

Presentation

By

A. Gary Shilling, Ph.D.

To

Texas Municipal Retirement System

May 19, 2017

A. Gary Shilling & Co., Inc.

500 Morris Avenue

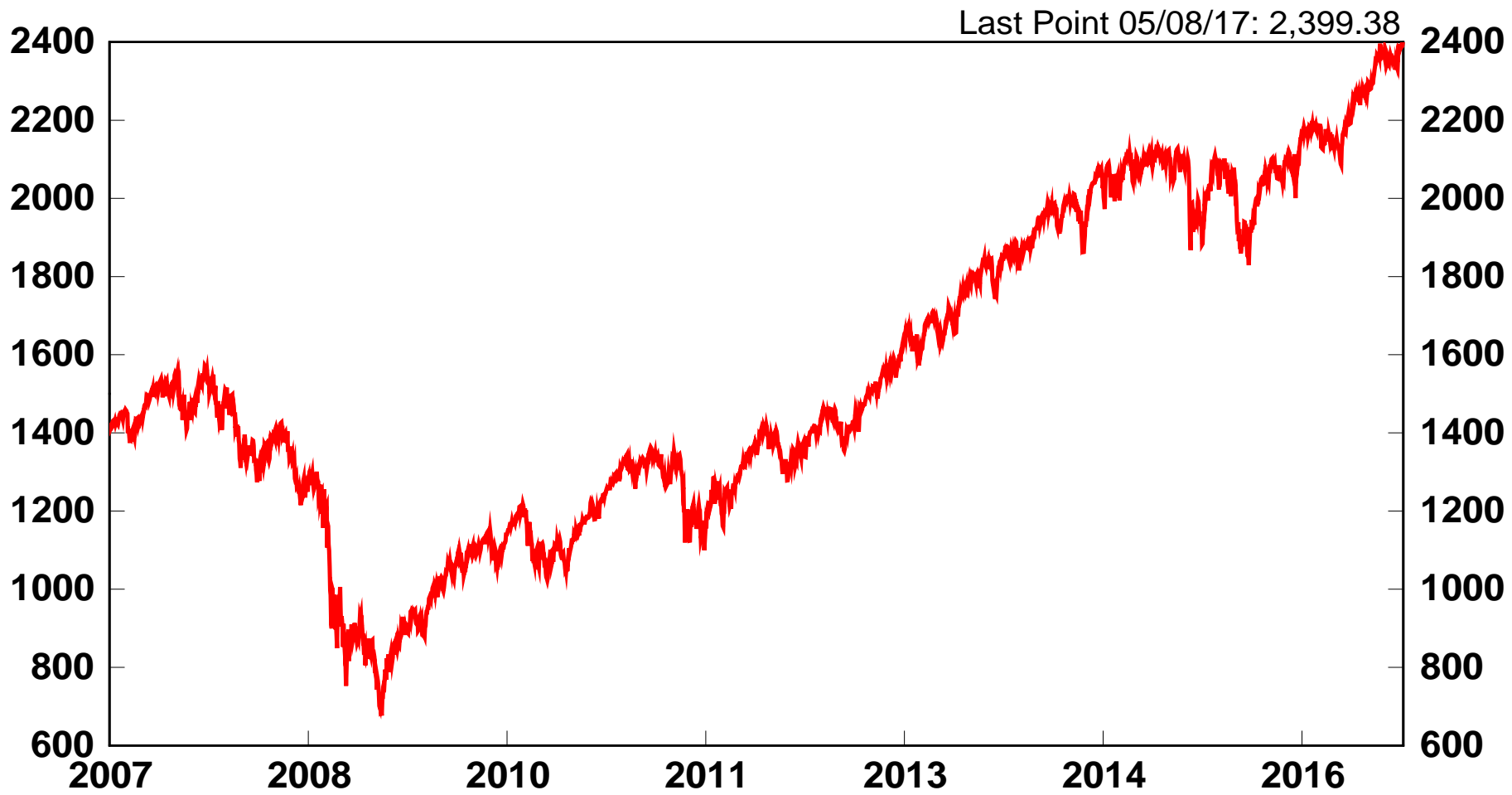
Springfield, NJ 07081

(973) 467-0070 / Fax (973) 467-1943

Email: gary@agaryshilling.com / www.agaryshilling.com

Chart 1

S&P 500 Index



Source: Thomson Reuters

Chart 2

Copper Price

USD/pound; nearest futures contract

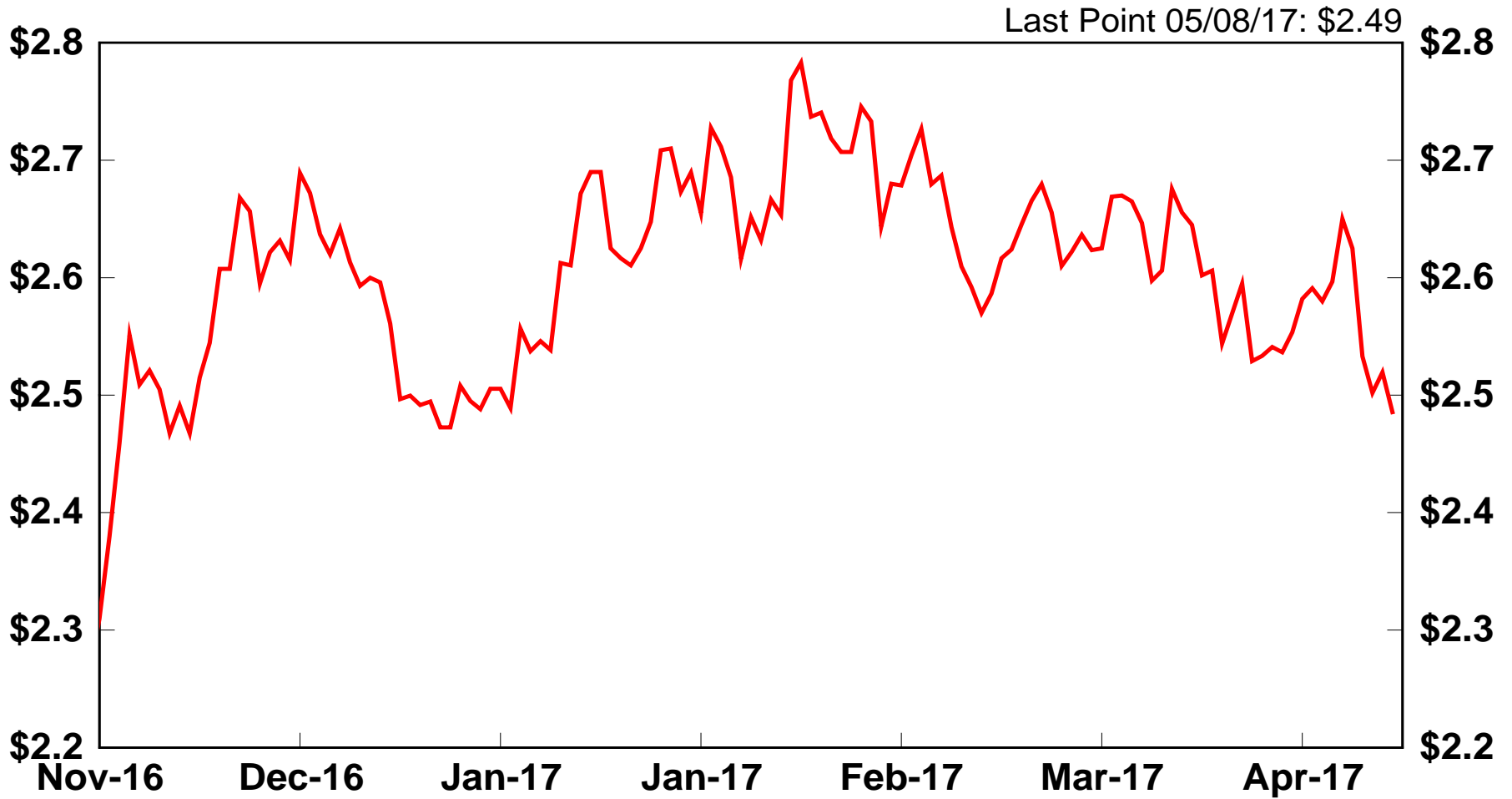
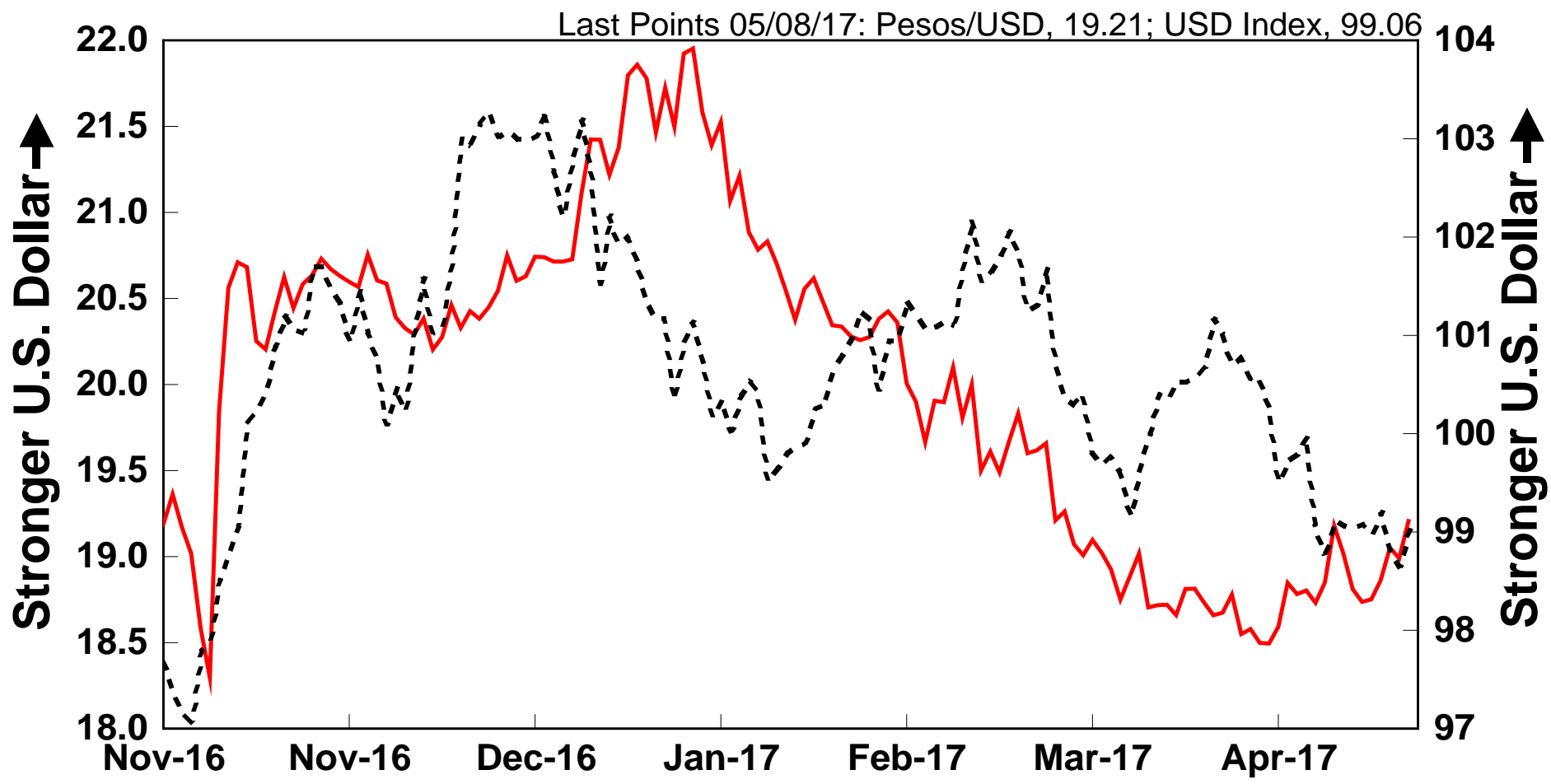


Chart 3

Mexican Pesos Per U.S. Dollar and U.S. Dollar Index

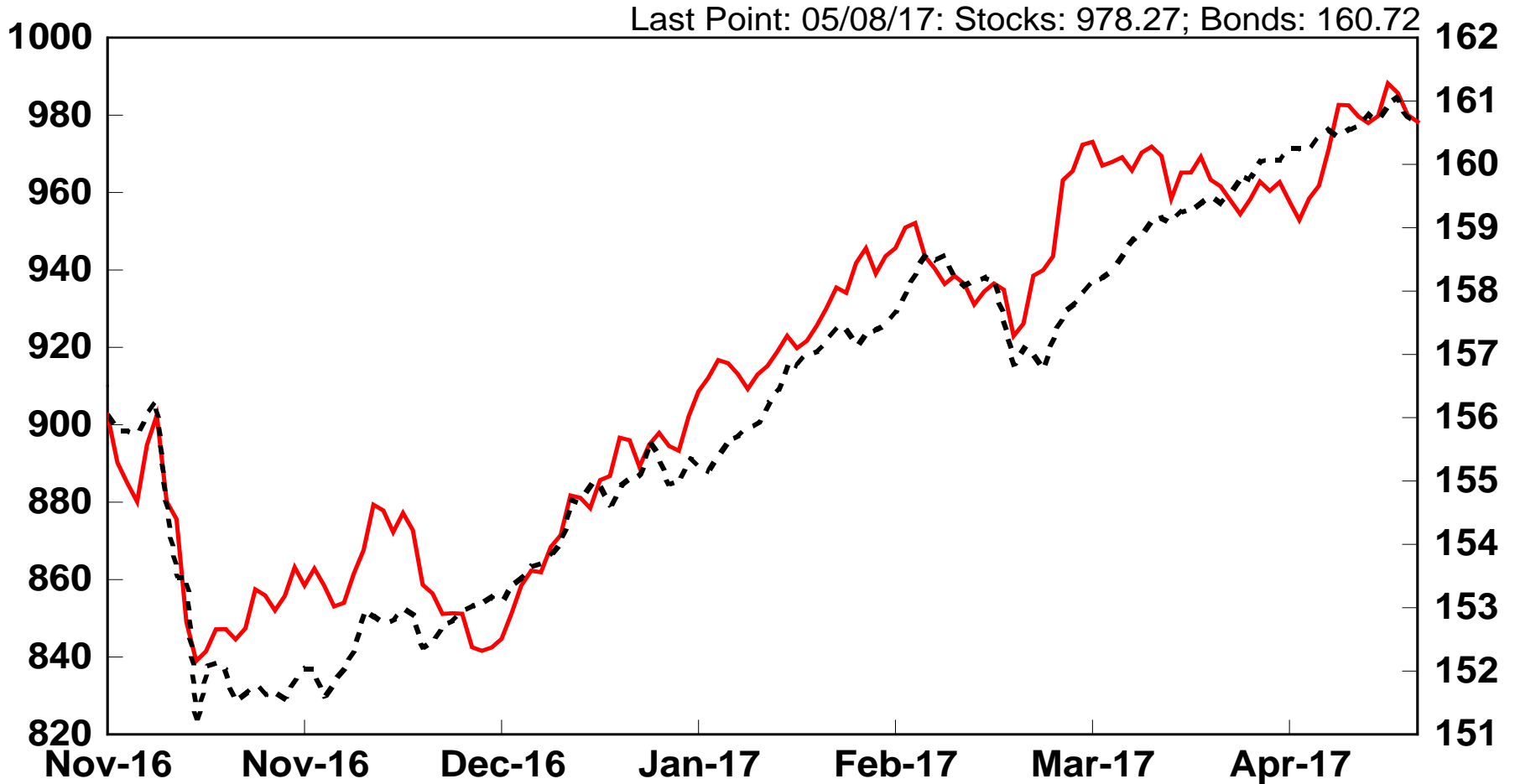


— Pesos/USD - left axis
 - - - - U.S. Dollar Index - right axis

Source: Thomson Reuters

Chart 4

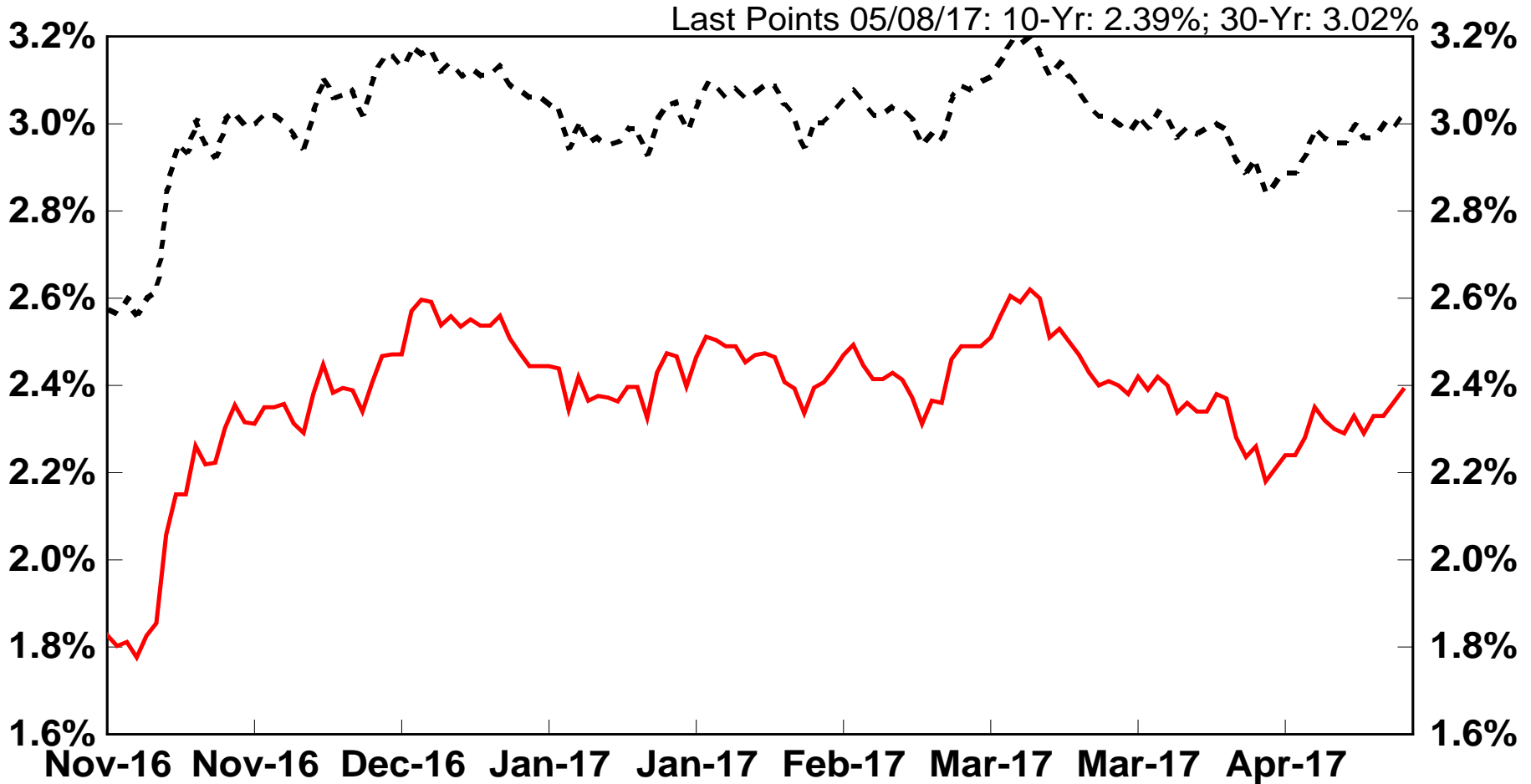
Emerging Markets Stocks and Bond Indices



