

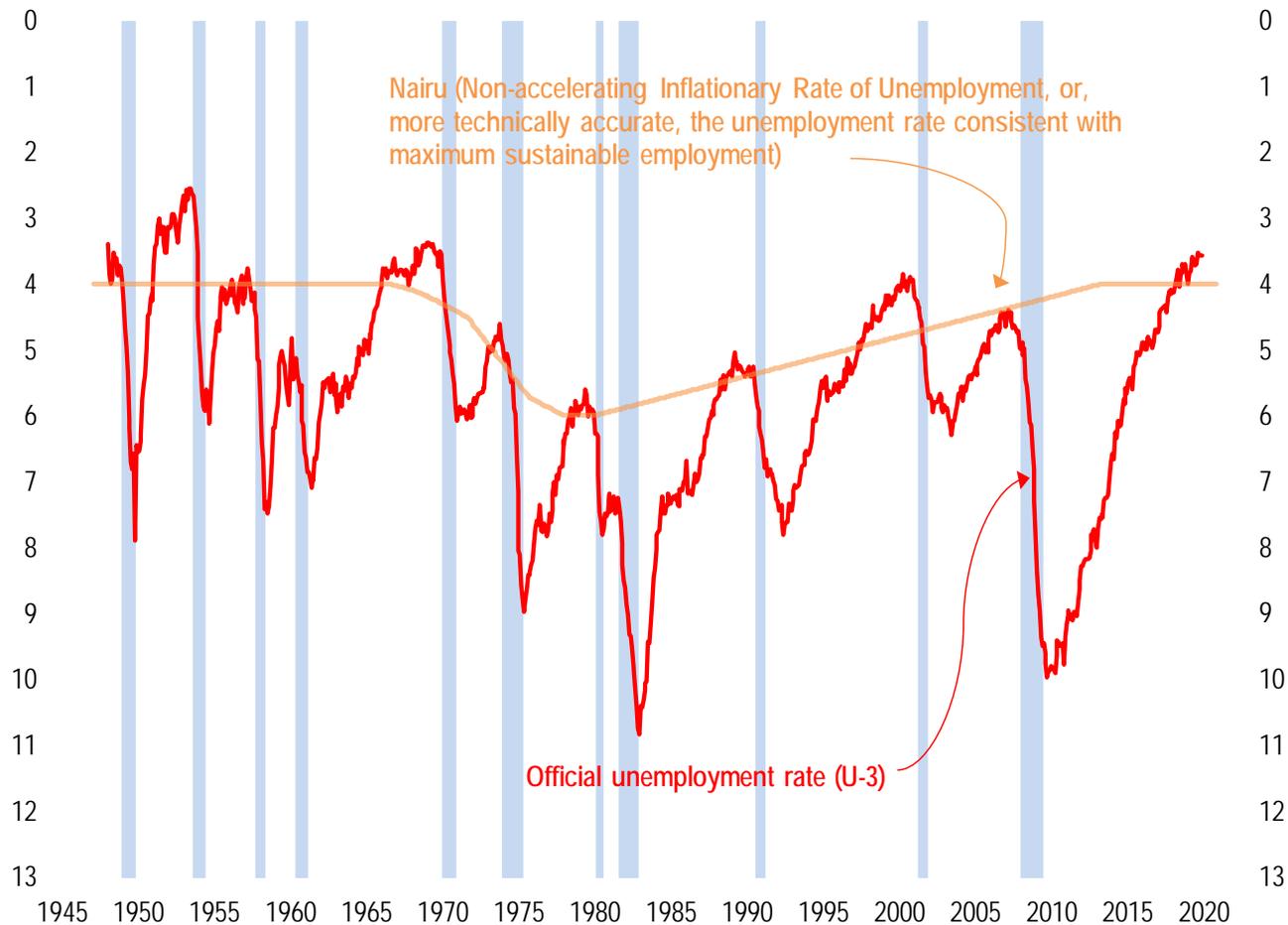

Global Economic Update: Life in Steady State

Crowe

December 13, 2019

Recession Talk Makes Little Sense

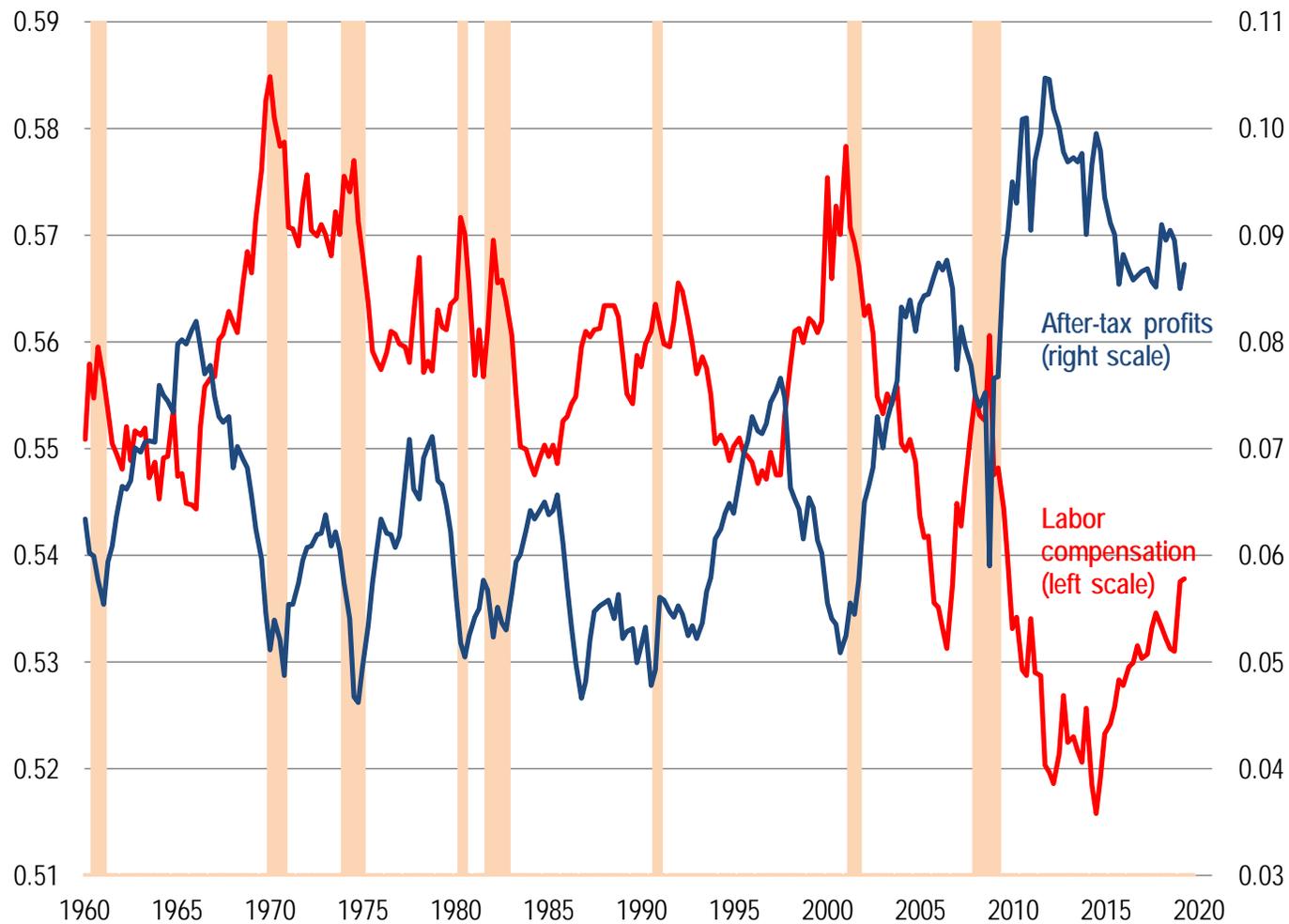
Unemployment, actual and *Nairu* (percent of the labor force, scale reversed)



Sources: Haver Analytics; U.S. Department of Labor; Congressional Budget Office. Updated through October 2019.

Echoes of Tech Innovation ...

