

Economic Advisory Panel Meeting October 16, 2009

Agenda:

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

Exit Strategy and Tools
(Brian Sack)

Go-round on Economic Policy



Forecast Overview

Dick Peach



Key Features of FRBNY Modal Forecast

- Real GDP growth
 - Below potential growth rate in 2010—below consensus
 - Potential growth: 2½%-2¾%
 - Moderately above potential growth in 2011
 - Important influences:
 - Households desire to raise saving to mend balance sheets
 - General tightening of lending standards to households
 - Structural adjustment in state and local government sector
 - On-going correction in commercial real estate

- Unemployment rate
 - 10% or above through 2010, and then slowly declines
 - Substantial slack through forecast horizon

- Core PCE inflation
 - Falls to near 1% in 2010; rises to about 1½% in 2011
 - Substantial slack holds down underlying inflation
 - Inflation expectations remain stable and contained

FRBNY Outlook

October '09
(May '09)

<u>Q4/Q4 growth rate</u>	2009H1 (AR)	2009H2 (AR)	2009	2010	2011
GDP	-3.6 (-4.0)	3.1 (0.6)	-0.3 (-1.6)	2.0 (2.6)	4.0 (--)
Total PCE Inflation	-0.1 (0.2)	2.0 (1.7)	1.0 (0.7)	1.4 (1.7)	1.7 (--)
Core PCE Inflation	1.6 (1.2)	1.2 (0.9)	1.4 (0.9)	1.1 (1.3)	1.5 (--)
Unemployment (End of Period Level)	9.3 (9.2)	10.0 (9.7)	10.0 (9.7)	10.2 (9.4)	8.8 (--)
Personal Saving Rate (End of Period Level)	4.9 (4.8)	3.9 (5.4)	3.9 (5.6)	3.6 (3.7)	6.1 (--)
Productivity	3.4 (2.6)	5.0 (0.5)	4.1 (1.5)	1.8 (0.9)	1.3 (--)

FRBNY Outlook: Contributions to GDP Growth

October '09

(May '09)

<u>Q4/Q4 growth rate</u>	2009	2010	2011
GDP	-0.3 (-1.6)	2.0 (2.6)	4.0 (--)
Consumption	0.5 (0.8)	0.9 (2.0)	1.7 (--)
Residential Investment	-0.4 (-0.7)	0.2 (0.2)	0.5 (--)
Business Fixed Investment	-2.0 (-2.6)	0.1 (0.0)	1.1 (--)
Inventory Investment	0.3 (0.4)	0.4 (0.1)	0.4 (--)
Net Exports	1.1 (0.7)	0.1 (-0.2)	-0.1 (--)

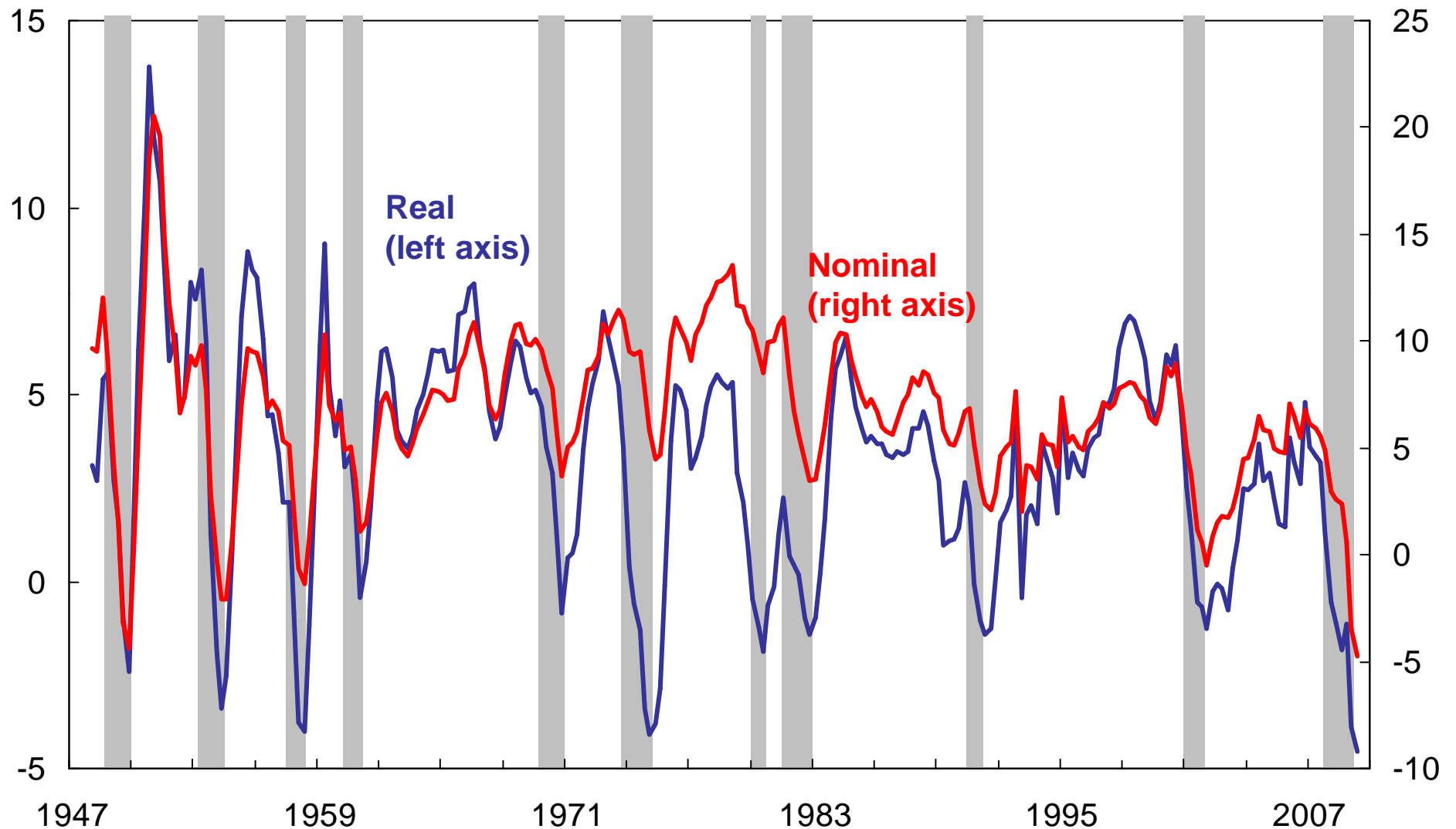
Forecast Comparison

	2009	2010	2011
<u>Real GDP (Q4/Q4)</u>			
FRBNY	-0.3	2.0	4.0
CBO	-1.0	2.8	3.8
SPF	-0.8	2.7	--
MacroAdvisers	-0.1	4.1	4.2
<u>Core PCE Deflator (Q4/Q4)</u>			
FRBNY	1.4	1.1	1.5
CBO	1.7	0.8	0.5
SPF	1.4	1.3	1.7
MacroAdvisers	1.4	0.8	0.8
<u>Unemployment Rate (Avg. Q4 Level)</u>			
FRBNY	10.0	10.2	8.8
CBO	10.1	9.9	8.5
SPF	9.9	9.1	--
MacroAdvisers	10.0	9.1	7.7
<u>Personal Saving Rate (Avg. Q4 Level)</u>			
FRBNY	3.9	3.6	6.1
CBO	4.8	5.5	2.5
SPF	--	--	--
MacroAdvisers	3.3	3.1	3.8

Wage and Salary Disbursements

% Change - Year to Year

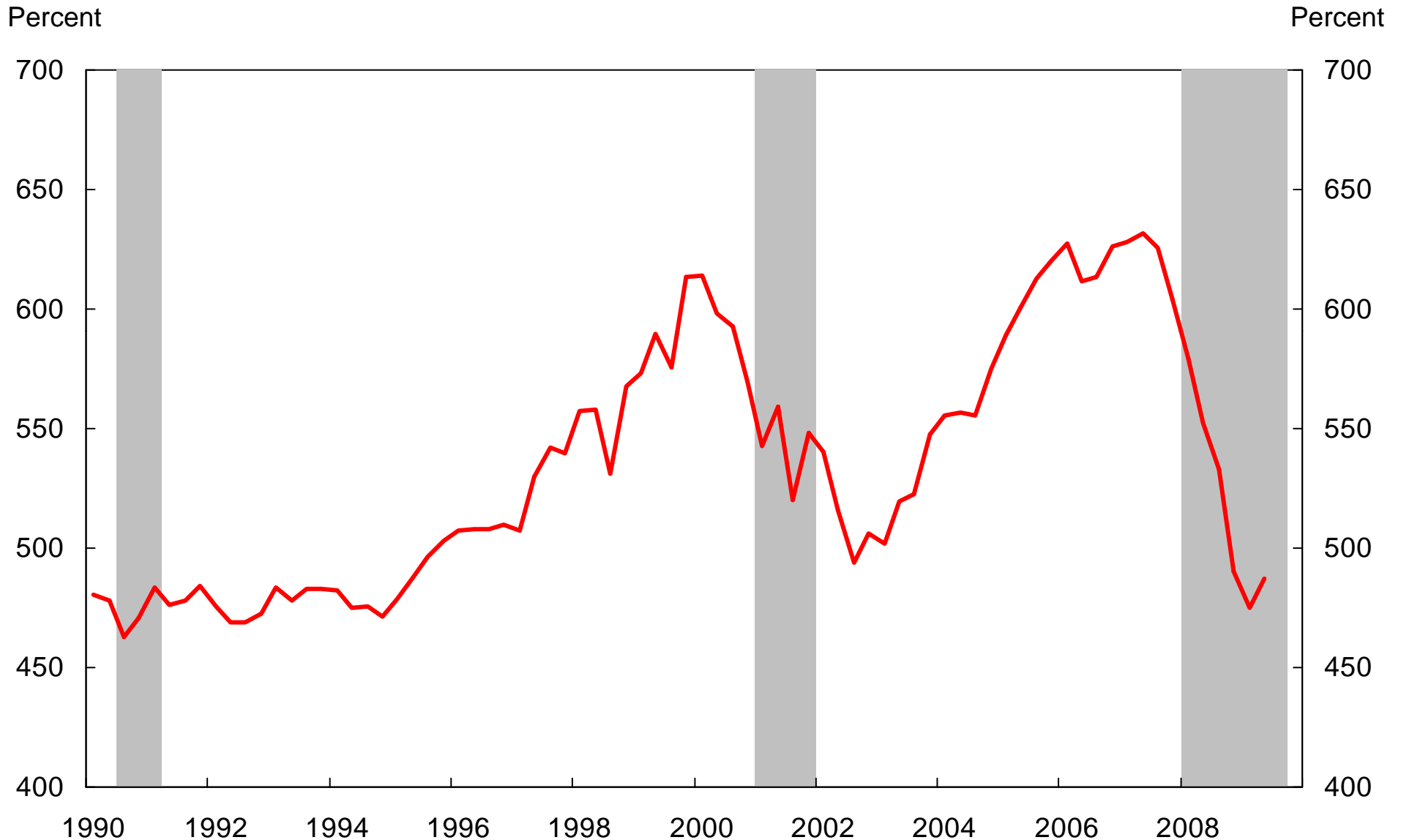
% Change - Year to Year



Source: Bureau of Economic Analysis

Note: Shading represents NBER recessions.

Net Worth over Disposable Personal Income



Source: Federal Reserve Board

Note: Shading represents NBER recessions.

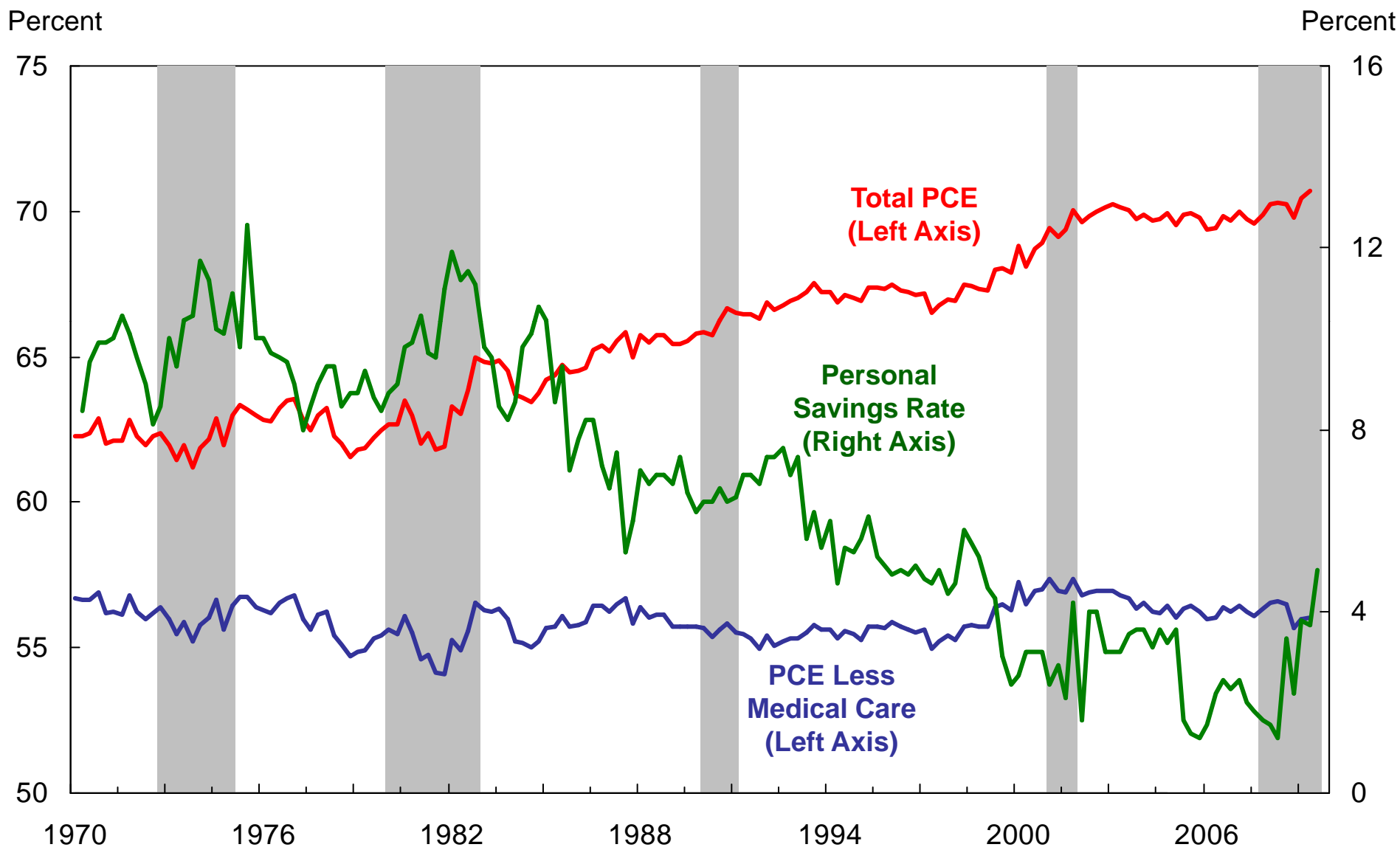
Total Debt by Credit Score Quintile

Billions of Dollars

		<u>2005-Q1</u>		<u>2008-Q2</u>		<u>2009-Q2</u>			
		Total Debt	Percent of Total	Total Debt	Percent of Total	Percent Change from Previous Period	Total Debt	Percent of Total	Percent Change from Previous Period
Highest	1	2020.0	22.2%	2280.0	18.7%	12.9%	2190.0	18.5%	-3.9%
	2	2330.0	25.6%	3080.0	25.3%	32.2%	3030.0	25.7%	-1.6%
	3	2360.0	26.0%	3440.0	28.2%	45.8%	3350.0	28.4%	-2.6%
	4	1450.0	16.0%	2290.0	18.8%	57.9%	2190.0	18.5%	-4.4%
Lowest	5	928.0	10.2%	1090.0	8.9%	17.5%	1050.0	8.9%	-3.7%
	Total	9088.0	100.0%	12180.0	100.0%	34.0%	11810.0	100.0%	-3.0%

Source: FRBNY Equifax Panel Dataset

PCE Share of GDP, With and Without Medical Care



Source: Bureau of Economic Analysis
FEDERAL RESERVE BANK of NEW YORK

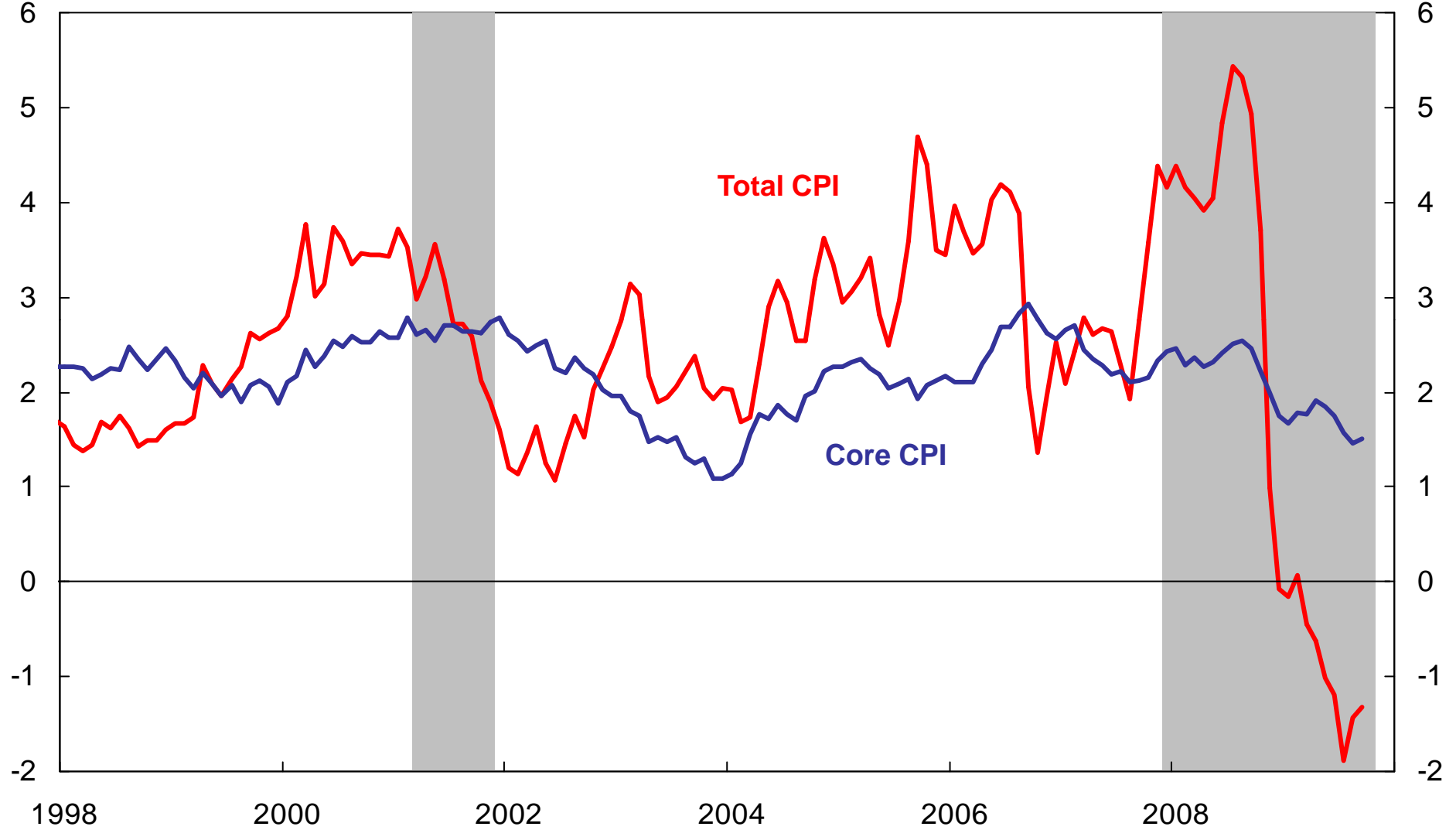
Note: Shading represents NBER recessions.

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Total and Core CPI

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Labor Statistics

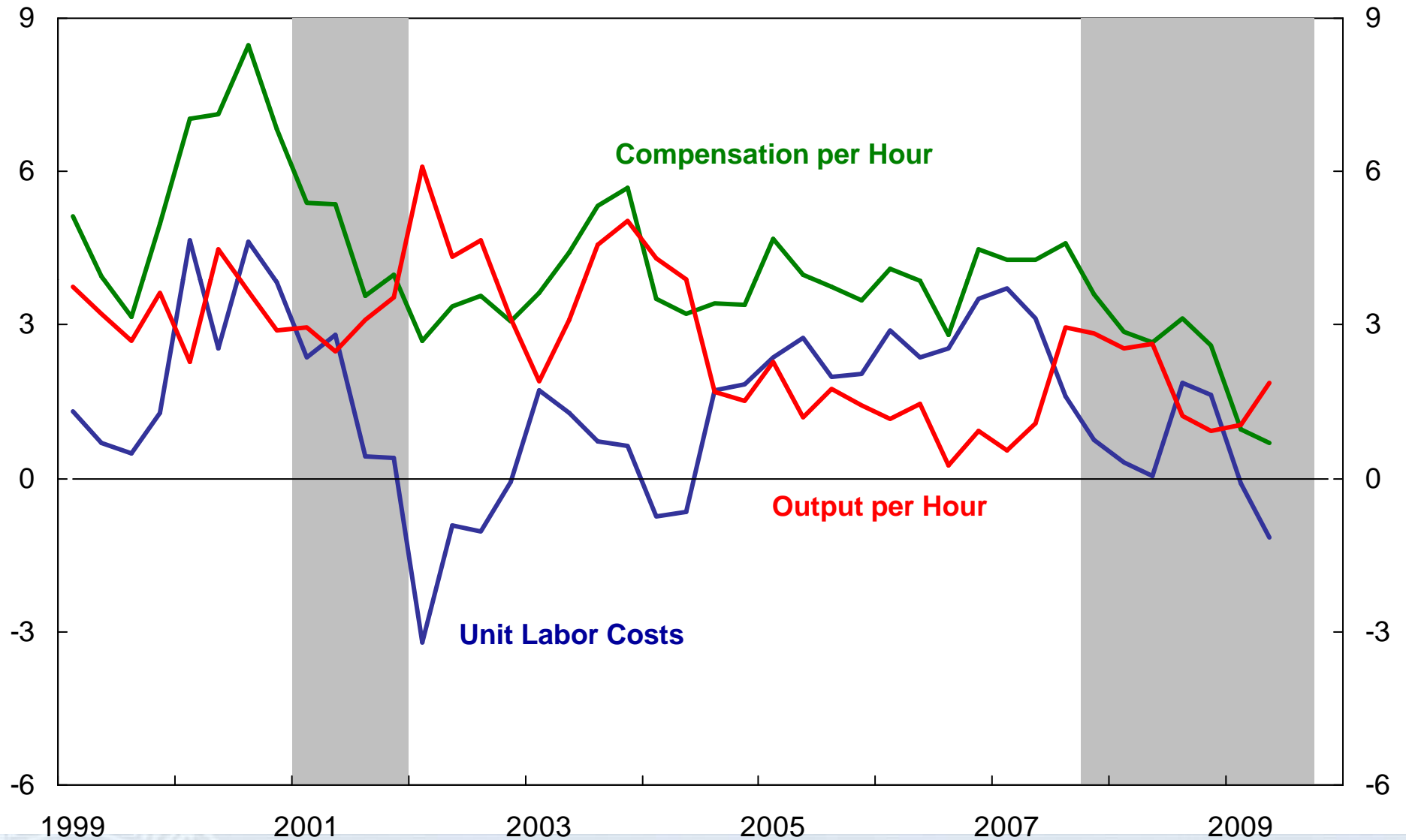
Note: Shading represents NBER recessions.

Productivity, Compensation, and Unit Labor Costs

Nonfarm Business Sector

% Change - Year to Year

% Change - Year to Year



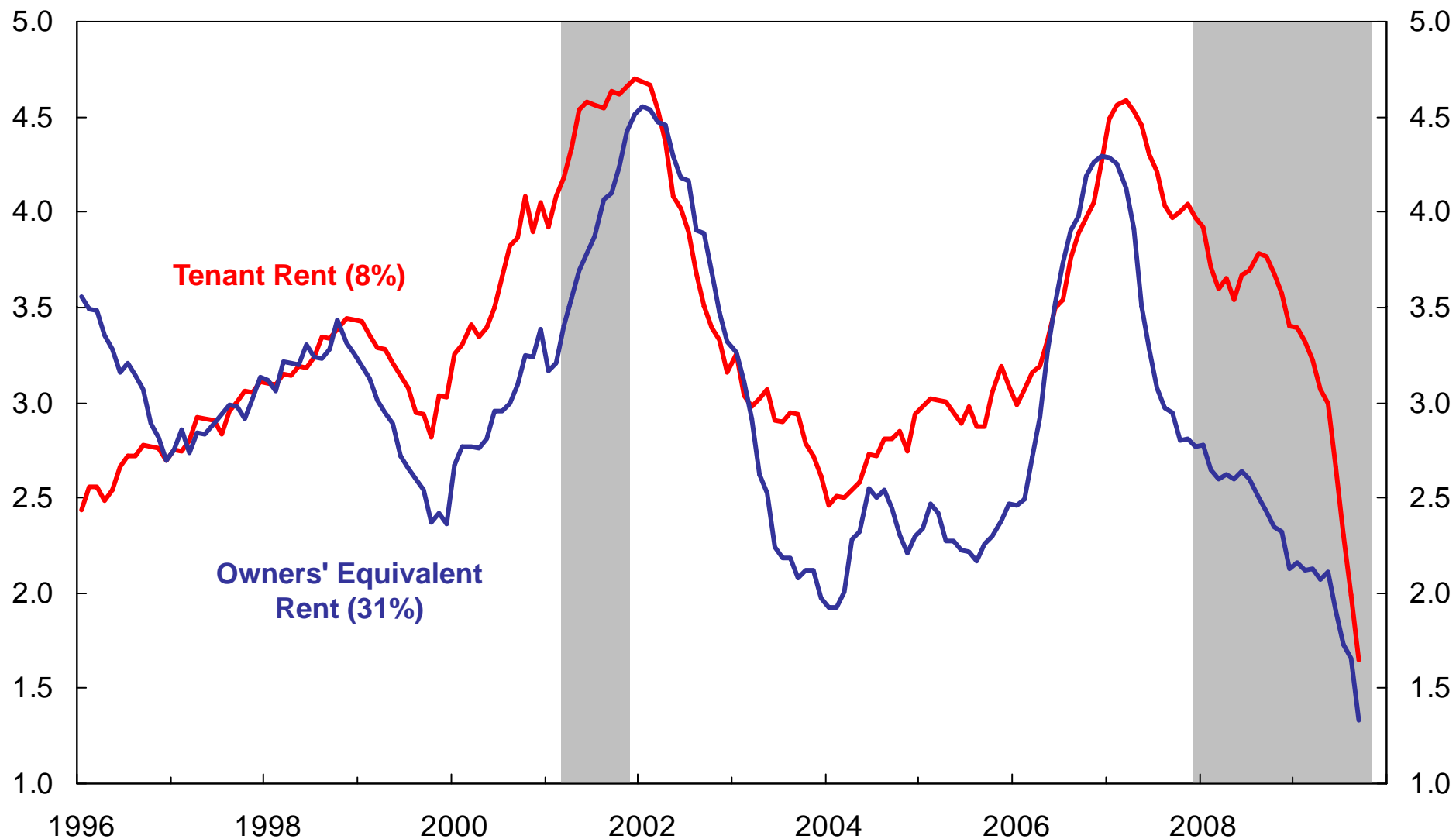
Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions.

Rent Inflation

% Change - Year to Year

% Change - Year to Year



Source: BLS

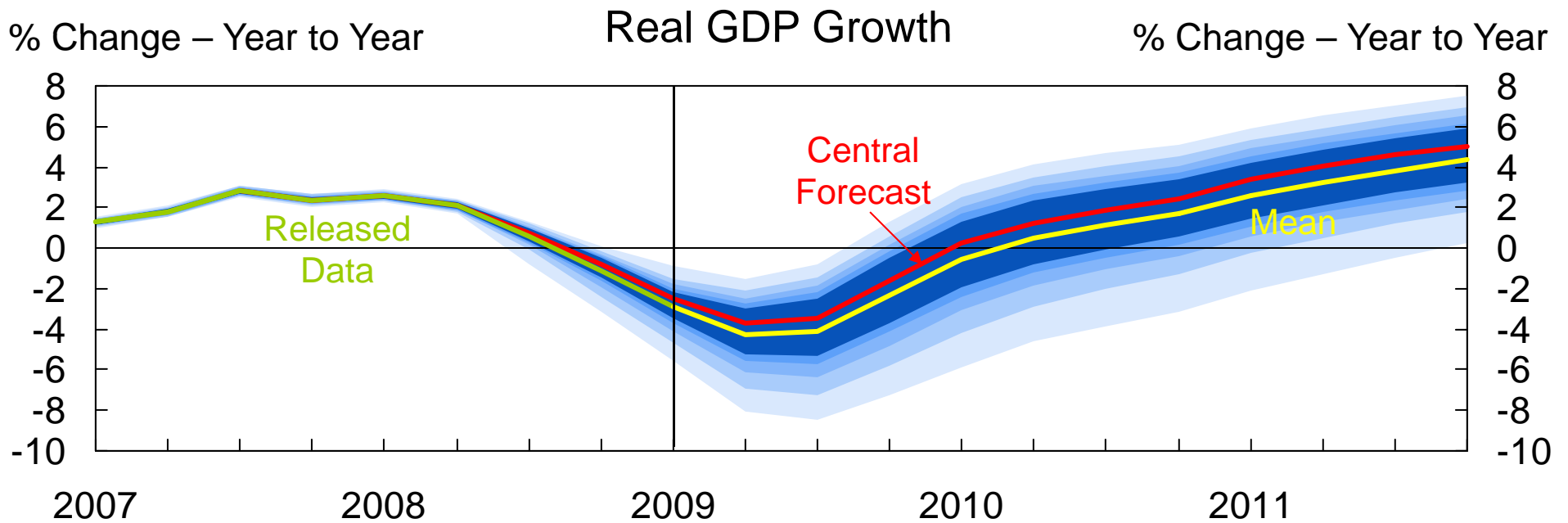
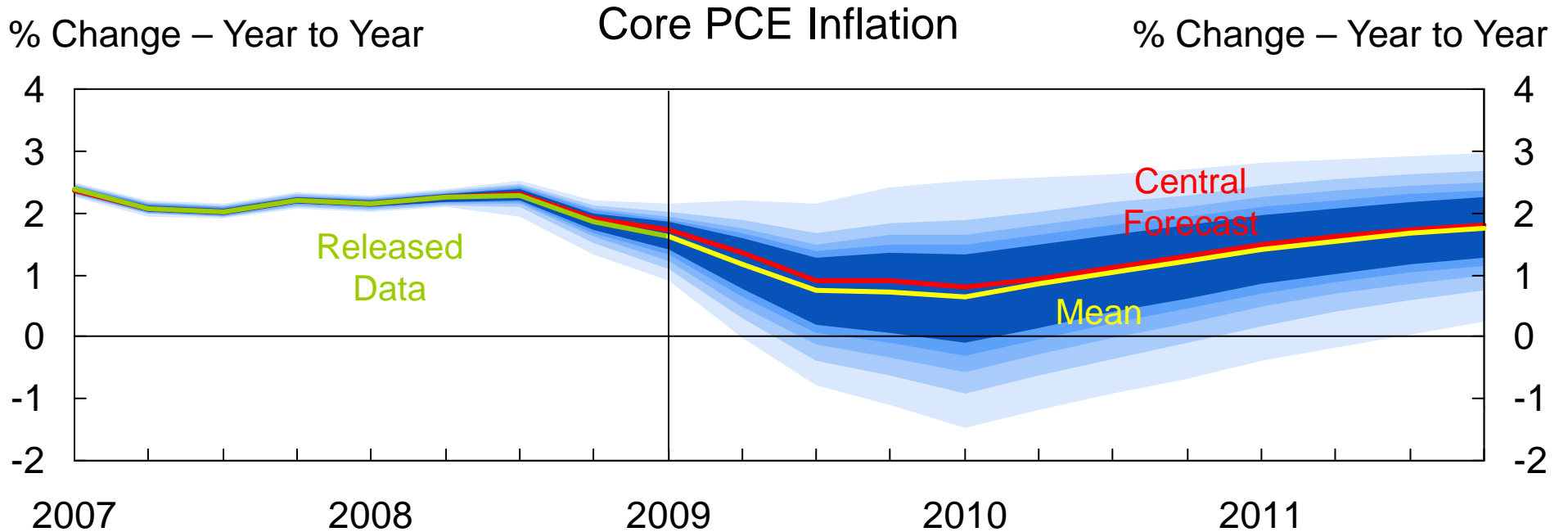
Note: Shading represents NBER recessions.

Risks and Stance of Policy

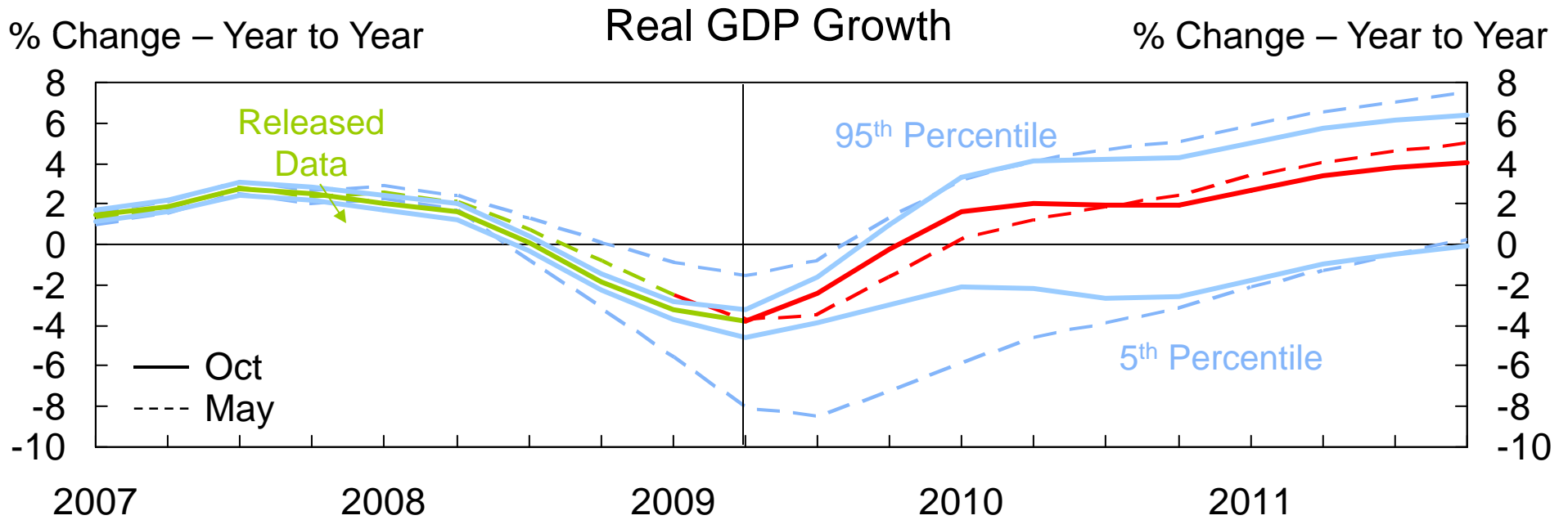
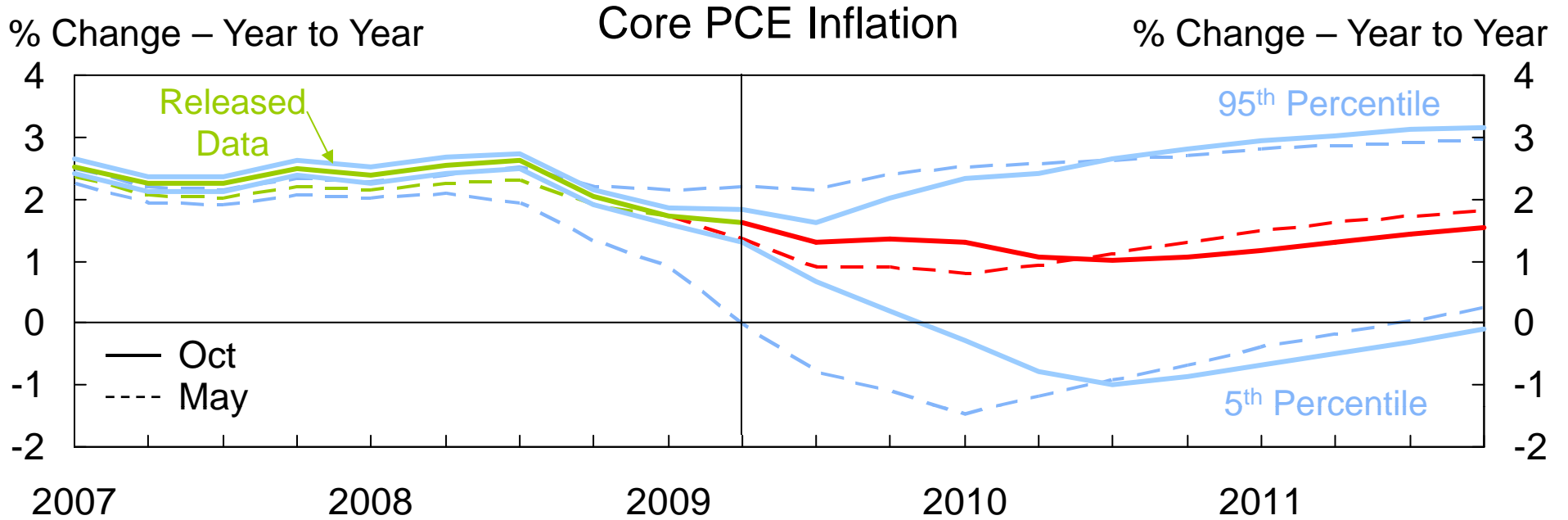
Simon Potter



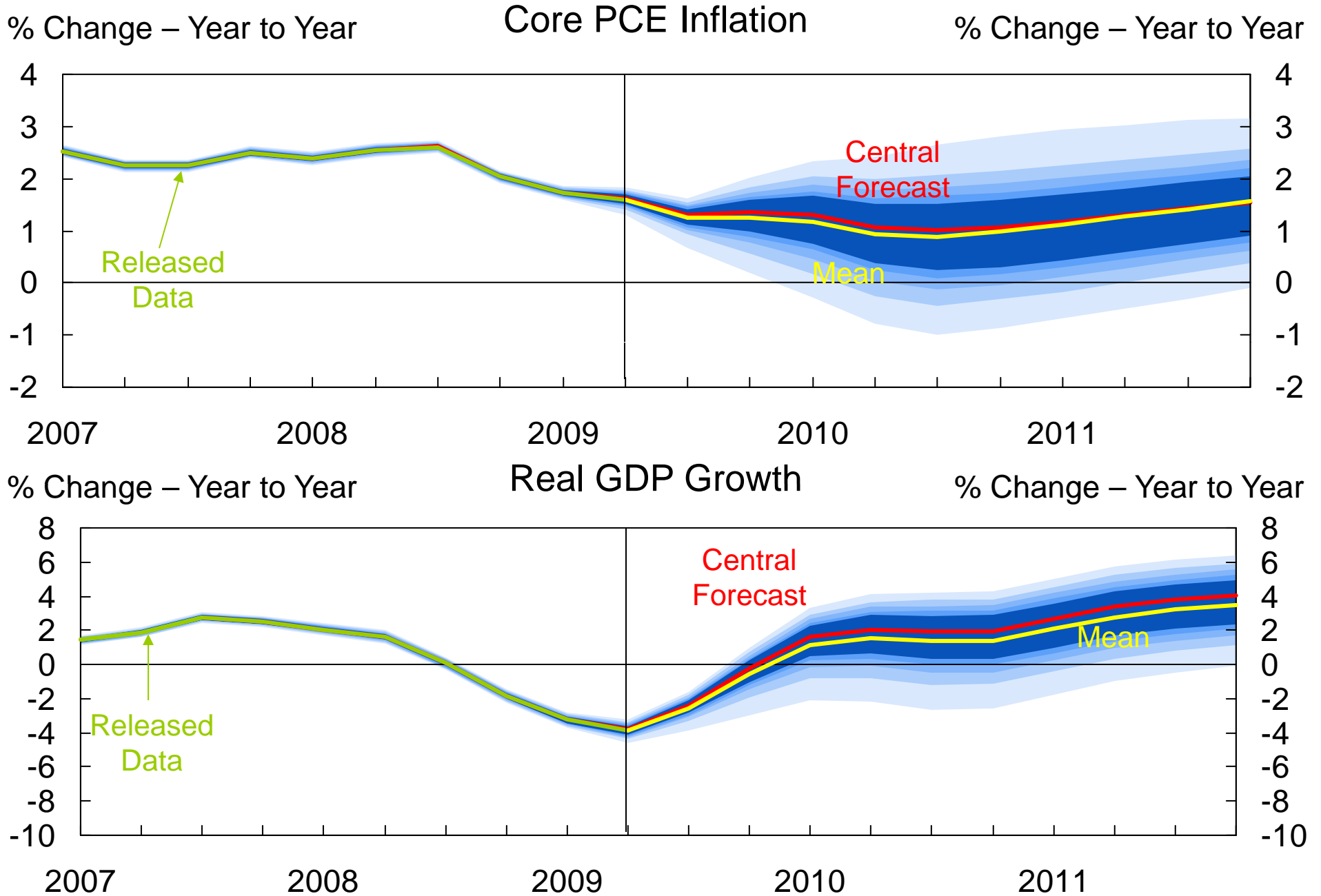
May '09 Forecast Distributions



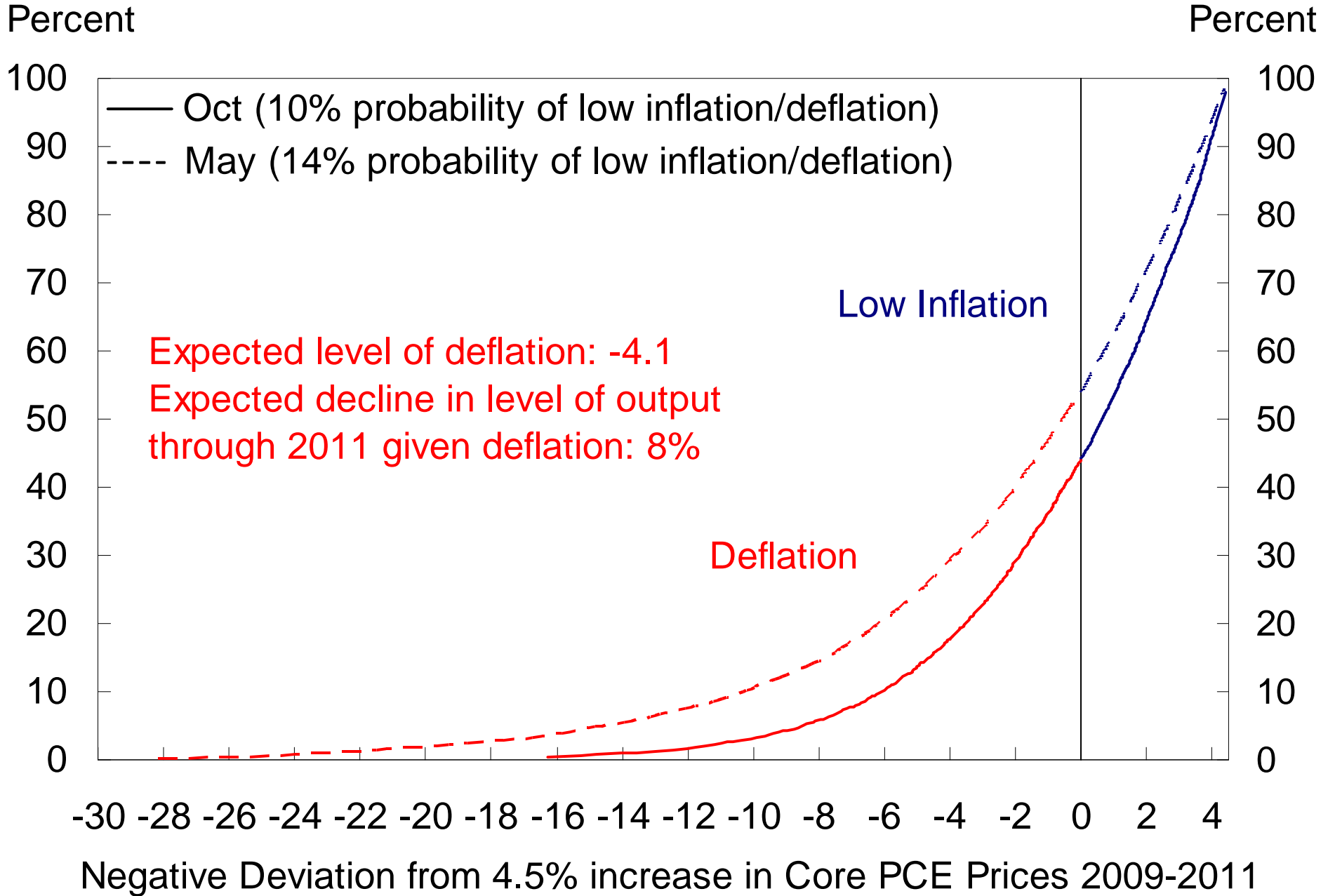
Change from May '09 to Oct '09



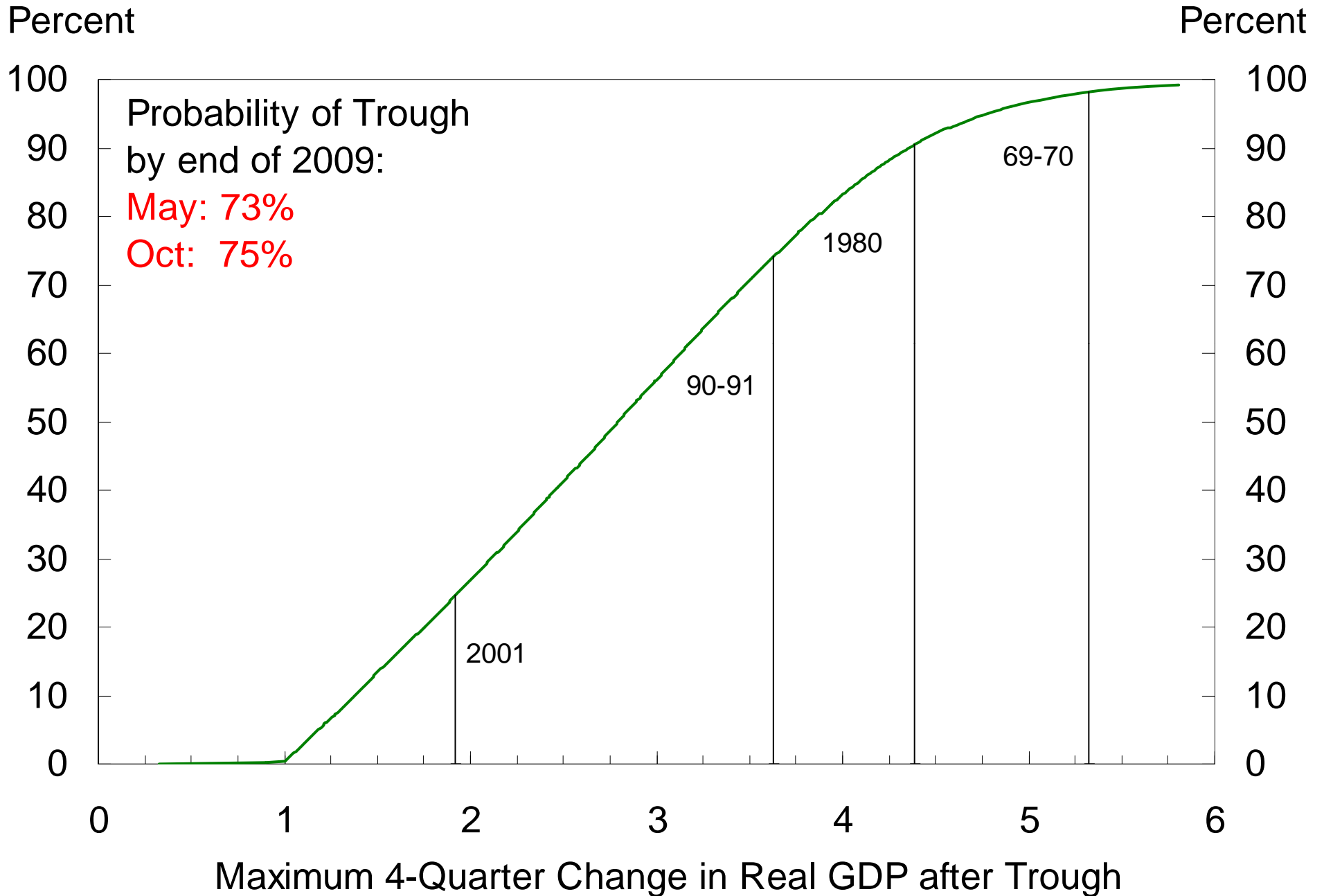
Oct '09 Forecast Distributions



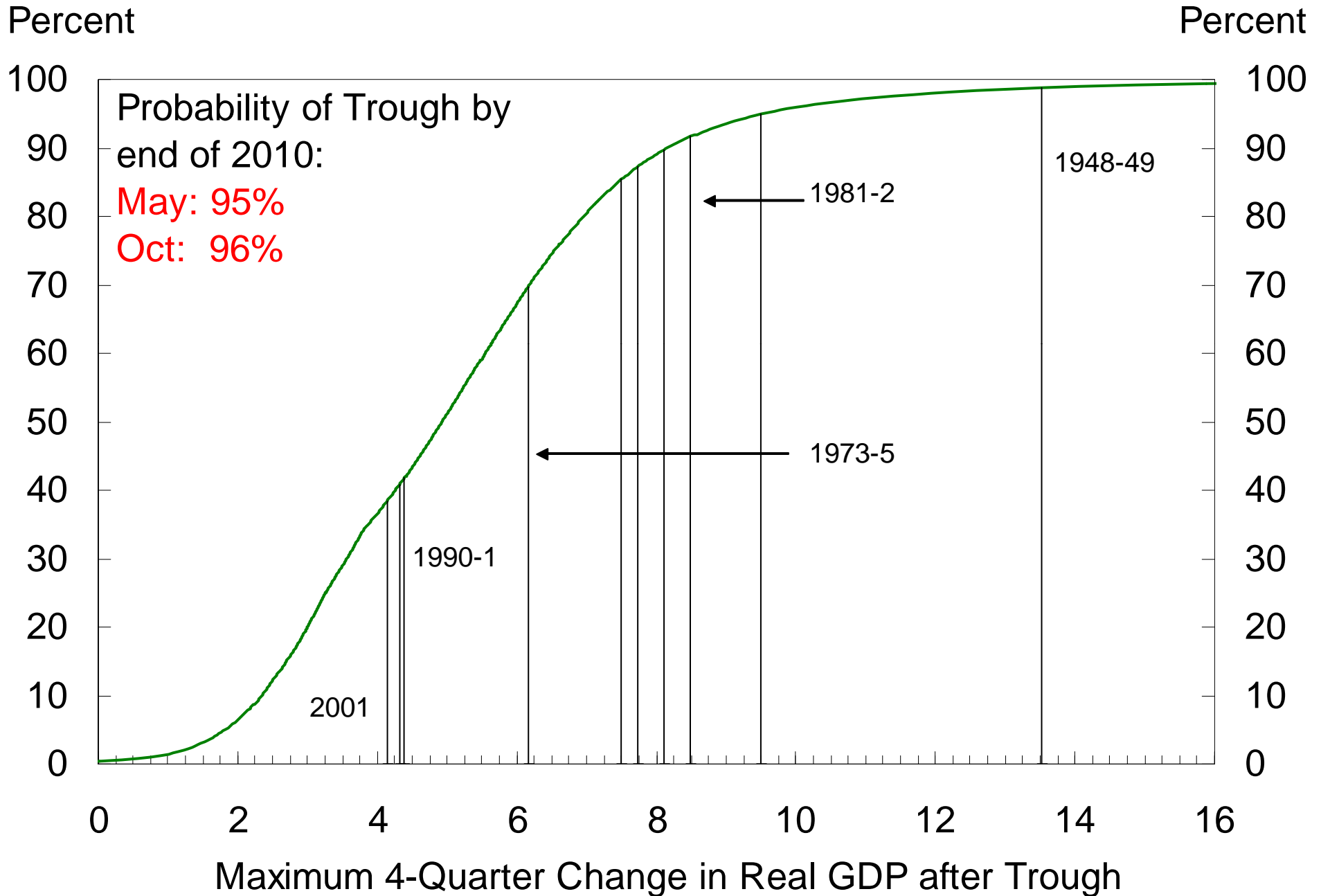
Depth of Deflation



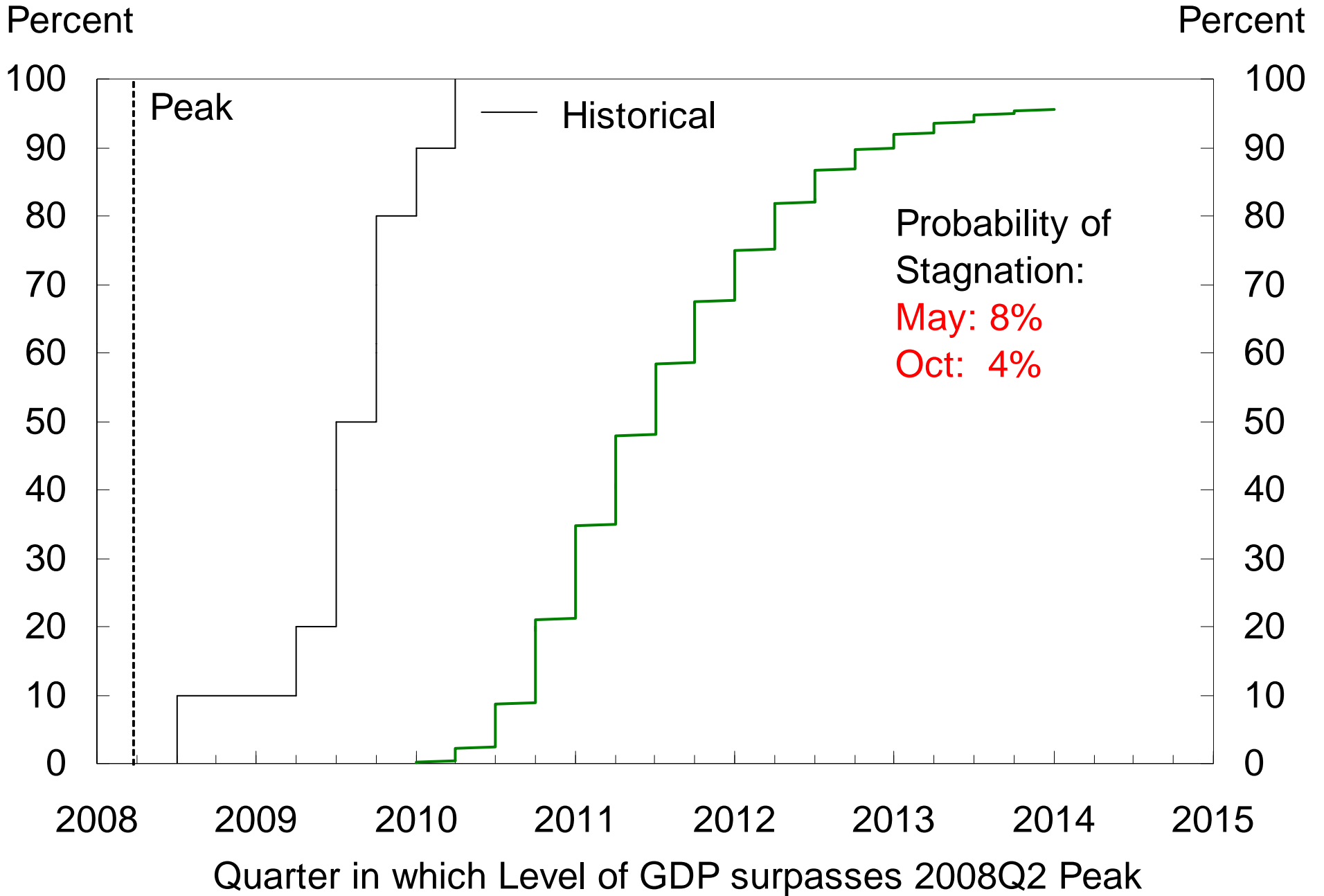
Scale of Recovery Through End of 2010



Scale of Recovery Through End of 2011



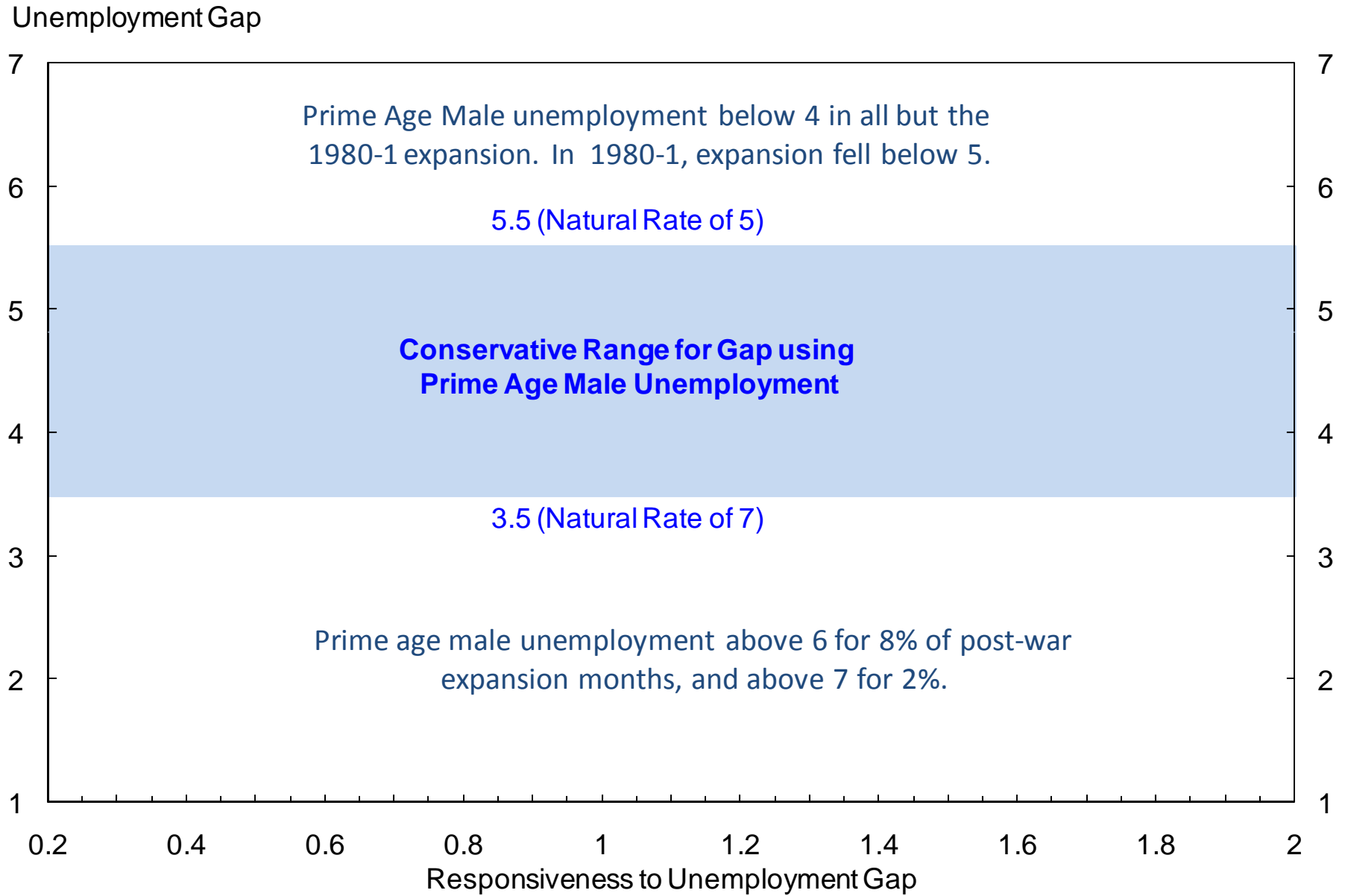
Time to Surpass Previous Peak Level of GDP



Assessing Stance of Policy

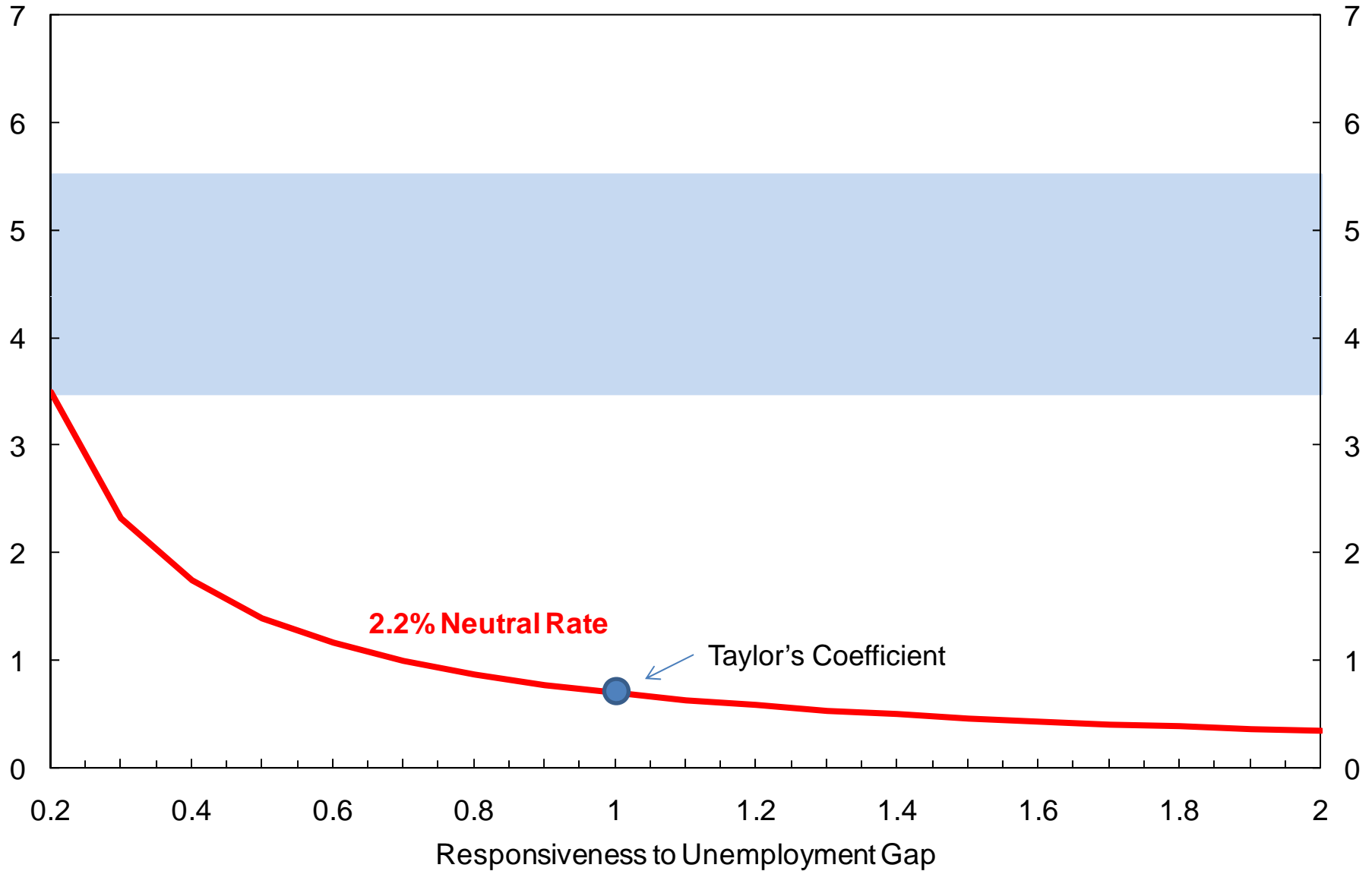
- $FFR = \text{Neutral Rate} + \text{response to inflation gap} + \text{response to unemployment gap}$
- Fix inflation gap at -1 and response coefficient to 1.5
 - with no unemployment gap FFR 1.5 below neutral
- Unemployment Gap
 - Use prime age male unemployment gap to alleviate demographic effects
 - Use prime age male unemployment rate of 10.5%
- Investigate current stance of policy sensitivity to
 - Size of unemployment gap
 - Response coefficient to unemployment gap
 - Economic Structure
 - Central Bank loss function
 - Range from 0.2 to 2
 - Level of the neutral nominal rate
 - Find extremes
 - Examine 3% to 5.5% “sensible range”