— MSCI Emerging Market Stocks Index - left axis
- - - - Bloomberg Emerging Market Bond Index - right axis

Source: Bloomberg, MSCI

Chart 5 10 and 30 Year Treasury Yields



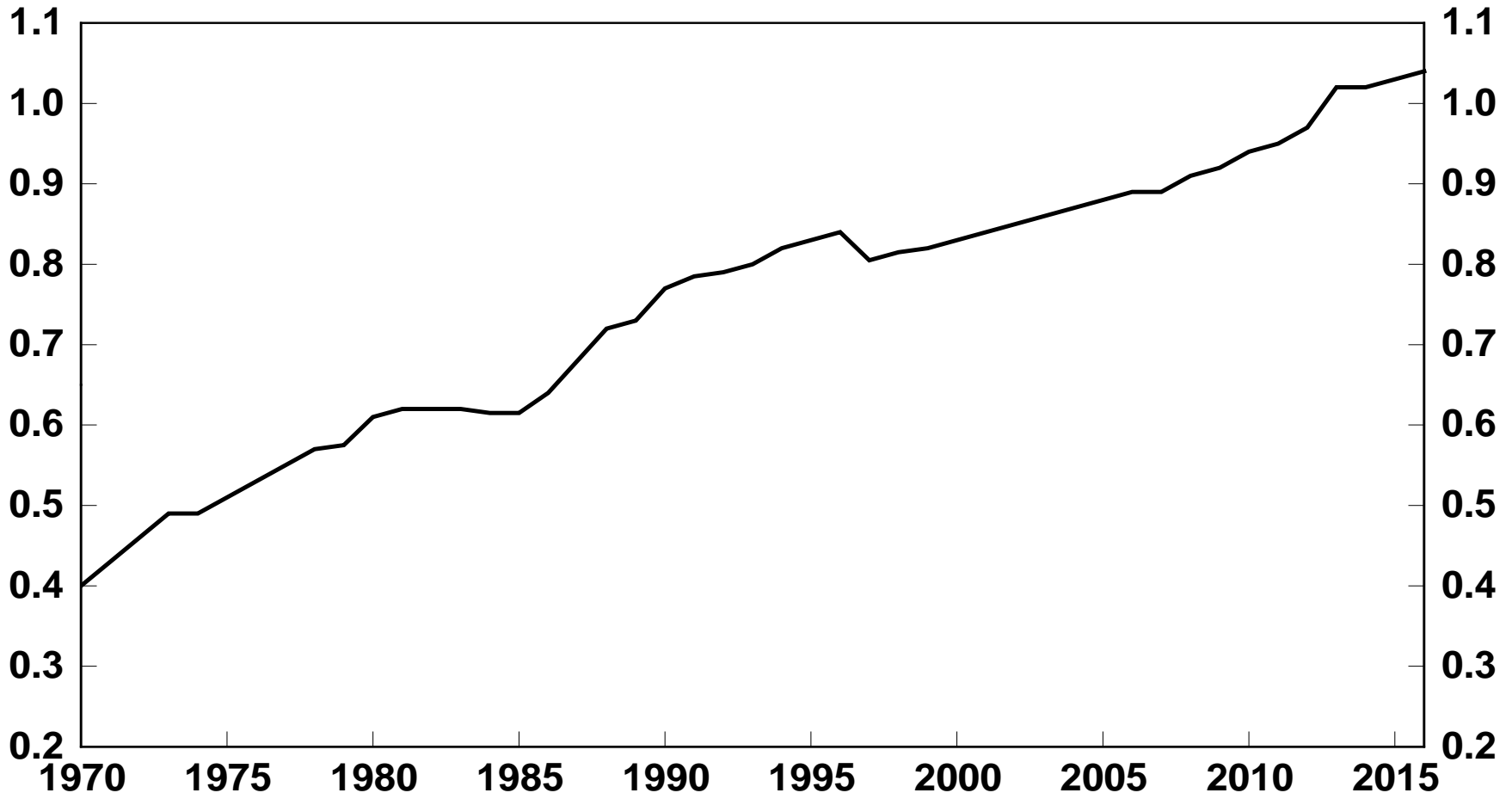
— 10 Year Treasury Yield
- - - 30 Year Treasury Yield

Source: Federal Reserve

Chart 6

Cumulative Number of Federal Restrictions

in millions

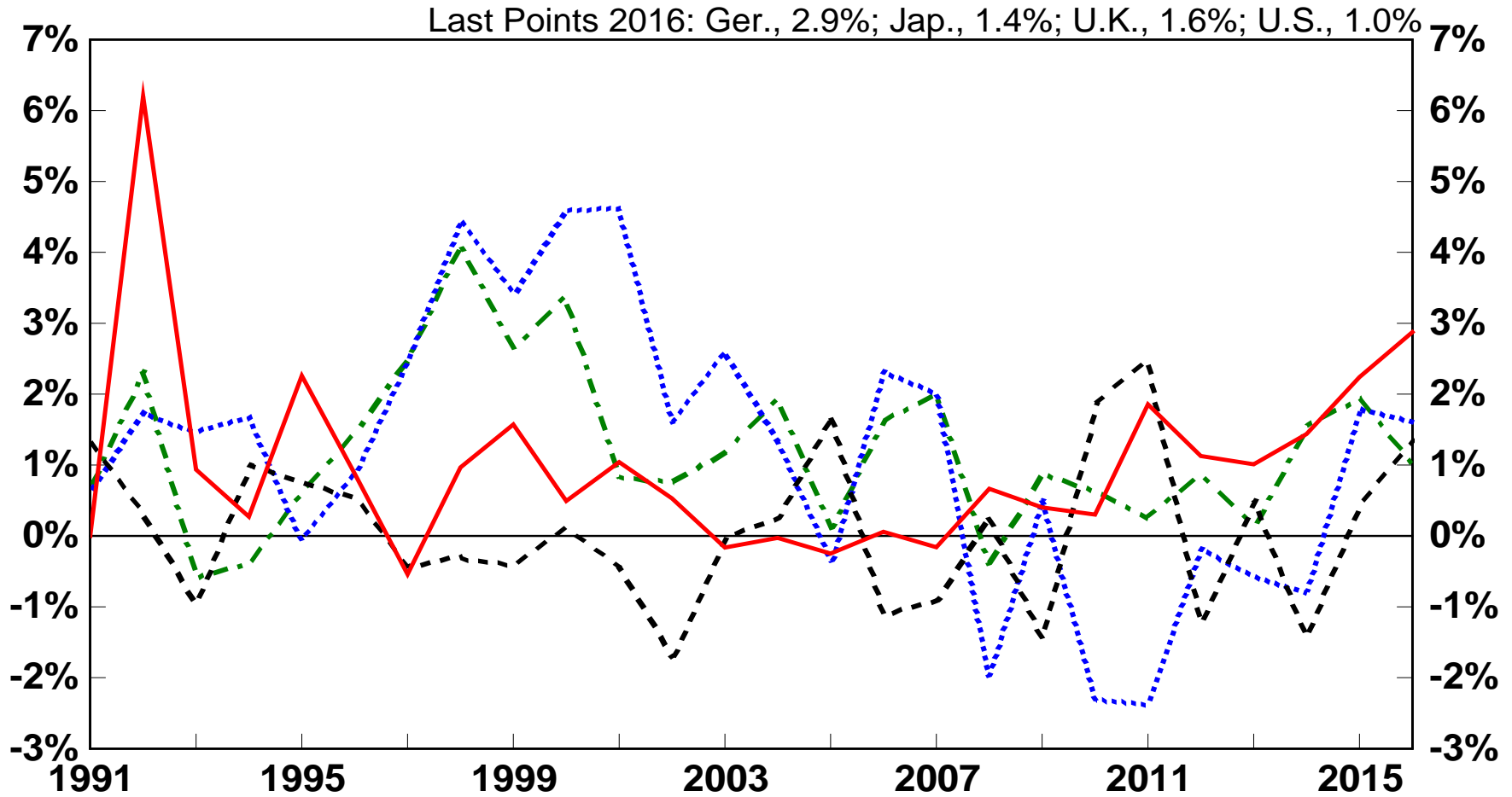


Source: The Wall Street Journal; Mercatus Center

Chart 7

Real Annual Wages

year/year percent change



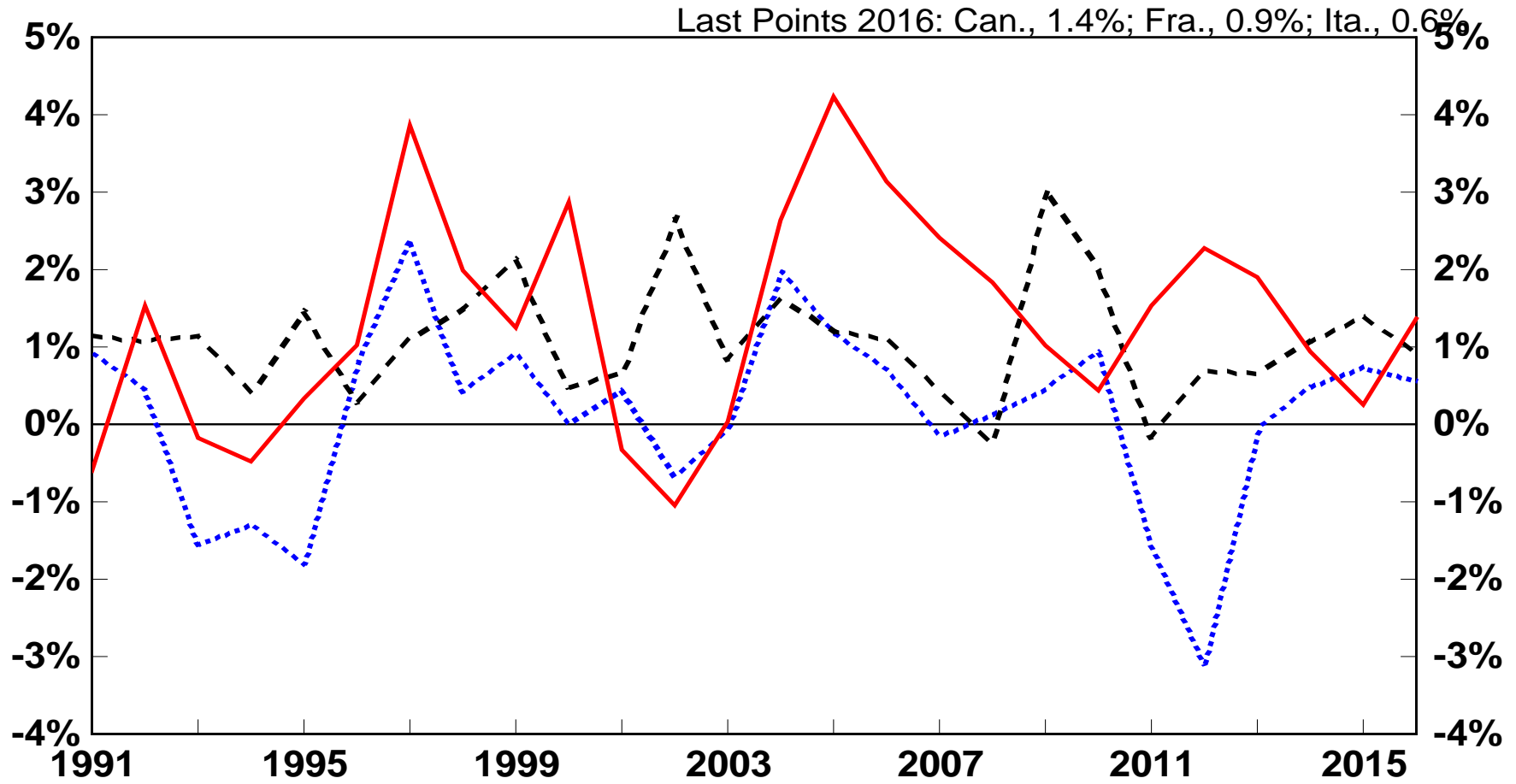
— Germany ····· United Kingdom
- - - - Japan - · - · - United States