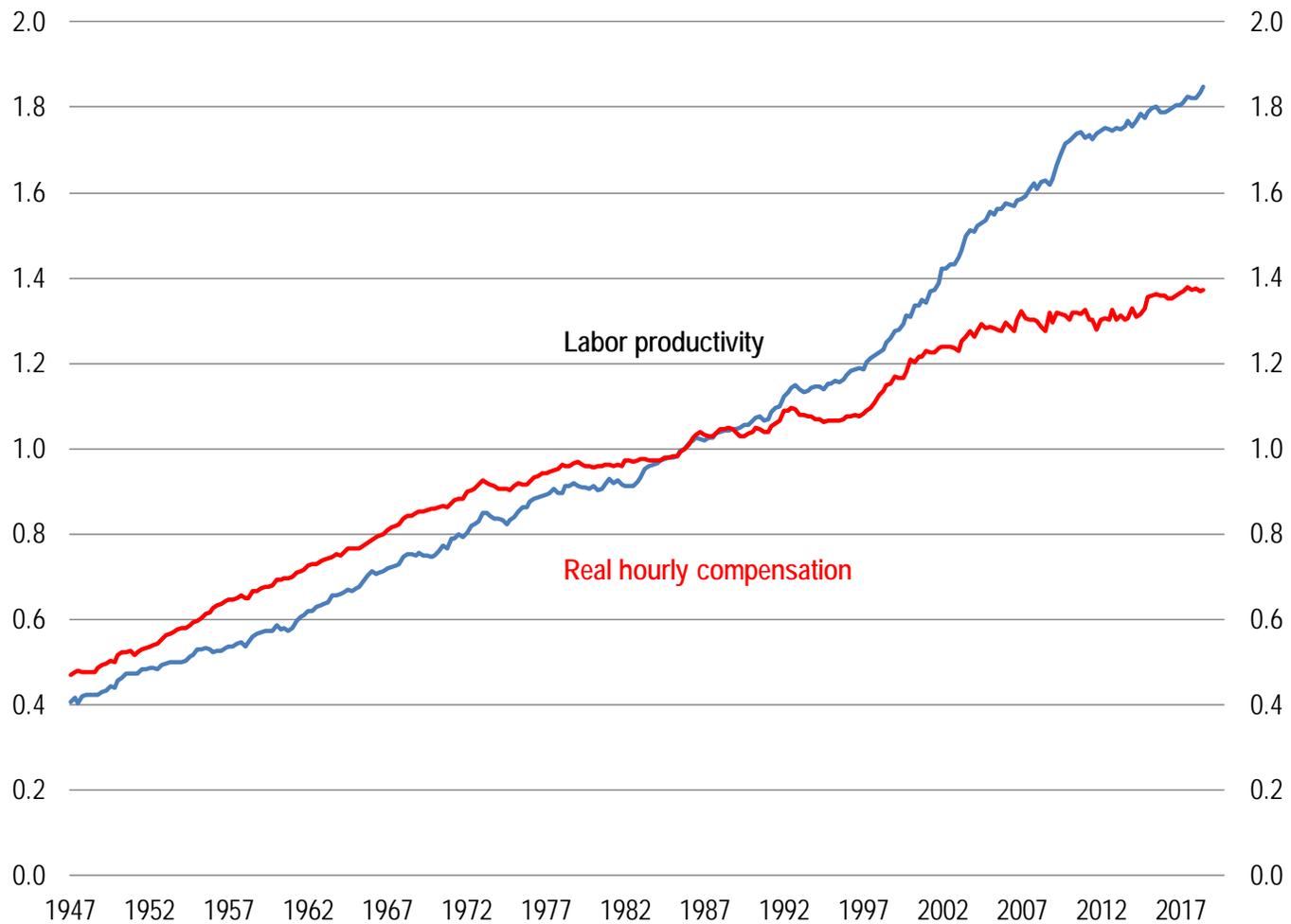
Income share (percentage of Gross Domestic Income)



Sources: Haver Analytics; NBER-designated recessions; U.S. Department of Commerce. Updated through 2018 Q4.

... Hint At a New Twist

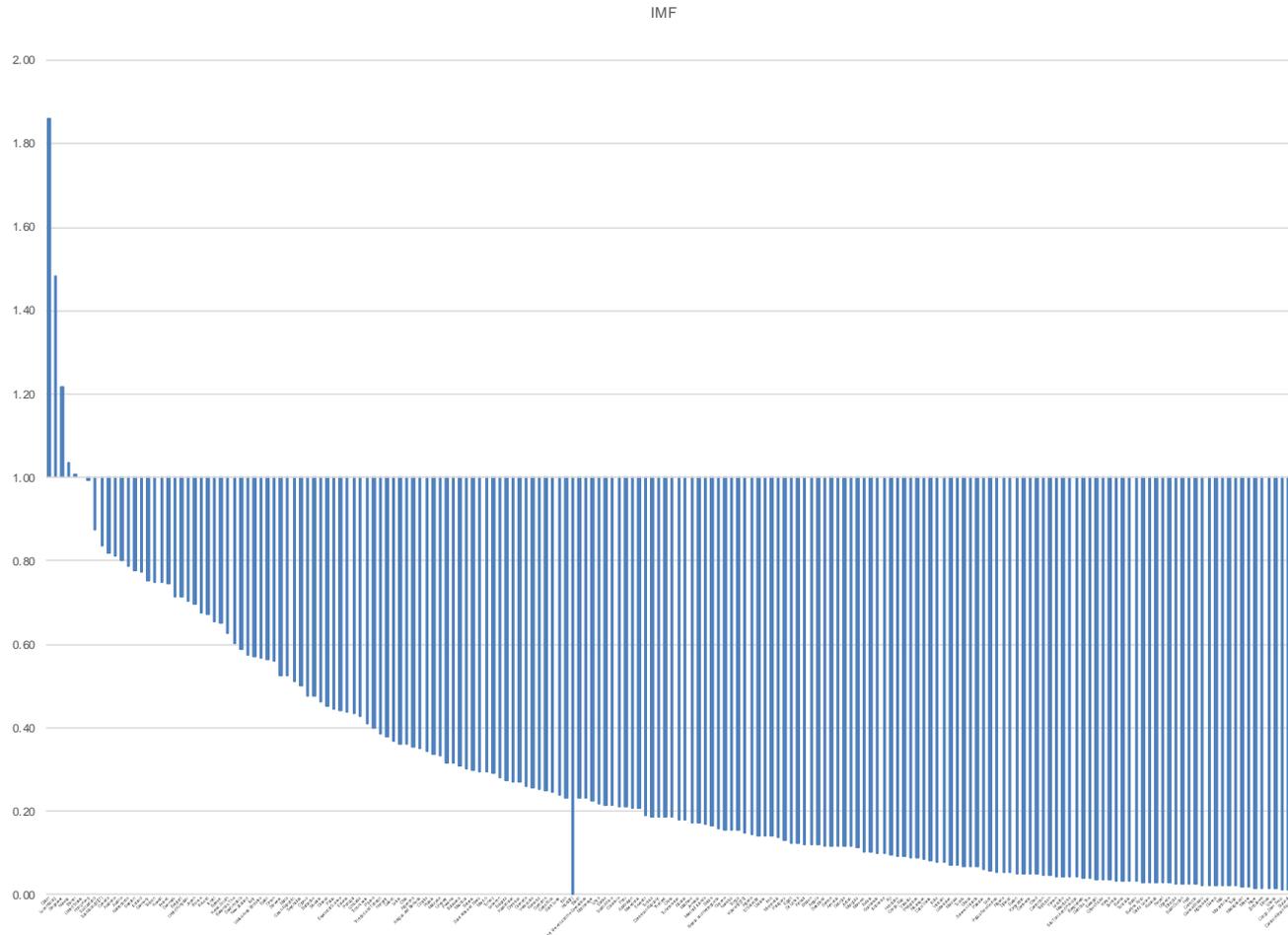
Labor productivity and real hourly compensation (ratio to respective 1985 Q4 level)



Sources: Haver Analytics; U.S. Department of Commerce. Updated through 2018 Q3.

Helping Others Helps Ourselves

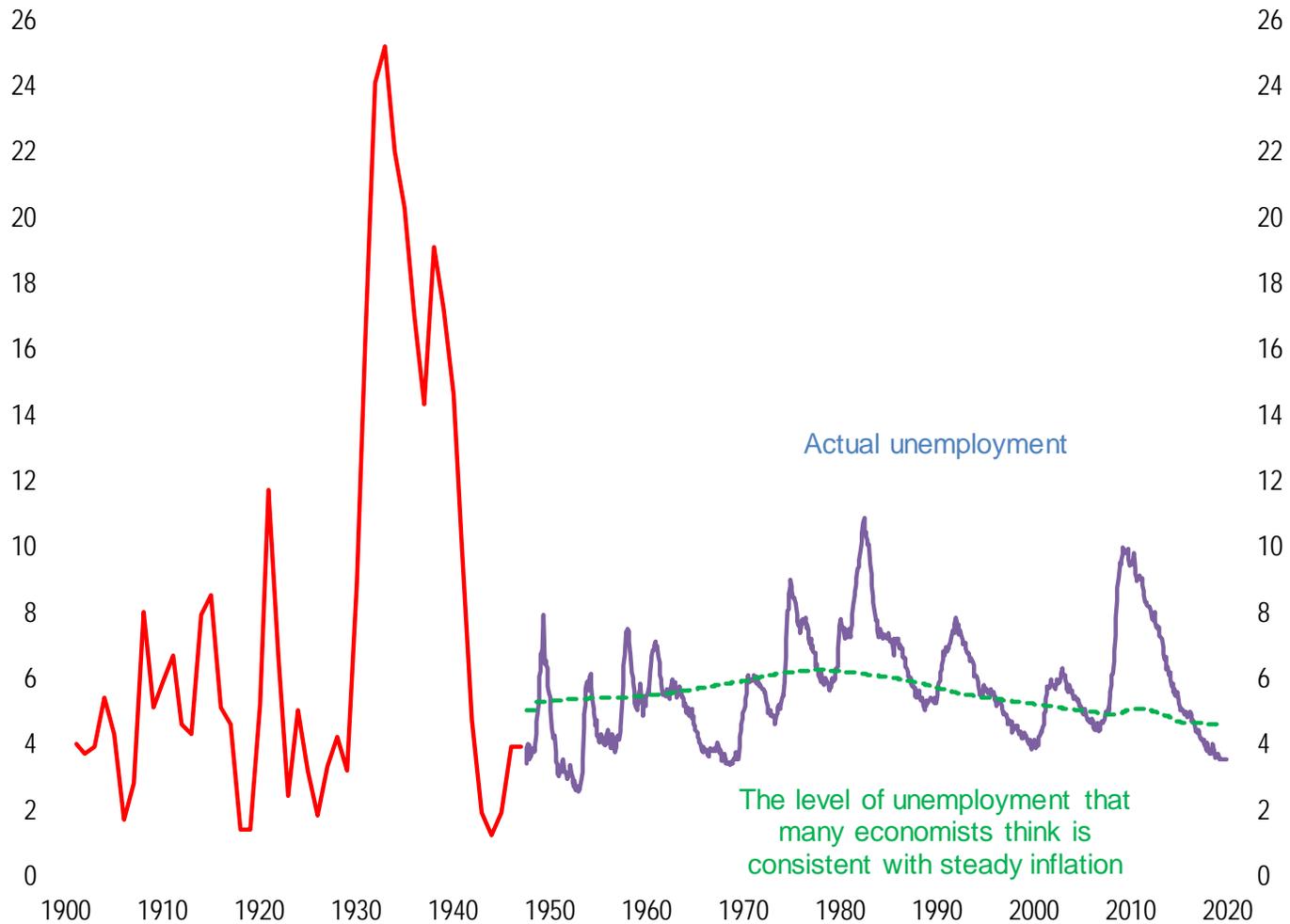
Relative real GDP per capita (ratio to U.S. real GDP per capita, 2016 dollars)



