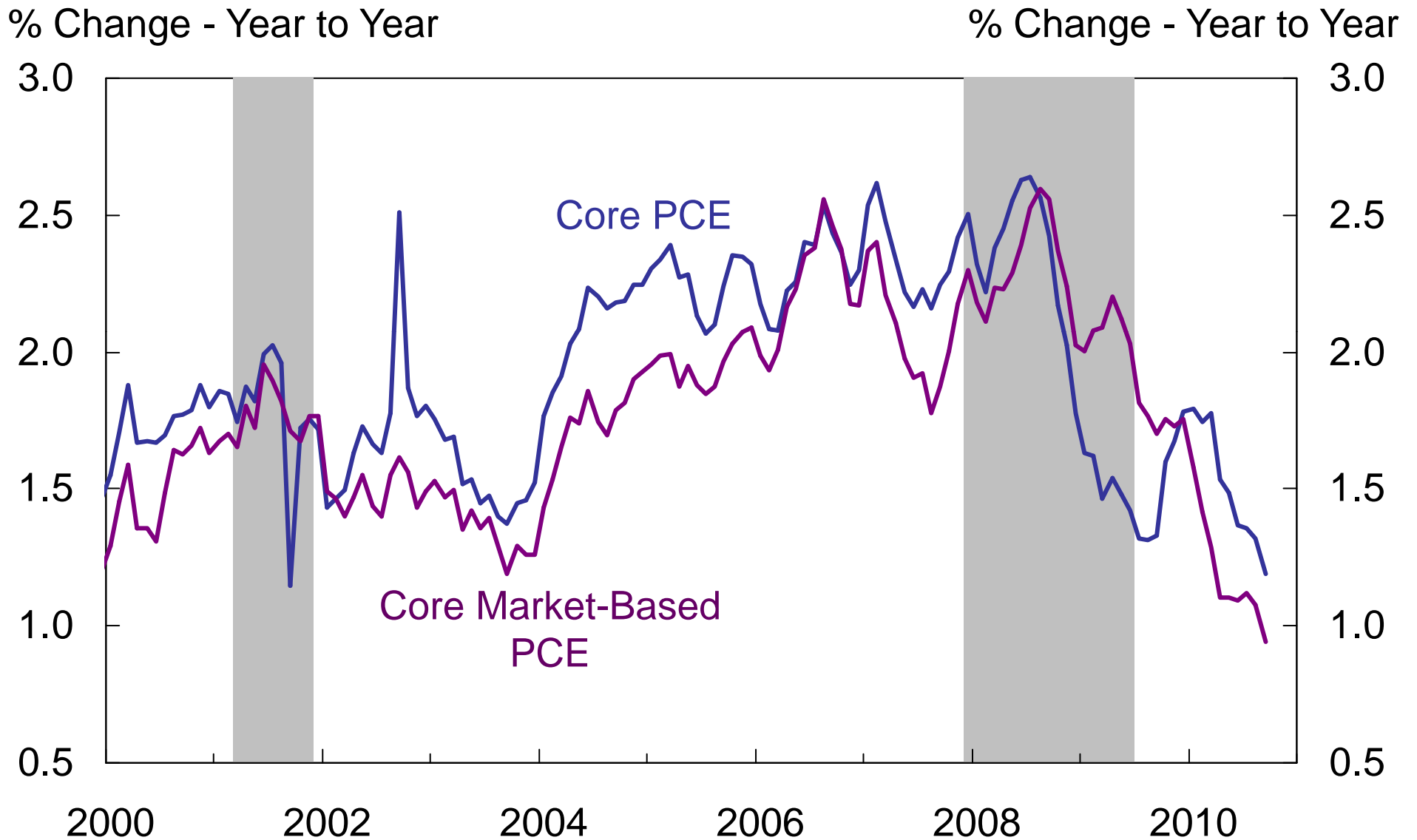
# Measures of PCE Inflation Since 2003



Source: Bureau of Economic Analysis, Dallas Fed, FRBNY and Bank of Switzerland



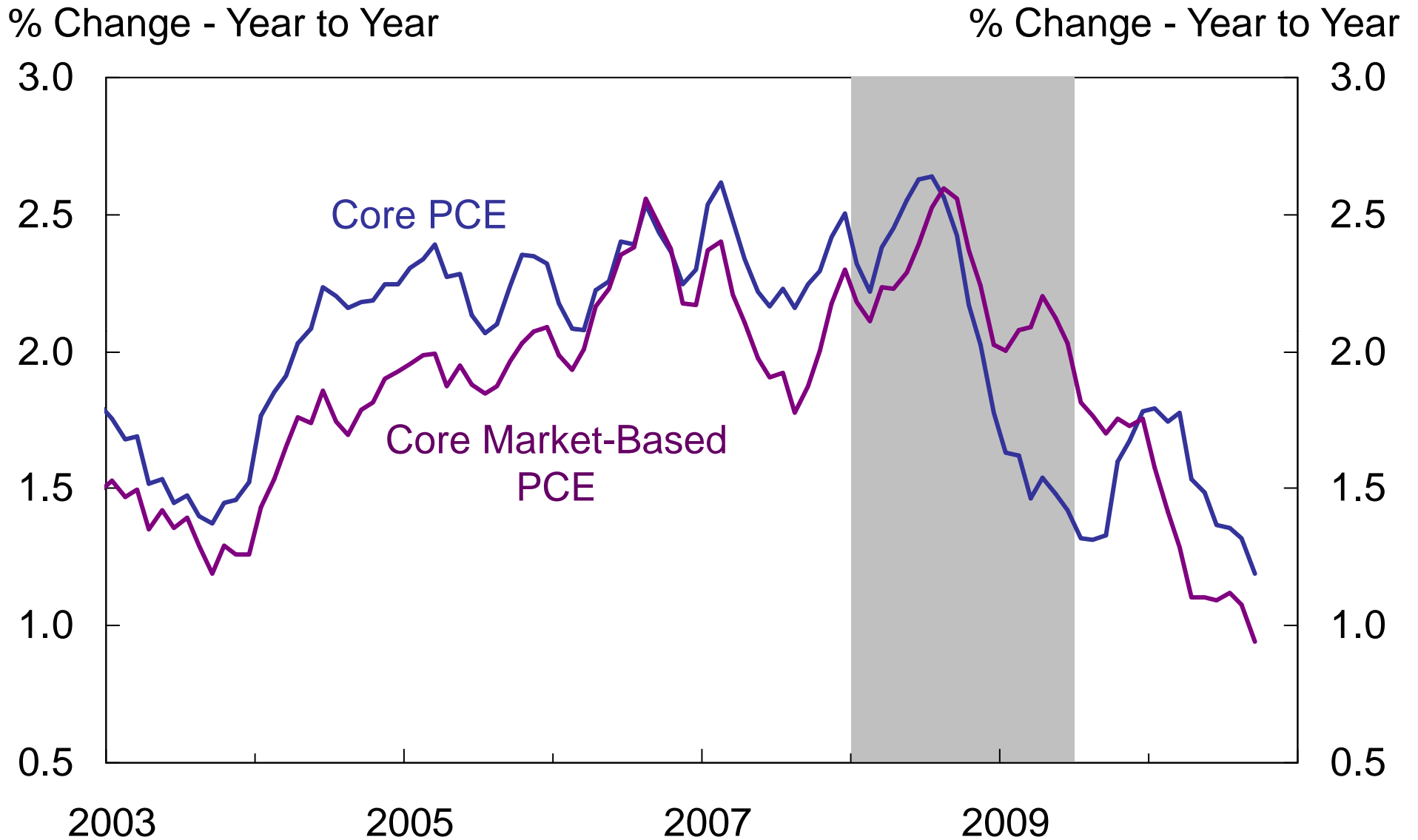
# Core PCE and Core Market-Based PCE Since 1999



Source: Bureau of Economic Analysis



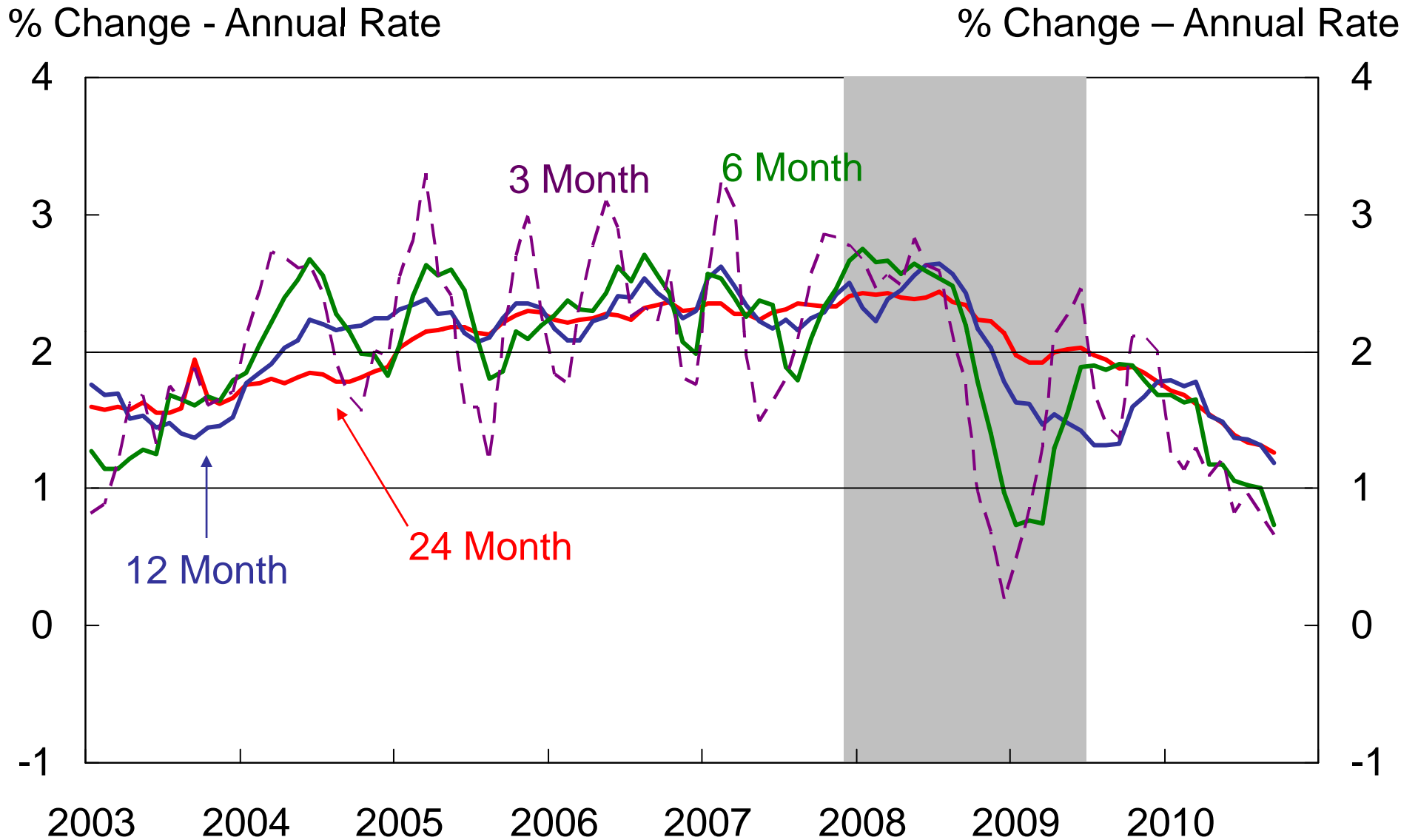
# Core PCE and Core Market-Based PCE Since 2003



Source: Bureau of Economic Analysis



# Core PCE Inflation over Various Horizons



Source: Bureau of Economic Analysis





# Producer Price Index

(percent change at annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Finished Goods	-0.5	4.0	0.3	4.1	5.5
Finished Consumer Goods	-0.8	5.2	0.0	5.0	6.6
Finished Consumer Goods Ex. Food	-1.5	5.2	0.8	4.3	3.9
Nondurables Ex. Food	-2.6	6.9	0.6	4.9	4.1
Durables	1.4	0.9	1.7	2.8	2.5
Capital Equipment	1.0	0.7	1.4	1.5	0.8
Electronic Computers (NSA)	-13.7	-9.8	-12.3	-11.4	-18.3
Communication and Related Equipment (NSA)	0.3	-0.1	-0.8	-0.4	-1.1
Finished Goods Ex. Food & Energy	1.6	1.5	2.0	2.1	1.4
Finished Consumer Goods Ex. Food & Energy	2.2	2.2	2.5	2.4	2.0
Intermediate Materials	-3.6	5.5	1.1	1.5	6.1
Intermediate Materials Ex. Food & Energy	-2.1	3.9	1.5	-0.7	2.7
Crude Materials	-9.4	20.2	-3.1	19.5	-5.6
Crude Materials Ex. Food & Energy	-0.1	25.3	9.7	37.3	91.1

Source: Bureau of Labor Statistics

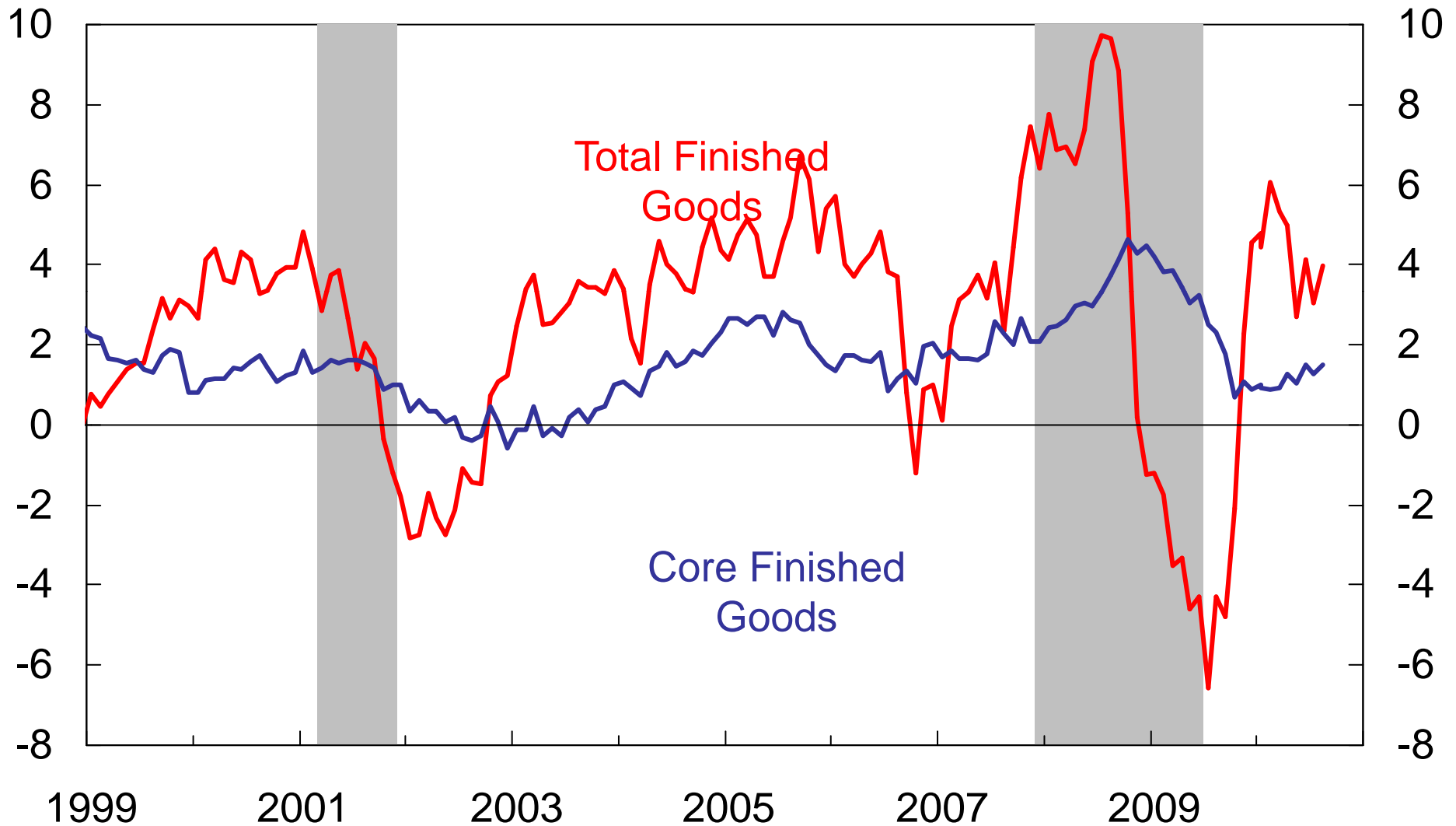
Note: Data through September 2010.



# Producer Price Index

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Labor Statistics



# Productivity and Costs

Estimate of Growth Of Productivity and Unit Labor Costs in the  
Nonfarm Business Sector  
(quarterly percent change at annual rate)

	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1	2010Q2	2010Q3
Output	-6.2	-9.5	-6.4	-0.2	1.4	6.7	5.0	1.6	3.0
Hours Worked	-4.9	-9.5	-9.5	-7.9	-5.2	0.7	1.1	3.5	1.1
Productivity	-1.3	-0.1	3.4	8.4	7.0	6.0	3.9	-1.8	1.9
Compensation/Hour	3.7	1.1	-3.7	9.1	3.4	1.5	-0.9	-0.6	1.8
Unit Labor Costs	5.0	1.2	-6.9	0.6	-3.3	-4.2	-4.6	1.3	-0.1
Memo Items:									
Total Labor Compensation	0.3	-4.0	-9.8	1.1	-1.0	1.7	1.4	3.2	0.0
Less Hours Worked	5.2	5.5	-0.3	9.0	4.2	1.0	0.3	-0.3	-1.1
Private Wages and Salaries	-1.5	-7.1	-14.6	-0.1	-1.8	1.7	-0.3	3.5	0.0
Less Hours Worked	3.5	2.3	-5.1	7.9	3.4	1.0	-1.4	0.0	-1.1
Nonfarm Proprietors Income	-0.9	-10.0	-16.1	-6.5	2.4	3.1	3.3	6.9	0.0

Source: Bureau of Labor Statistics and FRBNY

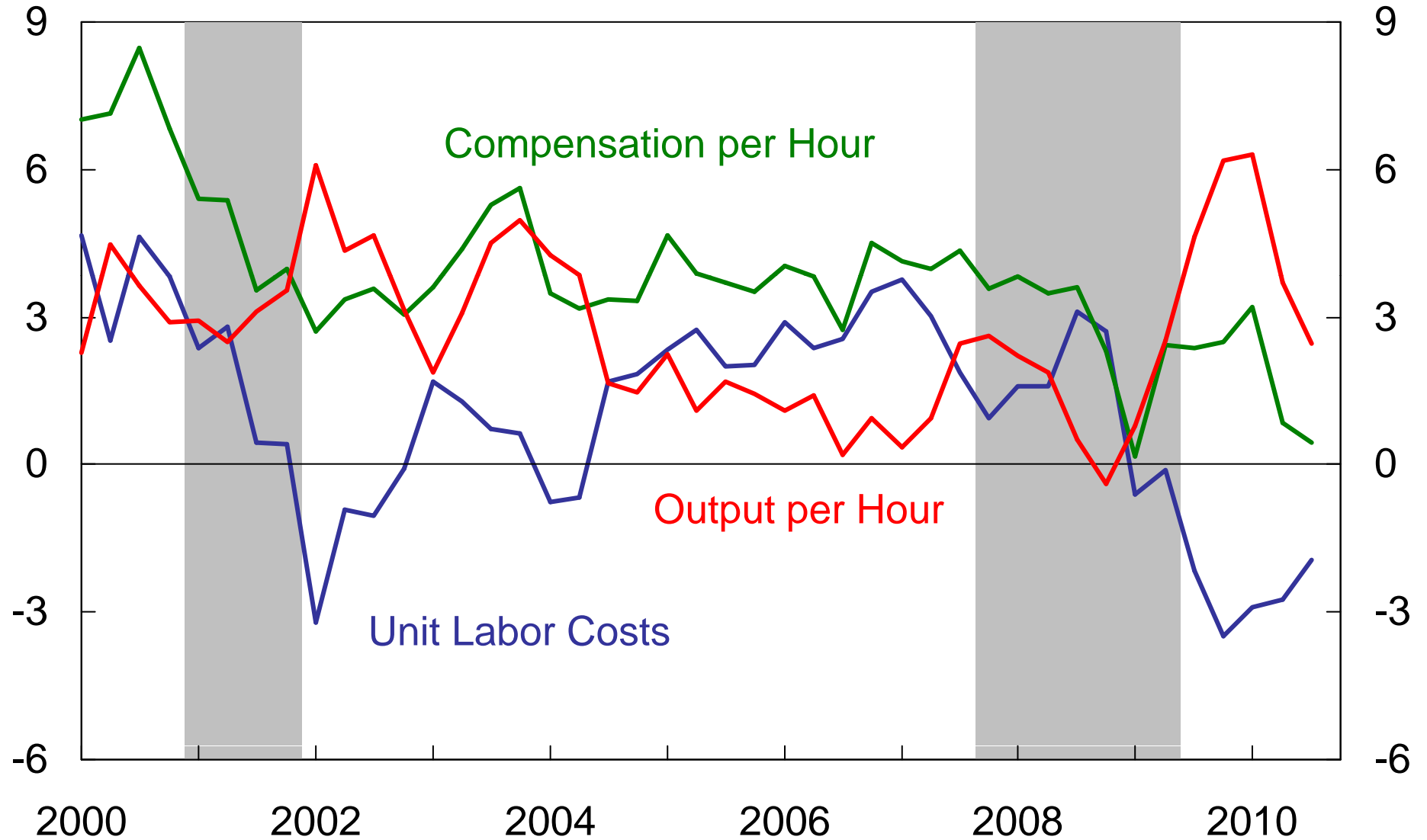


# Productivity, Compensation, and Unit Labor Costs

## Nonfarm Business Sector

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Labor Statistics



# Real Personal Consumption Expenditures

(percent change at an annual rate)