Source: Bloomberg; OECD

Chart 8

Real Annual Wages

year/year percent change



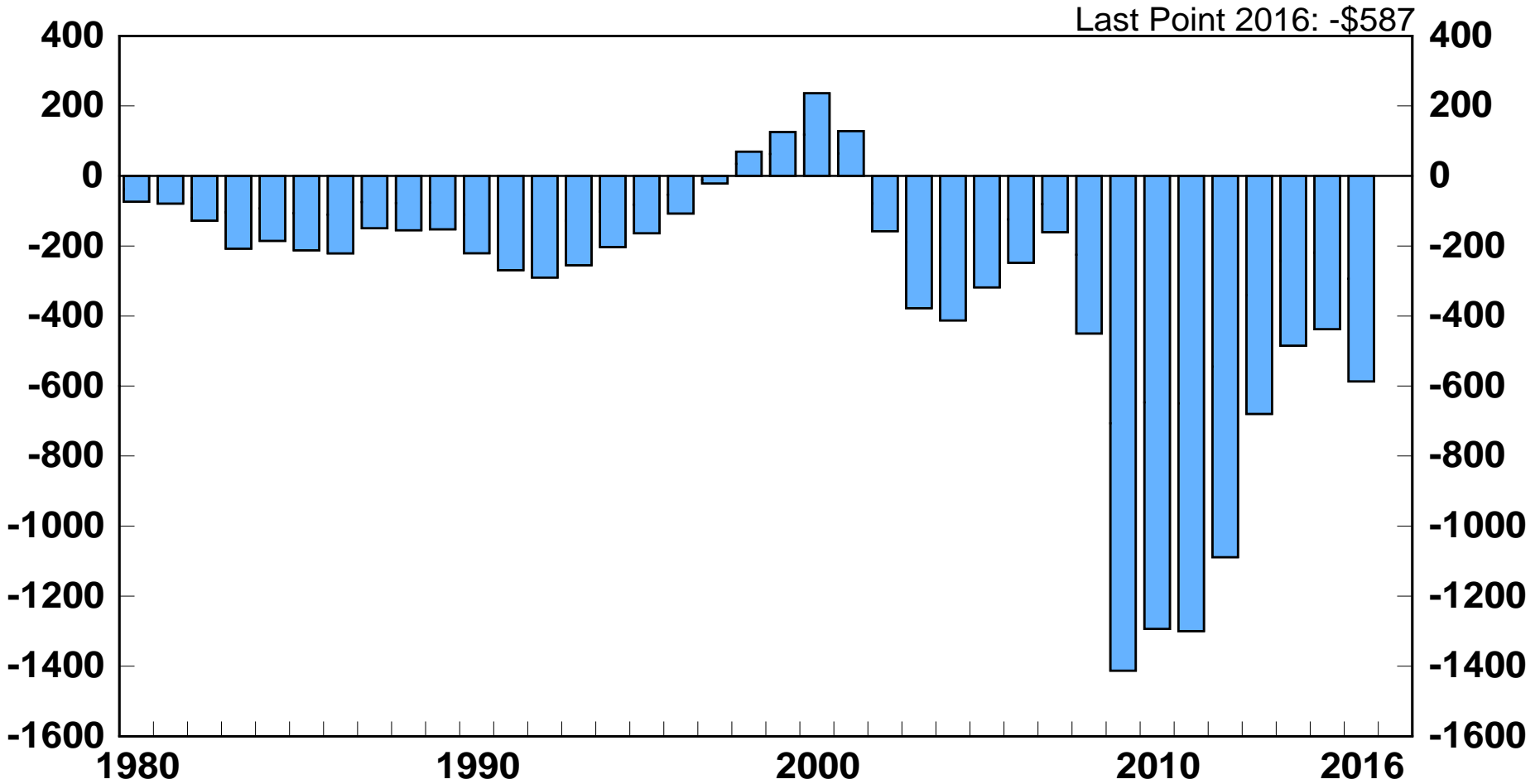
— Canada Italy
- - - - - France

Source: Bloomberg; OECD

Chart 9

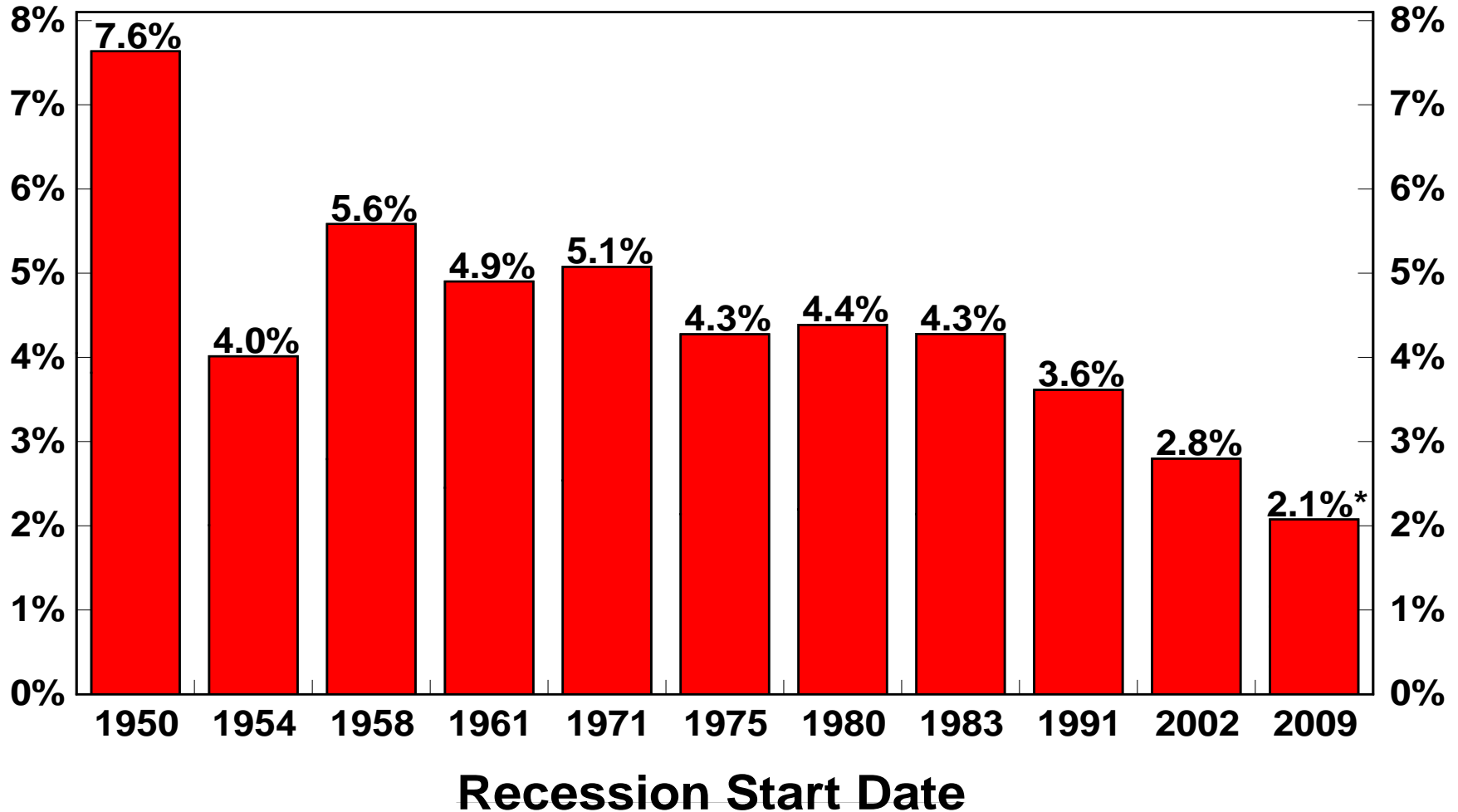
Federal Budget Balance

billion USD



Source: Congressional Budget Office

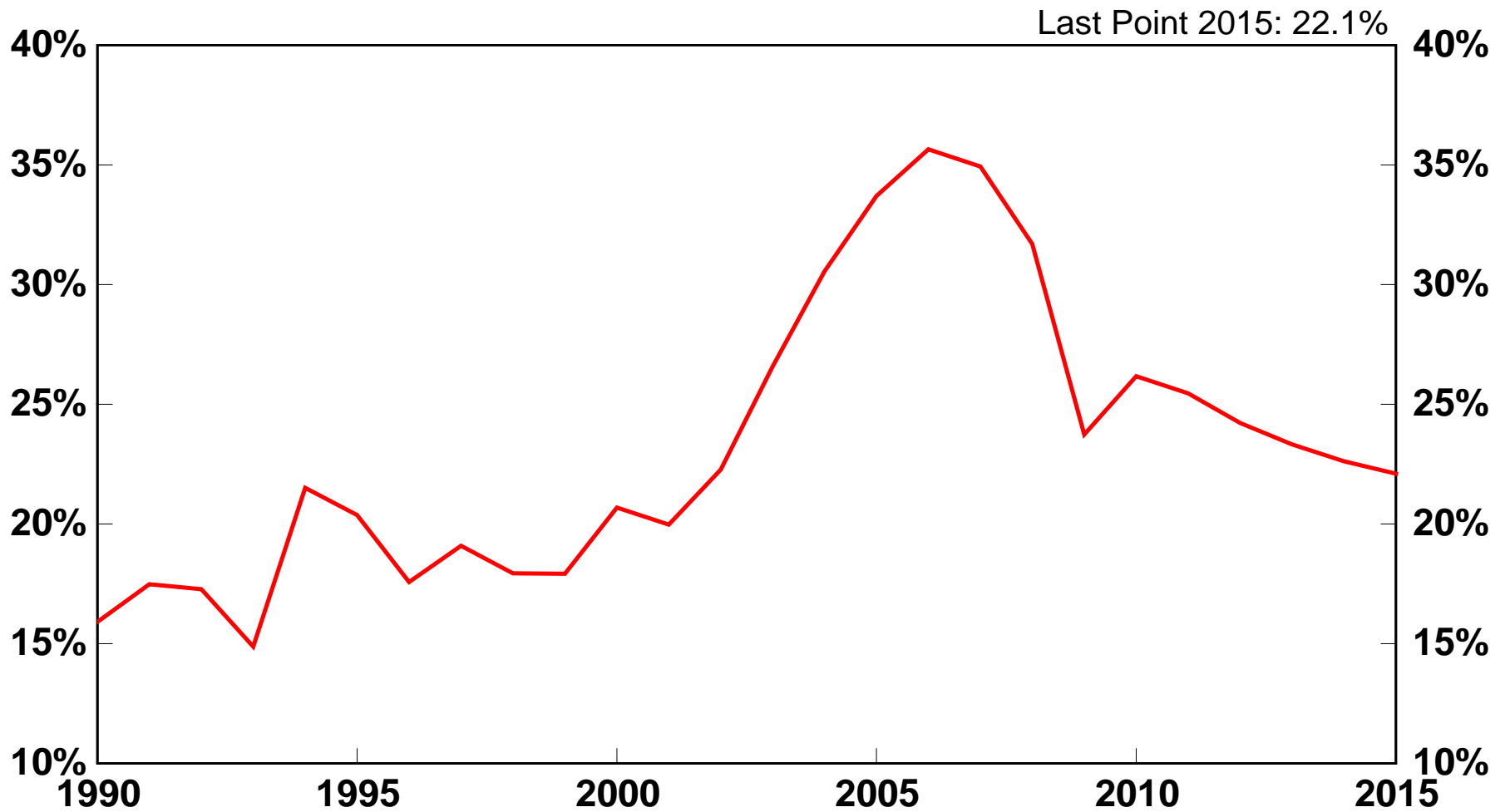
Chart 10
Real GDP Growth During Expansions
annualized rates of expansion from NBER trough-to-peak



*Through 1Q 2017
Source: BEA; NBER

Chart 11

China Exports of Goods and Services as % share of GDP

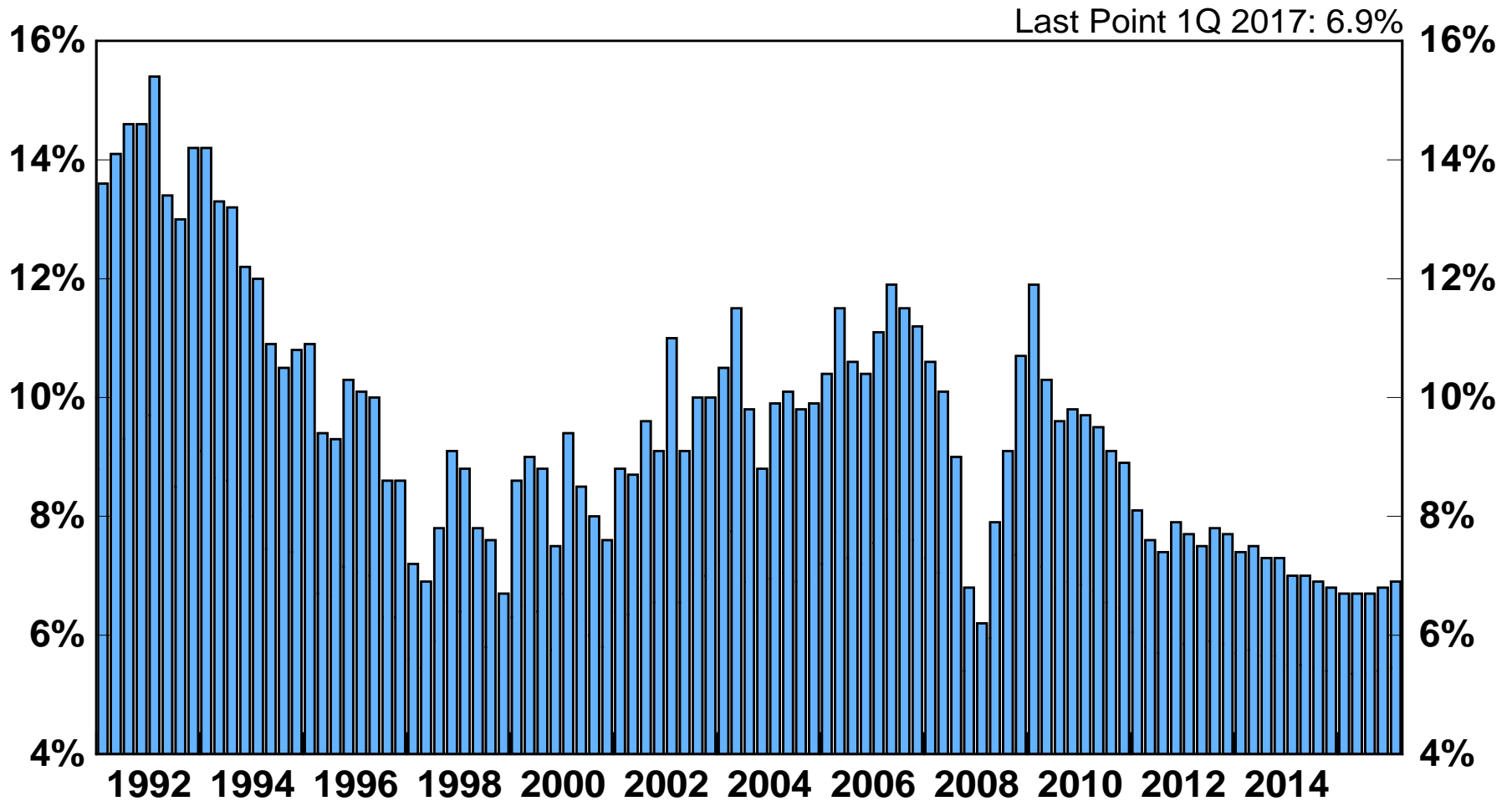


Source: The World Bank

Chart 12

Chinese Real Gross Domestic Product

year/year percent change

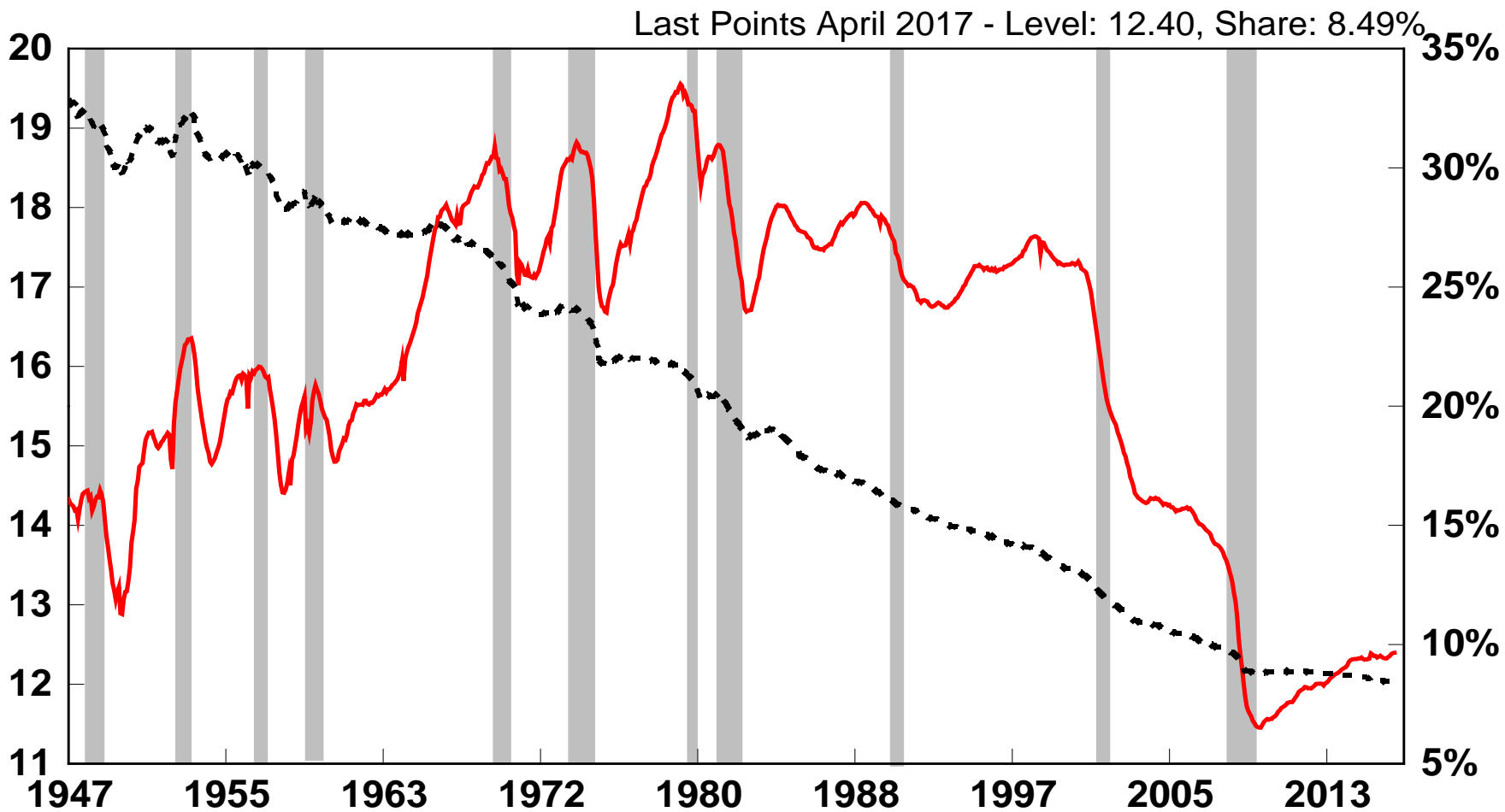


Source: Bloomberg; Chinese National Bureau of Statistics

Chart 13

Manufacturing Payroll Employment

level and share of total



— Level (millions of employees) - left axis
 - - - - Share of Total Nonfarm Payrolls - right axis

Source: Bureau of Labor Statistics

Chart 14

Fertility and Life Expectancy Rates

	Fertility Rates	Life Expectancy Rates		
	2014 estimate	Total Pop.	Women	Men
Japan	1.4	84.46	87.99	81.13
Australia	1.77	80.17	83.24	77.25
Italy	1.42	82.03	84.82	79.4
Canada	1.59	81.67	84.42	79.07
France	2.08	81.66	84.91	78.55
Spain	1.48	81.47	84.67	78.47
Netherlands	1.78	81.12	83.34	79.02
Germany	1.43	80.44	82.86	78.15
U.K.	1.9	80.42	82.69	78.26
Eurozone	1.55	81.5	84.1	78.7
South Korea	1.25	79.8	83.13	76.67
U.S.	2.01	79.56	81.94	77.11
China	1.55	75.15	77.43	73.09
Brazil	1.79	73.28	77	69.73
Russia	1.61	70.16	76.3	64.37
India	2.51	67.8	69.06	66.68