Unemployment Gap Range



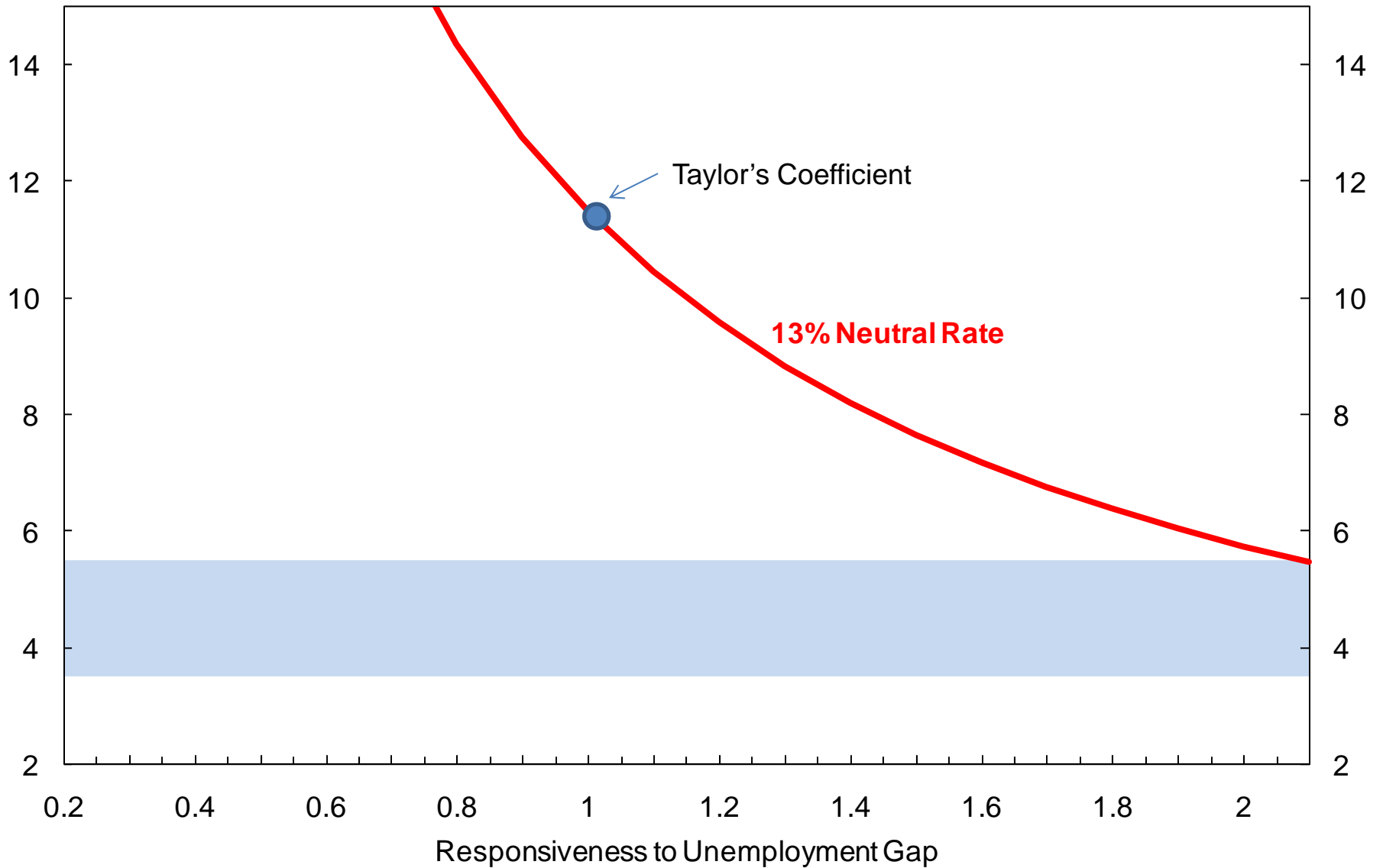
Policy Too Tight

Unemployment Gap Consistent with Zero FFR



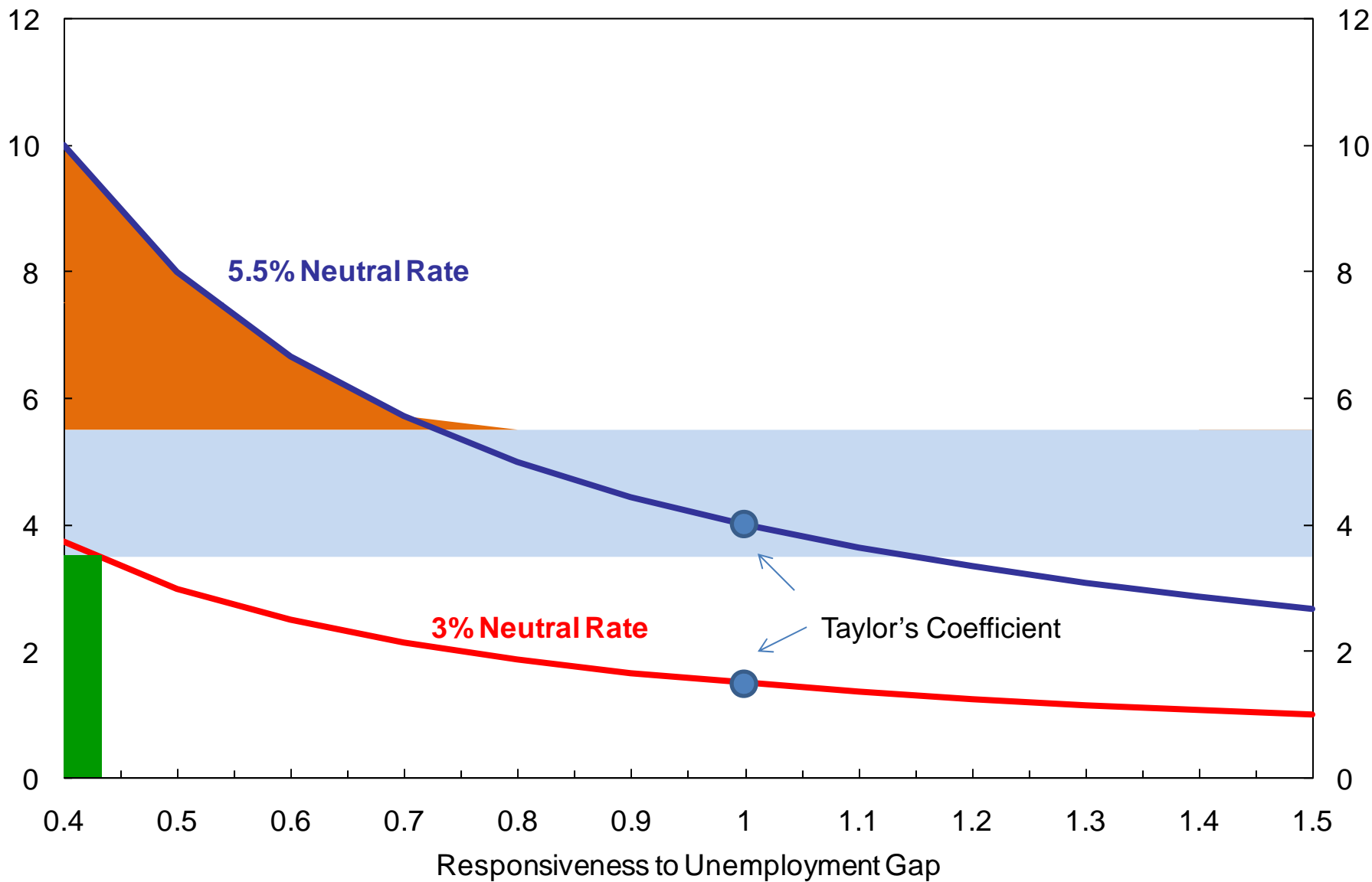
Policy Too Accommodative

Unemployment Gap Consistent with Zero FFR



Sensitivity to Unemployment Gap

Unemployment Gap Consistent with Zero FFR



Exit Strategy and Tools

Brian Sack

Economic Advisory Panel

Federal Reserve Bank of New York

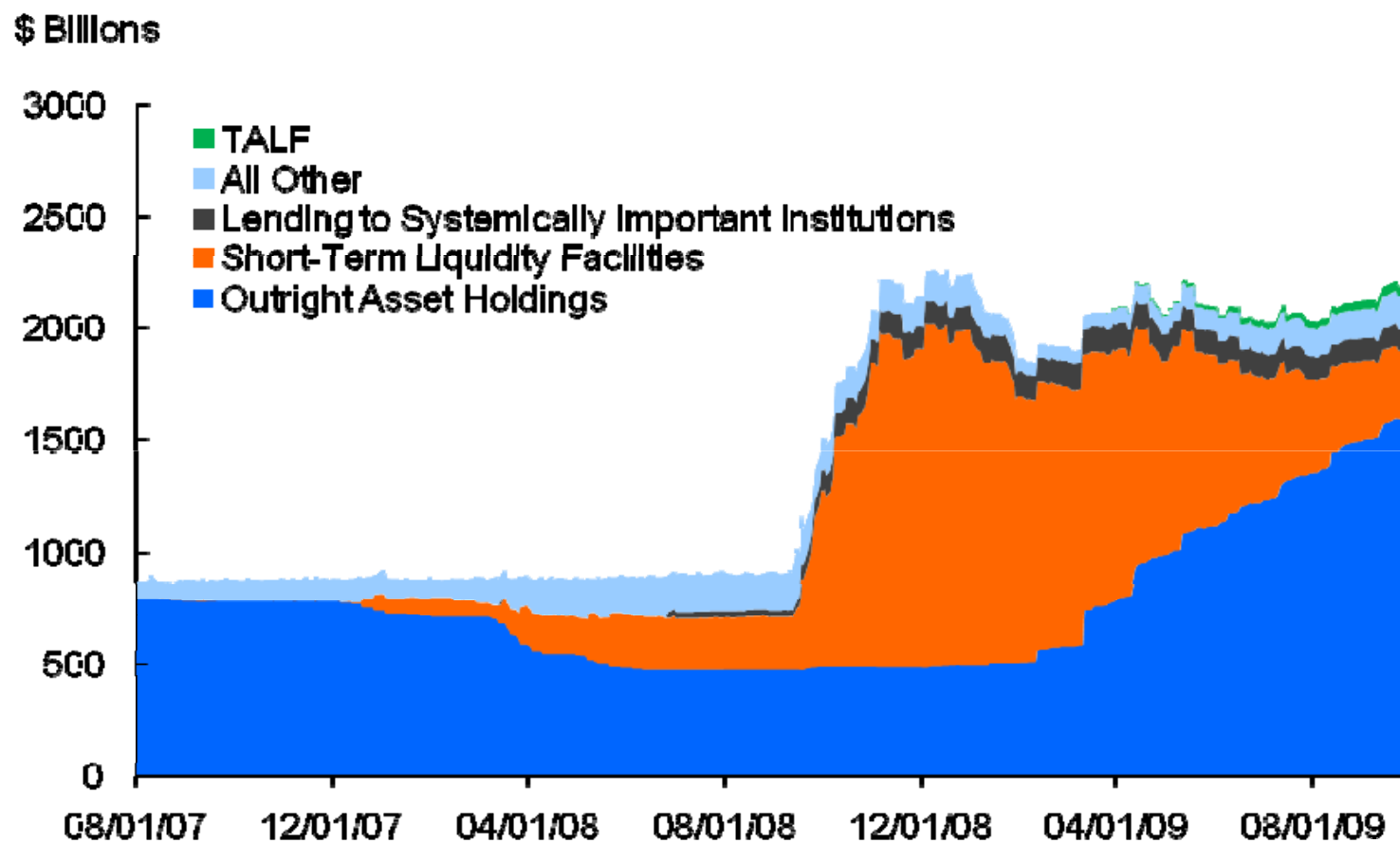
October 16, 2009



Topics

- Wind down of the short-term liquidity facilities
- Conclusion of large-scale asset purchases
- Approach for raising short-term interest rates

Fed Balance Sheet



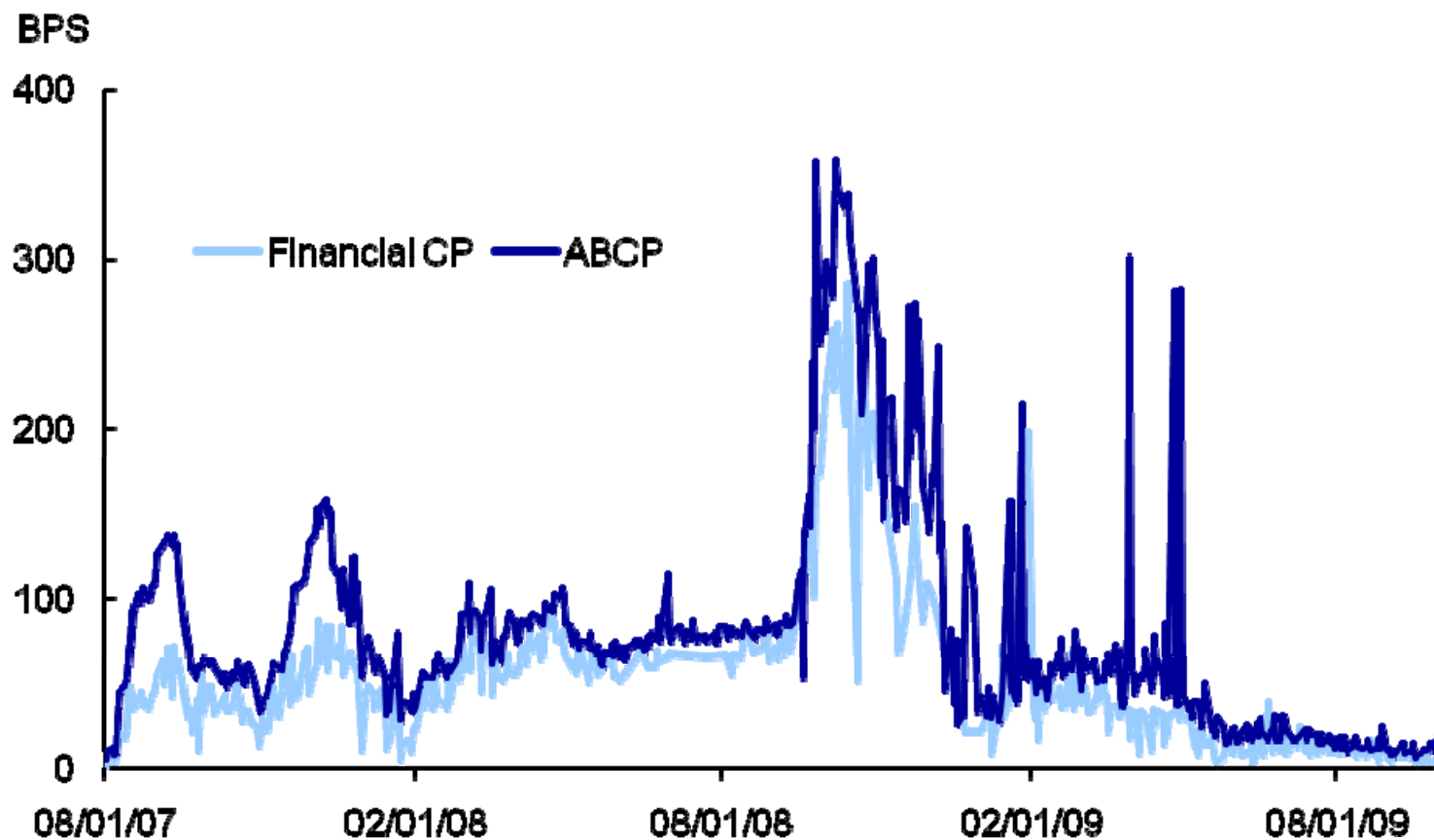
Two Types of Nontraditional Policy

- Liquidity facilities
 - Address elevated demand for term funding
 - Clear that markets were disrupted
 - Pushing market spreads towards normal levels
- Large scale asset purchases
 - Not intended to only address market disruption
 - Attempt to lower longer-term borrowing rates
 - Pushing market rates beyond normal levels

Wind Down of Liquidity Facilities

- Exit strategy built into the structure of programs
- Priced to be attractive during crisis and uneconomical during normal periods
 - This feature has worked well in generating automatic run-off
- Total volume at liquidity facilities down substantially
 - Peak volume from these programs was \$1.8 trillion in December
 - Current volume is \$340 billion

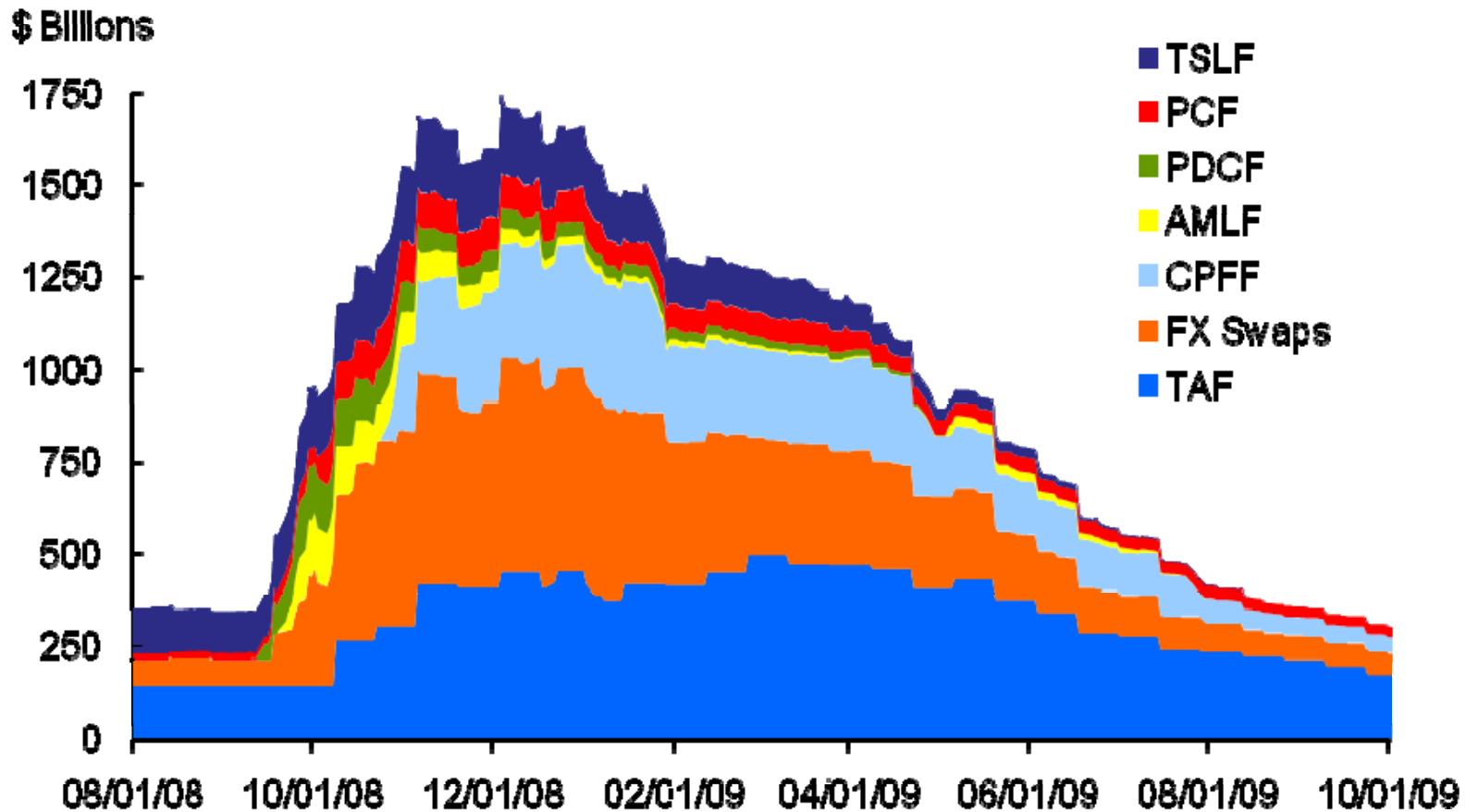
Commercial Paper-OIS Spreads



Above spreads are 3-month CP rates less OIS

Source: Federal Reserve Board of Governors

Outstanding Balances at Liquidity Facilities



Remaining Issues for Liquidity Facilities

- Will facility usage decline all the way to zero?
- Adverse selection problem
 - Most troubled firms remain in facilities
- Exit might have to be actively managed

Large Scale Asset Purchases (LSAPs)

	Total Program Size (\$bn)	Percent of Current Stock	Percent of Net Issuance	Percent of Gross Issuance
Treasury	300	6%	33%	24%
Agency	200	37%	840%	99%
Mortgage	1250	26%	173%	59%

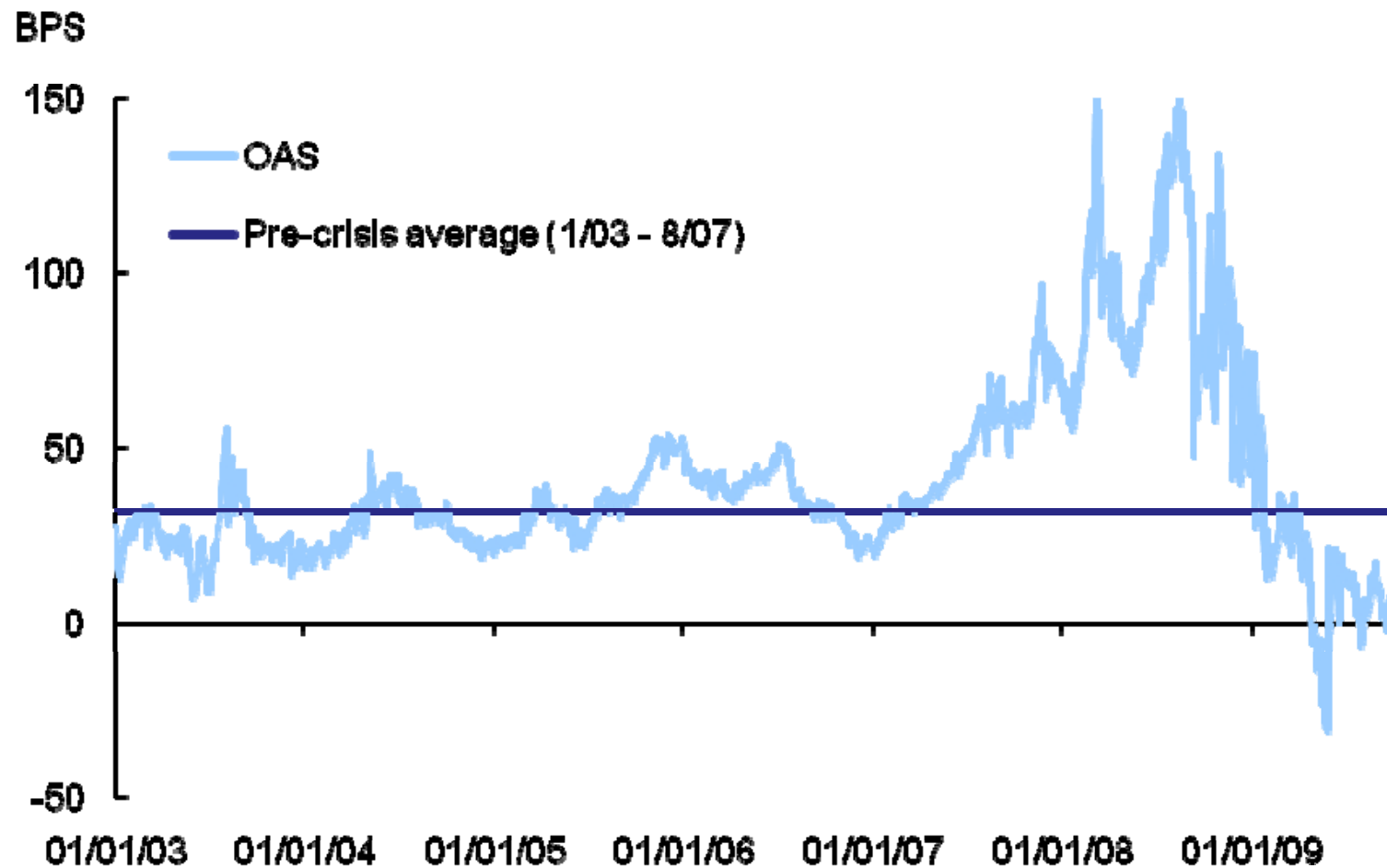
Market Effects from LSAPs

- Portfolio balance channel
 - Reduce the amount of duration risk that private sector holds
 - Lowers term premium/MBS spread on those assets
 - Effect through *stock* of Fed holdings
- Other potential channels
 - Liquidity premium
 - Market imperfections
 - Effects through *flow* of purchases
- Public debate about whether LSAPs had any effect

LSAP Announcements

Date	Event	Change in 10-Year Treasury Yield	Change in 30-Year MBS Yield
11/25/08	LSAPs announced (agency debt/MBS)	-22 bps	-45 bps
12/1/08	Bernanke speech	-19 bps	-11 bps
12/16/08	FOMC	-26 bps	-28 bps
1/6/08	FOMC minutes	-4 bps	-29 bps
1/28/09	FOMC	+14 bps	+7 bps
2/18/09	FOMC minutes	+11 bps	+6 bps
3/18/09	FOMC	-47 bps	-32 bps
3/24/09	FAQs/calendar	+5 bps	+1 bps
4/29/09	FOMC/calendar	+10 bps	+4 bps
6/24/09	FOMC	+6 bps	+2 bps
8/12/09	FOMC	+5 bps	+3 bps
9/23/09	FOMC	-3 bps	-1 bps
	Total (net)	-70 bps	-106 bps

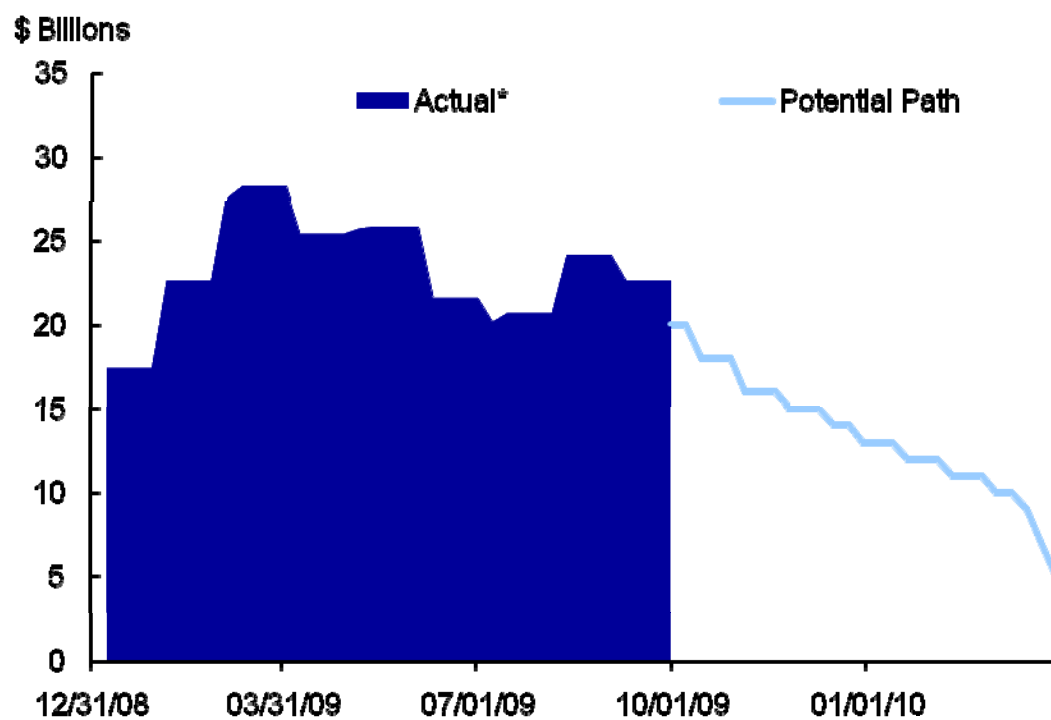
MBS Option-Adjusted Spread



Exit Issues for LSAPs

- LSAPs have lowered long-term interest rates
 - Perhaps below sustainable levels
- Makes exit more challenging than for liquidity facilities
- Stock versus flow issues
 - If stock effect, exit can be abrupt with no disruption
 - If flow effect, worry about how market will adjust
- Cautious approach for ending LSAPs
 - Tapering strategy to allow markets to adjust
 - Other approaches would require additional authority

Pace of MBS Purchases



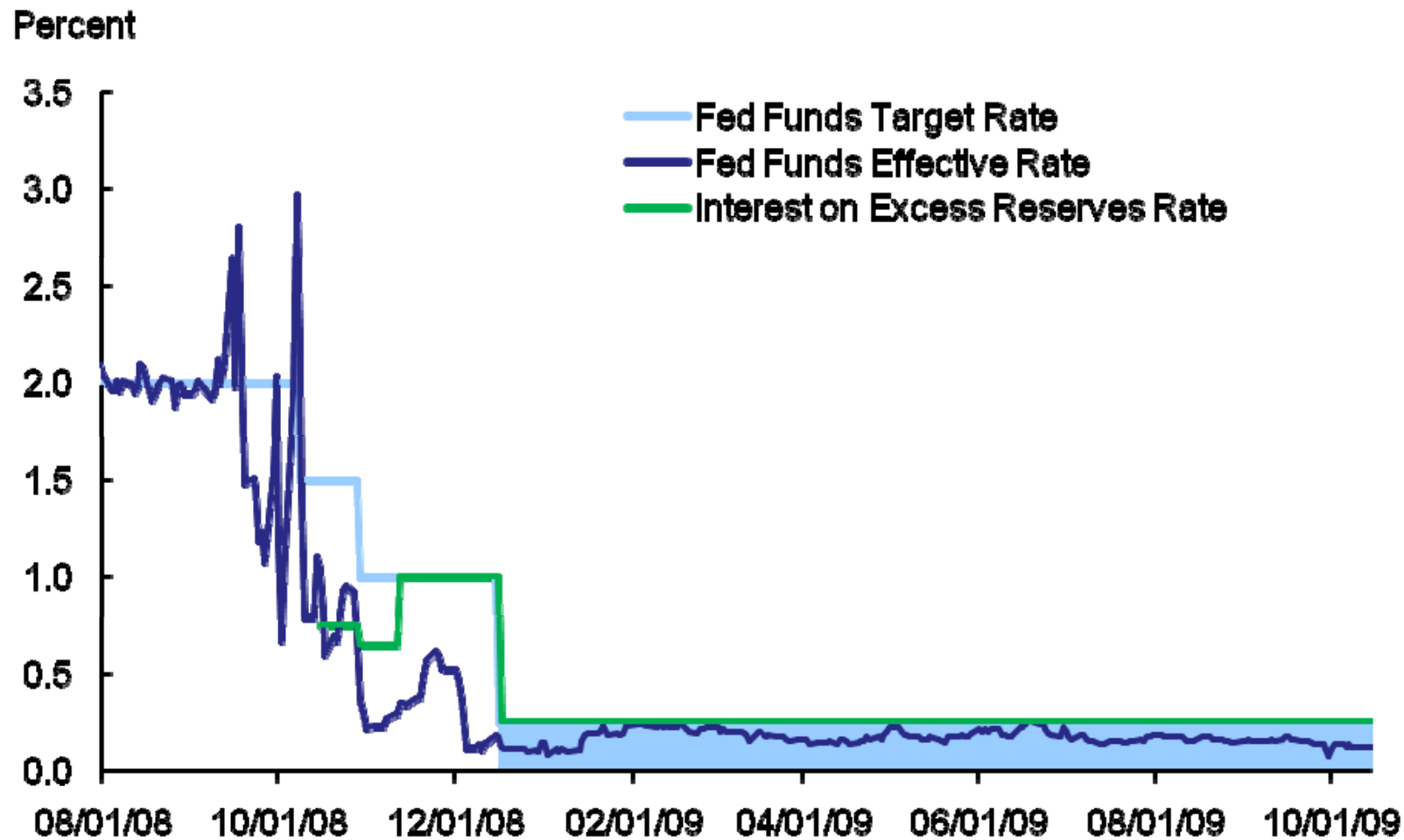
*Monthly average

Source: Federal Reserve Bank of New York

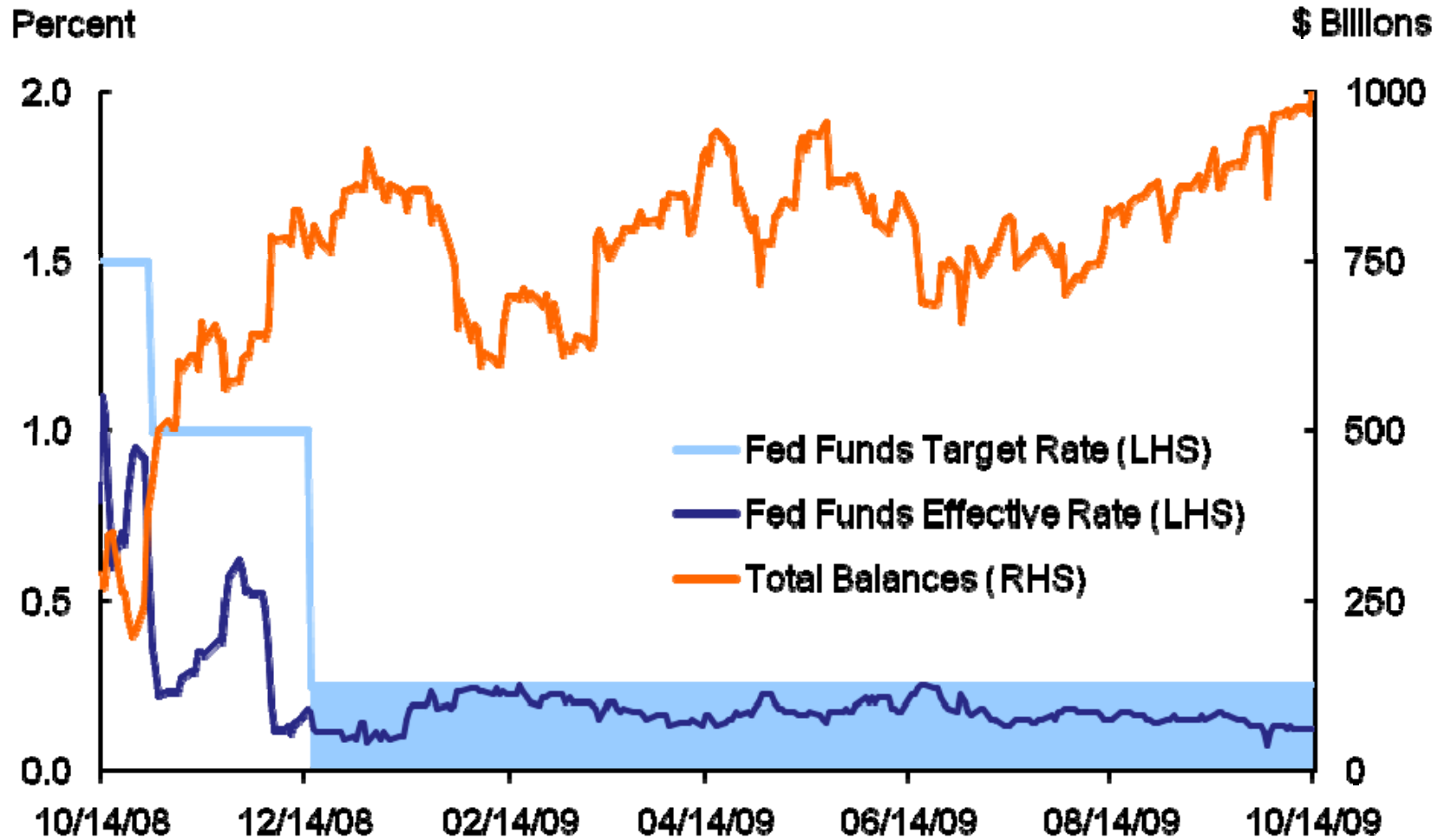
Raising Short-term Interest Rates

- Fed will likely still have elevated balance sheet when time comes to raise short-term interest rates
- Interest on Excess Reserves (IOER) allows control short-term rates even with large amounts of reserves
- FOMC can also decide to drain reserves
 - Reverse RPs
 - Term deposits
 - SFP

Effectiveness of IOER



Excess Reserves

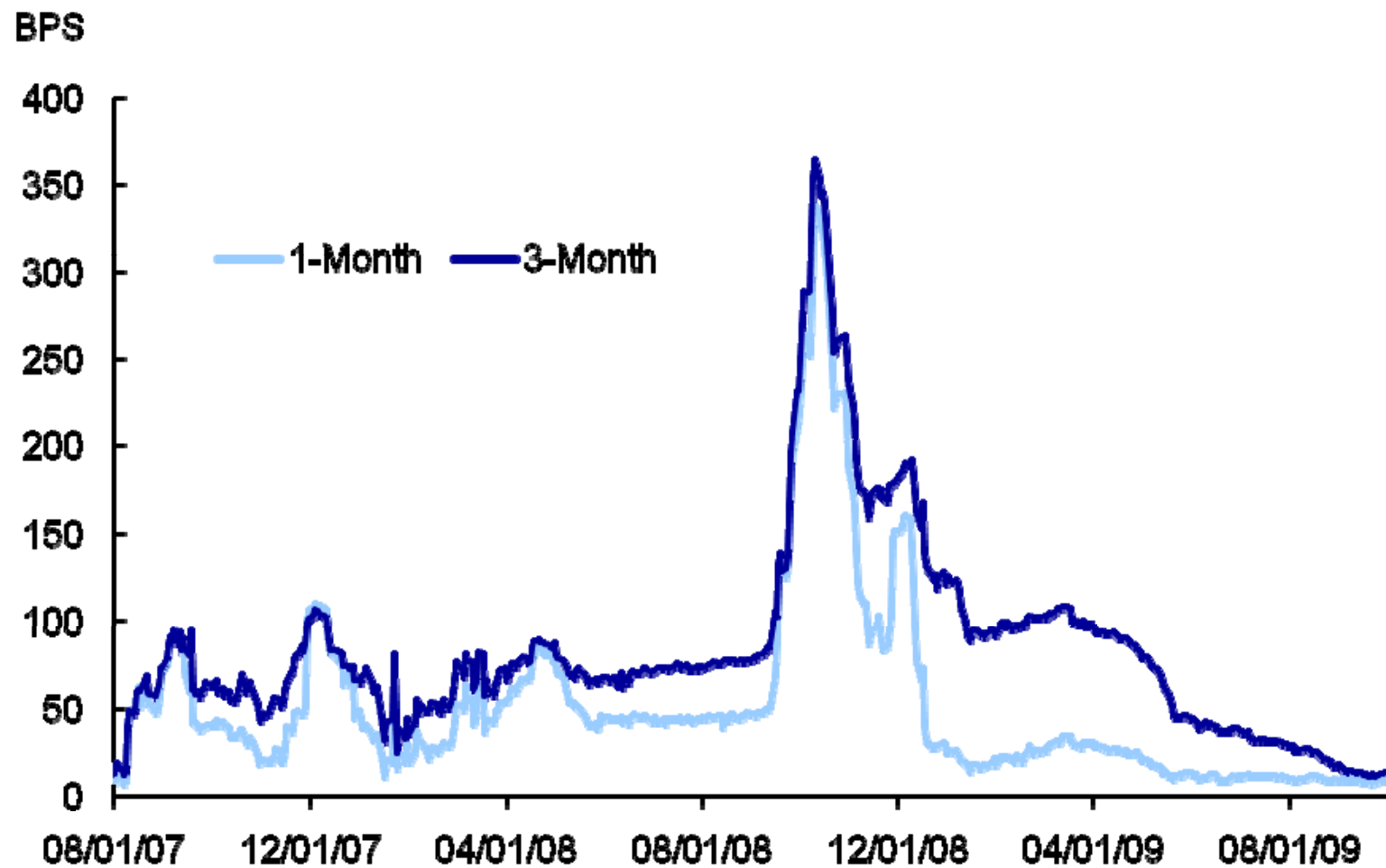


Strategic Issues

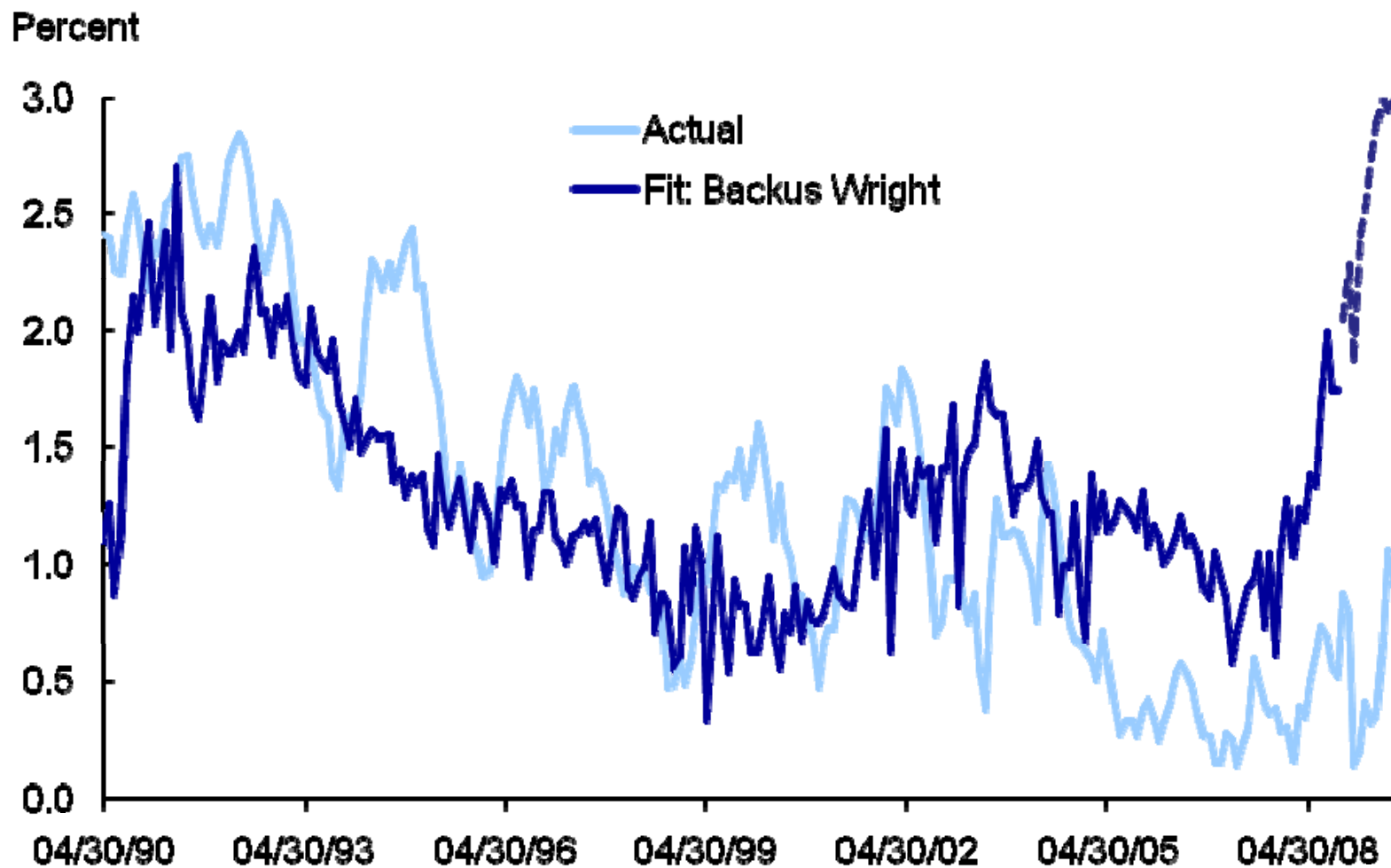
- How effective will IOER be?
- How to decide the amount of reserves to drain?
 - Timing relative to increases in IOER rate
 - What is mechanism through which draining helps?
 - Does it matter which counterparties we drain from?
- Will the FOMC also have to sell assets?

Reference Slides

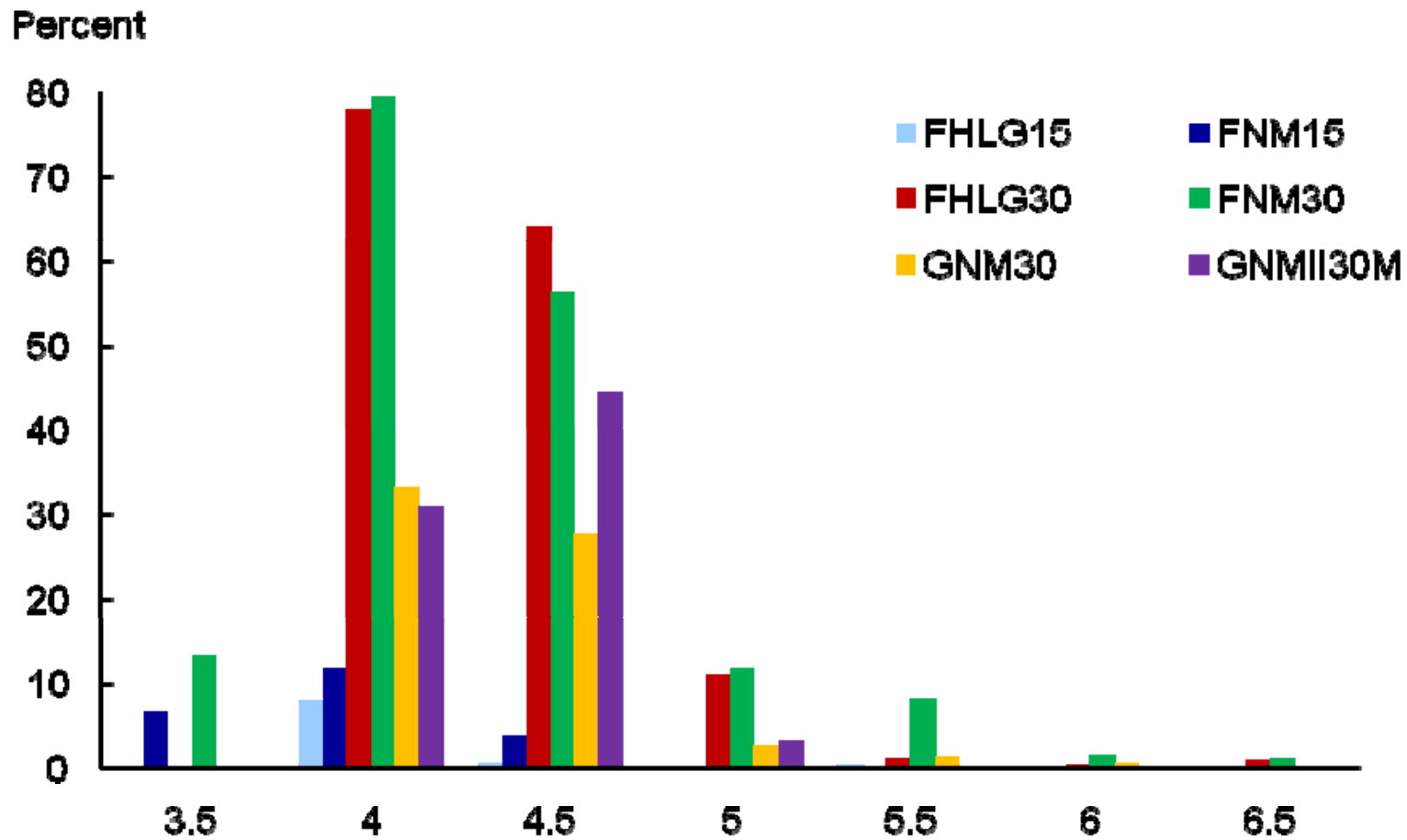
US Dollar Libor-OIS Spreads



Treasury Yield



MBS Ownership



Economic Advisory Panel Meeting October 16, 2009

Agenda:

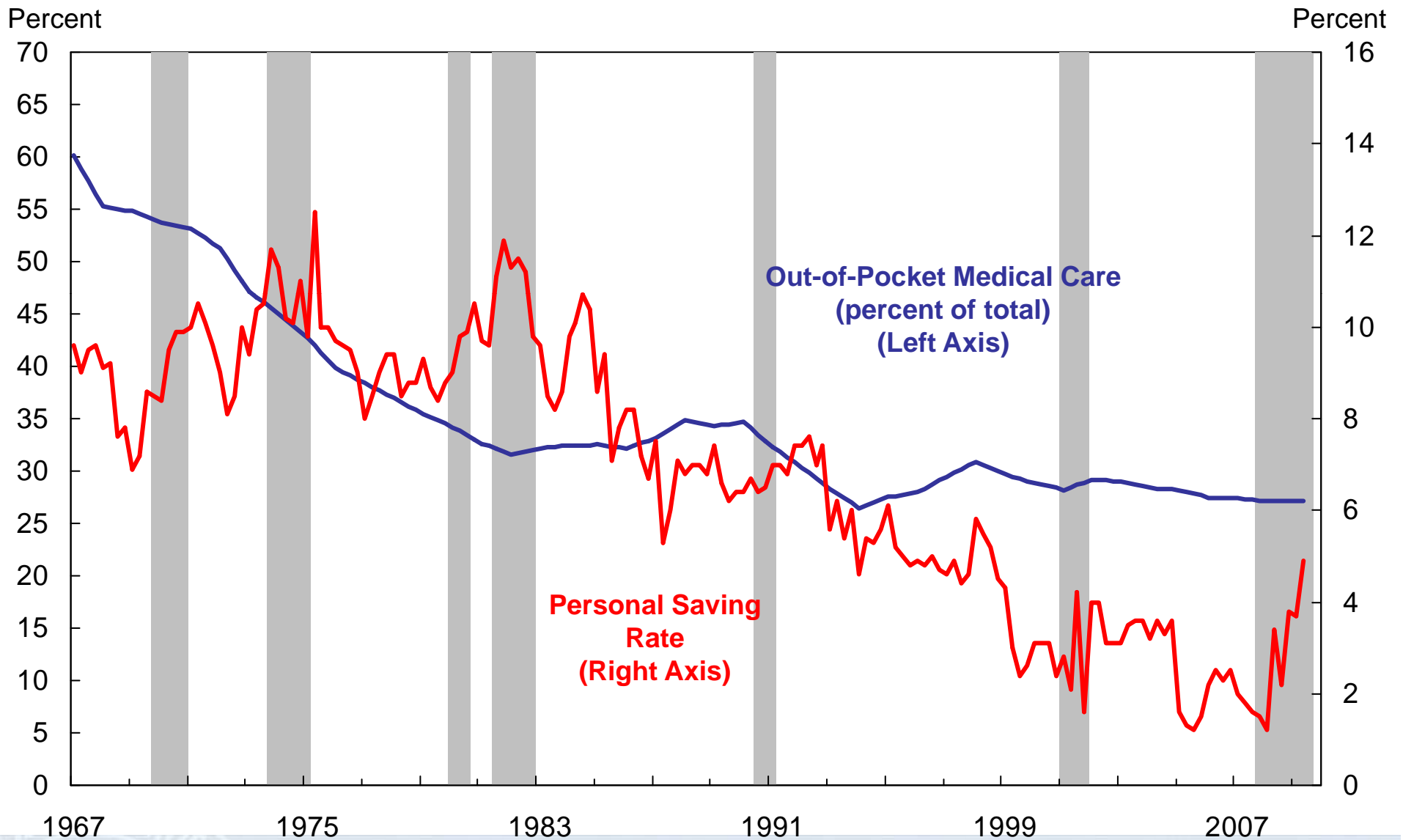
Overview of Forecast and Risks
(Dick Peach and Simon Potter)

Exit Strategy and Tools
(Brian Sack)

Go-round on Economic Policy



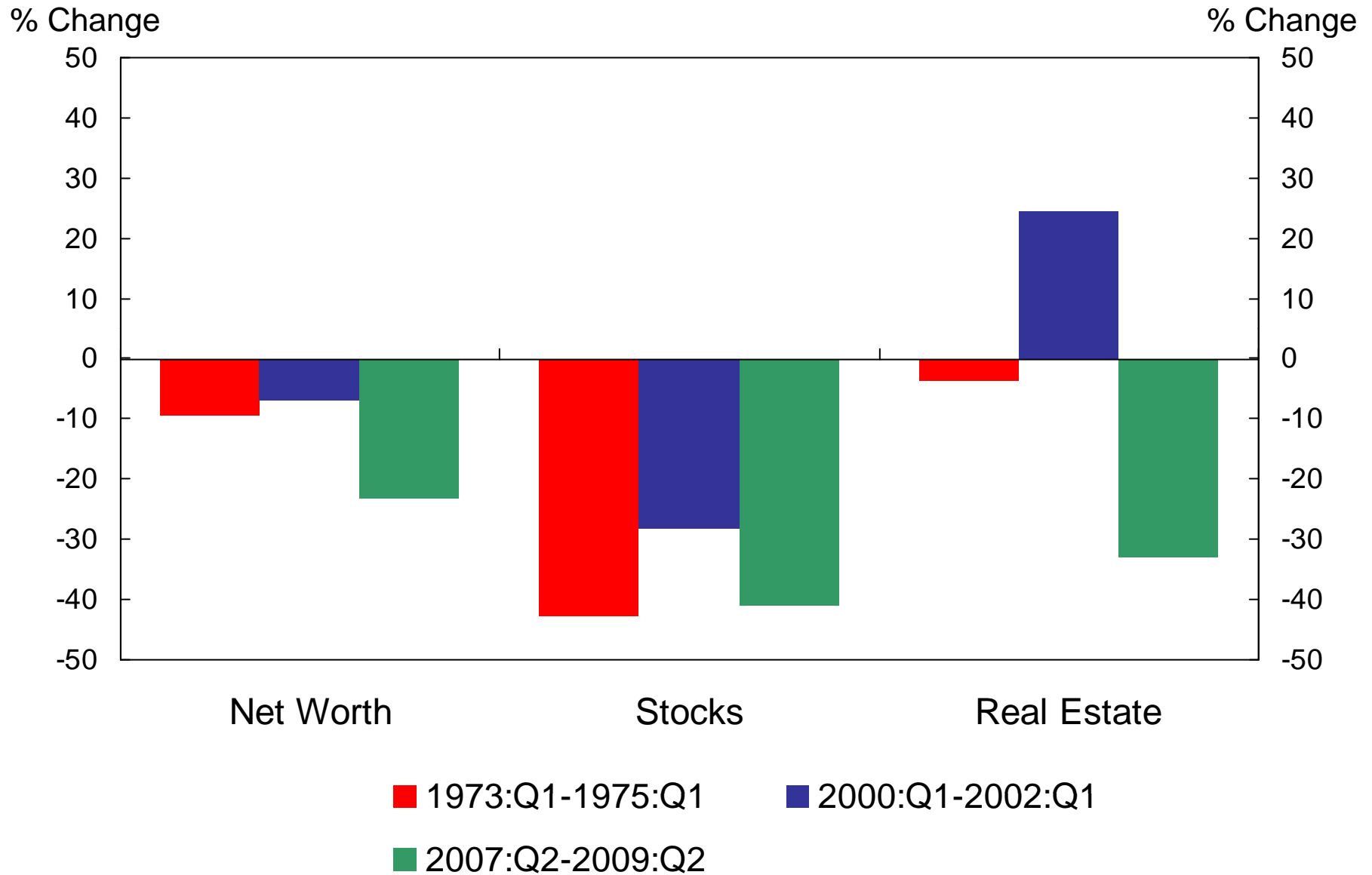
Personal Saving Rate Versus Out-of-Pocket Medical Care Spending



Source: Bureau of Economic Analysis, FRBNY calculations

Note: Shading represents NBER recessions.

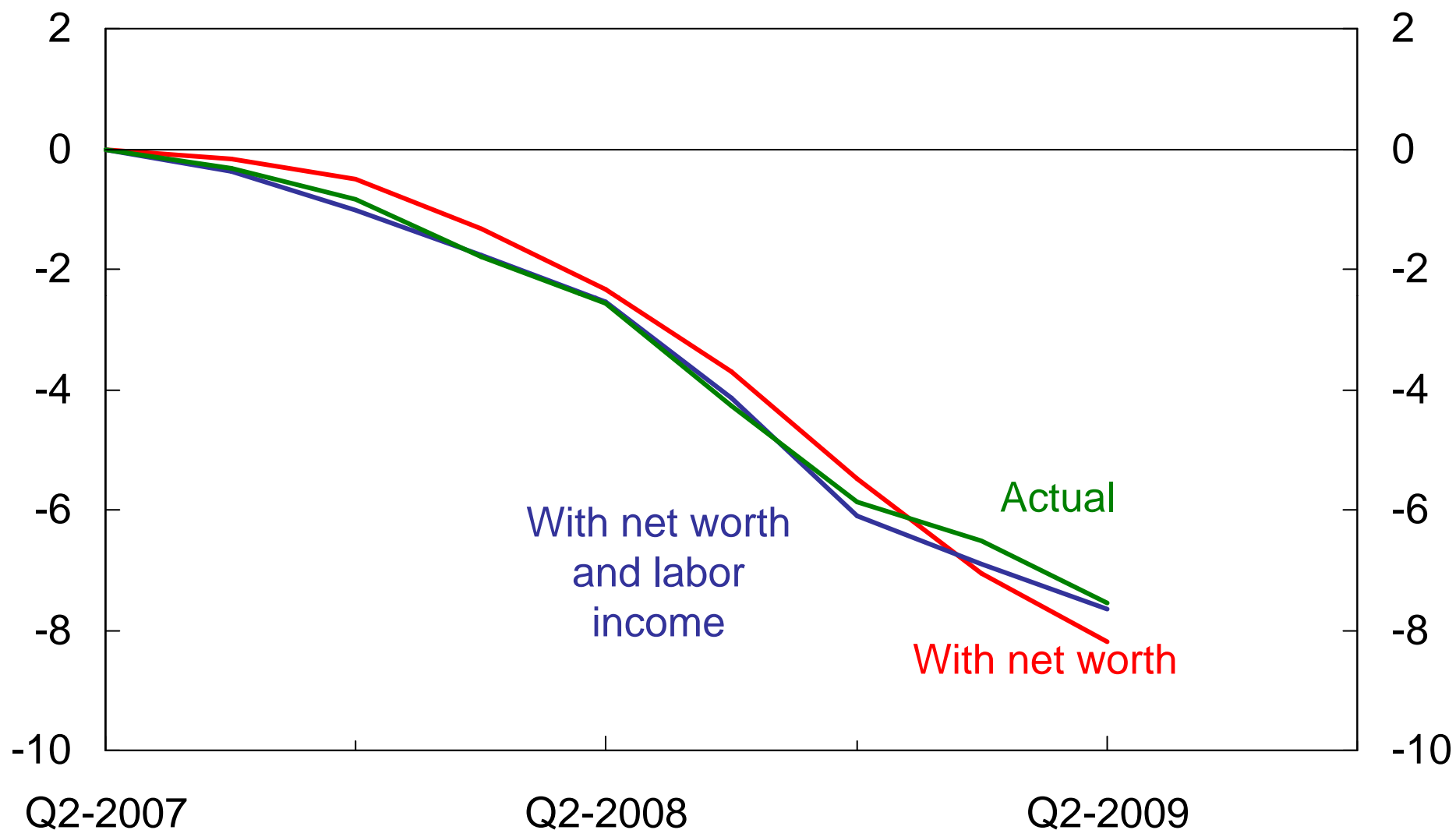
Comparing Episodes of Large Wealth Declines



Predicting Path of Consumption: Current Episode

Percent Deviation from Trend

Percent Deviation from Trend

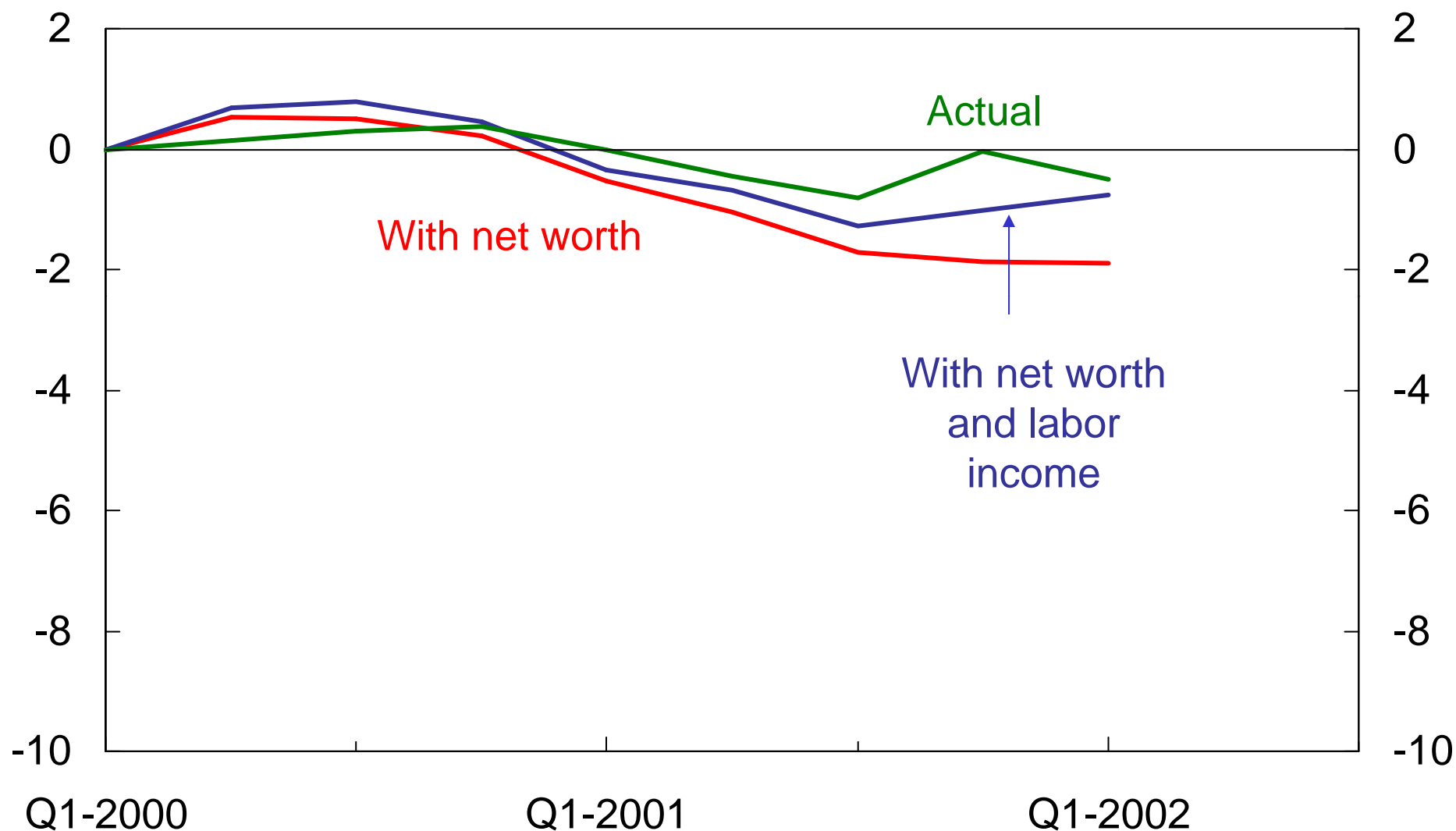


Note: Shading represents NBER recession.