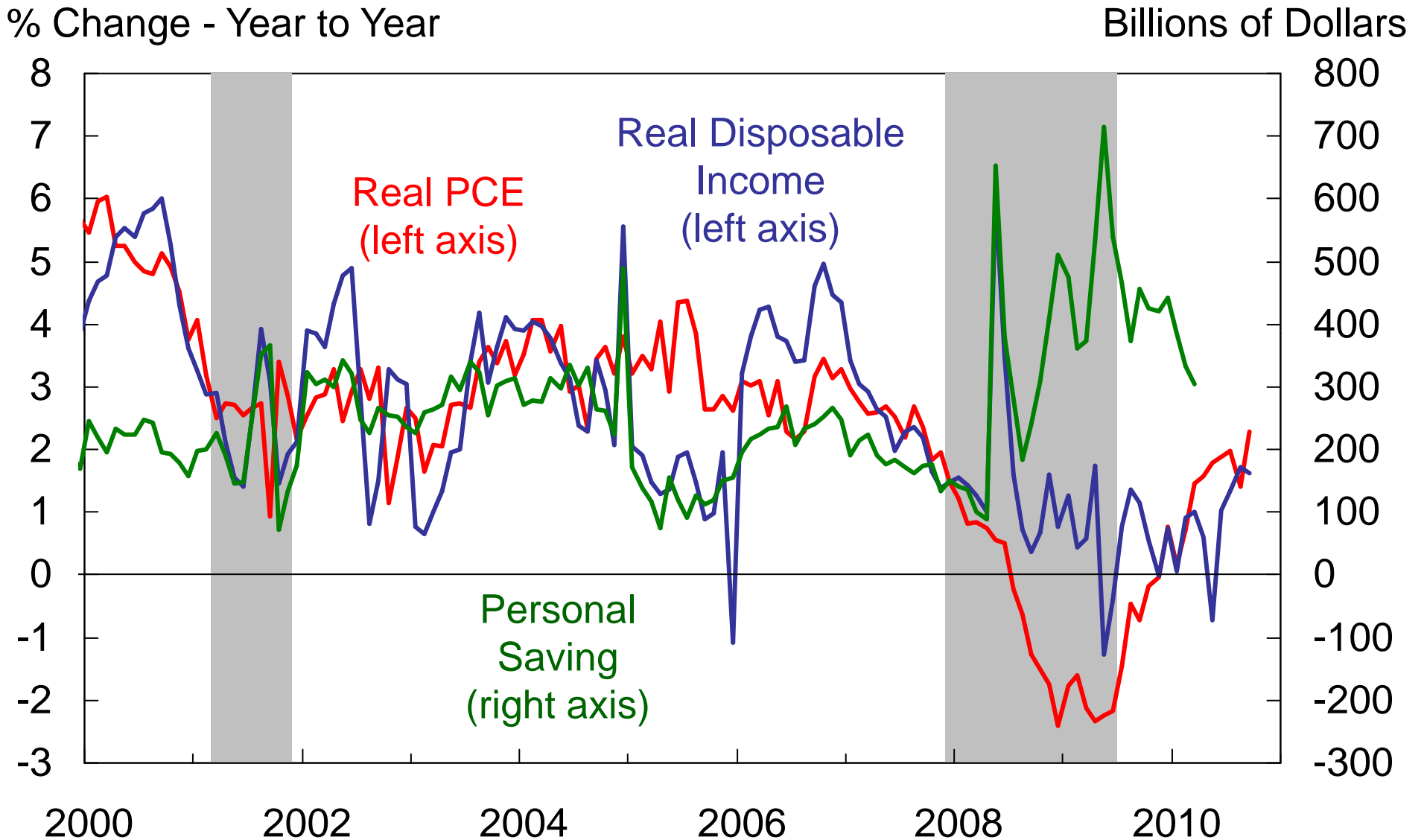
	2010Q3 Nominal Share	24 Months	12 Months	6 Months	3 Months	1 Month
Personal Consumption Expenditures	100.0	0.8	2.3	2.0	2.6	1.0
Durable Goods	10.4	3.1	9.6	2.2	9.1	10.5
Motor vehicles and parts	3.3	-1.4	10.1	-5.6	8.5	13.1
Furnishings and durable household equipment	2.5	2.8	9.6	4.6	10.6	9.0
Other durable goods	1.4	2.6	4.1	-1.8	2.2	-4.2
Nondurable goods	22.4	1.5	2.3	0.9	1.6	-2.2
Food and beverages purchased for off-premises consumption	7.7	1.7	2.1	1.4	6.2	1.6
Clothing and shoes	3.3	2.1	6.3	-0.1	4.8	11.1
Gasoline, fuel oil, and other energy goods	3.3	0.6	-3.2	-5.3	-13.5	-30.9
Other nondurable goods	8.1	1.2	3.3	3.2	2.9	3.4
Services	67.1	0.2	1.2	2.3	2.0	0.7
Housing services	15.3	0.8	0.6	0.7	0.6	0.6
Household utilities	3.1	4.3	2.3	16.4	-1.9	-12.7
Gas and electric	2.2	6.1	2.9	23.1	-2.6	-17.1
Transportation services	2.9	-1.9	3.8	4.2	5.1	12.4
Medical care services	16.4	2.1	1.8	3.1	2.1	1.6
Recreation services	3.7	-0.1	1.7	4.0	8.2	10.2
Food services and accommodations	6.1	0.0	4.0	1.7	5.4	3.6
Other	9.1	-0.9	0.0	0.8	0.7	-3.8
Energy goods and services	5.5	2.8	-0.8	4.8	-9.3	-25.7
PCE less food and energy	86.7	0.5	2.5	1.8	3.1	3.0
PCE less autos and household utilities	93.7	0.8	2.0	1.9	2.6	1.0

Source: Bureau of Economic Analysis

Note: Data through September 2010.



# Real PCE, Disposable Income and Personal Savings



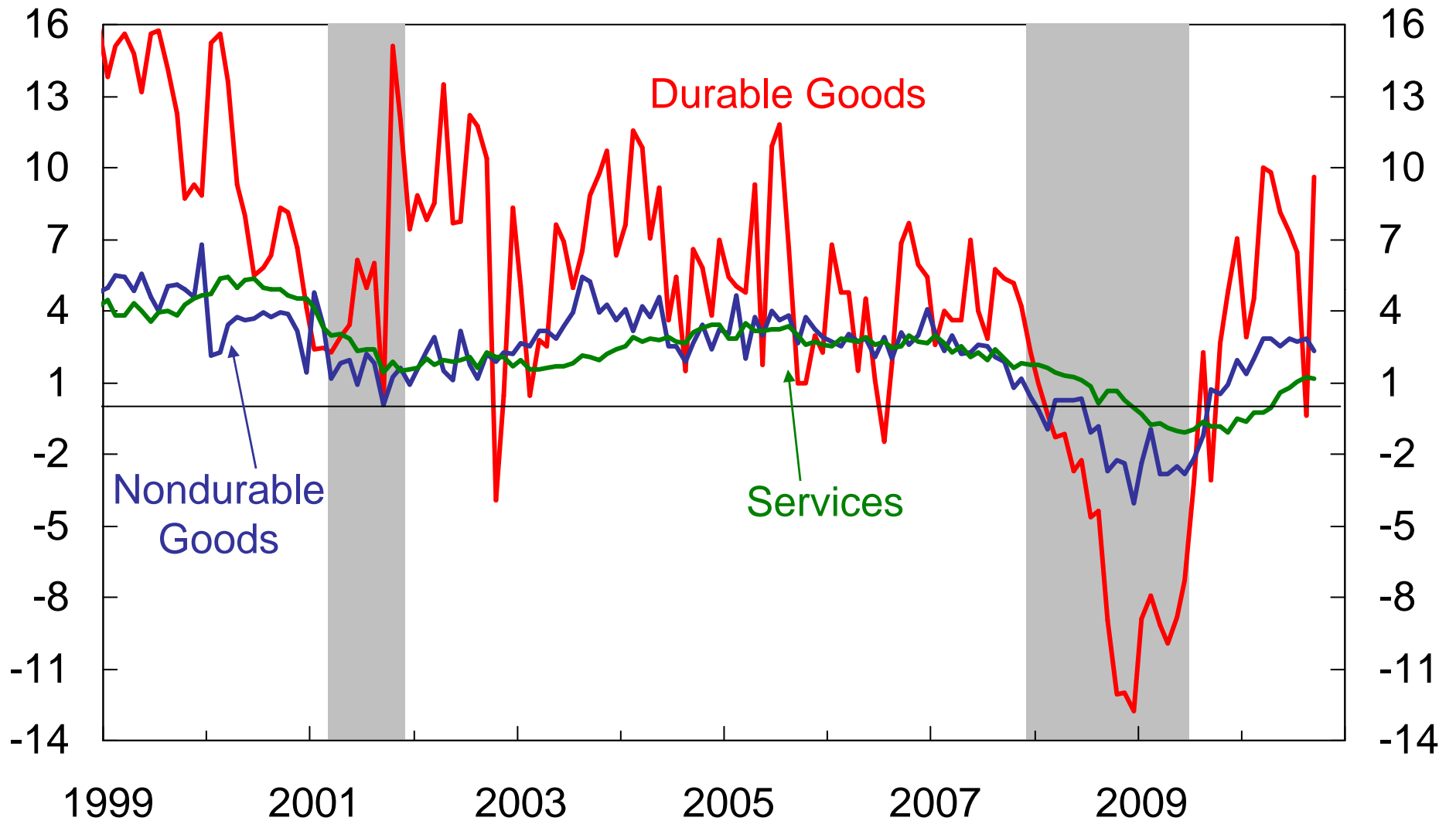
Source: Bureau of Economic Analysis



# Real PCE Components

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Economic Analysis



# Retail Sales

(percent change at an annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Retail Sales and Food Services	0.1	7.3	1.6	7.4	7.7
Excluding Motor Vehicles and Parts	-0.2	5.4	1.3	6.8	5.2
Retail Sales	-0.1	7.7	1.5	7.6	8.3
Excluding Motor Vehicles and Parts	-0.5	5.5	1.2	7.0	5.5
Motor Vehicles and Parts Dealers	1.5	17.9	2.7	10.3	20.6
Auto and Other Motor Vehicle Dealers	1.4	19.0	1.5	9.1	20.6
Furniture, Home Furnishings, Electronics, & Appliances	-1.9	4.4	-0.5	4.6	12.8
Furniture and Home Furnishings	-2.2	3.1	-5.2	7.3	6.1
Electronics and Appliances	-1.6	5.6	3.9	2.4	19.1
Building Materials, Garden Equipment, & Supply	-3.8	7.3	-2.1	5.0	7.2
Food and Beverages	1.4	2.7	1.7	7.4	4.5
Health and Personal Care	3.7	3.8	5.3	5.9	6.5
Gasoline Stations	-10.7	8.2	-3.0	15.1	5.2
Clothing and Accessories	1.6	3.2	-3.7	0.1	-2.4
Food Services and Drinking Places	1.7	4.5	2.2	5.4	3.1
BEA Control	0.2	5.3	1.9	7.3	5.4
BEA Control Excluding Gasoline Sales	2.1	4.9	2.6	6.2	5.4

Source: Census Bureau

Note: Data through September 2010.