Source: CIA and eurostat

Chart 15

Working Age Population

15-64 year olds as a share of the total population

	Canada	France	Germany	Italy	Japan	UK	USA	China
1960	59.0%	62.0%	67.2%	65.5%	64.1%	64.9%	60.0%	56.4%
1990	68.0%	65.9%	69.1%	68.6%	69.7%	65.3%	65.8%	66.0%
2010	69.5%	64.8%	66.1%	65.6%	64.0%	66.0%	66.9%	72.4%
2030	60.7%	59.4%	58.2%	60.3%	57.3%	61.3%	61.0%	68.9%
2040	59.7%	57.7%	55.2%	55.0%	53.4%	59.7%	60.3%	63.1%

Source: United Nations

Chart 16

G-7 and BRIC Population and Projections; Millions

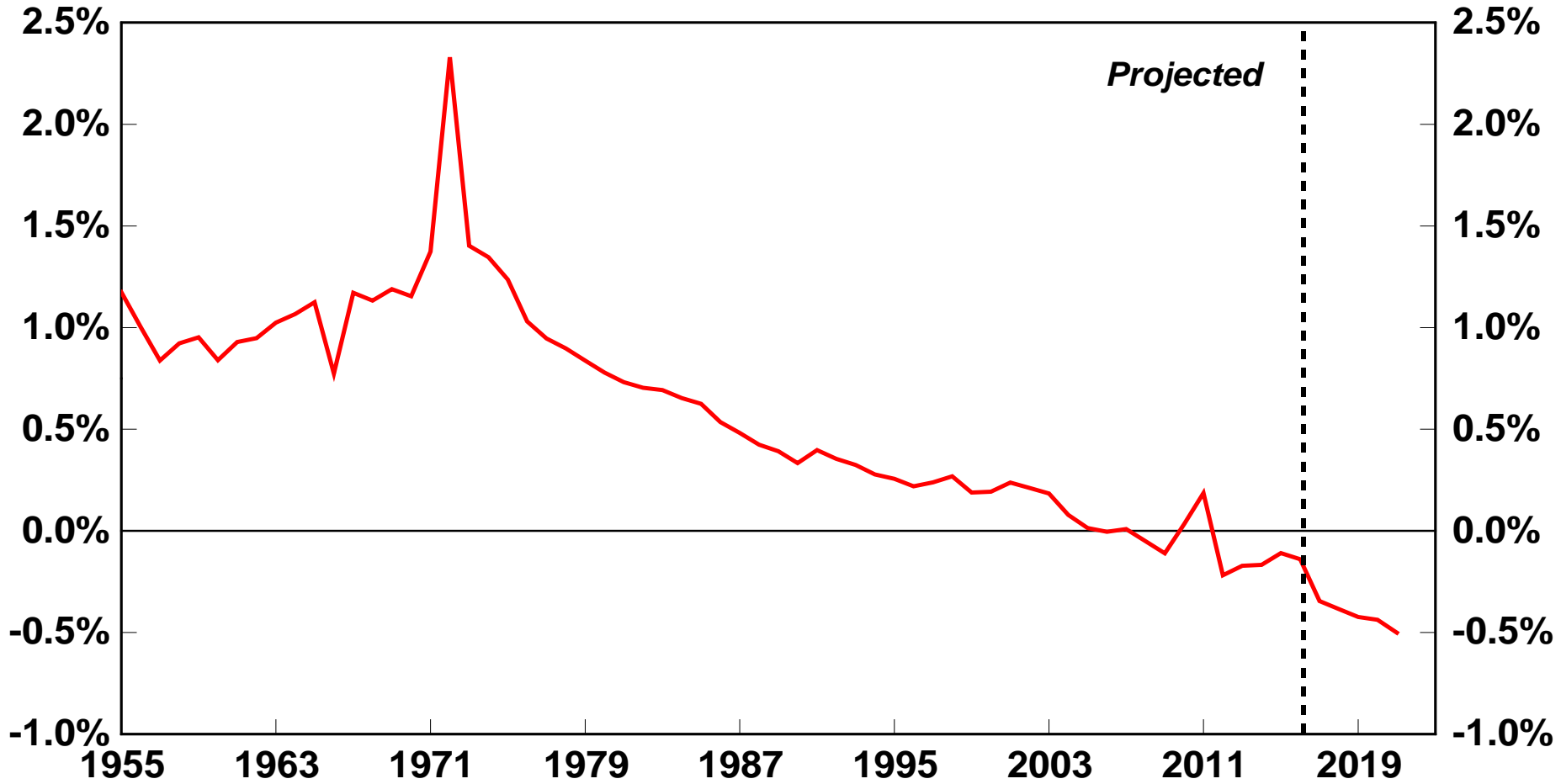
	2017	2025	2050
Japan	126.0	122.8	107.4
United Kingdom	65.5	68.5	75.4
France	64.9	66.9	71.1
Germany	80.6	80.0	74.5
Italy	59.8	59.5	56.5
Canada	36.6	39.1	44.1
United States	326.5	345.1	388.9
China	1,388.2	1,414.9	1,348.1
India	1,342.5	1,461.6	1,705.3
Russian Federation	143.4	141.2	128.6
Brazil	211.2	223.0	238.3

Source: United Nations

Chart 17

Japanese Population

year/year percent change



Source: Japanese Statistics Bureau

Chart 18

G7 Labor Force Participation Rates

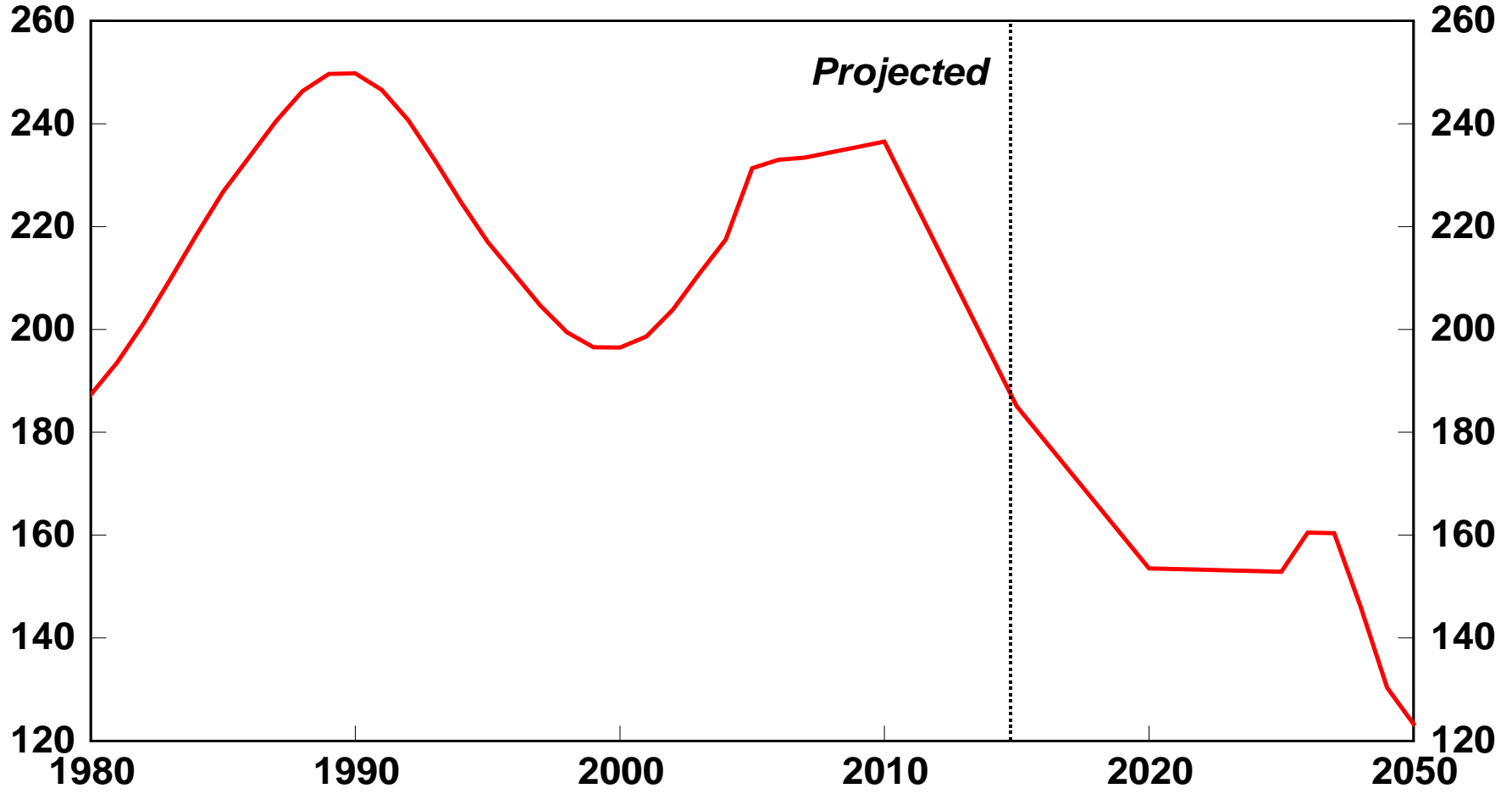
	Female	Male	Total
Canada	61%	71%	66%
U.S.	56%	69%	62%
U.K.	56%	69%	62%
Germany	54%	66%	60%
France	51%	61%	56%
Japan	49%	70%	59%
Italy	40%	60%	49%

Source: The World Bank

Chart 19

Chinese Population Aged 15-24

millions



*Projections start after 2015
Source: United Nations

Chart 20

Productivity in the U.S. Nonfarm Business Sector

avg. annual growth rate by decade

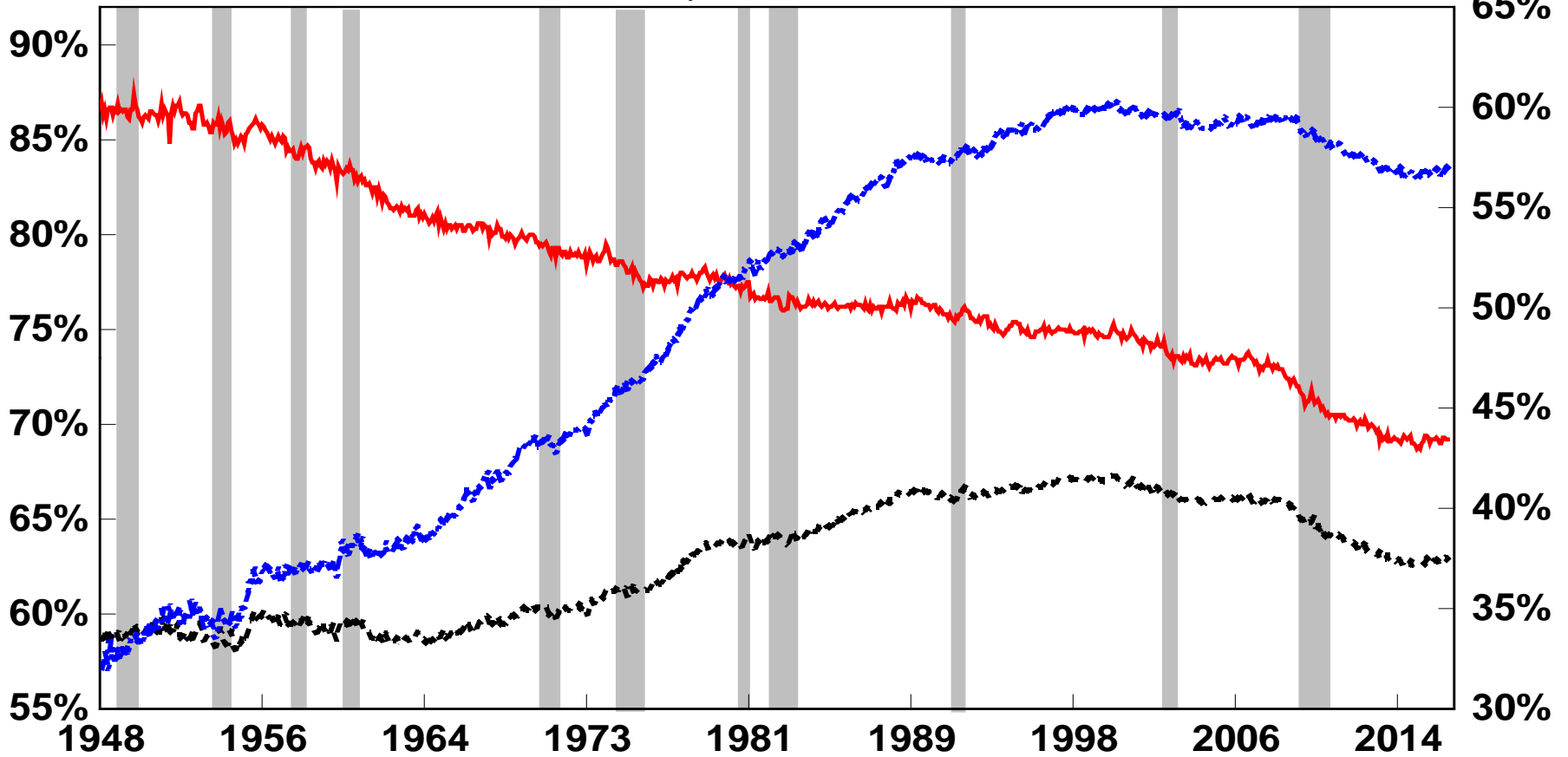
	NBER	BLS
1901-1910	2.34%	na
1911-1920	2.64%	na
1921-1930	2.07%	na
1931-1940	2.39%	na
1941-1950	2.46%	na
1951-1960	2.28%	2.14%
1961-1970	2.49%	2.71%
1971-1980	na	1.45%
1981-1990	na	1.61%
1991-2000	na	2.18%
2001-2010	na	2.36%
2011-2016	na	0.53%