Predicting Path of Consumption: 2000 Episode

Percent Deviation from Trend

Percent Deviation from Trend

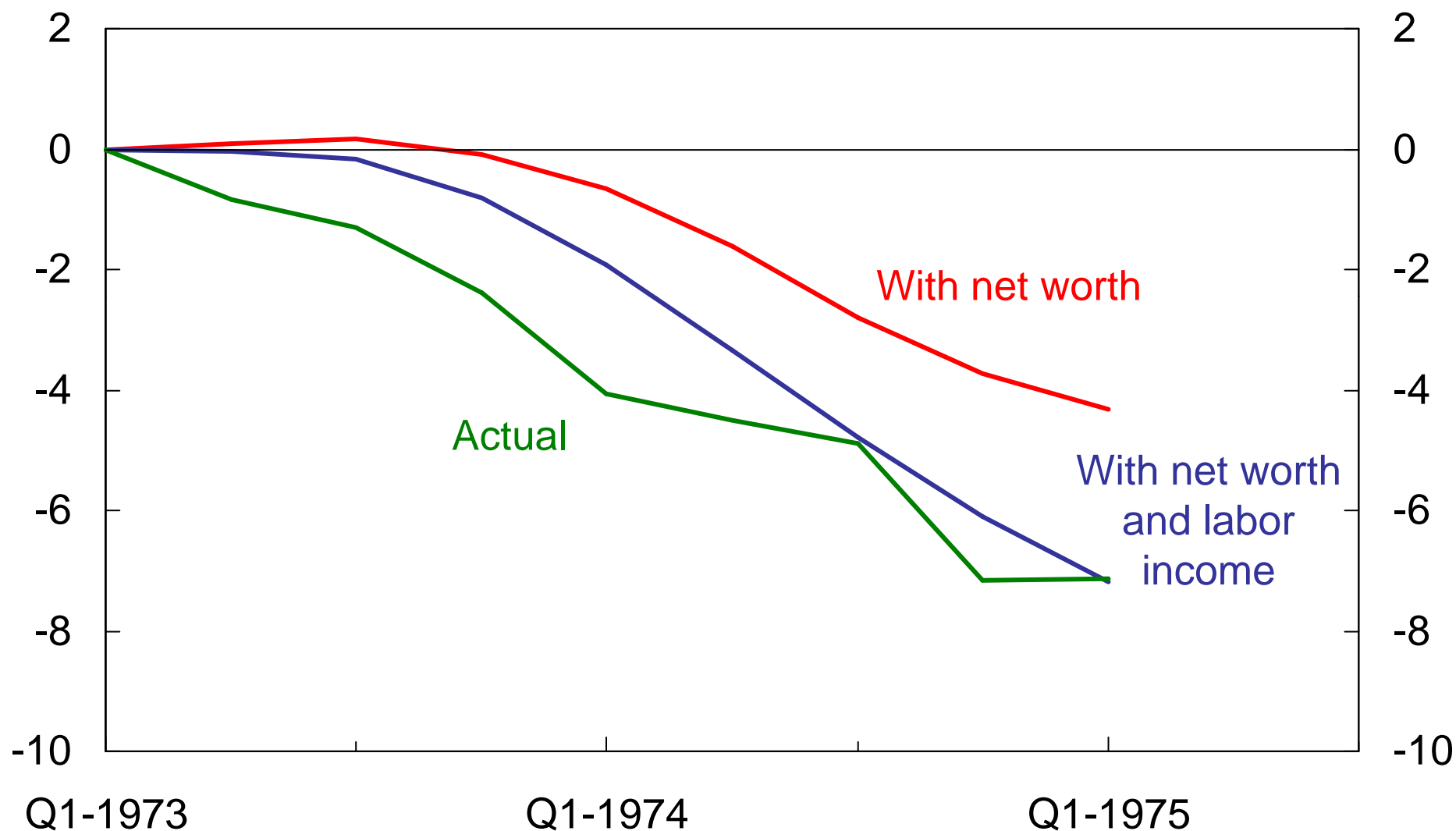


Note: Shading represents NBER recession.

Predicting Path of Consumption: 1973 Episode

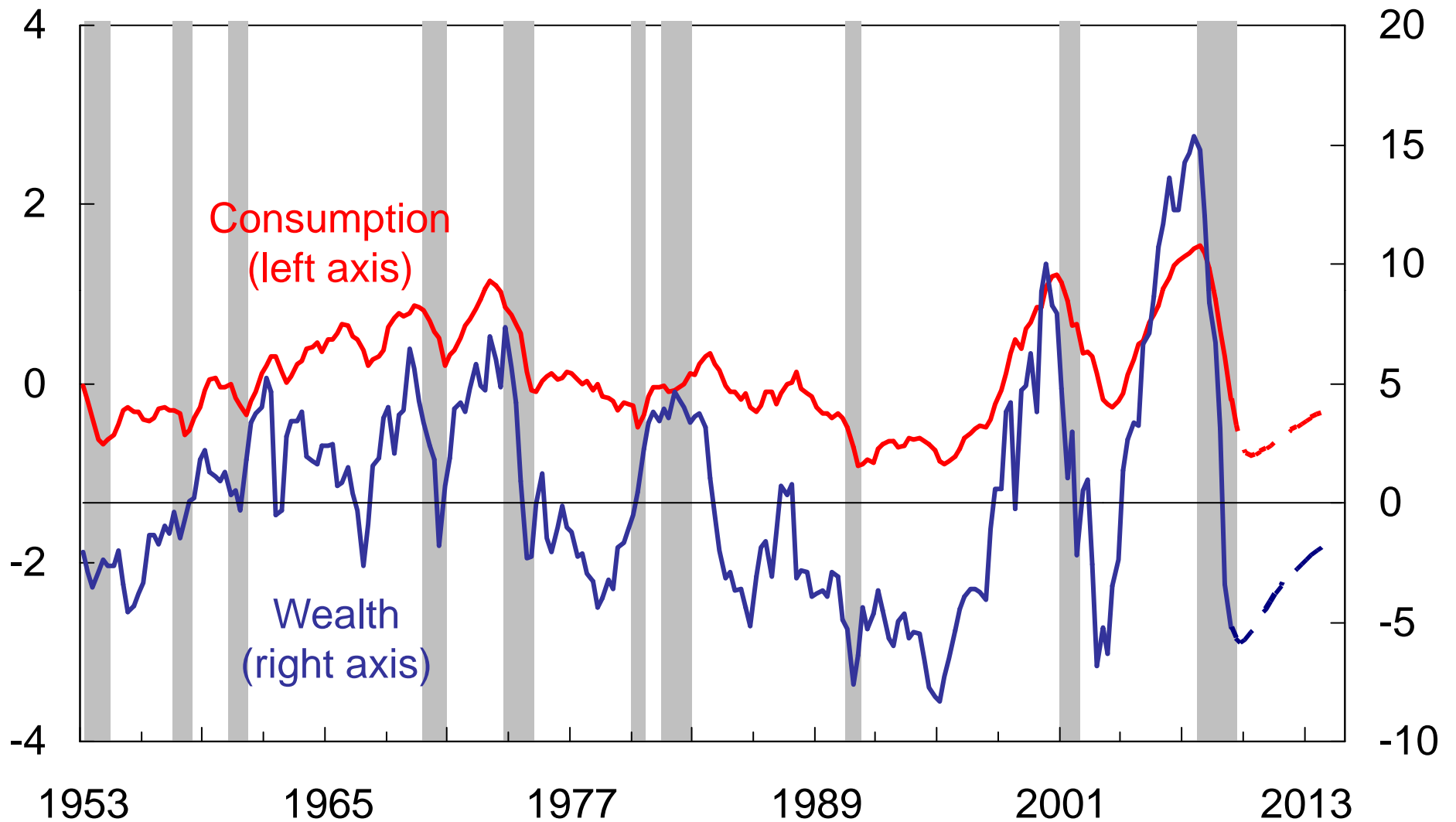
Percent Deviation from Trend

Percent Deviation from Trend



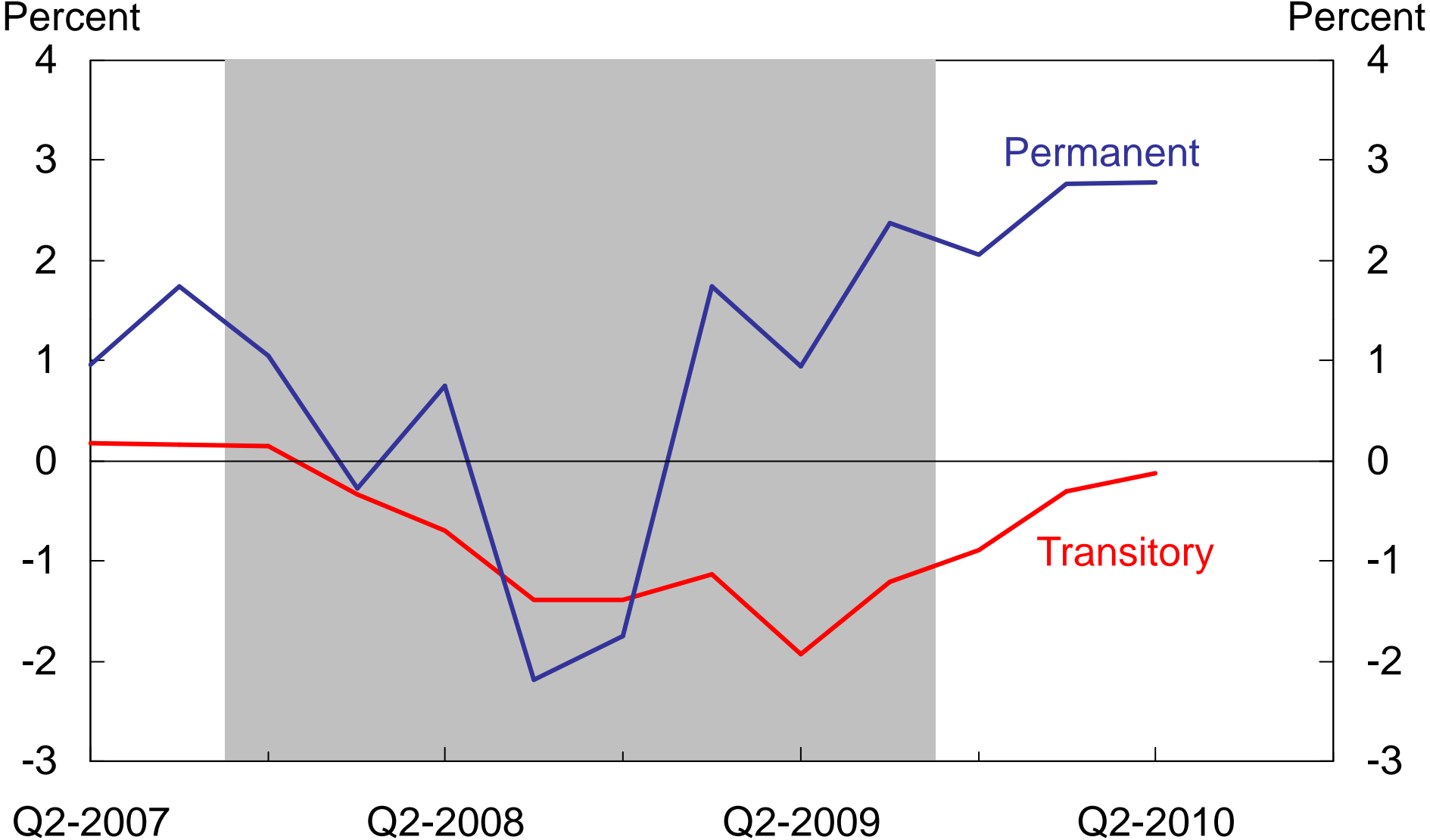
Note: Shading represents NBER recession.

Level of Transitory Component in Consumption and Wealth



Note: Shading represents NBER recession.
Dashed lines represent forecast.

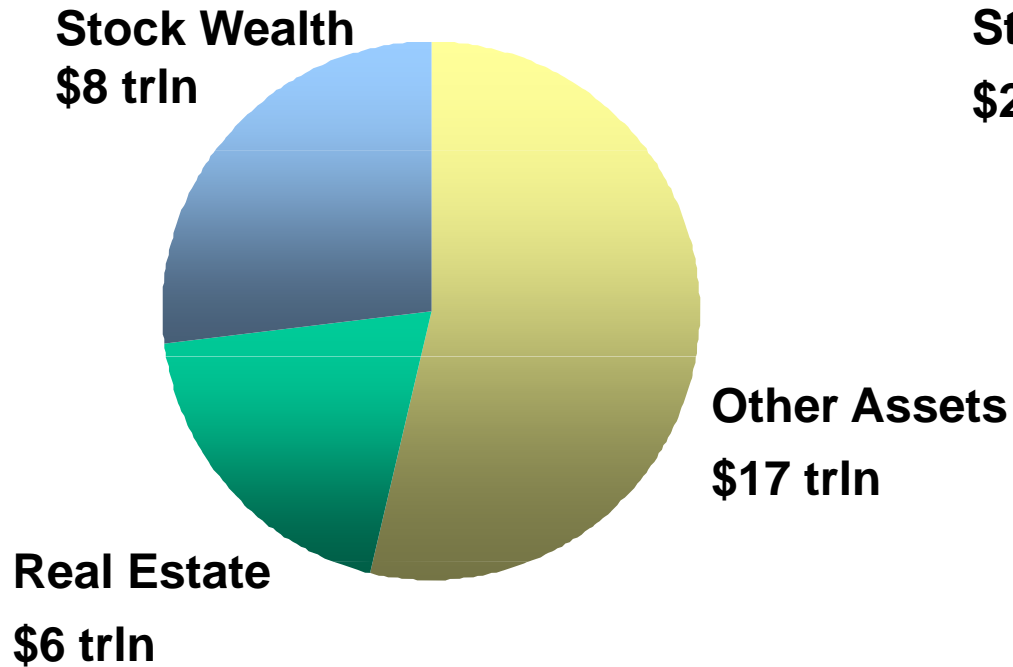
Transitory and Permanent Components of Consumption Growth



Note: Shading represents NBER recession.

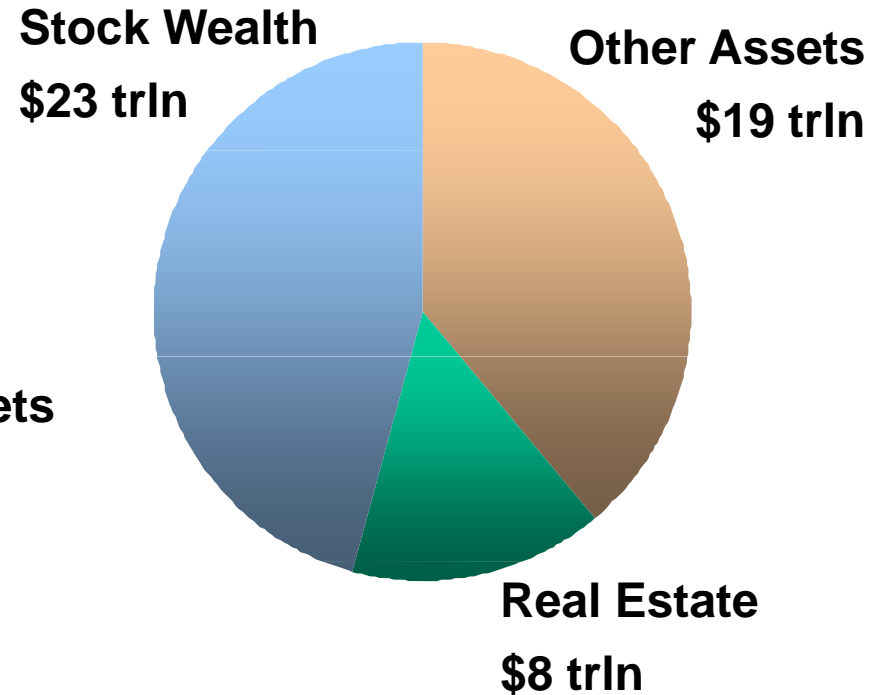
Breakdown of household assets

1995:Q1



**Net Worth excl. durables
= \$31 trillion**

2000:Q1

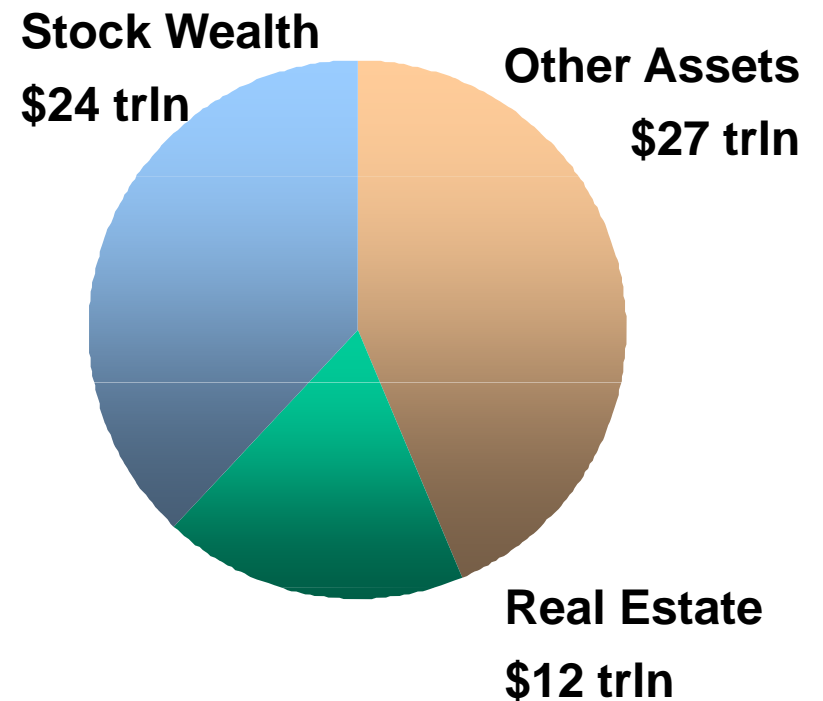
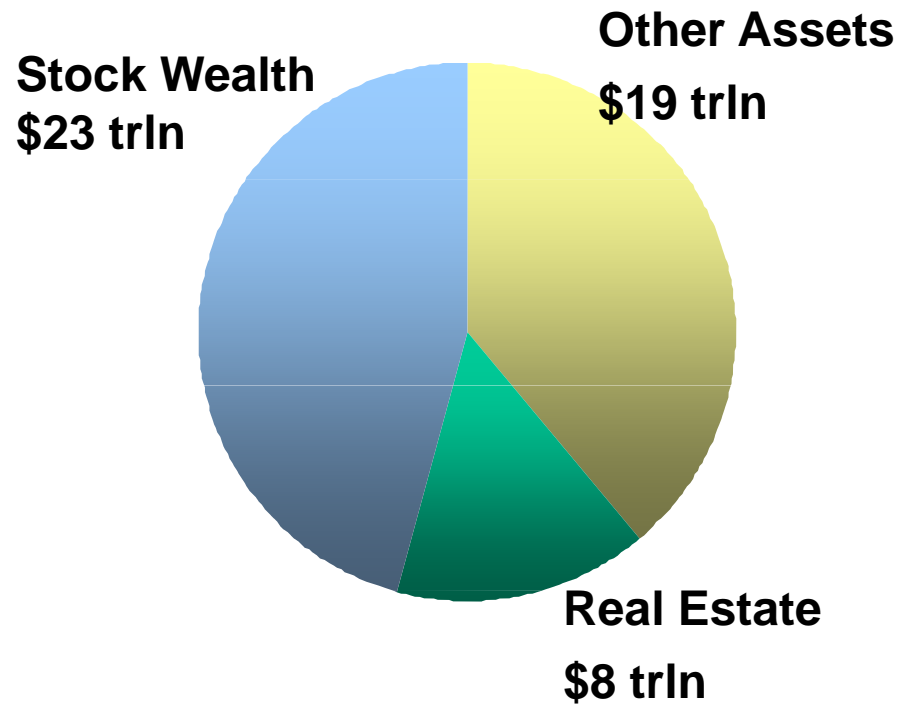


**Net Worth excl. durables
= \$50 trillion**

Breakdown of household assets

2000:Q1

2007:Q2

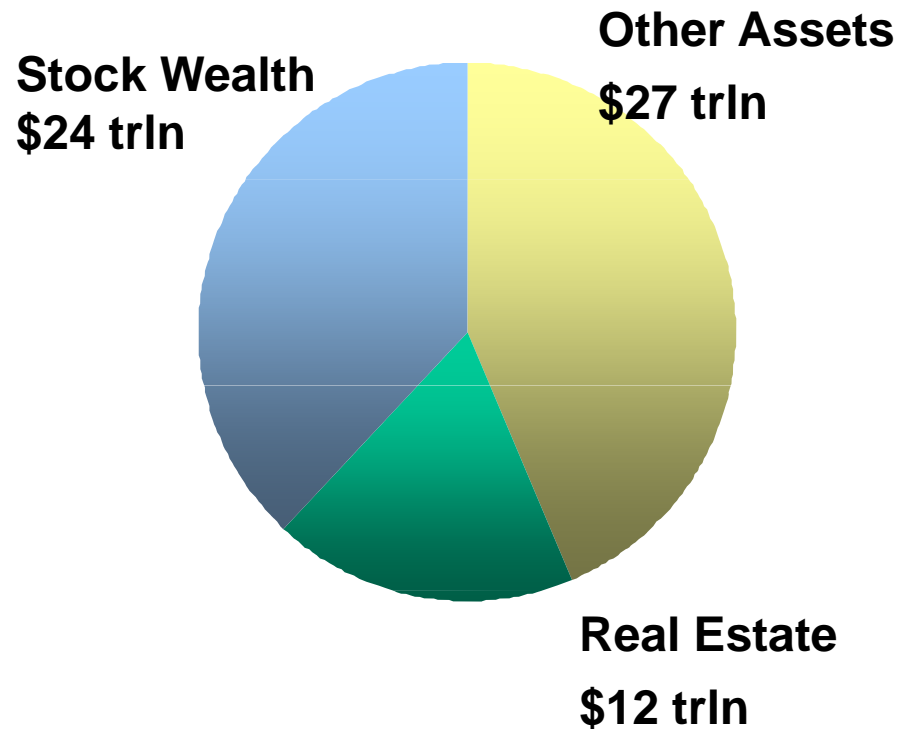


**Net Worth excl. durables
= \$50 trillion**

**Net Worth excl. durables
= \$63 trillion**

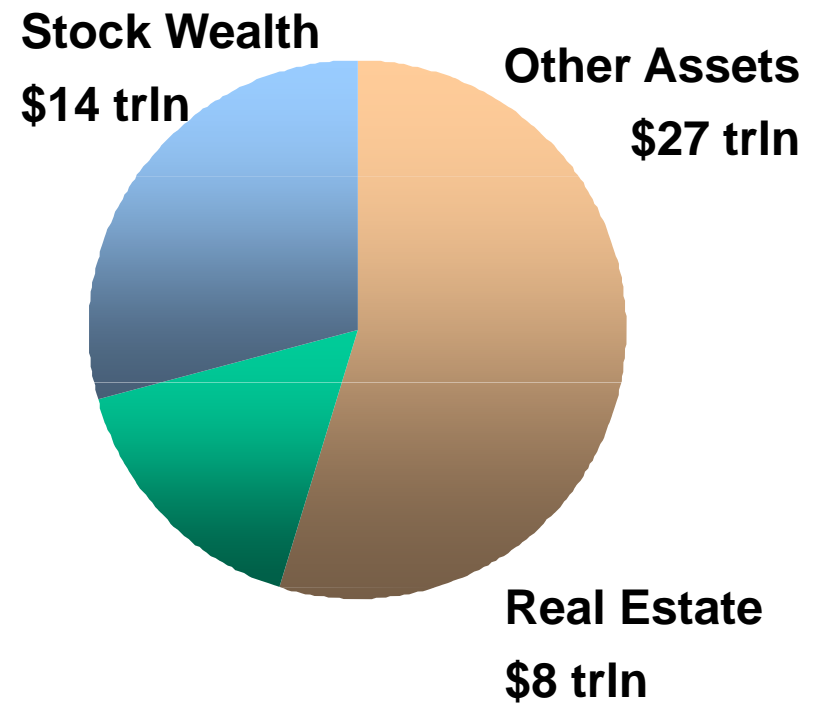
Breakdown of household assets

2007:Q2



**Net Worth excl. durables
= \$63 trillion**

2009:Q2



**Net Worth excl. durables
= \$49 trillion**

Percent of Debt 60+ Days Delinquent By Credit Score Quintile

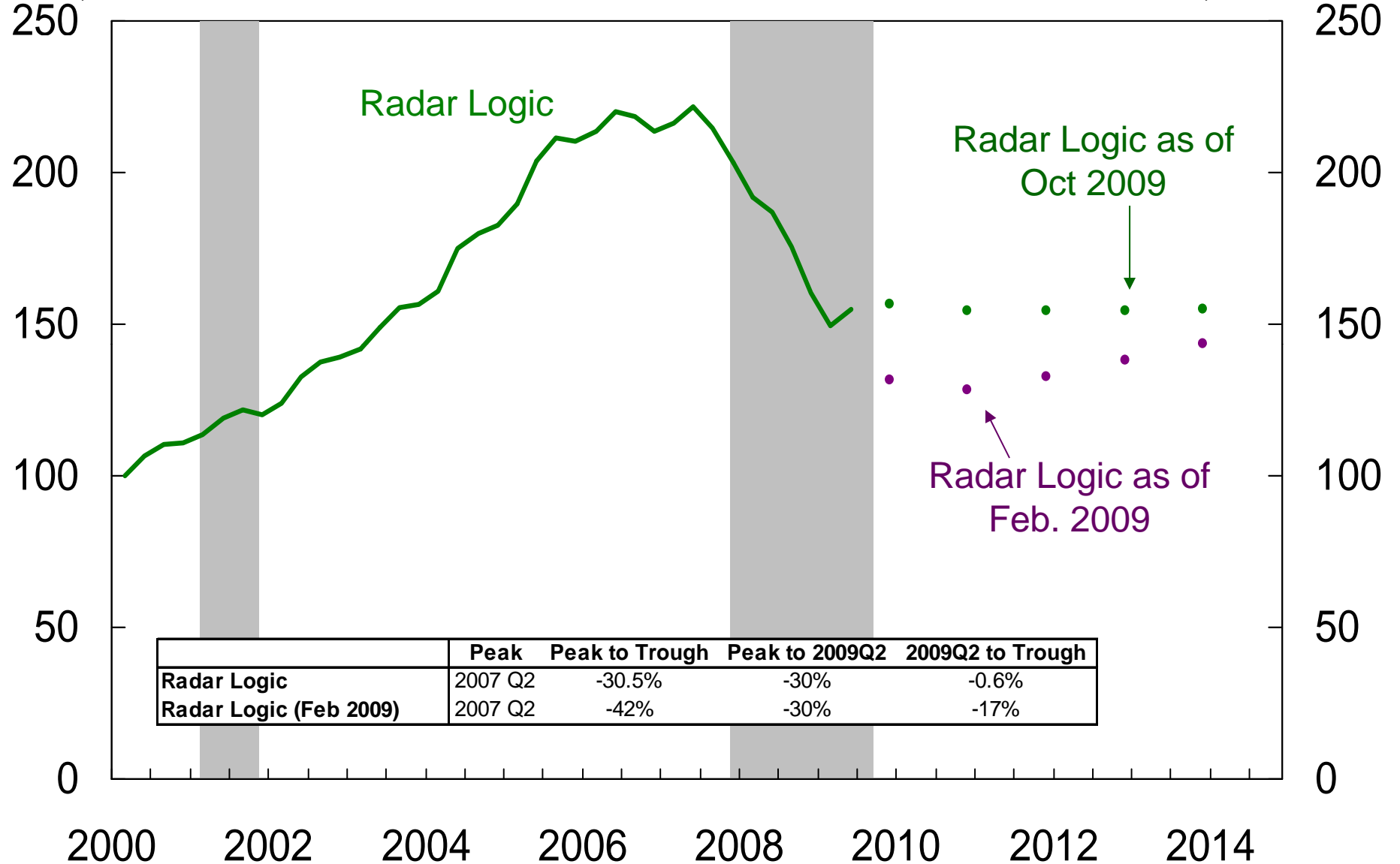
		<u>2005-Q1</u>	<u>2008-Q2</u>	<u>2009-Q2</u>
Highest	1	0.0%	0.6%	1.4%
	2	0.0%	1.4%	3.7%
	3	0.0%	4.6%	8.8%
	4	1.6%	10.7%	16.0%
Lowest	5	22.8%	19.9%	25.0%
Total		2.6%	5.6%	8.9%

Source: FRBNY Equifax Panel Dataset

Actual and Projected House Price Indices

Index, 2000 = 100

Index, 2000 = 100

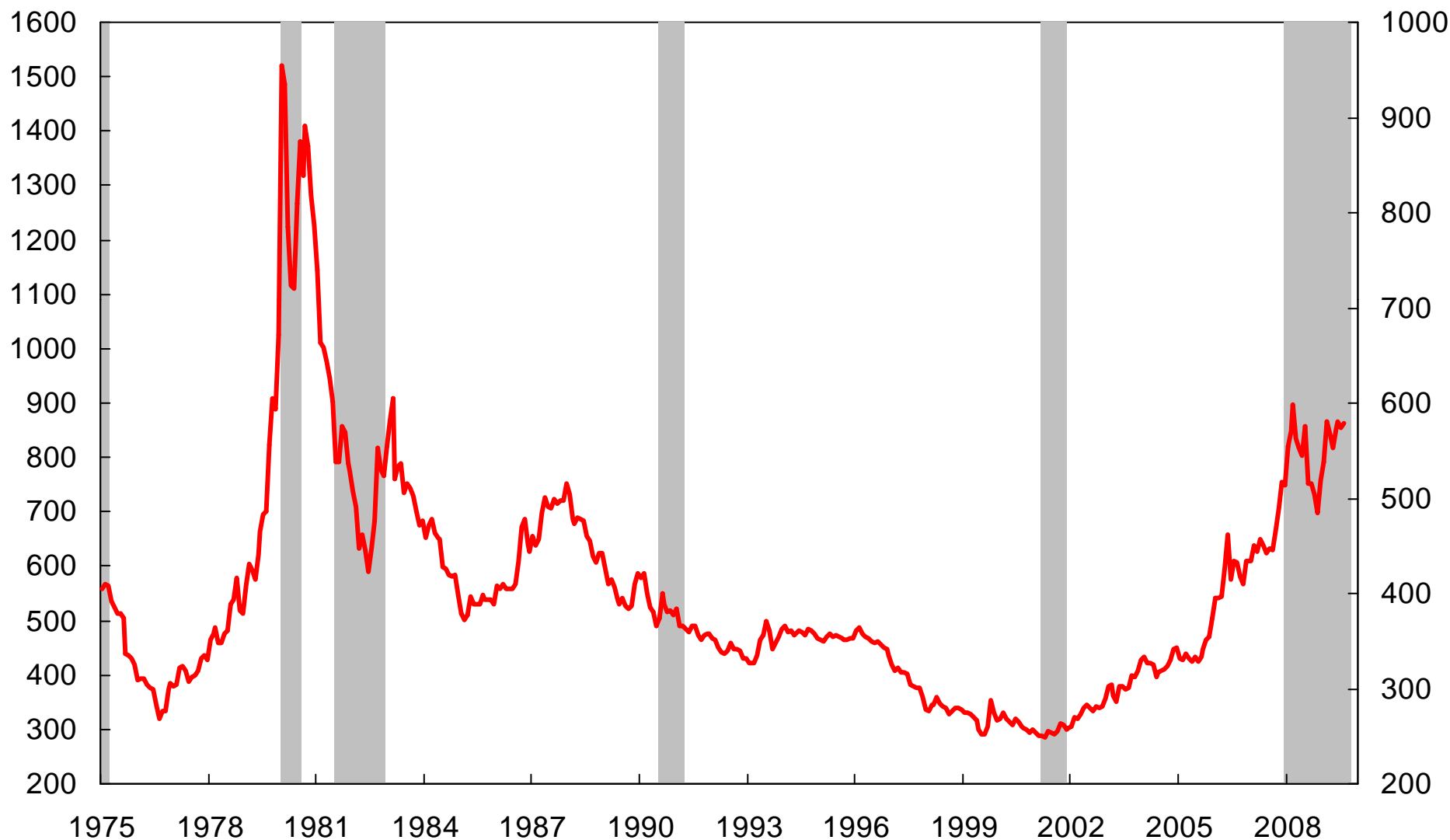


Source: Bloomberg, FHFA, S&P, Radar Logic

Real Price of Gold

\$ per Troy oz./PCE Deflator

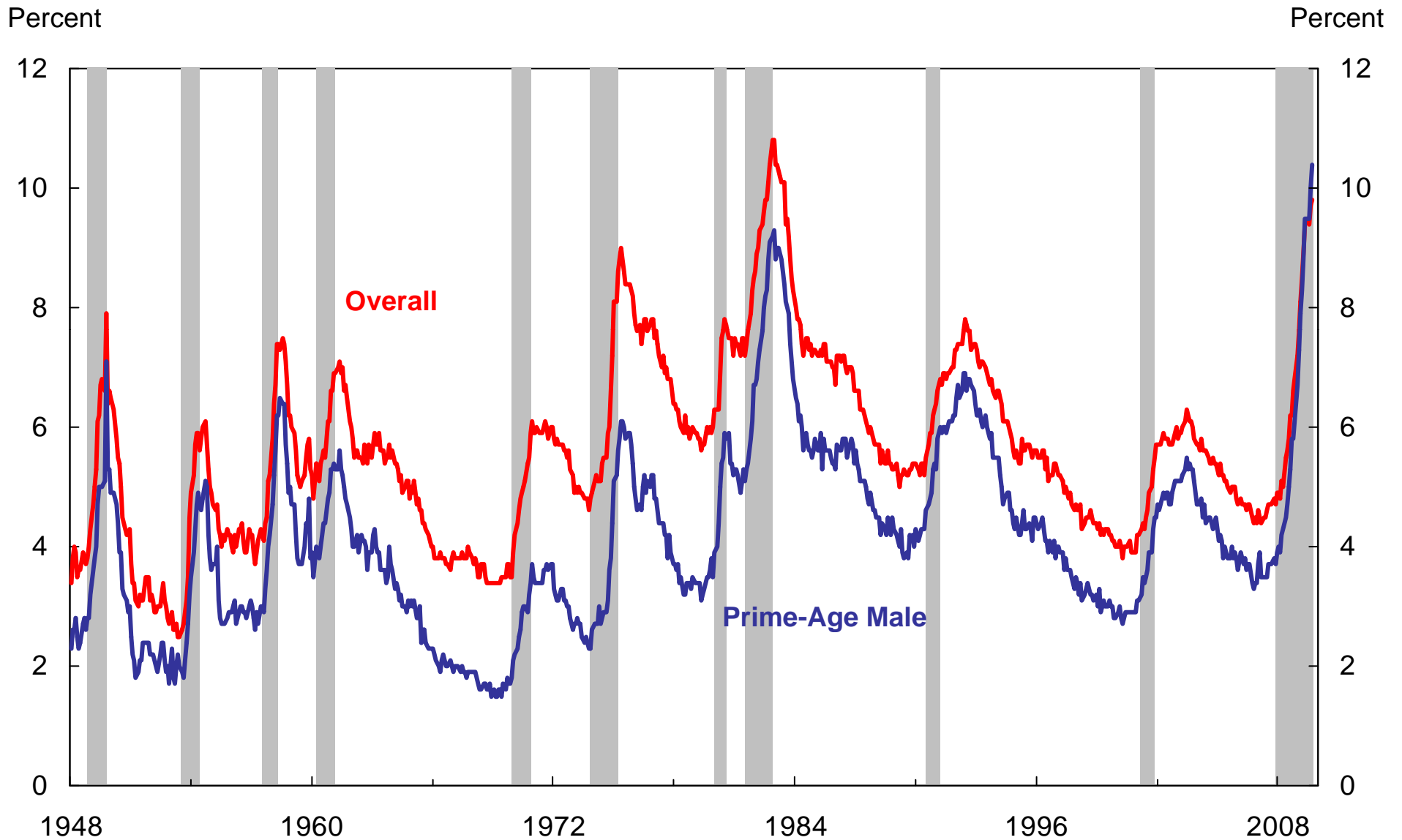
\$ per Troy oz./PCE Deflator



Source: Wall Street Journal

Note: Shading represents NBER recessions.

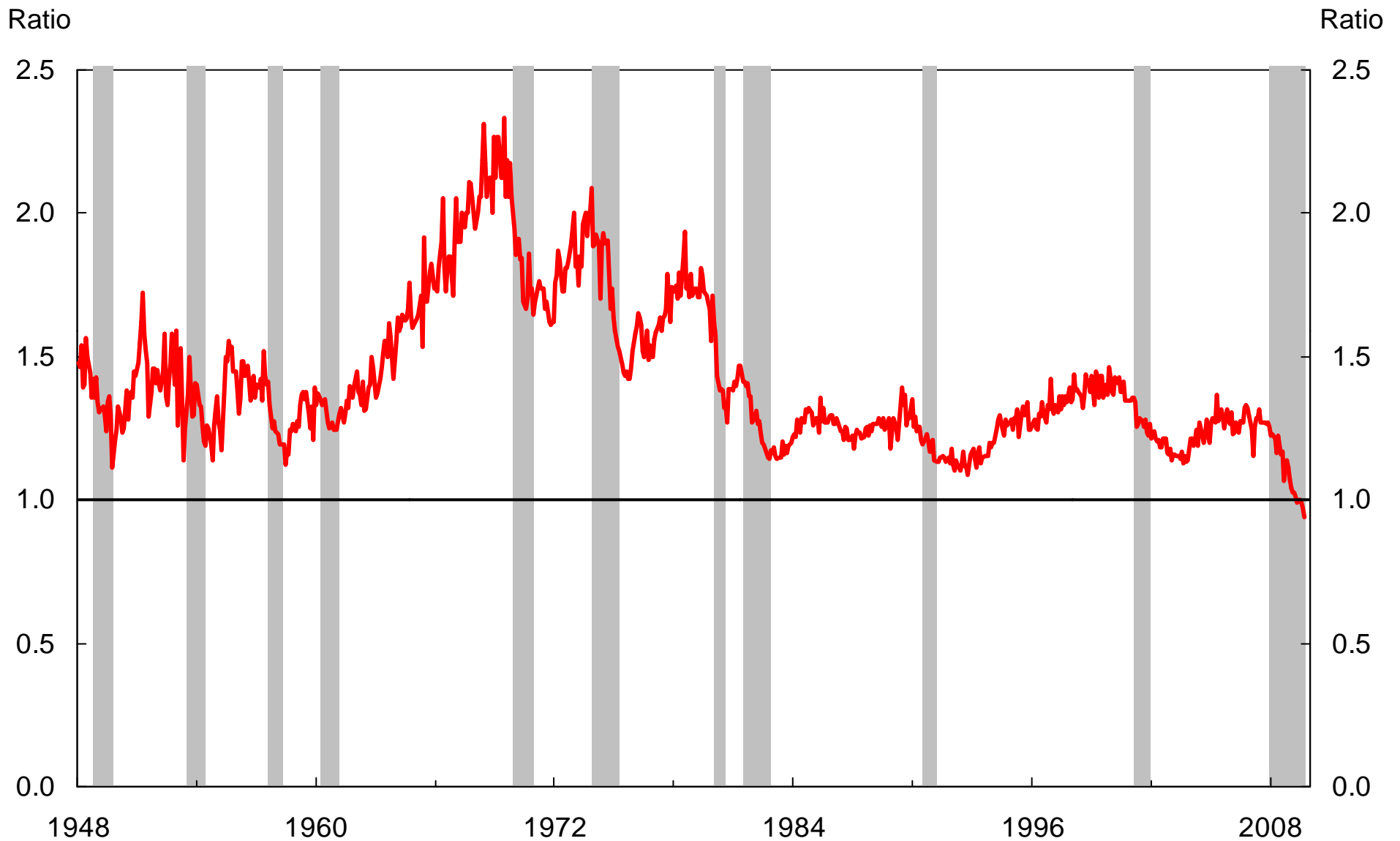
Overall and Prime-Age Male Unemployment Rates



Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions.

Ratio of Overall to Prime-Age Male Unemployment Rates



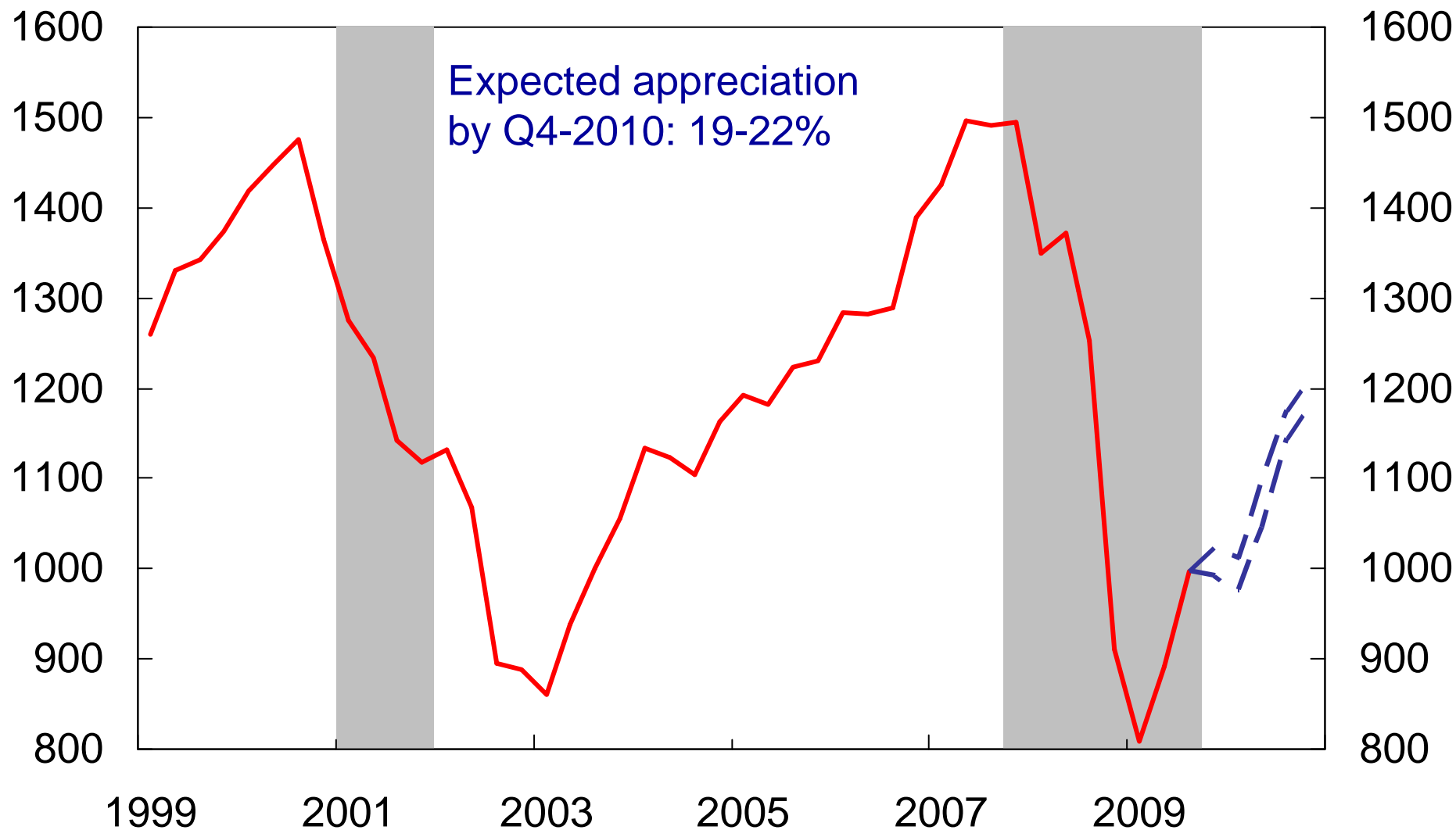
Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions.

S&P 500

Index

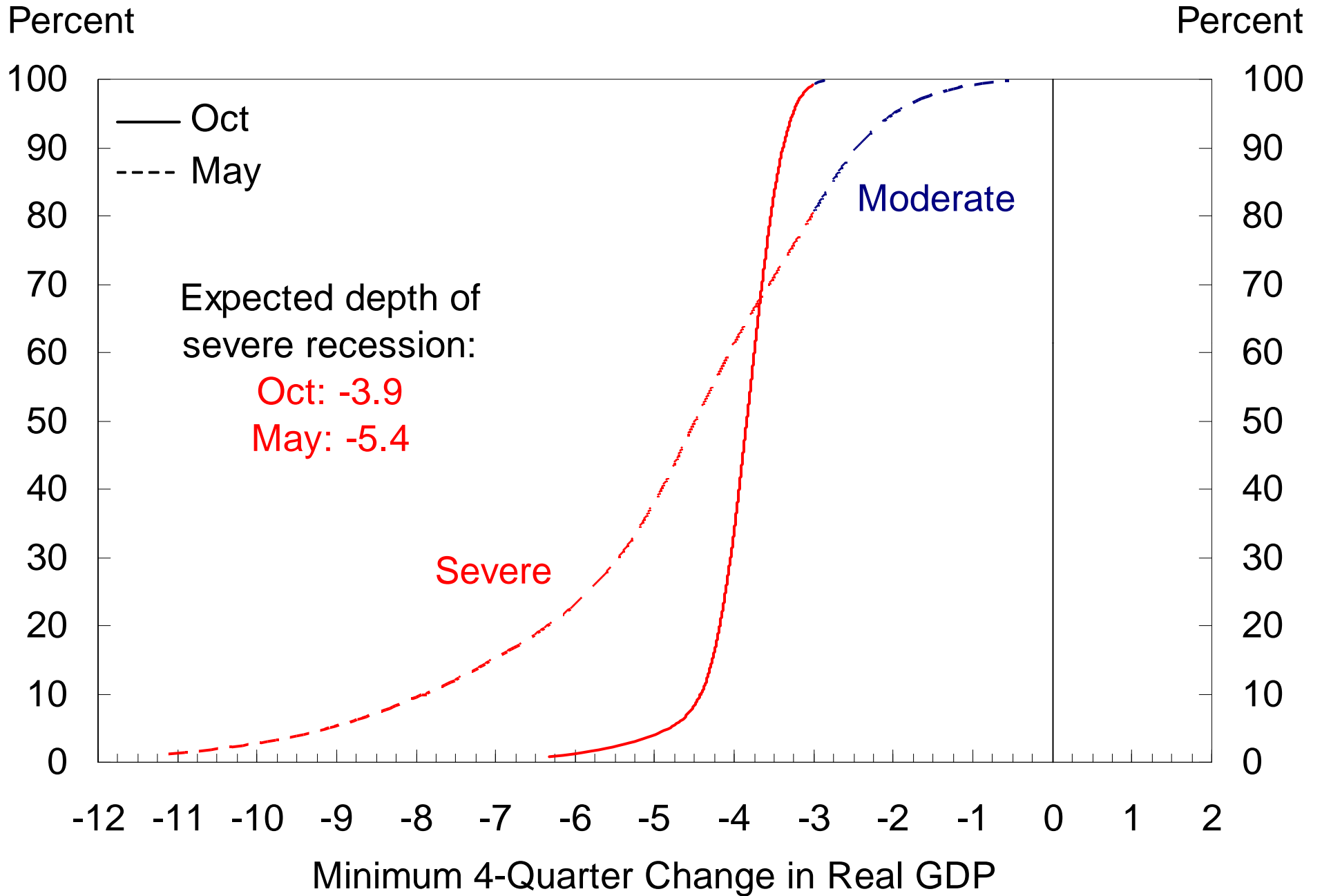
Index



Source: Wall Street Journal,
FRBNY calculations

Note: Shading represents NBER recessions
Dashed blue line represents forecast.

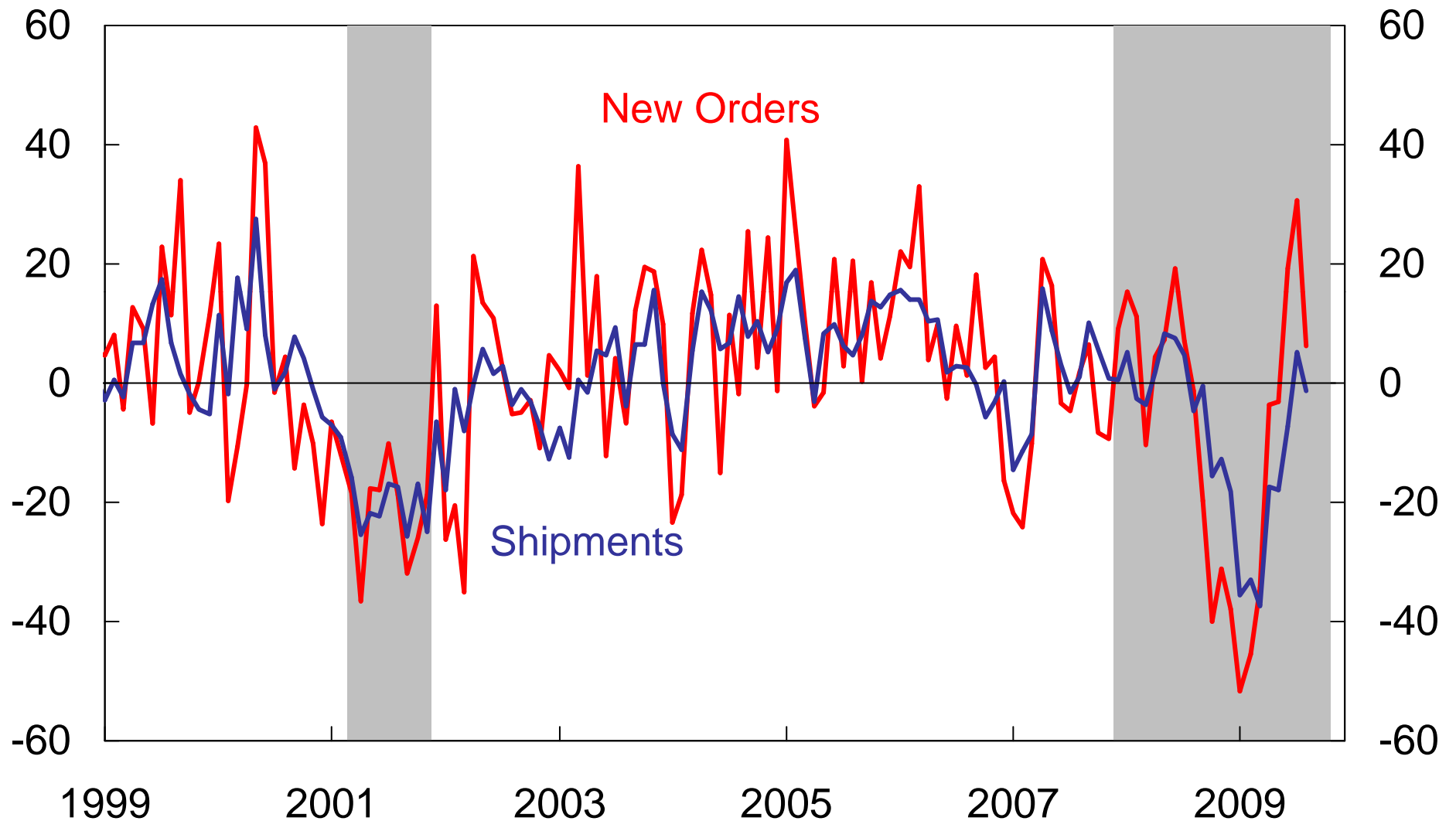
Depth of Recession



Nondefense Capital Goods Excluding Aircraft

% Change - 3 months (AR)

% Change - 3 months (AR)



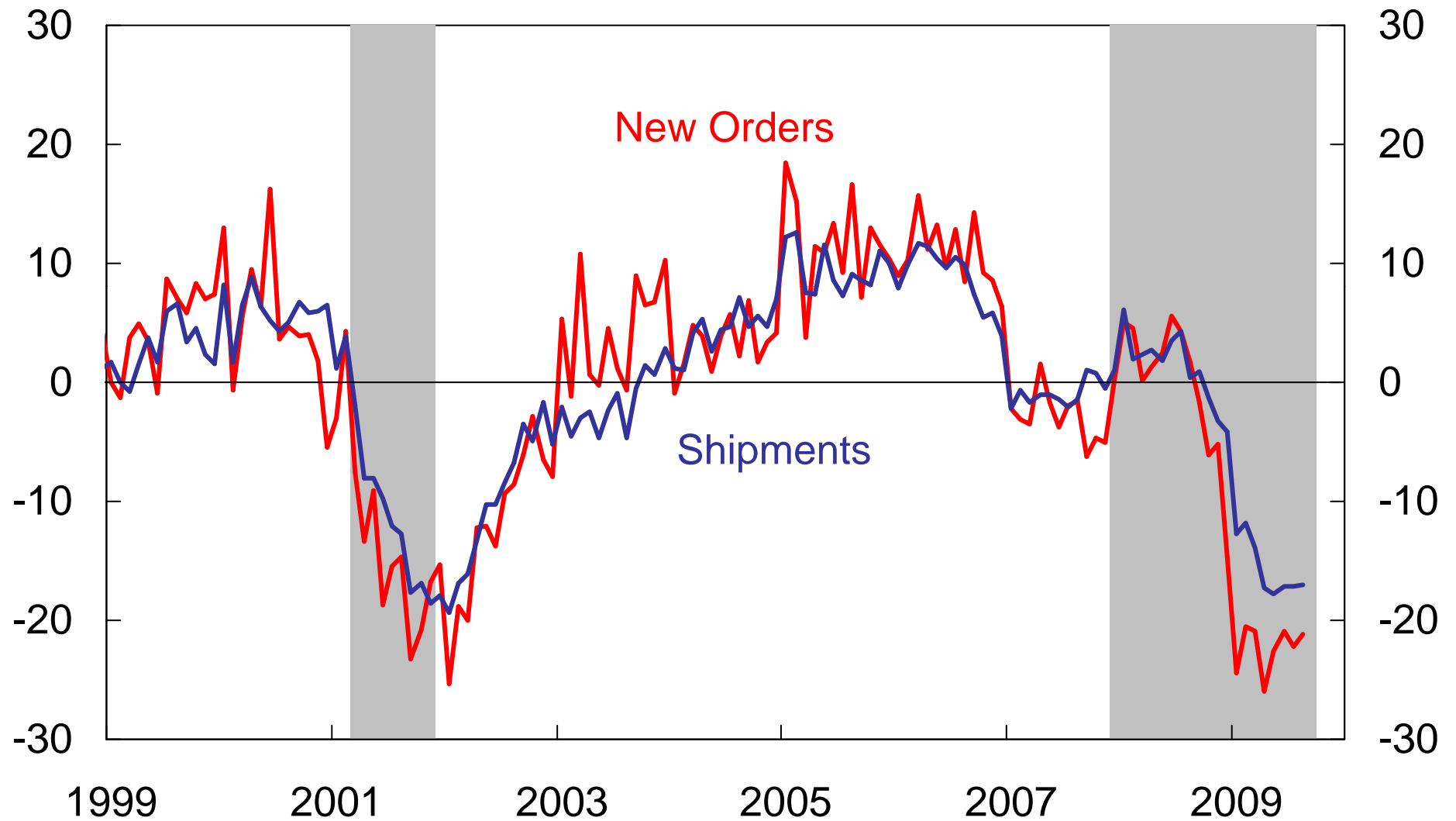
Source: Census Bureau



Nondefense Capital Goods Excluding Aircraft

% Change - Year to Year

% Change - Year to Year



Source: Census Bureau



Manufacturers' New Orders

(current dollars)

(percent change at annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-9.0	-20.4	2.6	6.2	-9.1
Durable Goods	-13.4	-20.4	2.9	3.7	-27.0
Primary Metals	-16.5	-35.6	15.4	95.4	26.4
Fabricated Metals	-8.4	-15.5	4.4	19.7	8.6
Machinery	-13.9	-29.3	-6.6	-11.2	5.8
Computers and Electronic Products	-5.8	-8.5	4.7	8.2	-12.4
Computers	-5.8	-8.5	4.7	8.2	-12.4
Nondefense Communications	-6.3	-15.7	52.9	62.7	-23.7
Electrical Equipment	-11.9	-20.4	0.7	13.5	-26.3
Transportation Equipment	-21.8	-23.8	6.2	-20.7	-68.3
Motor Vehicle Bodies, Parts, and Trailers	-15.2	-11.5	-1.8	14.1	26.3
Nondefense Aircrafts and Parts	-32.4	-34.1	81.0	-60.9	-99.9
Furniture	-13.5	-23.7	-15.5	-9.2	-5.4
Nondurable Goods	-4.7	-20.4	2.3	8.5	10.3
Topical Series					
Construction Materials and Supplies	-8.1	-14.0	-1.8	13.0	7.6
Information Technology Equipment	-5.6	-9.2	3.0	8.7	-6.9
Capital Goods	-12.2	-20.6	5.4	-16.0	-54.3
Nondefense Capital Goods	-13.6	-23.7	6.0	-5.0	-61.2
Nondefense Capital Goods Ex. Aircraft	-10.5	-21.1	1.5	6.2	-10.6
Defense Capital Goods	-3.2	0.9	2.4	-53.6	12.1
Consumer Goods	-7.1	-21.8	3.2	9.4	5.6
Durable Consumer Goods	-22.2	-24.6	-11.7	3.1	-28.6
Nondurable Consumer Goods	-3.5	-21.3	6.1	10.6	13.2

Source: Census Bureau

Note: Data through August 2009.



Manufacturers' Shipments

(current dollars)

(percent change at annual rate)

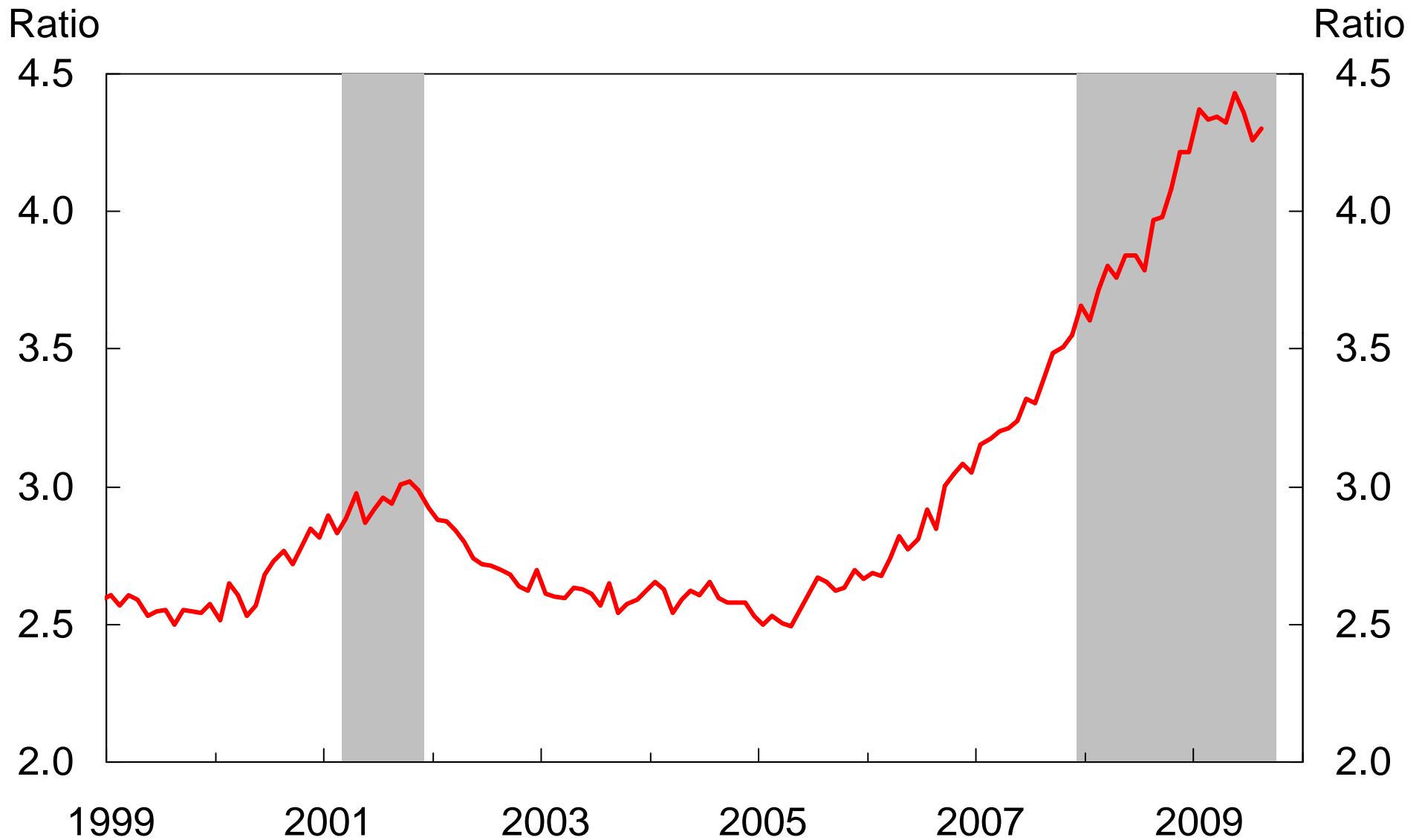
	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-7.8	-19.2	-2.4	7.7	-3.0
Durable Goods	-10.9	-17.8	-7.2	6.8	-15.7
Primary Metals	-18.3	-42.3	-11.3	49.2	20.6
Fabricated Metals	-7.2	-14.7	-8.8	11.2	1.3
Machinery	-11.2	-23.9	-19.5	-18.0	-18.1
Computers and Electronic Products	-4.4	-6.3	10.6	25.3	-26.2
Computers	-15.3	-17.4	-23.8	-23.2	-30.8
Nondefense Communications	-8.9	-10.4	19.5	57.4	-27.3
Electrical Equipment	-12.3	-22.2	-11.7	-4.0	-36.3
Transportation Equipment	-15.4	-15.1	-10.1	1.8	-20.9
Automobiles	-26.8	-34.6	-9.9	24.7	-46.2
Light Trucks	-37.1	-37.3	-33.7	-23.8	11.7
Heavy Trucks	-12.6	-7.5	2.3	121.5	202.2
Nondefense Aircrafts and Parts	-12.9	-13.8	-21.9	-11.1	-54.6
Furniture	-14.1	-21.1	-13.2	-5.8	-17.5
Nondurable Goods	-4.7	-20.4	2.3	8.5	10.3
Topical Series					
Construction Materials and Supplies	-7.9	-14.2	-7.3	5.3	-8.1
Information Technology Equipment	-3.9	-6.7	1.7	17.9	-16.9
Capital Goods	-6.4	-12.8	-7.7	-0.5	-18.4
Nondefense Capital Goods	-9.4	-17.0	-10.6	-3.4	-26.3
Nondef. Capital Goods Ex. Aircrafts	-8.7	-17.0	-10.0	-1.3	-21.4
Defense Capital Goods	16.2	18.6	9.9	16.9	40.1
Consumer Goods	-7.2	-22.0	2.5	8.4	6.7
Durable Consumer Goods	-22.5	-25.8	-15.2	-3.0	-23.6
Nondurable Consumer Goods	-3.5	-21.3	6.1	10.6	13.2

Source: Census Bureau

Note: Data through August 2009.