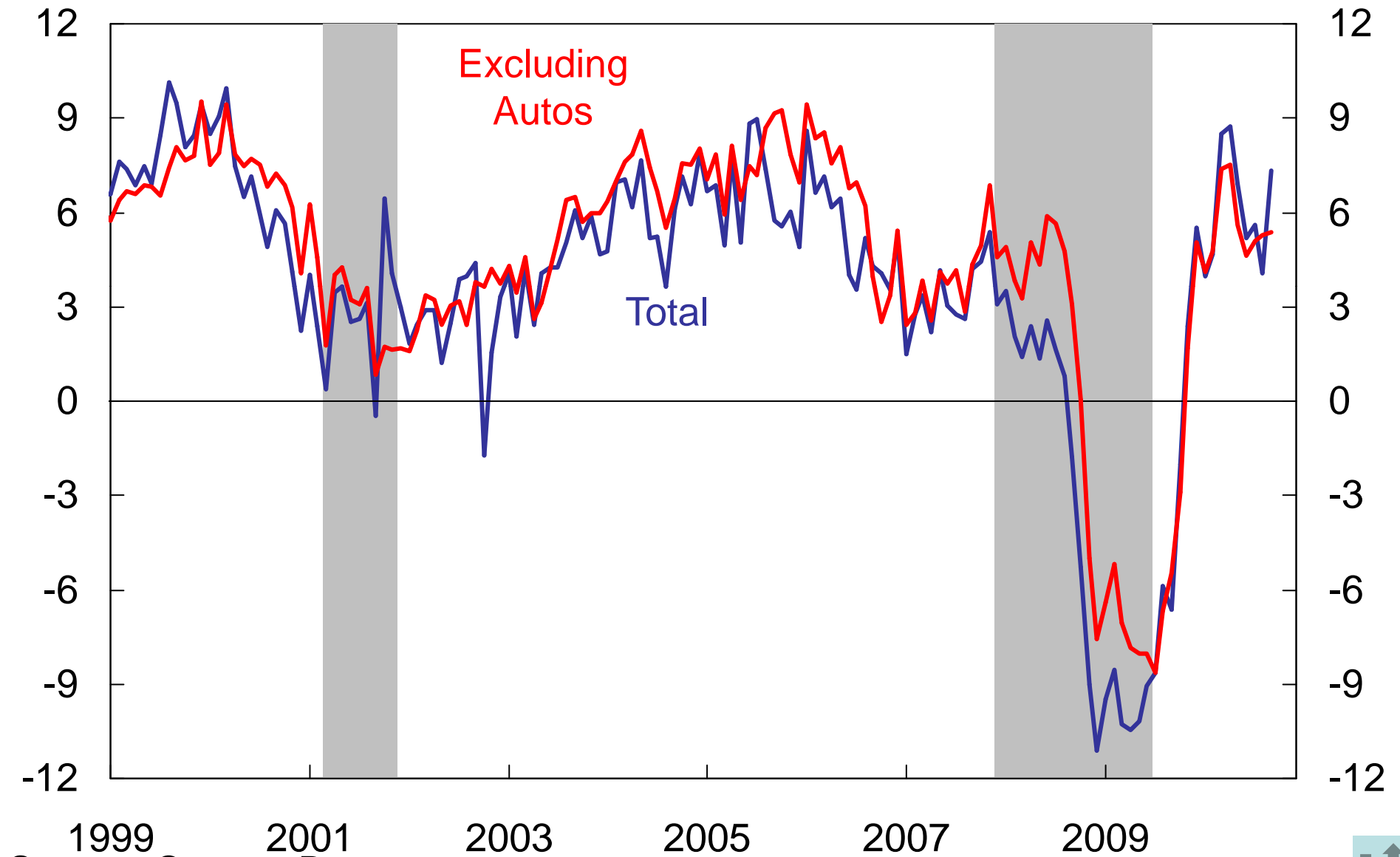




# Retail Sales

% Change - Year to Year

% Change - Year to Year



Source: Census Bureau



# Low-Growth Regime Probabilities (Chart 1)

Real-Time Assessments for the Most Recent Quarter

Probability

1.00

Low-Growth = 1.21%

High-Growth = 3.00%

0.90

0.80

0.70

0.60

0.50

0.40

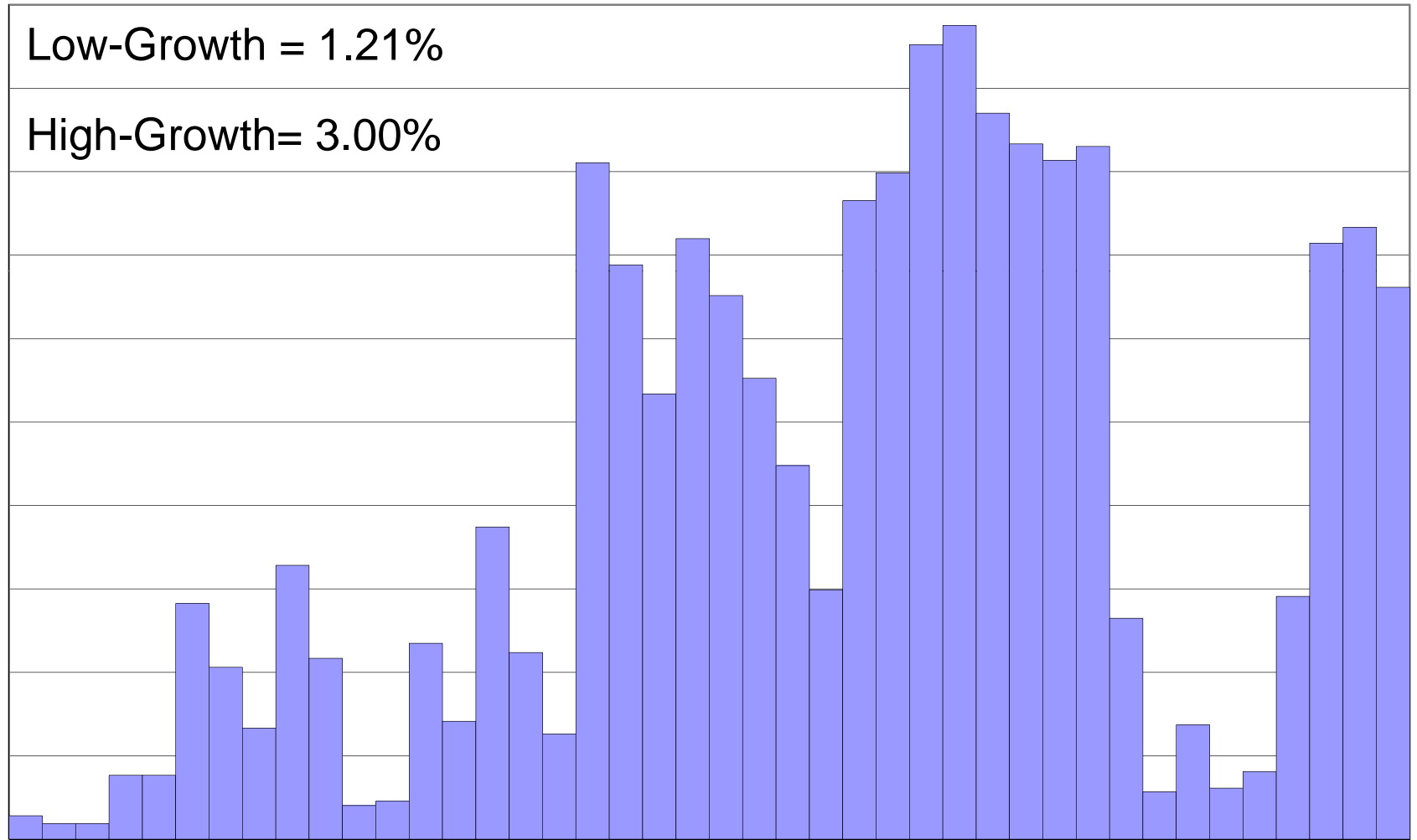
0.30

0.20

0.10

0.00

05M06 05M12 06M06 06M12 07M06 07M12 08M06 08M12 09M09 10M03 10M09

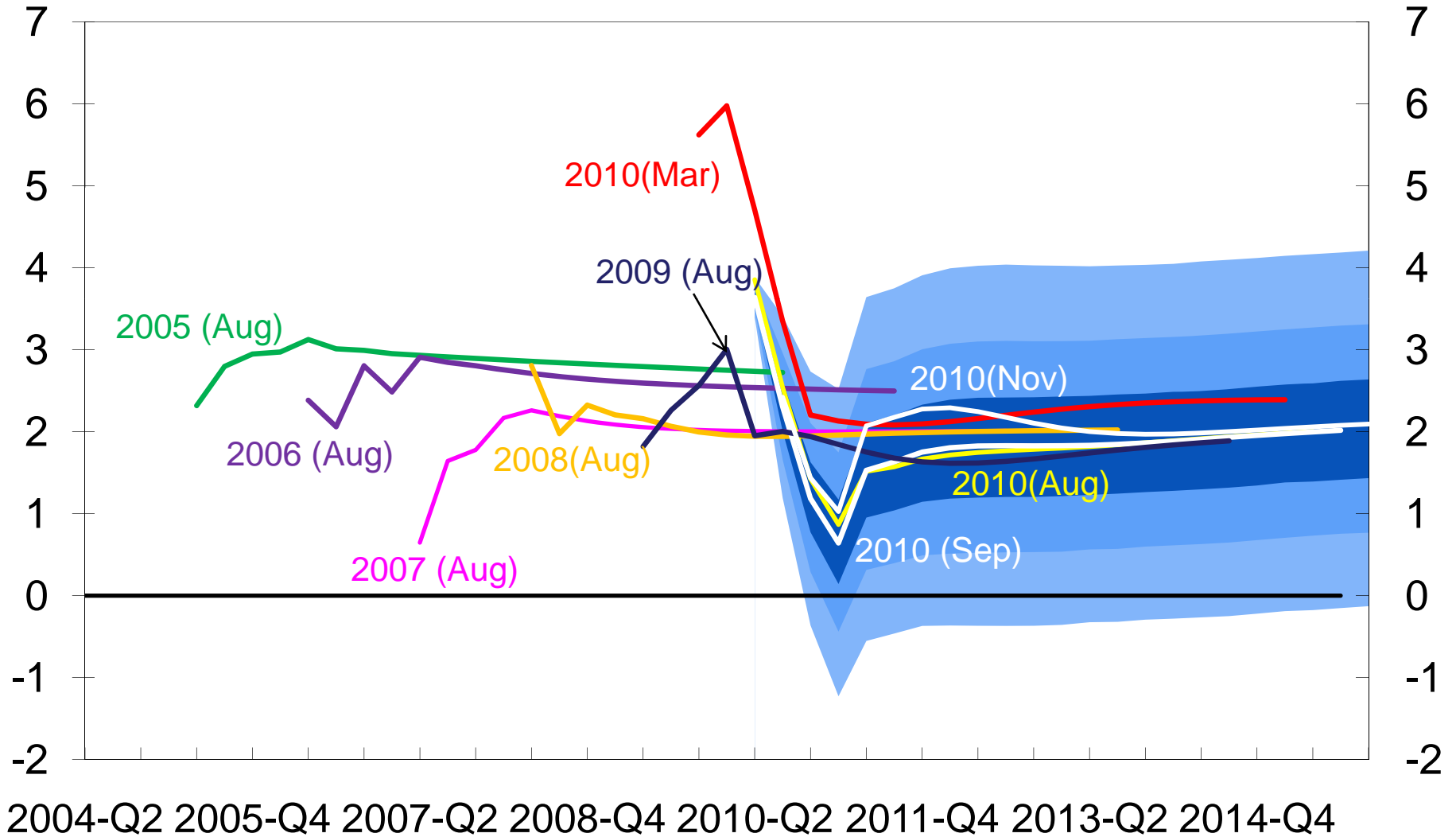


# Five-Year Forecasts of Productivity Growth (Chart 2)

4Q moving average

% Change -- Annual Rate

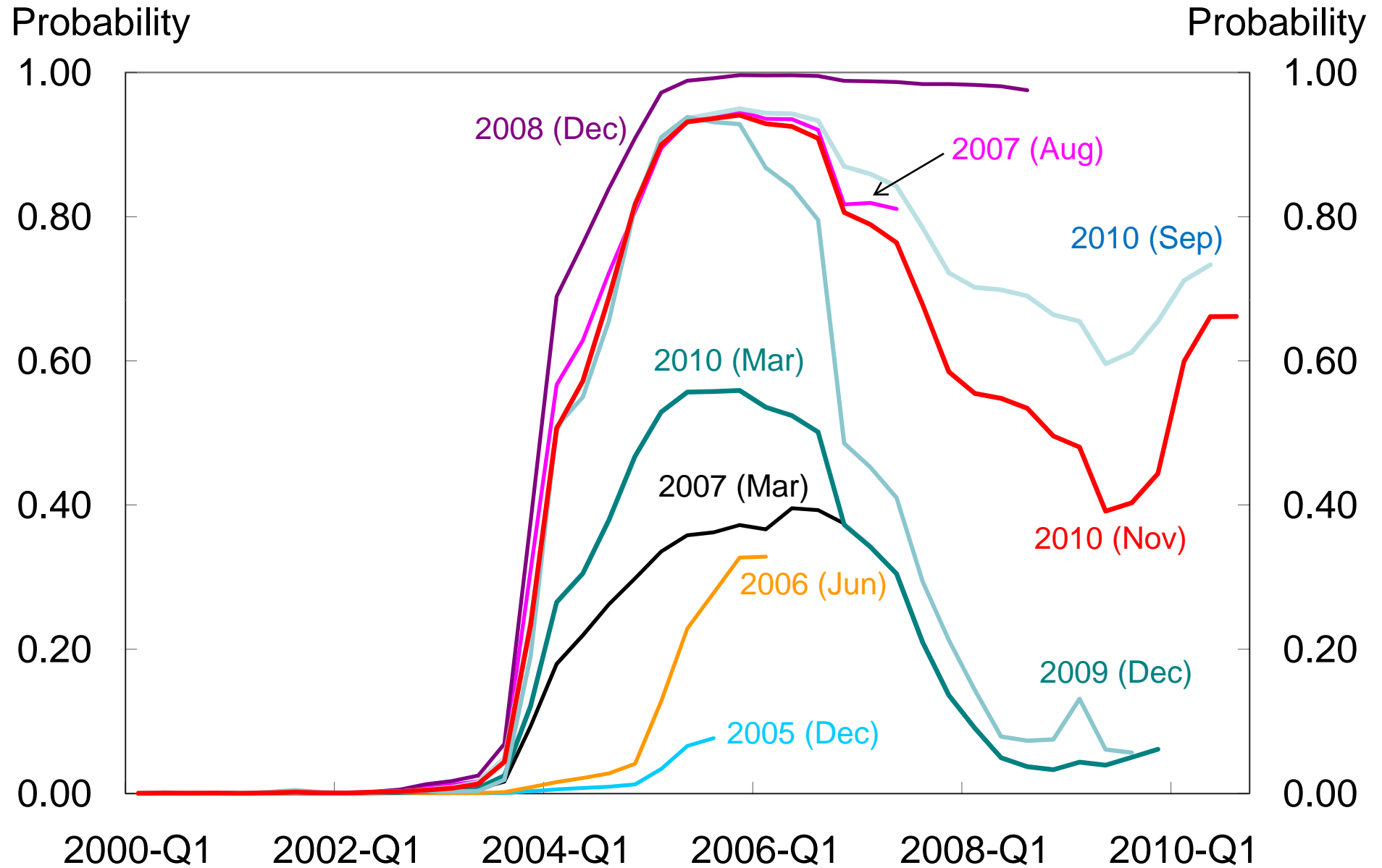
% Change -- Annual Rate



**Note: The shading represents the 25,50, and 75% probability bands around the November 2010 forecast.**

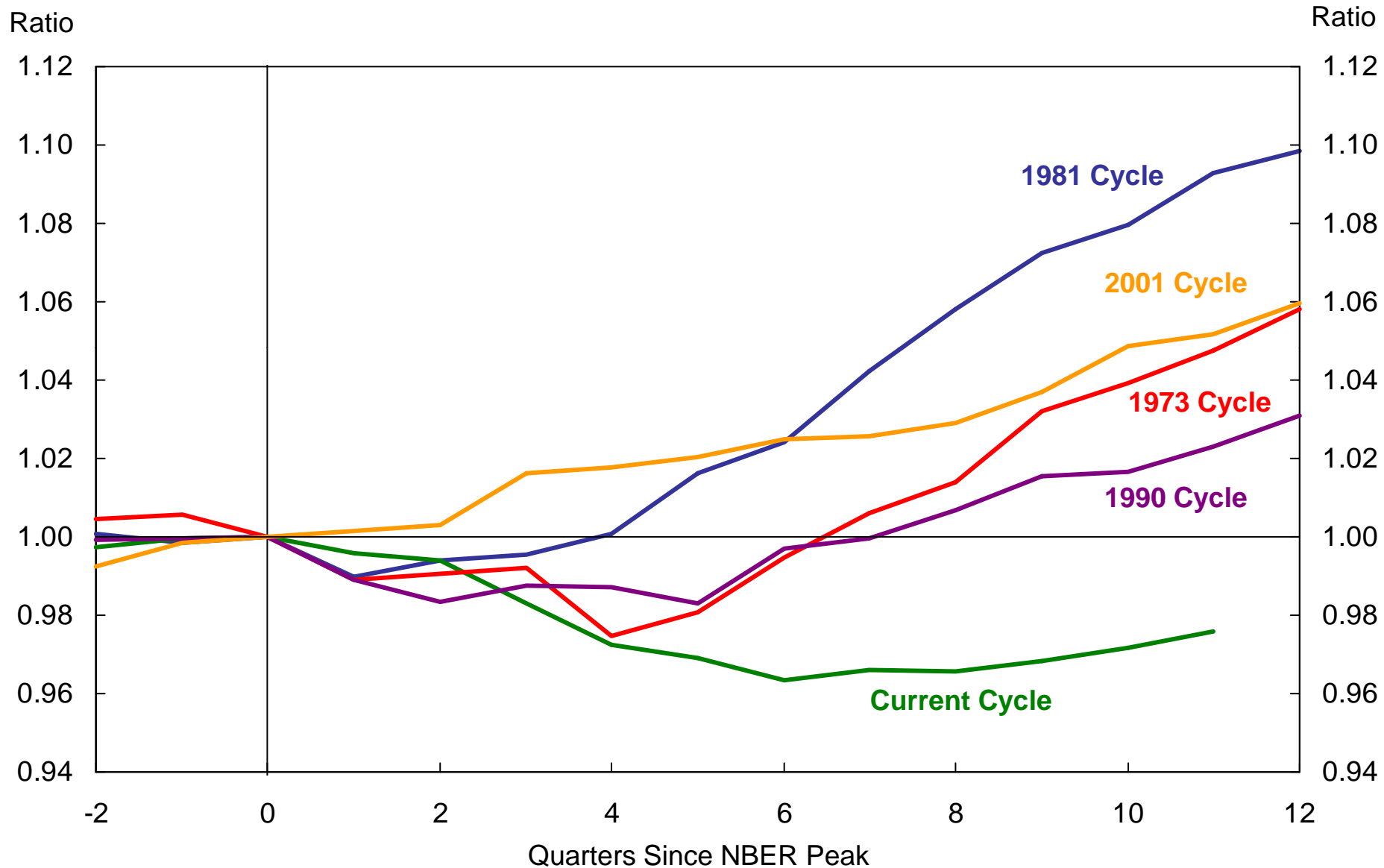
# Low-Growth Regime Probabilities (Chart 3)

Retrospective Assessments in Real Time



# Real PCE per capita

(Series Set to 1.0 at NBER Peak)

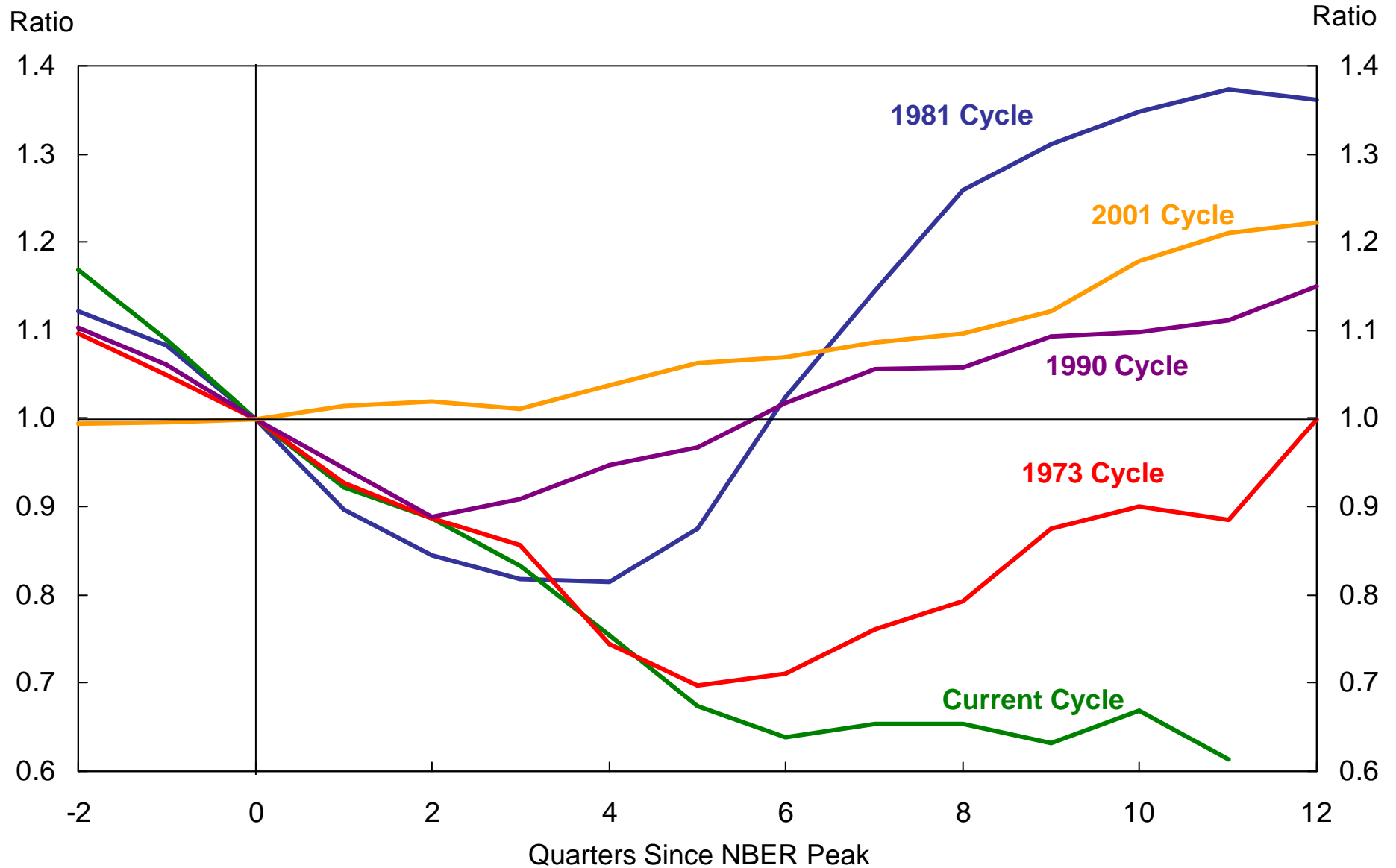


Source: Bureau of Labor Statistics

Note: Dashed line represents FRBNY forecast.

# Real Residential Investment

(Series Set to 1.0 at NBER Peak)

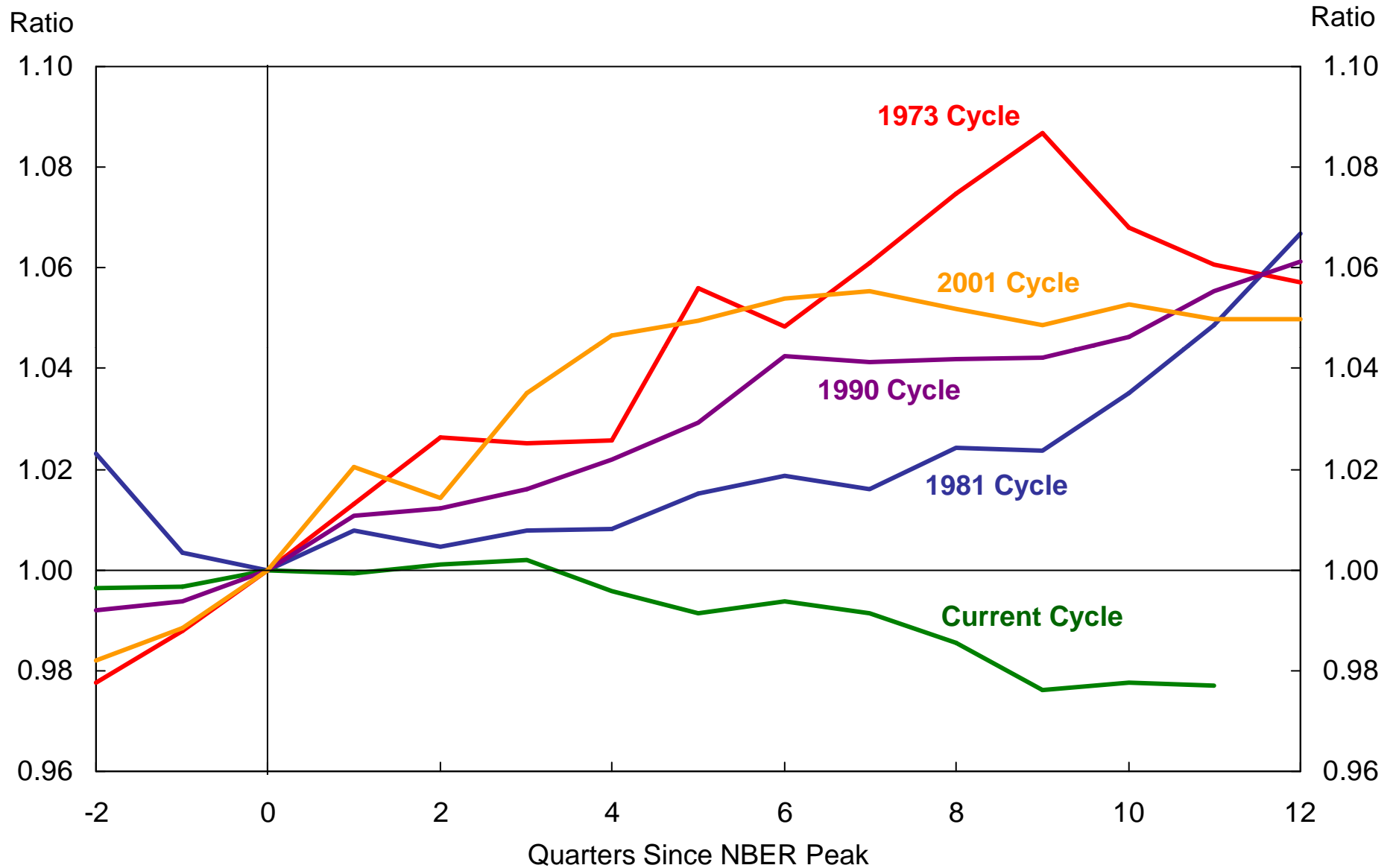


Source: Bureau of Labor Statistics

Note: Dashed line represents FRBNY forecast.

# Real State and Local Government

(Series Set to 1.0 at NBER Peak)

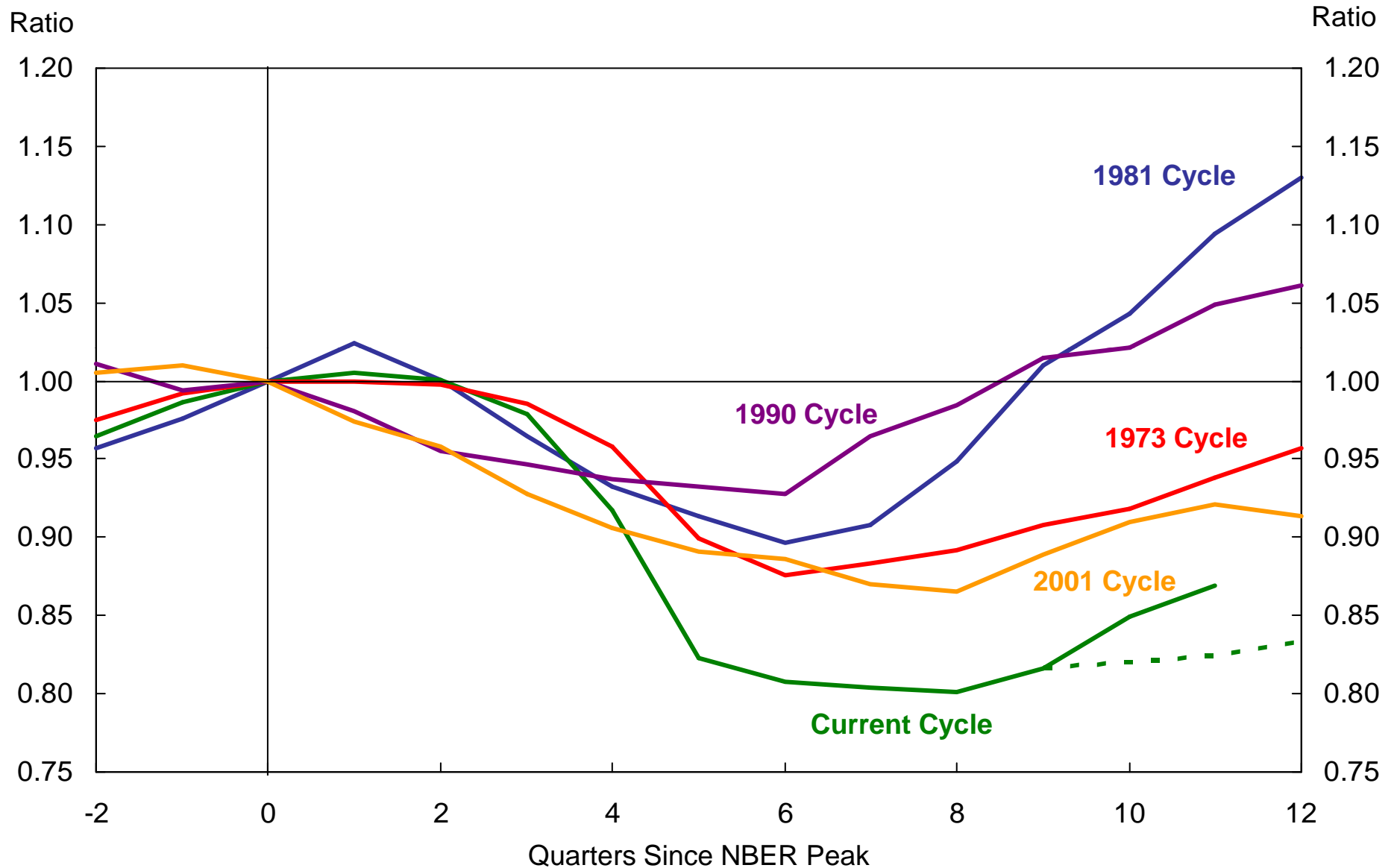


Source: Bureau of Labor Statistics

Note: Dashed line represents FRBNY forecast.

# Real Business Fixed Investment

(Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

Note: Dashed line represents FRBNY forecast.

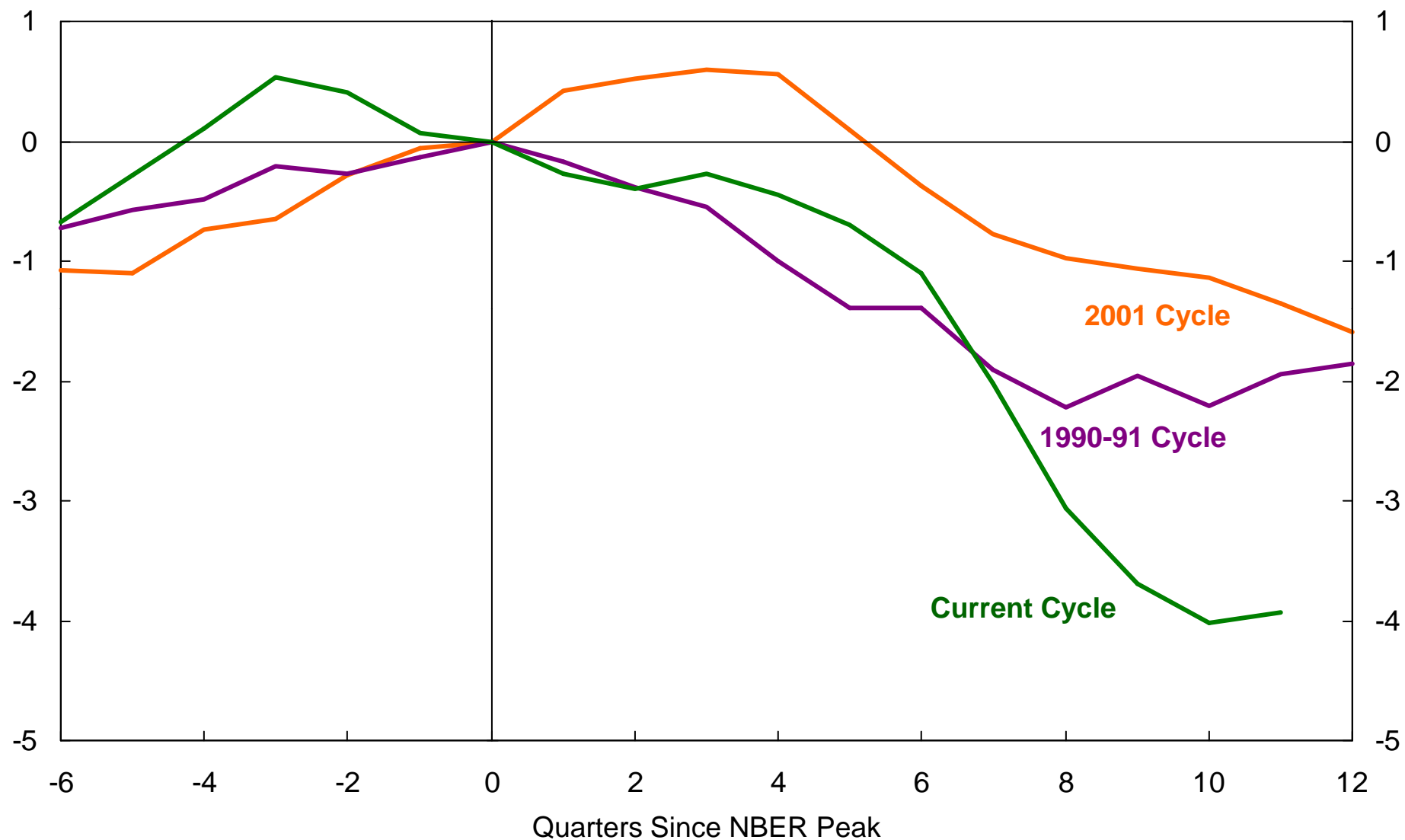


# Rent of Primary Residence Inflation

(Series Set to 0.0 at NBER Peak)

Difference in Year-to-Year Inflation Rate

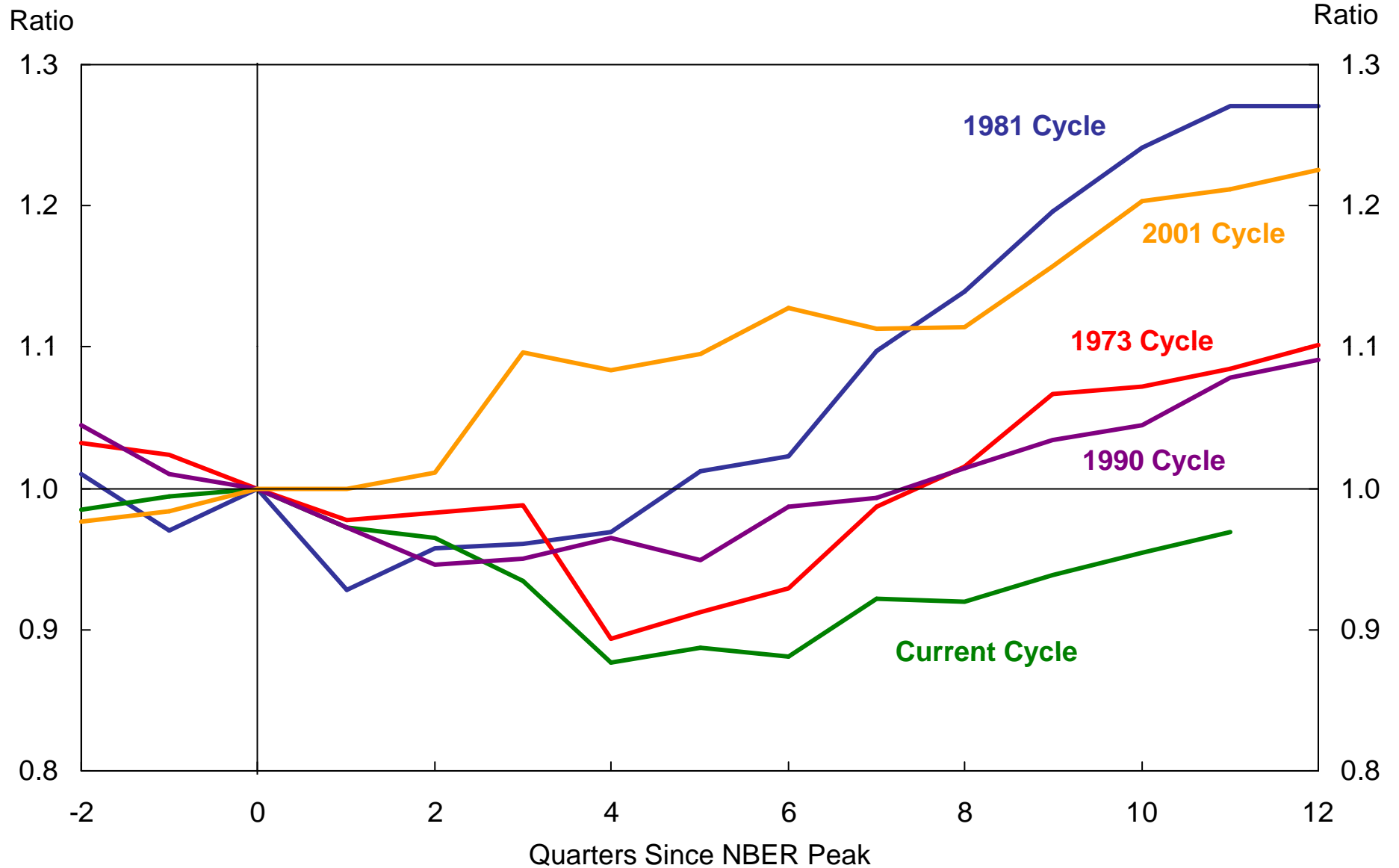
Difference in Year-to-Year Inflation Rate