Sources: Haver Analytics; IMF. Updated through 2019 Q2.

The Transition to Steady State ...

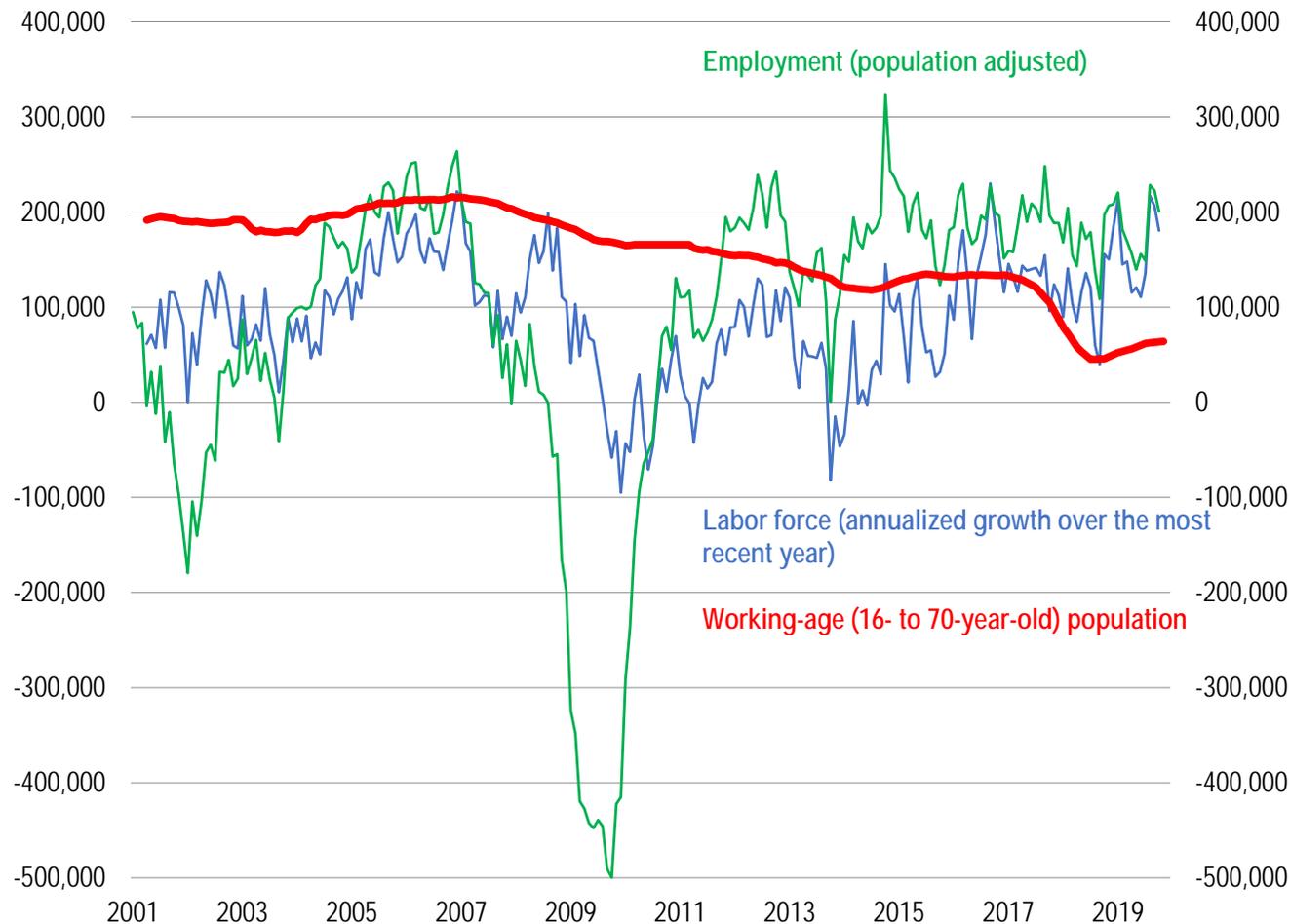
Unemployment (percent of the labor force)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

... and Demographic Realities Mean Slower

Population, labor force and employment (ave mn ch vs 12 months earlier, thousands)



Sources: Haver Analytics; U.S. Department of Labor; Census. Updated through October 2019 (employment) and November 2019 (others).

The 2020 Outlook, Long Story Short ...



A WIZARD OF OZ MOMENT

Fire & Fury

- 'Secular stagnation' hype about slow growth
- Recession warnings from the inverted Treasury yield curve
- Recession claims for 2020 or 2021
- Skewed income distribution
- Tariffs igniting trade wars
- Brexit
- Industrial stall, cap ex slump, profit squeeze, all canaries expiring in the coal mine

... to That Man Behind the Curtain'

Ratio of the value of all U.S. equities to nominal GDP (billions of dollars)

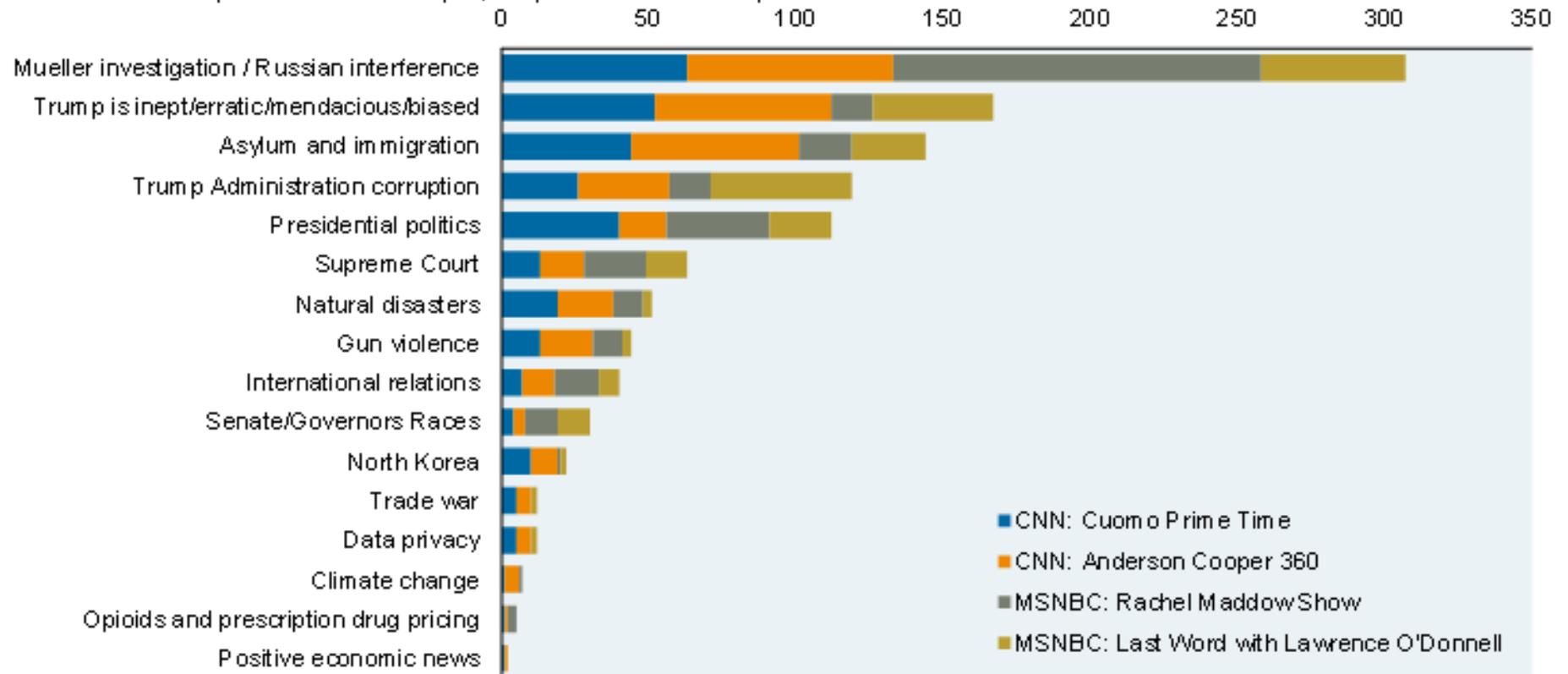


Sources: Haver Analytics; Federal Reserve Board; Federal Reserve Board, U.S. Department of Commerce. Updated through 2019 Q3 (GDP) and December 6, 2019 (stocks).