Unfilled Orders/Shipments: Durable Goods



Source: Census Bureau



Auto Sales

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

	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3*
Sales					
Total	12.9	10.5	9.5	9.6	11.5
Retail Auto	6.7	5.4	4.8	4.9	6.4
Domestic	4.4	3.5	3.0	3.2	4.2
Imported	2.3	1.9	1.8	1.7	2.2
Light Truck	6.3	5.1	4.7	4.7	5.1
Domestic	5.2	4.2	3.6	3.8	4.1
Imported	1.1	1.0	1.1	0.9	1.0
Total Domestic	9.5	7.7	6.7	7.0	8.3
Domestic Auto Inventories (units)*	1040.7	1226.9	1037.2	917.5	777.5
Domestic Auto I-S Ratio (level)*	2.7	4.0	4.3	3.6	2.0
I P: Autos and Light Trucks (Index, 2002=100)*	79.6	67.1	42.6	41.7	57.3
Domestic Light Vehicle Production (units)	8.6	7.2	4.4	4.4	6.8
North American Light Vehicle Production (units)	12.4	10.8	6.7	6.9	9.8

*Based on data through August 2009.

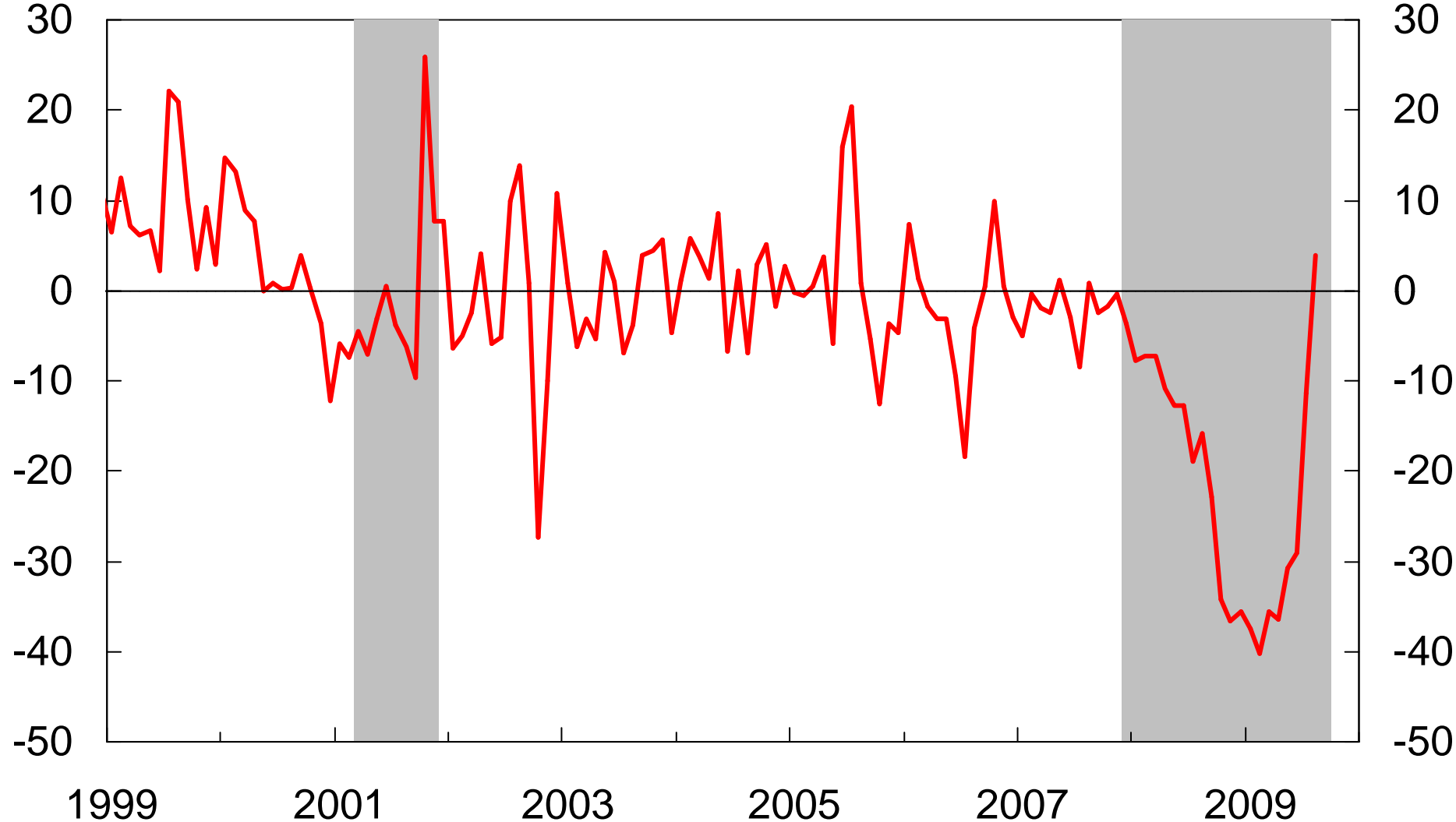
Source: Bureau of Economic Analysis, Autodata Corporation



Auto Sales

% Change - Year to Year

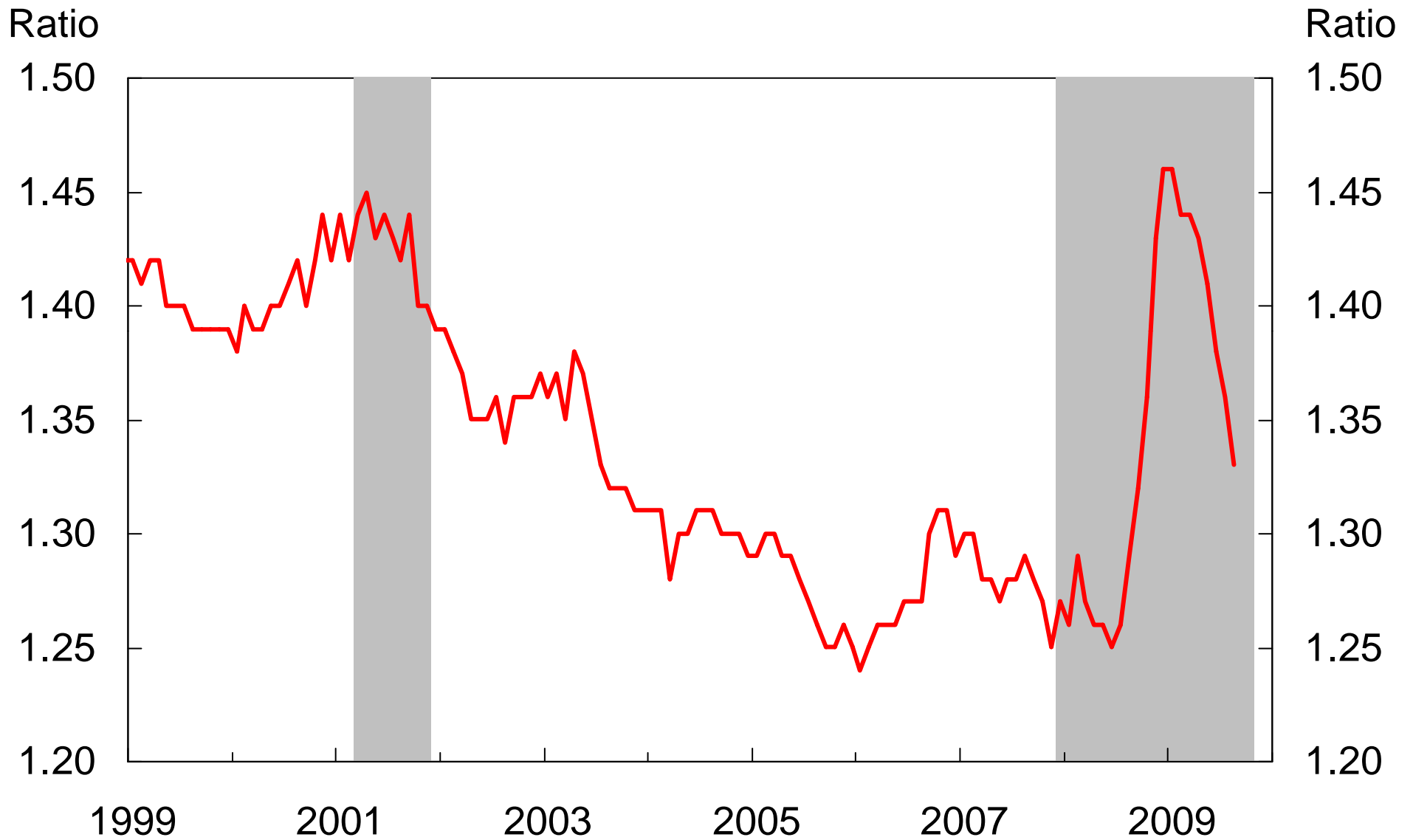
% Change - Year to Year



Source: Autodata Corporation



Inventory / Sales: Total Business



Source: Census Bureau



Consumer Price Index

(current dollars)
(percent change at annual rate)

	Weights (December 2008)		24 Month	12 Month	6 Month	3 Month	1 Month
	Total	Core					
Consumer Price Index	100.00		1.8	-1.3	2.9	2.5	2.0
Energy	7.63		-1.9	-21.9	21.6	21.1	8.0
All Items Ex. Energy			2.1	1.2	1.4	0.9	1.5
Food	14.63		2.9	-0.2	-1.3	-1.1	-1.2
Food Away From Home (NSA)	6.47		3.6	2.6	1.6	1.5	1.8
All Items Ex. Food and Energy	77.75	100.00	2.0	1.5	1.9	1.3	2.0
Core Chain-Weight CPI (NSA)			1.5	1.1	1.0	1.2	3.0
Core Goods	21.46	27.60	1.0	1.6	2.5	0.9	3.8
Apparel	3.69	4.75	1.2	1.1	2.0	2.5	1.8
Medical Care Commodities	1.63	2.10	2.8	4.1	3.7	4.3	8.1
Durable Goods	10.51	13.52	-1.1	-0.6	1.3	-0.9	5.4
New Vehicles	4.48	5.76	-0.1	1.6	2.3	-1.8	4.9
Used Vehicles	1.63	2.10	-2.9	-2.7	10.9	14.6	20.7
Core Services	56.29	72.40	2.4	1.5	1.6	1.4	1.3
Rent of Primary Residence	5.96	7.67	2.7	1.6	0.5	-0.4	-0.6
Owners' Equivalent Rent	24.43	31.42	1.9	1.3	0.5	-0.4	-1.7
Lodging Away from Home	2.48	3.19	-3.9	-6.9	1.5	-0.5	19.0
Medical Care Services	4.77	6.14	3.5	3.3	3.6	3.4	4.4
Transportation Services	5.57	7.16	3.9	2.0	3.9	7.4	8.4
Other Services	11.00	14.15	3.2	2.5	2.4	2.5	0.2

Source: Bureau of Labor Statistics

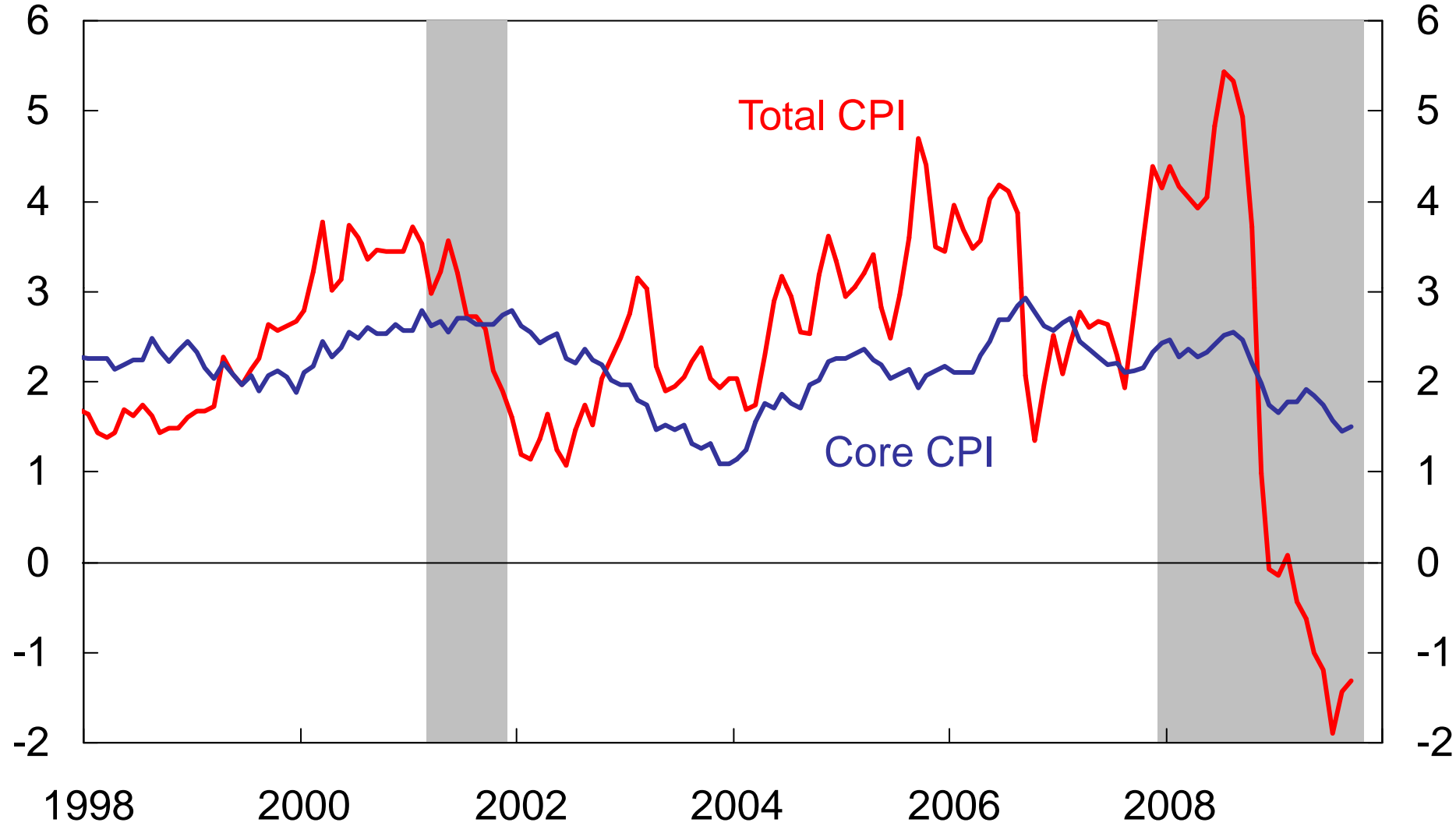
Note: Data through September 2009.



Total and Core CPI

% Change - Year to Year

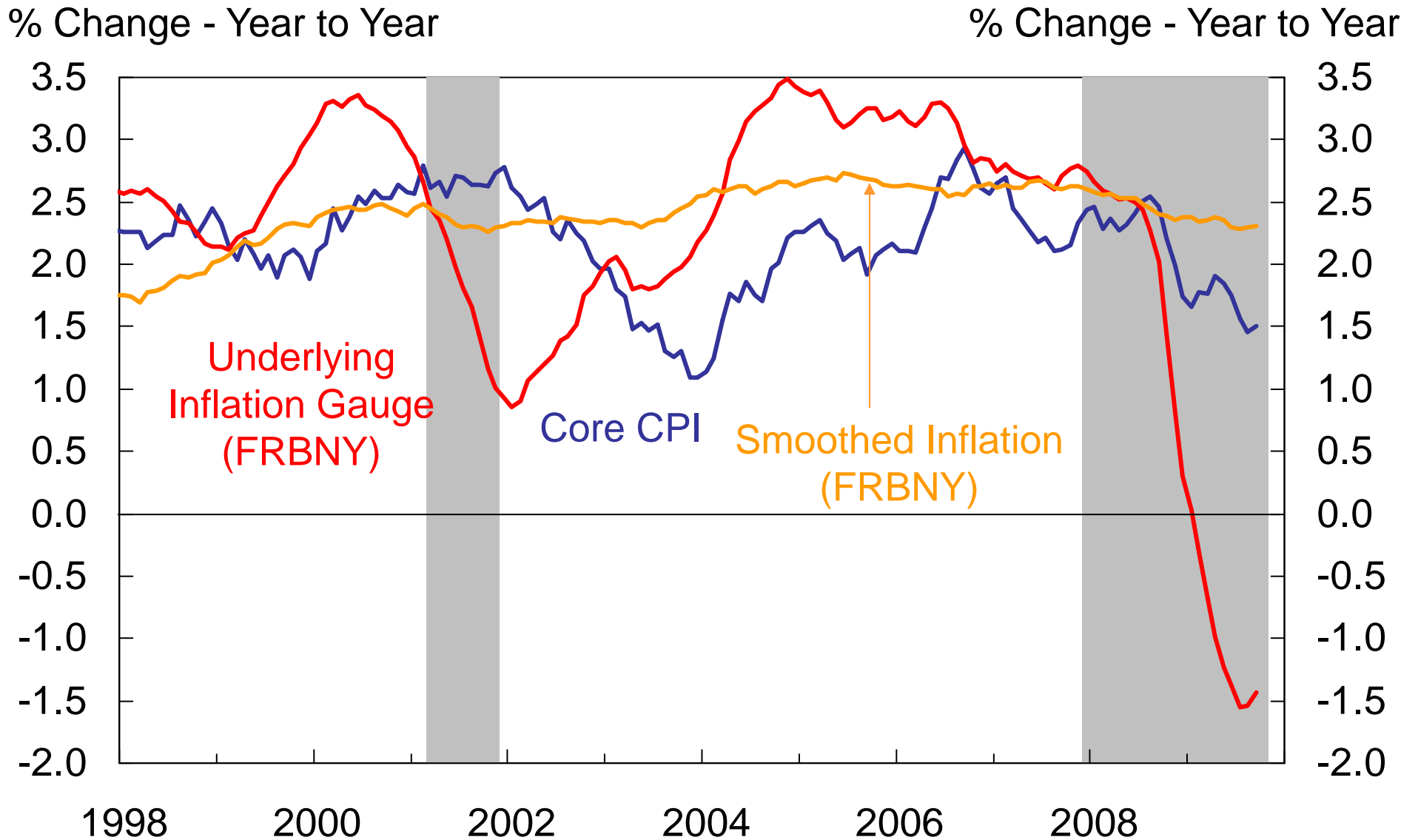
% Change - Year to Year



Source: Bureau of Labor Statistics



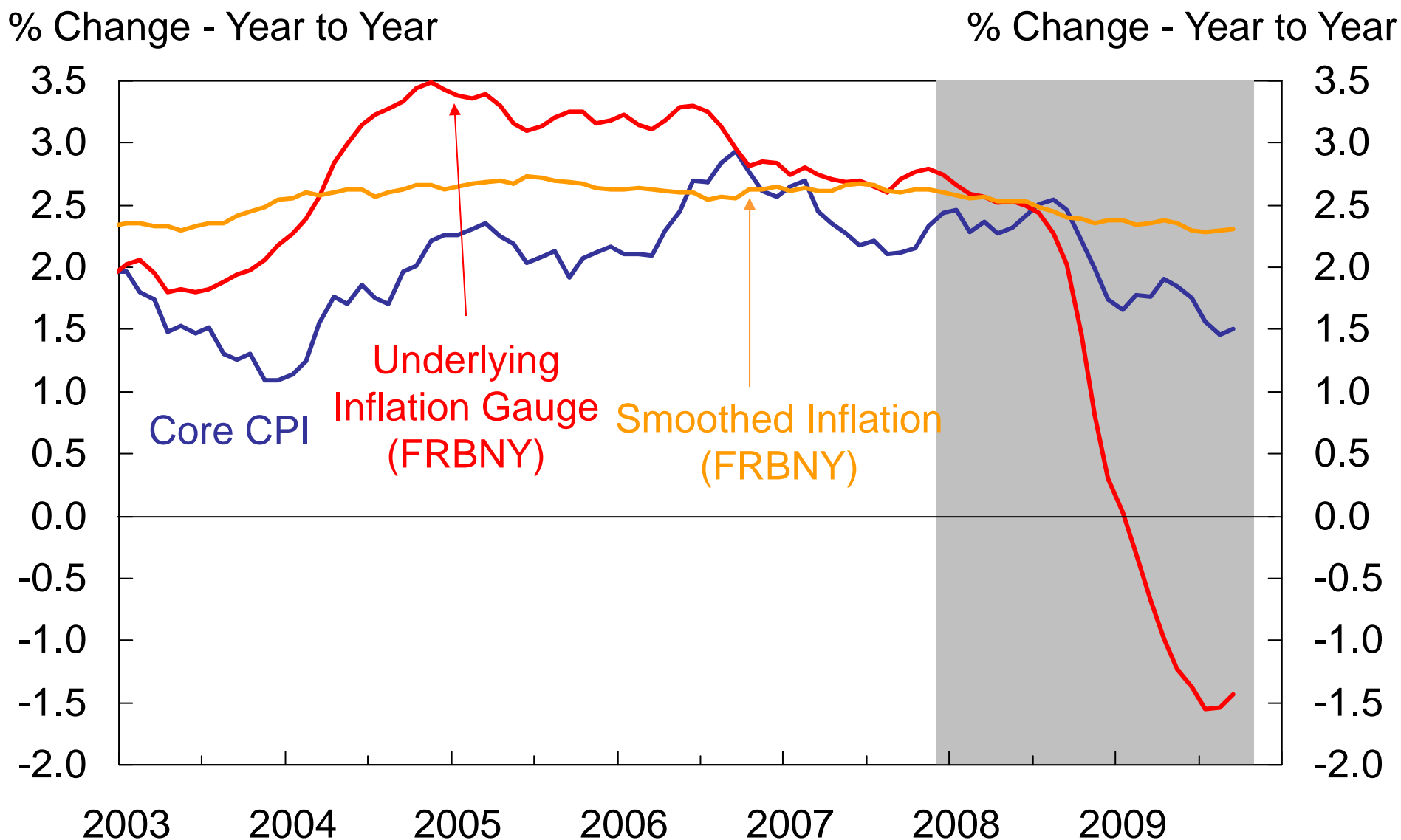
Measures of CPI Inflation Since 1998



Source: Bureau of Labor Statistics and FRBNY



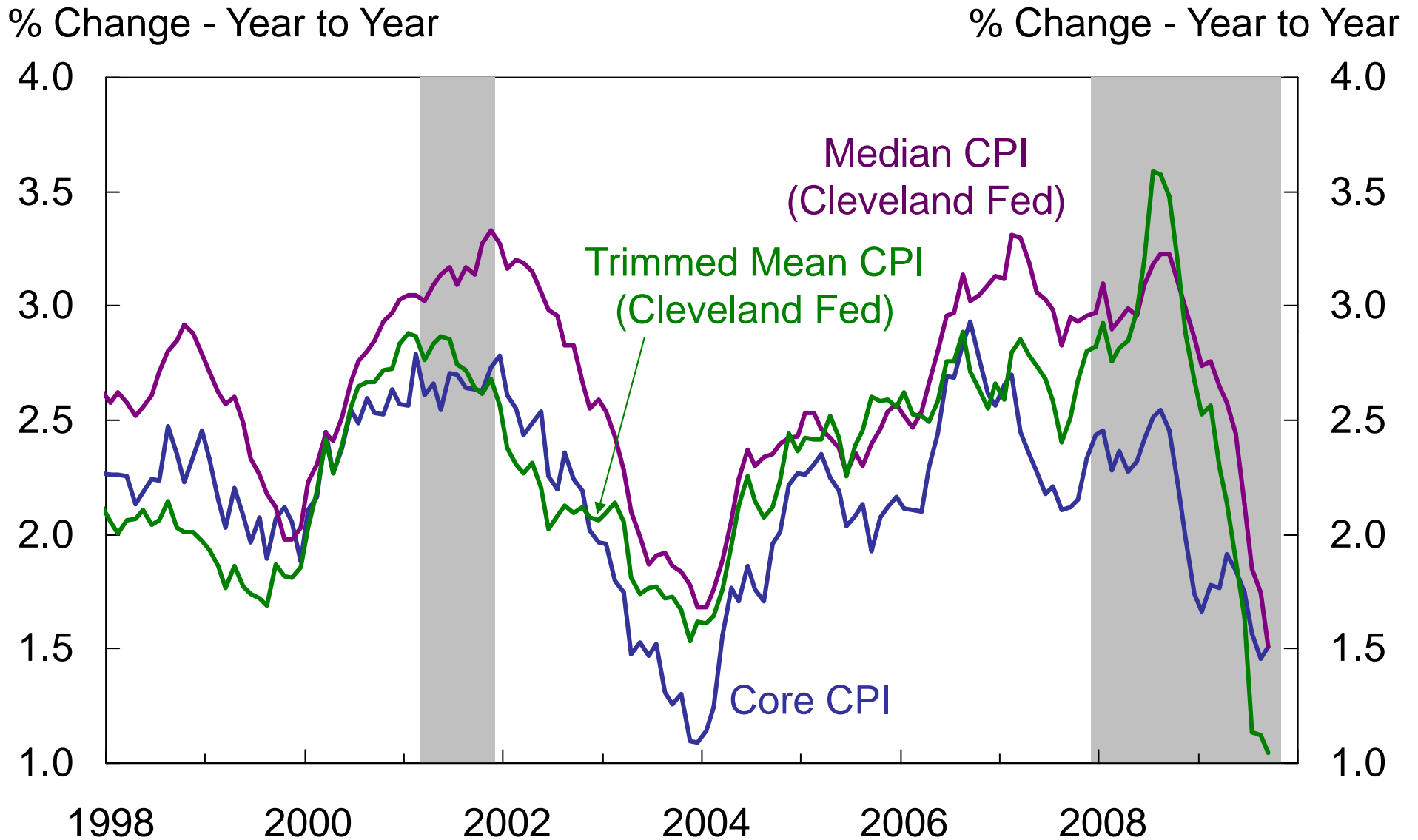
Measures of CPI Inflation Since 2003



Source: Bureau of Labor Statistics and FRBNY



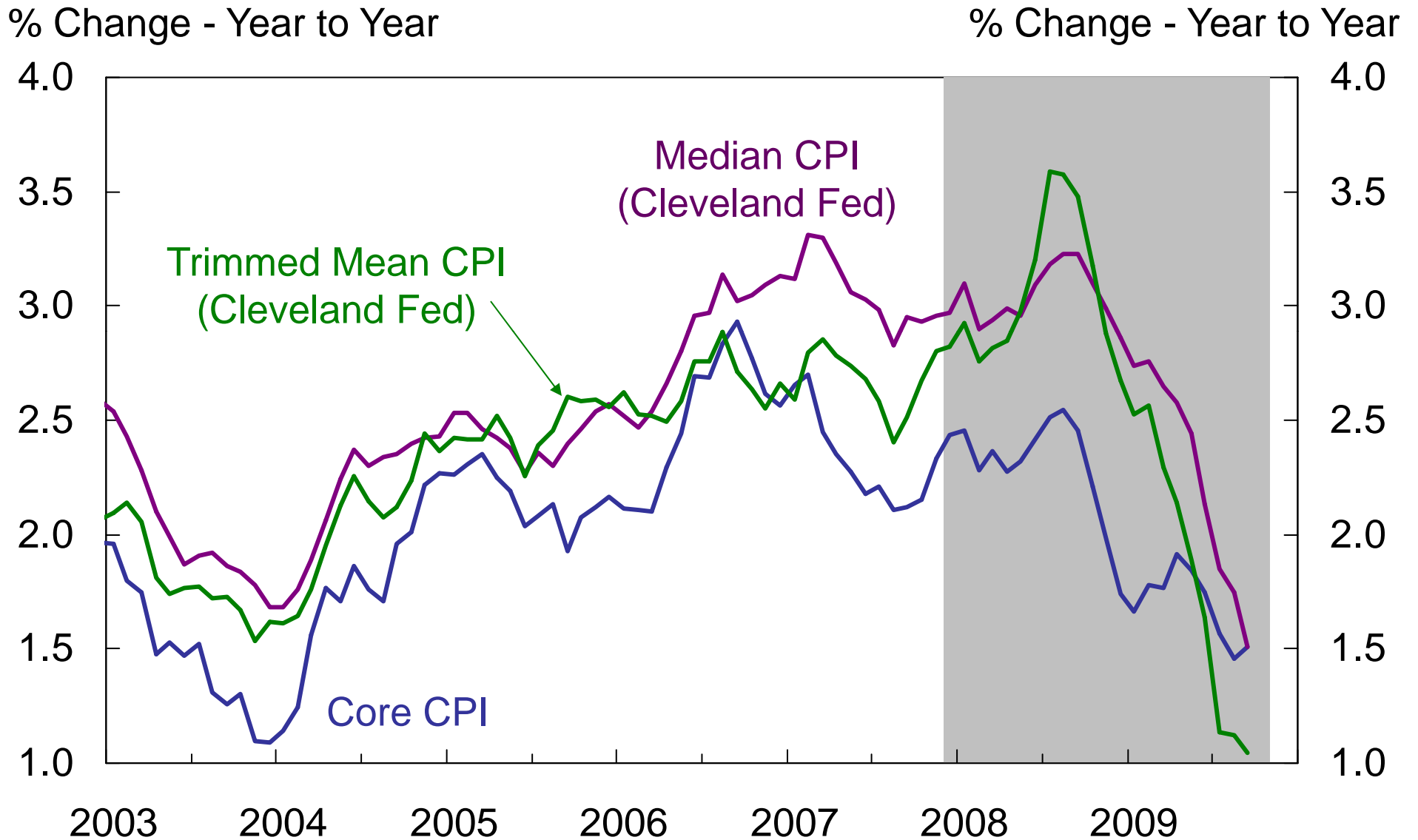
Measures of CPI Inflation Since 1998



Source: Bureau of Labor Statistics and Cleveland Fed



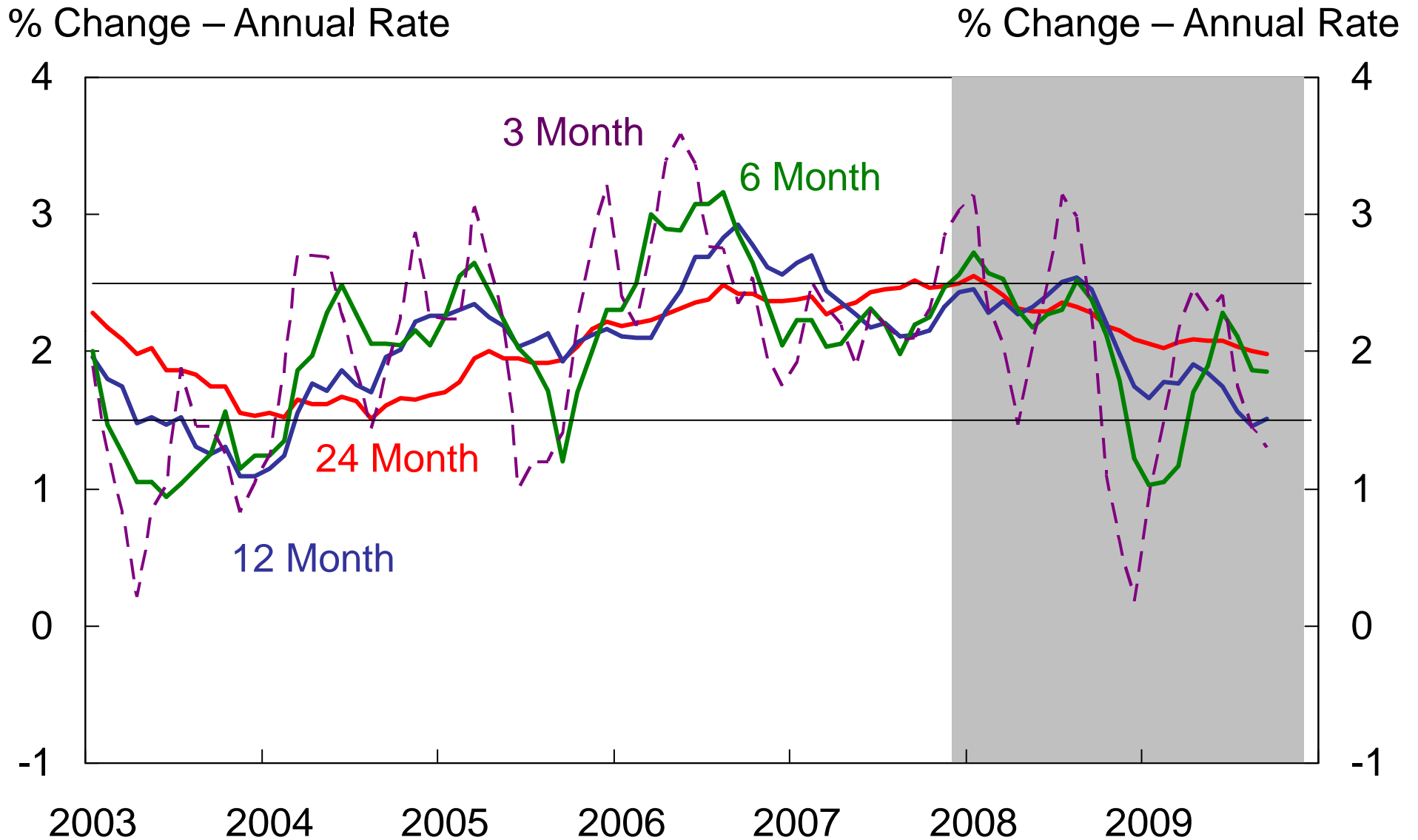
Measures of CPI Inflation Since 2003



Source: Bureau of Labor Statistics and Cleveland Fed



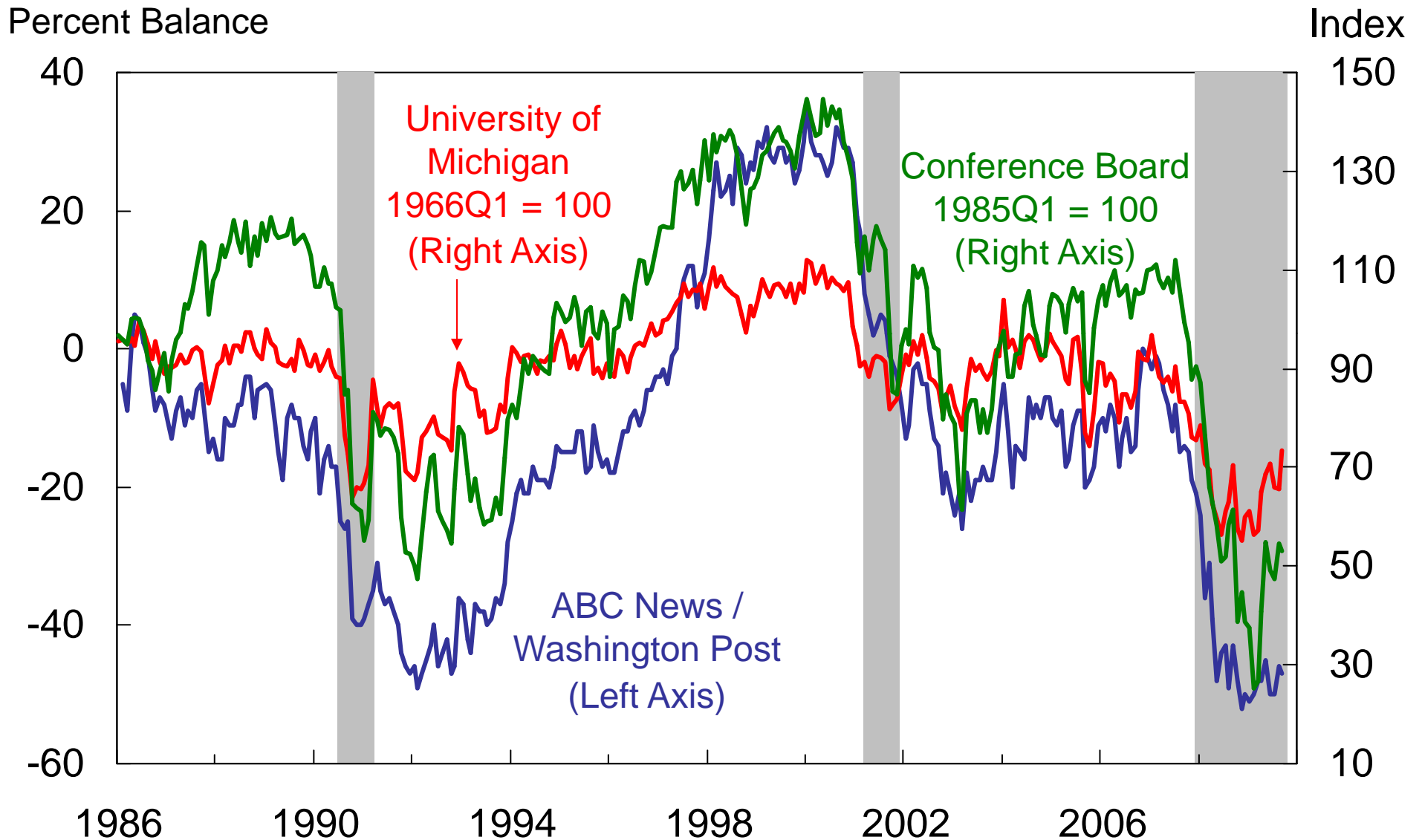
Core CPI Inflation over Various Horizons



Source: Bureau of Labor Statistics



Consumer Confidence/Sentiment Indices



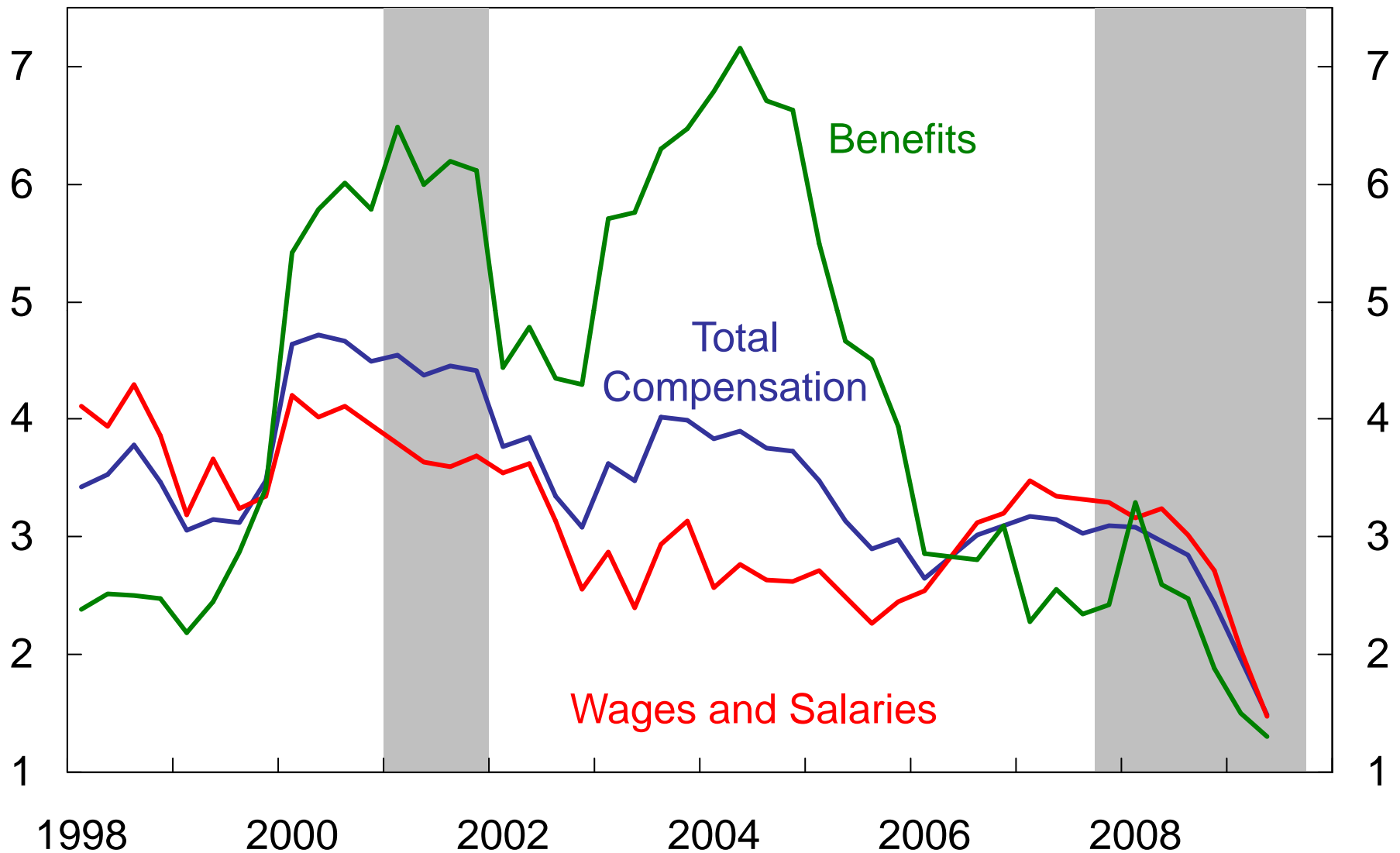
Source: University of Michigan, ABC News, Washington Post, and the Conference Board



Employment Cost Index: Private Industry Workers

% Change - Year to Year

% Change - Year to Year



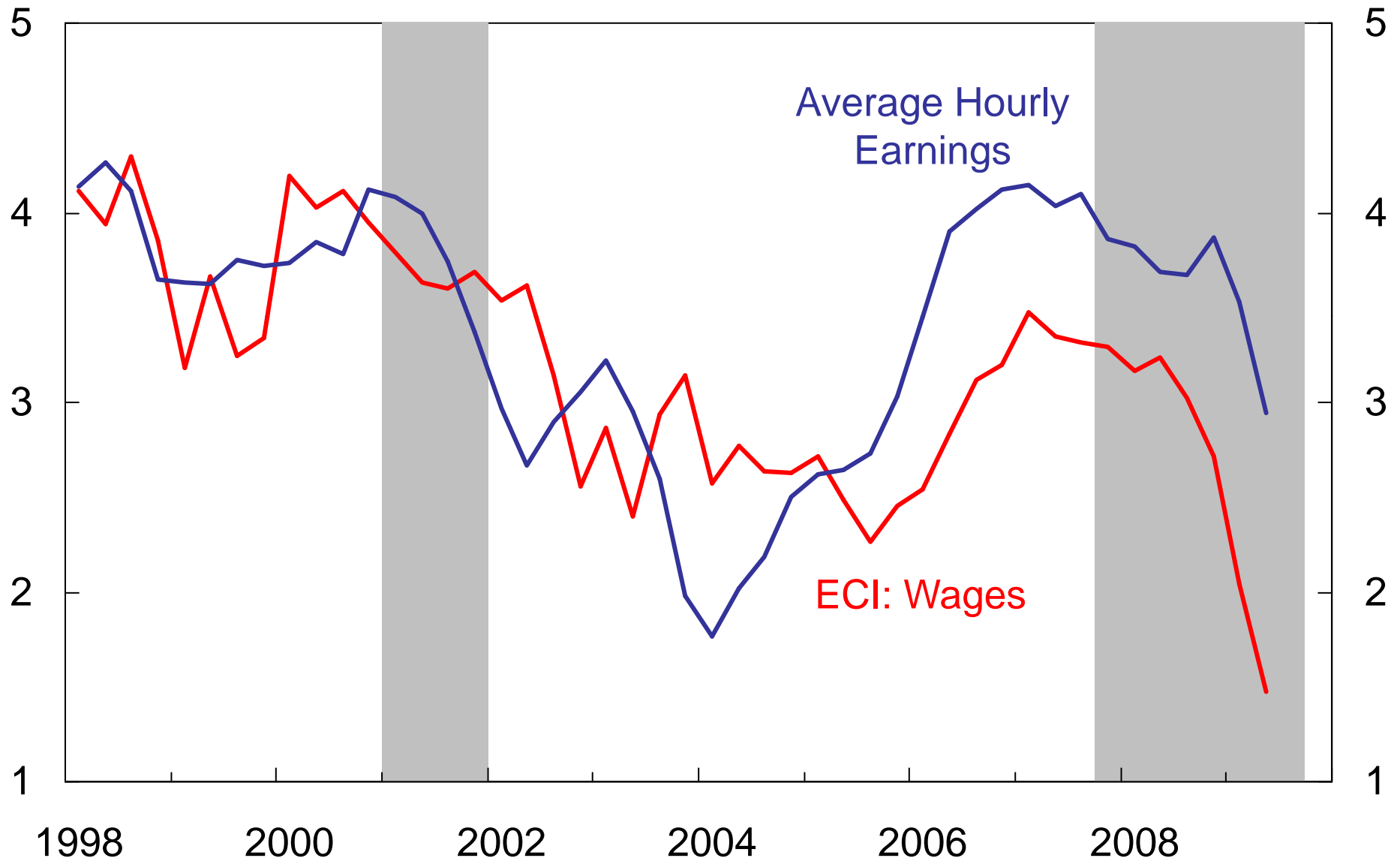
Source: Bureau of Labor Statistics



Wages and Earnings: Total Private Industries

% Change - Year to Year

% Change - Year to Year



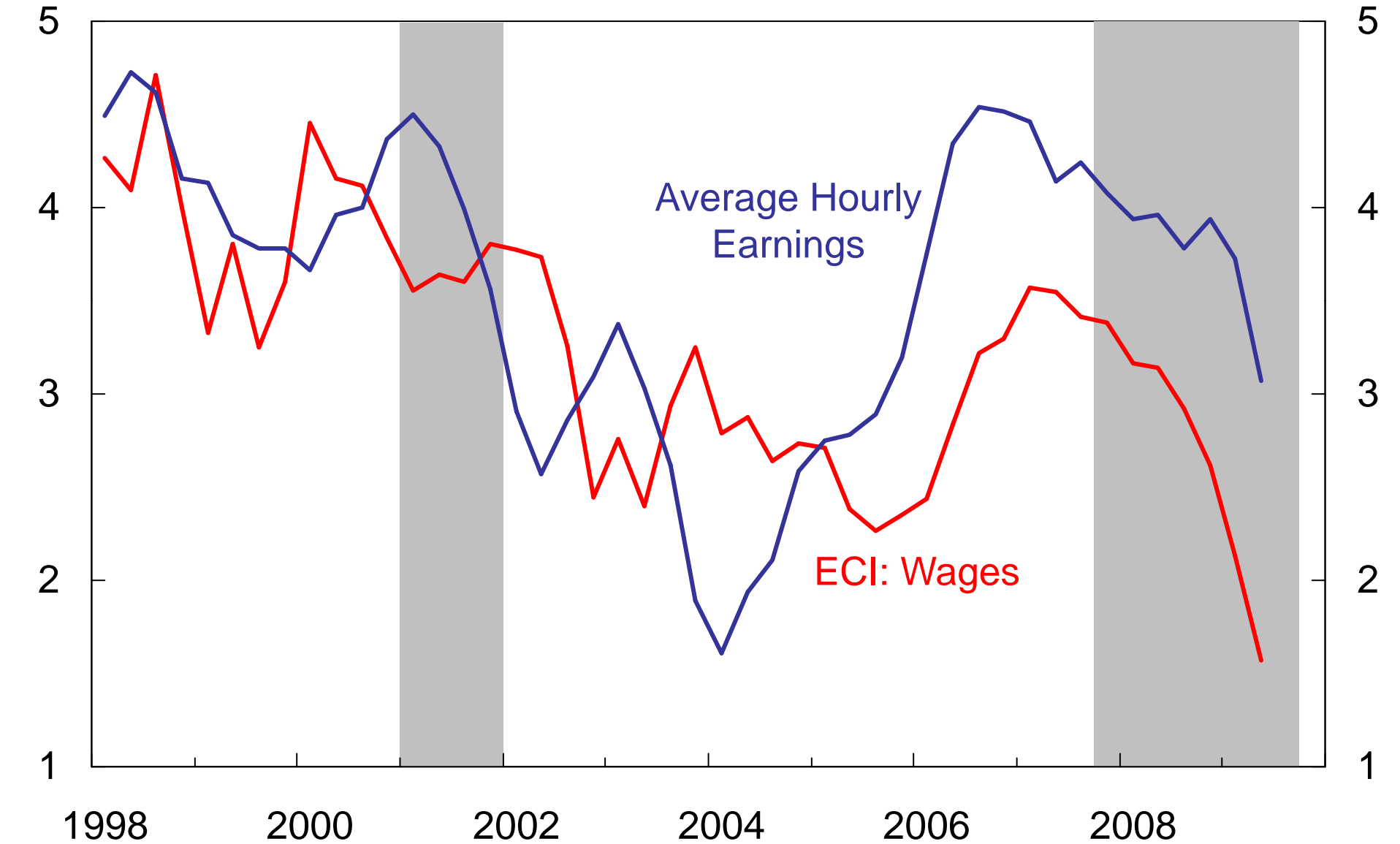
Source: Bureau of Labor Statistics



Wages and Earnings: Service-Providing Industries

% Change - Year to Year

% Change - Year to Year



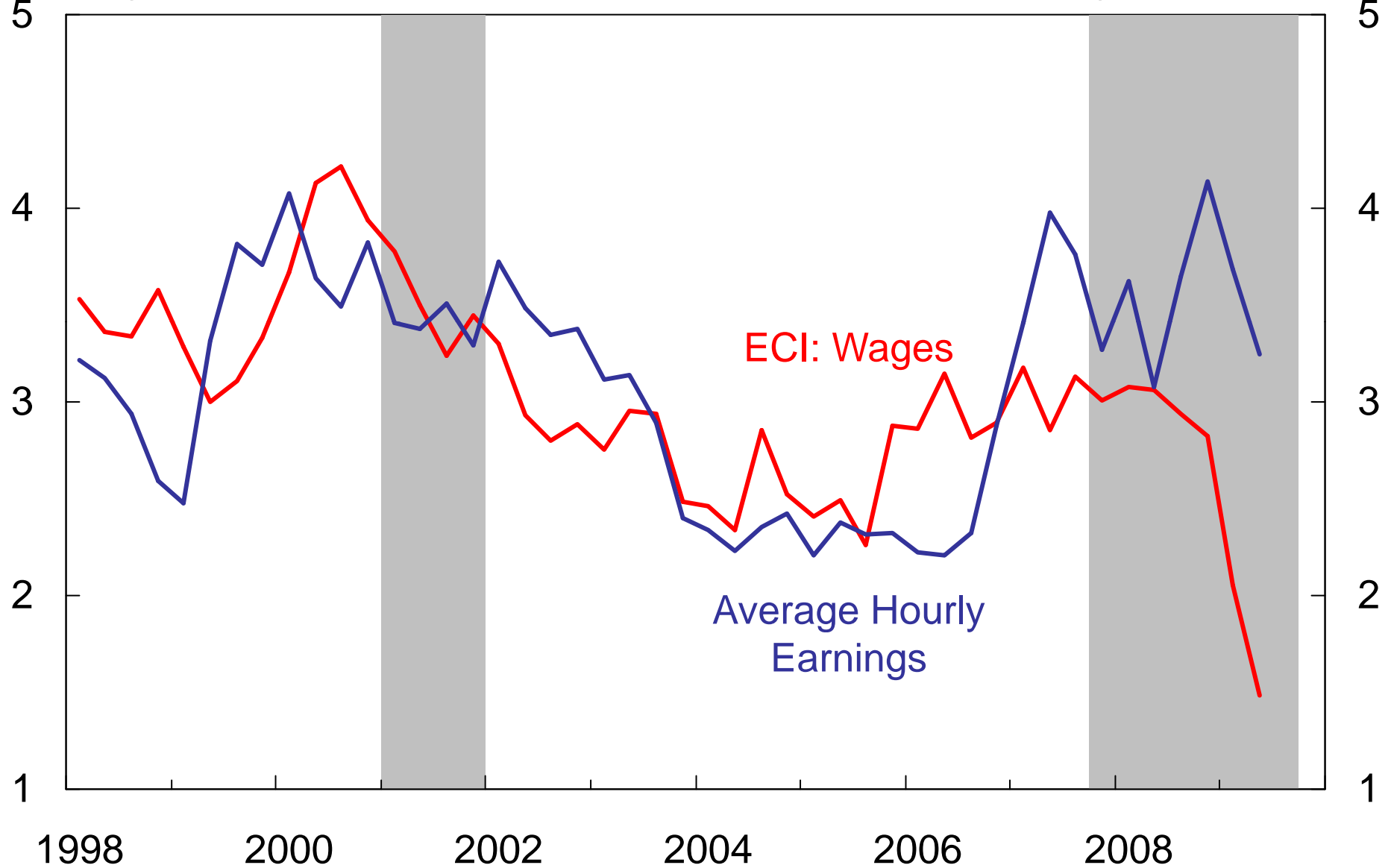
Source: Bureau of Labor Statistics



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	-2.5	-4.2	-3.1	-2.3	-2.4
Private	-3.0	-5.0	-3.4	-2.3	-2.3
Goods-Producing	-8.6	-13.1	-10.5	-7.5	-7.2
Construction	-10.7	-15.3	-12.9	-11.8	-11.9
Manufacturing	-7.8	-12.0	-9.2	-5.2	-5.1
Durables	-9.6	-14.8	-12.0	-6.5	-6.9
Nondurables	-4.8	-7.3	-4.5	-3.2	-2.1
Private Service Providing	-1.7	-3.1	-1.9	-1.2	-1.2
Wholesale Trade	-3.2	-5.0	-3.2	-2.2	-1.0
Retail Trade	-2.6	-3.8	-2.3	-2.5	-3.1
Transportation and Warehousing	-4.2	-6.6	-5.4	-3.8	-4.3
Utilities	0.9	0.8	-1.8	-2.0	-1.5
Information	-3.5	-5.4	-5.4	-2.6	0.0
Financial Activities	-3.5	-5.1	-3.9	-2.5	-1.5
Professional and Business Services	-3.8	-6.1	-3.7	-1.4	-0.6
Temporary Help Services	-17.1	-23.3	-10.5	-3.2	-1.2
Education and Health Services	2.3	1.9	1.6	1.3	0.2
Leisure and Hospitality	-1.2	-2.0	-0.7	-0.7	-0.8
Food and Drinking Places	-0.4	-0.9	0.1	-1.0	-1.3
Other Services	-0.9	-2.4	-1.1	-1.7	-2.2
Government	0.3	-0.6	-1.2	-2.3	-2.8
Federal Government	1.5	1.7	0.7	0.1	-2.5
State Government	0.1	-1.0	-1.8	-2.6	-2.3
Local Government	0.1	-0.9	-1.4	-2.6	-3.0

Source: Bureau of Labor Statistics

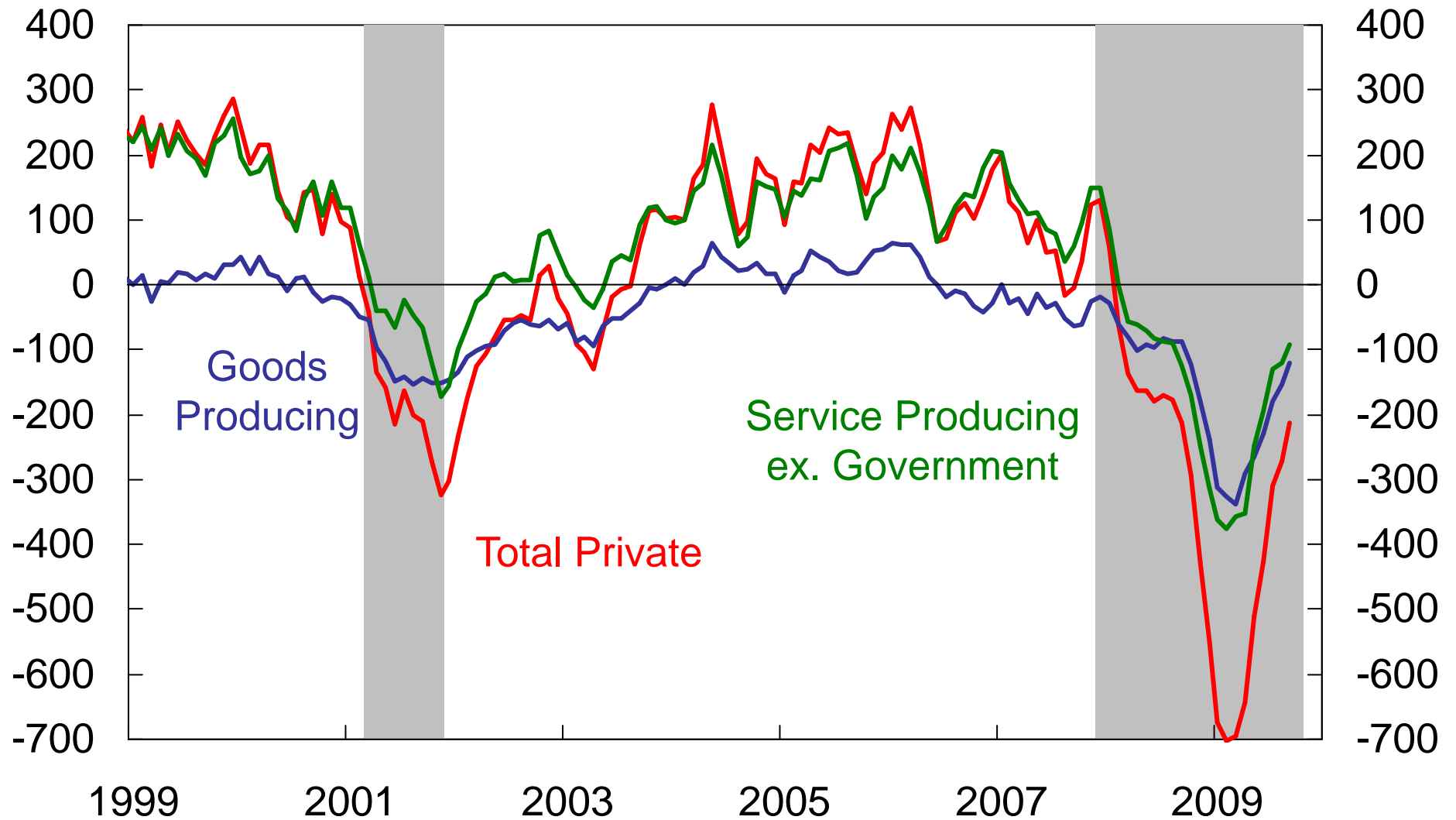
Note: Data through September 2009.