Chart 21

Labor Force Participation Rate

seasonally-adjusted

Last Points April 2017 - Male, 69.2%; Total, 62.9%; Female, 57.0%



- Male - left axis
- - - Total - left axis
- · - · Female - right axis

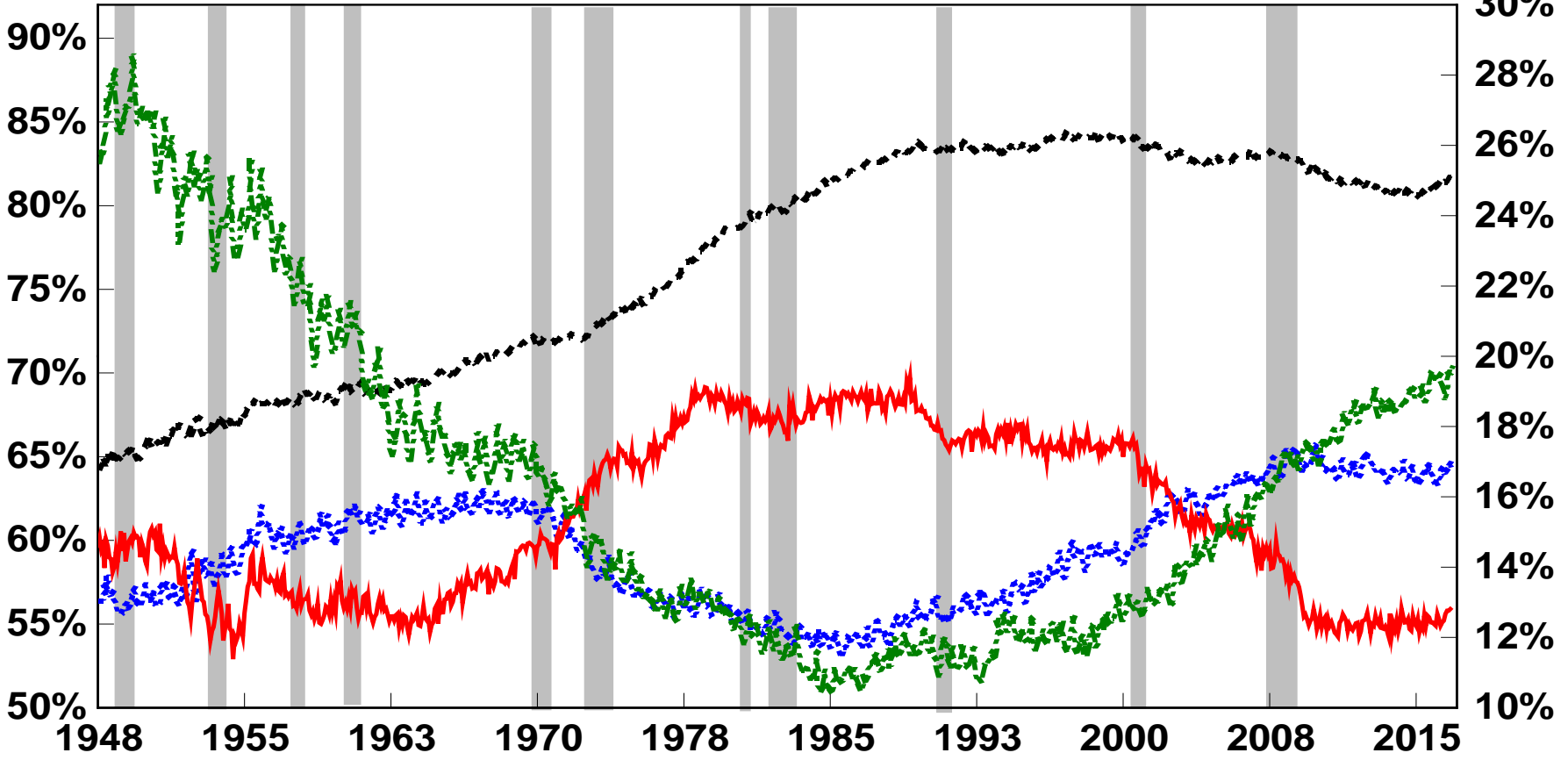
Source: Bureau of Labor Statistics

Chart 22

Labor Force Participation Rate

by age group; seasonally-adjusted

Last Points April 2017: 16-24, 11.7%; 25-54, 25.7%; 55-64, 15.7%; 65+, 28.7%

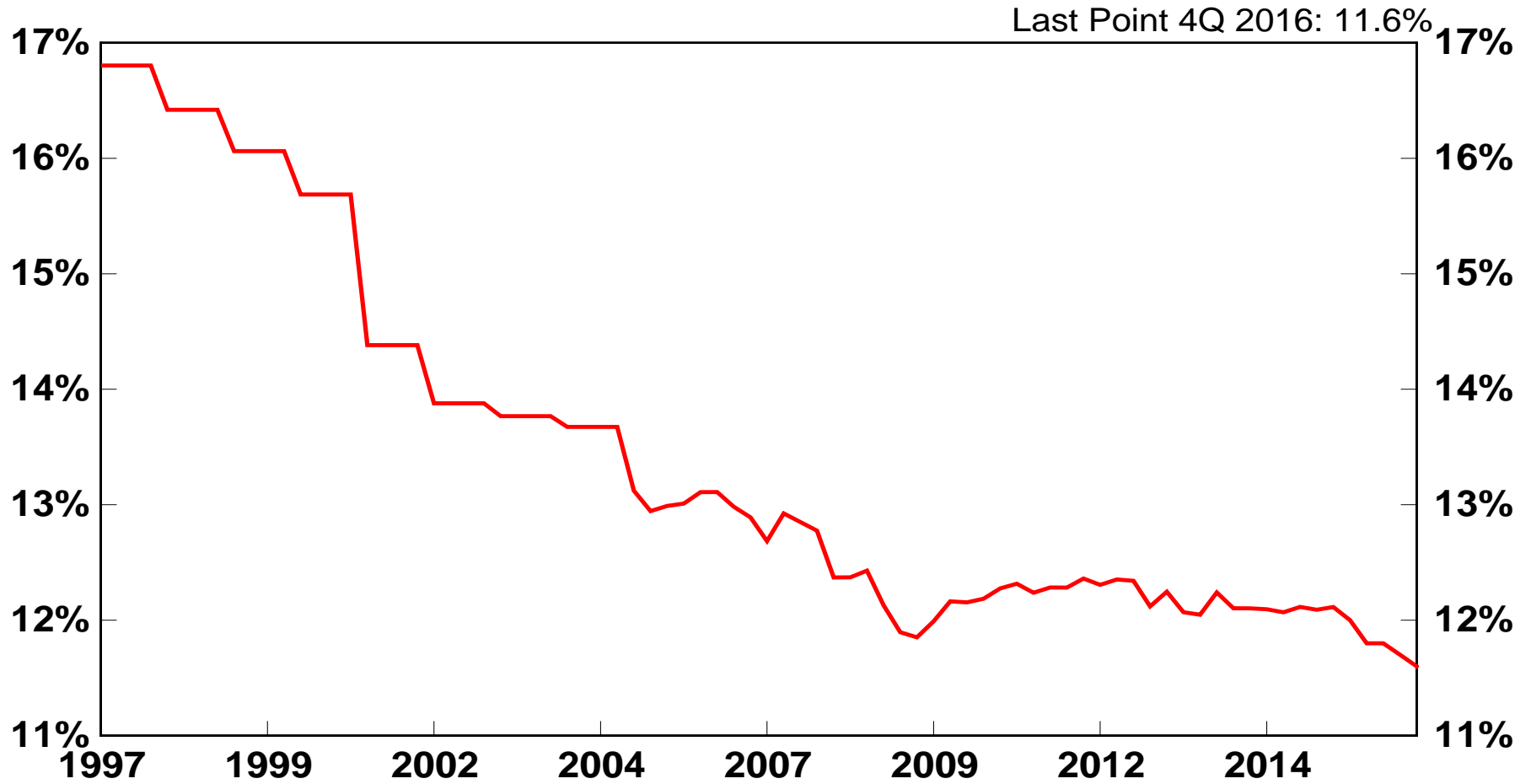


— 16 - 24 - left axis - - - - 55 - 64 - left axis
- - - - 25 - 54 - left axis - - - - 65+ - right axis