Source: Federal Reserve Board, Bureau of Economic Analysis, Census Bureau

# Real Durable PCE

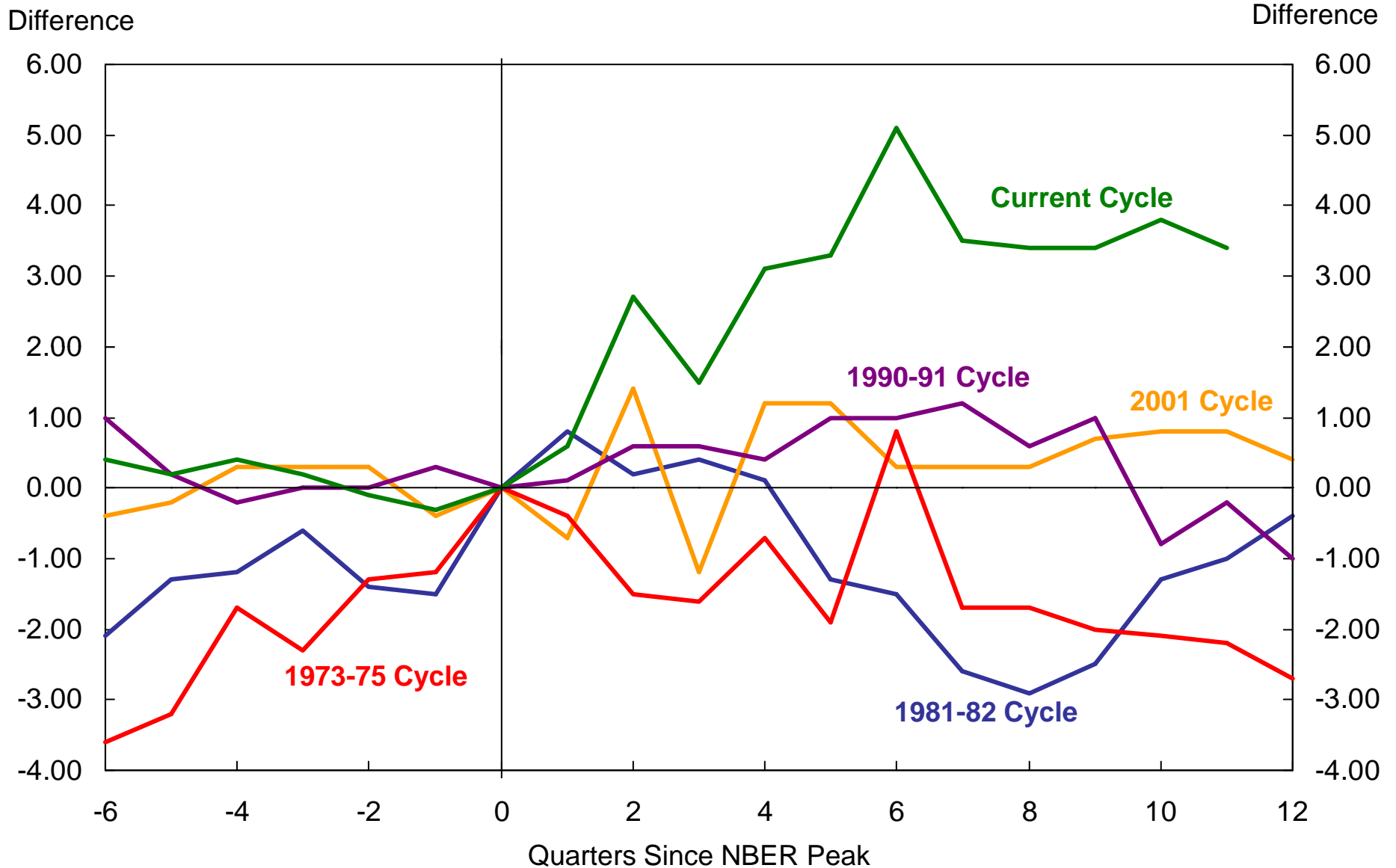
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

# Personal Saving Rate

(Series Set to 1.00 at NBER Peak)

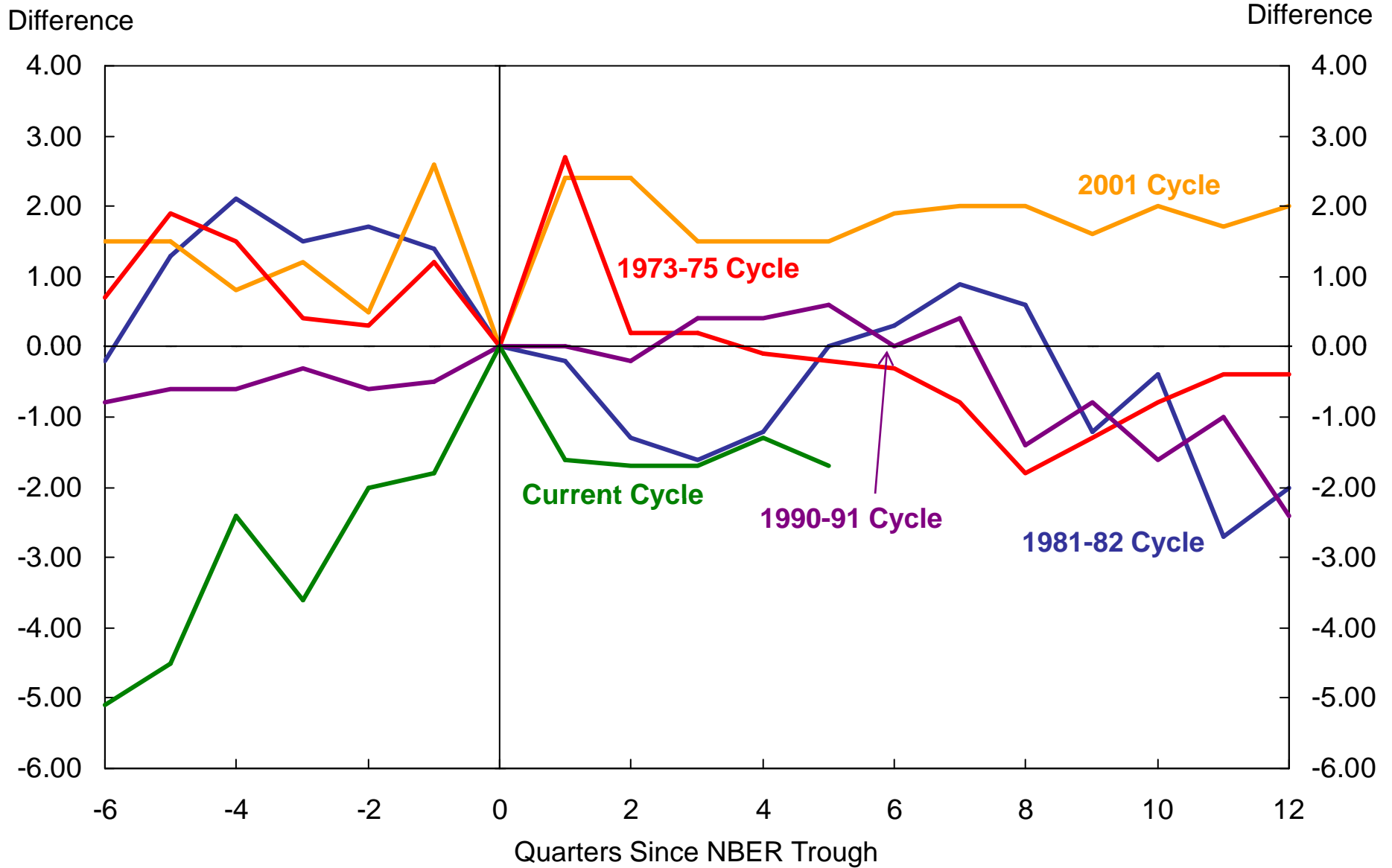


Source: Bureau of Economic Analysis

Note: Dashed line represents FRBNY forecast.

# Personal Saving Rate

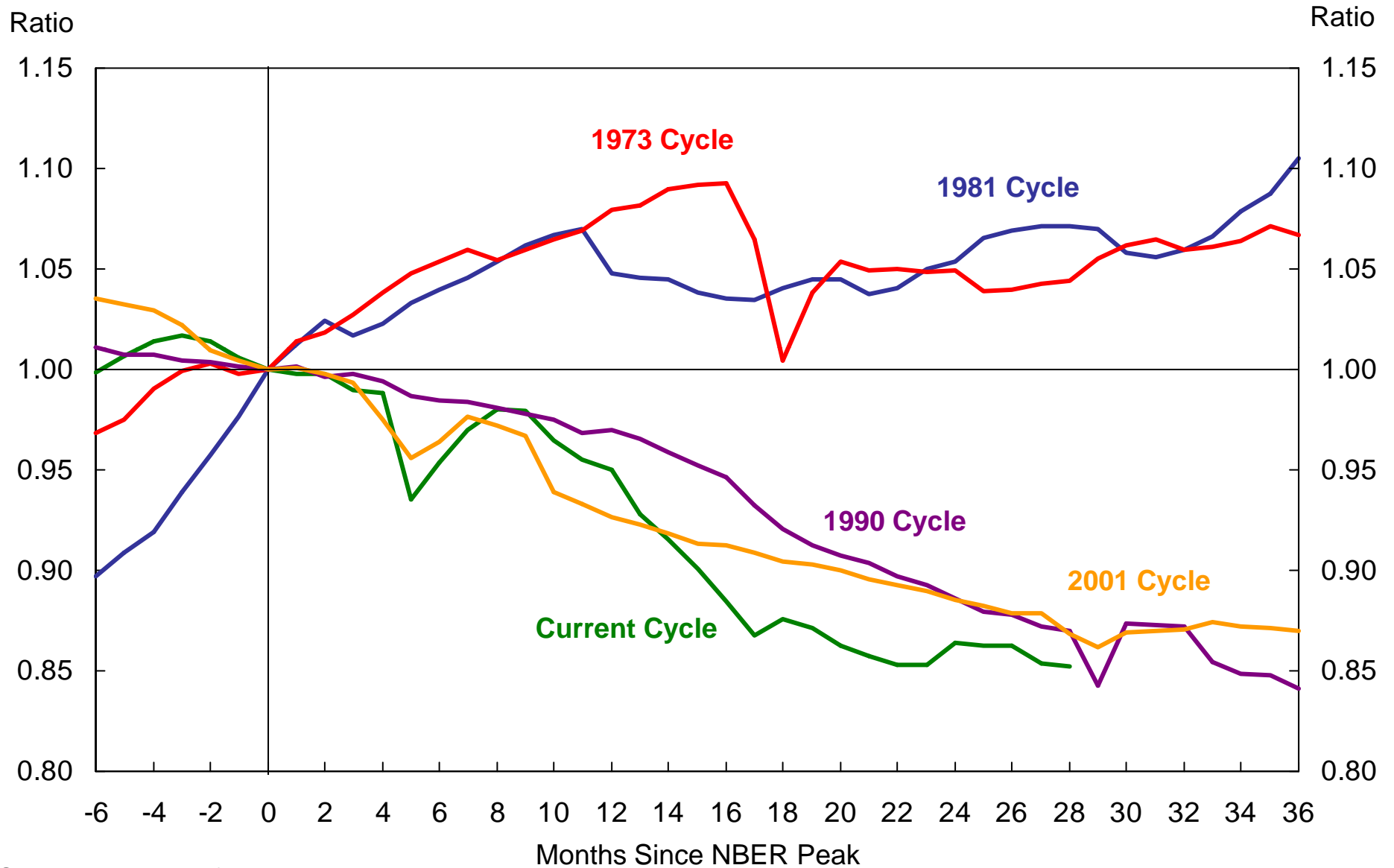
(Series Set to 1.00 at NBER Trough)



Source: Bureau of Economic Analysis

# Asset Income as a Percent of Disposable Income

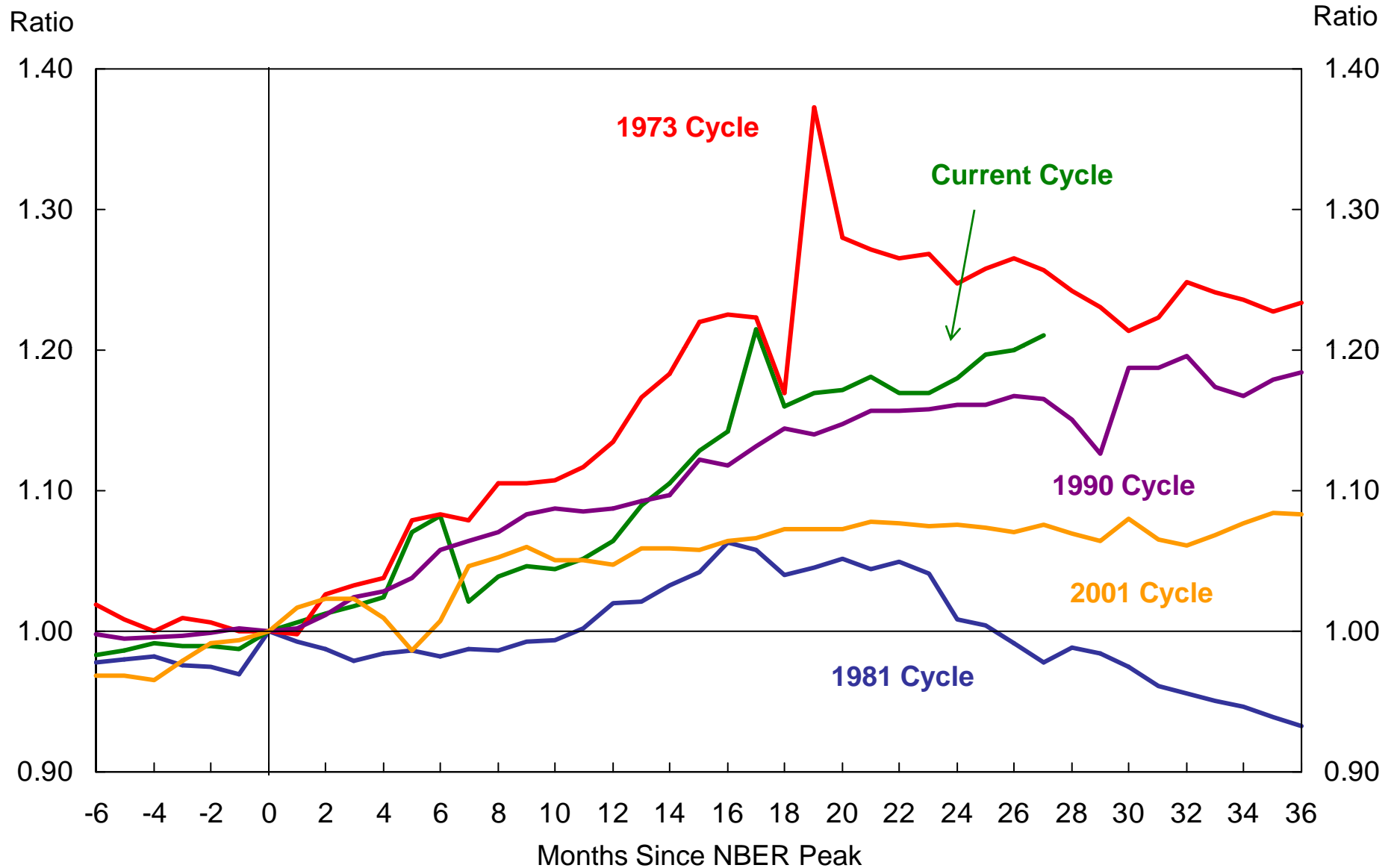
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Economic Analysis

# Government Transfers as a Percent of Disposable Income

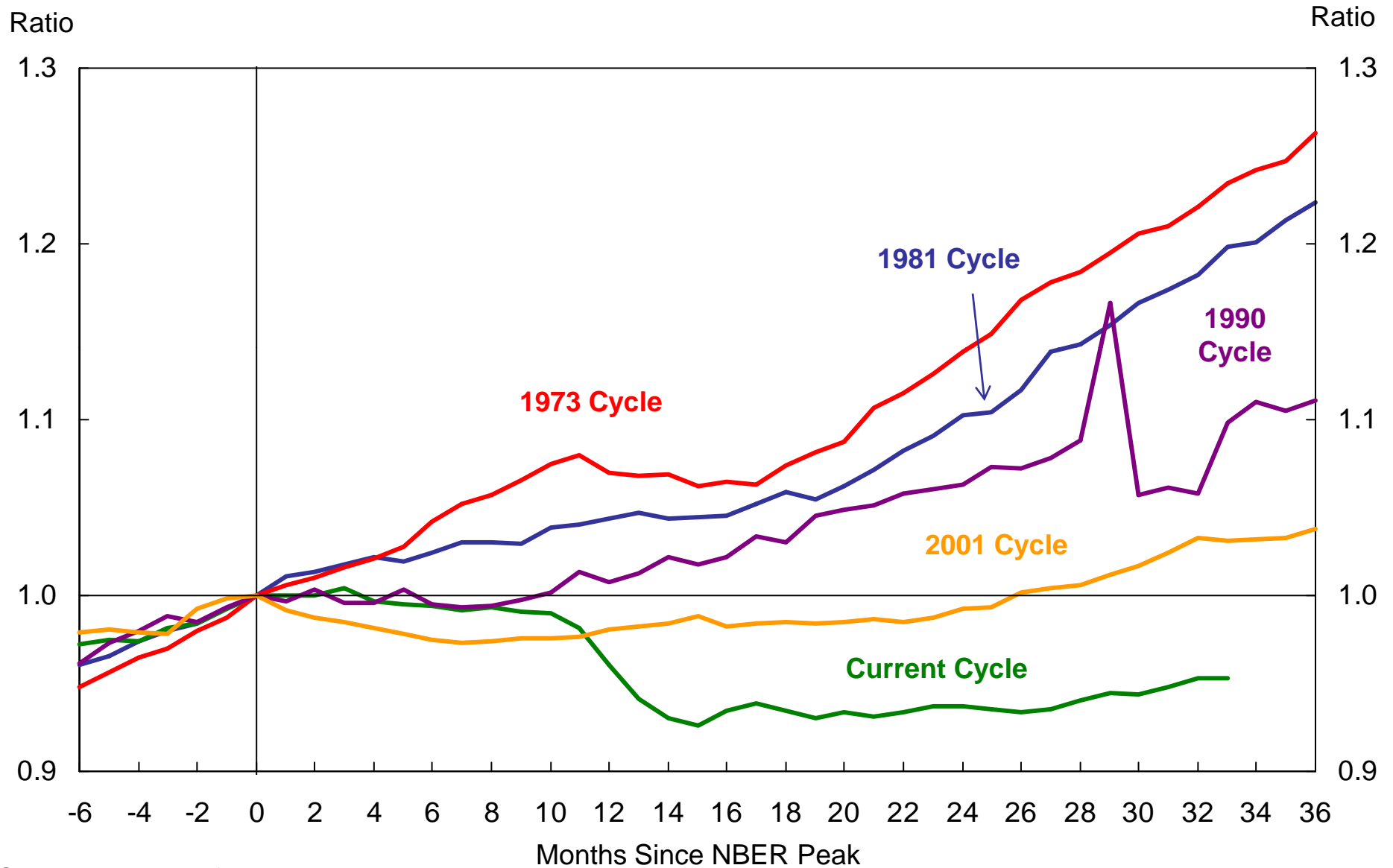
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Economic Analysis

# Private Nominal Wage and Salary Disbursements

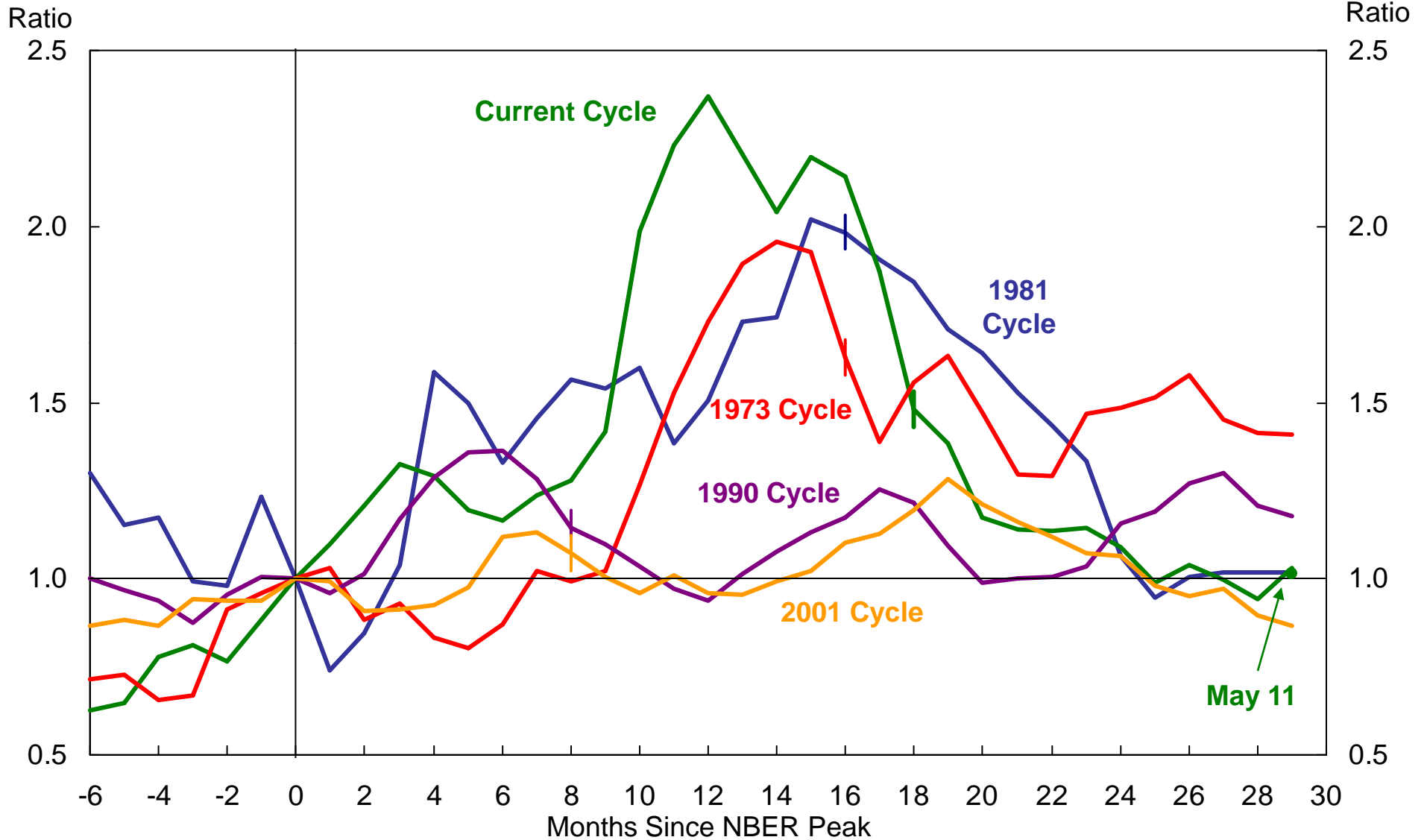
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Economic Analysis