Private Nonfarm Payroll Employment 3-Month Moving Average

Change-Thousands

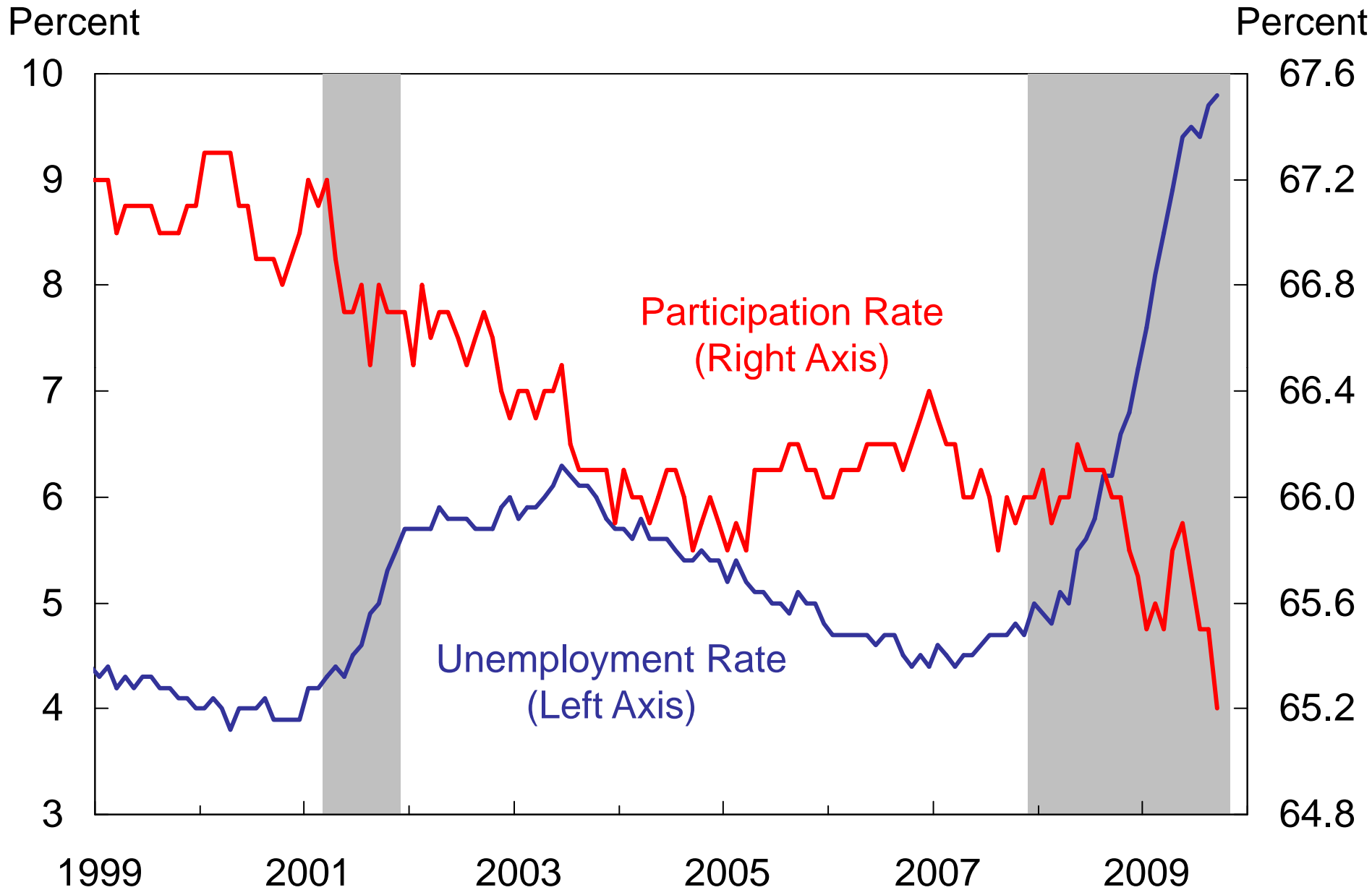
Change-Thousands



Source: Bureau of Labor Statistics



Unemployment and Labor Force Participation Rates



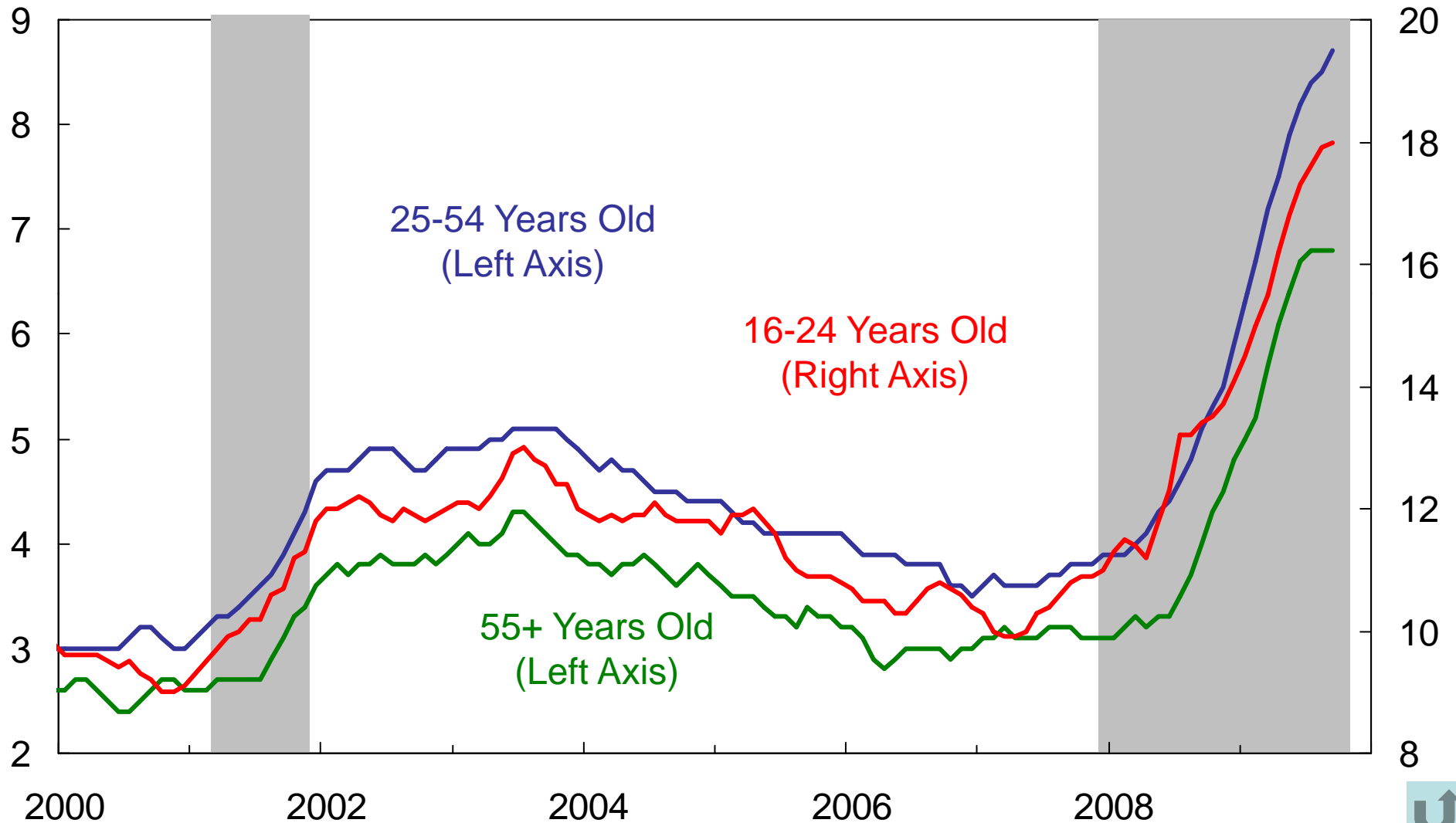
Source: Bureau of Labor Statistics



Total Unemployment Rate by Age Group

3-month Moving Average

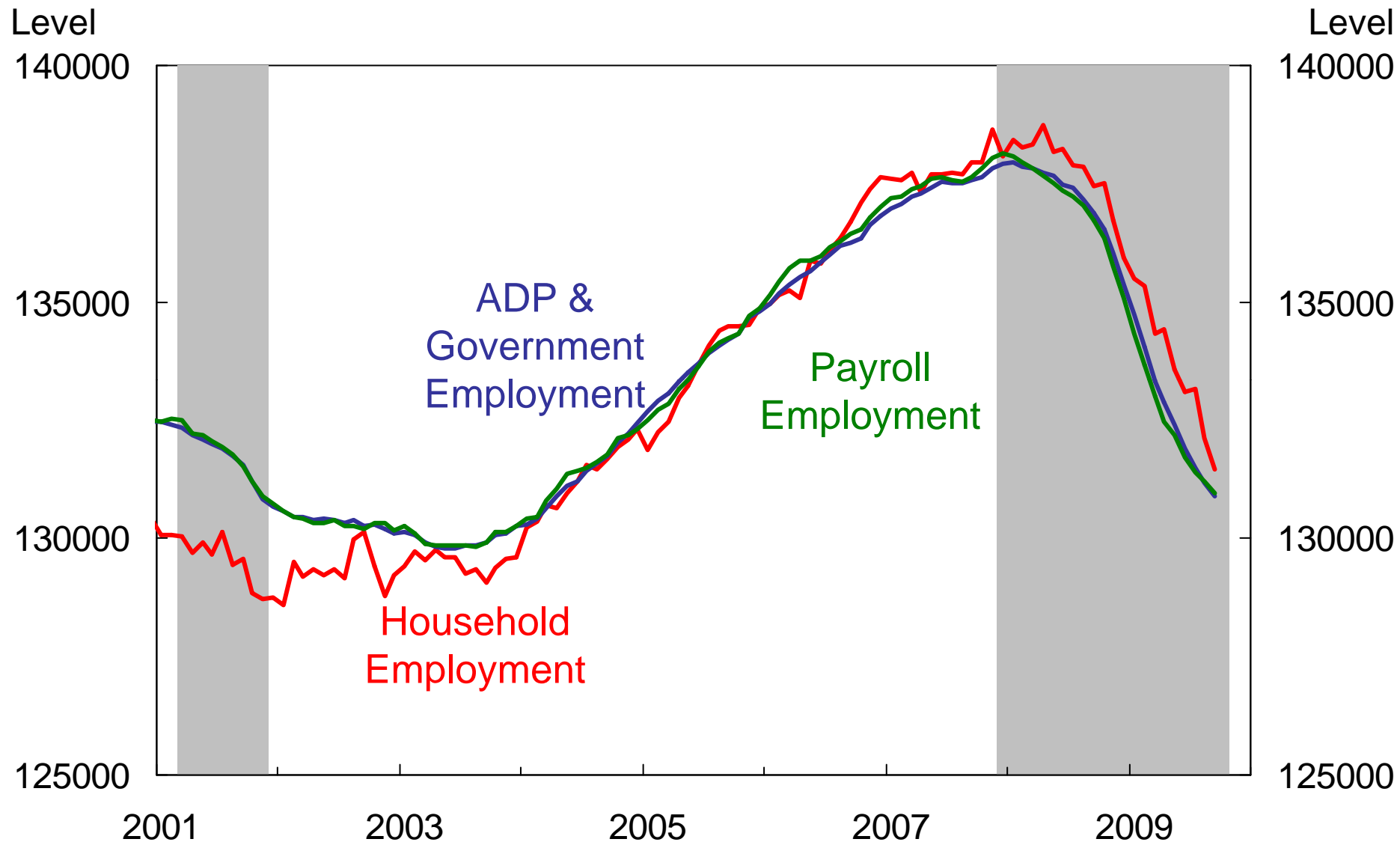
3-month Moving Average



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

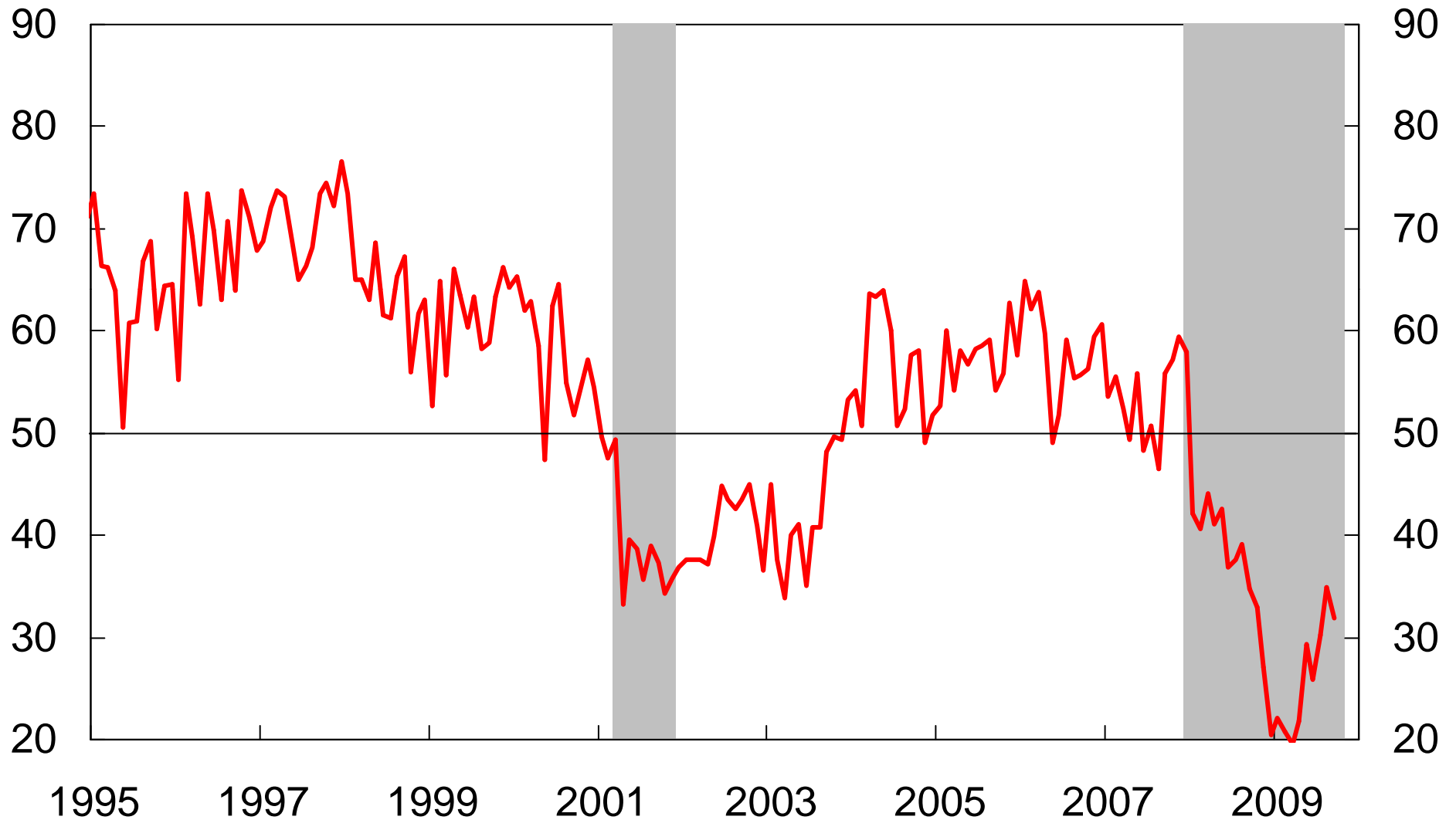


Diffusion Index of Employees on Private Nonagricultural Payrolls

1-Month Span

Percent Rising

Percent Rising



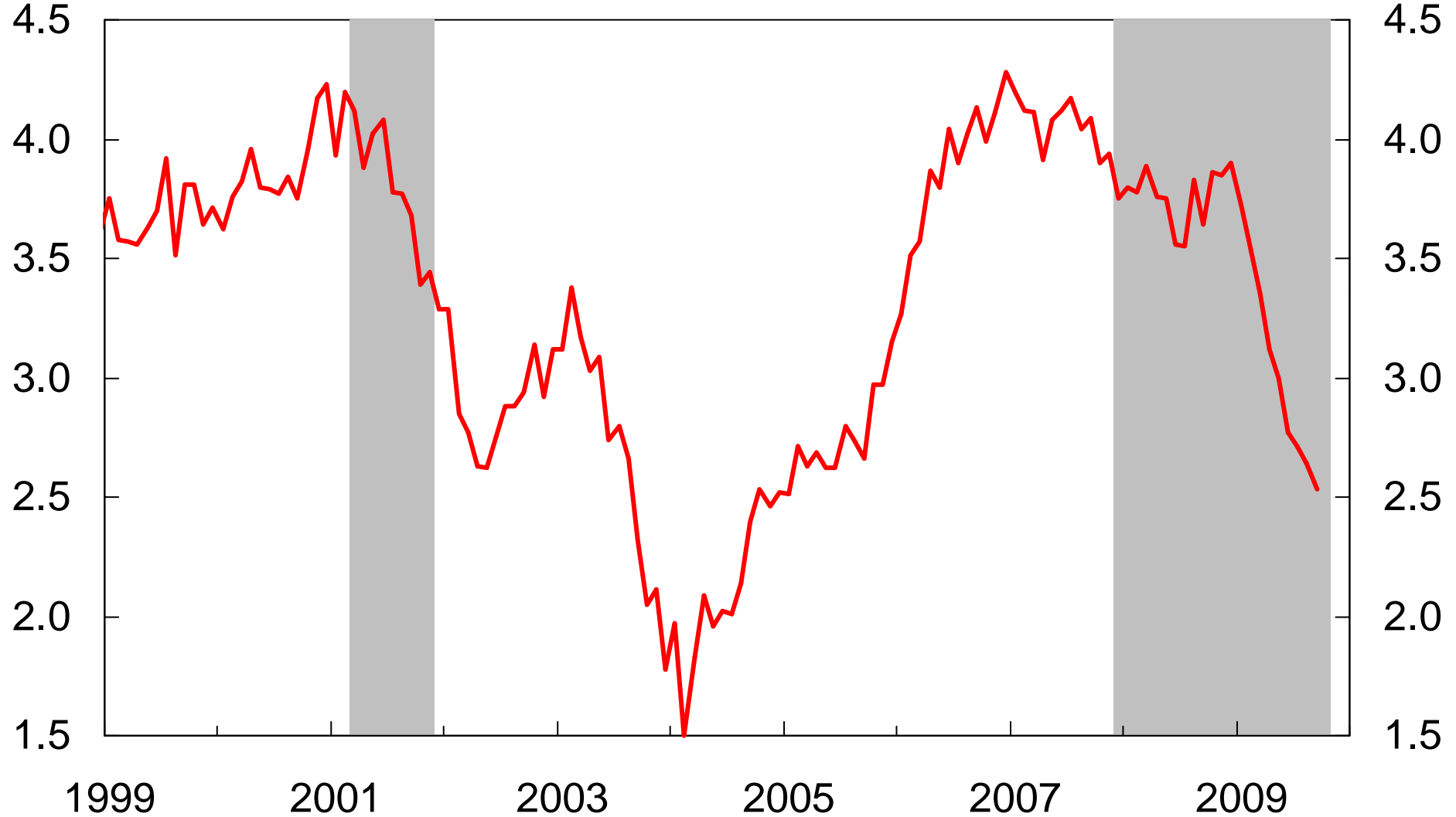
Source: Bureau of Labor Statistics



Total Private Average Hourly Earnings

% Change - Year to Year

% Change - Year to Year



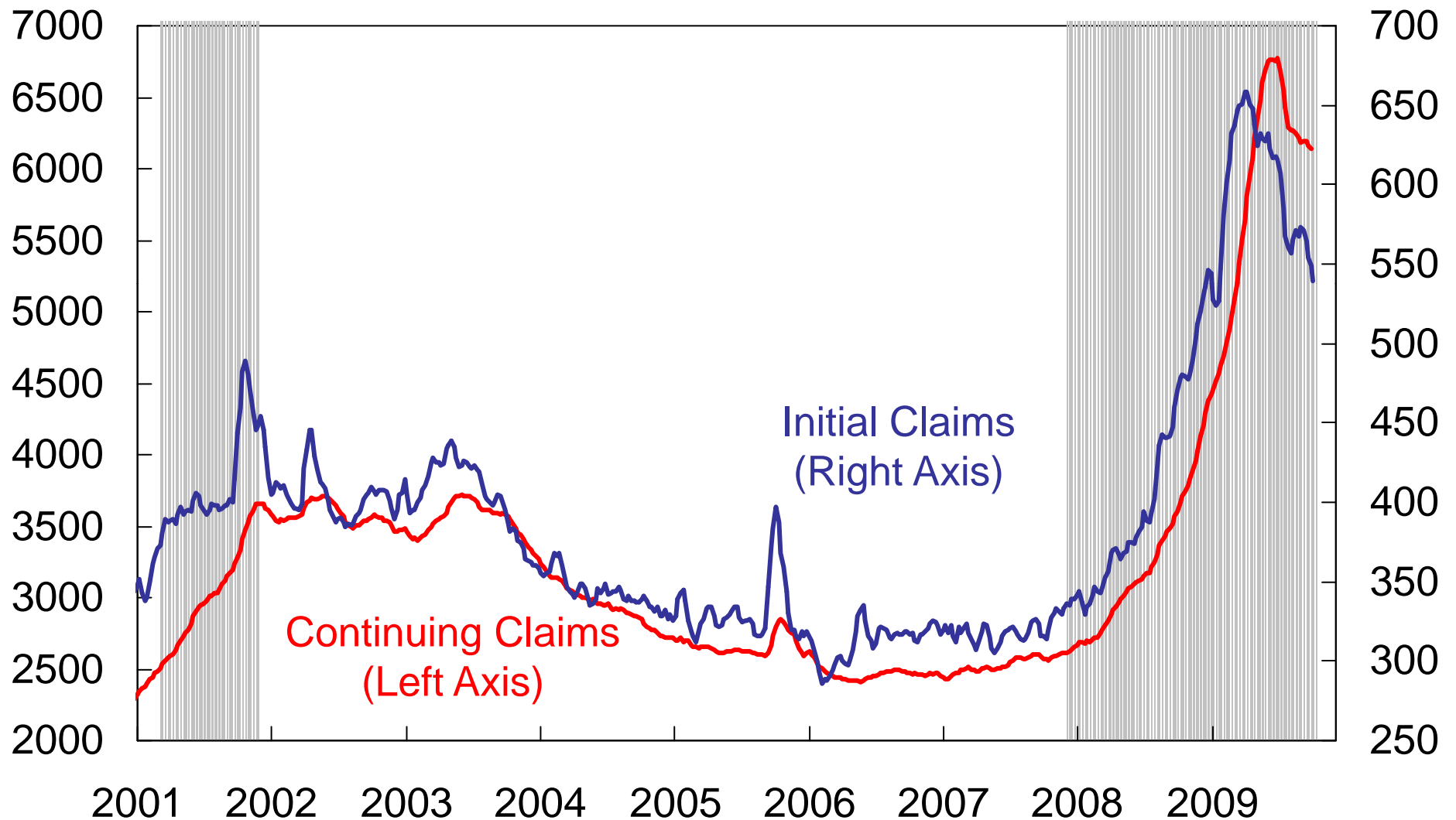
Source: Bureau of Labor Statistics



Unemployment Insurance

4-Week Moving Average

4-Week Moving Average

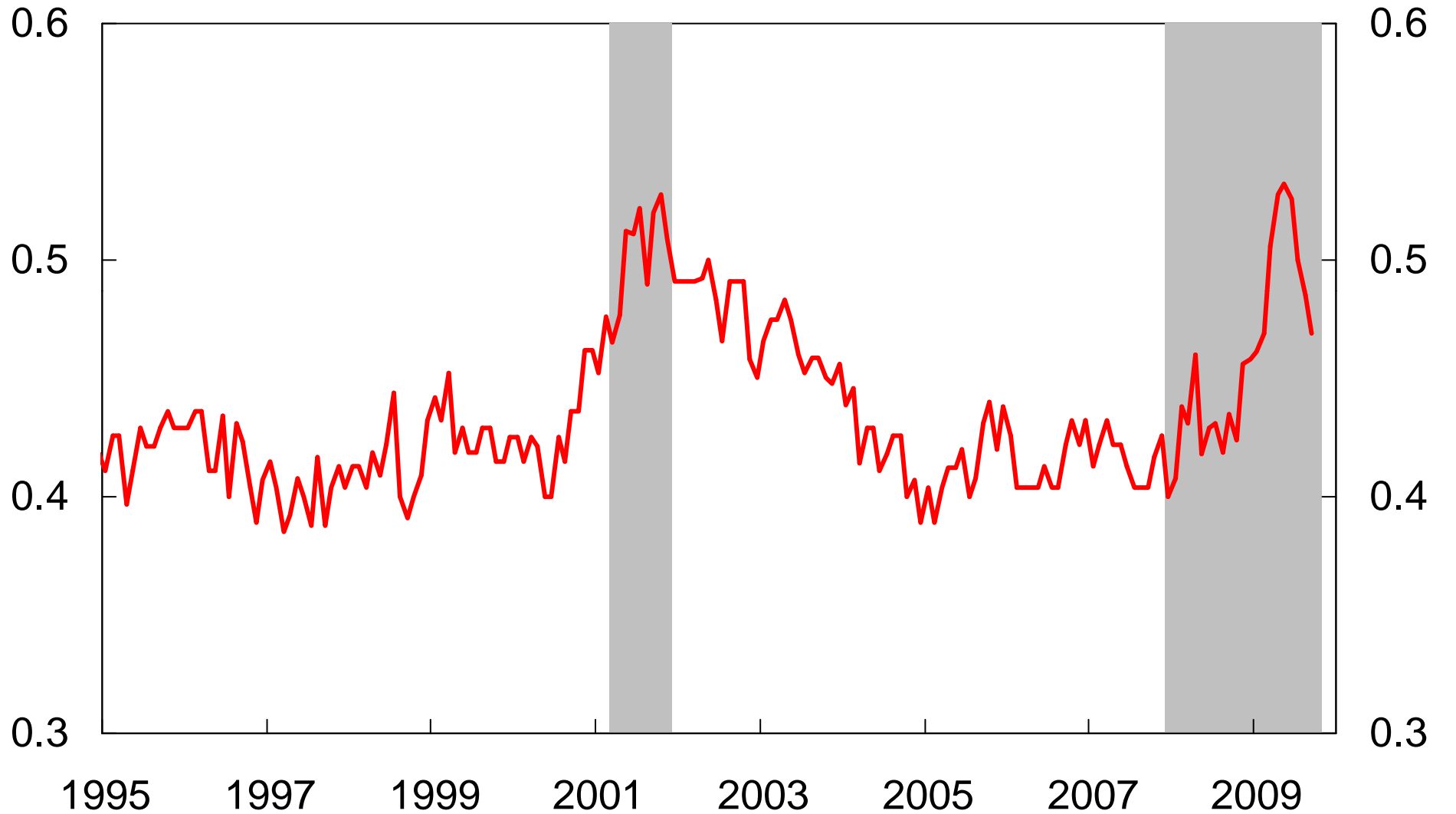


Source: Department of Labor



Unemployment Rate (SA) Insured/Total

Ratio

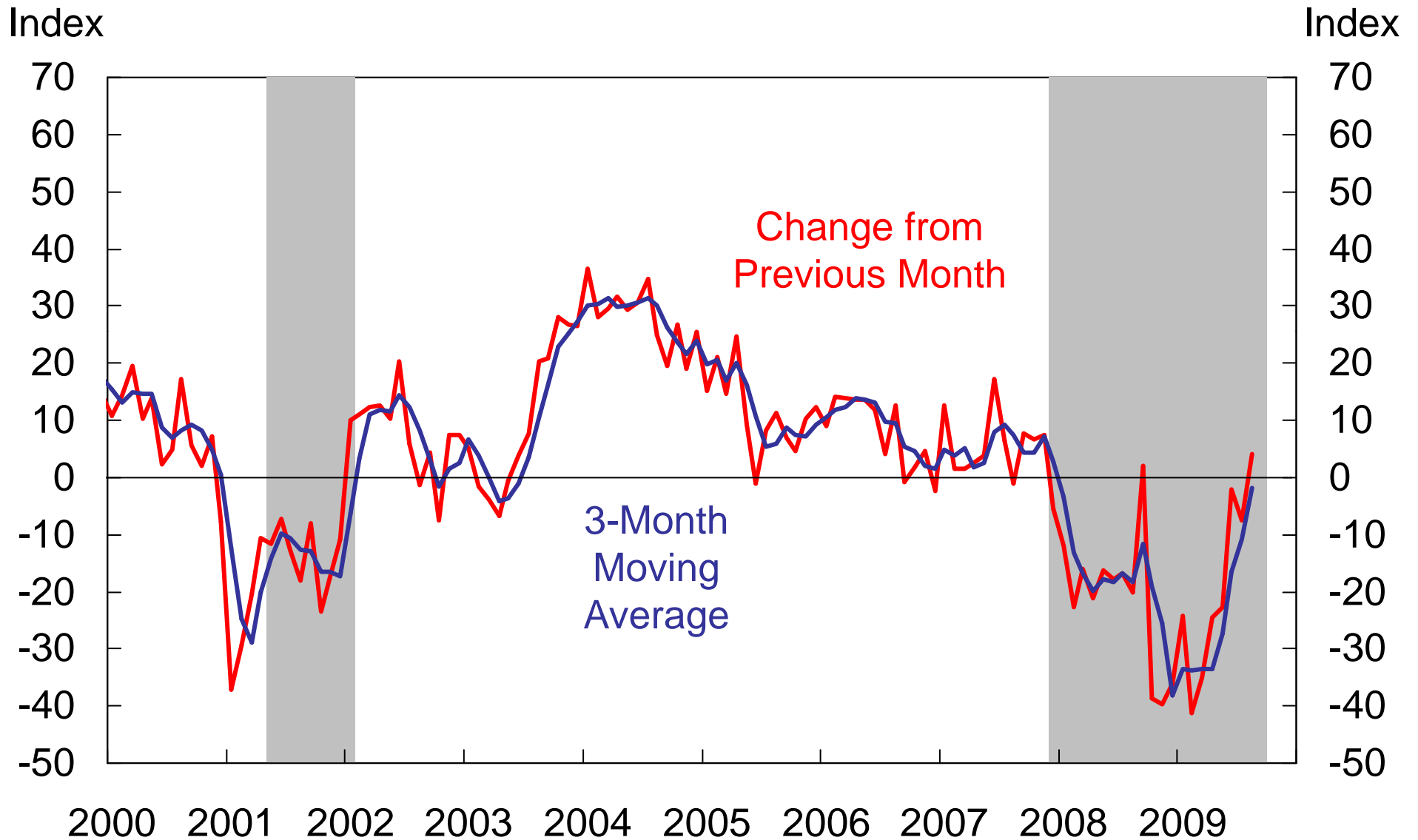


Source: Bureau of Labor Statistics/Department of Labor



Philadelphia Fed Survey

General Business Conditions

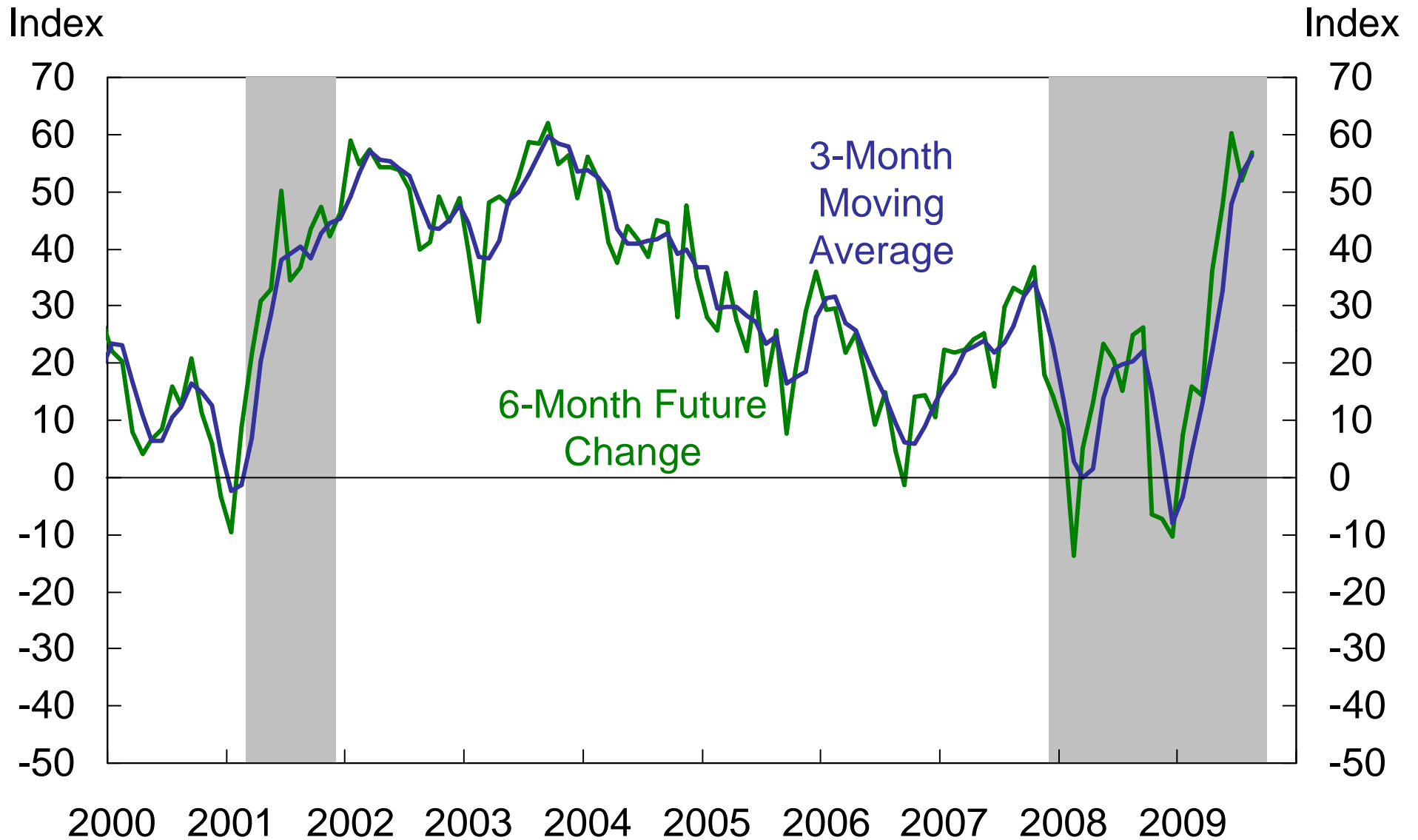


Source: Philadelphia Fed



Philadelphia Fed Survey

General Business Conditions

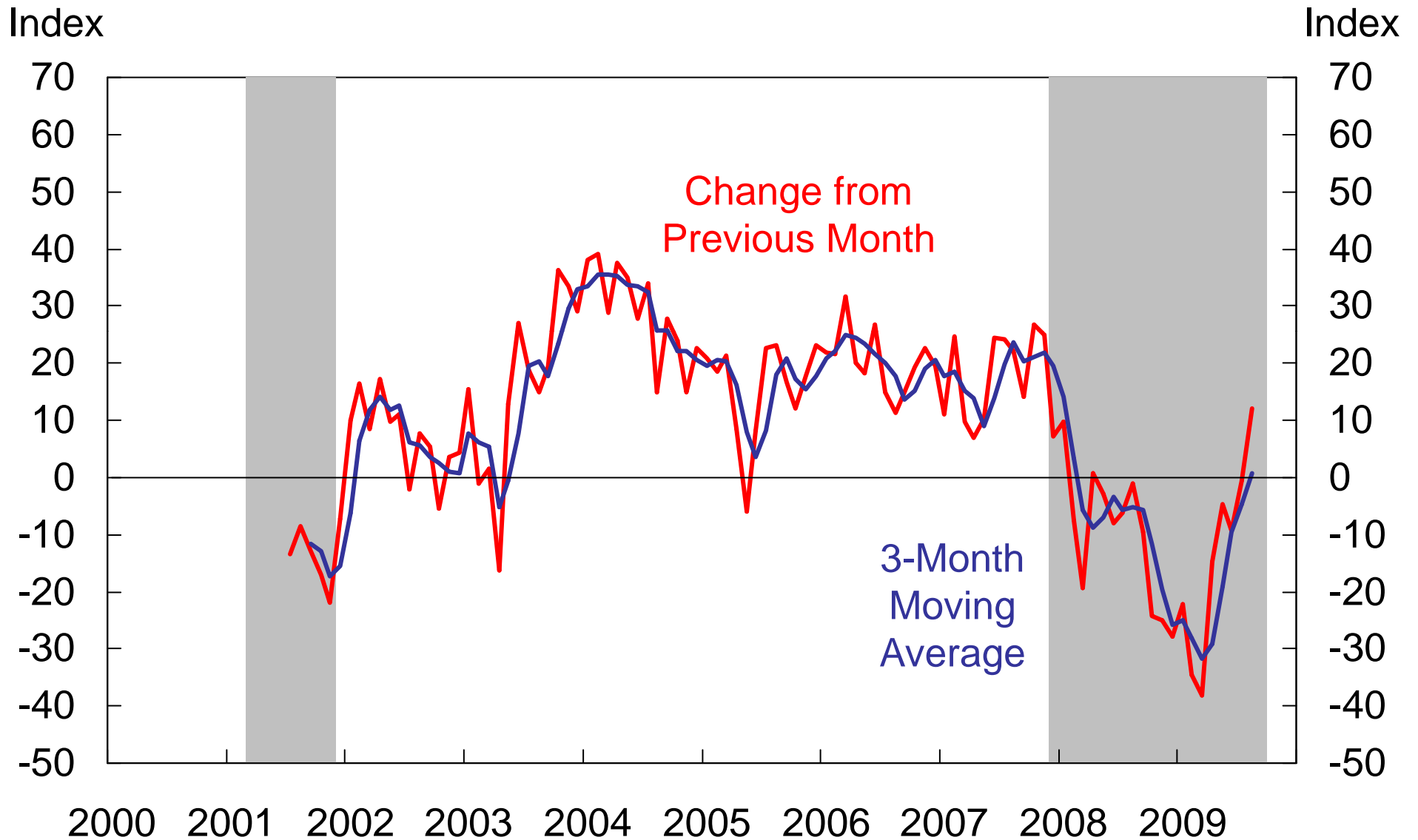


Source: Philadelphia Fed



Empire State Manufacturing Survey

General Business Conditions

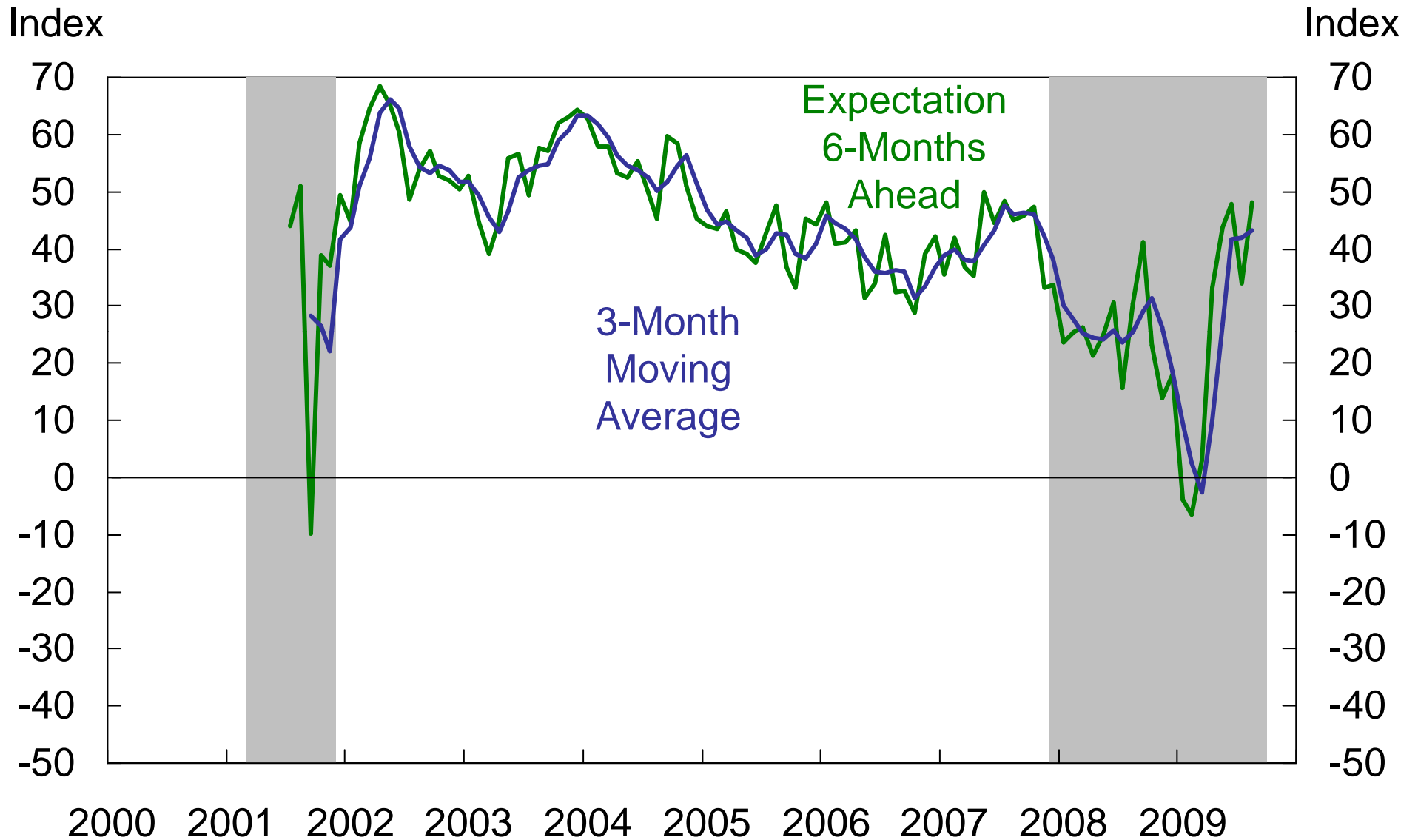


Source: FRBNY



Empire State Manufacturing Survey

General Business Conditions

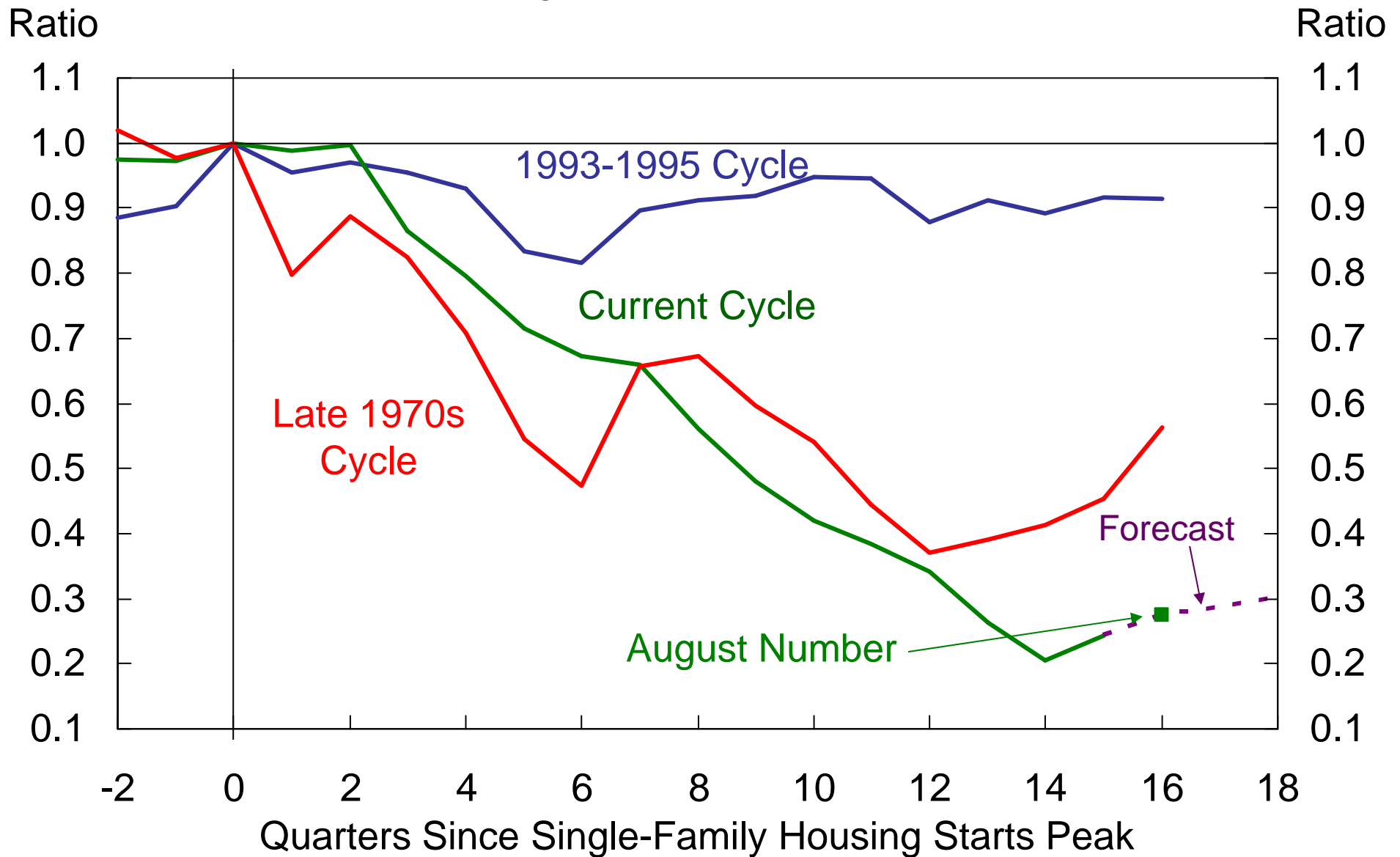


Source: FRBNY



Single-Family Housing Starts

(Series Set to 1.0 at Housing Start Peak)

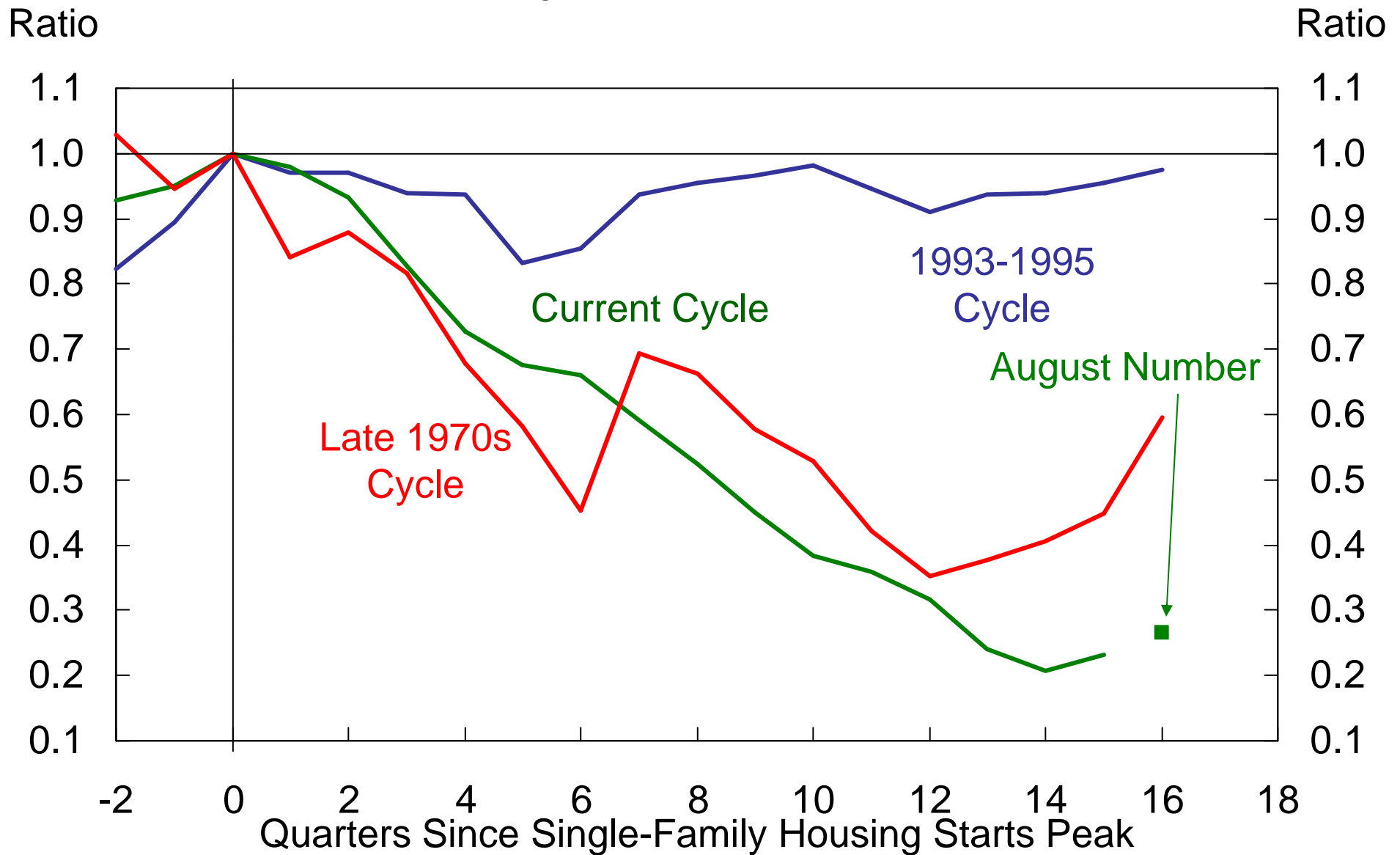


Source: Census Bureau



Single-Family Housing Permits

(Series Set to 1.0 at Housing Start Peak)

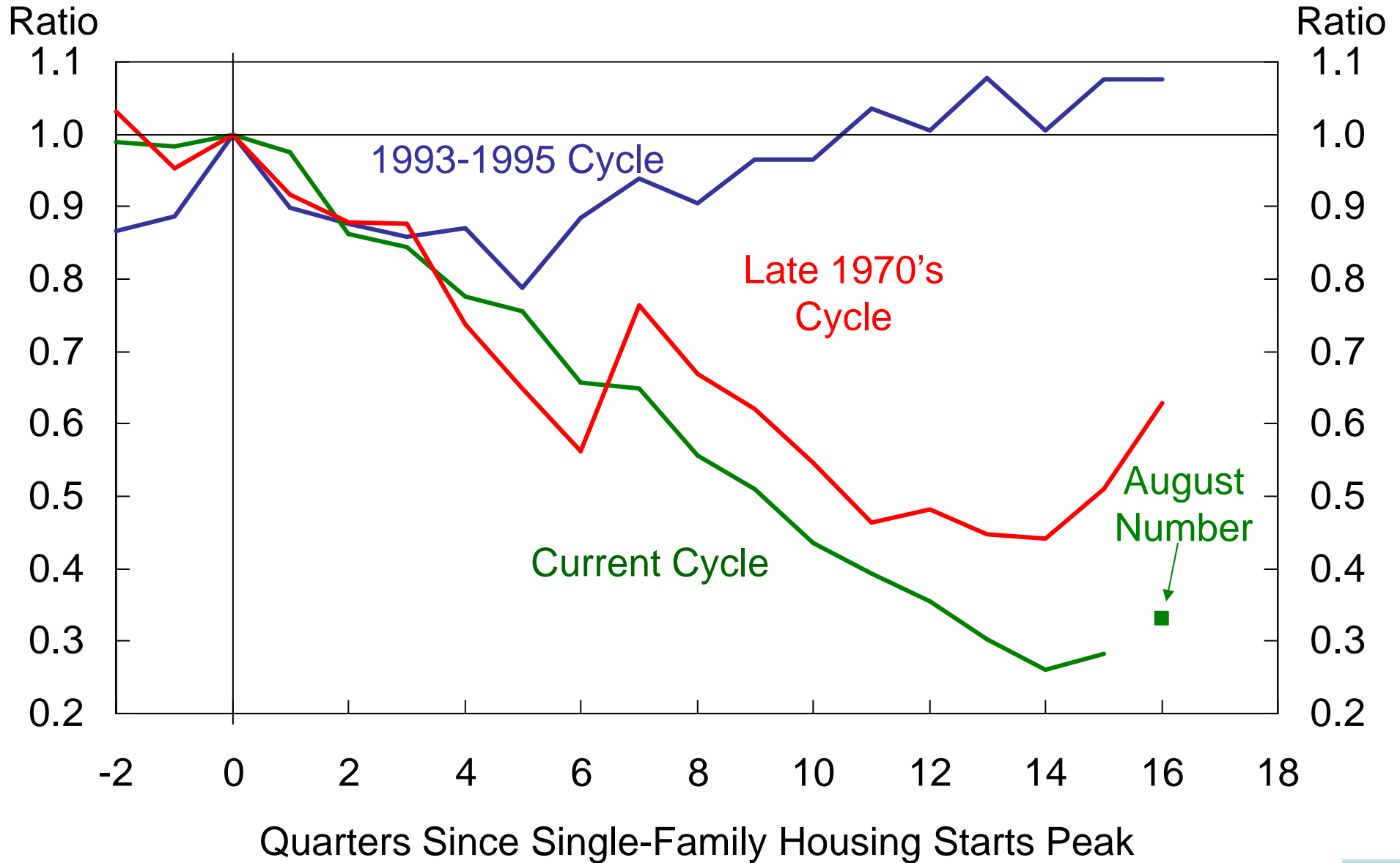


Source: Census Bureau



Single-Family New Home Sales

(Series Set to 1.0 at Housing Start Peak)

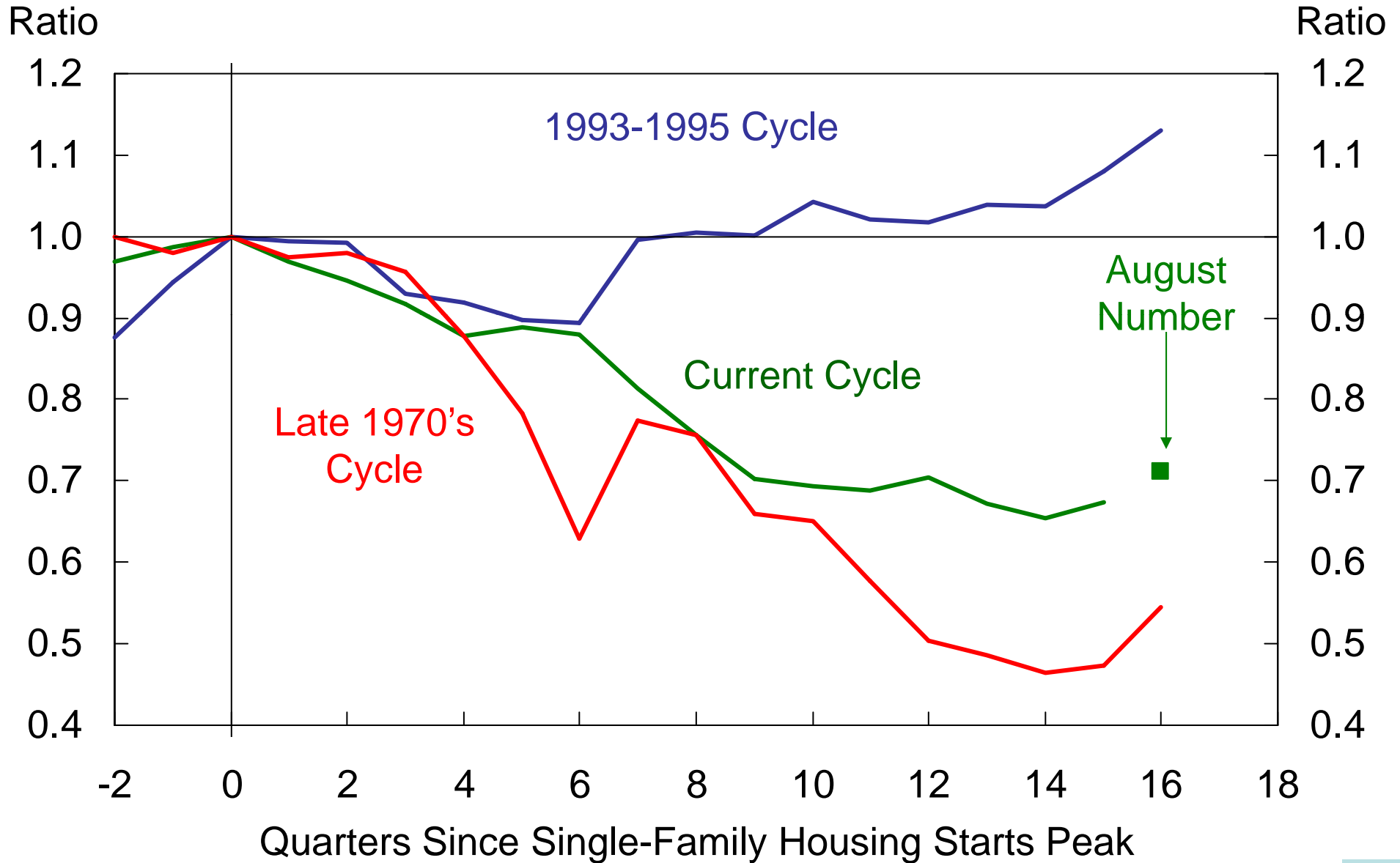


Source: Census Bureau



Single-Family Existing Home Sales

(Series Set to 1.0 at Housing Start Peak)



Source: Census Bureau

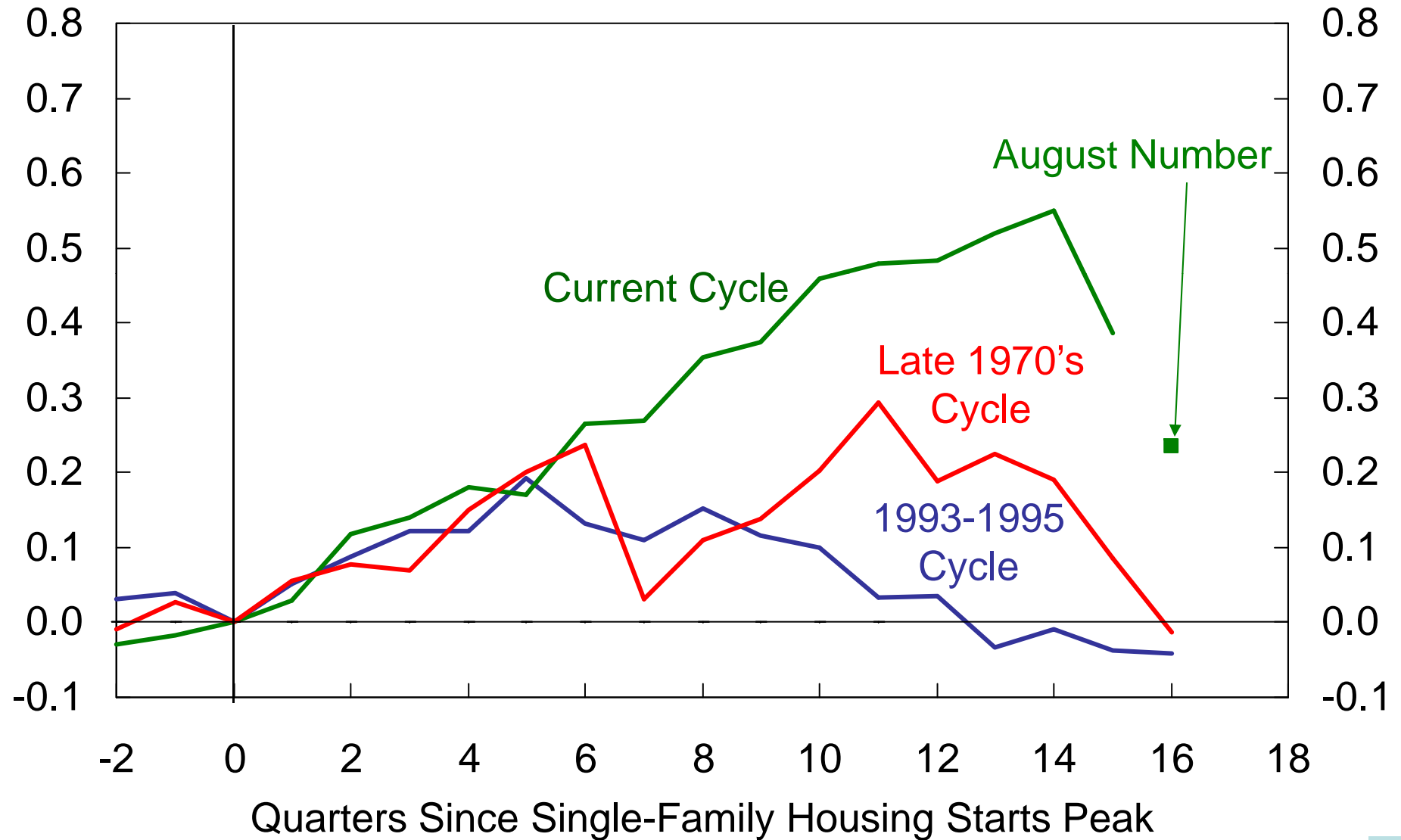


New Home Inventory / Sales Ratio

(Series Set to 0.0 at Housing Start Peak)