No Wonder You're Confused

The Medium is the Message: relative reporting of positive economic news on select cable programs

Number of times topic discussed in depth, September 2018 - September 2019

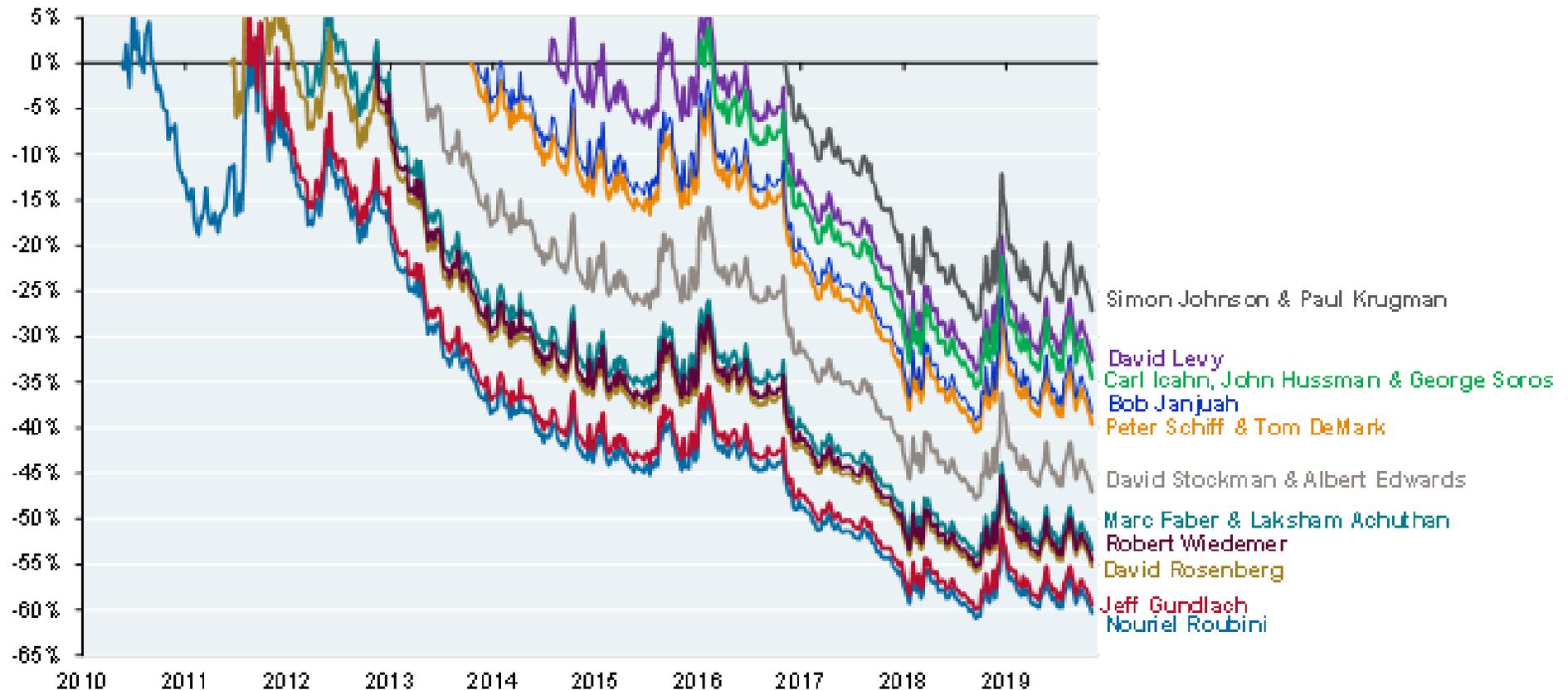


Source: J.P. Morgan Asset Management, CNN and MSNBC show transcripts. 2019.

Pessimism Has a Price

The consequences of listening to the Armageddonists, 2010-2019

Performance impact of shifting \$1 from the S&P 500 to the Barclay's Aggregate Bond Index, measured from the week of the Armageddonist comment in Table 1 to November 8, 2019



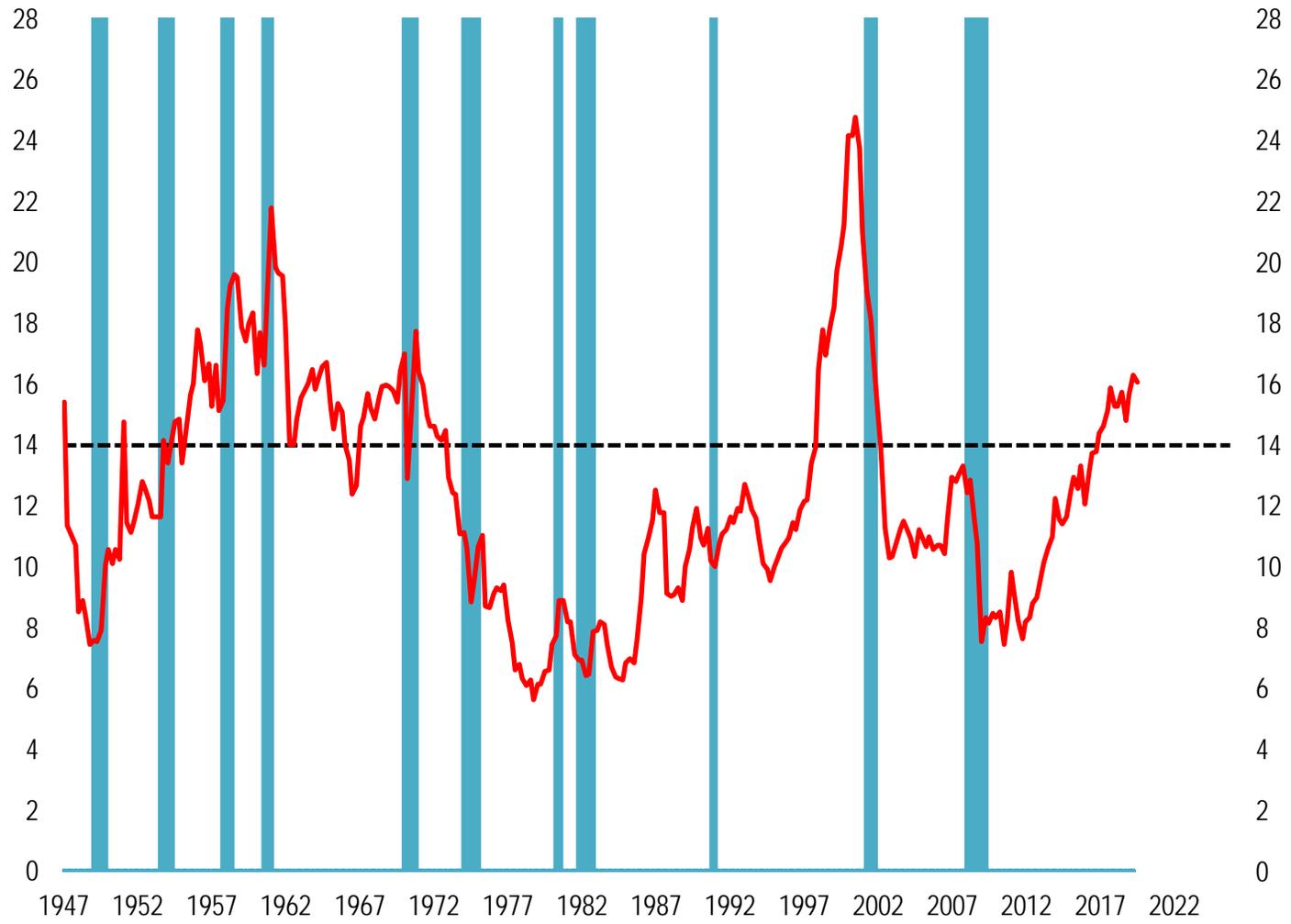
Source: JPMAM, Bloomberg. November 8, 2019. Using weekly S&P 500 and Barclay's Aggregate data.