# BAA Spread

(Series Set to 1.0 at NBER Peak)



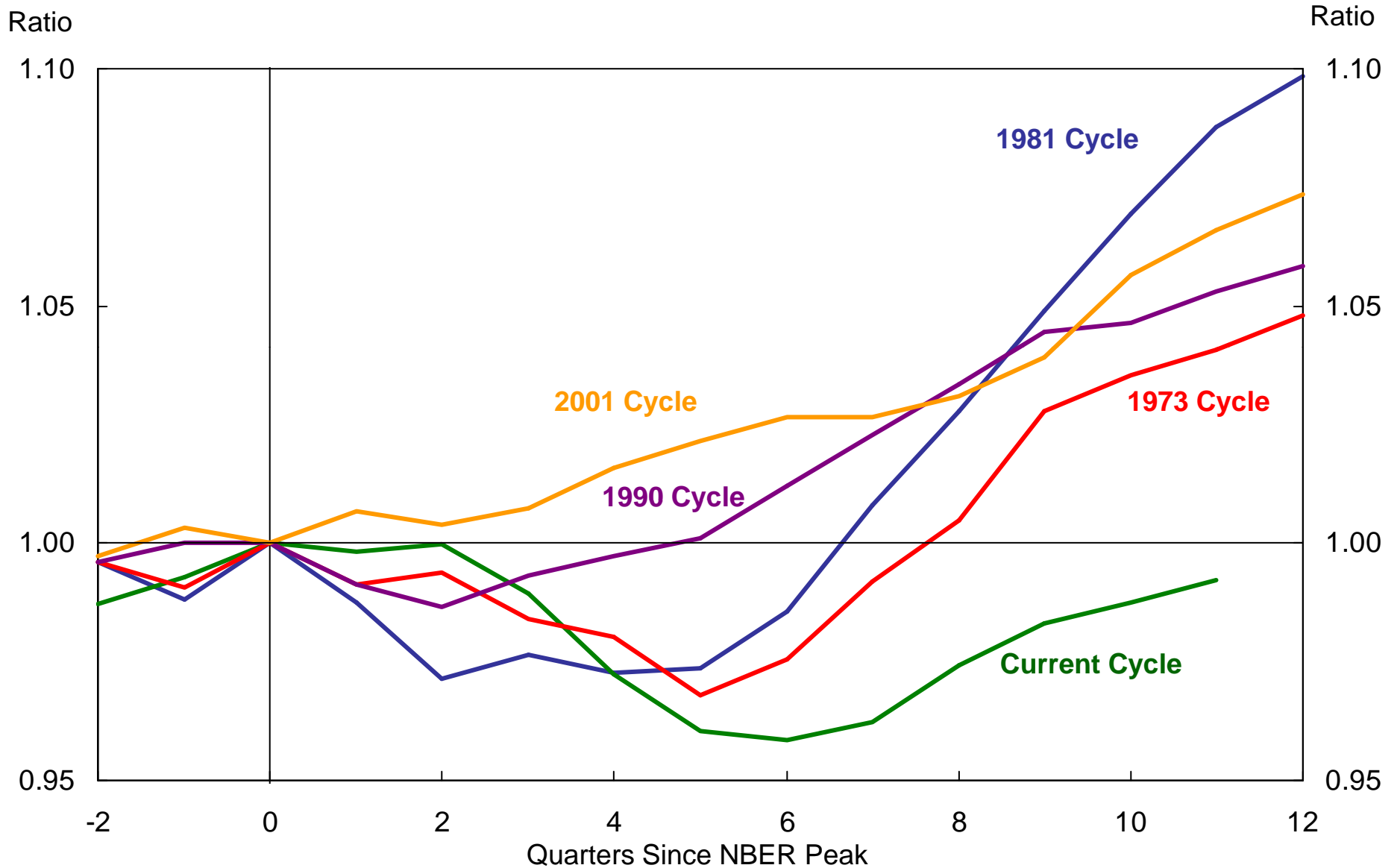
Source: Bureau of Labor Statistics

Note: Vertical lines represent end of NBER recessions.  
Current recession assumed to end in 2009Q2.



# Level of Real GDP

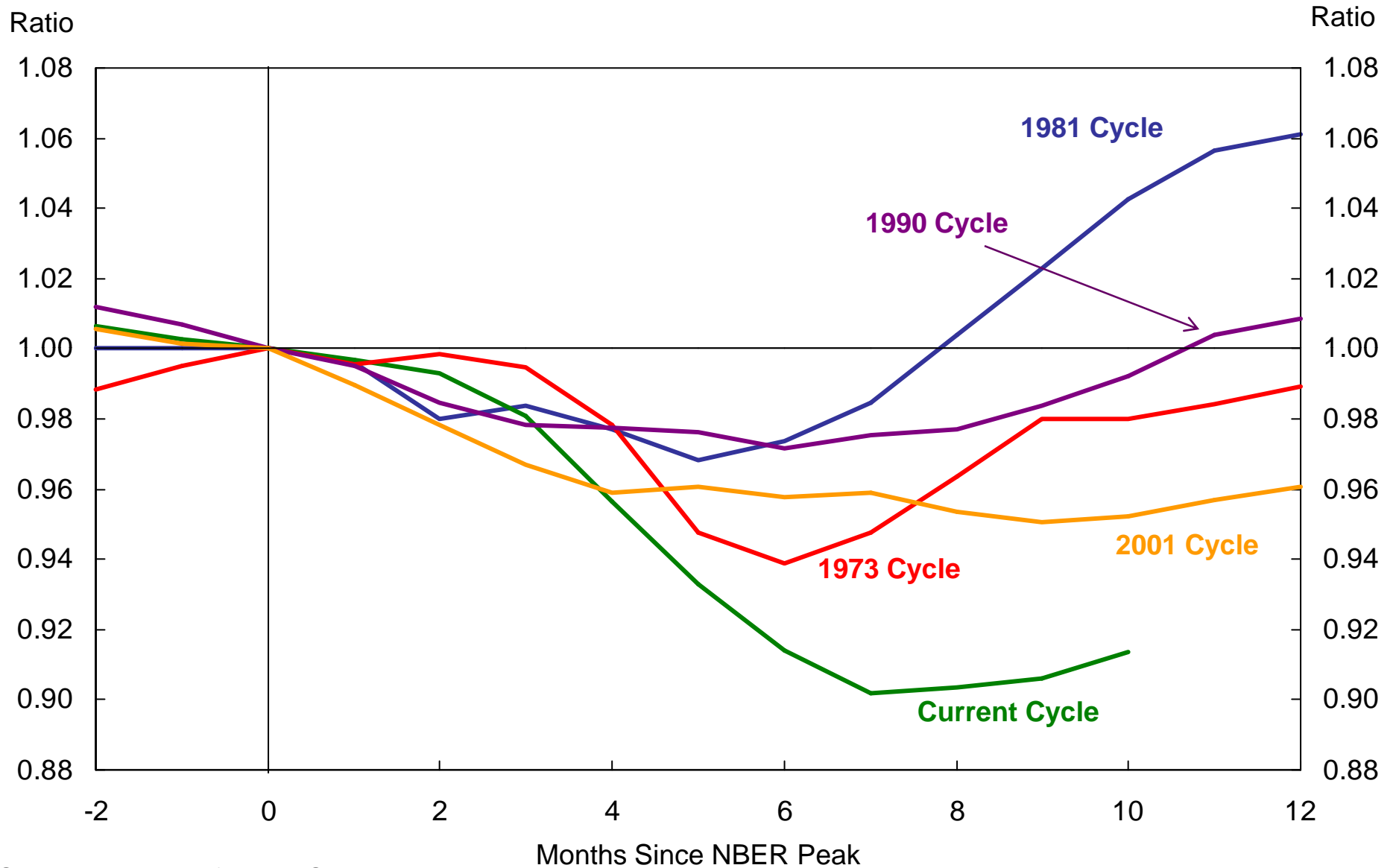
(Series Set to 1.00 at NBER Peak)



Source: Bureau of Labor Statistics

# Total Hours of All Persons: Nonfarm Business Sector

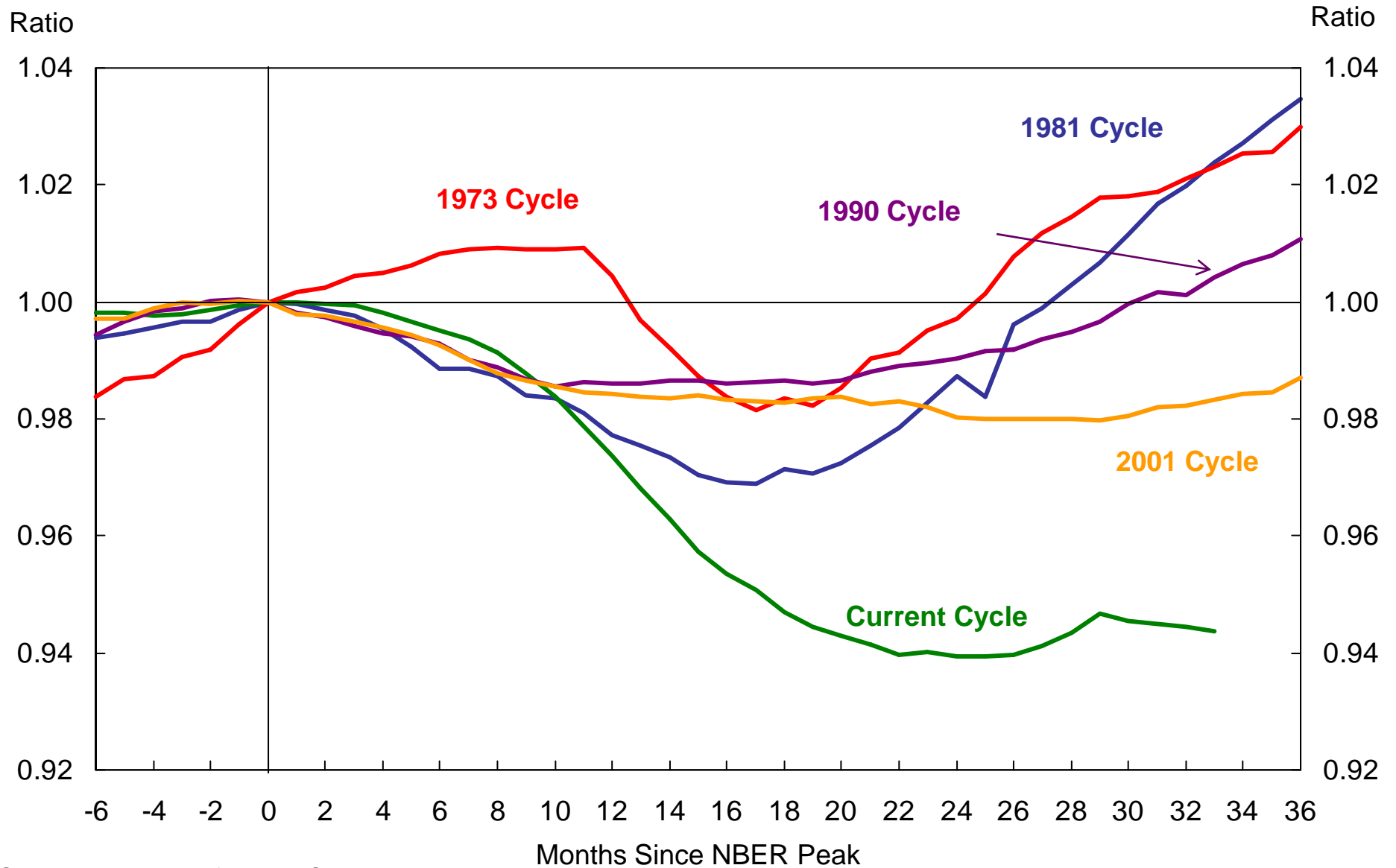
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

# Nonfarm Payroll Employment

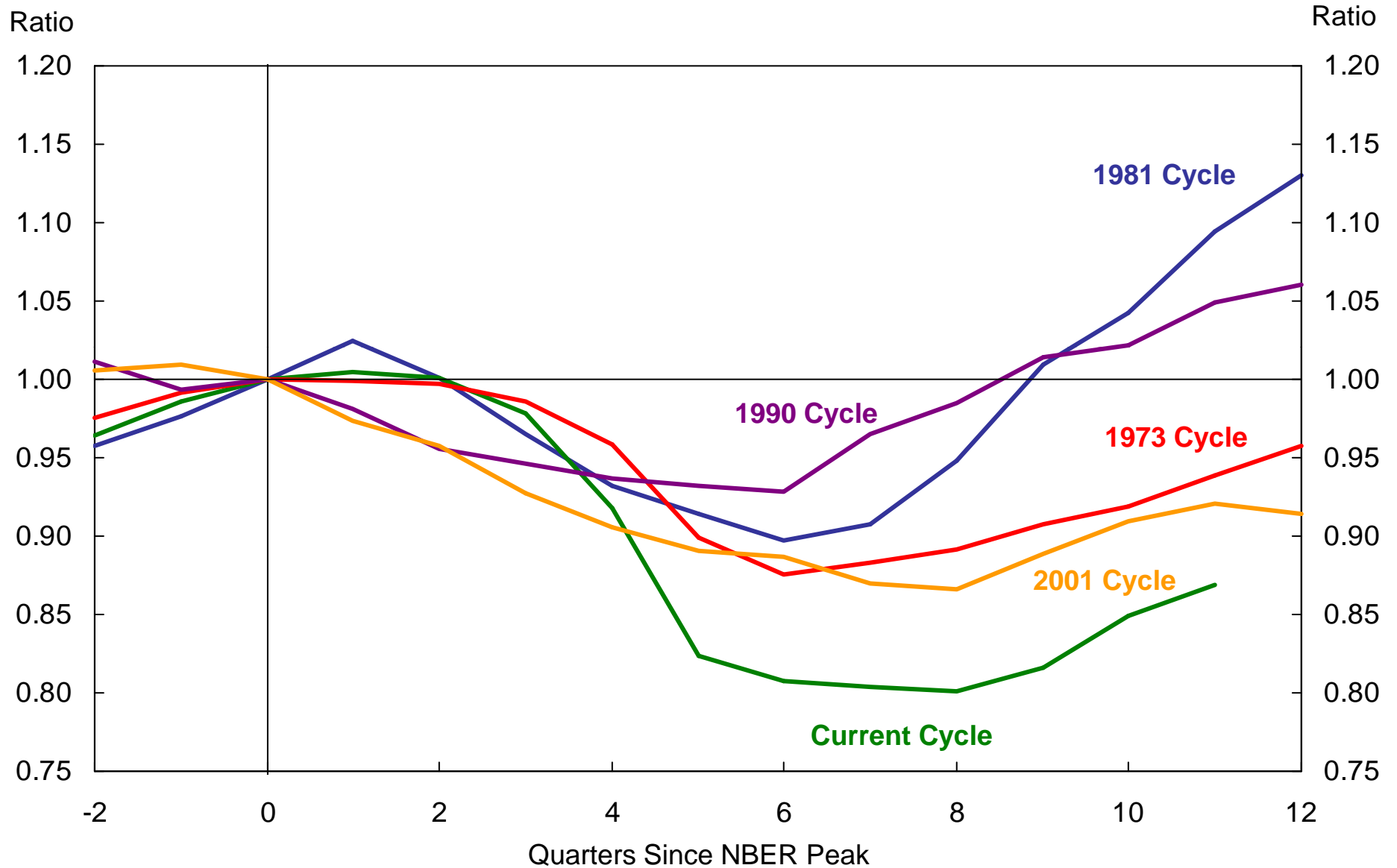
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

# Real Business Fixed Investment

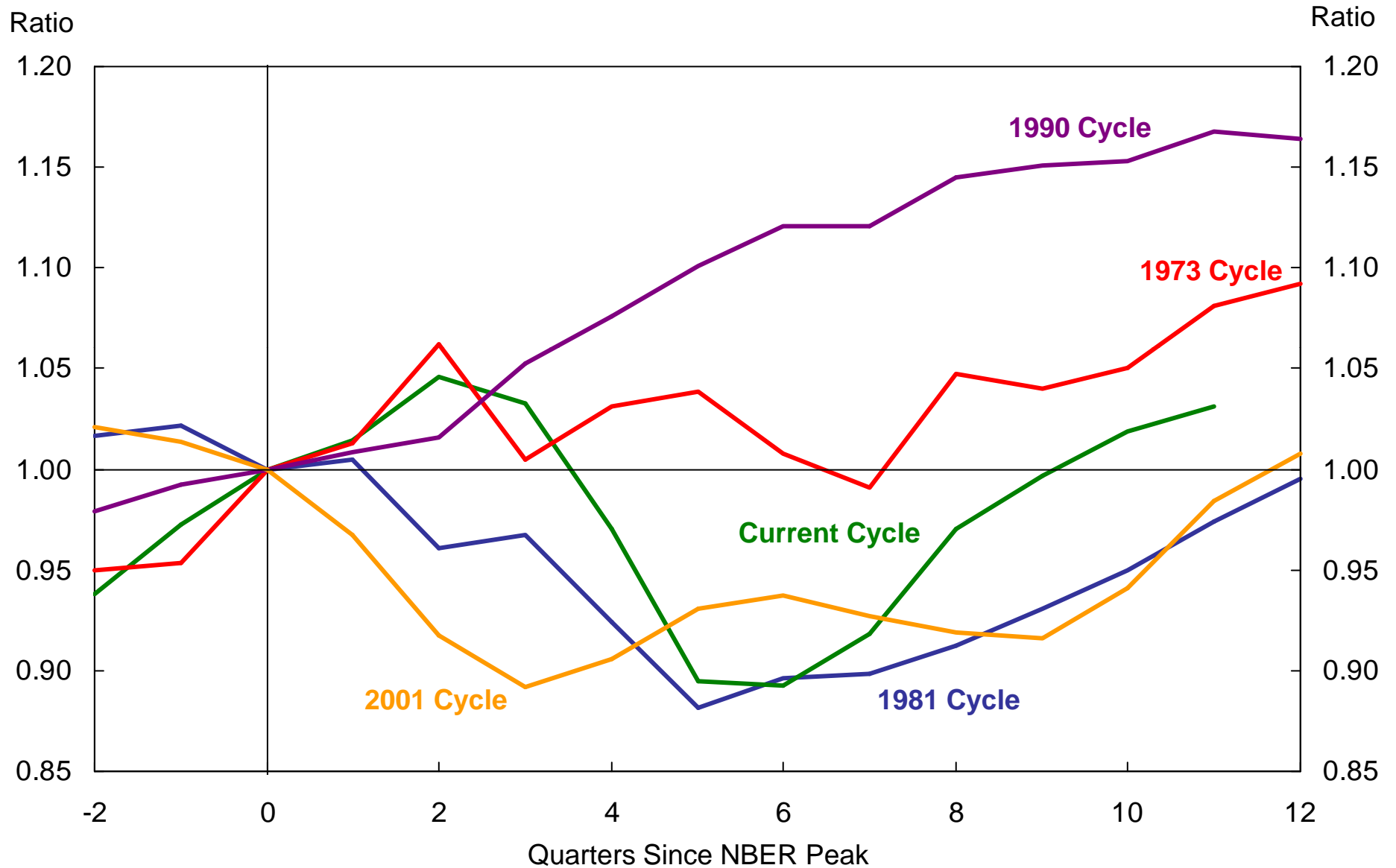
(Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

# Real Exports

(Series Set to 1.0 at NBER Peak)