Difference

Difference



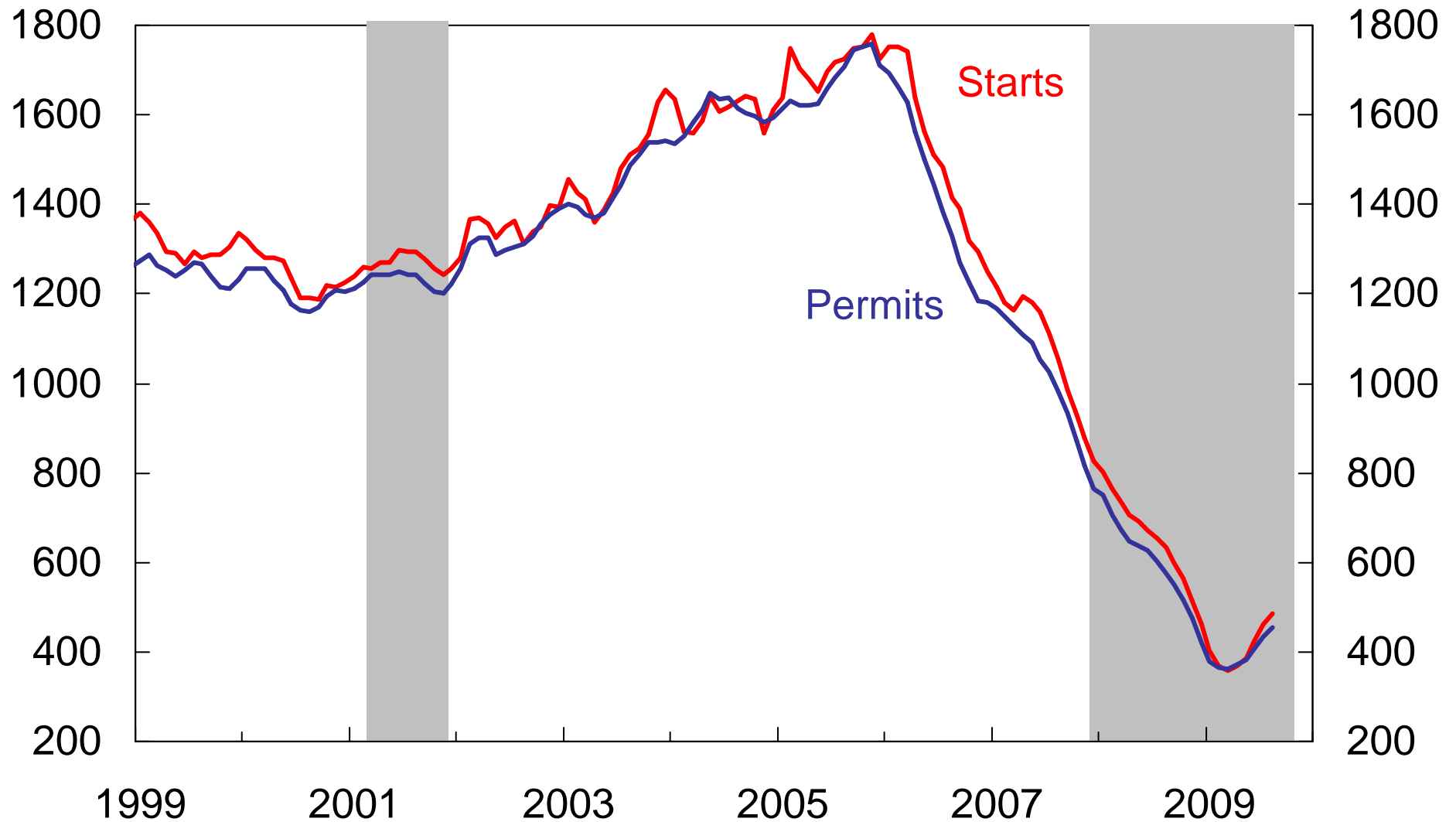
Source: Census Bureau



Housing Starts and Permits

3-month Moving Average

3-month Moving Average



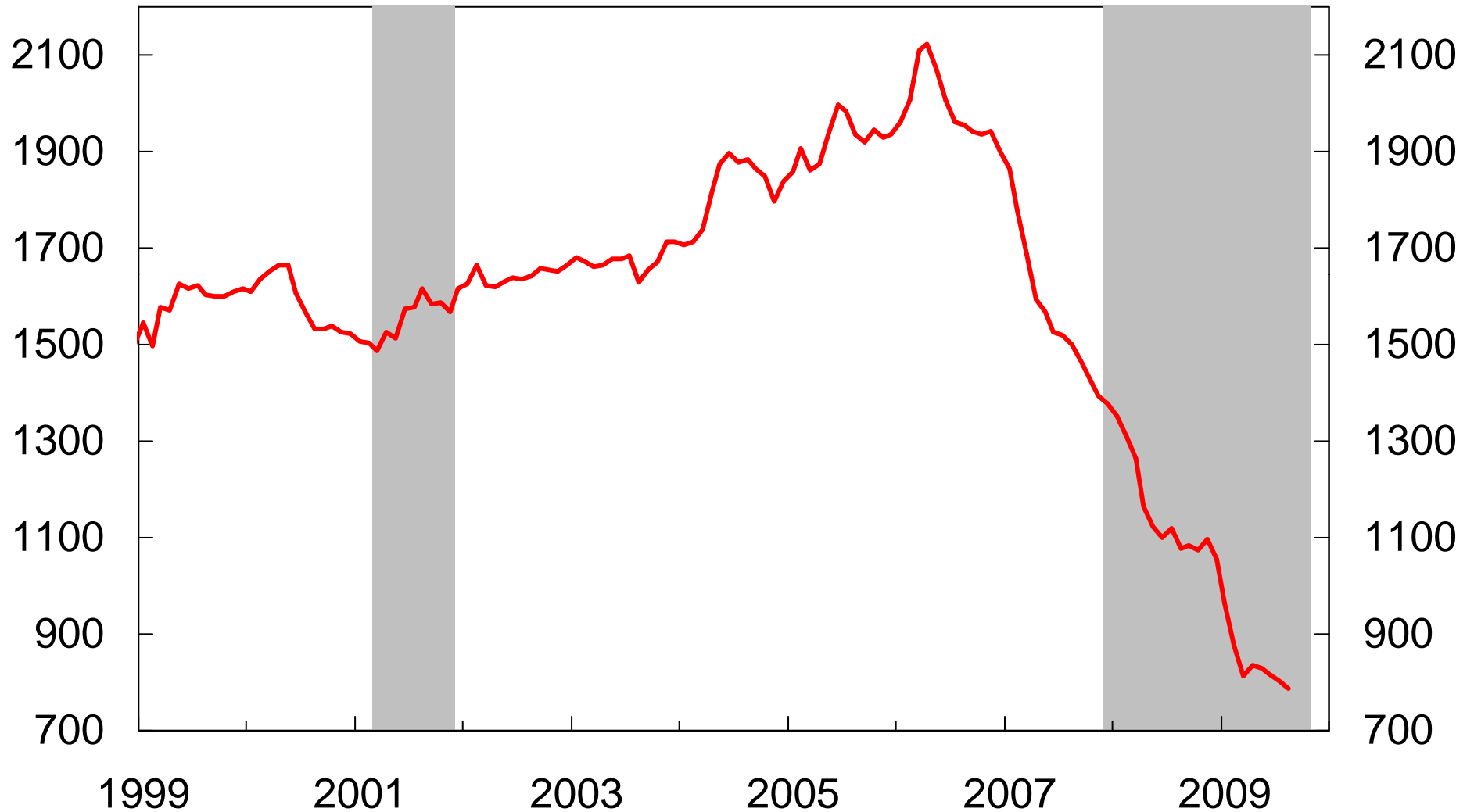
Source: Census Bureau



Housing Completions

3-month Moving Average

3-month Moving Average



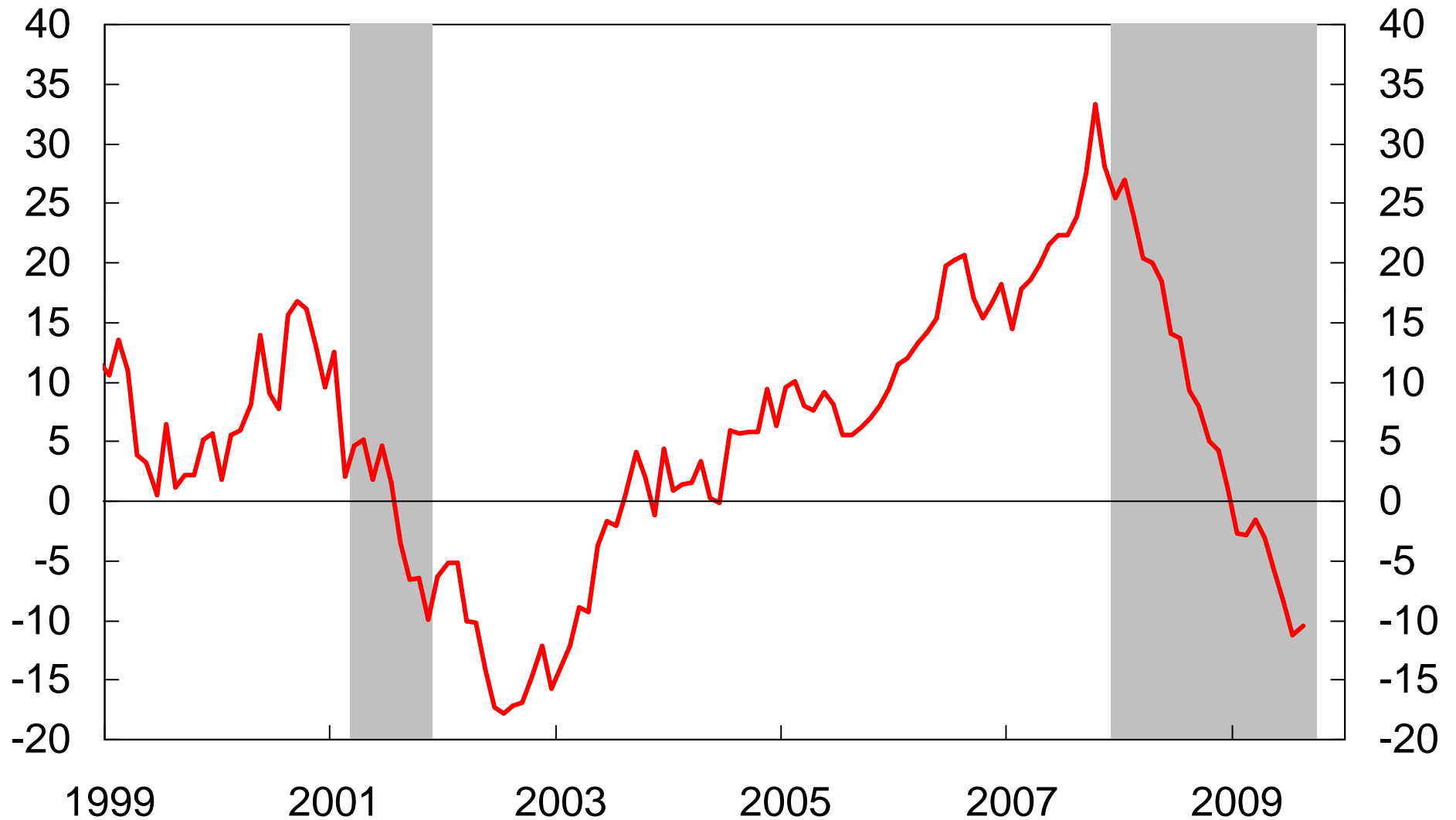
Source: Census Bureau



Private Nonresidential Construction

% Change - Year to Year

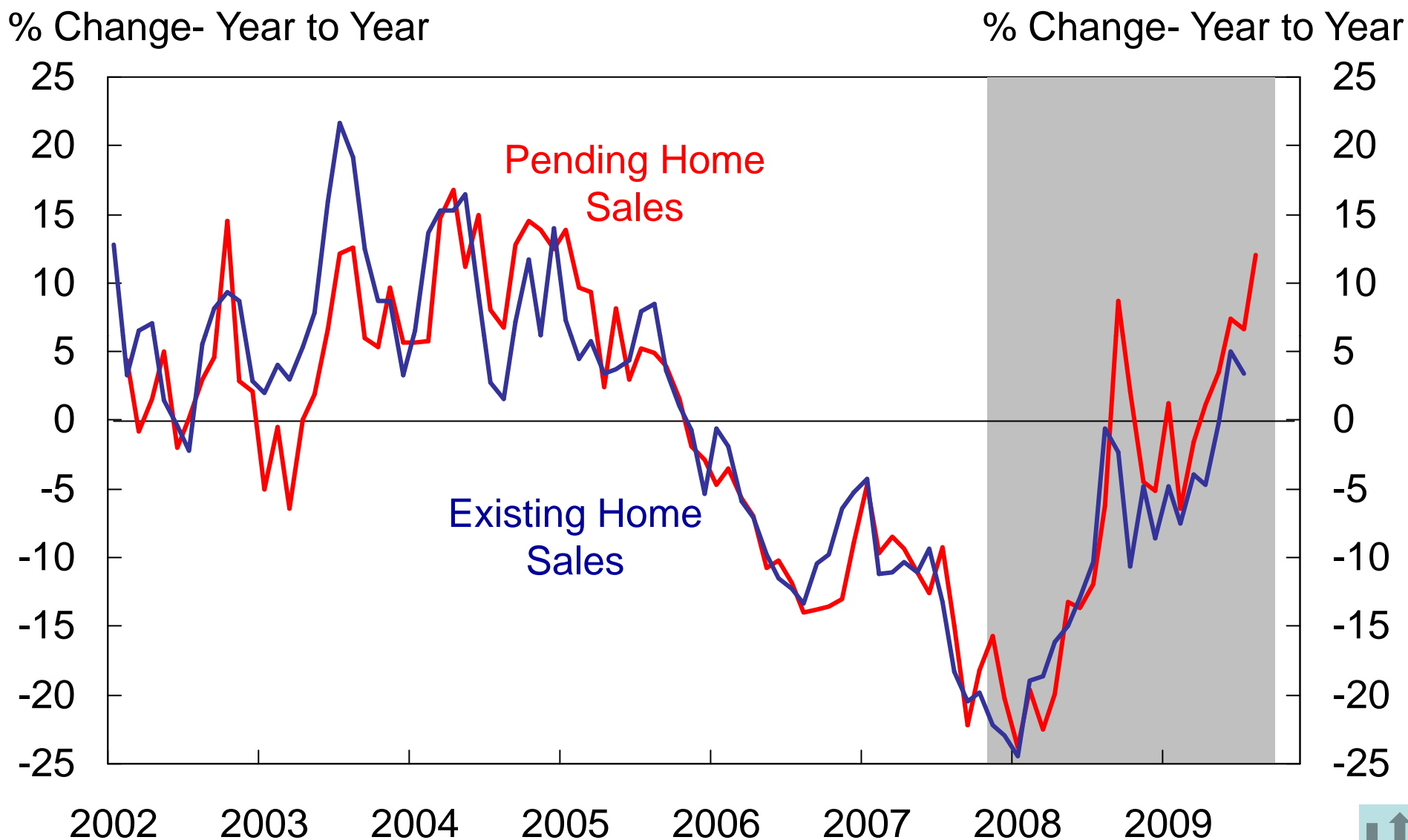
% Change - Year to Year



Source: Census Bureau



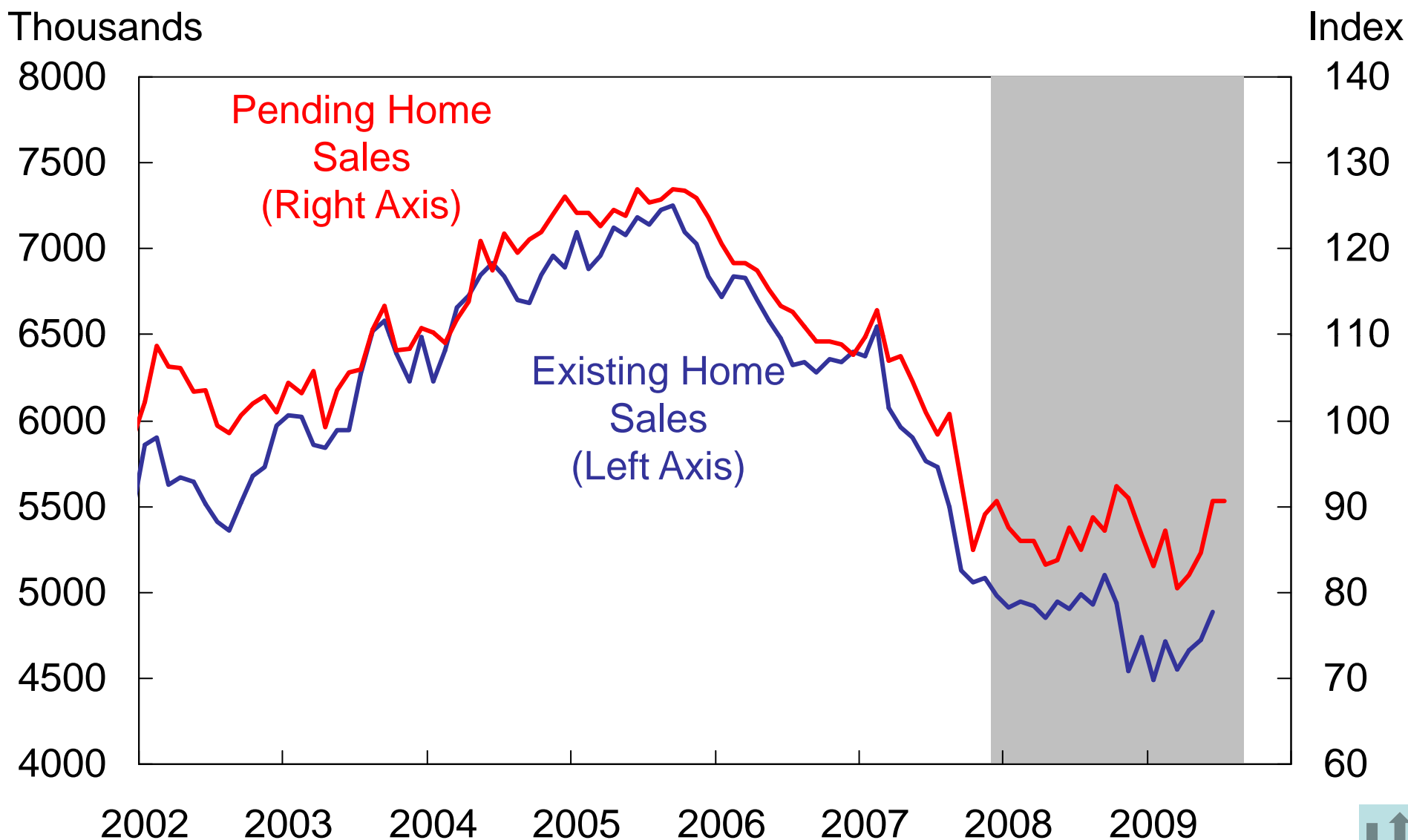
Pending and Existing Home Sales



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

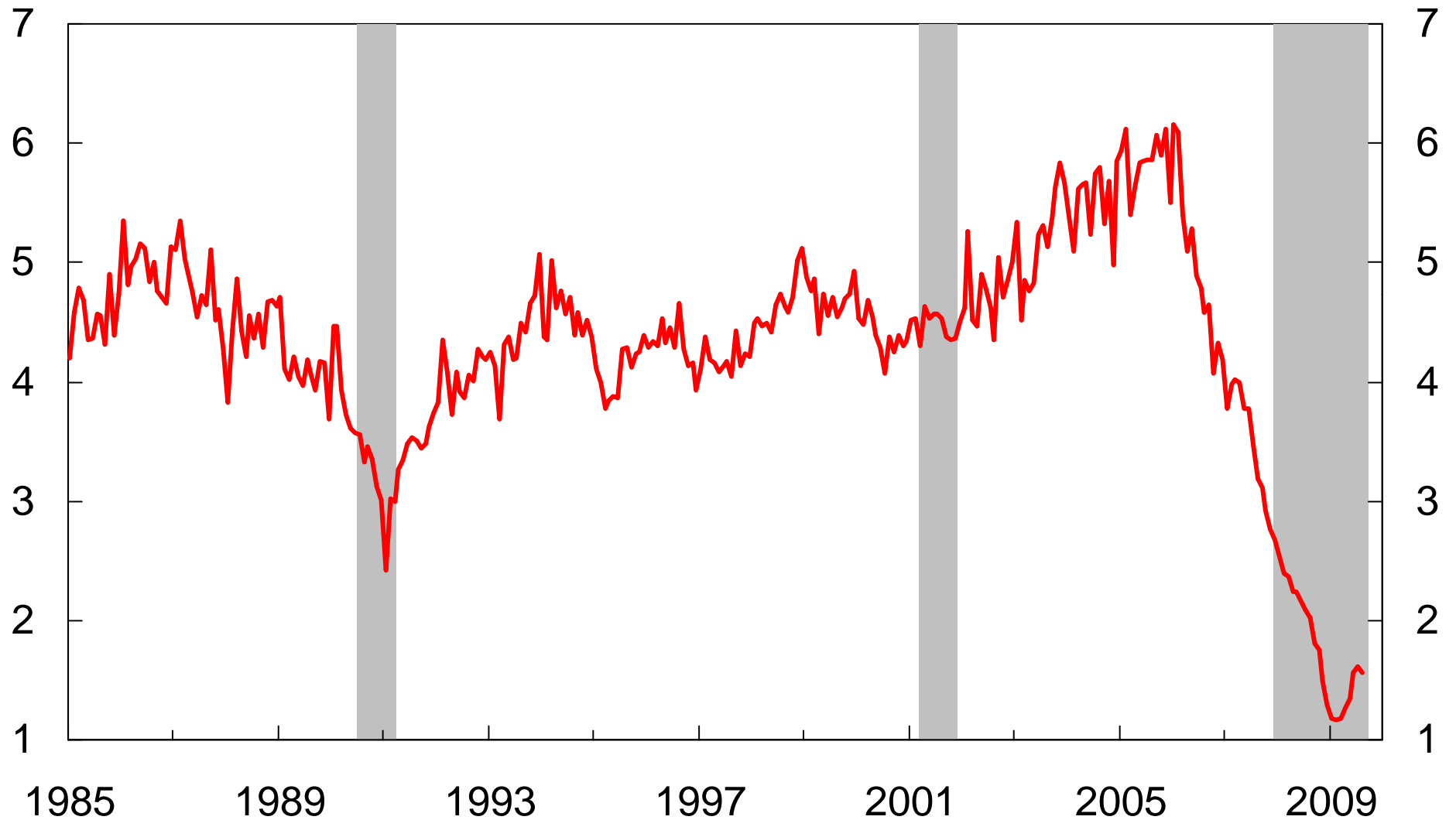


Ratio of Housing Starts to Population

Single-Family Homes

Starts per 1,000 people

Starts per 1,000 people



Source: Census Bureau

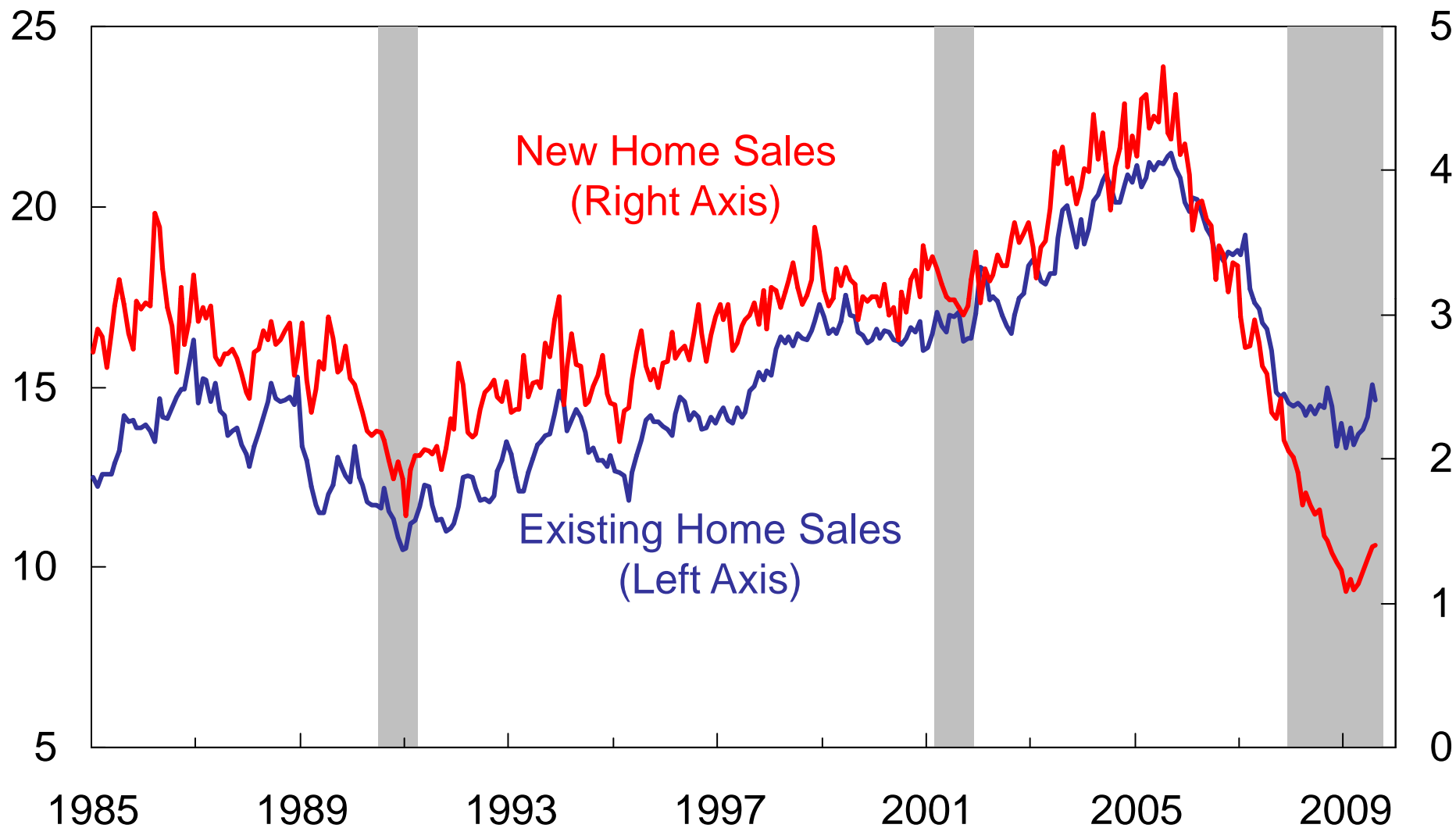


Ratio of Sales to Population

Single-Family Homes

Sales per 1,000 People

Sales per 1,000 People



Source: Census Bureau

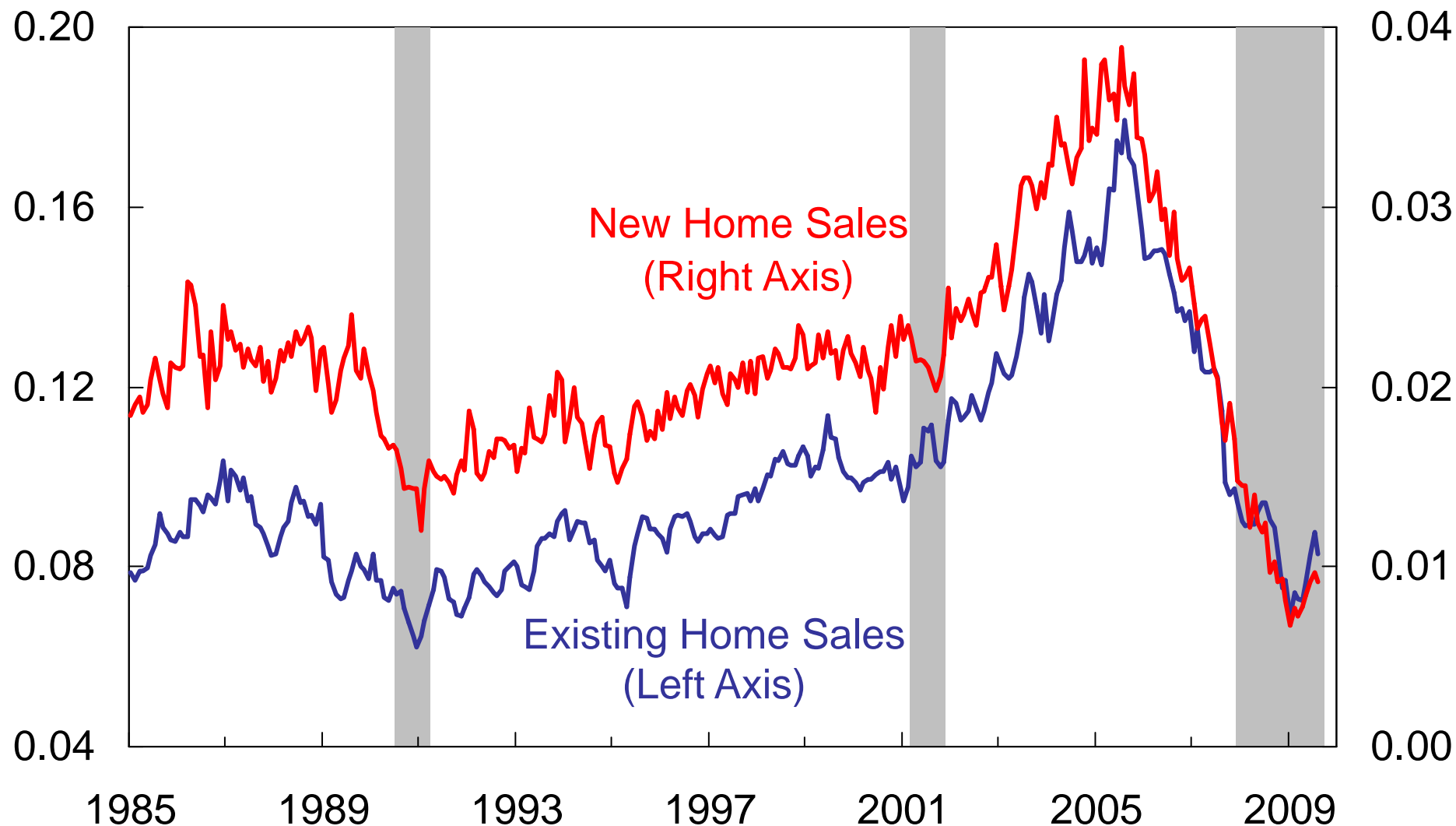


Ratio of Sales Value to Personal Income

Single-Family Homes

Sales Value per Dollar Earned

Sales Value per Dollar Earned



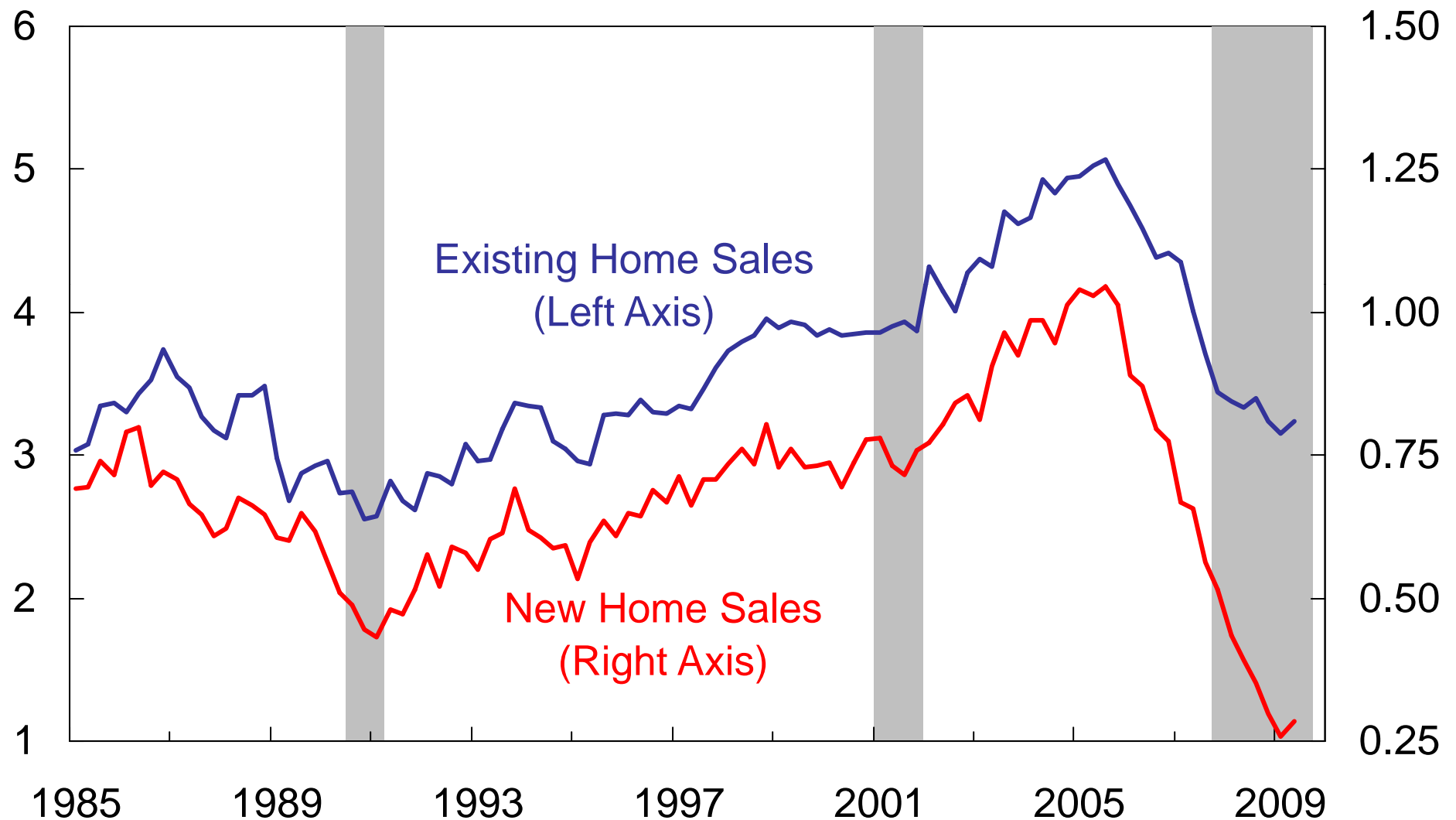
Source: Census Bureau and Bureau of Economic Analysis



Ratio of Sales to Housing Stock

Single-Family Homes

Ratio



Source: Census Bureau

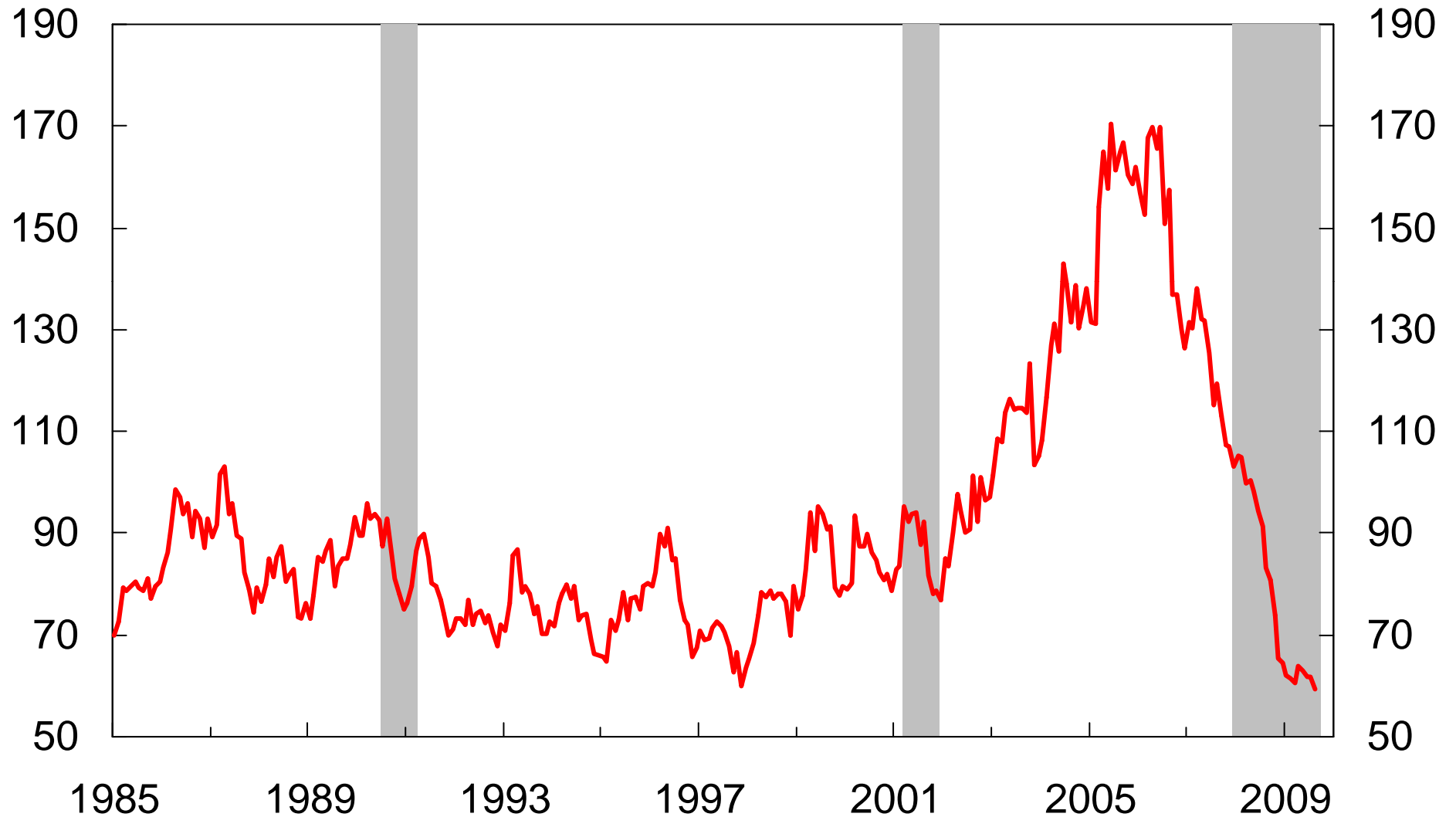


Housing Units Authorized but Not Started

Single-Family Homes

Thousands of Units

Thousands of Units



Source: Census Bureau



Cities

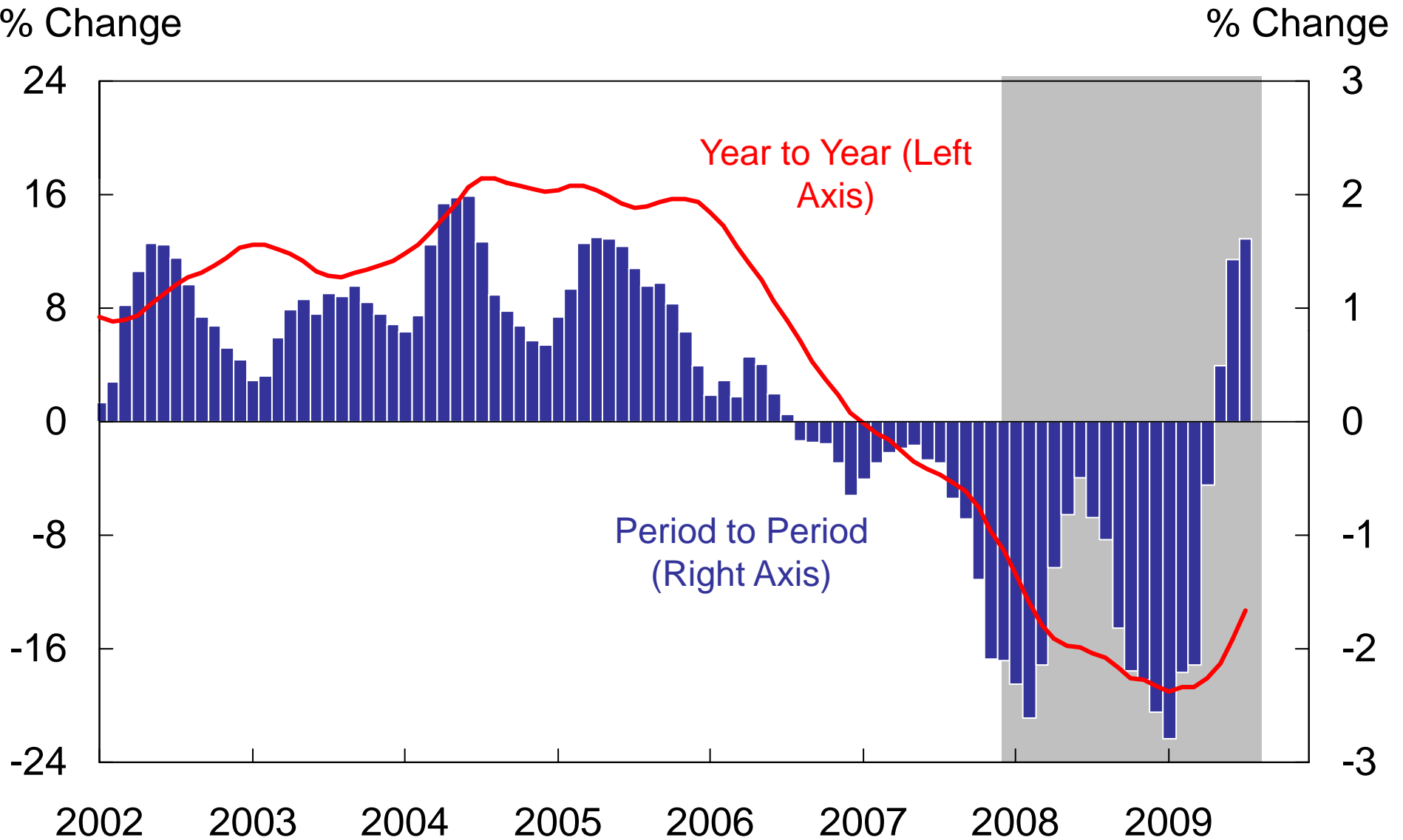
- Boston
- Chicago
- Denver
- Las Vegas
- Los Angeles
- Miami
- New York City
- San Diego
- San Francisco
- Washington, DC
- Atlanta
- Charlotte
- Cleveland
- Dallas
- Detroit
- Minneapolis
- Phoenix
- Portland
- Seattle
- Tampa



Case-Shiller Home Price Index

Composite 20-NSA

% Change



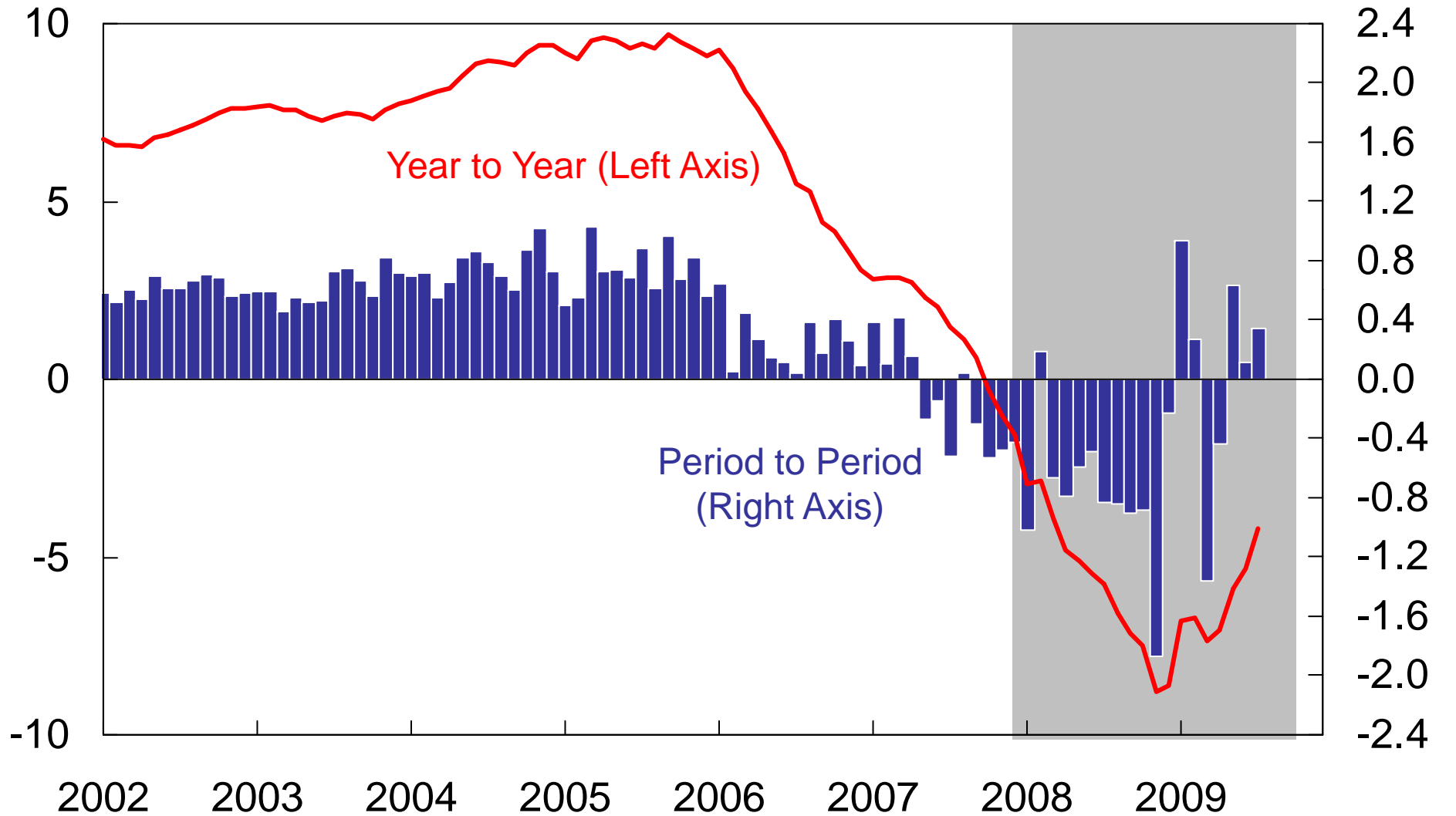
Source: S&P, Fiserv, and MacroMarkets LLC

Note: Monthly Data

FHFA Home Price Index

SA

% Change

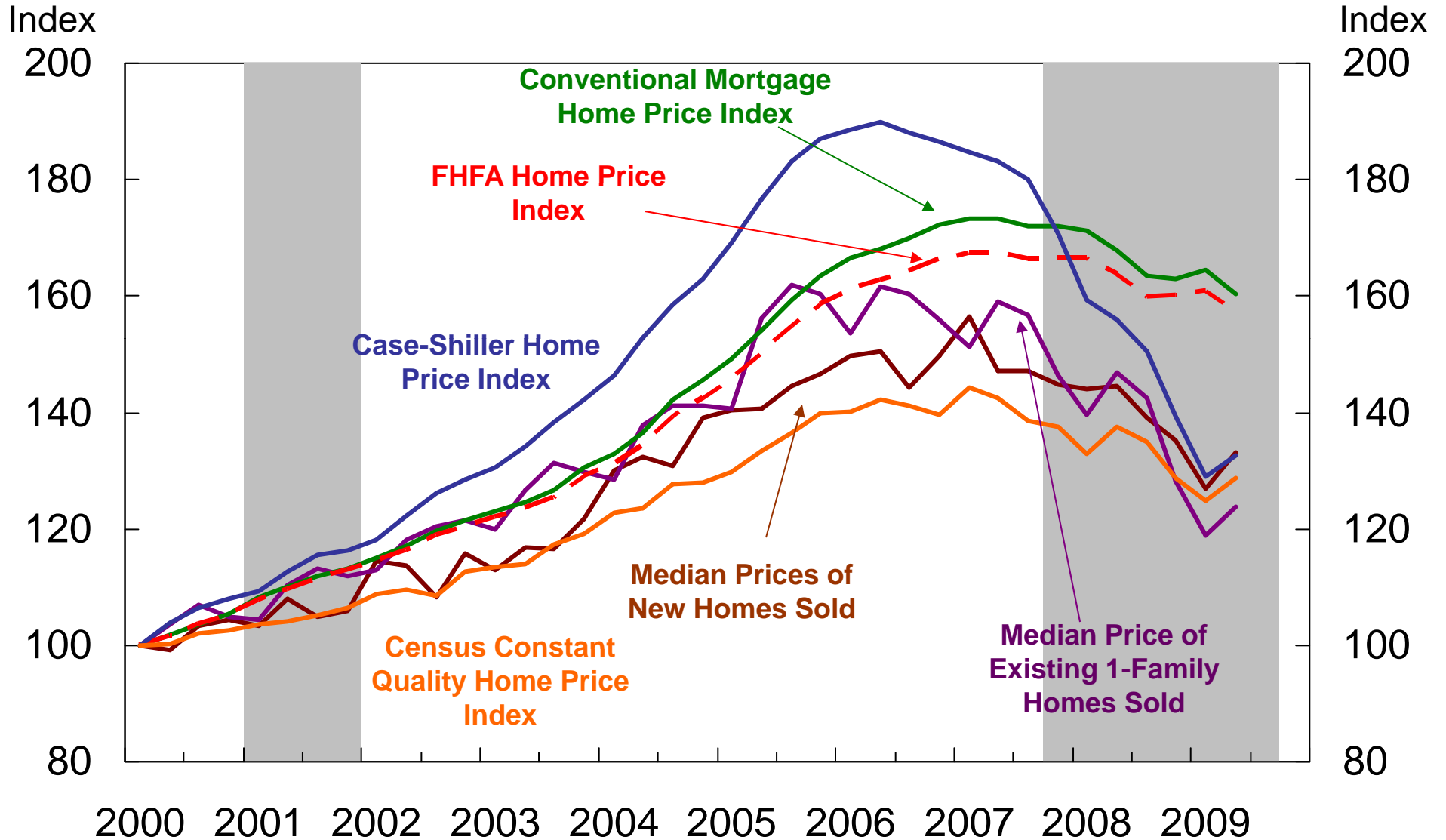


Source: Federal Housing Finance Administration

Note: Monthly Data

Home Price Indexes

2000 Q1 = 100



Source: U.S. Census, National Association of Realtors, Freddie Mac, FHFA, and Standard and Poors.

Industrial Production: Manufacturing Output

(percent change at an annual rate)

	24 Month	12 Month	6 Month	3 Month	1 Month
Total	-8.6	-14.4	-6.0	-2.5	12.1
Durable Goods	-11.6	-20.3	-9.8	-2.5	30.8
Wood Products	-18.7	-23.1	-2.9	8.2	9.4
Nonmetallic Mineral Products	-12.6	-19.7	-8.8	1.5	30.3
Primary Metals	-24.5	-42.6	-11.8	13.7	44.2
Fabricated Metals	-12.2	-21.0	-22.1	-11.1	-4.1
Machinery	-16.3	-24.6	-26.8	-17.3	-5.7
Computers and Electronic Equipment	-2.5	-14.6	-6.6	-5.5	6.6
Electrical Equipment, Appliances, and Components	-7.9	-16.0	-17.5	-11.6	-9.0
Motor Vehicles and Parts	-22.2	-31.7	40.1	36.2	791.6
Aerospace and Misc. Transportation Equipment	-3.1	-6.7	-7.4	-1.7	11.1
Furniture and Related Products	-16.6	-23.0	-19.7	-8.0	1.7
Miscellaneous	-2.7	-3.9	-2.8	0.0	8.9
Nondurable Goods	-5.3	-8.2	-1.6	-2.5	-1.2
Food, Beverages, and Tobacco	-2.1	-2.3	0.2	-0.7	-4.4
Textile Mill Products	-15.3	-20.0	-16.5	-12.0	-16.8
Apparel Products	-11.8	-19.7	-17.6	-20.8	2.0
Paper	-7.1	-11.7	7.4	26.9	7.5
Printing and Related Activities	-10.7	-13.7	-13.6	-3.9	-14.0
Chemicals	-6.4	-9.8	0.0	-5.4	4.9
Petroleum and Coal	-1.1	-4.8	0.9	-9.9	-5.5
Plastics and Rubber	-11.3	-17.9	-10.8	1.9	12.3
Memo Item: Special Aggregates					
IT Equipment	-4.7	-20.2	-7.2	-8.5	4.4
Motor Vehicles and Parts	-22.2	-31.7	40.1	36.2	791.6
Nonenergy, Non IT, Non Auto	-7.9	-12.9	-7.7	-3.8	1.3

Source: Federal Reserve Board

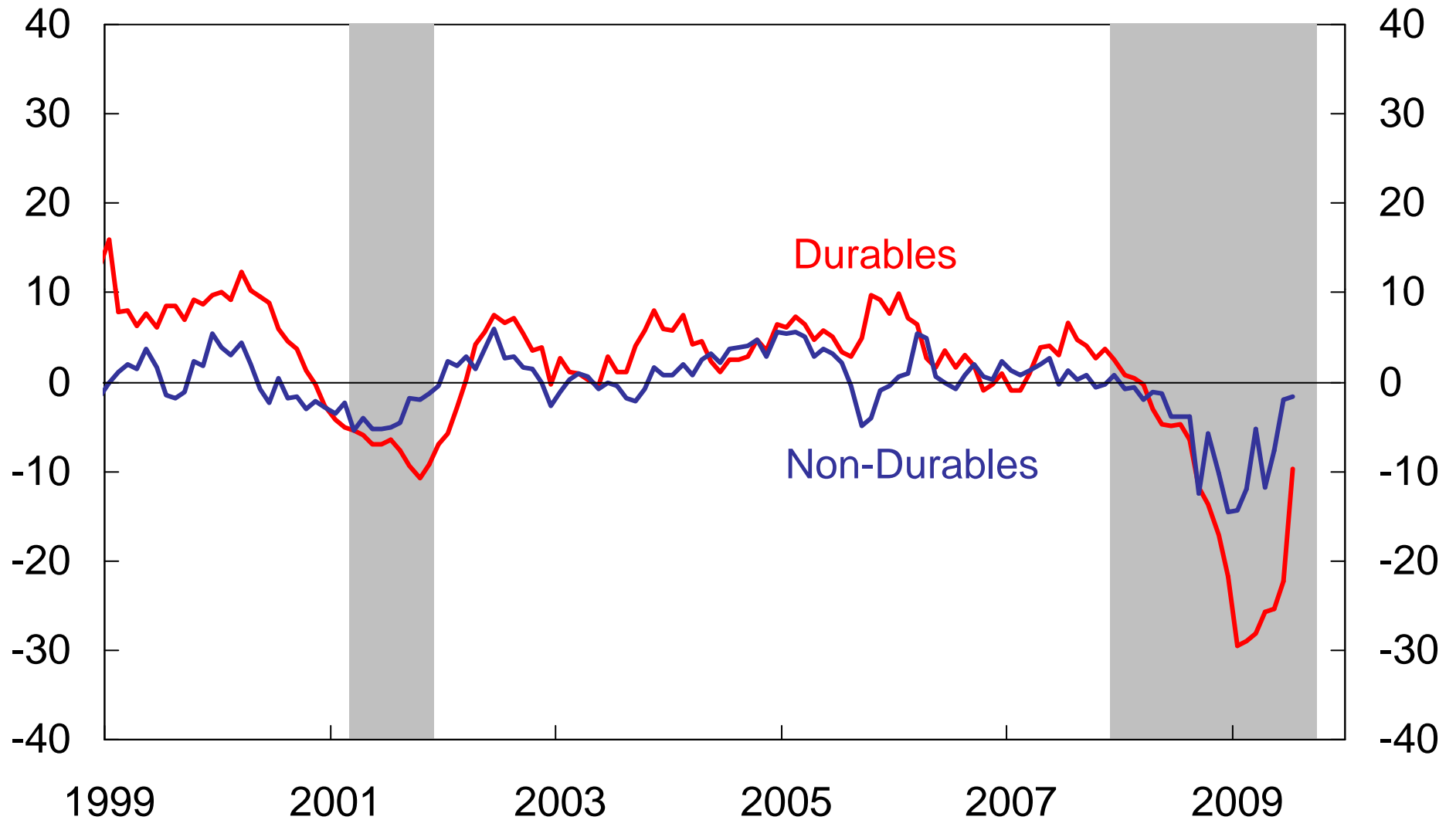
Note: Data through July 2009.