Source: Bureau of Labor Statistics

Chart 23

United States Manufacturing Value Added as % share of GDP

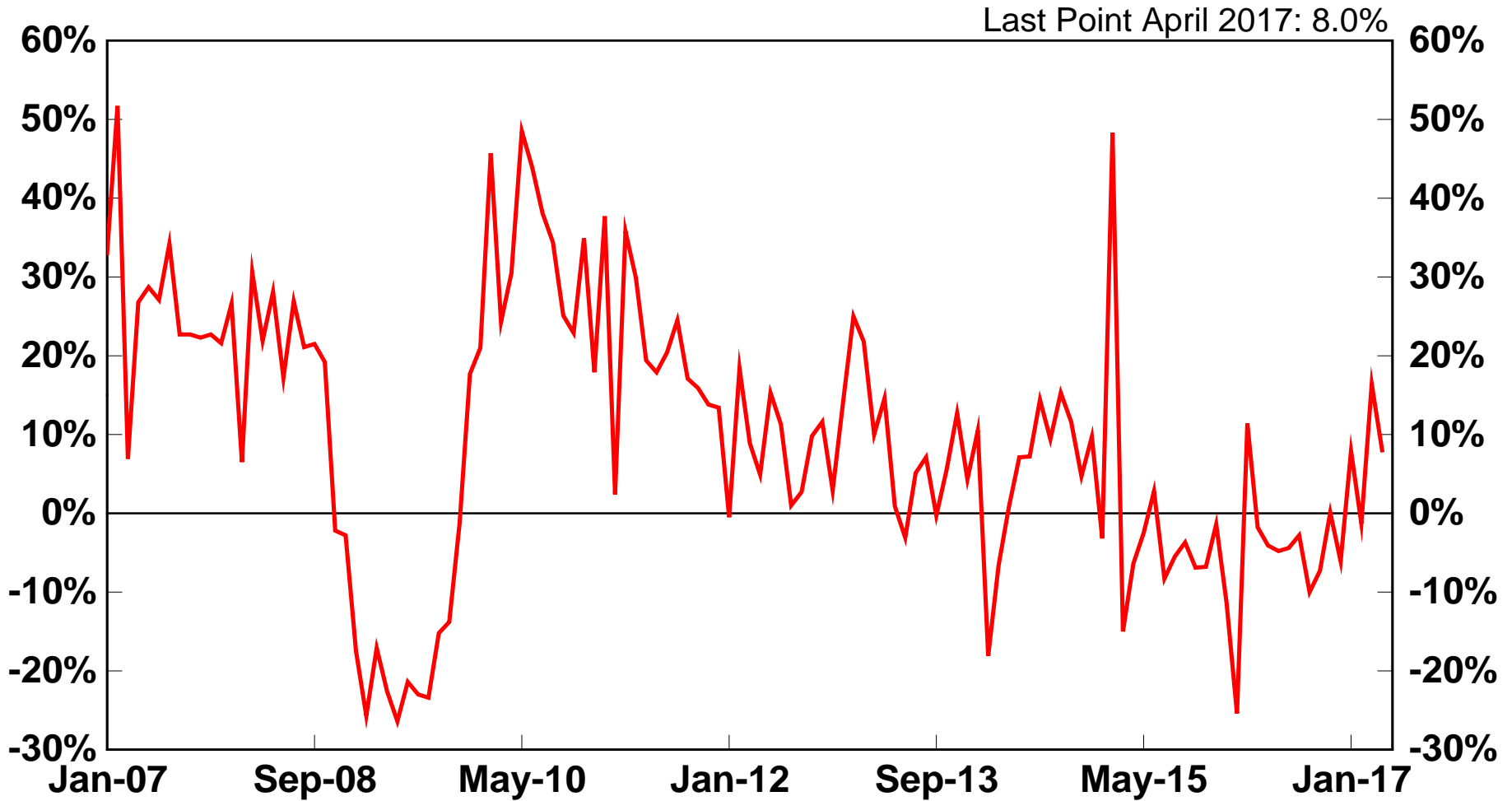


Source: Bureau of Economic Analysis; The World Bank

Chart 24

Chinese Exports

year/year percent change

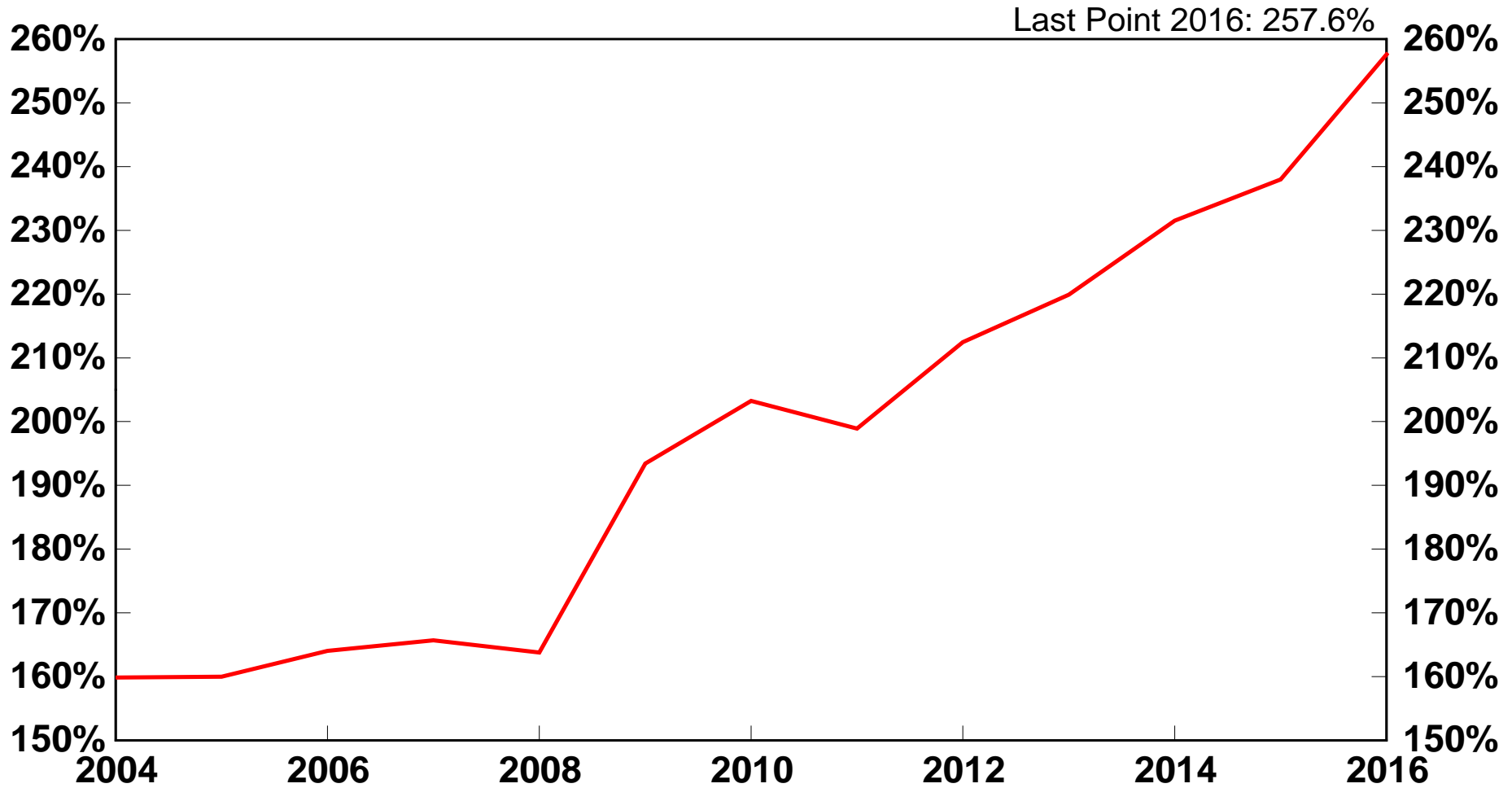


Source: China General Administration of Customs

Chart 25

Chinese Total Debt as a Share of GDP

includes corporate, household, government and bank debt

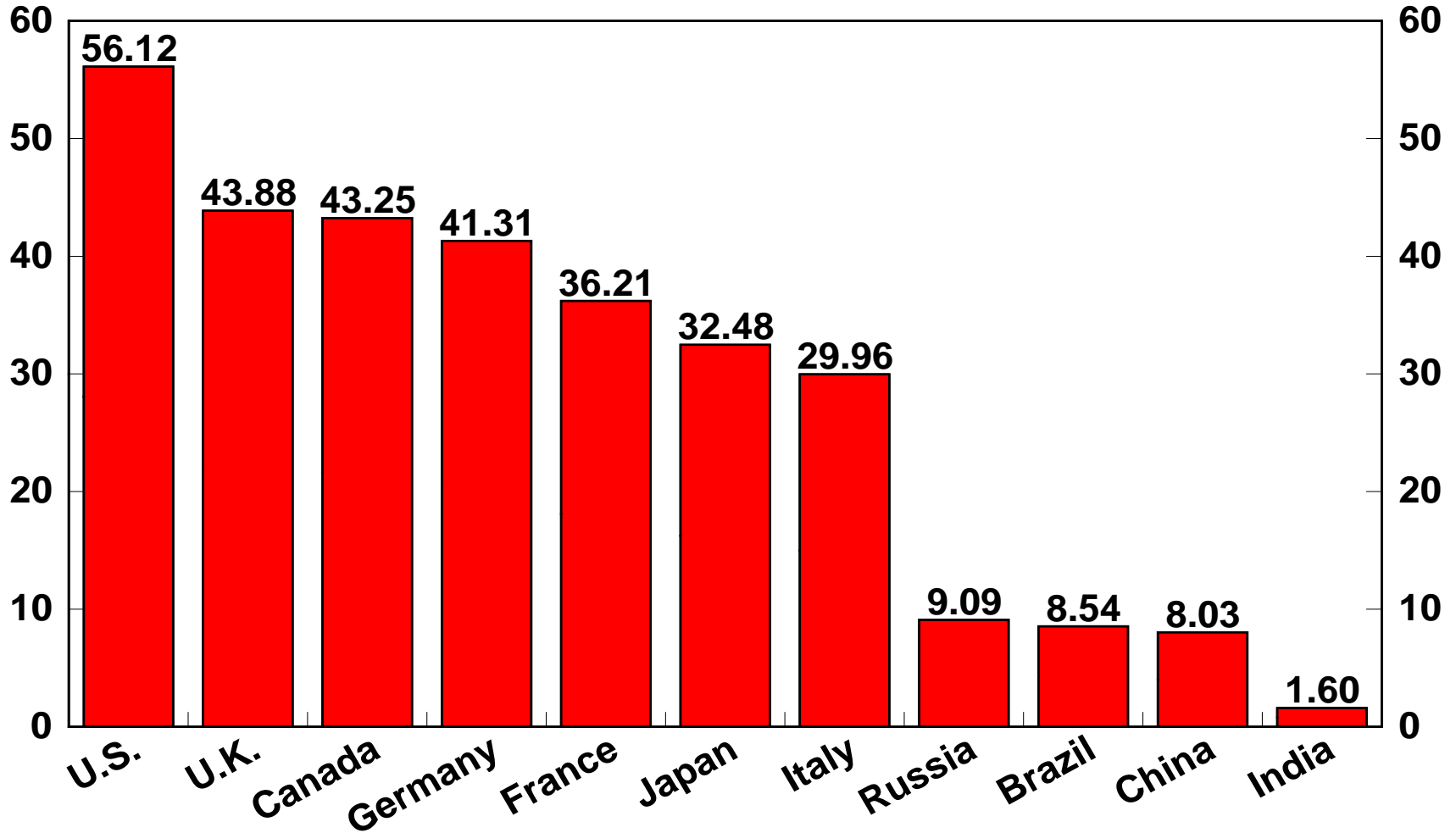


Source: Bloomberg

Chart 26

G7 and BRIC Gross Domestic Product Per Capita: 2015

thousand USD



Source: The World Bank

Chart 27

G7 and BRIC Personal Consumption to GDP Ratio: 2015

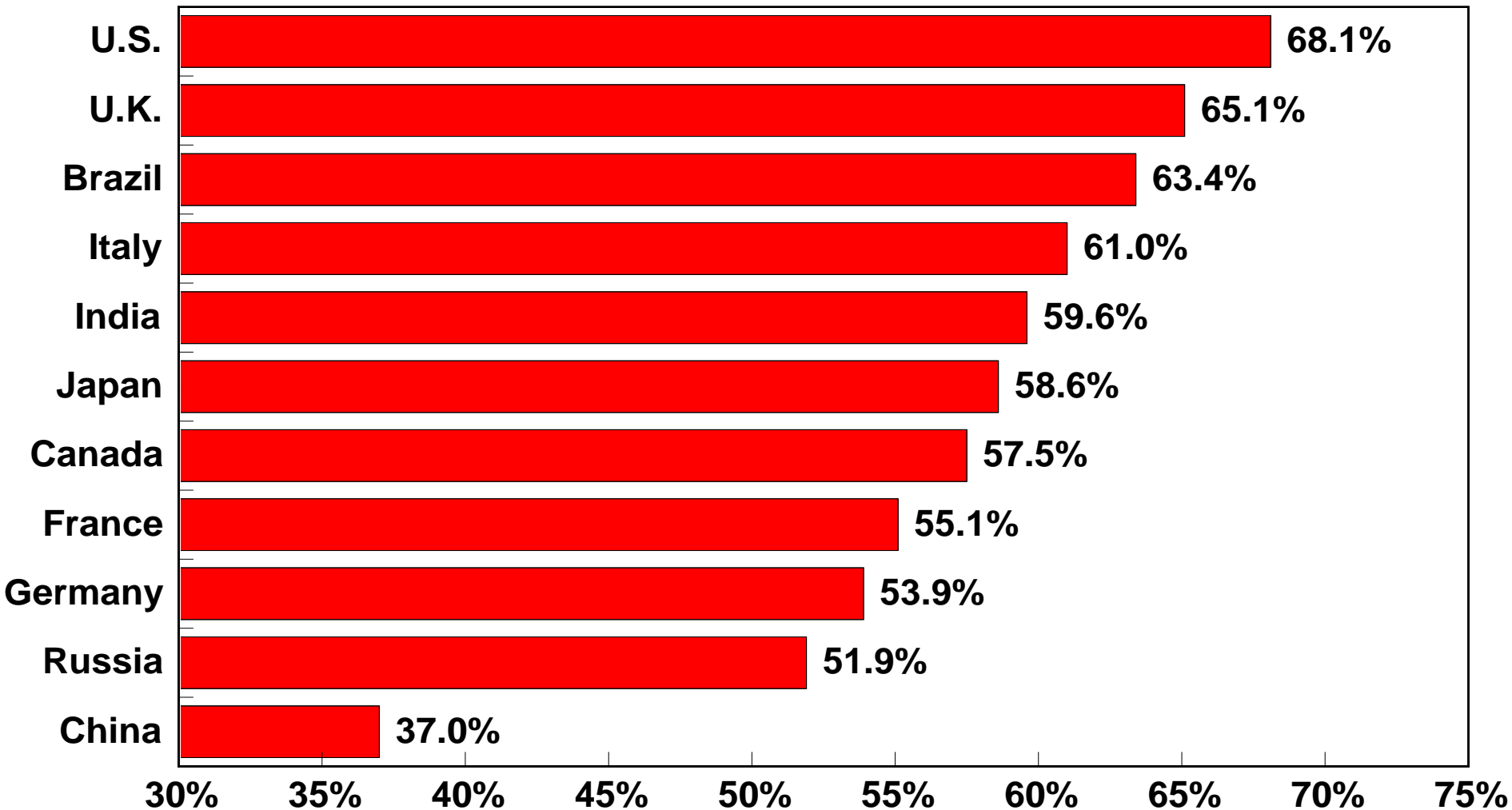
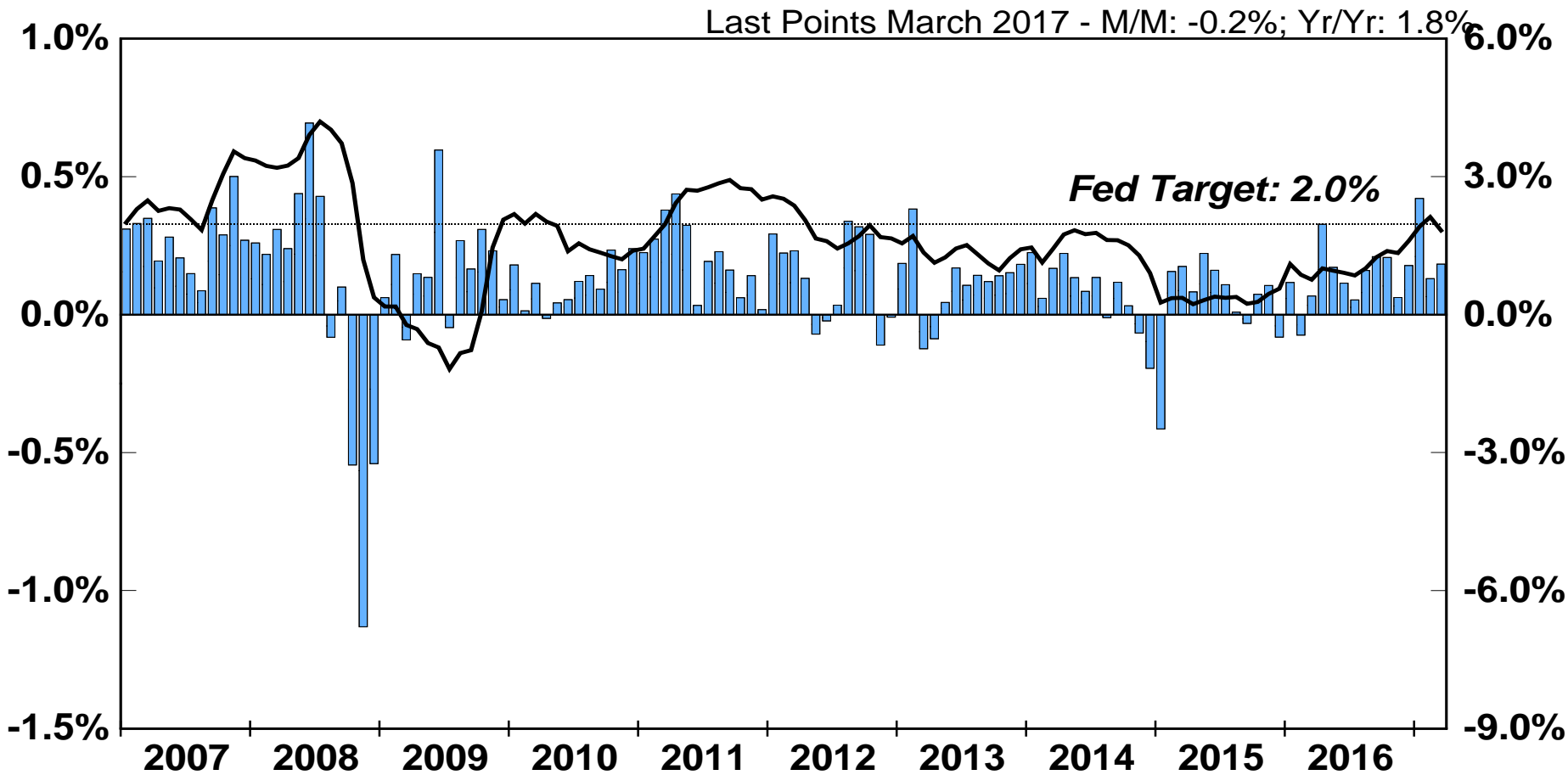


Chart 28

PCE Deflator

seasonally-adjusted



■ Month/Year % Change - left axis
— Year/Year % Change - right axis

Chart 29

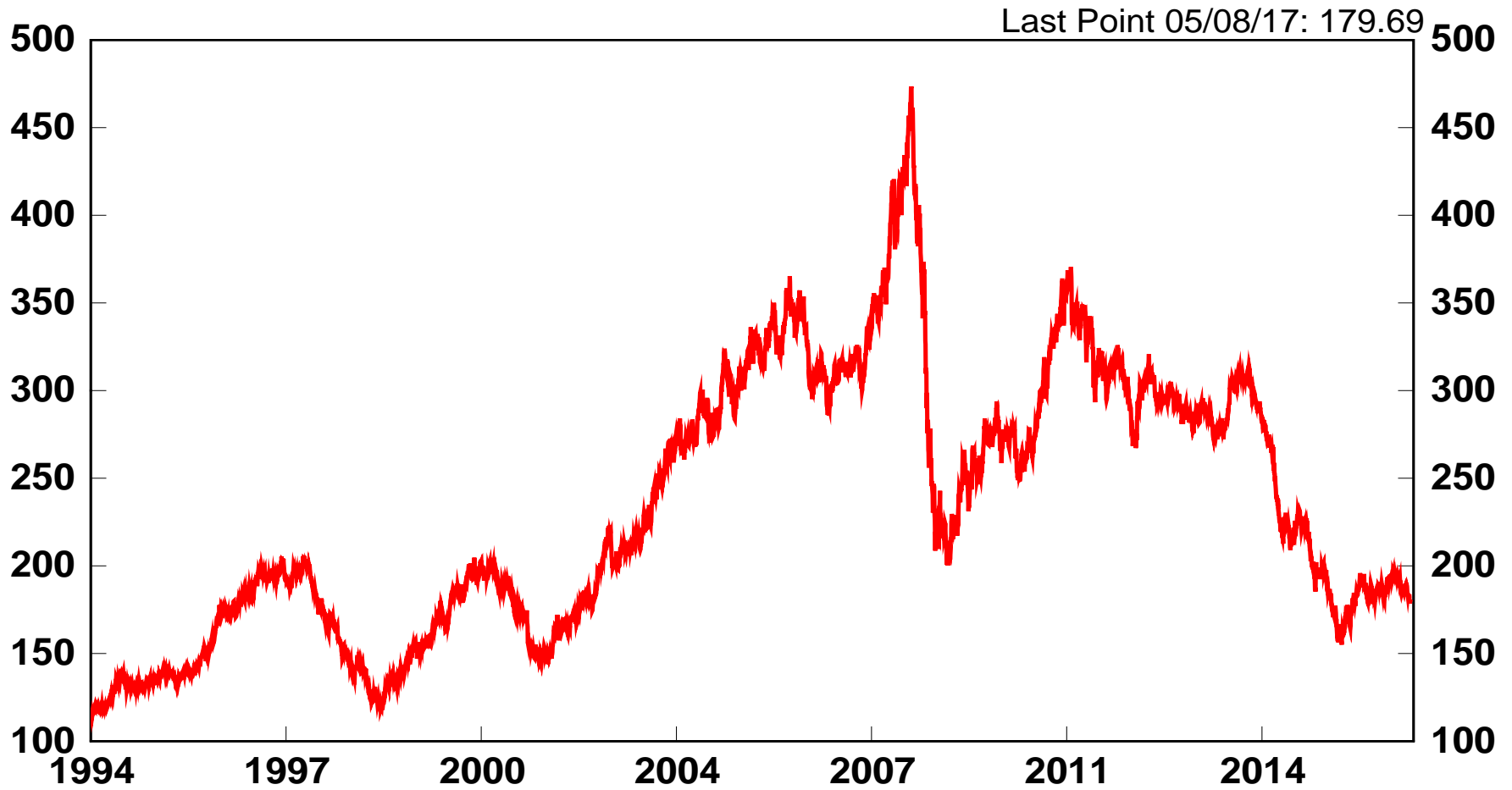
Historic Inflation and Deflation

<u>Period</u>	<u>Military Engagement</u>	<u>No. of Years</u>	<u>Annualized Wholesale Price Change</u>
1749-1755	Peacetime	6	-0.50%
1756-1763	French-Indian War	8	2.27%
1764-1774	Peacetime	11	-0.35%
1775-1783	American Revolution	9	12.31%
1784-1811	Peacetime	28	-1.91%
1812-1815	War of 1812	4	7.78%
1816-1845	Peacetime	30	-2.36%
1846-1848	Mexican-American War	3	-0.40%
1849-1860	Peacetime	12	1.05%
1861-1865	Civil War	5	14.75%
1866-1916	Peacetime	51	-0.74%
1917-1918	World War I	2	23.92%
1919-1940	Peacetime	22	-2.31%
1941-1945	World War II	5	6.12%
1946-1992	Cold War	47	4.20%
1992-2000	Peacetime	8	1.43%
2001-2014	War on Terror	13	2.81%
2015 - Q4 2016	Peacetime	2	1.48%

	No. of Years	Avg. Price Change
Wartime:	96	8.20%
Peacetime:	170	-0.47%
Total:	266	3.86%