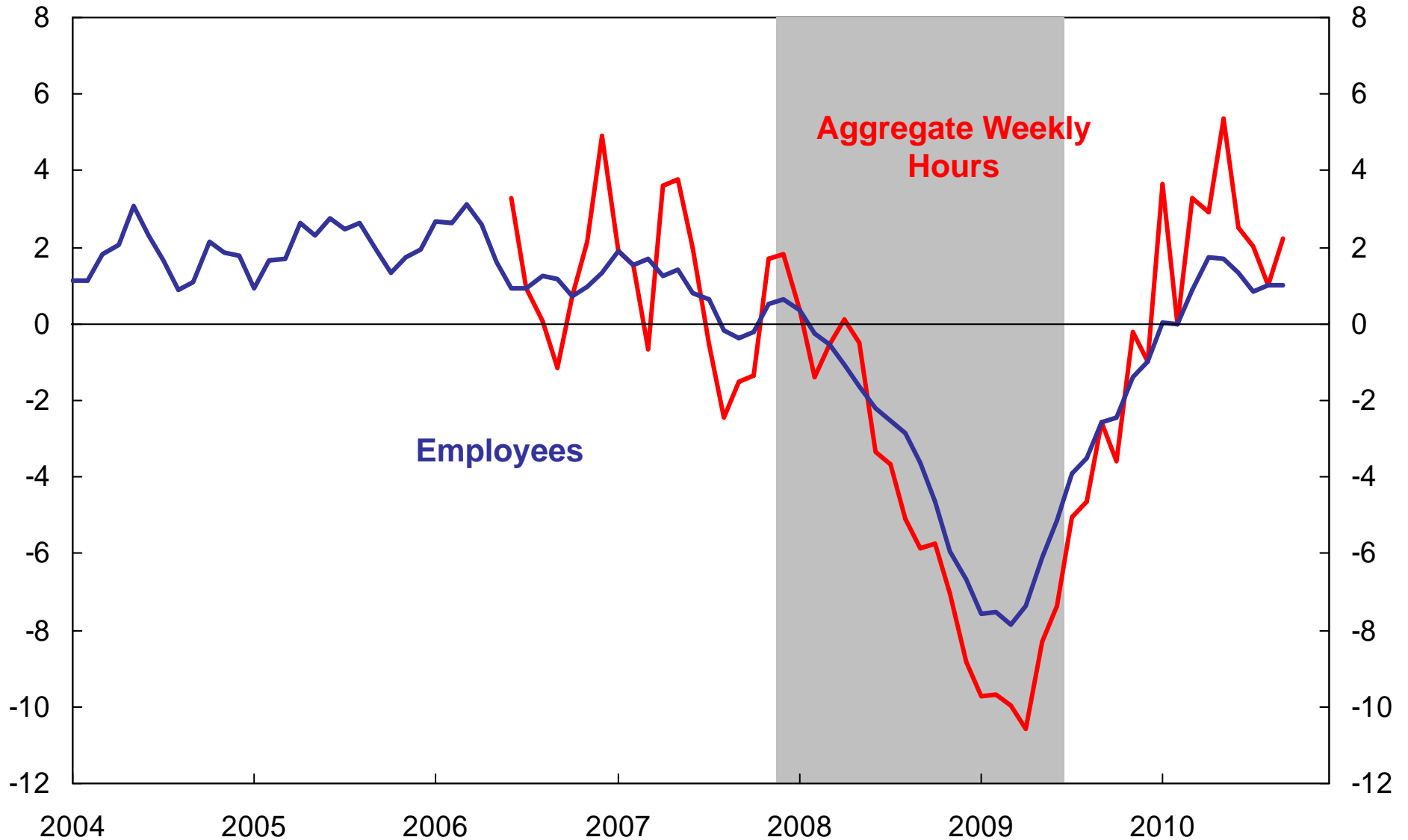


Source: Bureau of Labor Statistics

# Employment

% Change – 3-month Annual Rate

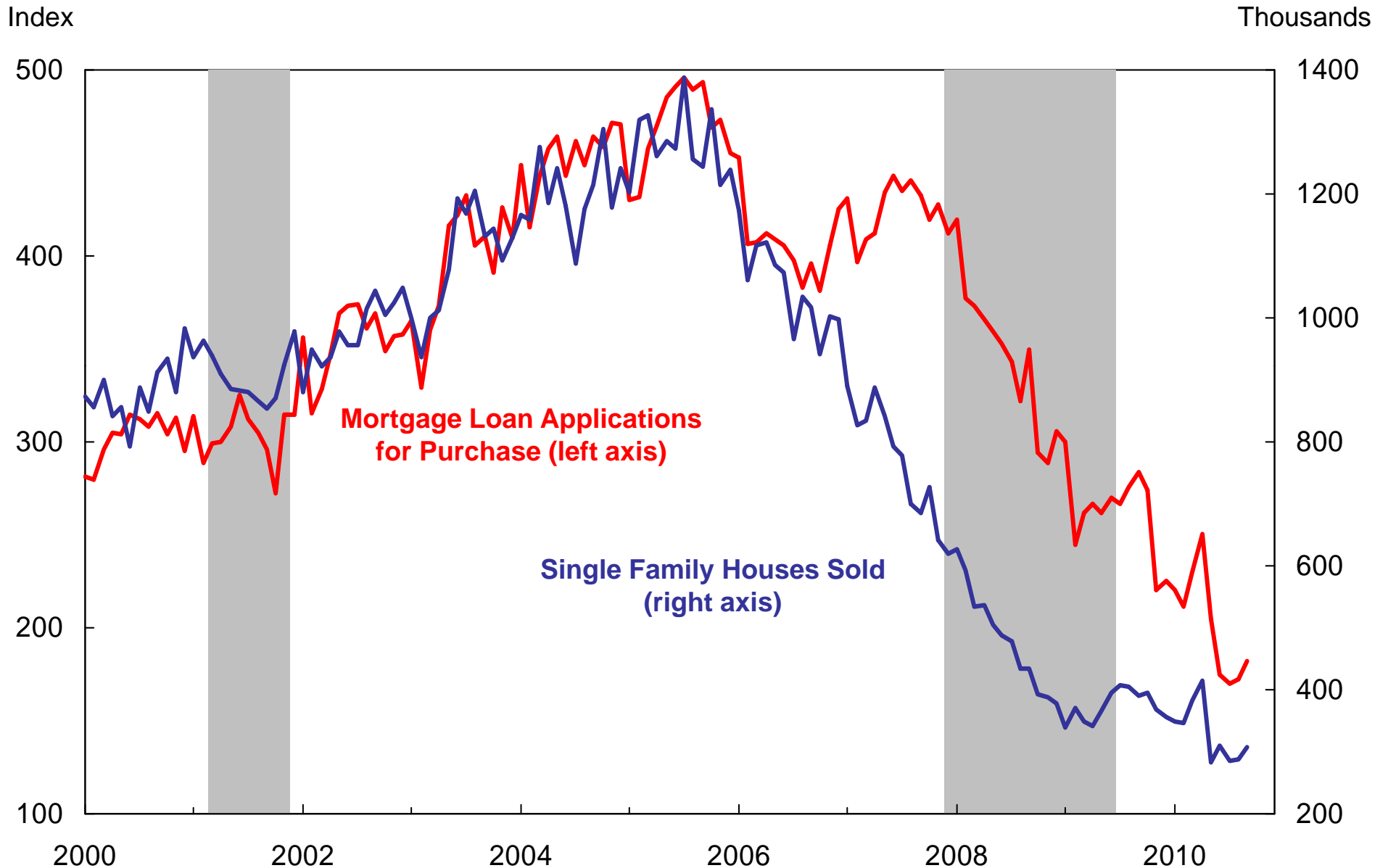
% Change – 3-month Annual Rate



Source: Bureau of Labor Statistics

Note: Both series are private industries only. 142

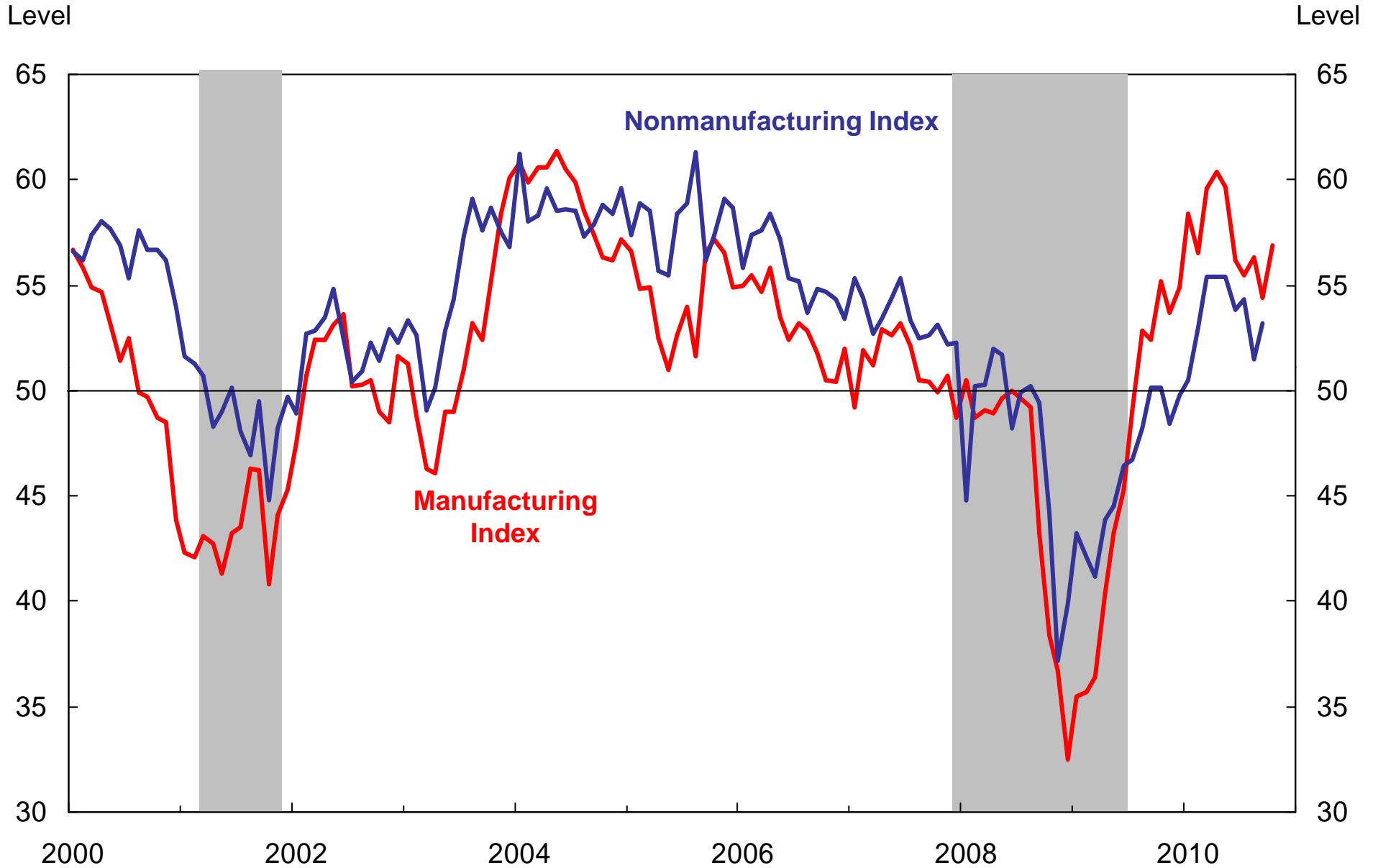
# New Single Family Houses Sold and Mortgage Applications



Source: Census Bureau and MBA

Note: March 1990 = 100 for MBA index.

# ISM Indices



Source: Institute of Supply Management

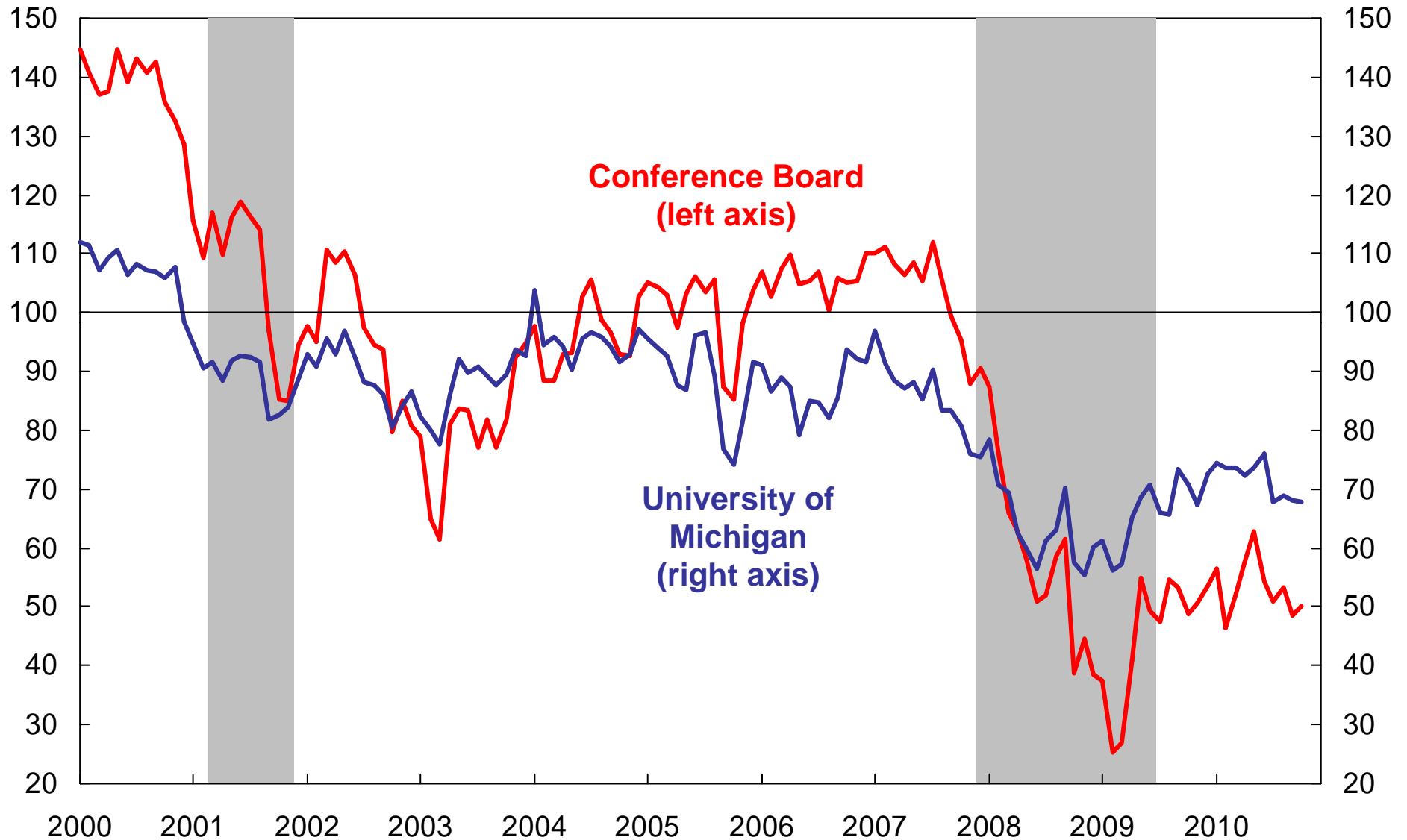
Note: Above 50 = Increasing



# Consumer Confidence

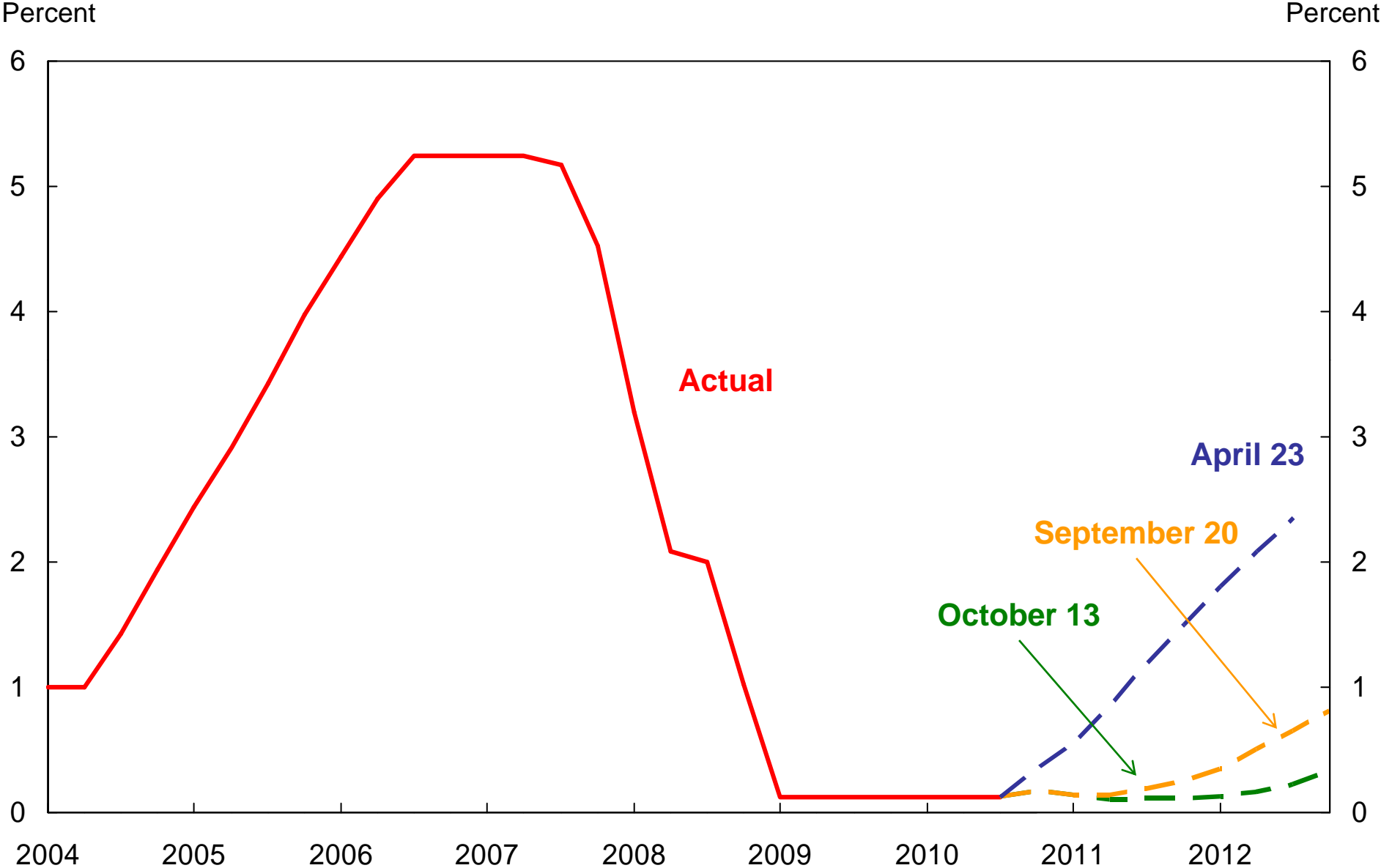
Index, 1985 = 100

Index, 1966Q1 = 100



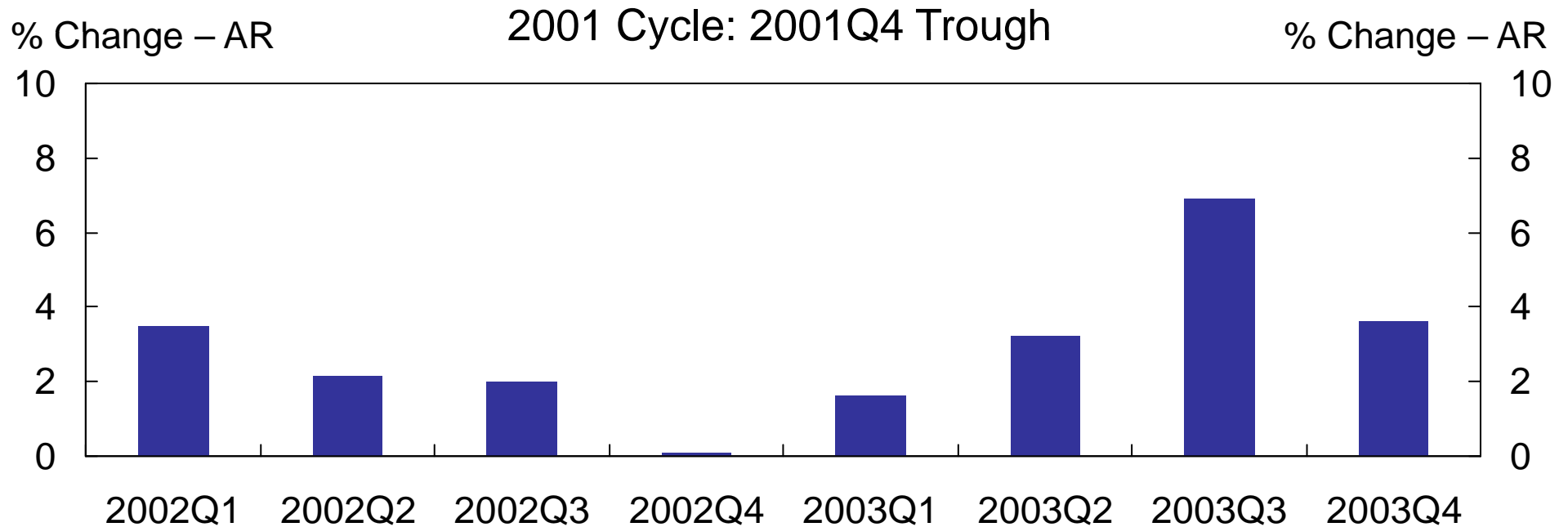
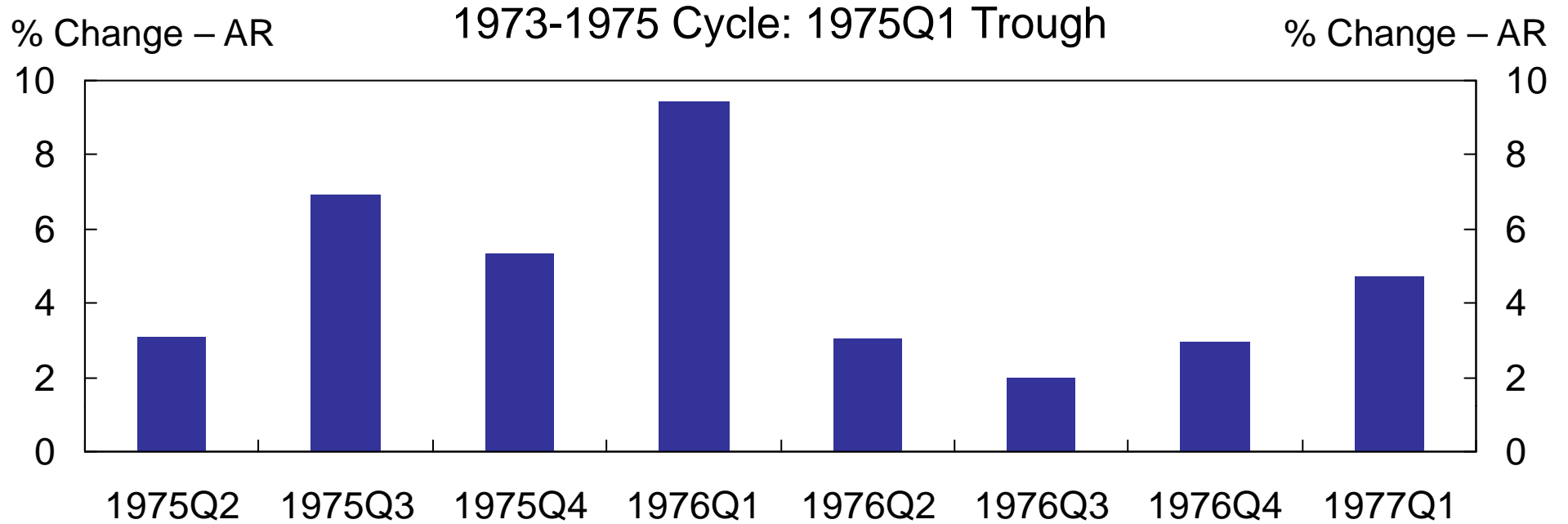
Source: Conference Board and University of Michigan