Industrial Production

% Change - 6 months AR

% Change - 6 months AR



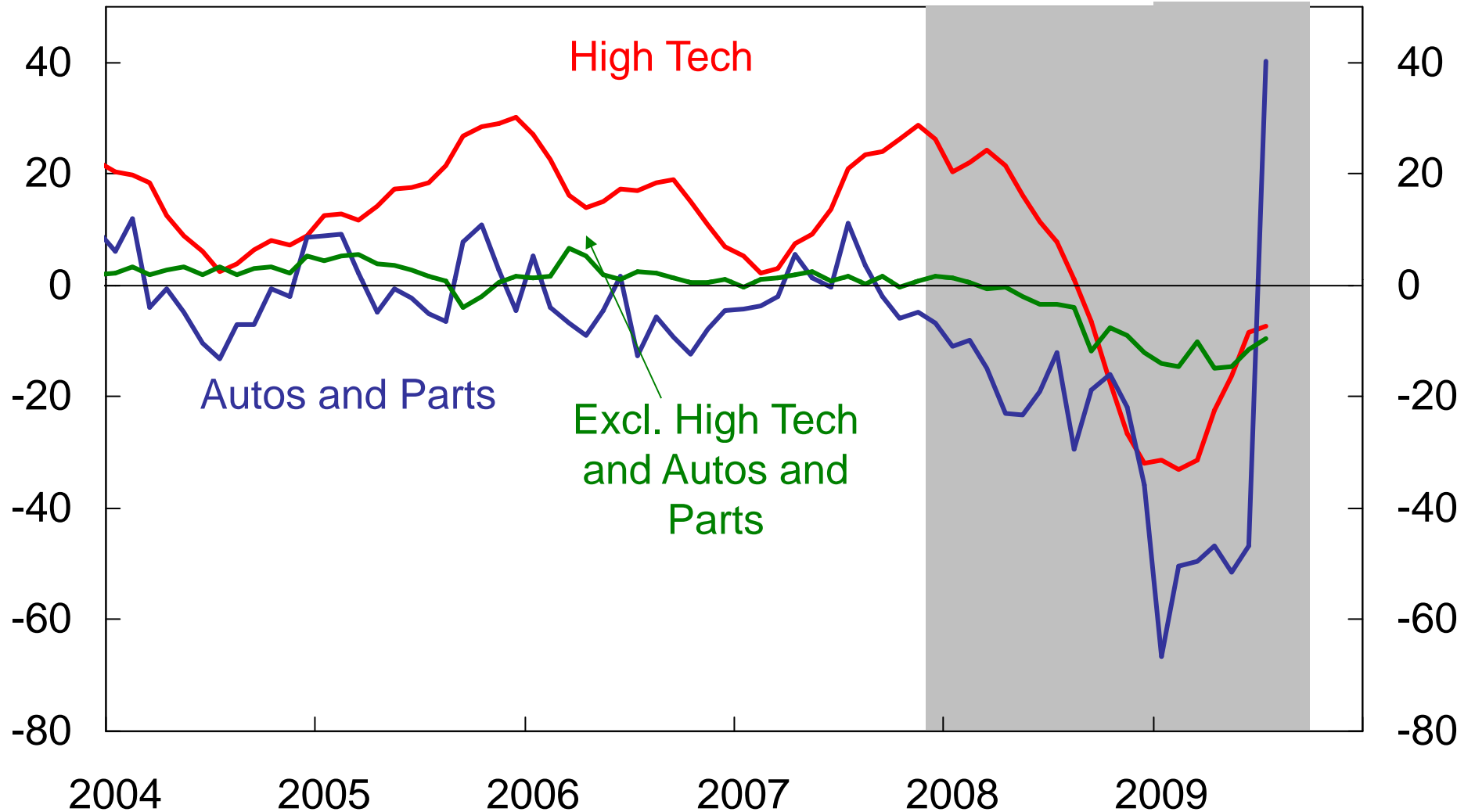
Source: Federal Reserve Board



Industrial Production

% Change - 6 months AR

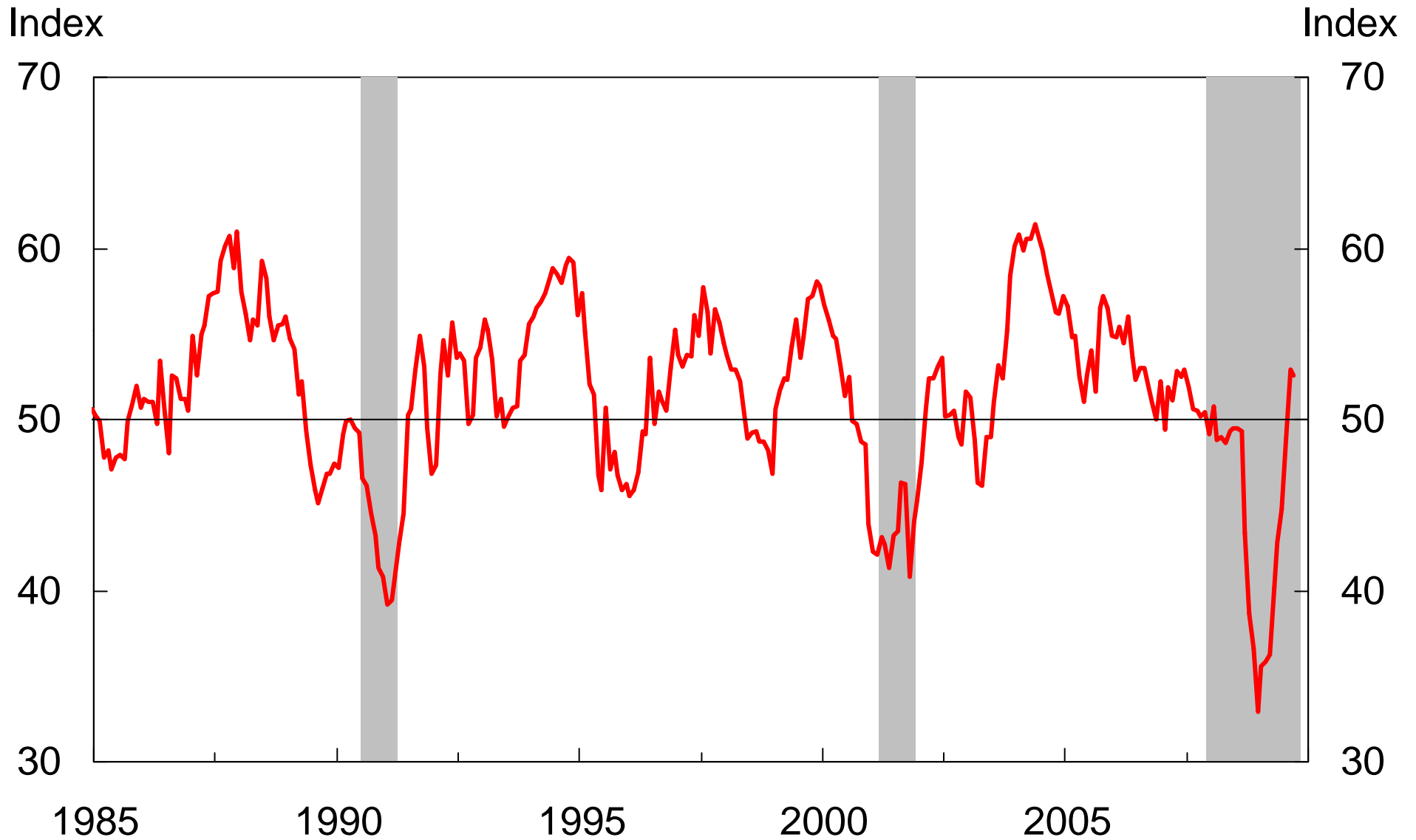
% Change - 6 months AR



Source: Federal Reserve Board



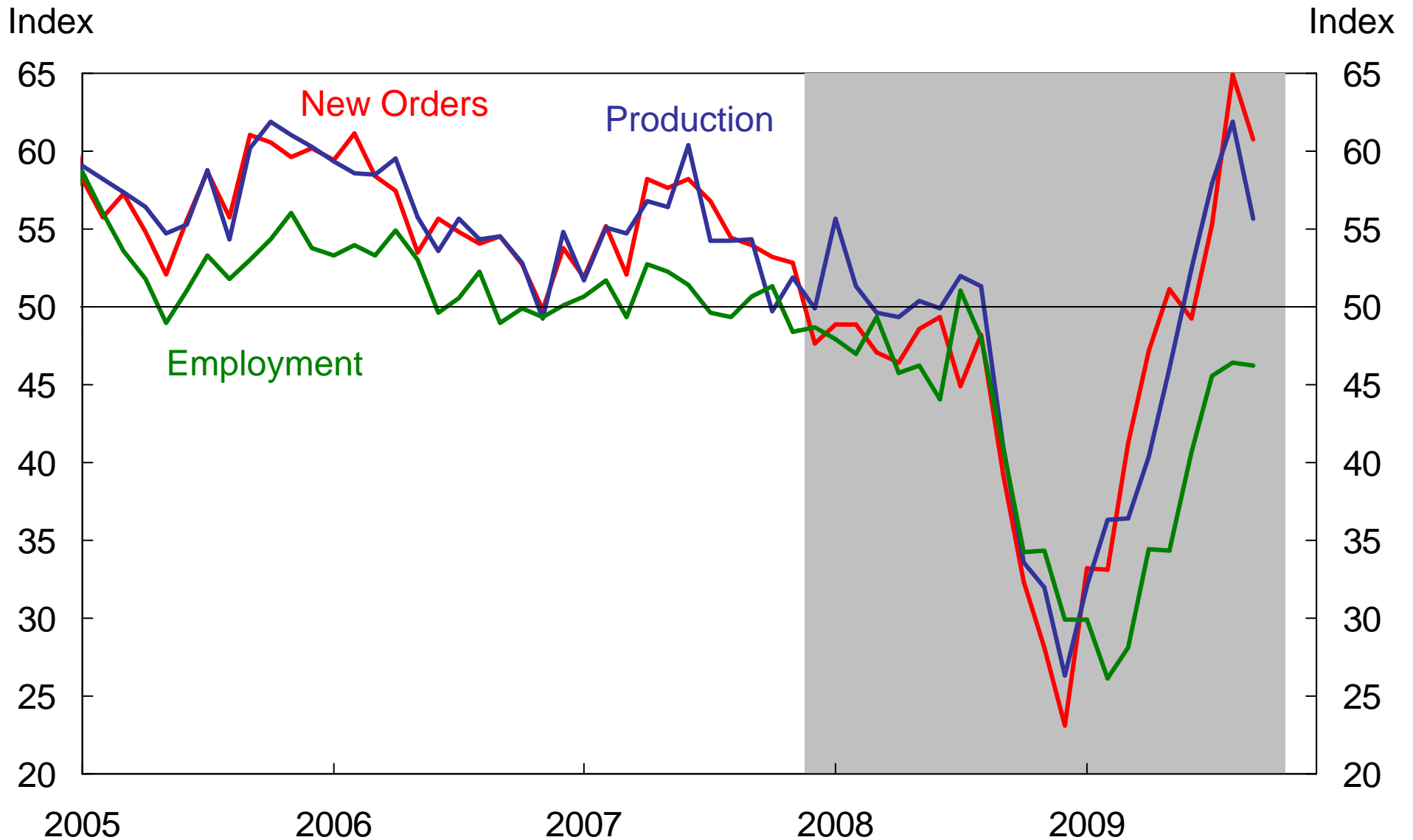
ISM Manufacturing Index



Source: Institute for Supply Management



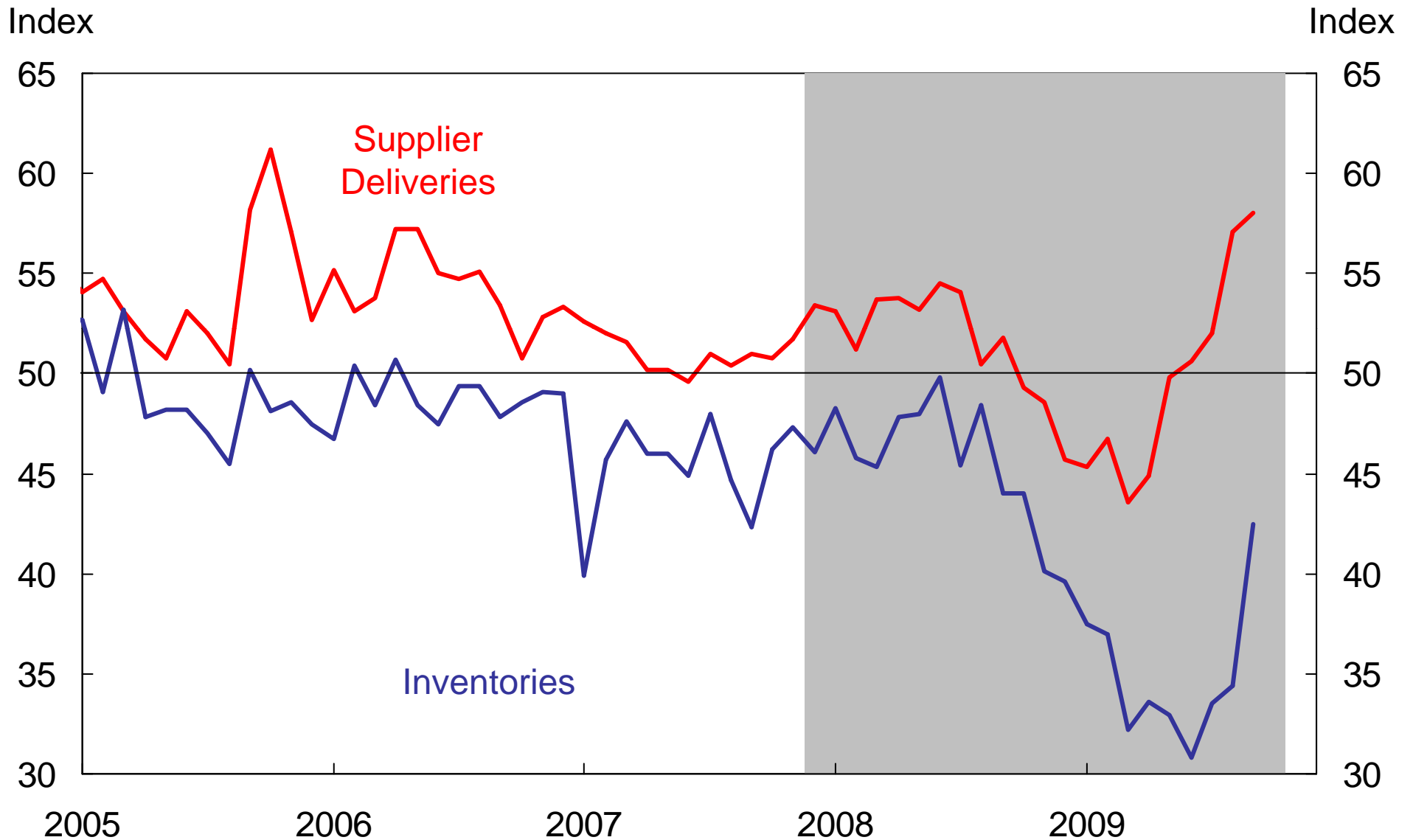
Components of ISM Manufacturing Index



Source: Institute for Supply Management



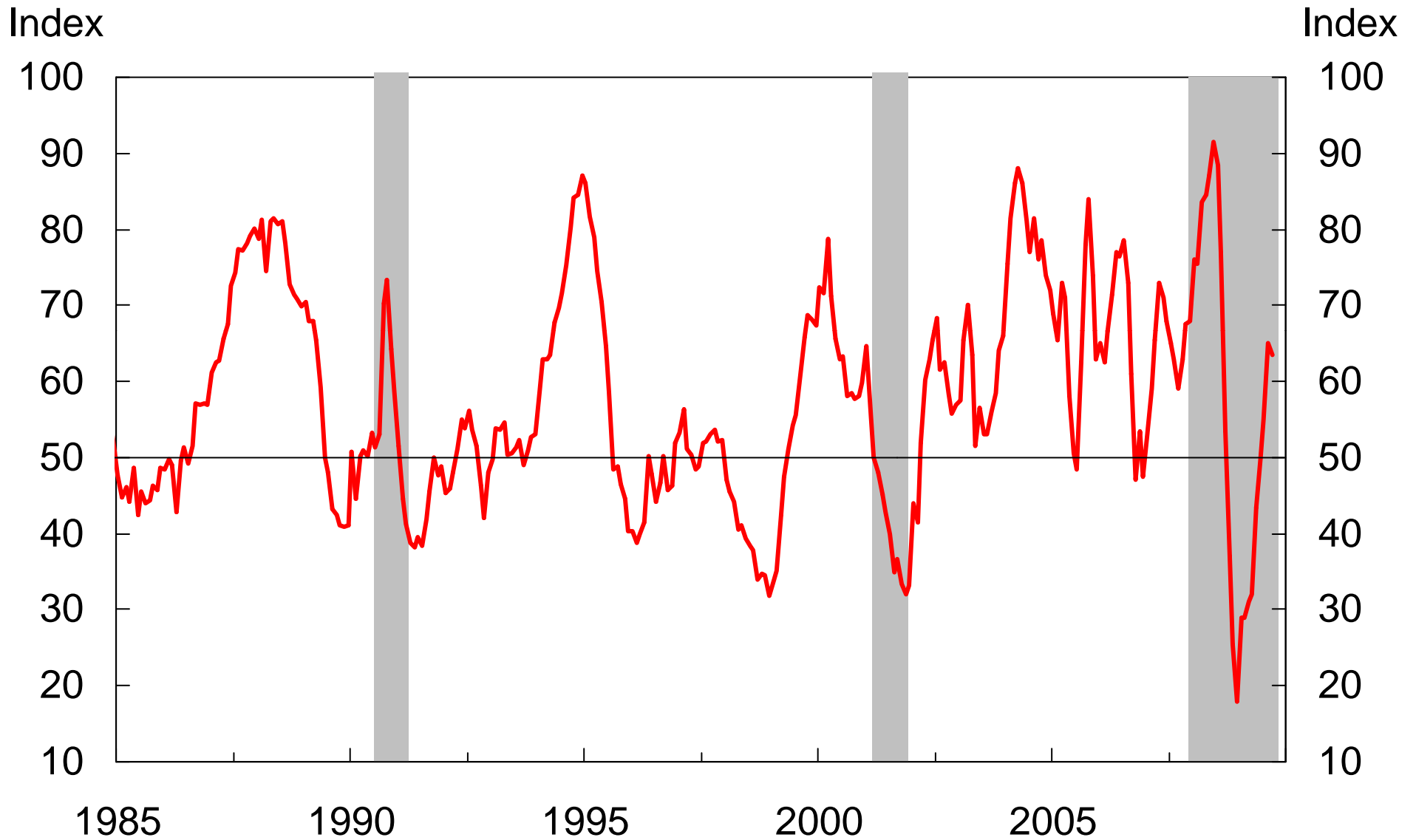
Components of ISM Manufacturing Index



Source: Institute for Supply Management



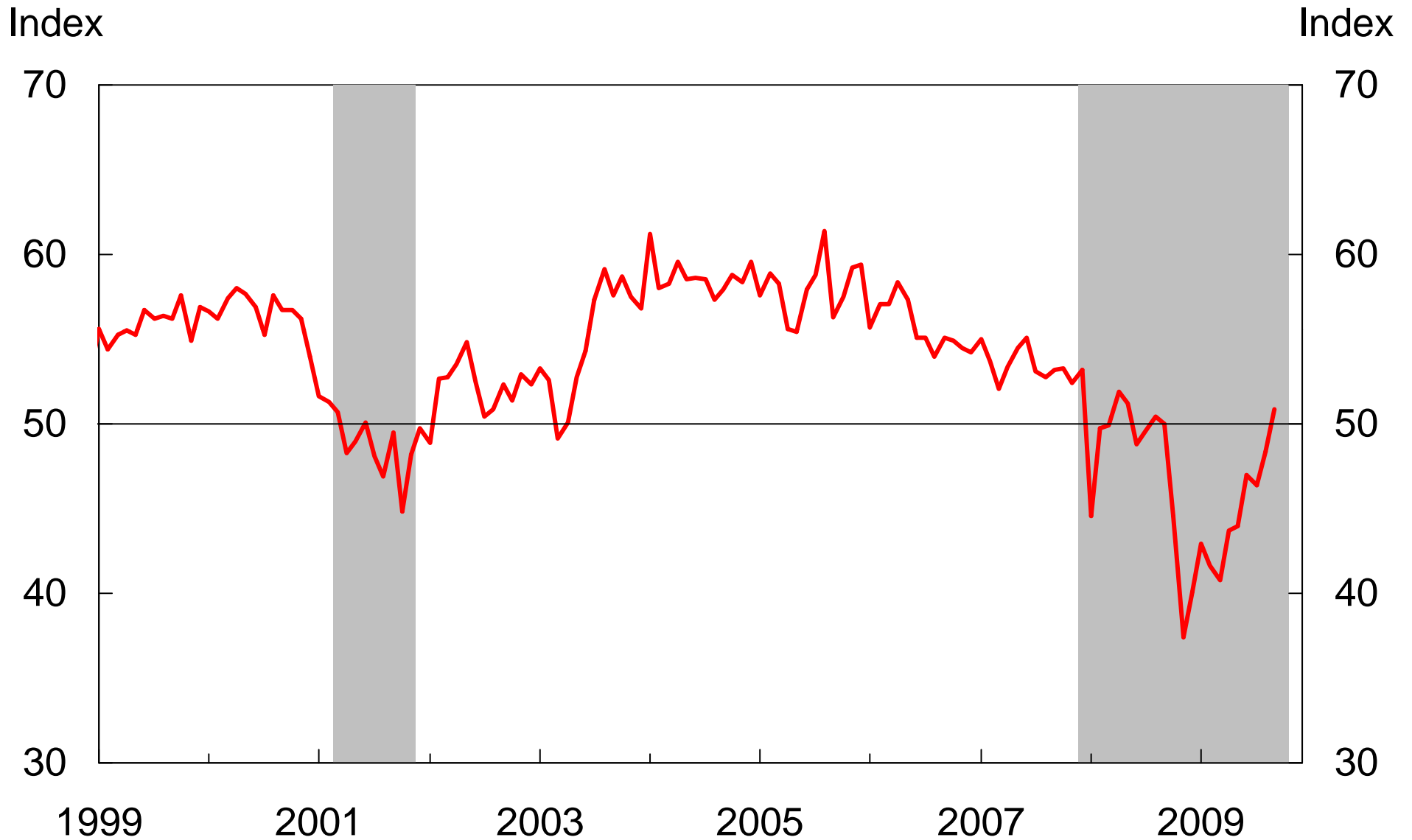
ISM Manufacturing Price Index



Source: Institute for Supply Management



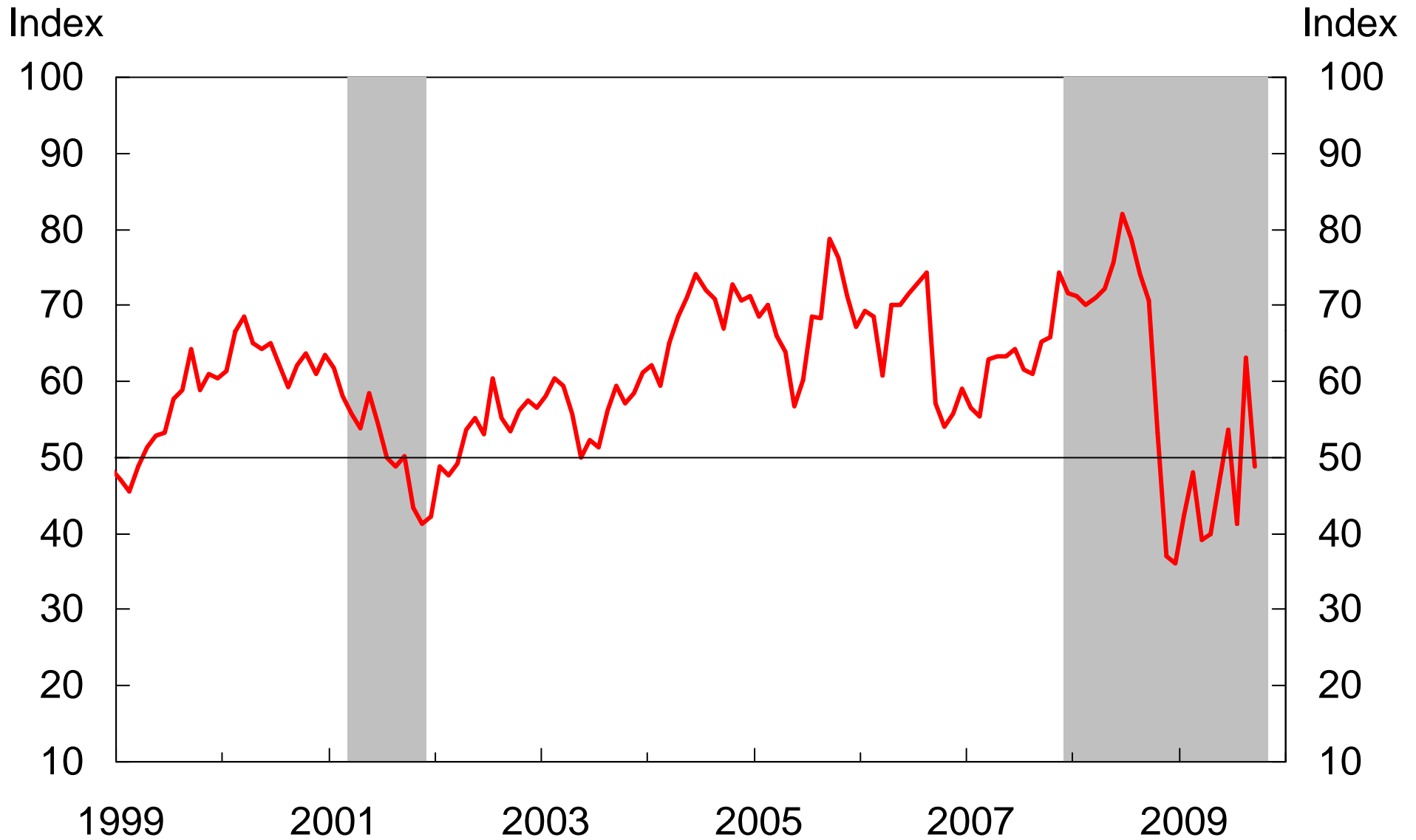
ISM Non-Manufacturing Index



Source: Institute for Supply Management



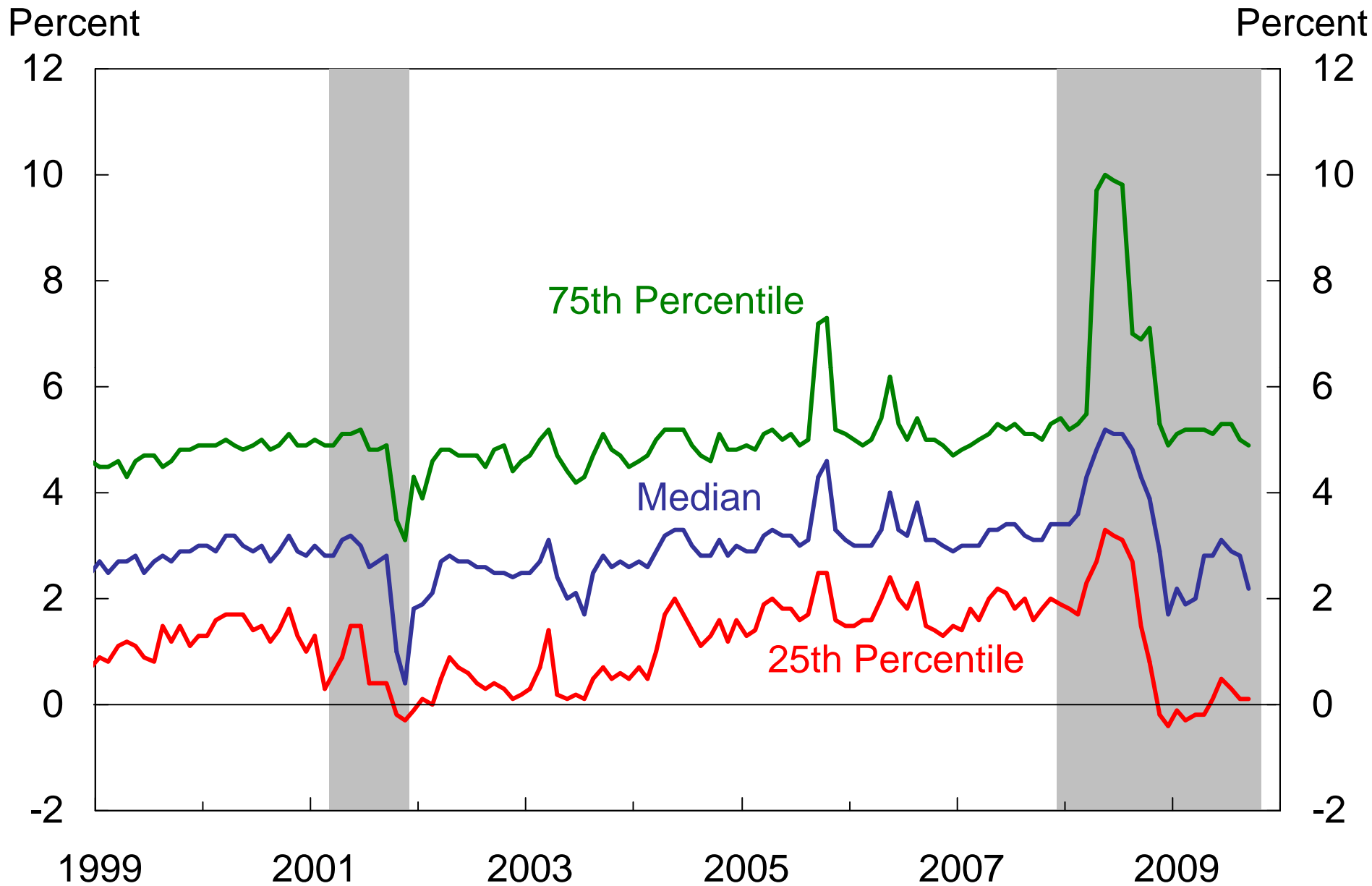
ISM Non-Manufacturing Price Index



Source: Institute for Supply Management

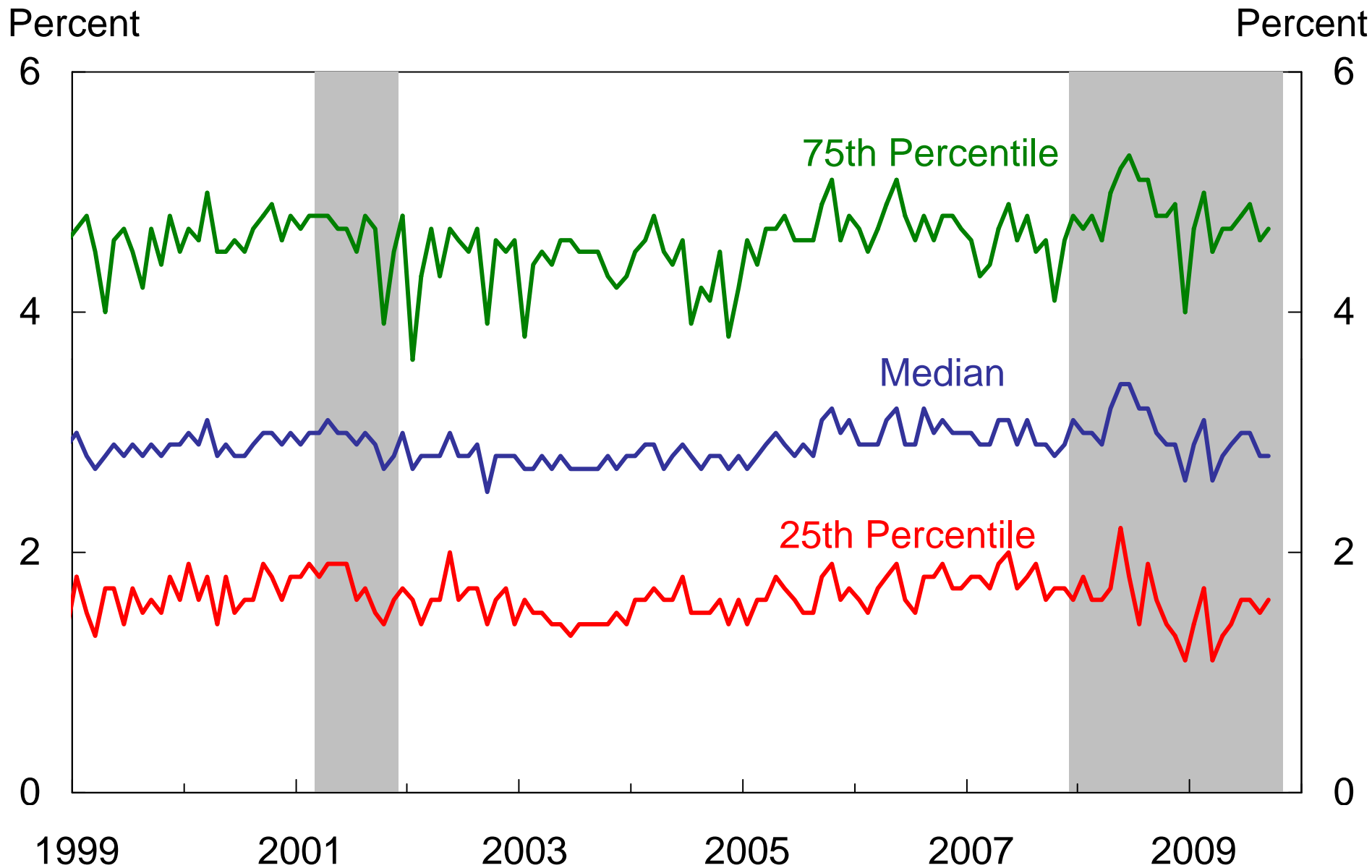


Michigan Survey Inflation Expectations: 1 Year Ahead



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	1.9	-0.5	1.9	3.7	4.2
Market-Based	2.0	-0.5	2.0	3.9	4.5
Durable Goods	-1.5	-2.1	-1.9	-3.6	-5.7
Motor Vehicles and Parts	-0.2	0.4	4.9	5.1	4.5
Nondurable Goods	2.2	-4.3	6.5	14.1	16.0
Clothing and Shoes	0.9	0.7	1.5	5.7	1.1
Services	2.4	1.0	1.1	1.7	2.1
Housing	2.3	1.7	1.1	0.3	0.7
Transportation	3.8	2.0	0.7	3.7	8.5
Medical Care	2.6	2.4	2.4	2.7	3.1
Recreation Services	2.5	0.9	1.9	6.0	4.9
Other Services	2.9	1.3	1.4	1.5	2.2
PCE Deflator Excluding Food and Energy	2.0	1.3	1.6	1.4	1.1
Market-Based	2.2	1.7	1.6	1.2	1.0

Source: Bureau of Economic Analysis

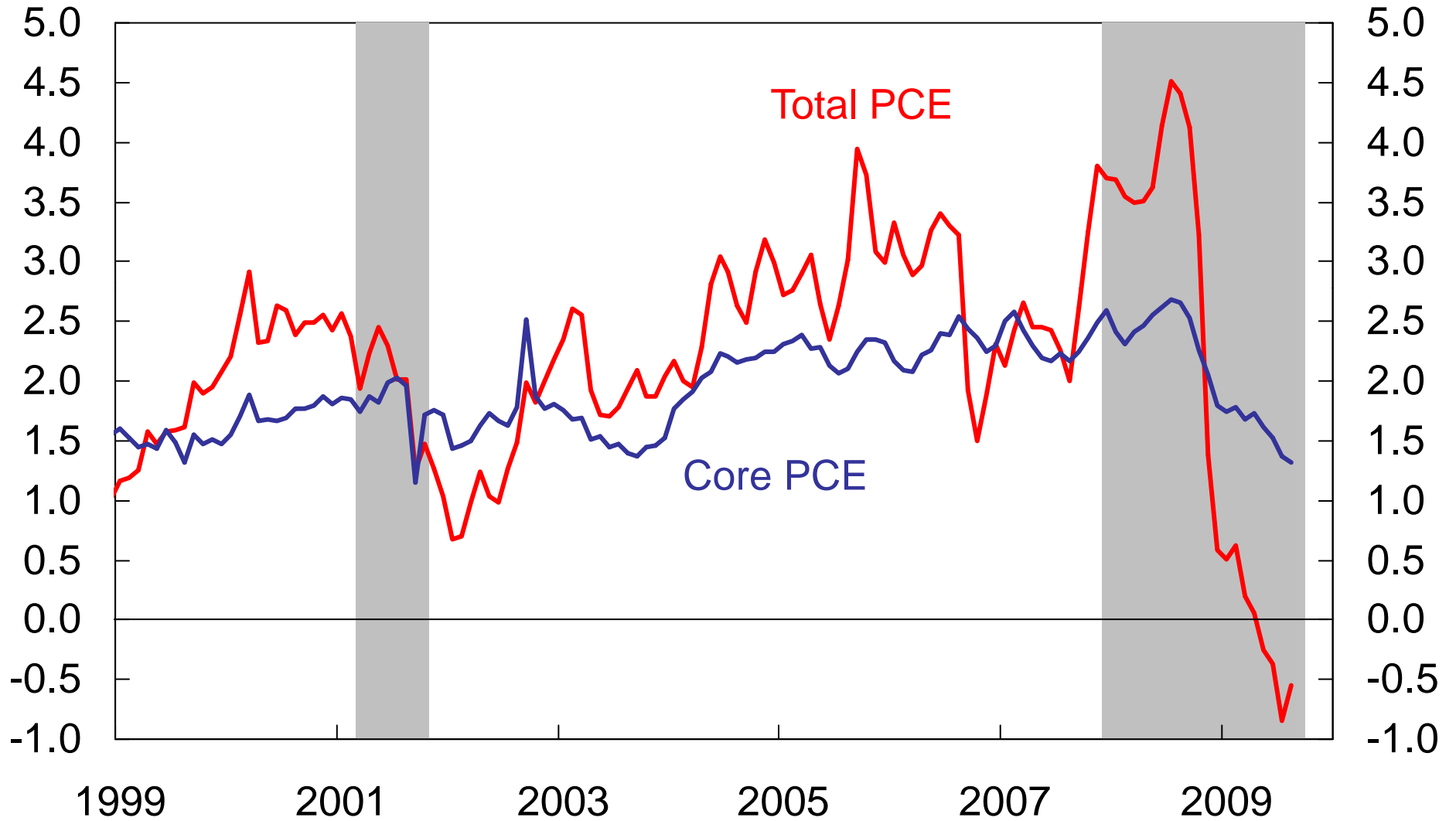
Note: Data through August 2009.



Total and Core PCE Deflator

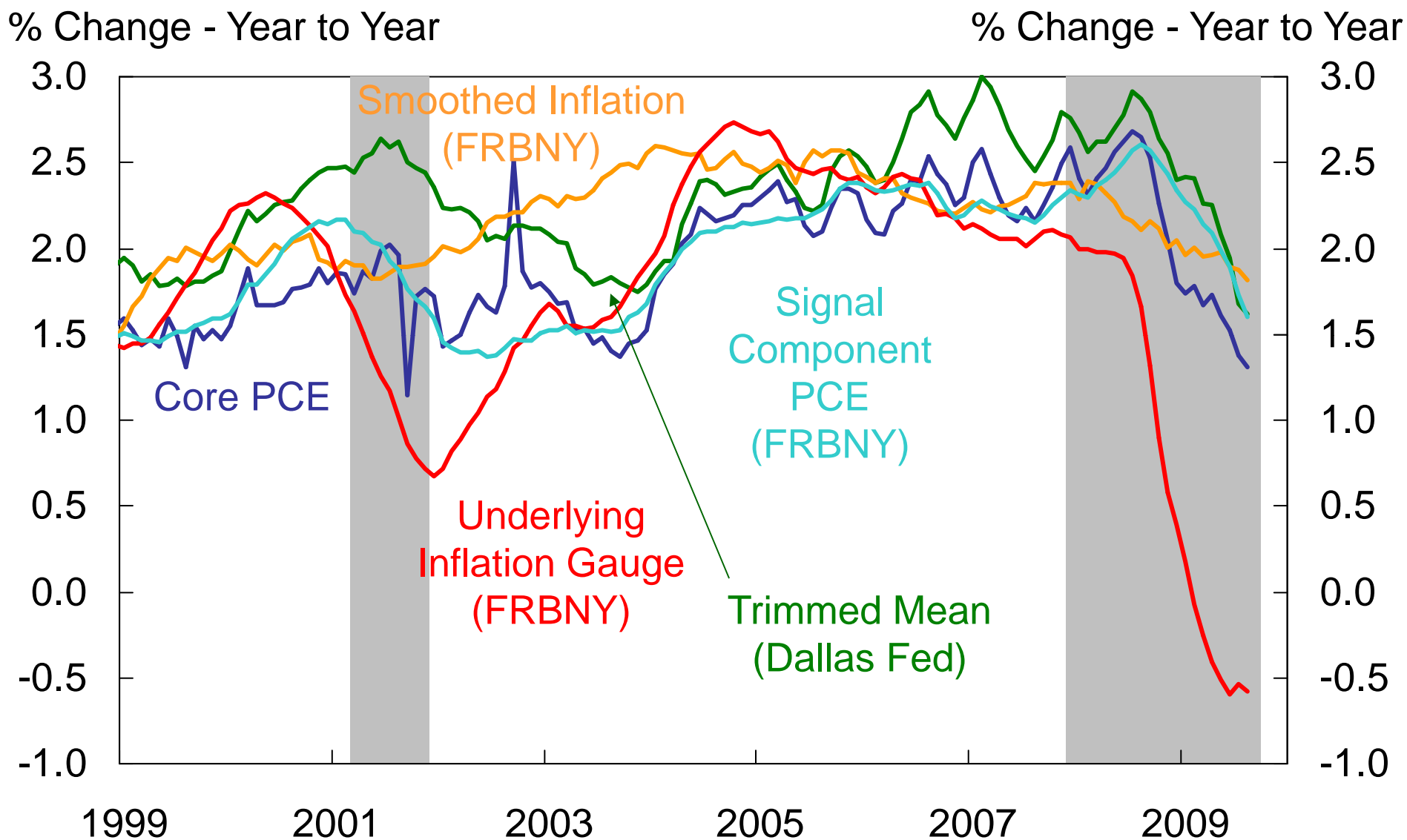
% Change - Year to Year

% Change - Year to Year



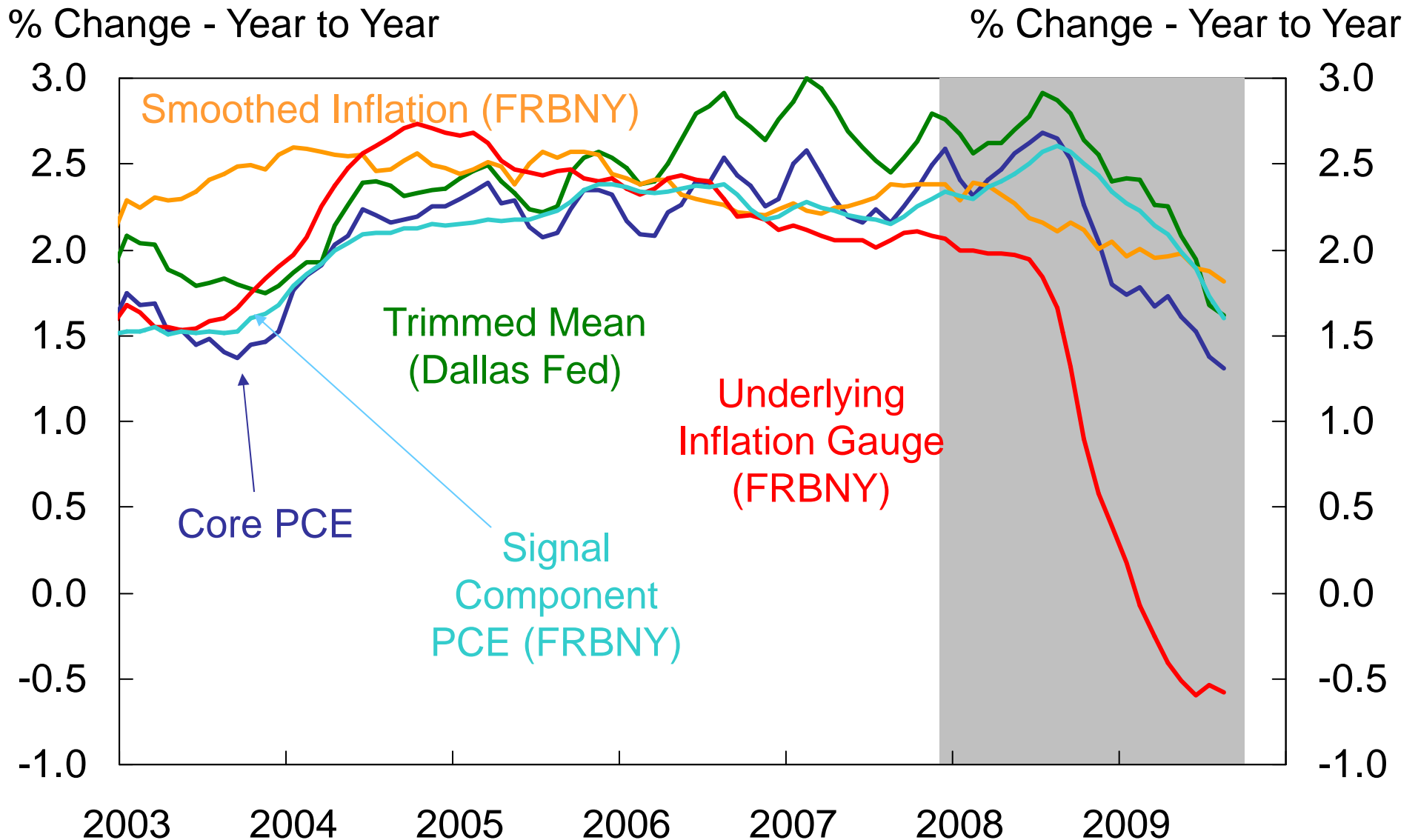
Source: Bureau of Economic Analysis

Measures of PCE Inflation Since 1999



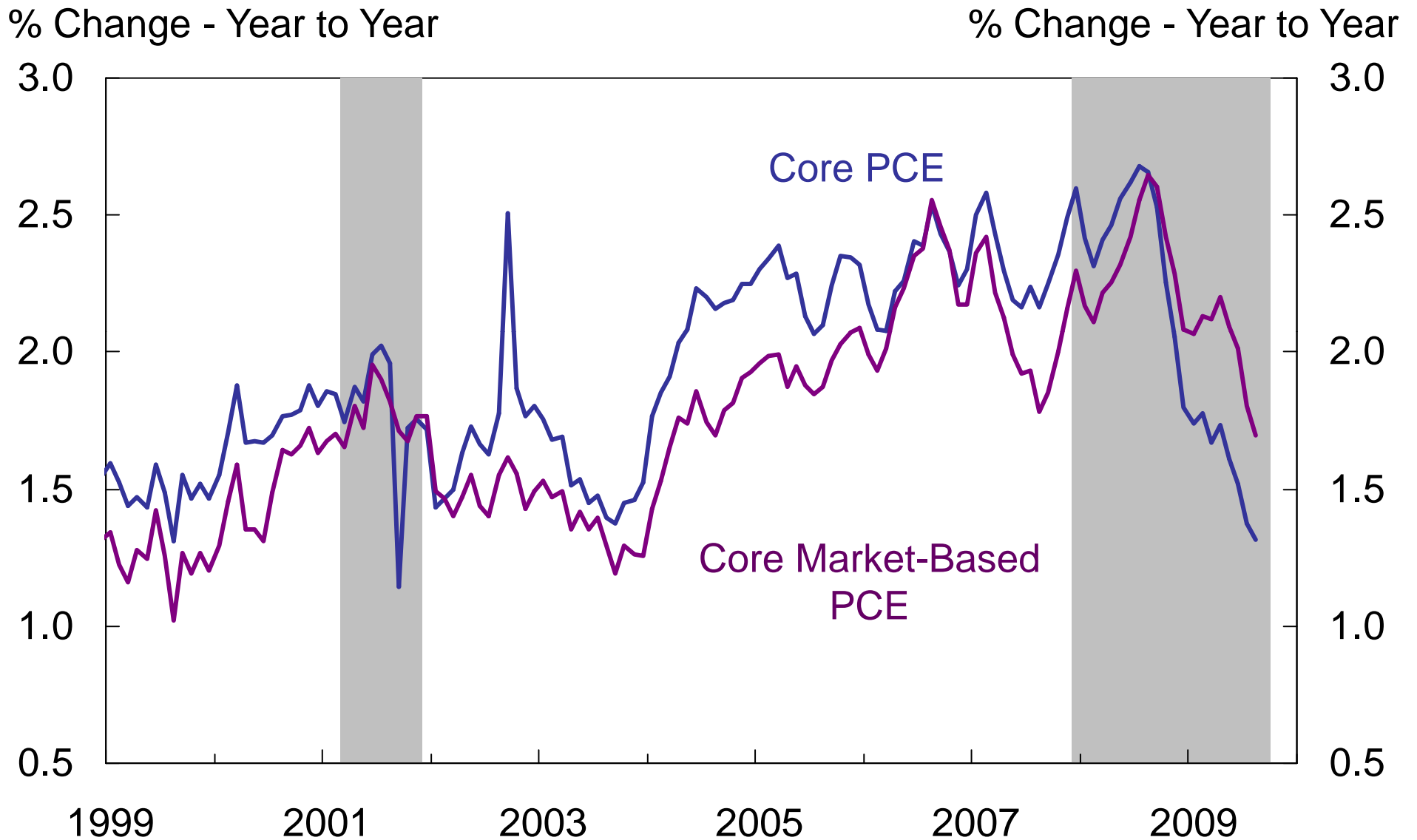
Source: Bureau of Economic Analysis, Dallas Fed, and FRBNY

Measures of PCE Inflation Since 2003



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

Core PCE and Core Market-Based PCE Since 1999

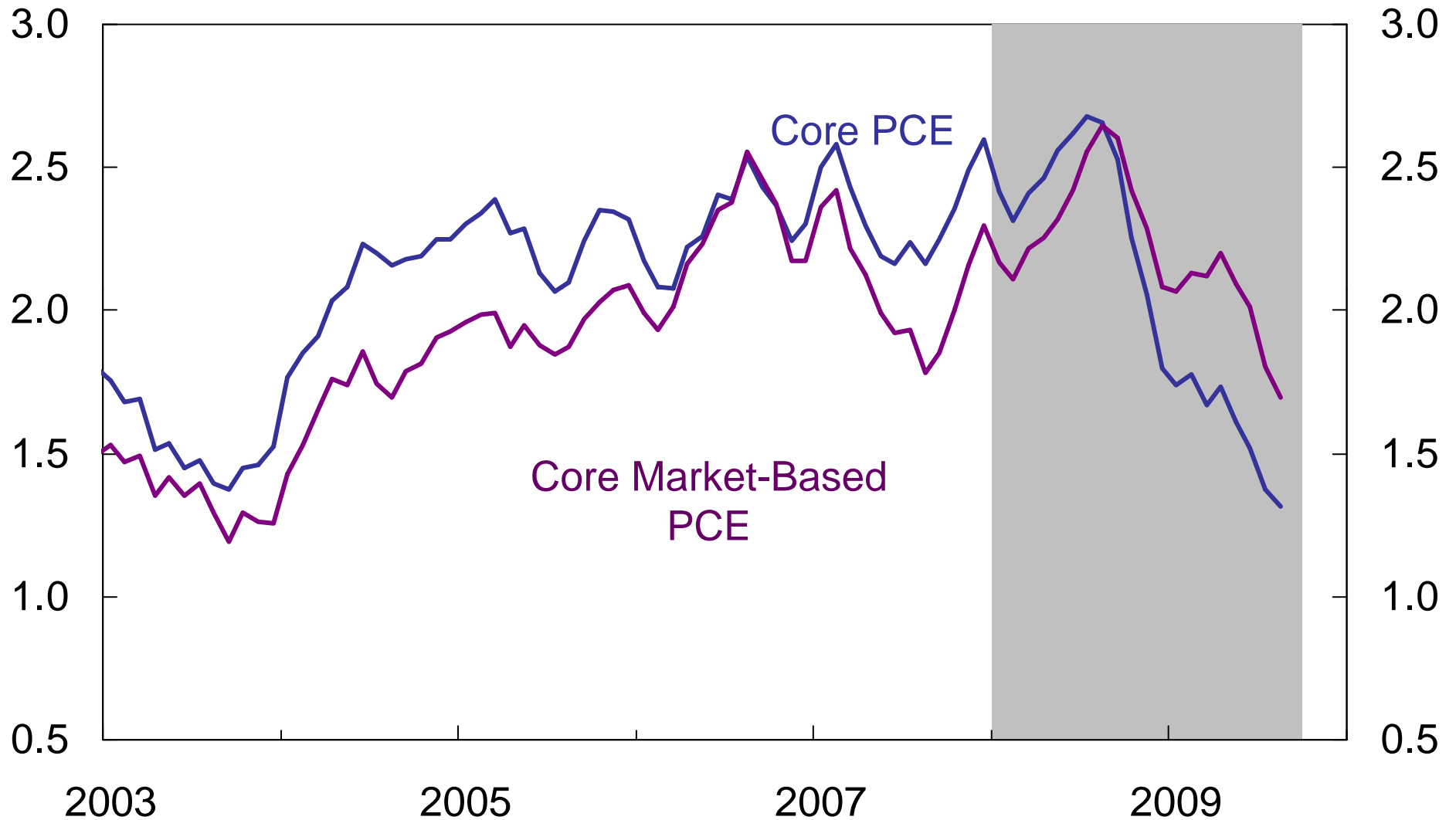


Source: Bureau of Economic Analysis

Core PCE and Core Market-Based PCE Since 2003

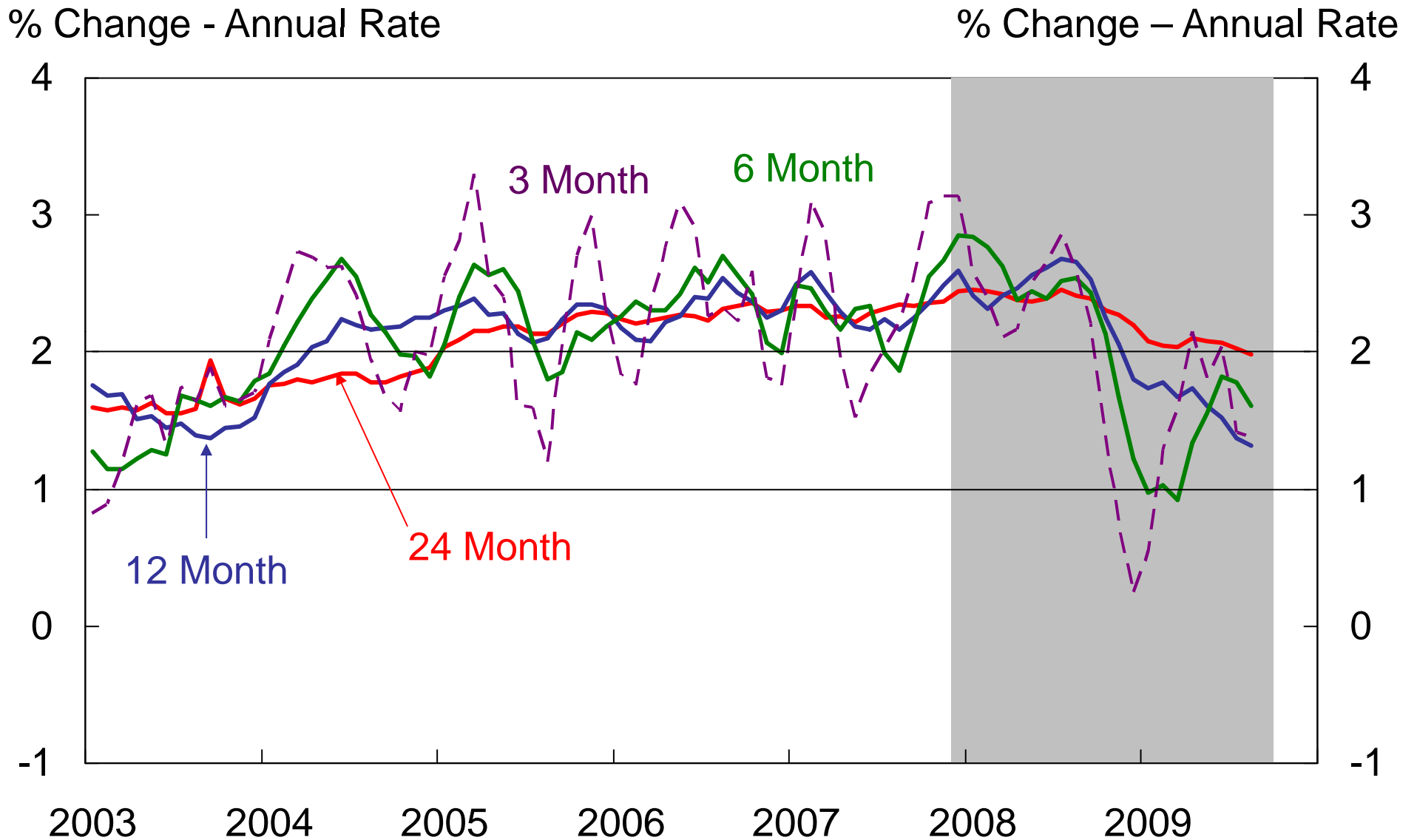
% Change - Year to Year

% Change - Year to Year



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	2.5	-4.3	4.3	11.0	23.1
Finished Consumer Goods	2.5	-5.9	5.5	14.4	31.5
Finished Consumer Goods Ex. Food	2.4	-7.0	8.1	19.5	41.2
Nondurables Ex. Food	2.2	-10.4	10.4	26.6	58.6
Durables	2.4	2.5	2.1	2.8	4.2
Capital Equipment	2.5	1.8	0.6	2.3	3.1
Electronic Computers (NSA)	-17.3	-17.6	-15.4	-17.2	11.5
Communication and Related Equipment (NSA)	1.4	0.9	0.6	1.5	3.5
Finished Goods Ex. Food & Energy	3.0	2.3	1.4	2.4	2.1
Finished Consumer Goods Ex. Food & Energy	3.4	2.8	2.0	2.2	1.3
Intermediate Materials	1.0	-12.3	3.5	14.8	24.1
Intermediate Materials Ex. Food & Energy	1.3	-8.2	-0.3	4.8	7.2
Crude Materials	-6.2	-35.1	21.1	15.9	56.6
Crude Materials Ex. Food & Energy	-4.0	-29.9	37.0	57.2	102.0

Source: Bureau of Labor Statistics

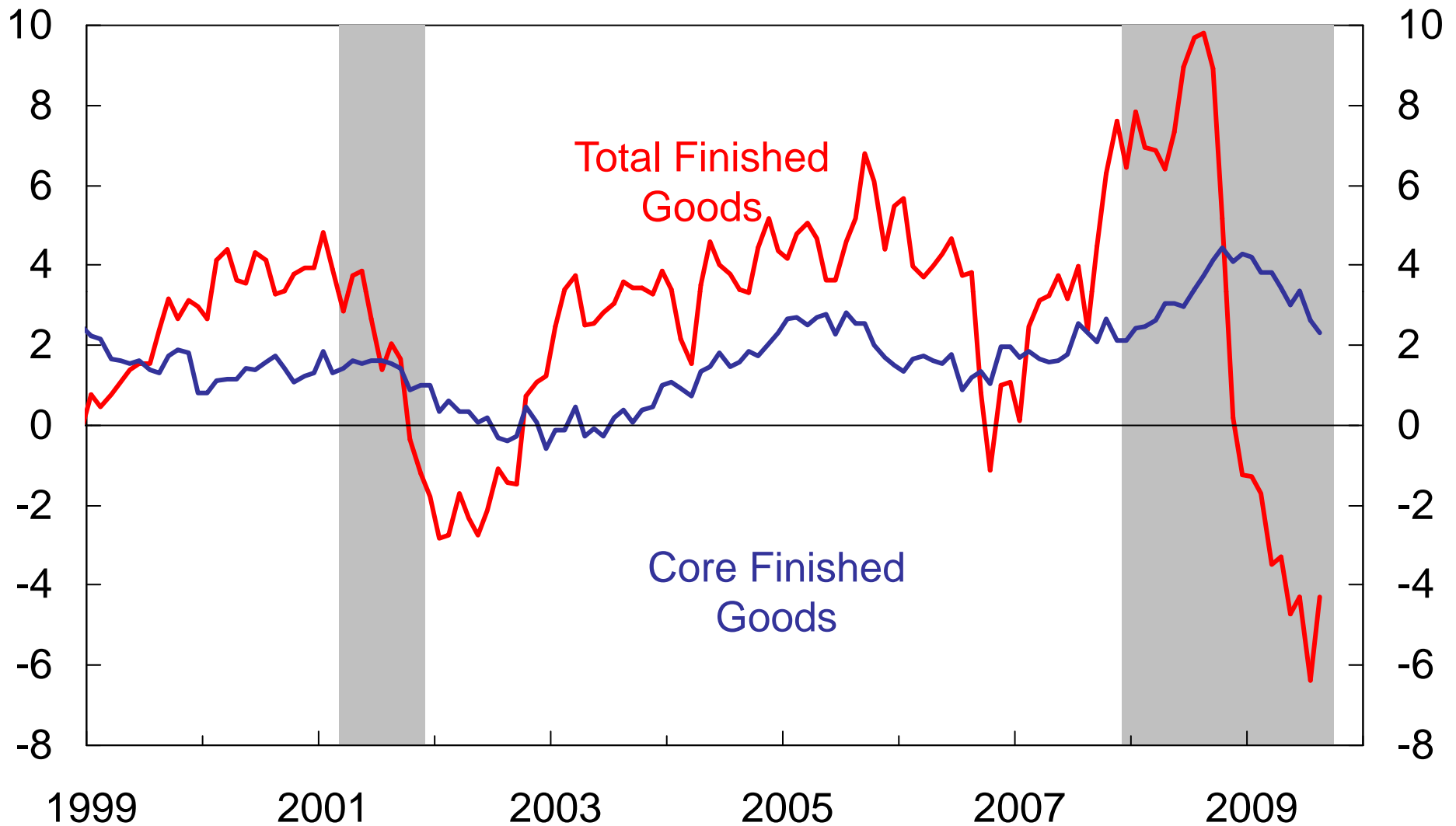
Note: Data through August 2009.



Producer Price Index

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Labor Statistics



Productivity and Cost

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

	2007Q3	2007Q4	2008Q1	2008Q2	2008Q3	2008Q4	2009Q1	2009Q2
Output	3.9	1.8	-1.7	1.3	-4.0	-7.6	-8.8	-1.7
Hours Worked	-1.5	-0.2	-1.6	-1.7	-3.9	-8.3	-9.0	-7.6
Productivity	5.5	2.0	-0.1	3.1	-0.1	0.8	0.3	6.4
Compensation/Hour	2.7	5.0	1.7	1.3	4.5	2.9	-2.4	0.2
Unit Labor Costs	-2.7	3.0	1.7	-1.8	4.6	2.0	-2.7	-5.8
Memo Items:								
Total Labor Compensation	2.6	5.7	1.9	0.8	1.8	-1.9	-8.3	-5.1
Less Hours Worked	4.1	5.9	3.6	2.5	5.8	6.4	0.8	2.5
Private Wages and Salaries	2.4	6.3	0.5	-0.4	1.2	-3.7	-12.9	-8.5
Less Hours Worked	3.9	6.5	2.1	1.4	5.2	4.7	-3.8	-0.8
Nonfarm Proprietors Income	-1.7	-0.6	1.4	1.8	1.0	-7.5	-12.4	-5.5

Source: Bureau of Labor Statistics and FRBNY

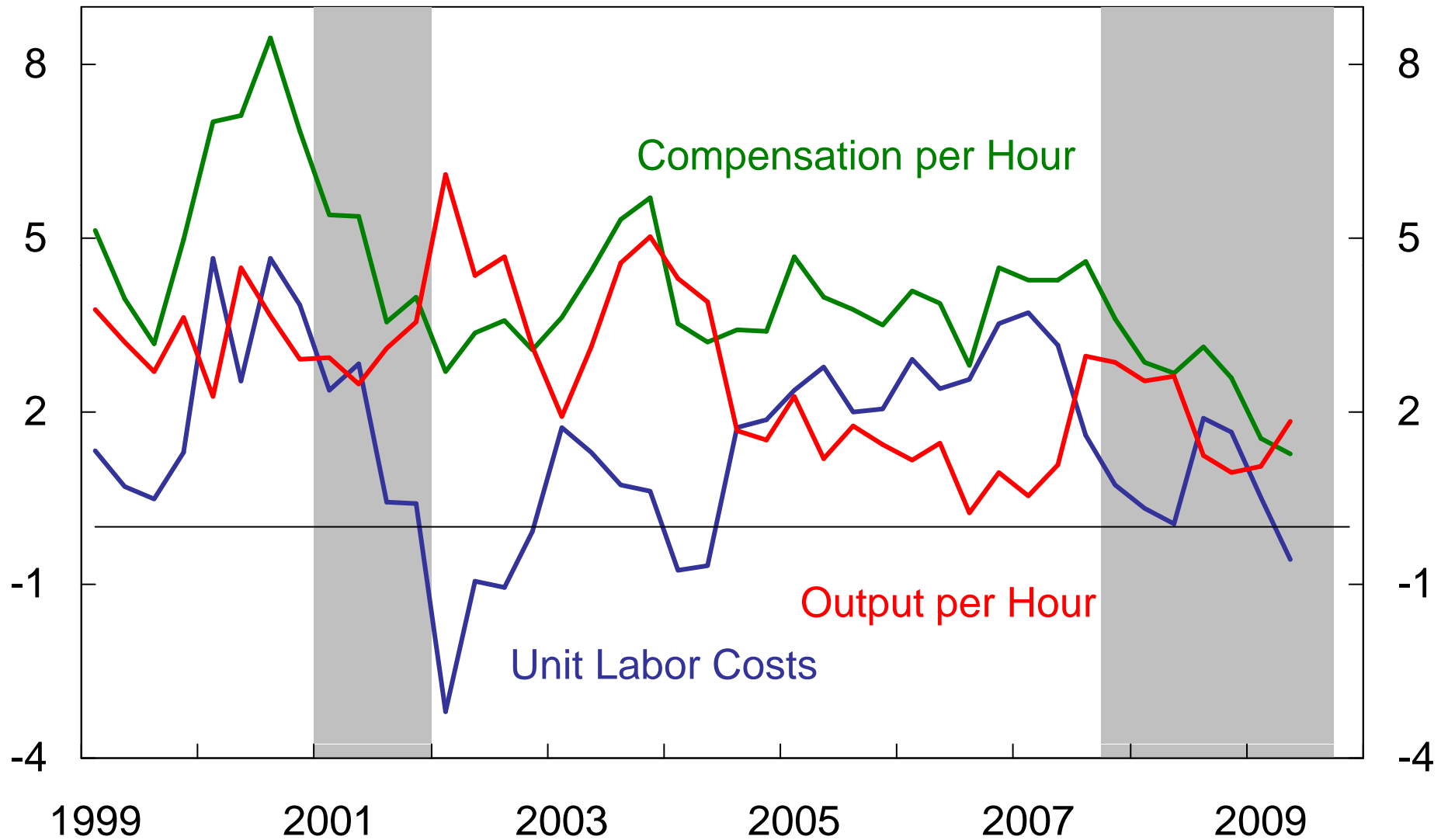


Productivity, Compensation, and Unit Labor Costs

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)

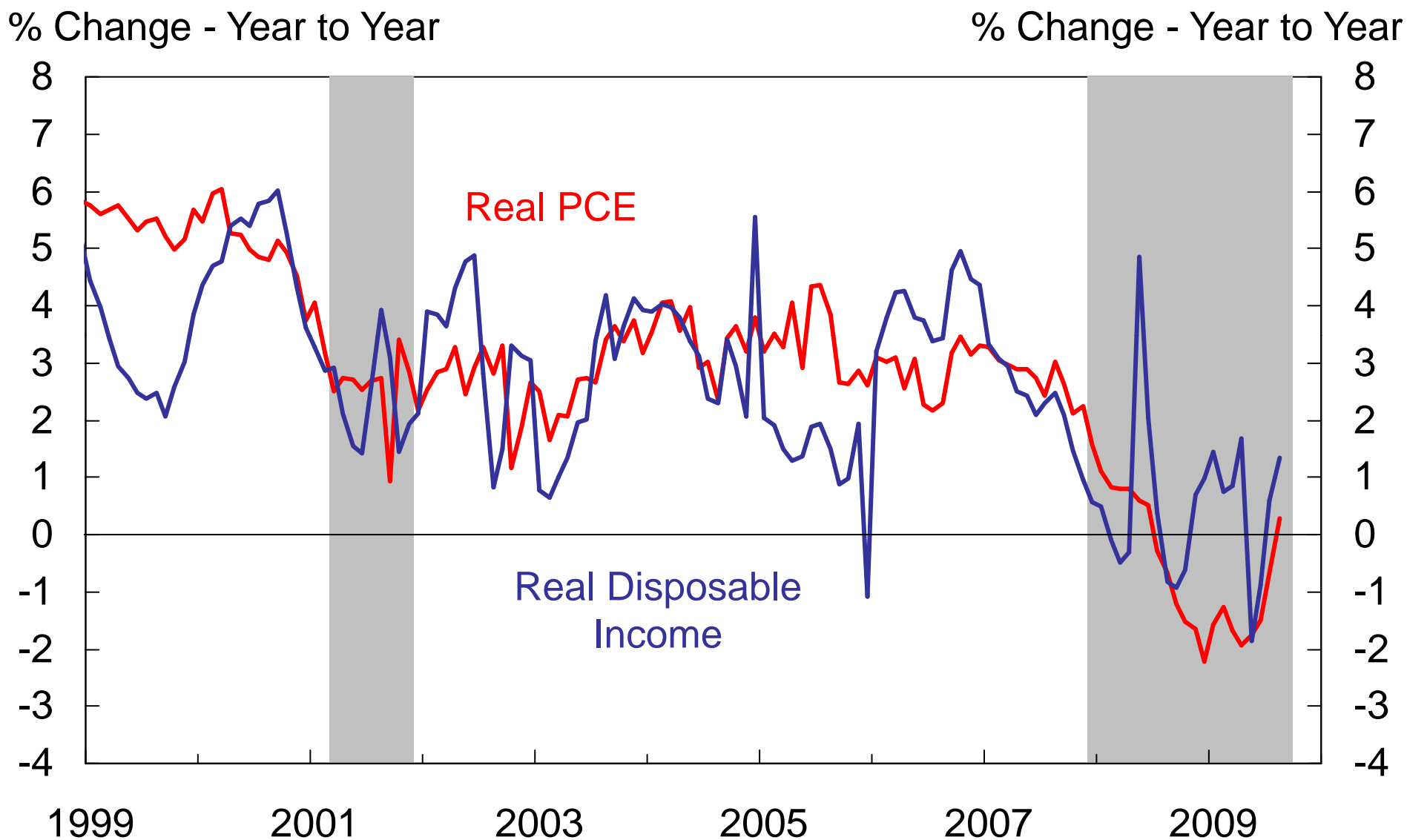
	2009Q2 Nominal Share	24 Months	12 Months	6 Months	3 Months	1 Month
Personal Consumption Expenditures	100.0	-0.2	0.3	1.9	5.4	11.9
Durable Goods	10.1	-1.7	0.9	14.3	40.4	96.8
Motor vehicles and parts	3.0	-3.7	6.3	45.7	115.0	328.3
Furnishings and durable household equipment	2.5	-4.8	-6.5	-3.6	4.2	12.4
Other durable goods	1.4	-4.3	-3.8	1.5	6.0	27.4
Nondurable goods	21.8	-0.7	-1.1	-0.4	2.6	12.7
Food and beverages purchased for off-premises consumption	7.9	0.2	-0.4	3.2	1.8	6.5
Clothing and shoes	3.2	-2.6	-4.5	-5.1	0.6	26.6
Gasoline, fuel oil, and other energy goods	2.8	-0.2	3.9	1.4	0.5	23.8
Other nondurable goods	8.0	-0.9	-2.3	-2.4	4.9	9.5
Services	68.1	0.3	0.7	0.9	1.8	2.3
Housing services	15.8	1.1	0.7	0.7	0.7	0.7
Household utilities	2.9	-4.1	2.4	-4.8	0.8	10.0
Gas and electric	2.1	-5.5	3.1	-6.5	1.0	14.1
Transportation services	3.0	-4.2	-2.4	3.3	5.4	-1.4
Medical care services	16.2	2.8	2.7	2.8	1.6	0.6
Recreation services	3.8	-1.0	-1.2	-1.9	-2.2	2.3
Food services and accomodations	6.1	-1.5	-2.9	-2.3	0.6	0.2
Other	9.4	0.5	2.5	1.9	4.4	4.1
Energy goods and services	4.9	-2.5	2.8	-2.2	0.7	20.0
PCE less food and energy	87.3	-0.1	0.1	2.1	6.1	12.0
PCE less autos and household utilities	94.1	0.1	0.0	0.7	2.7	6.0

Source: Bureau of Economic Analysis

Note: Data through August 2009.