Chart 30

Reuters/Jefferies CRB Index

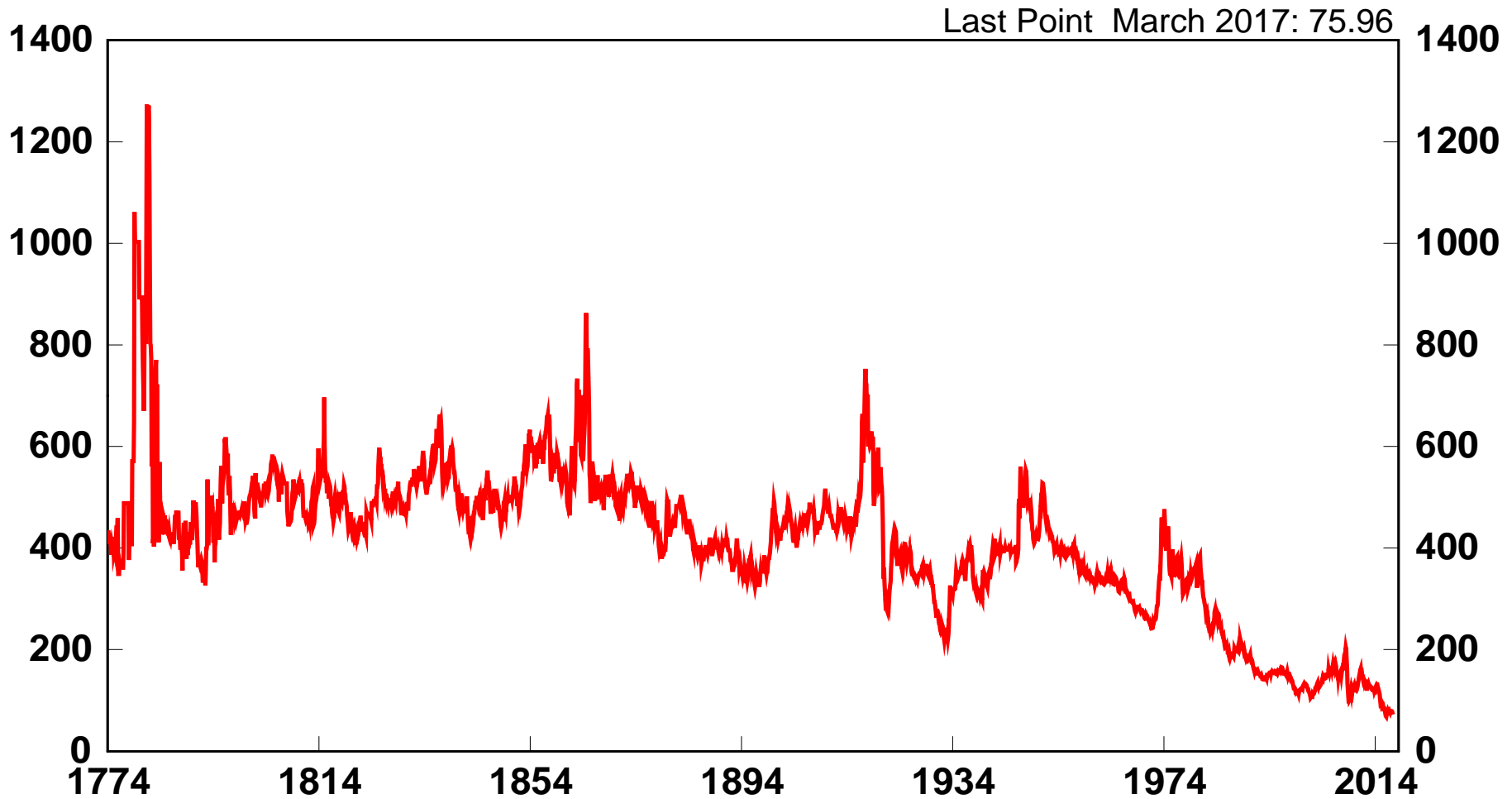


Source: Thomson Reuters

Chart 31

Real U.S. Commodity Prices

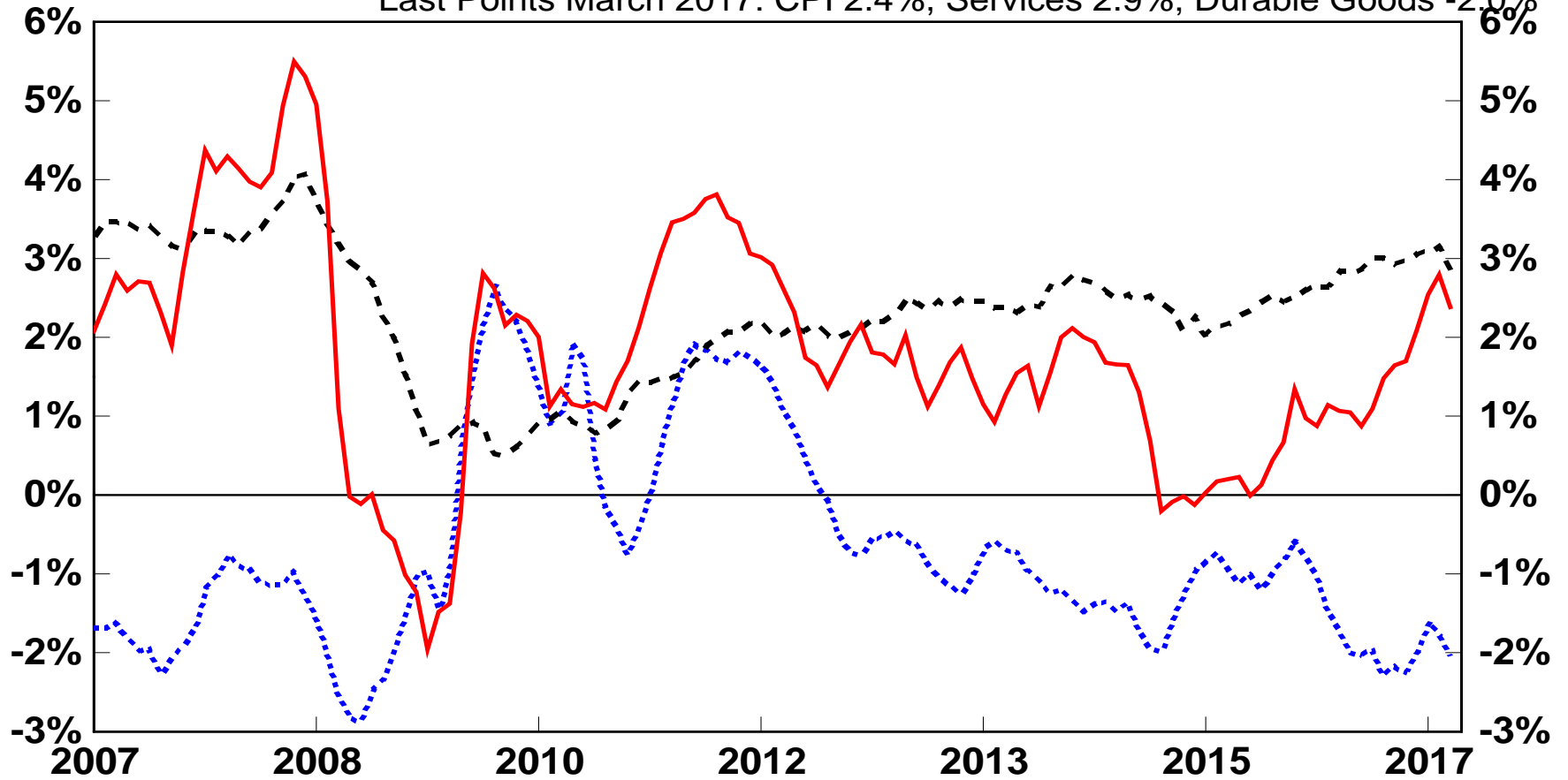
CRB Index Deflated by CPI



Source: Bianco Research, Bureau of Labor Statistics,
Historical Statistics of the United States

Chart 32 Consumer Price Indexes year/year percent change

Last Points March 2017: CPI 2.4%, Services 2.9%; Durable Goods -2.0%



— Consumer Price Index Services Index
 Durable Goods Index

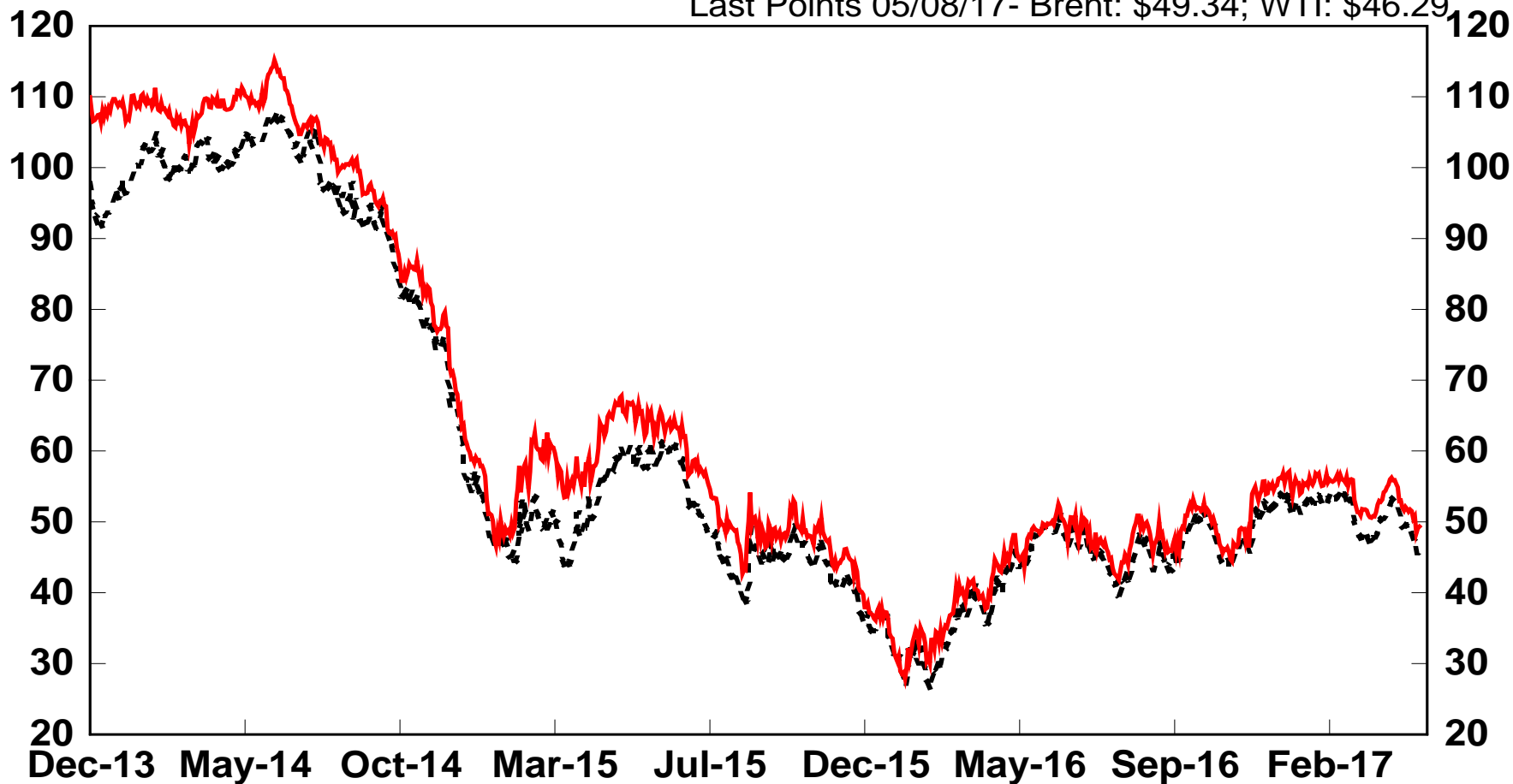
Source: Bureau of Labor Statistics

Chart 33

Brent and WTI Crude Oil Prices

dollars per barrel; nearest futures contracts

Last Points 05/08/17- Brent: \$49.34; WTI: \$46.29



— Brent Crude Oil
- - - - WTI Crude Oil

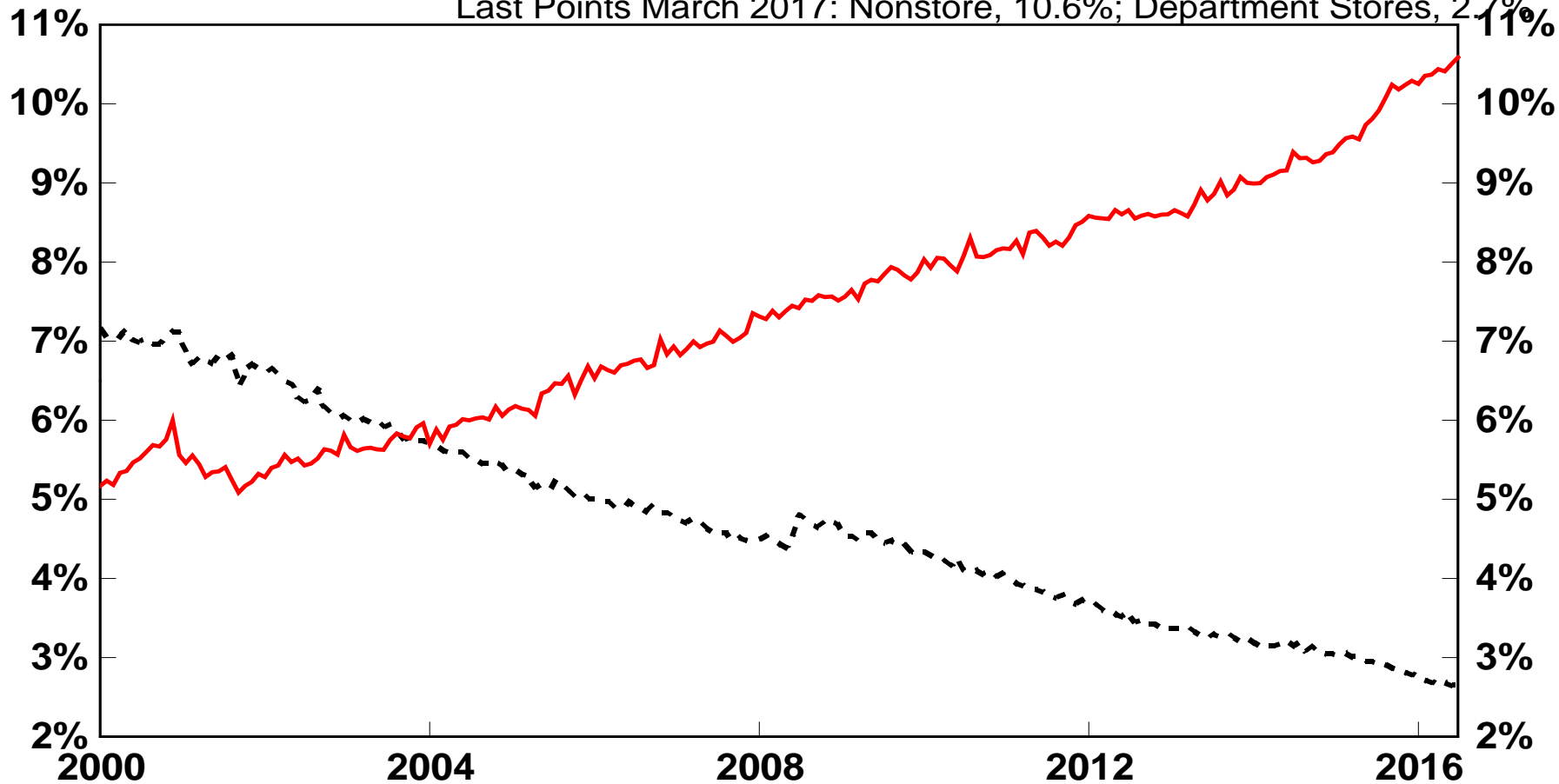
Source: Thomson Reuters

Chart 34

Department and Nonstore Retail Sales

as percent share of total retail sales

Last Points March 2017: Nonstore, 10.6%; Department Stores, 2.7%



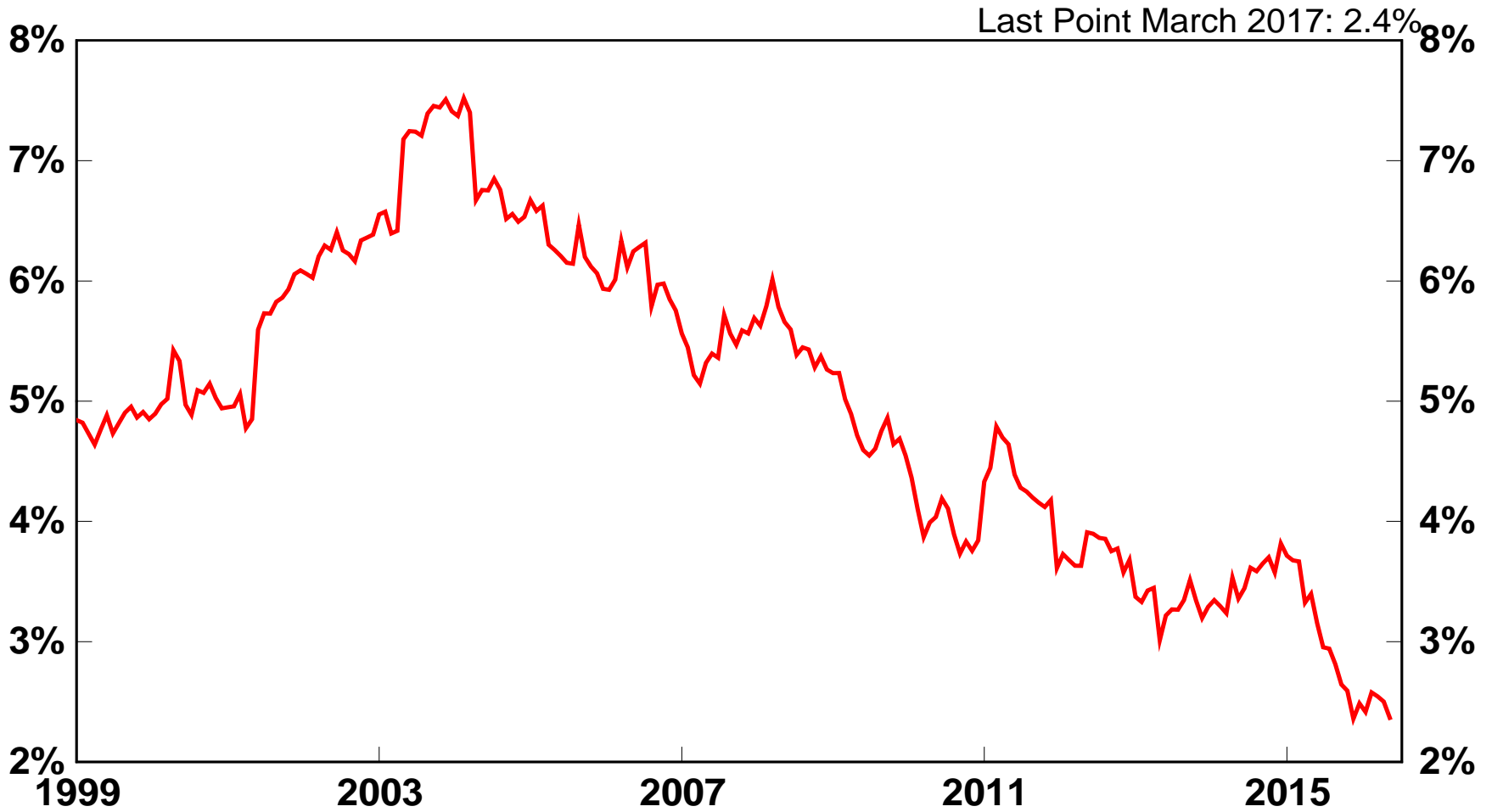
— Nonstore Retailers
- - - Department Stores