# Actual and Expected Fed Funds Target



Source: Federal Reserve Board

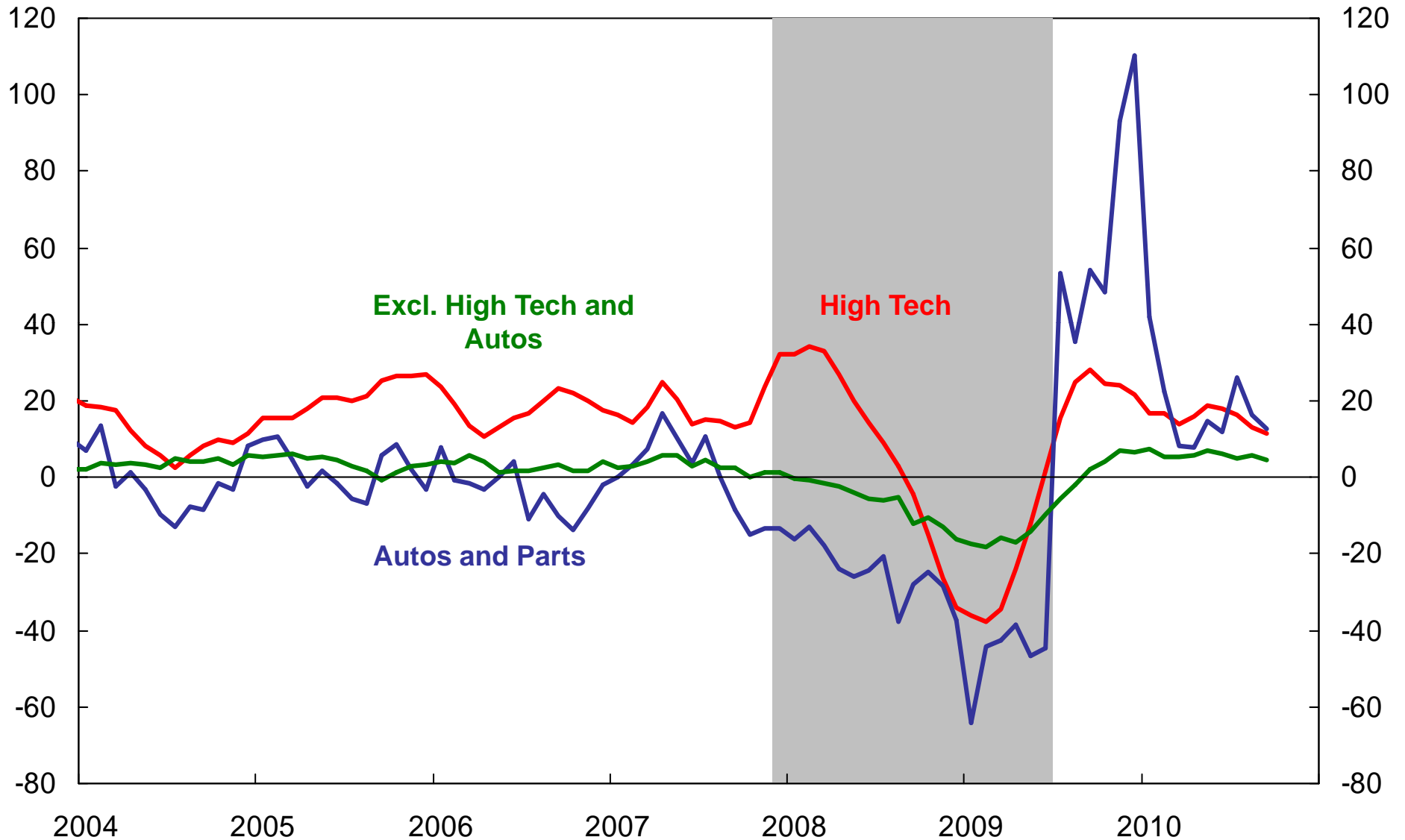
# Post-Recession Growth Rates



# Industrial Production

% Change – 6-month Annual Rate

% Change – 6-month Annual Rate



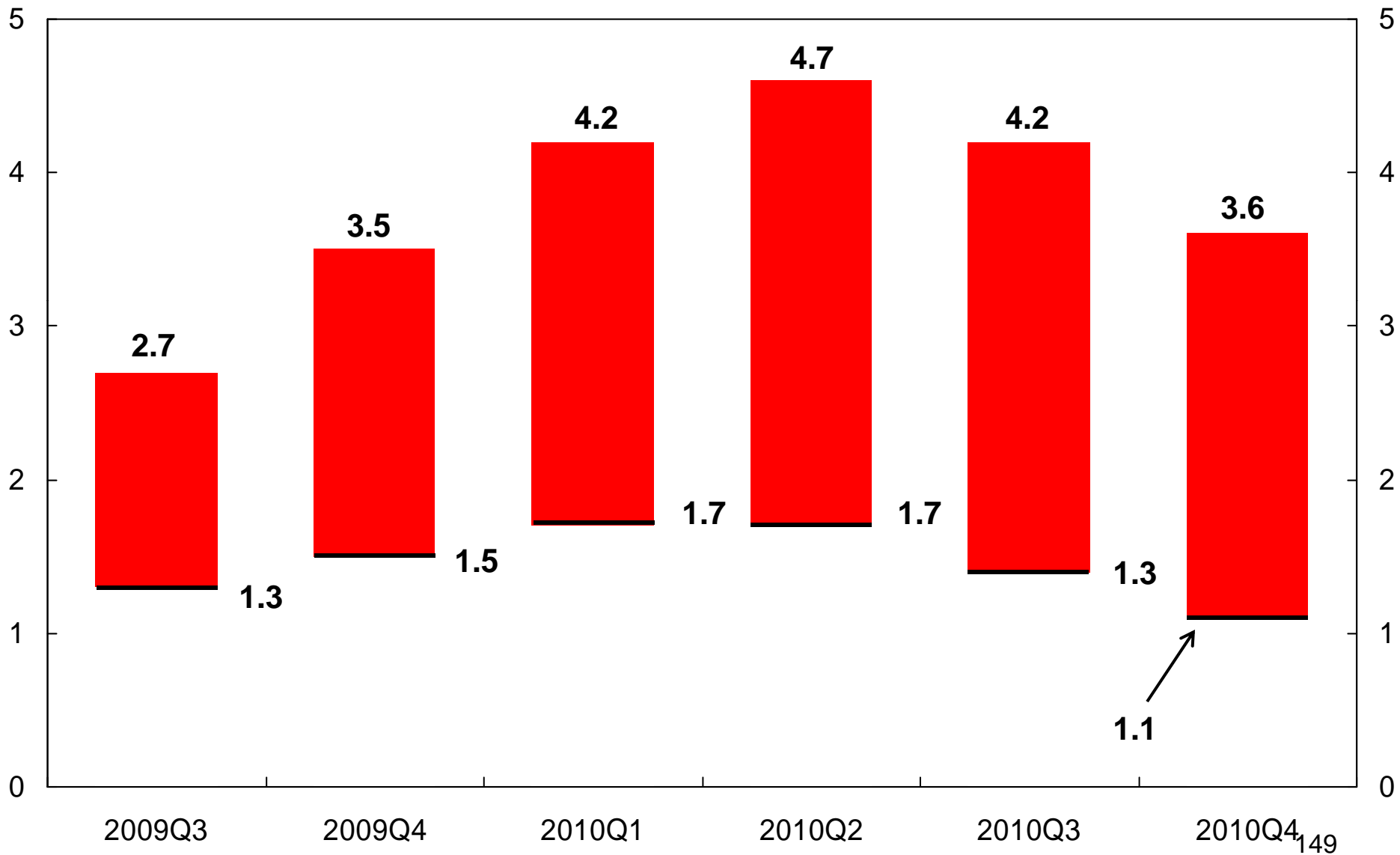
148

Source: Federal Reserve Board

# Range of Estimated Effects of the American Recovery and Reinvestment Act on Real GDP Growth

% Change – Annualized Rate

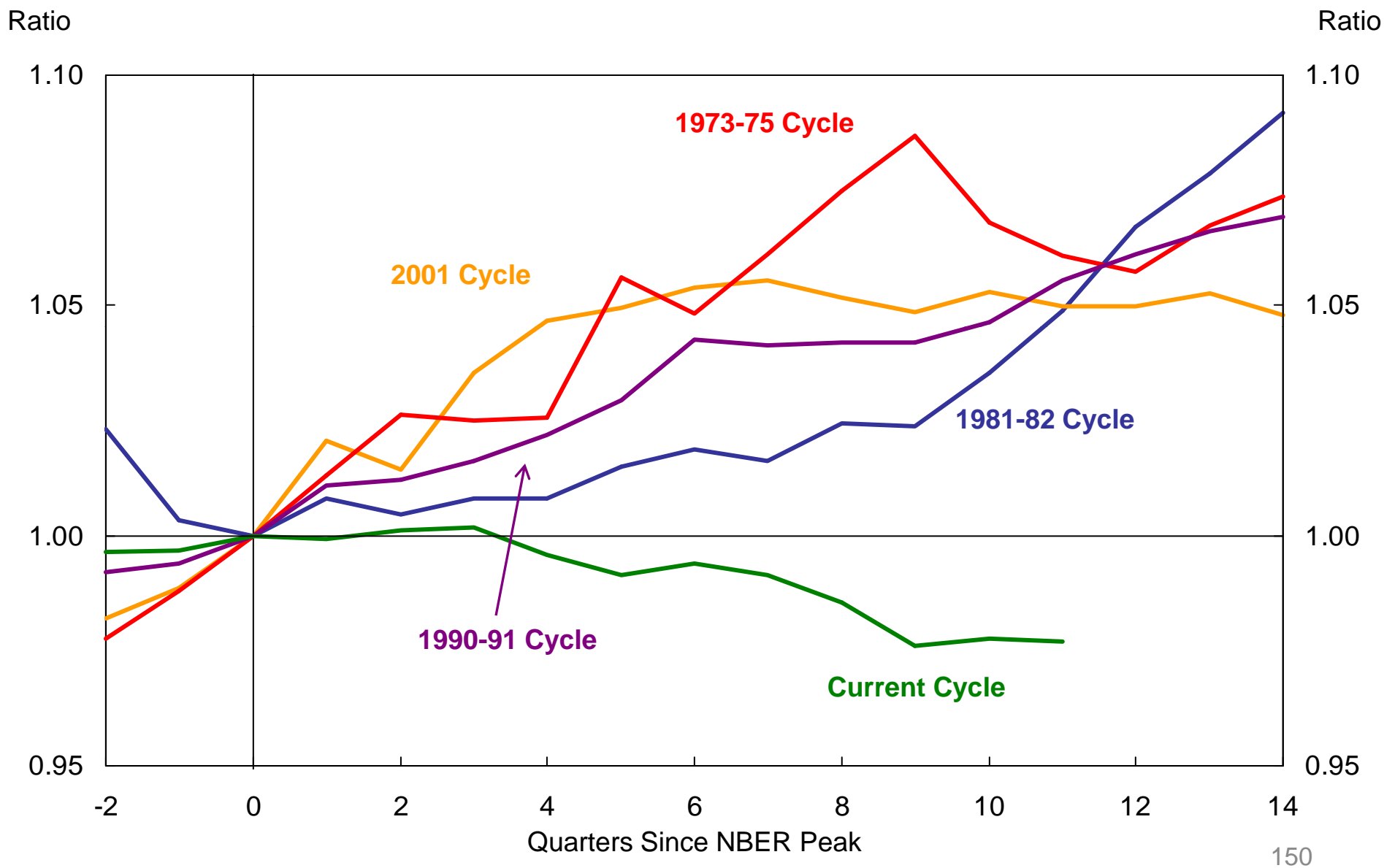
% Change – Annualized Rate



Source: Congressional Budget Office

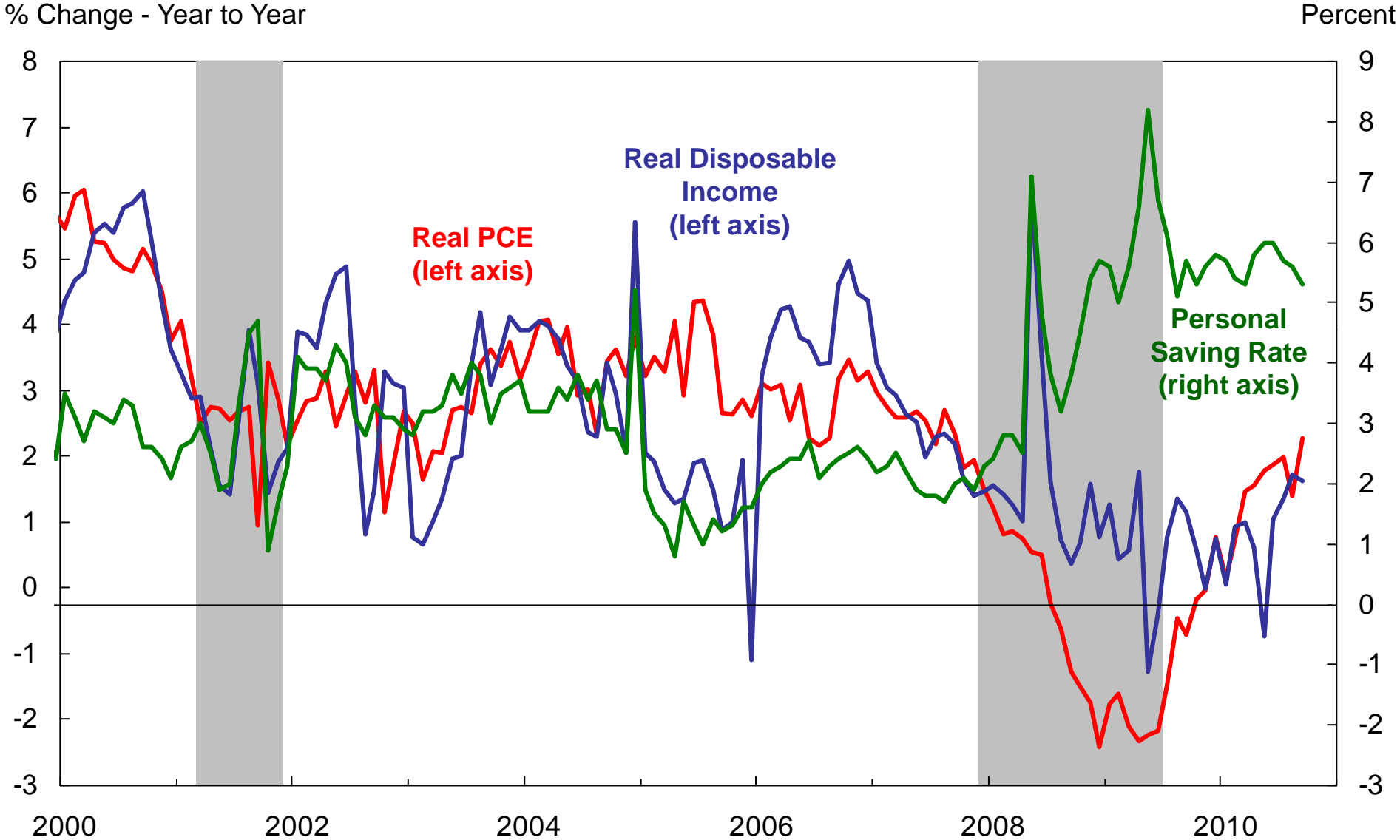
# Real State and Local Government

(Series Set to 1.00 at NBER Peak)



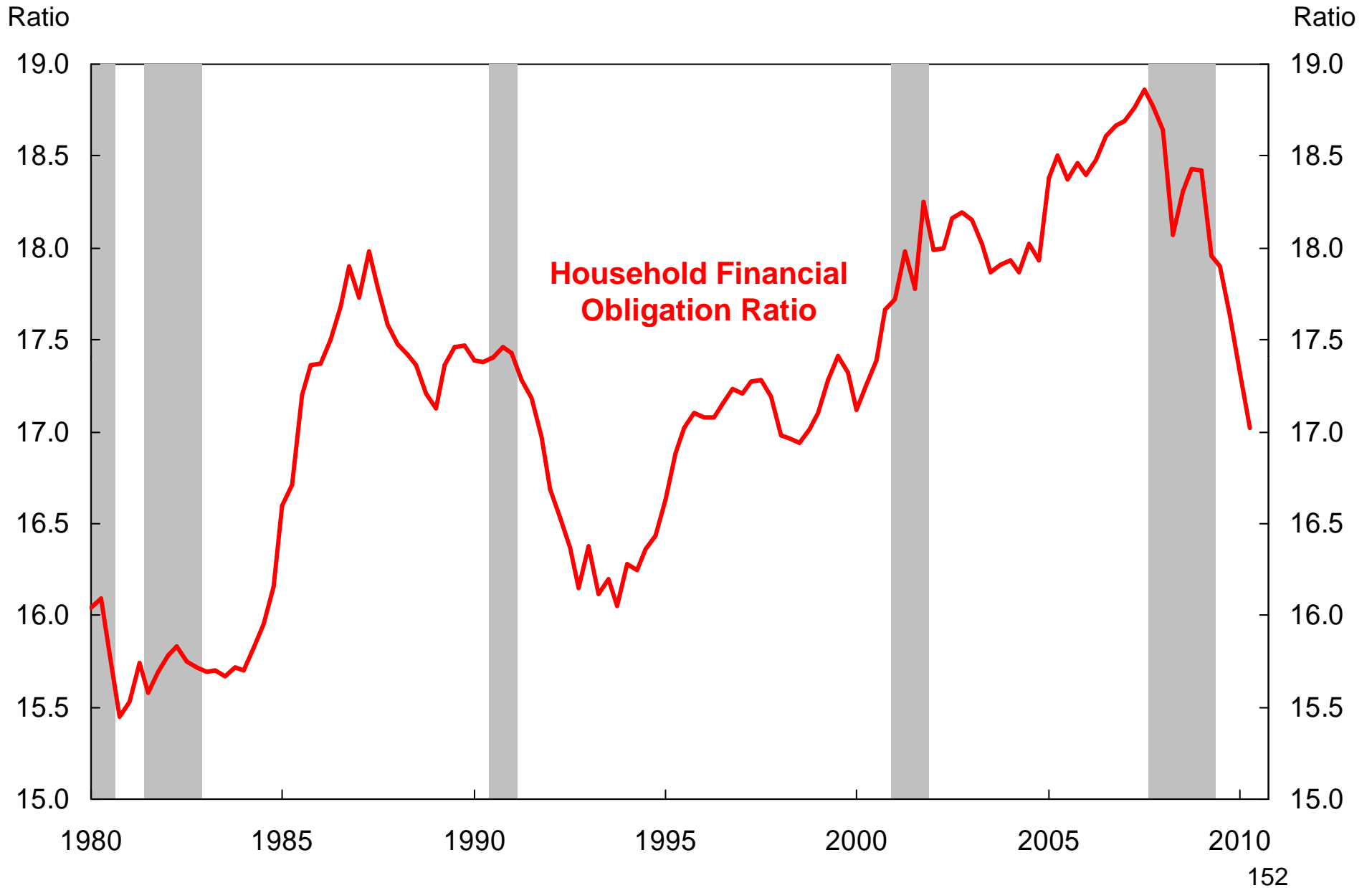
Source: Bureau of Economic Analysis

# Real PCE, Disposable Income and Personal Saving Rate



Source: Bureau of Economic Analysis

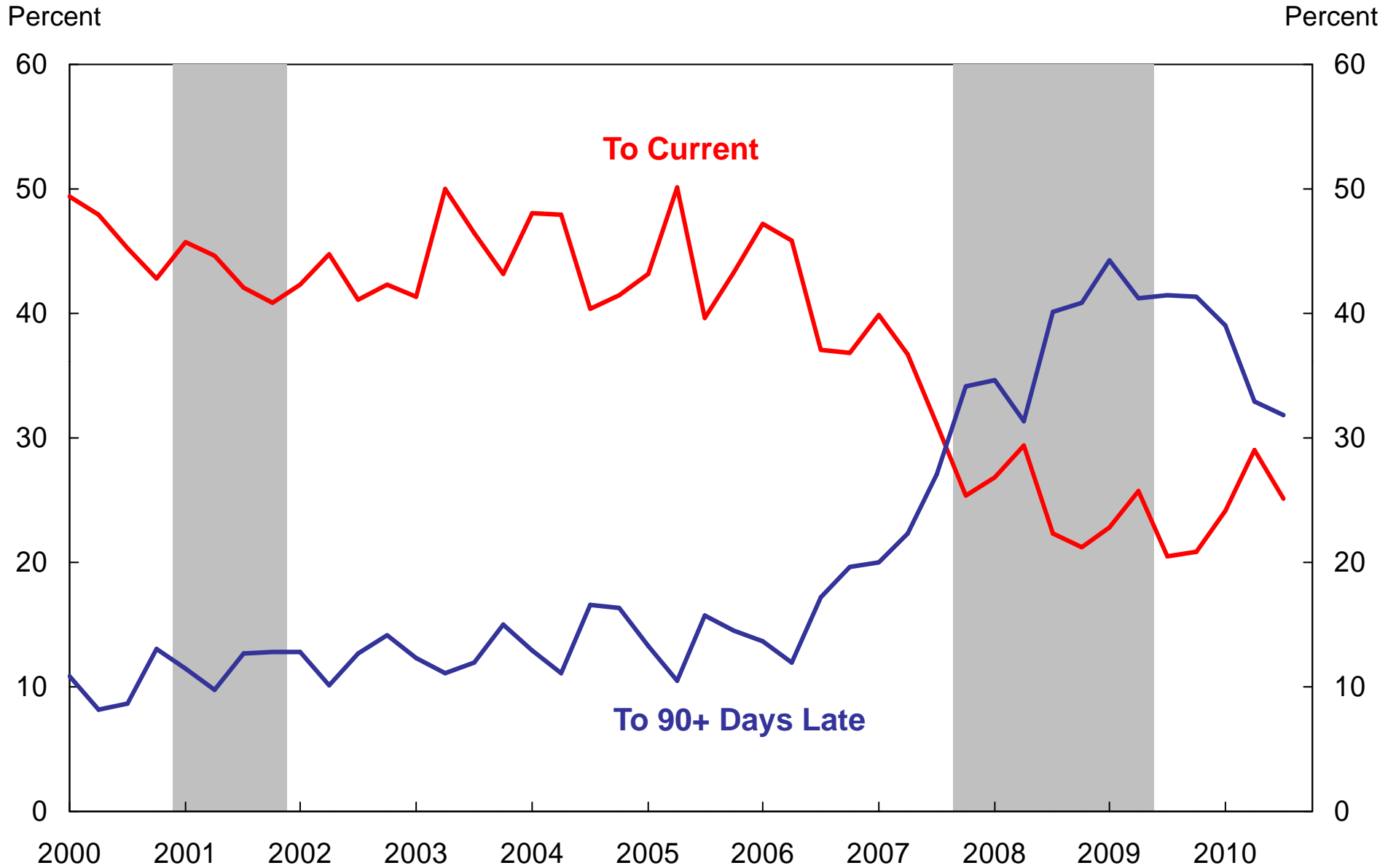
# Household Financial Obligation Ratio



Source: Federal Reserve Board



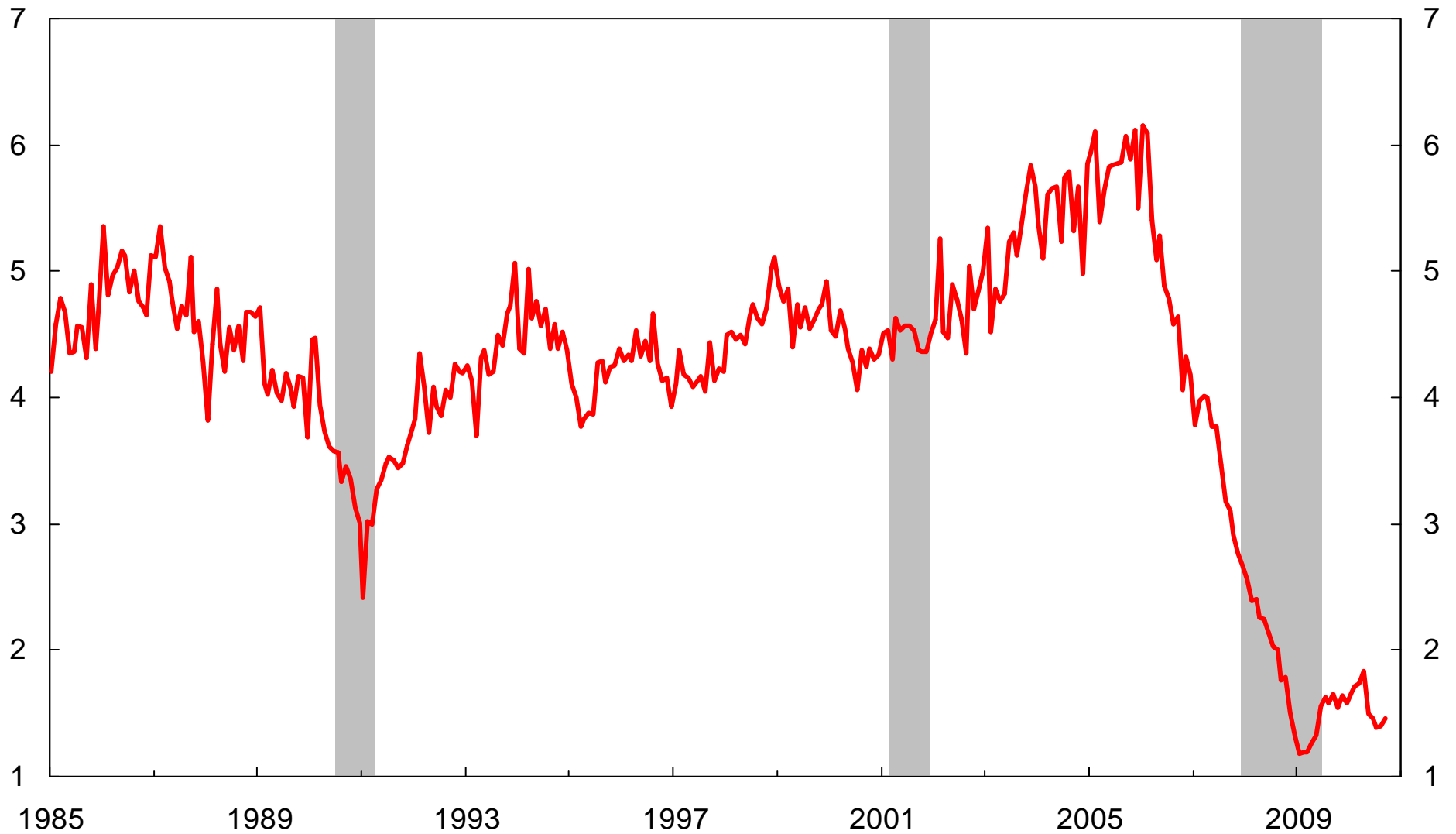
# Transition of Mortgage Accounts from 30-60 Days Late