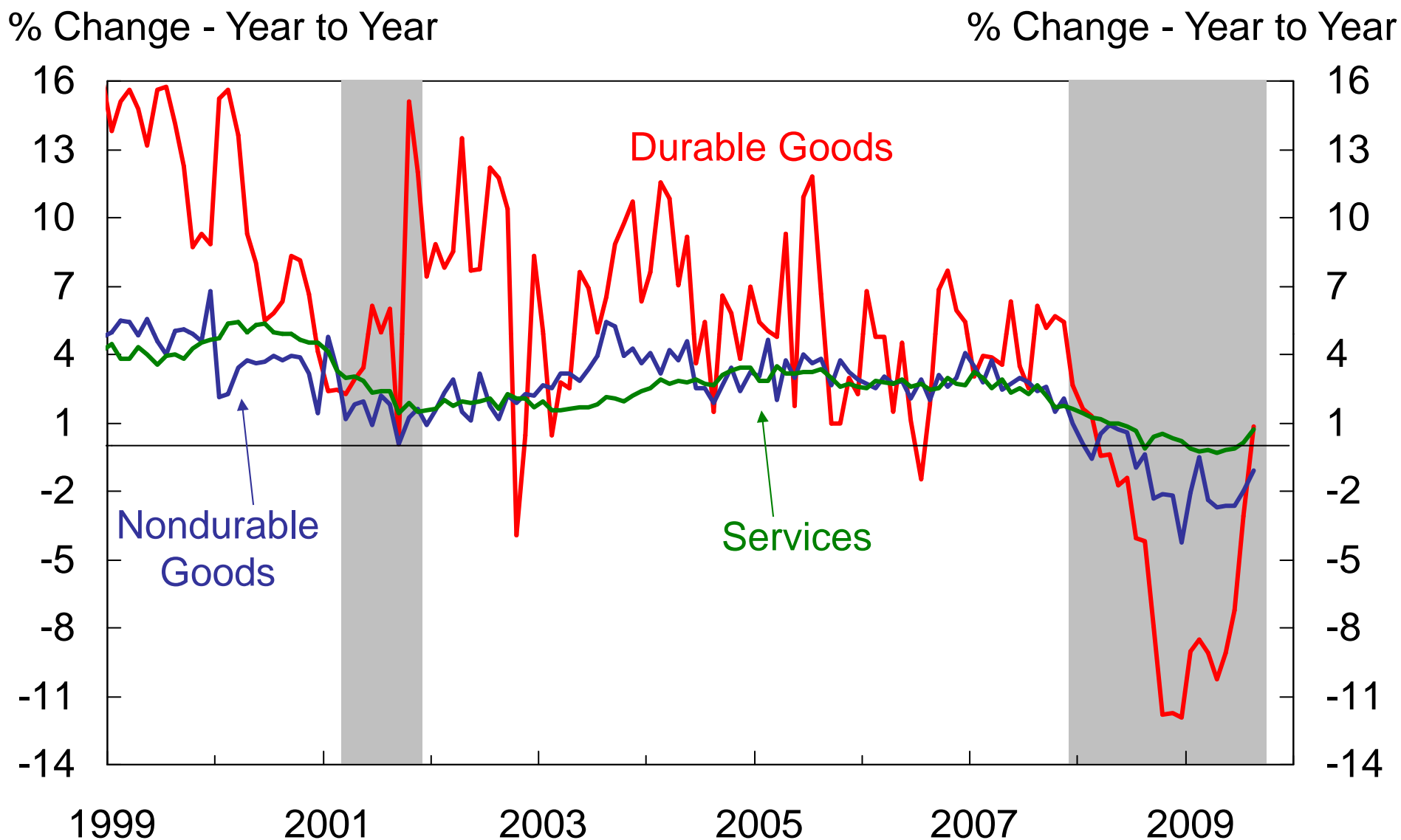
Real PCE and Disposable Income



Source: Bureau of Economic Analysis



Real PCE Components



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	-3.7	-5.7	3.2	2.1	-16.4
Excluding Motor Vehicles and Parts	-1.1	-4.9	3.2	4.0	5.7
Retail Sales	-4.4	-6.4	3.5	2.1	-18.5
Excluding Motor Vehicles and Parts	-1.6	-5.7	3.5	4.3	6.2
Motor Vehicles and Parts Dealers	-14.5	-9.3	3.6	-6.8	-73.2
Auto and Other Motor Vehicle Dealers	-16.1	-10.4	4.1	-8.2	-77.7
Furniture, Home Furnishings, Electronics, & Appliances	-7.8	-8.2	-3.3	0.3	8.5
Furniture and Home Furnishings	-9.5	-6.5	-1.4	3.3	18.3
Electronics and Appliances	-6.1	-9.7	-5.1	-2.4	0.0
Building Materials, Garden Equipment, & Supply	-8.0	-13.0	-8.7	-12.0	-2.9
Food and Beverages	2.8	0.4	3.2	4.9	8.5
Health and Personal Care	3.4	3.5	2.0	3.1	10.6
Gasoline Stations	-7.2	-25.3	32.3	17.6	14.6
Clothing and Accessories	-2.9	-1.3	1.4	10.1	6.0
Food Services and Drinking Places	2.0	0.6	1.0	1.8	2.5
BEA Control	-0.4	-4.0	4.2	5.5	6.8

Source: Census Bureau

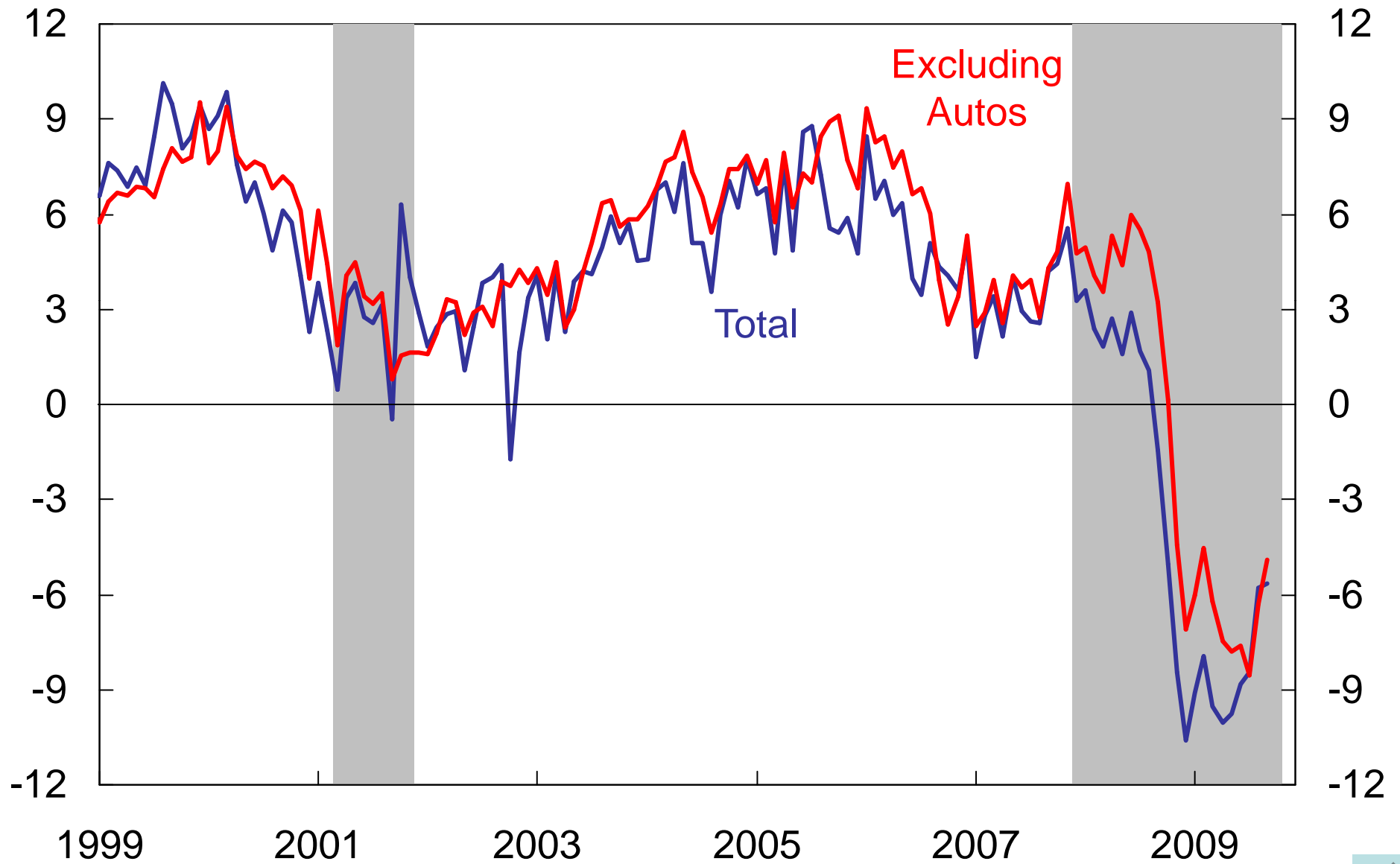
Note: Data through September 2009.



Retail Sales

% Change - Year to Year

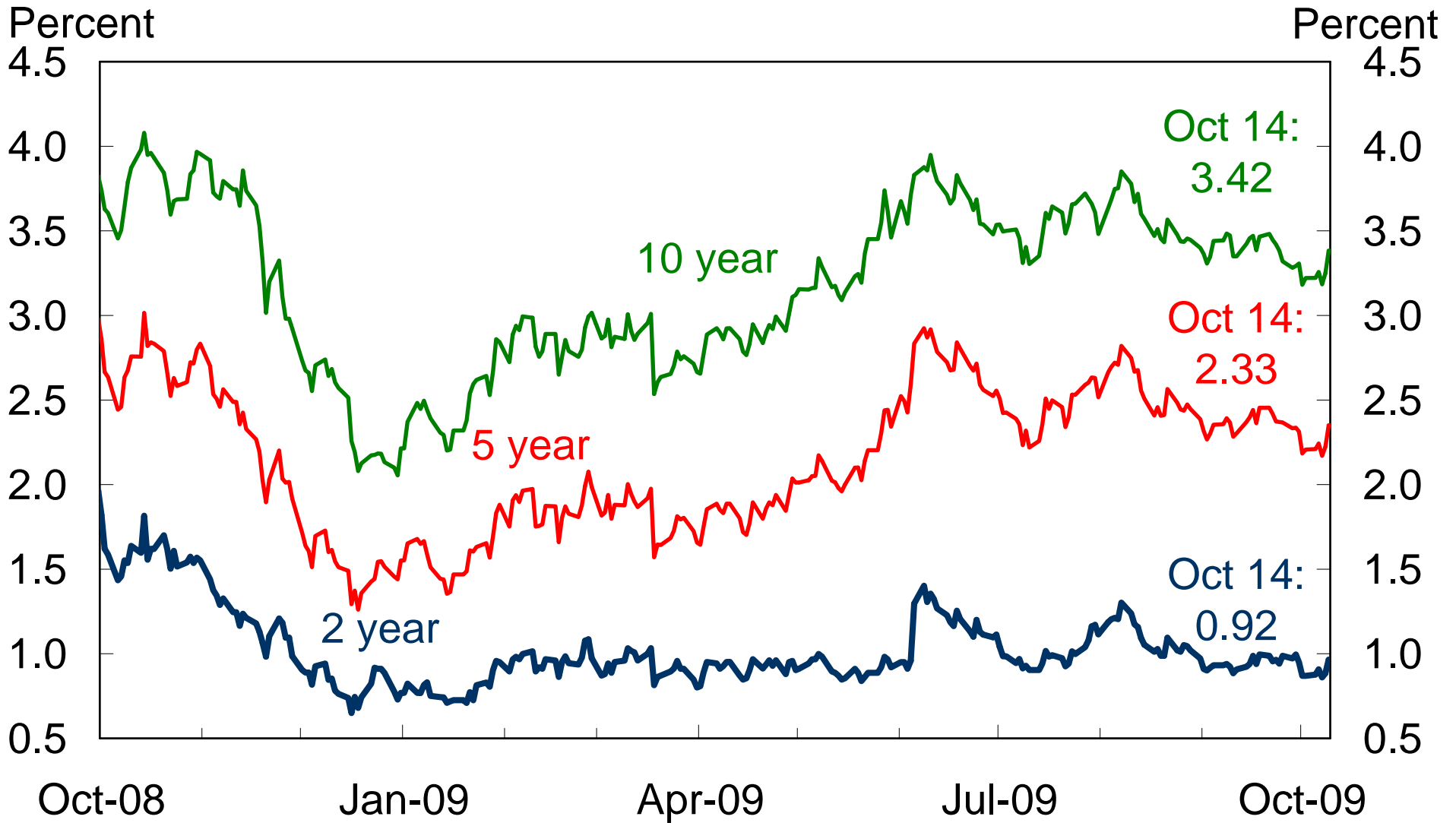
% Change - Year to Year



Source: Census Bureau



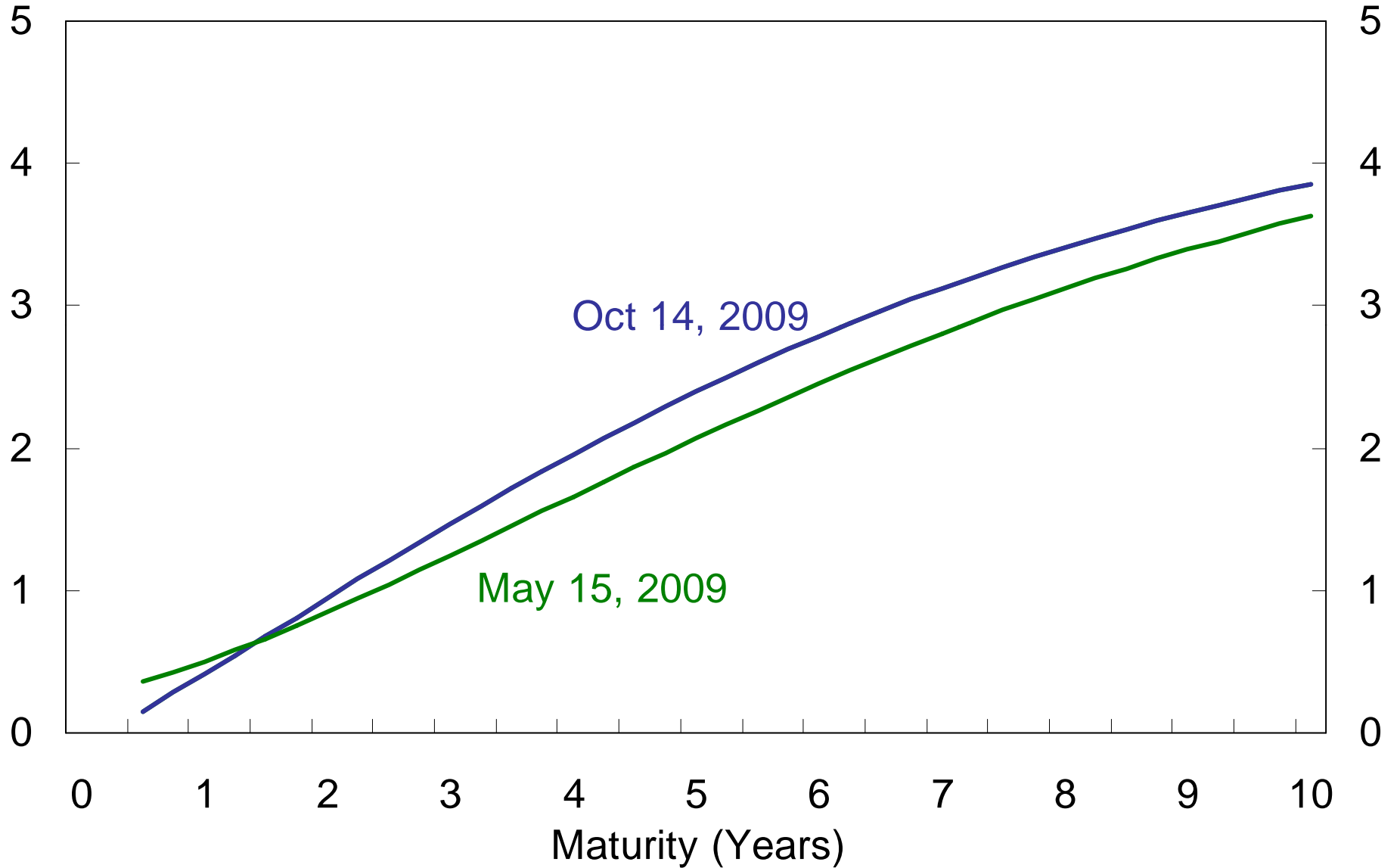
U.S. Treasury Note Yields



Treasury Yield Curves

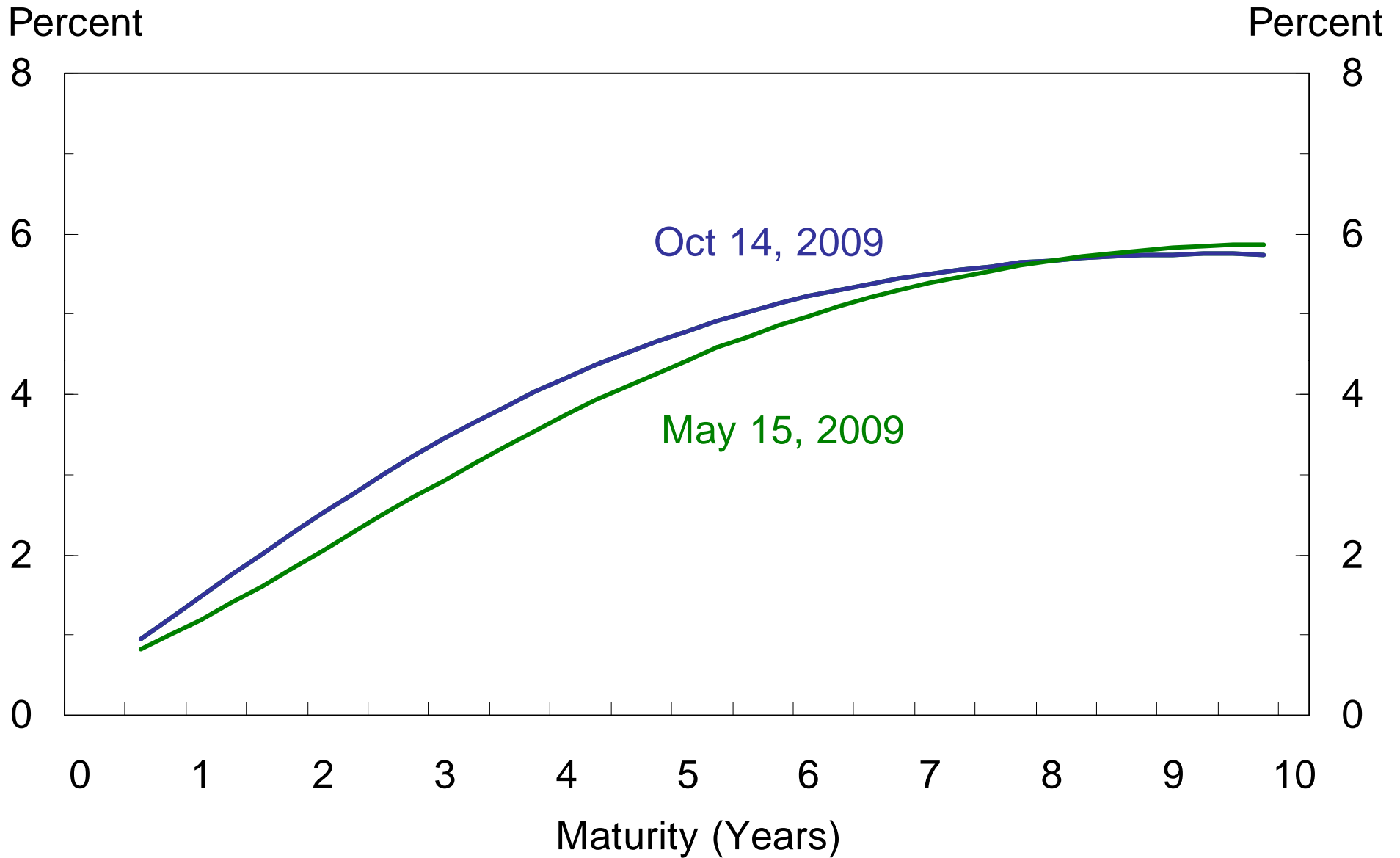
Percent

Percent



Source: Federal Reserve Board

Implied One-Year Forward Rates

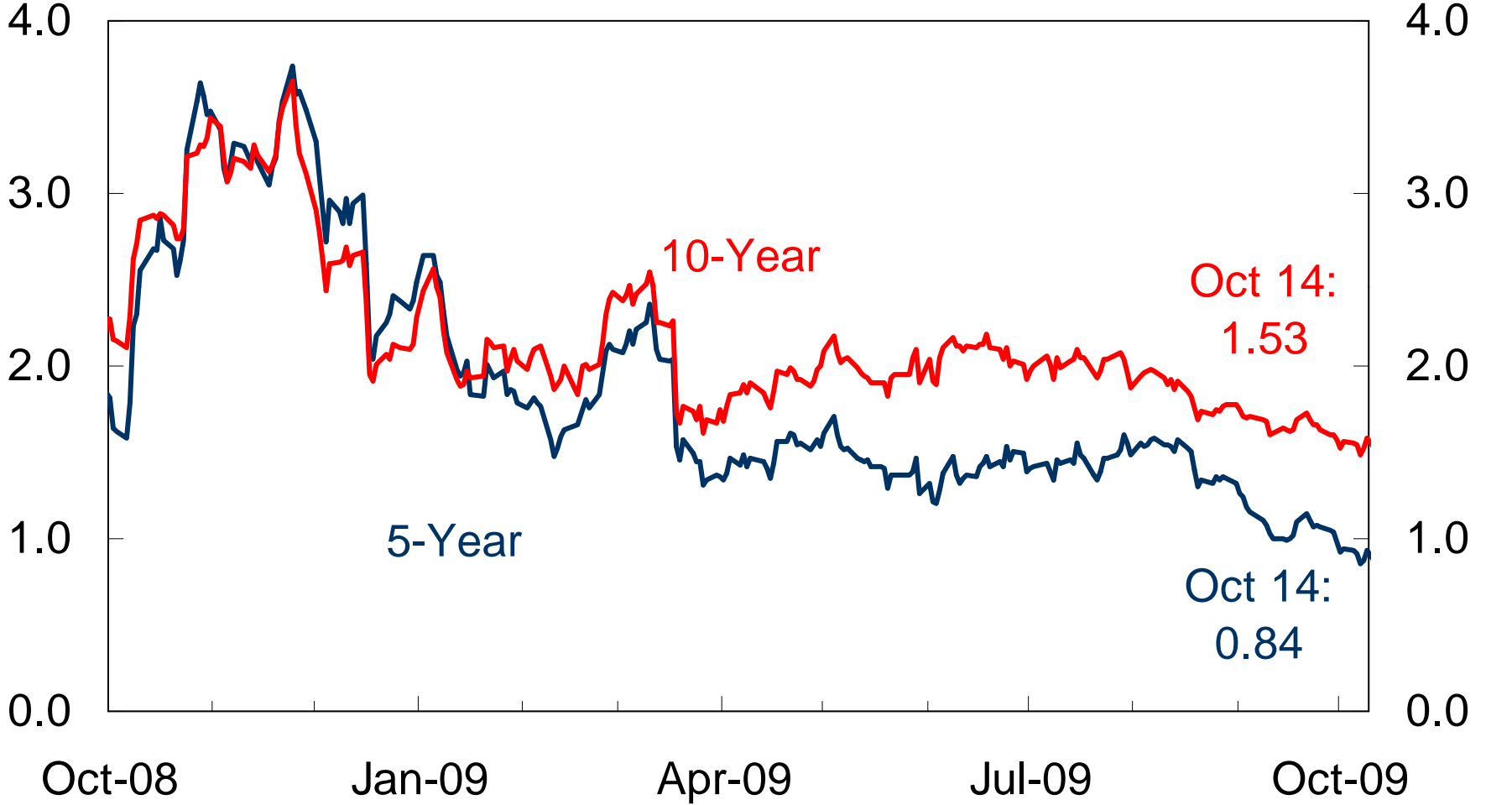


Source: Federal Reserve Board

5- and 10-Year Real Treasury Rate

Percent

Perc



0-5 Year Rates

Percent

4.0

3.0

2.0

1.0

0.0

Perc

4.0

3.0

2.0

1.0

0.0

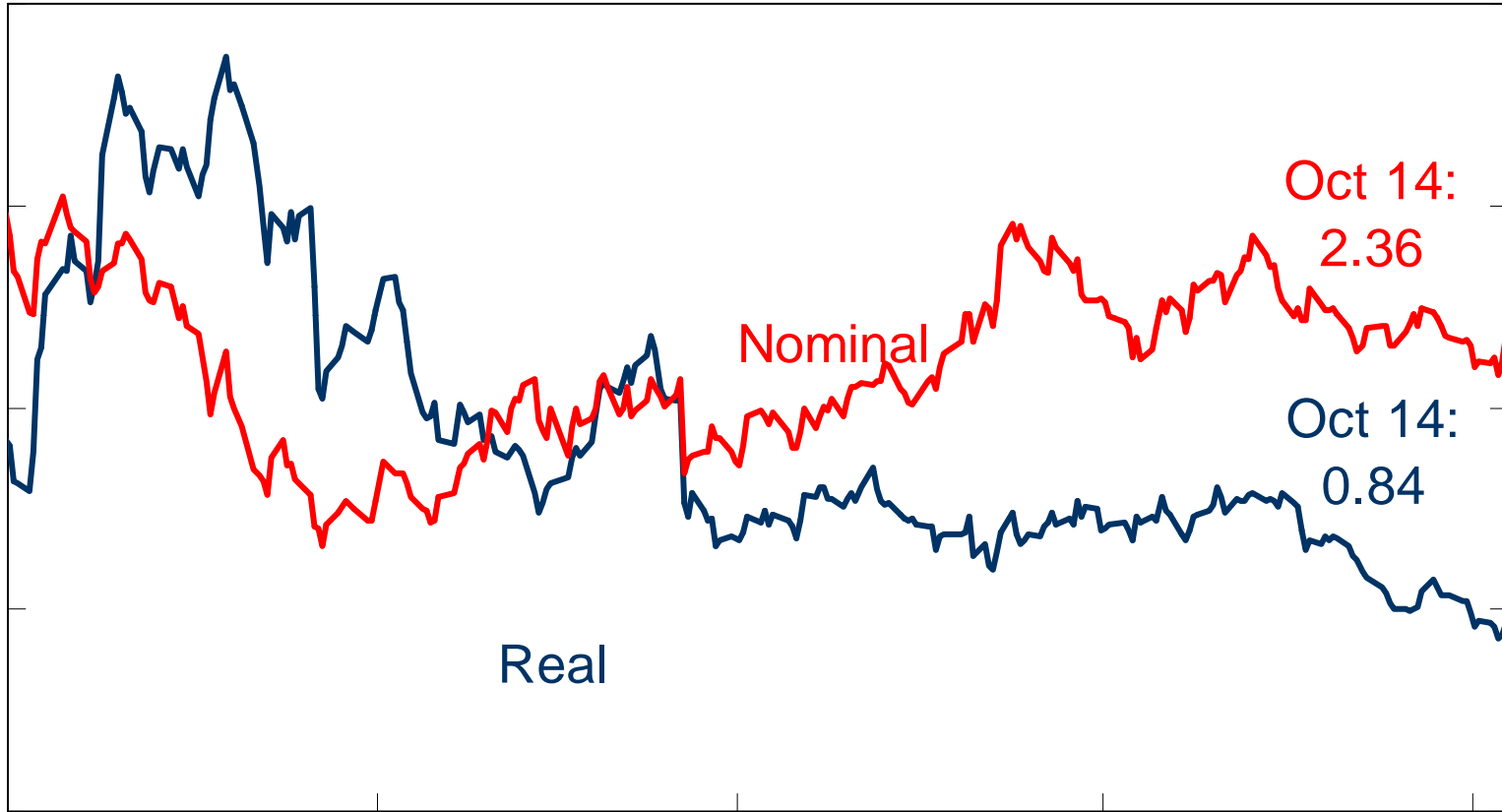
Oct-08

Jan-09

Apr-09

Jul-09

Oct-09



Real

Nominal

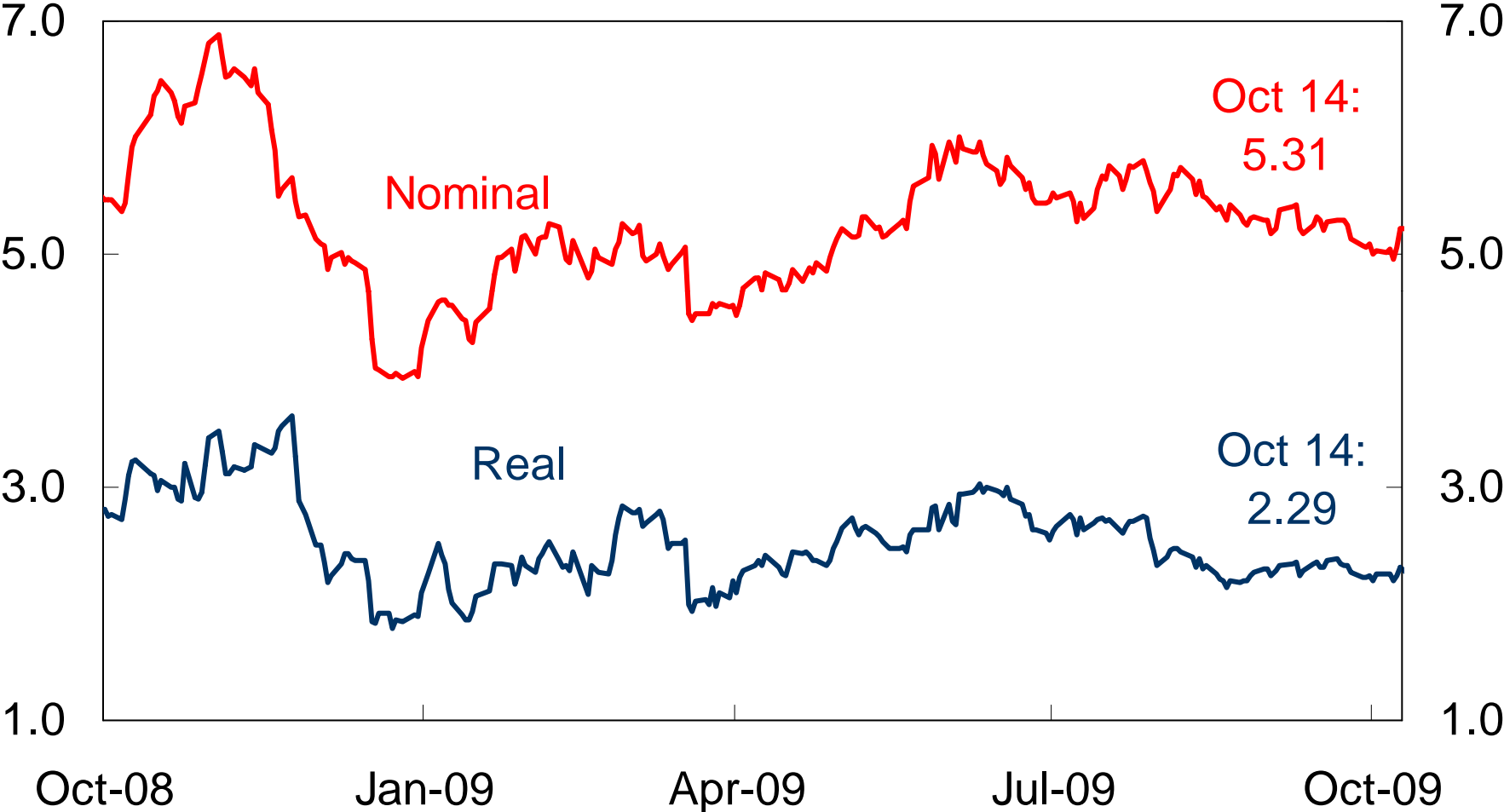
Oct 14:
2.36

Oct 14:
0.84

5-10 Year Rates

Percent

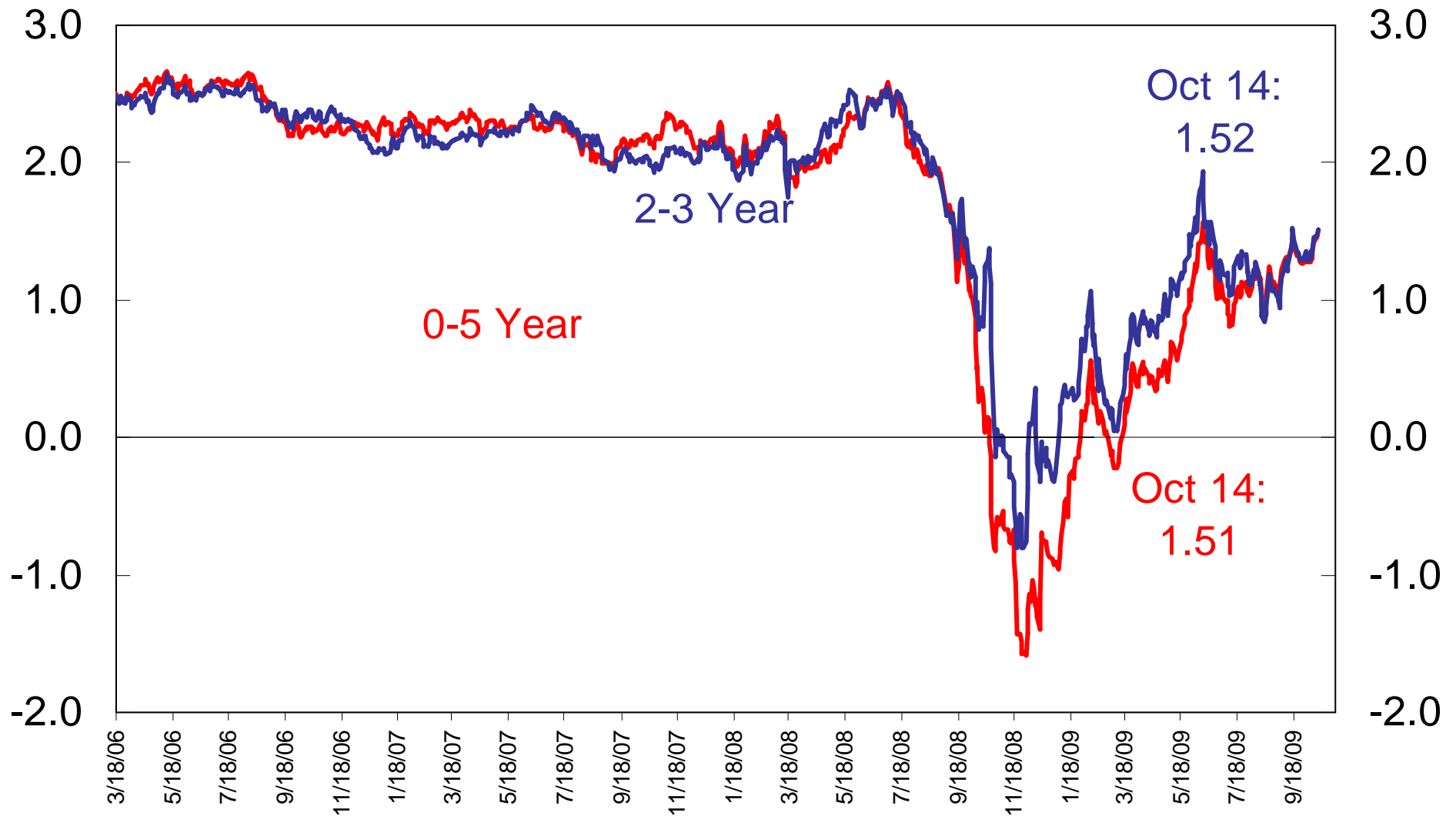
Percent



TIPS Implied Inflation: 0-5, 2-3 Year Horizons

Percent

Percent



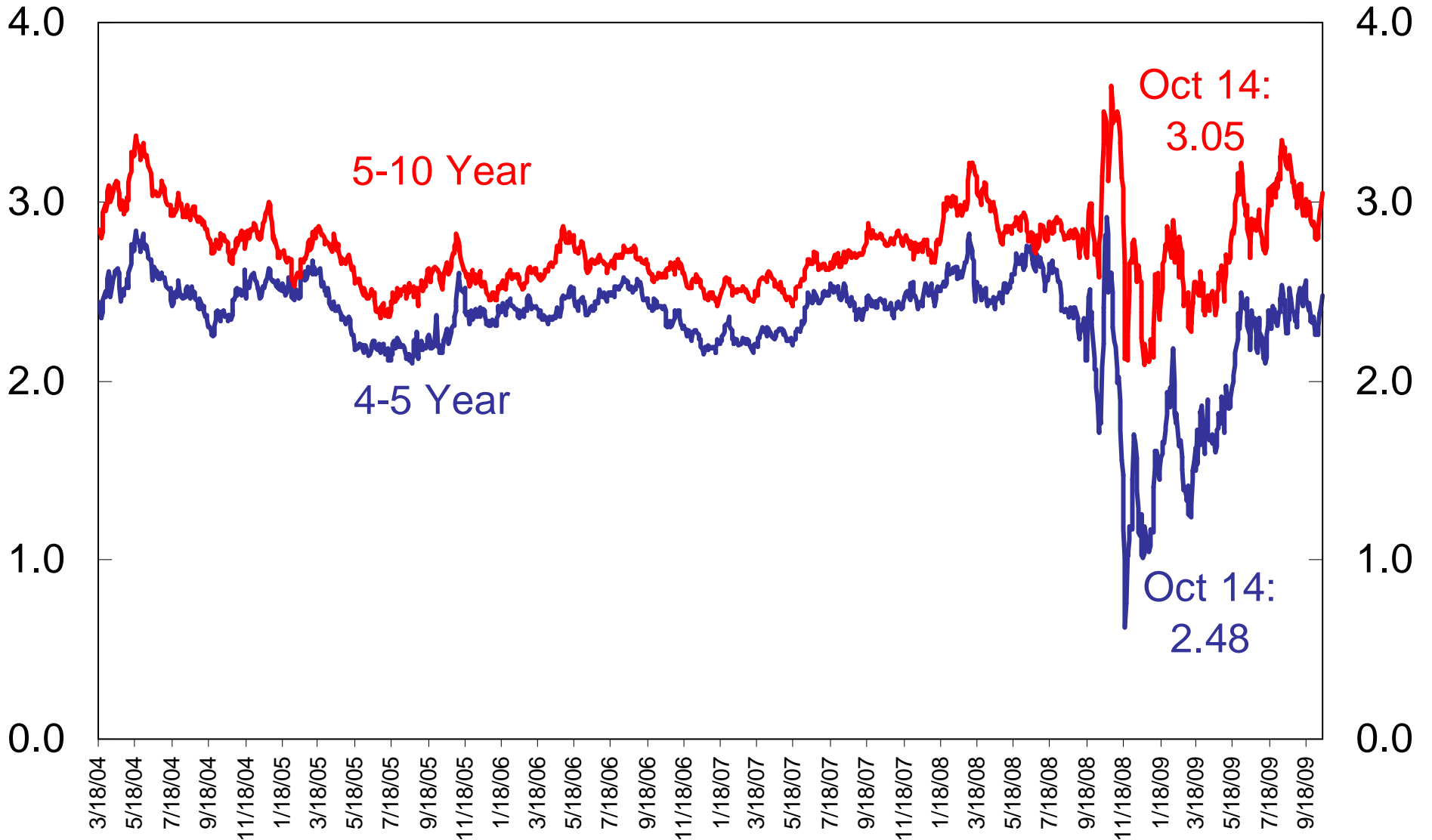
Source: Federal Reserve Board

Note: Carry-adjusted

TIPS Implied Inflation: 4-5, 5-10 Year Horizons

Percent

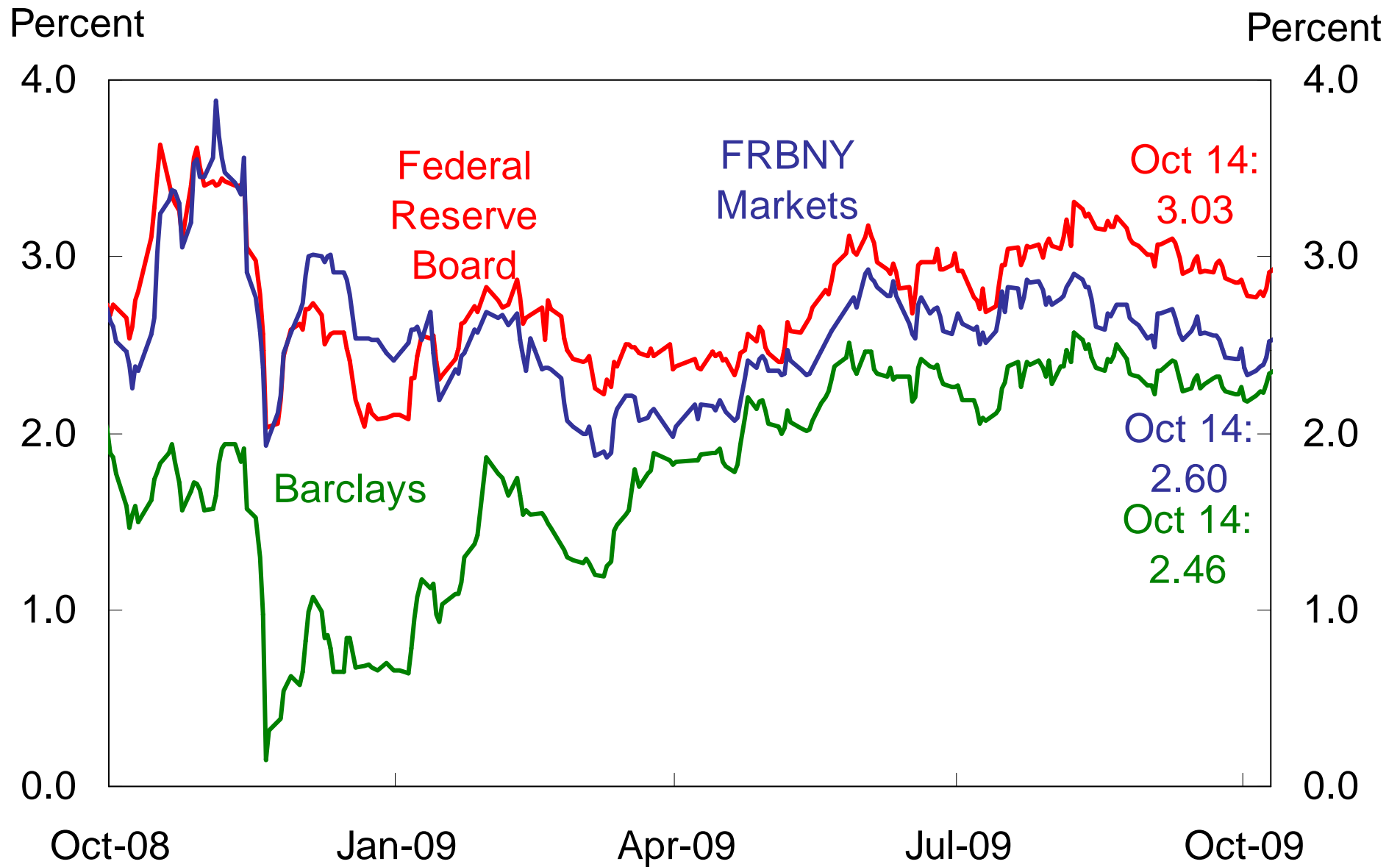
Percent



Source: Federal Reserve Board

Note: Carry-adjusted

Alternative Measures of 5-10 Year Implied Inflation Compensation

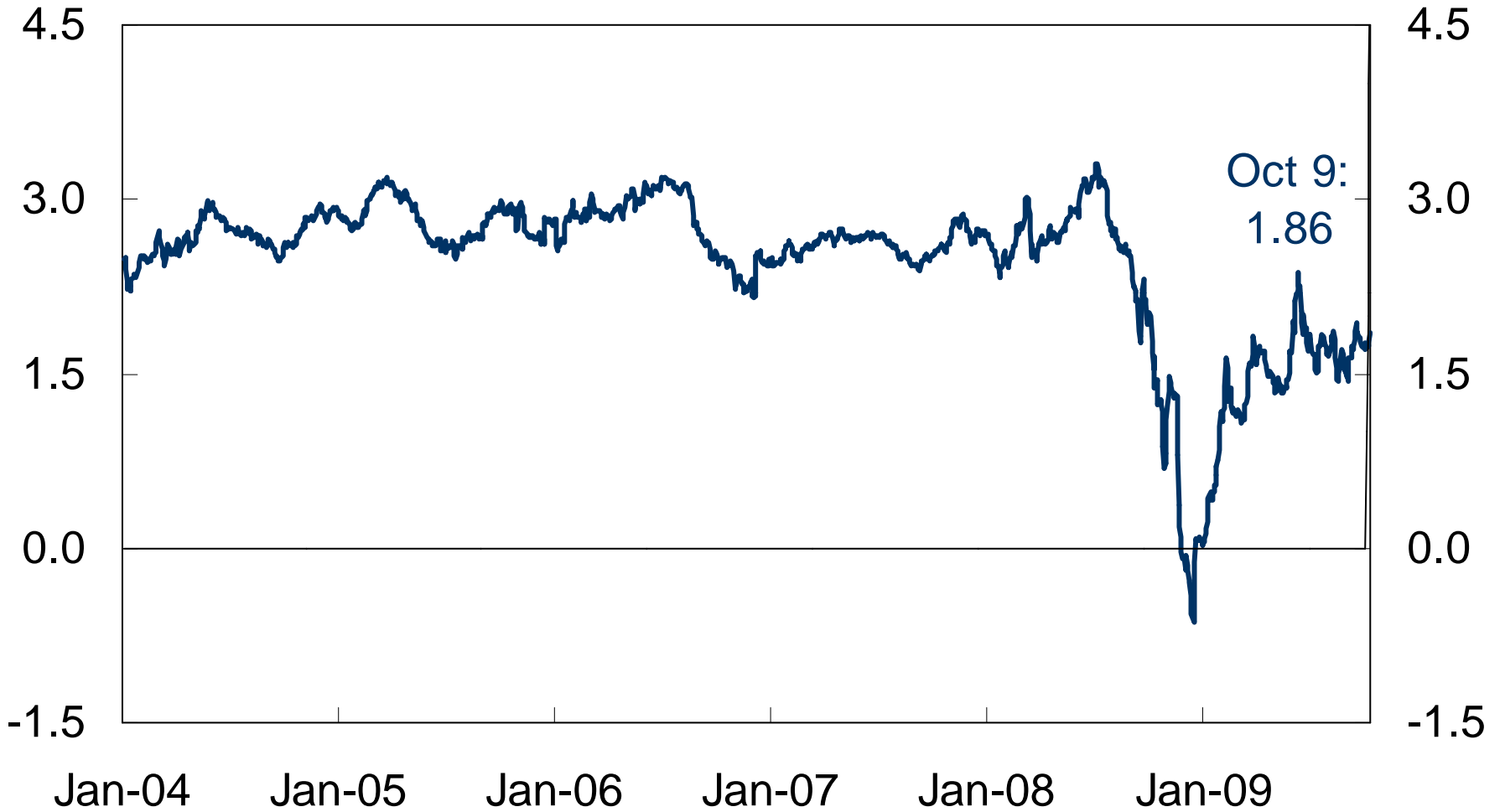


Source: Federal Reserve Board, Barclays, and FRBNY

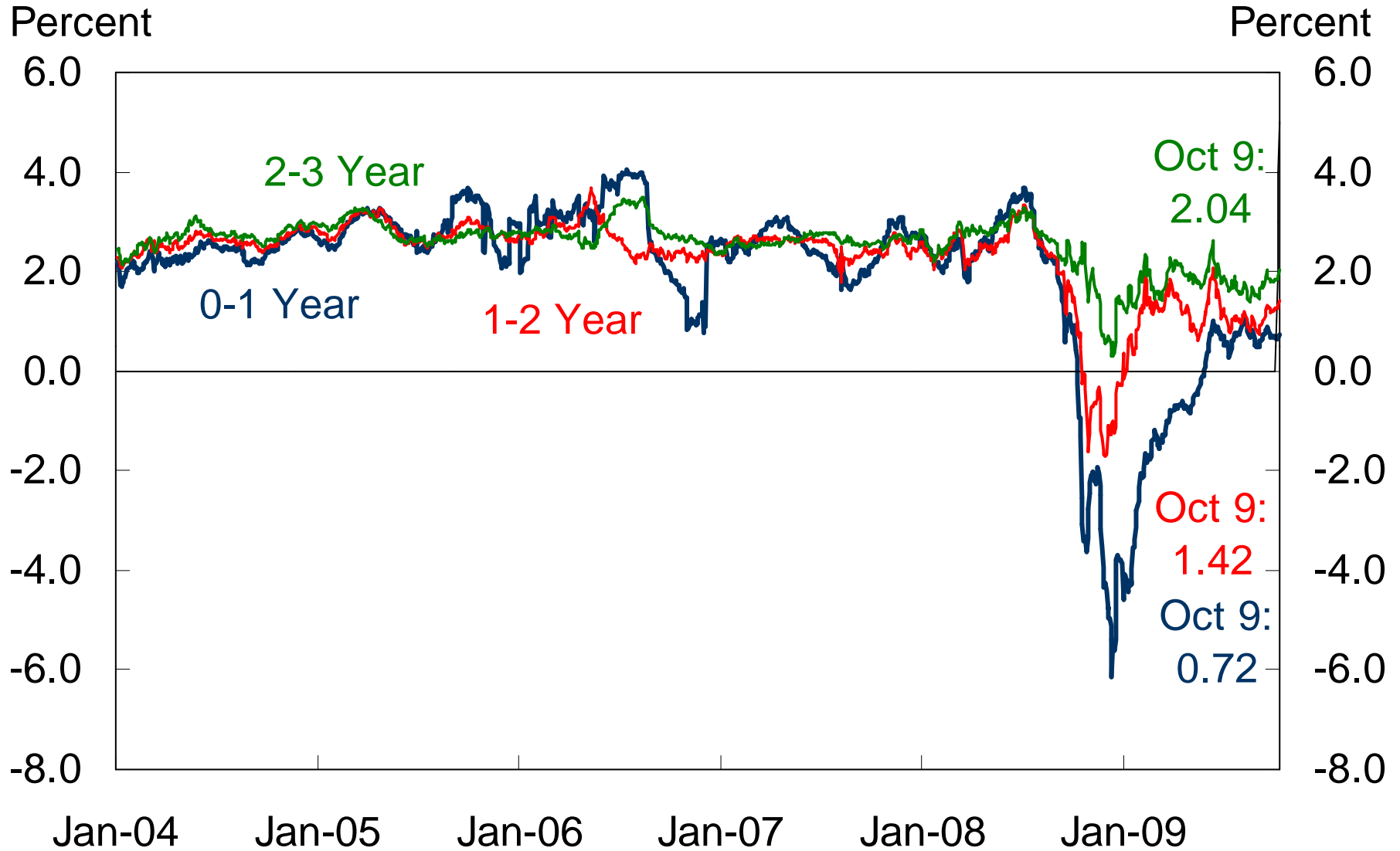
Implied Inflation from Inflation Swaps: 0-5 Year Horizon

Percent

Percent

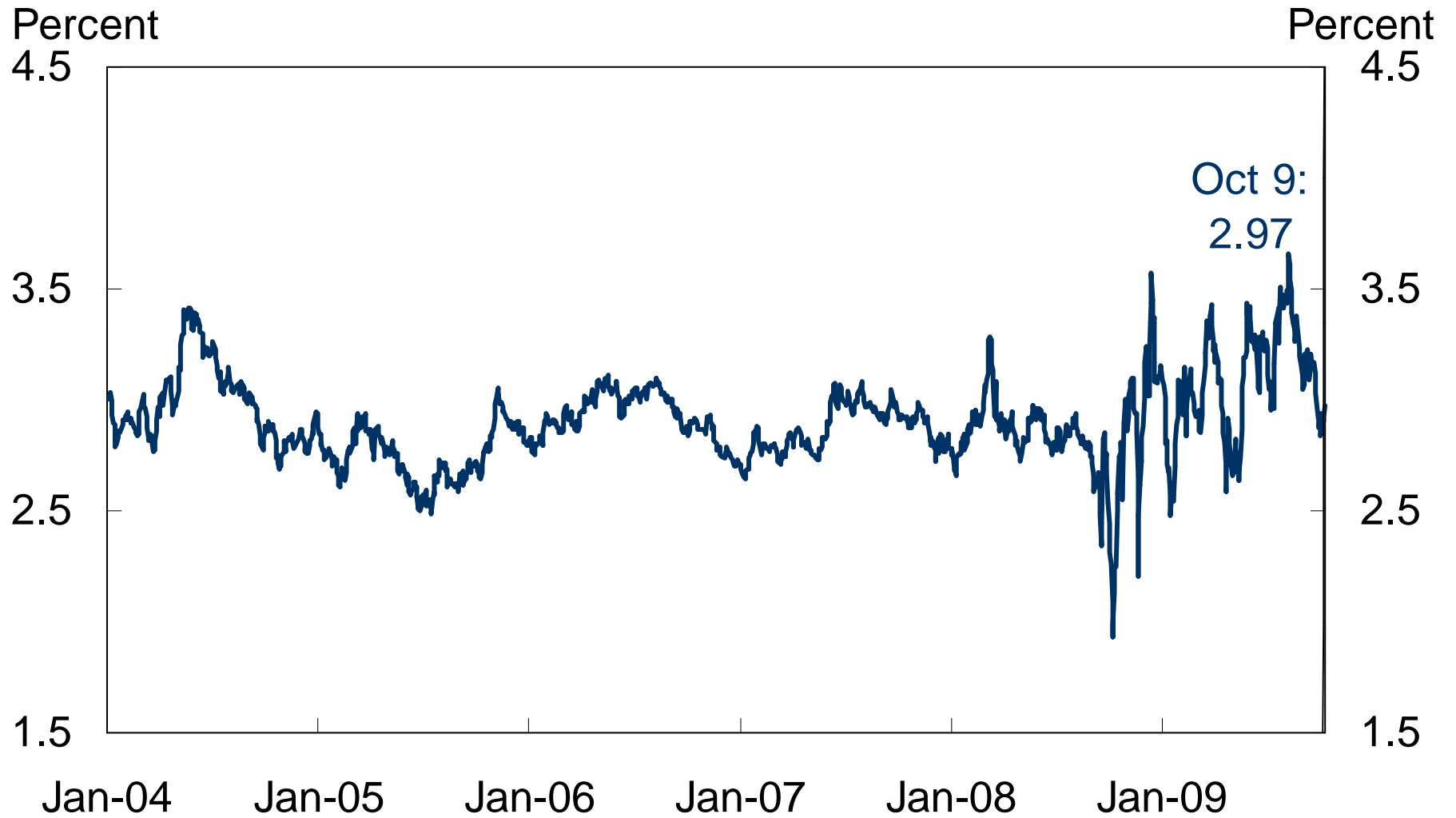


Implied Inflation from Inflation Swaps: 0-1, 1-2, 2-3 Year Horizons

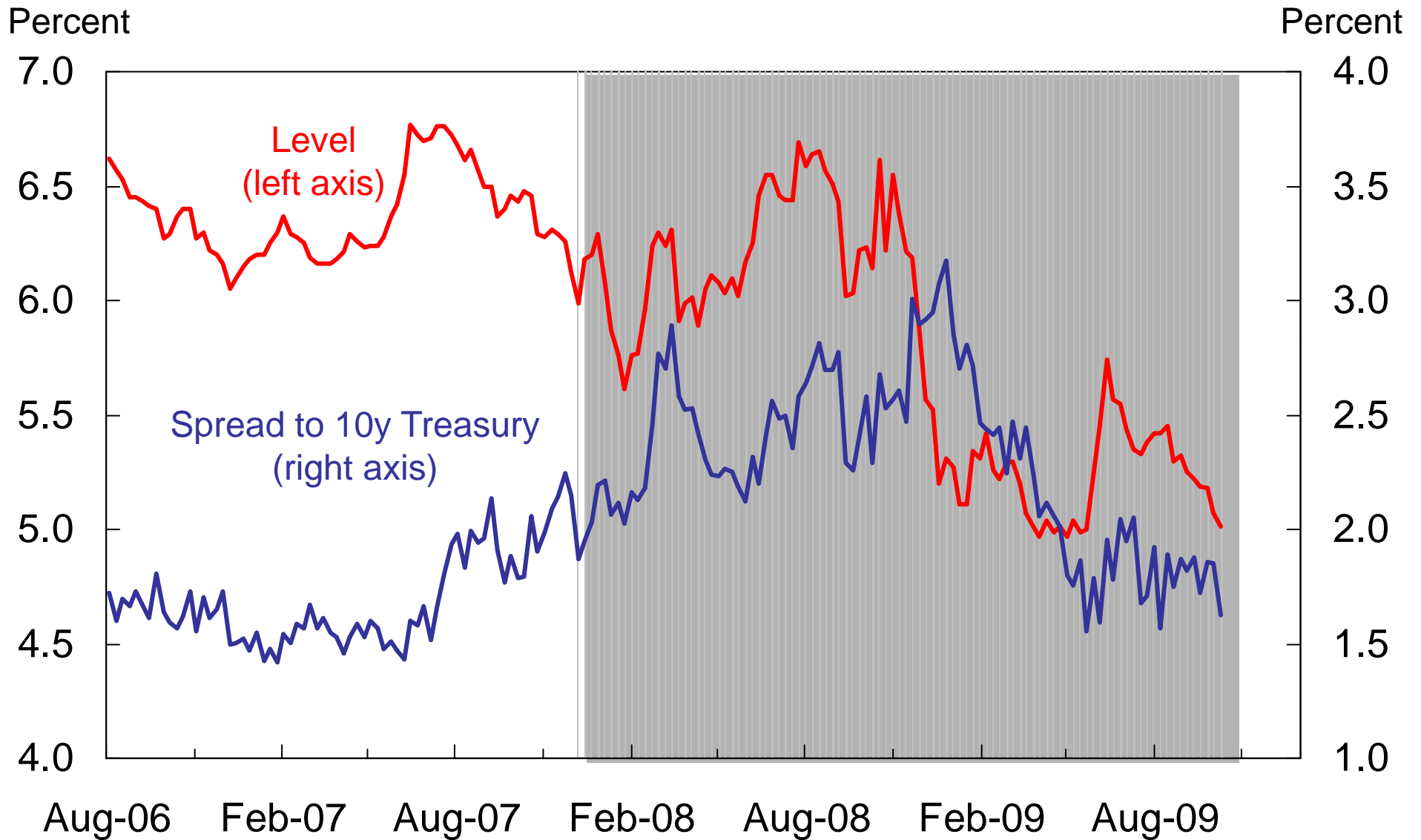


Source: Barclays

Implied Inflation from Inflation Swaps: 5-10 Year Horizon



30-Year Conforming Mortgage Rates



Source: HSH Associates and Datastream Note: Shading represents NBER recessions.

International Outlook Summary

	Q4/Q4 Growth	
	2009	2010
Total Non-U.S.	0.0	2.8
(May forecast)	(-1.2)	(2.0)

Expected path of Real Dollar:
Depreciate by 4% through end of 2011

Note: Growth numbers are GDP-weighted;
Dollar forecast is trade-weighted

International Outlook Summary

	2009					
	Q1	Q2	Q3	Q4	Q4/Q4	Yr/Yr
United States	-6.4	-0.7	2.9	3.3	-0.3	-2.5
Euro Area	-9.6	-0.7	2.0	1.5	-1.8	-3.9
Japan	-12.4	2.3	3.0	1.5	-1.6	-5.7
United Kingdom	-9.3	-2.6	2.5	3.0	-1.7	-4.1
Canada	-6.1	-3.4	2.0	1.5	-1.5	-2.5
Major Foreign Industrials	-9.9	-0.5	2.3	1.7	-1.7	-4.2
China	6.1	19.3	7.8	7.4	10.0	8.3
Korea	0.5	9.7	4.5	3.6	4.5	-0.9
Mexico	-21.2	-4.4	10.4	5.3	-3.3	-7.1
Total Non-U.S.	-7.8	2.4	3.4	2.7	0.0	-2.5

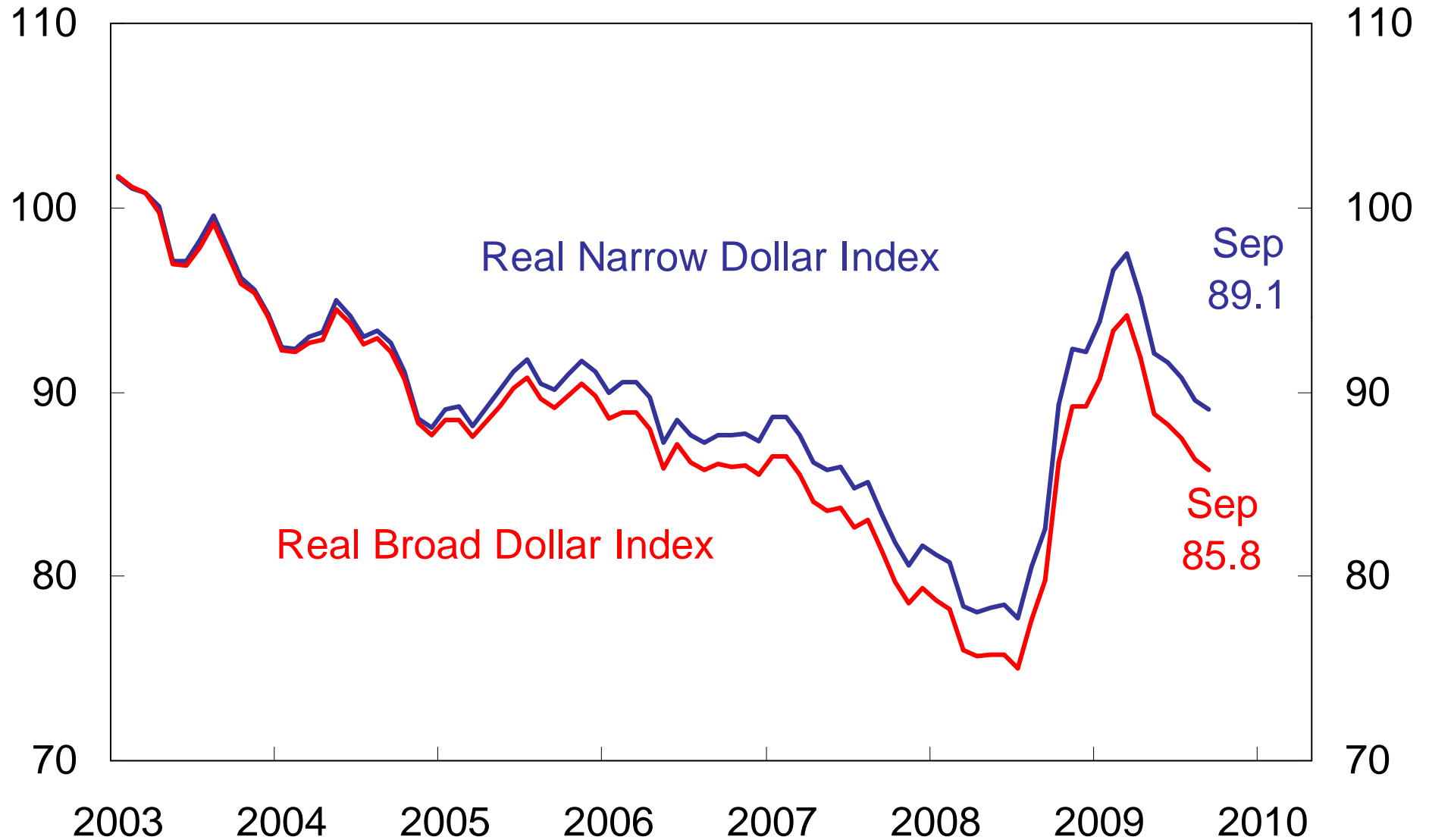
International Outlook Summary

	2010					
	Q1	Q2	Q3	Q4	Q4/Q4	Yr/Yr
United States	1.1	1.1	2.5	3.3	2.0	1.9
Euro Area	1.5	1.5	1.8	2.0	1.7	1.5
Japan	1.5	2.5	2.5	1.5	2.0	2.0
United Kingdom	1.0	1.0	1.5	2.0	1.4	1.5
Canada	2.0	2.0	2.0	2.5	2.1	1.6
Major Foreign Industrials	1.5	1.7	1.9	1.9	1.7	1.6
China	8.5	8.5	8.5	8.5	8.5	8.8
Korea	3.6	4.1	4.1	4.1	4.0	4.2
Mexico	2.8	3.2	3.6	3.6	3.3	4.0
Total Non-U.S.	2.5	2.7	2.9	2.9	2.8	2.8

Real Effective Exchange Rates

Index, 2000 = 100

Index, 2000 = 100



Source: Bloomberg and JPMorgan