Source: U.S. Census Bureau

Chart 35

CPI : Tuition, School Fees, Childcare

year/year percent change

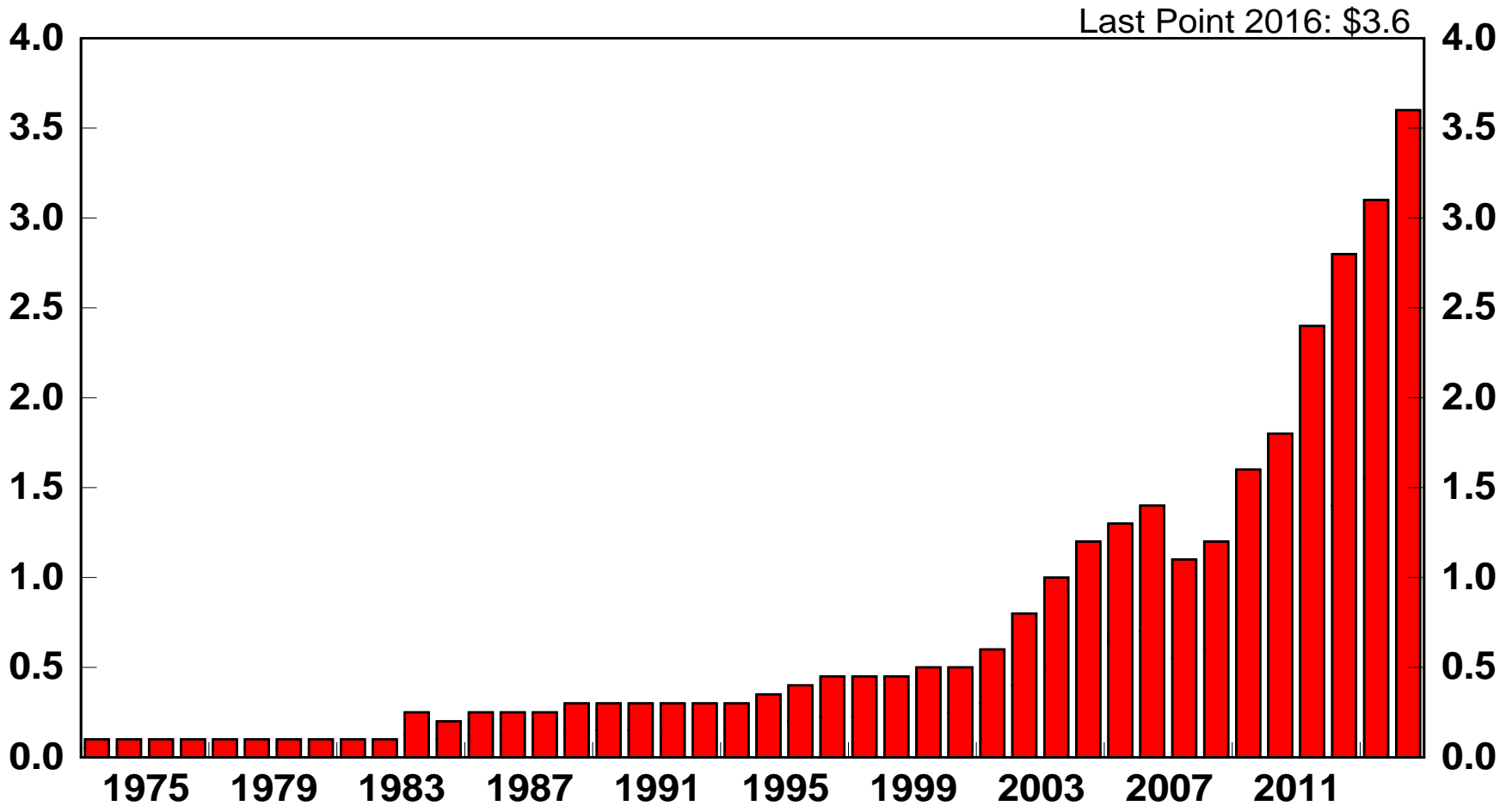


Source: Bureau of Labor Statistics

Chart 36

The Vanguard Group

assets under management; trillion USD



Source: AdvisoryHQ

Chart 37

CPI: Food at Home and Food Away From Home

year/year percent change

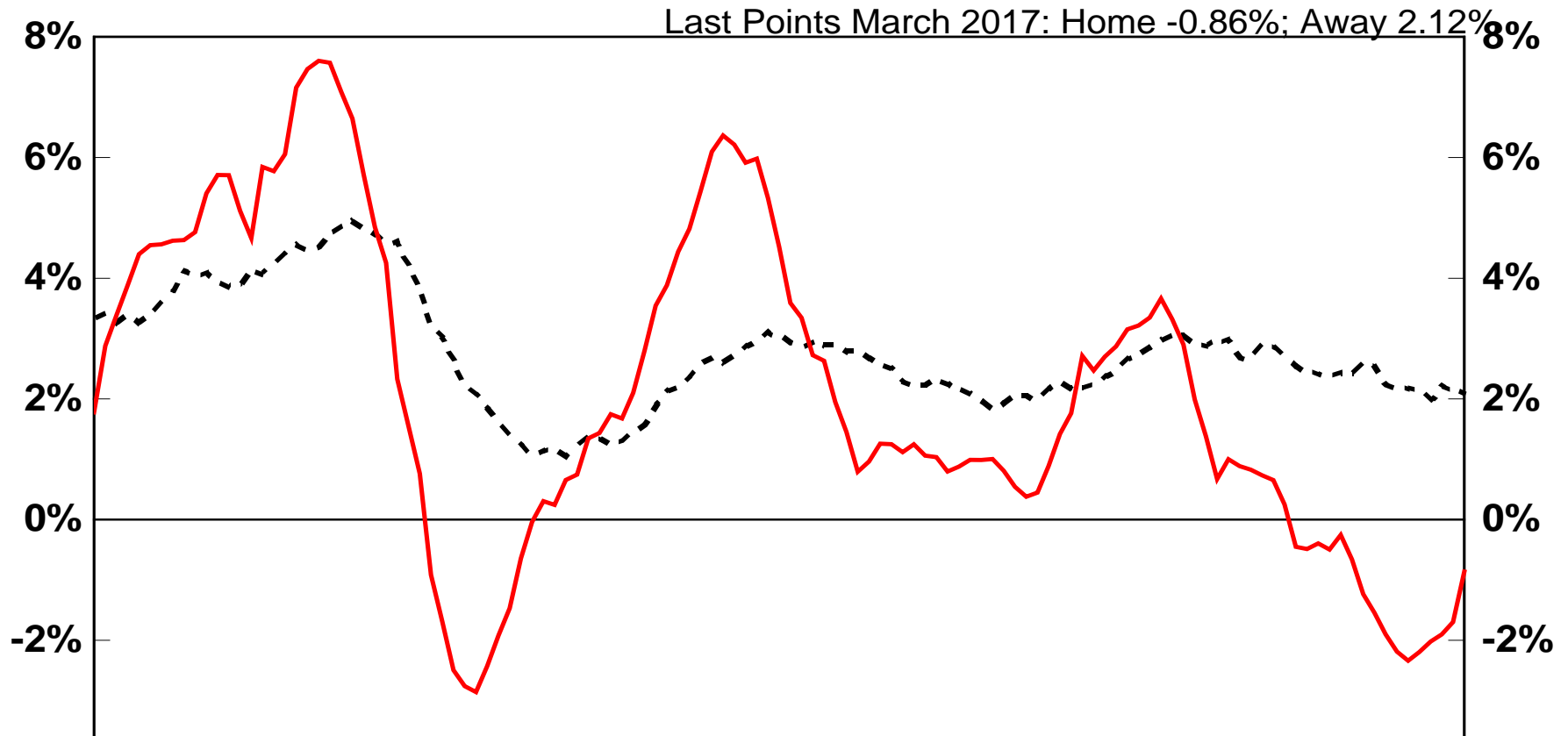
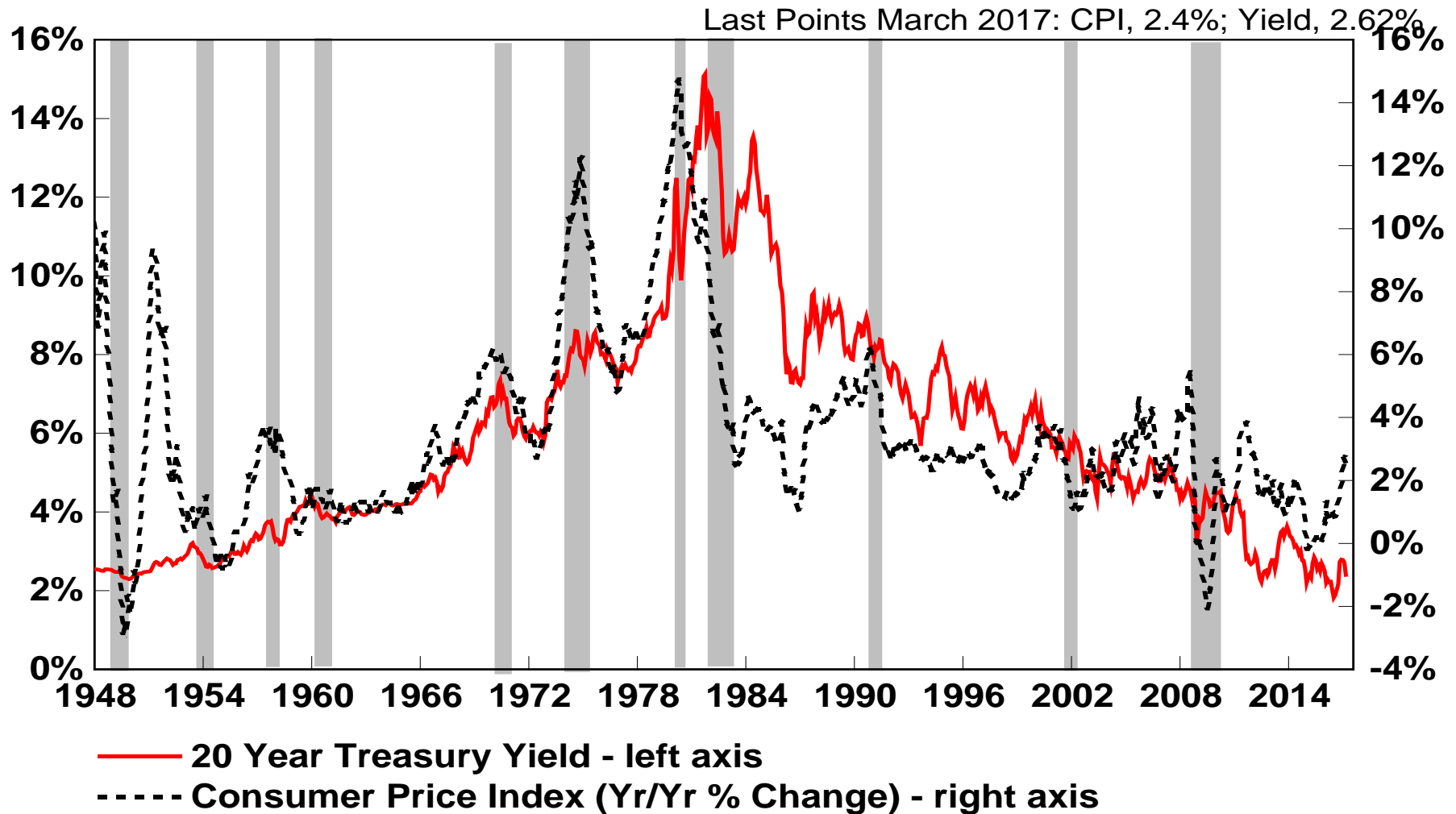


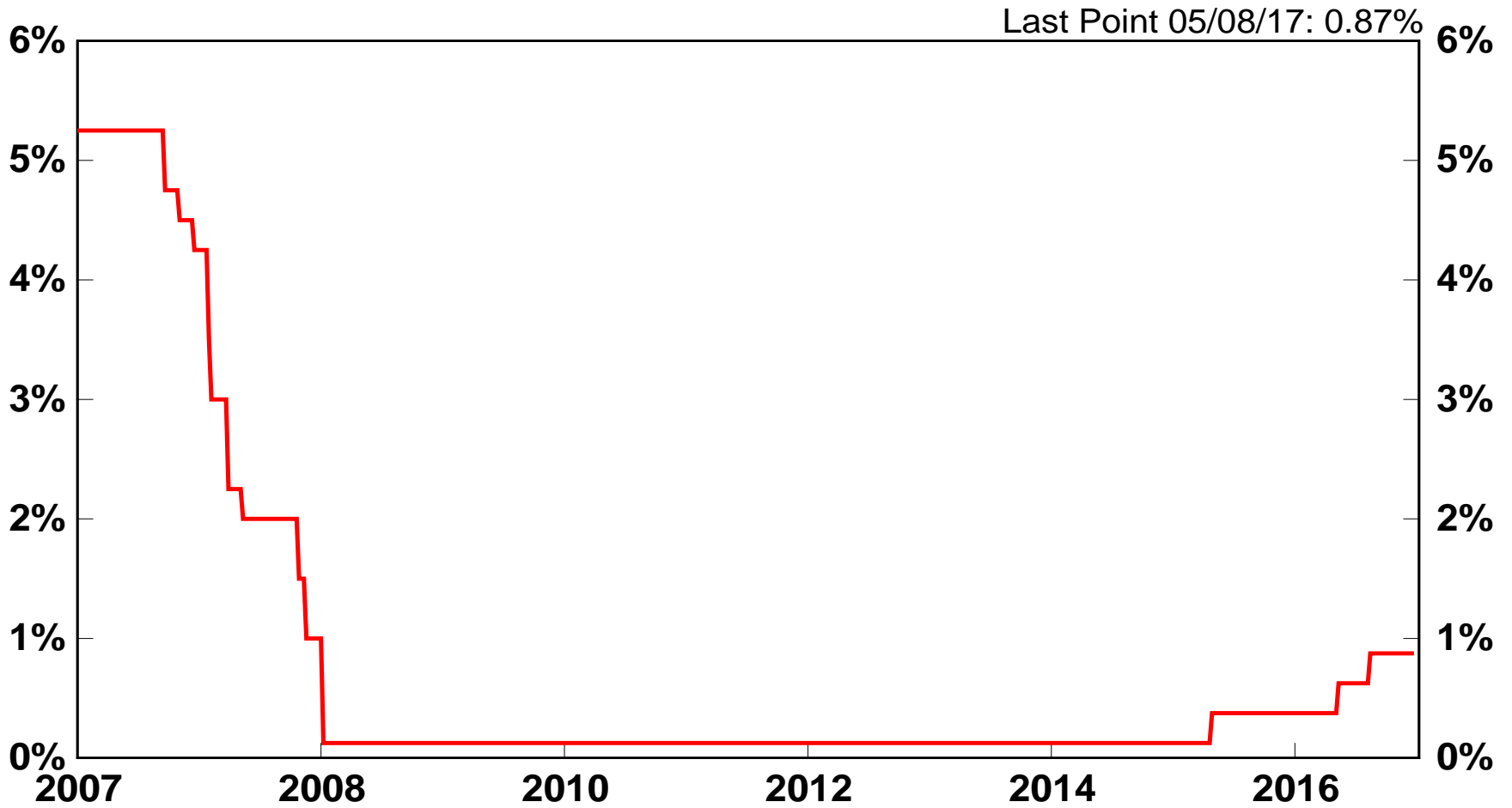
Chart 38

20-Year Treasury Yield and Consumer Price Index



Source: Federal Reserve Board;
Bureau of Labor Statistics

Chart 39 FED Funds Target Rate

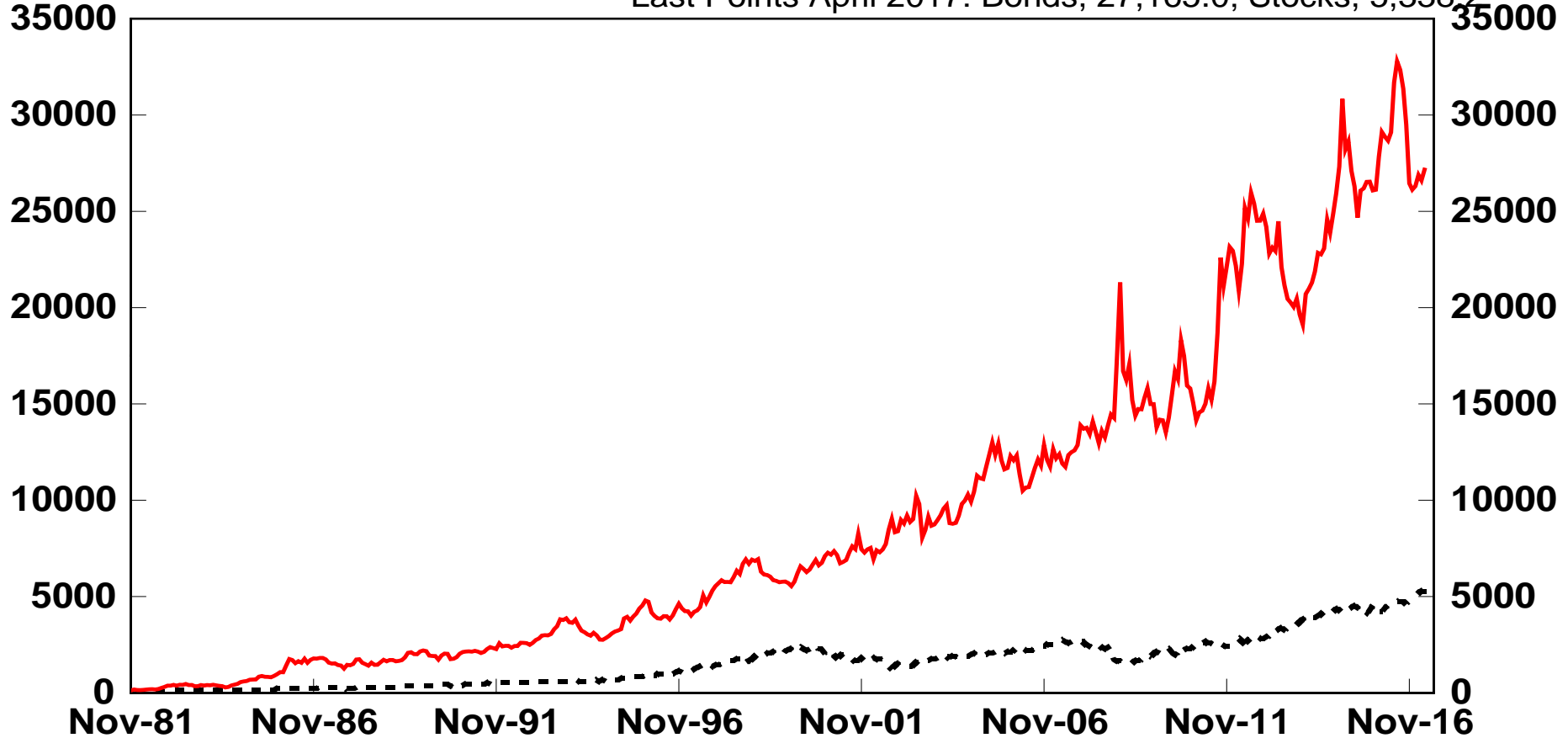


Source: The Federal Reserve

Chart 40

Comparative Stock and Bond Performances

Last Points April 2017: Bonds, 27,165.0; Stocks, 5,338.2



— 25 Year Zero Coupon Bond (Oct-81=100) 27,165 or 17.1% Annual Return
- - - S&P 500 Total Return (July-82=100) 5,338 or 12.1% Annual Return

Source: Bianco Research; Haver Analytics