# Ratio of Housing Starts to Population Single-Family Homes

Starts per 1,000 people

Starts per 1,000 people

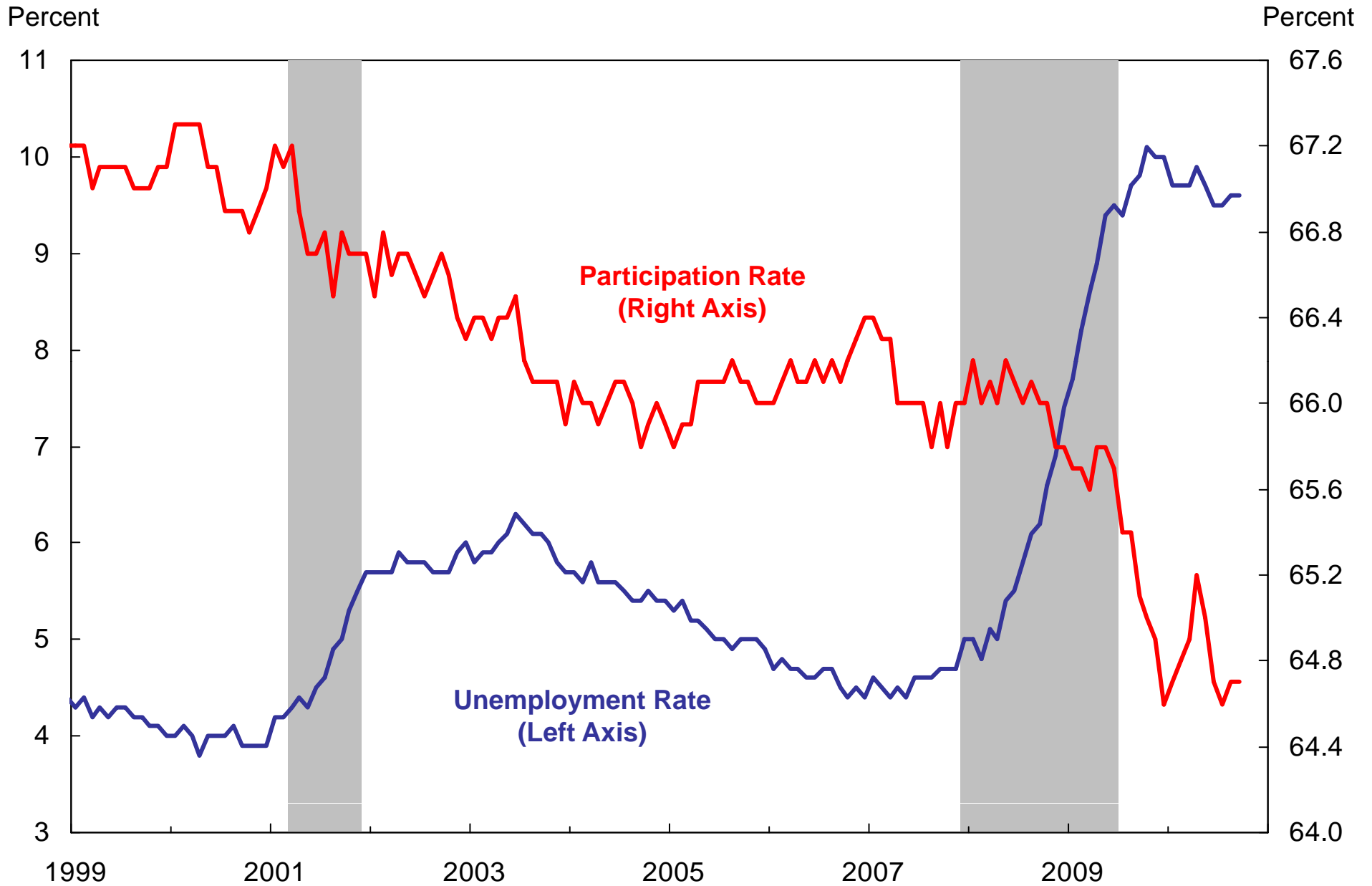


Source: Census Bureau

# FOMC Statement: September 21, 2010

- “Information received since ... August indicates that the pace of recovery in output and employment has slowed in recent months.”
- “... the pace of economic recovery is likely to be modest in the near term.”
- “Measures of underlying inflation are currently at levels somewhat below those the Committee judges most consistent, over the longer run, with its mandate to promote maximum employment and price stability.”
- “With substantial resource slack...inflation is likely to remain subdued for some time...”
- “The Committee...continues to anticipate that economic conditions...are likely to warrant exceptionally low levels for the federal funds rate for an extended period.”

# Unemployment and Labor Force Participation Rates

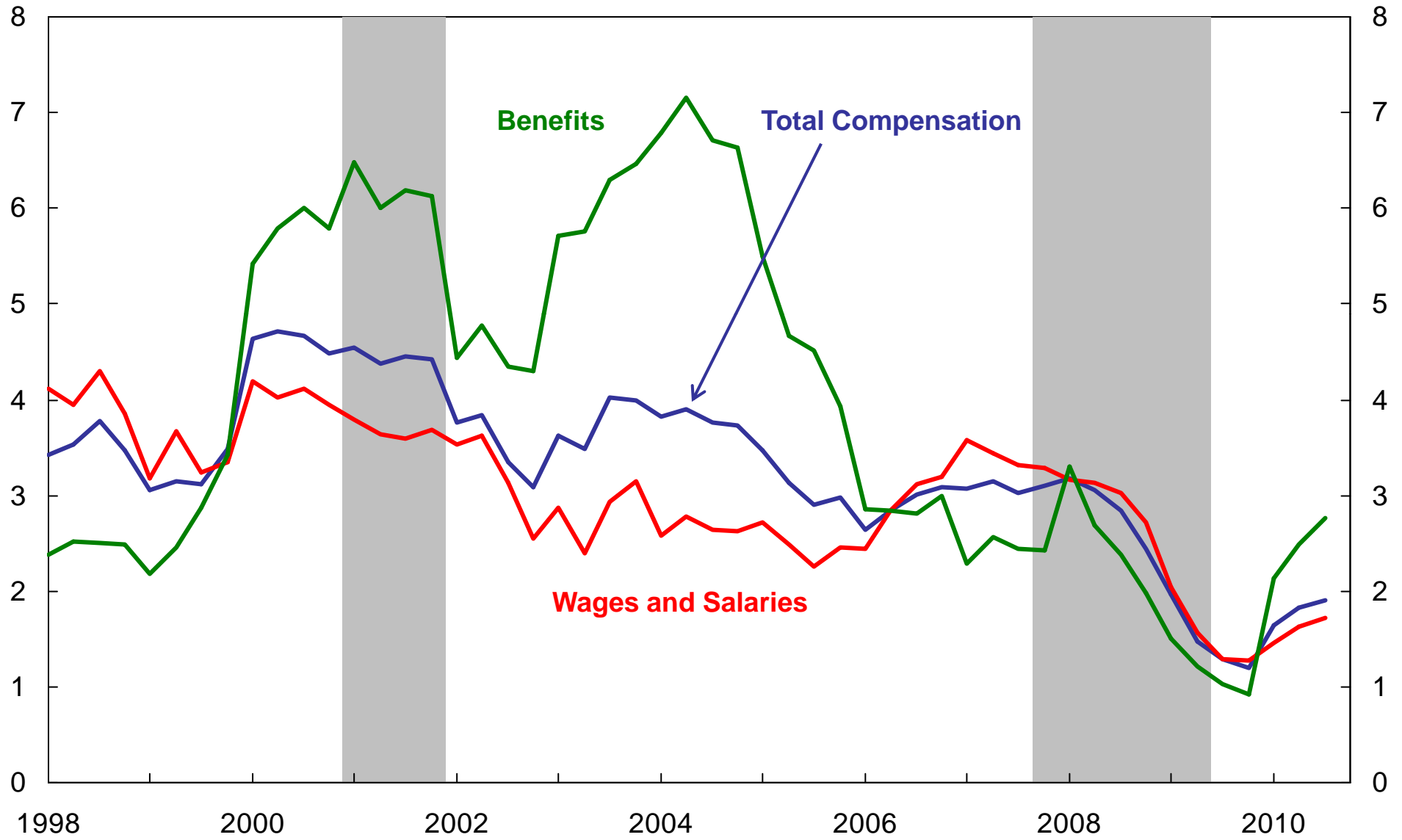


Source: Bureau of Labor Statistics

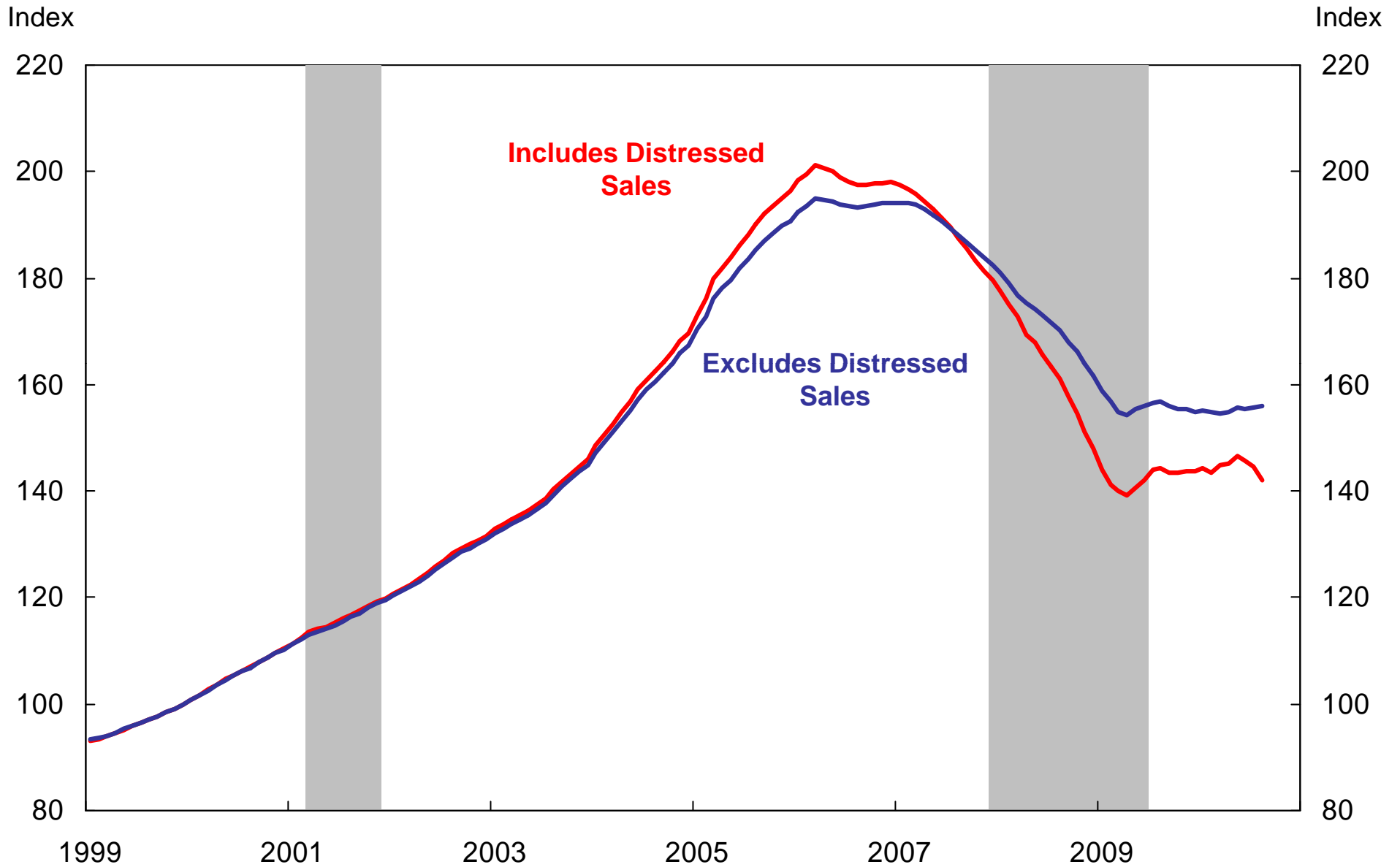
# Employment Cost Index: Private Industry Workers

% Change - Year to Year

% Change - Year to Year



# LoanPerformance National Home Price Index



Source: LoanPerformance/Haver Analytics

# Total Debt by Payment Status, Billions of Dollars

<b>Total Debt by Payment Status</b>								
<b>Billions of Dollars</b>								
<b>Status</b>	<b><u>2005-Q1</u></b>		<b><u>2008-Q3</u></b>			<b><u>2010-Q3</u></b>		<b>Percent Change from Previous Period</b>
	<b>Amount of Total Debt by Payment Status</b>	<b>Percent of Total Debt</b>	<b>Amount of Total Debt by Payment Status</b>	<b>Percent of Total Debt</b>	<b>Percent Change from Previous Period</b>	<b>Amount of Total Debt by Payment Status</b>	<b>Percent of Total Debt</b>	
<b>Current</b>	8700.0	95.9%	11400.0	91.4%	31.0%	10270.0	88.9%	-9.9%
<b>30 Days Late</b>	136.0	1.5%	289.0	2.3%	112.5%	239.1	2.1%	-17.3%
<b>60 Days Late</b>	37.4	0.4%	138.0	1.1%	269.0%	115.0	1.0%	-16.7%
<b>90+ Days Late</b>	197.9	2.2%	641.5	5.1%	224.2%	927.9	8.0%	44.6%
<b>Total</b>	<b>9071.3</b>	<b>100.0%</b>	<b>12468.5</b>	<b>100.0%</b>	<b>37.4%</b>	<b>11552.0</b>	<b>100.0%</b>	<b>-7.4%</b>

Source: FRBNY Equifax Panel Dataset

# FOREIGN GROWTH OUTLOOK

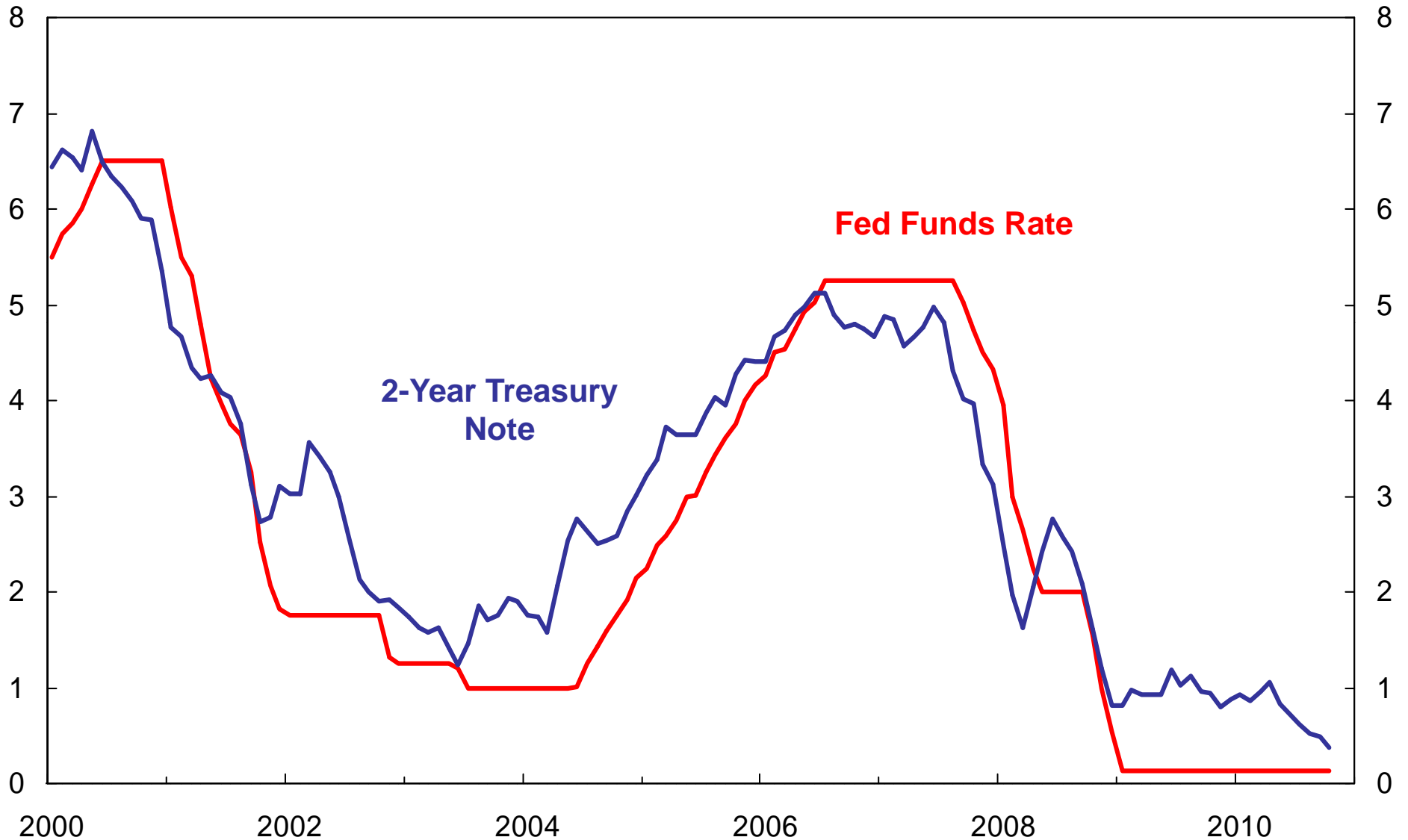
	2010	2011
	Nov (Jan)	Nov (Jan)
Euro Area	2.1 (2.0)	1.8 (2.5)
Japan	1.7 (1.8)	1.2 (1.0)
U.K.	3.1 (2.4)	2.2 (3.0)
Canada	2.9 (2.6)	2.4 (3.0)
China	9.1 (8.7)	8.5 (8.5)
Asia-4 NIEs	6.2 (4.1)	5.7 (4.2)
Mexico	3.2 (3.0)	3.5 (3.6)
Foreign Economies	3.6 (3.1)	3.2 (3.3)



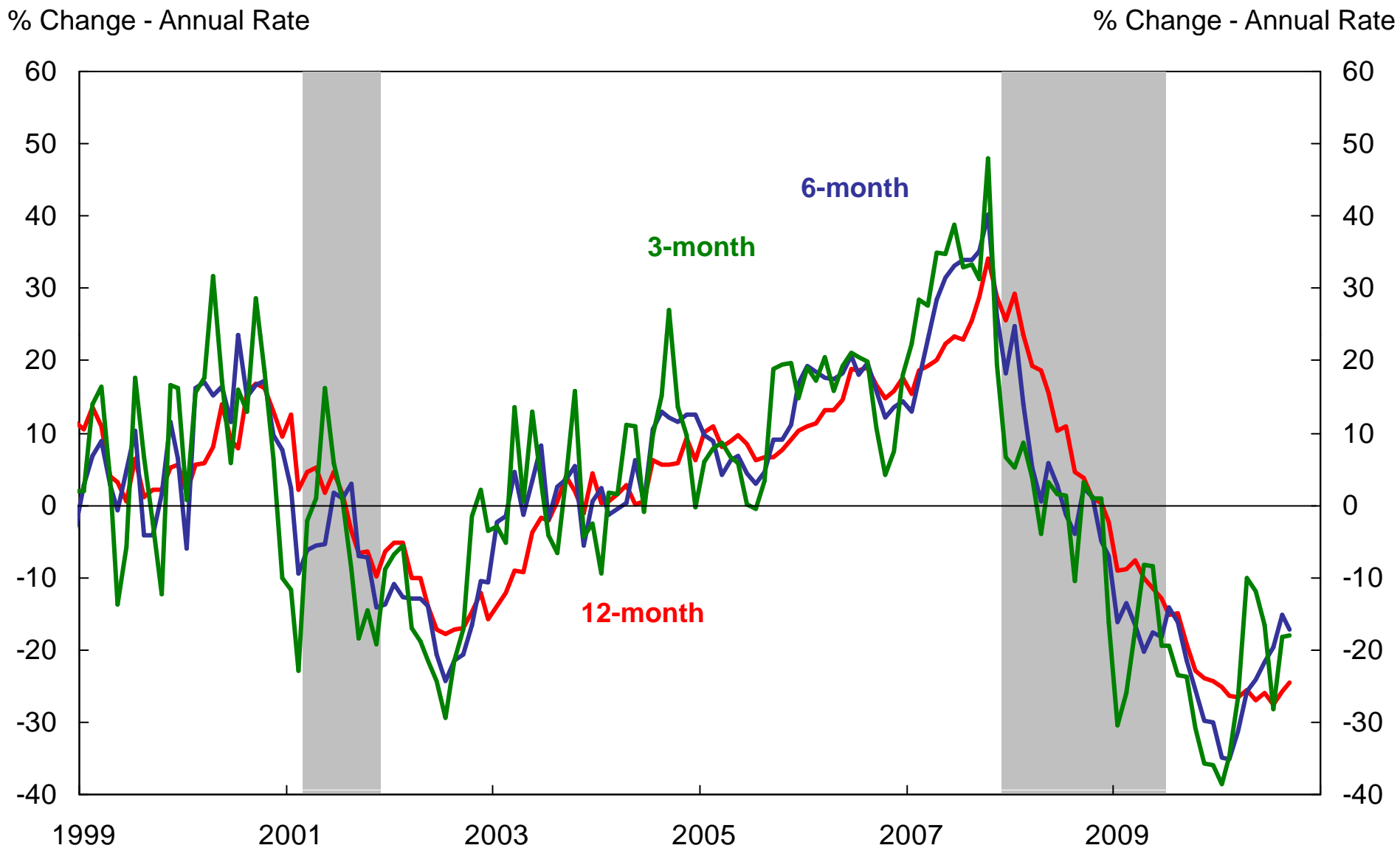
# Selected Interest Rates

Percent

Percent



# Private Nonresidential Construction over Various Horizons



Source: Census Bureau