THREE EQUITY DRIVERS

(1) A Noninflationary Top

Recession Odds Shape Equity Multiples

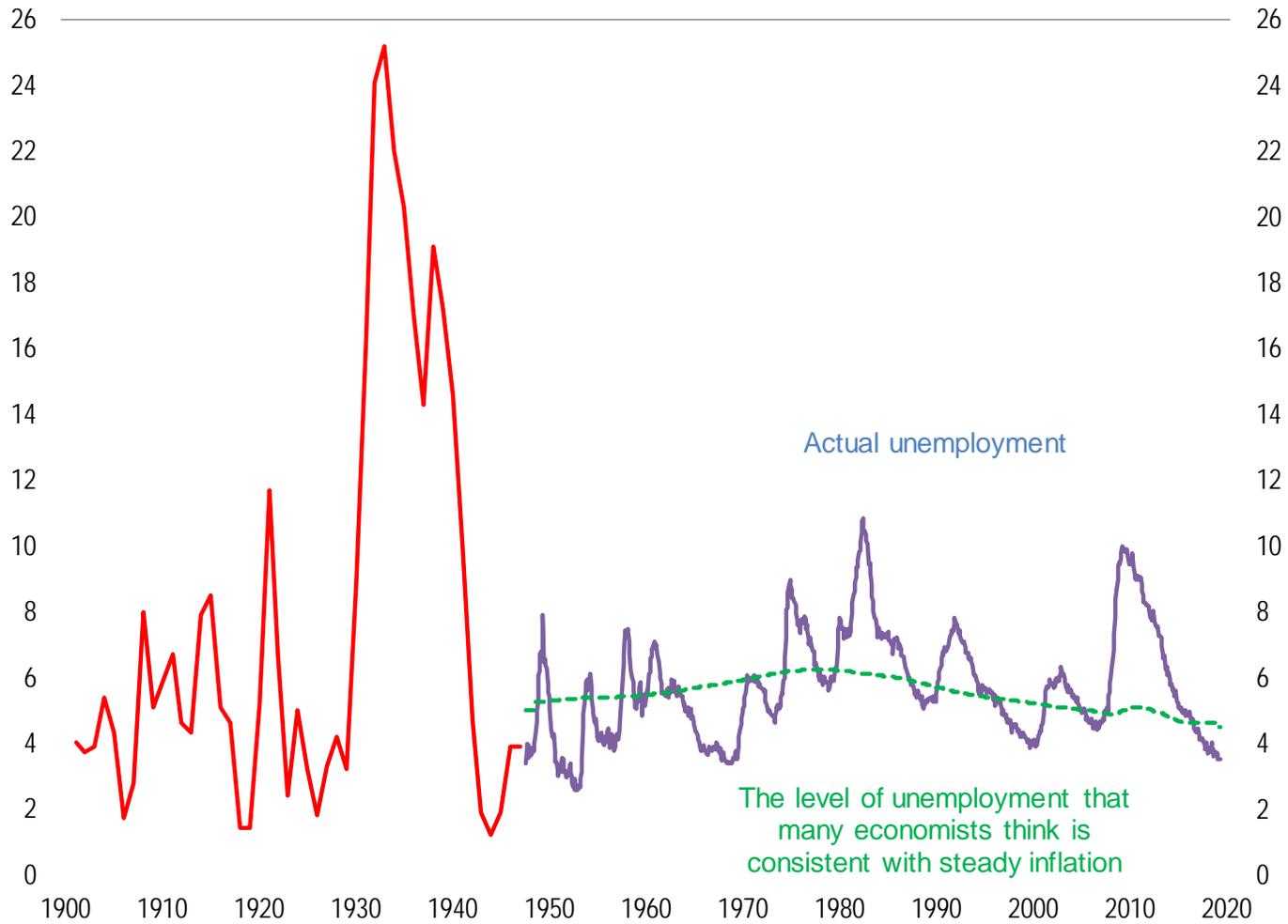
P-E ratio of the Wilshire 5000



Sources: Haver Analytics; NBER-designated recession bars; Federal Reserve Board; Dow Jones. Updated through 2019 Q2 (earnings) and August 16, 2019 (stock prices).

We're Back ...

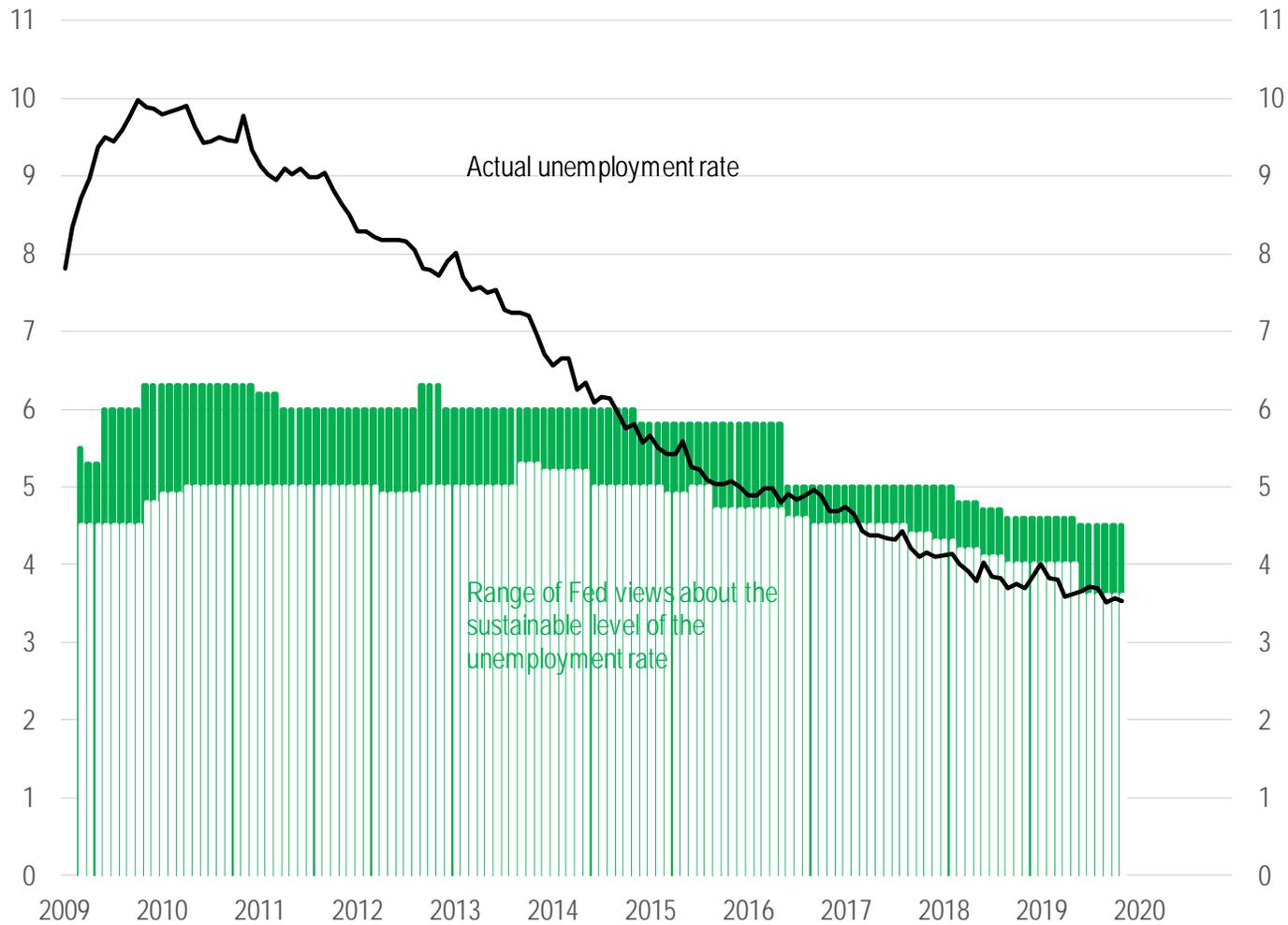
Unemployment (percent of the labor force)



Sources: Haver Analytics; U.S. Department of Labor. Updated through October 2019.

The Fed Calls It “Maximum Employment”

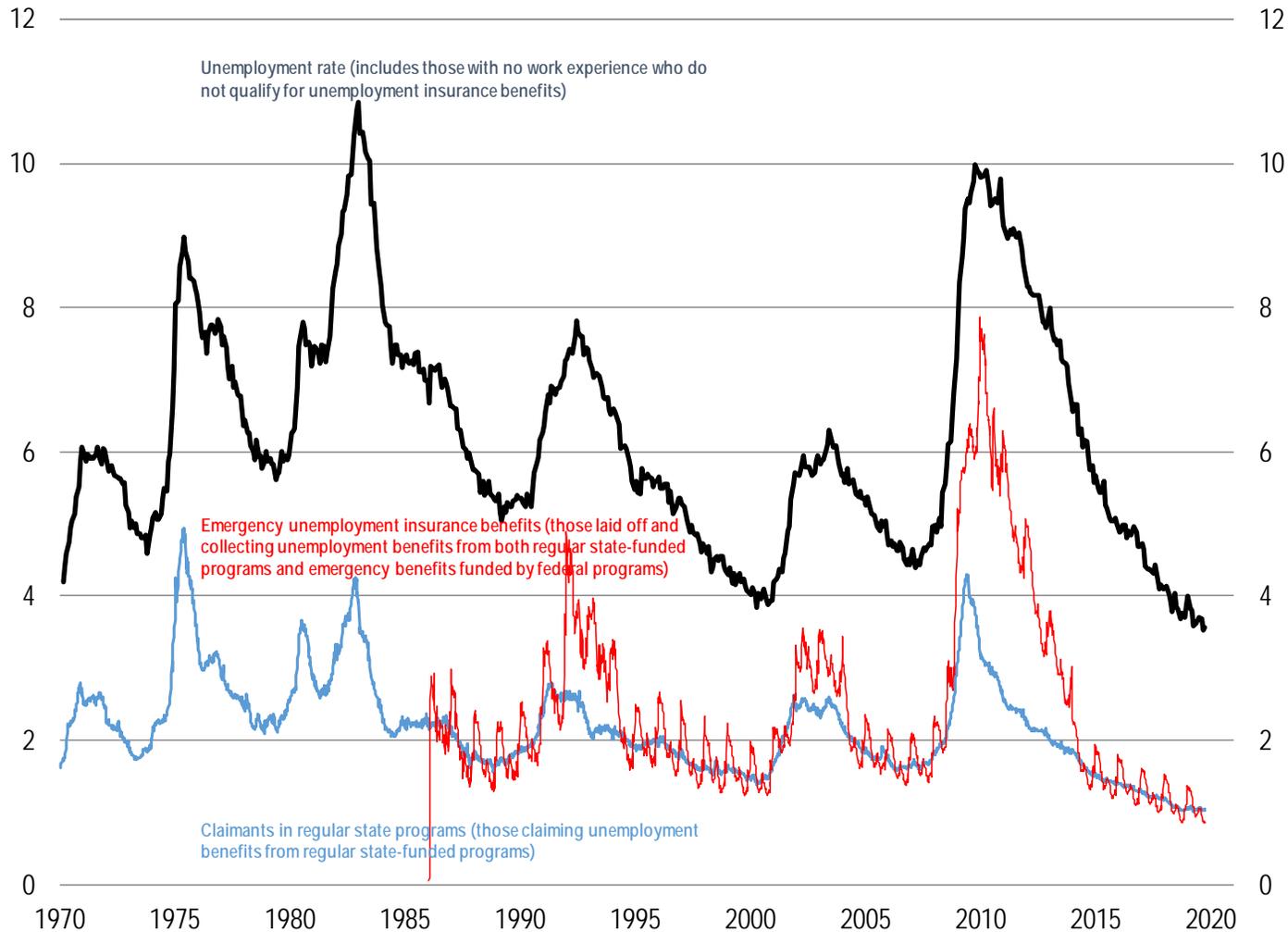
Unemployment rate (% of the labor force)



Sources: Haver Analytics; U.S. Department of Labor; Federal Reserve Board. Updated through November 2019 (unemployment) and September 18, 2019 (FOMC unemployment assumptions).

Official Unemployment Is Back to Normal ...

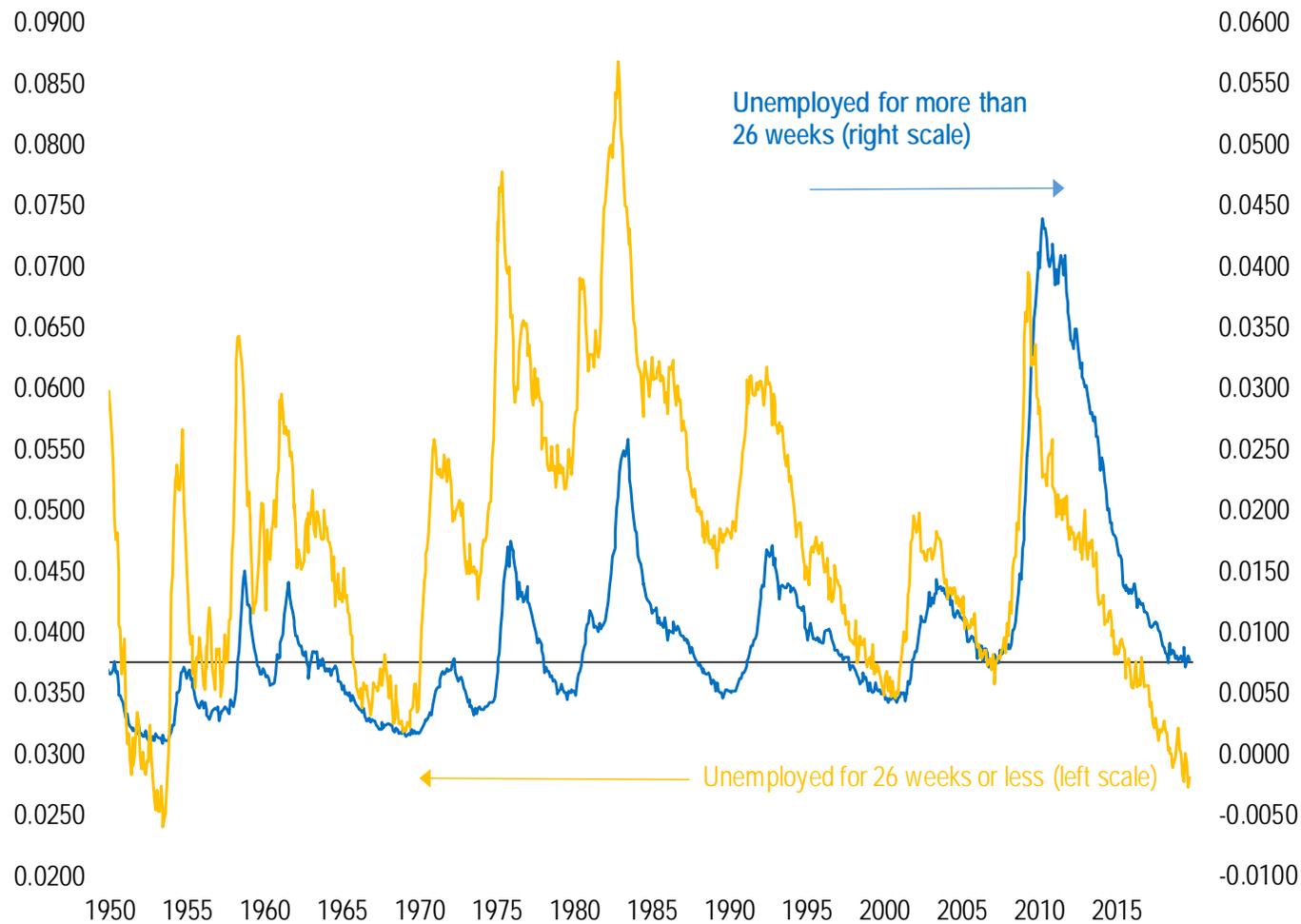
Unemployment for selected populations (percent of the national labor force)



Sources: Haver Analytics; U.S. Department of Labor. Updated through October 2019 (unemployment) and October 19, 2019 (UI recipients).

... Short- and Long- Unemployment Spells

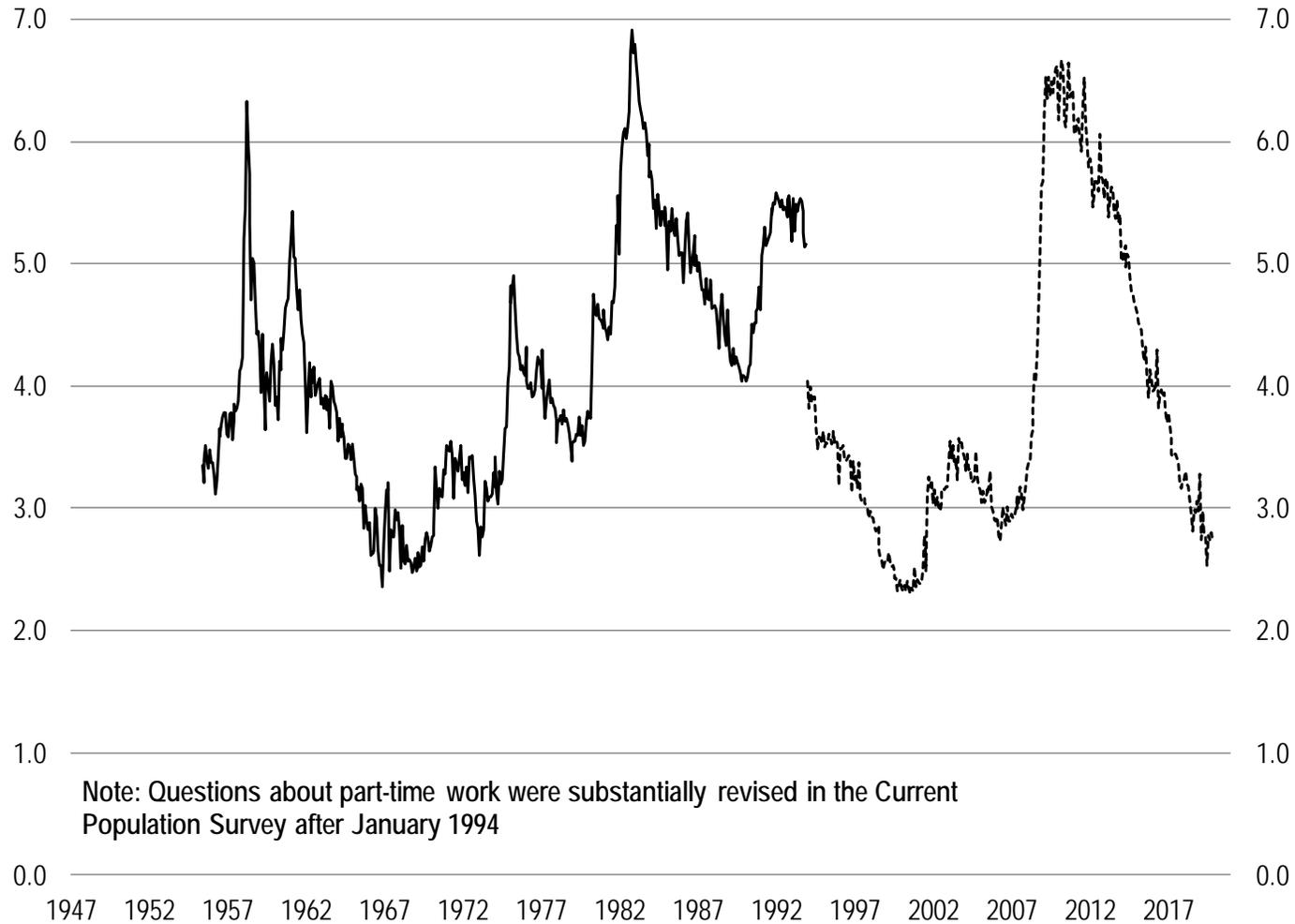
Percent of the labor force



Sources: Haver Analytics; U.S. Department of Labor. Updated through October 2019.

Under-Employment Is Back to Normal

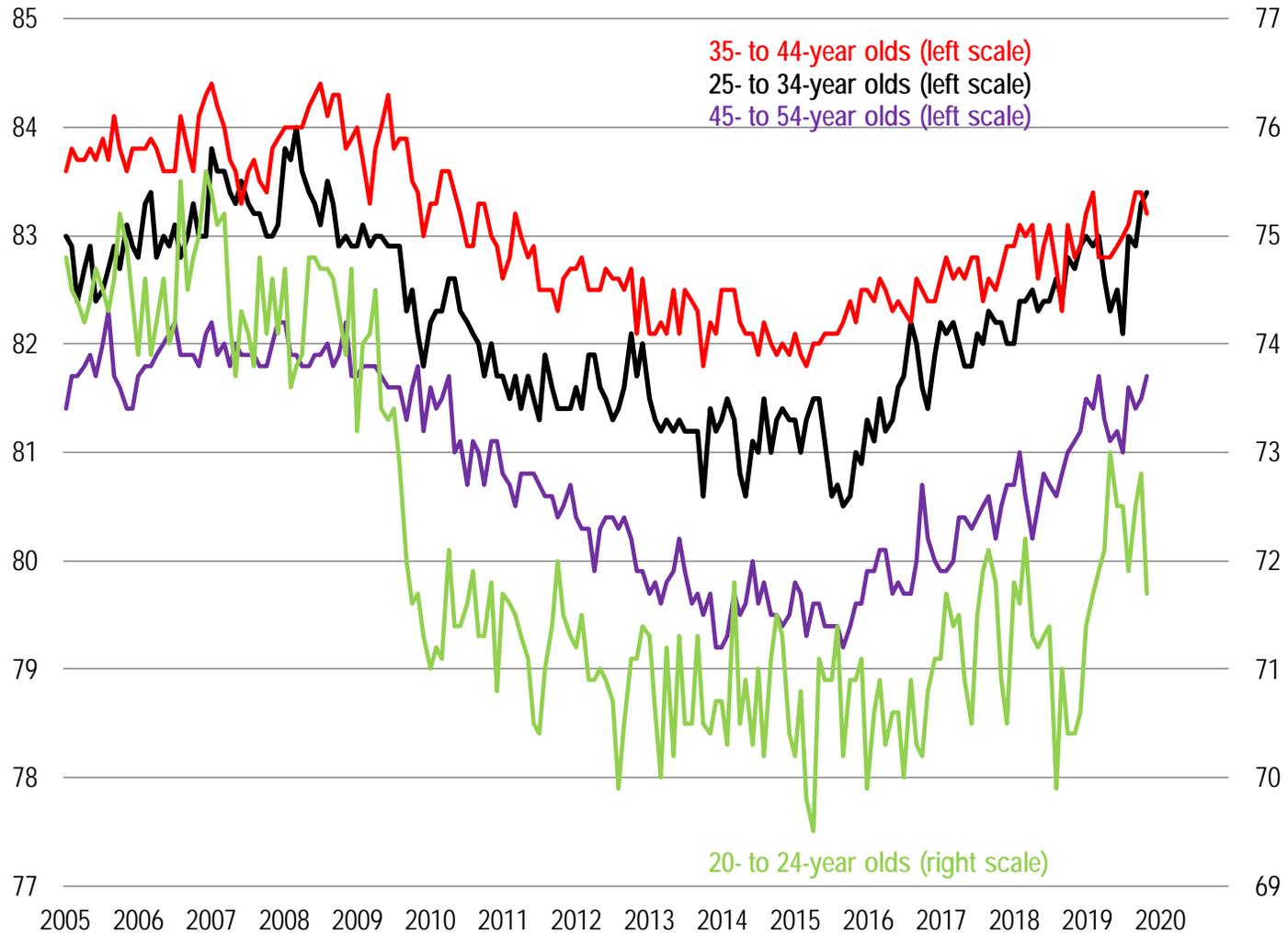
Working part-time involuntarily (percent of total employment)



Sources: Haver Analytics; U.S. Department of Labor. Updated through October 2019.

Hidden Unemployment Is Vanishing

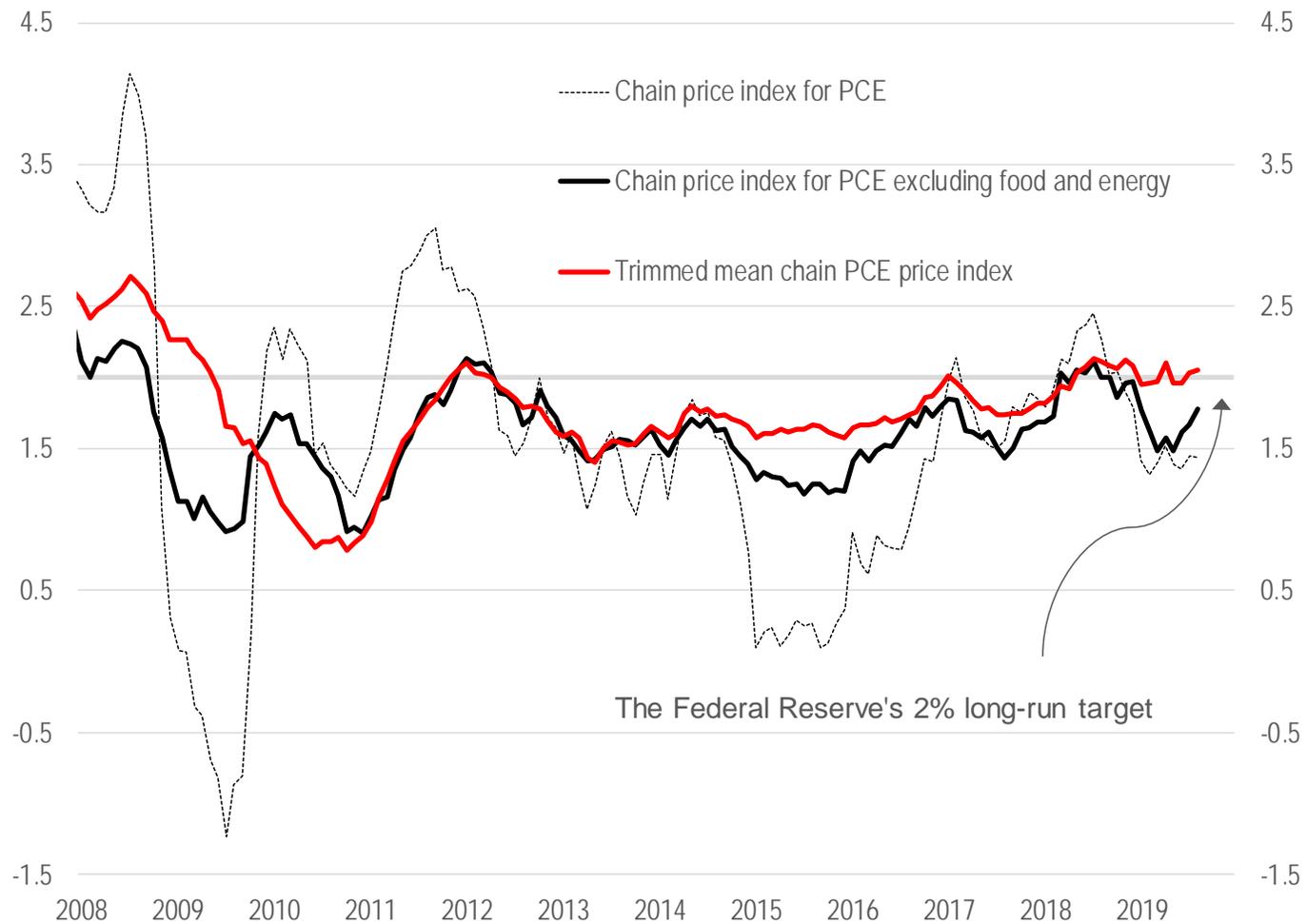
Participation rate of selected cohorts (percent of the respective population)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

Inflation Is Benign ...

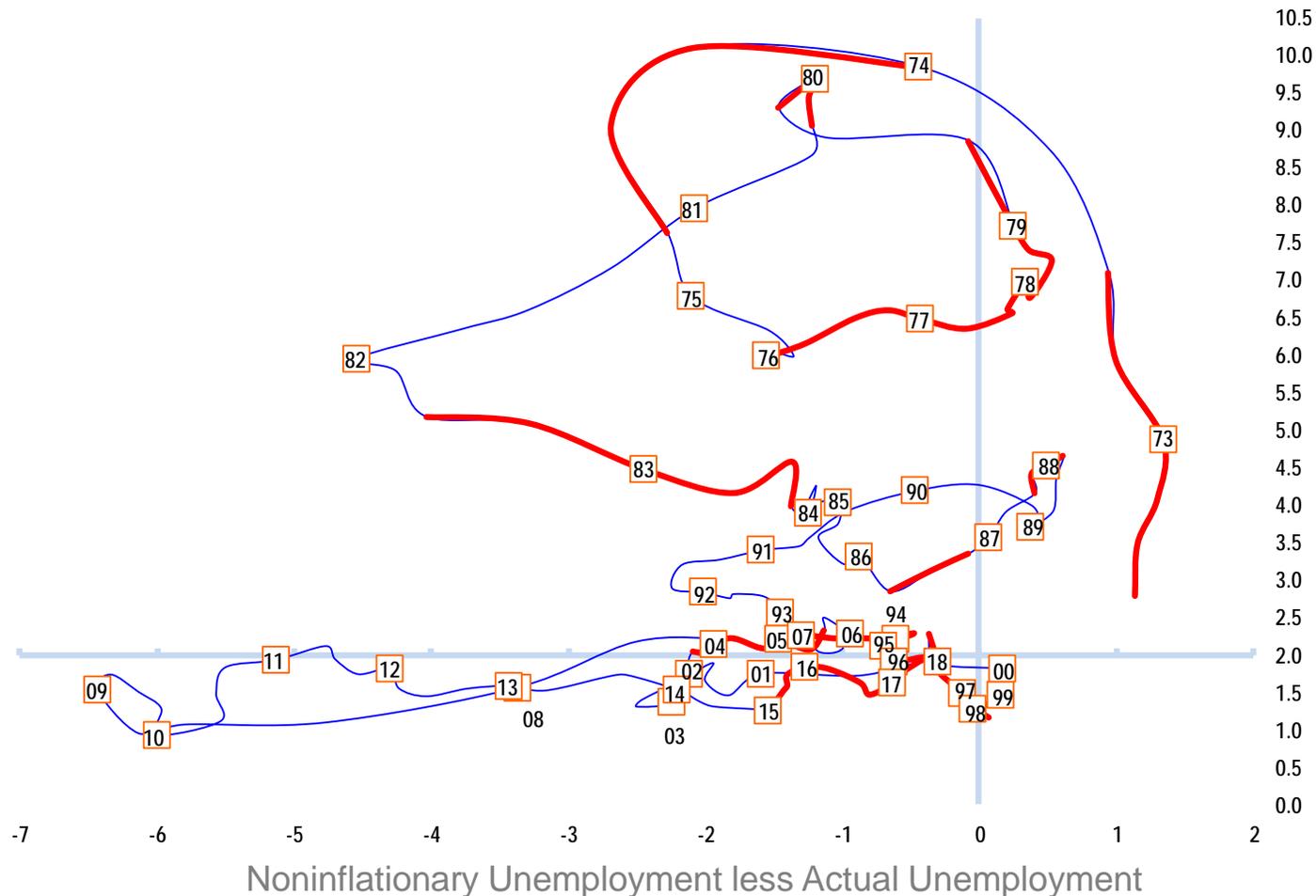
Chain PCE inflation (percent change from 12 months earlier)



Sources: Haver Analytics; U.S. Department of Labor. Updated through September 2019.

... and It's Kind of Unprecedented

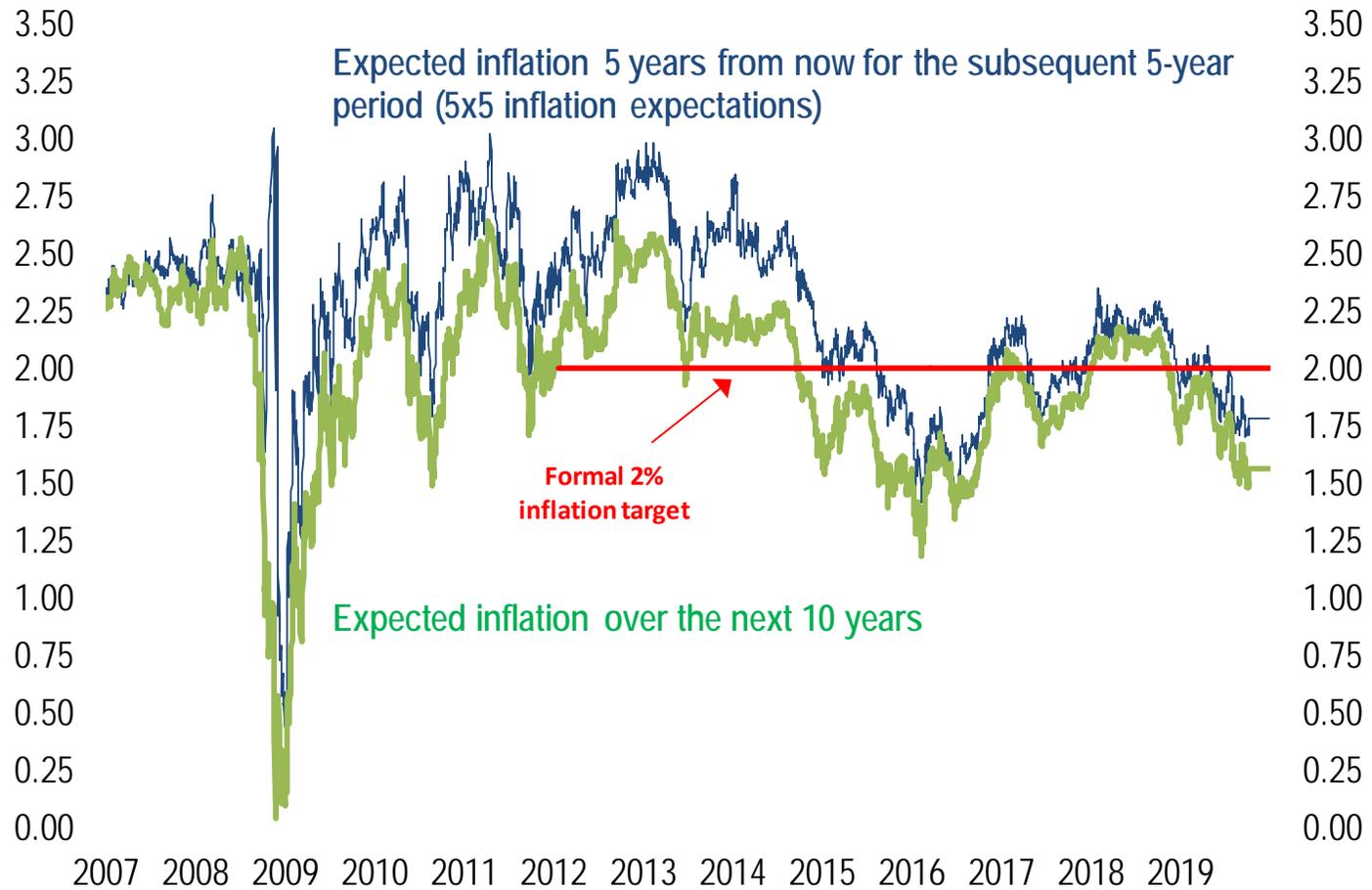
Core PCE chain prices (percent change from 12 months earlier)



Sources: Haver Analytics; U.S. Department of Labor; U.S. Department of Commerce. Updated through July 2018 (inflation) and July 2018 (unemployment).

Market Participants Know It and ...

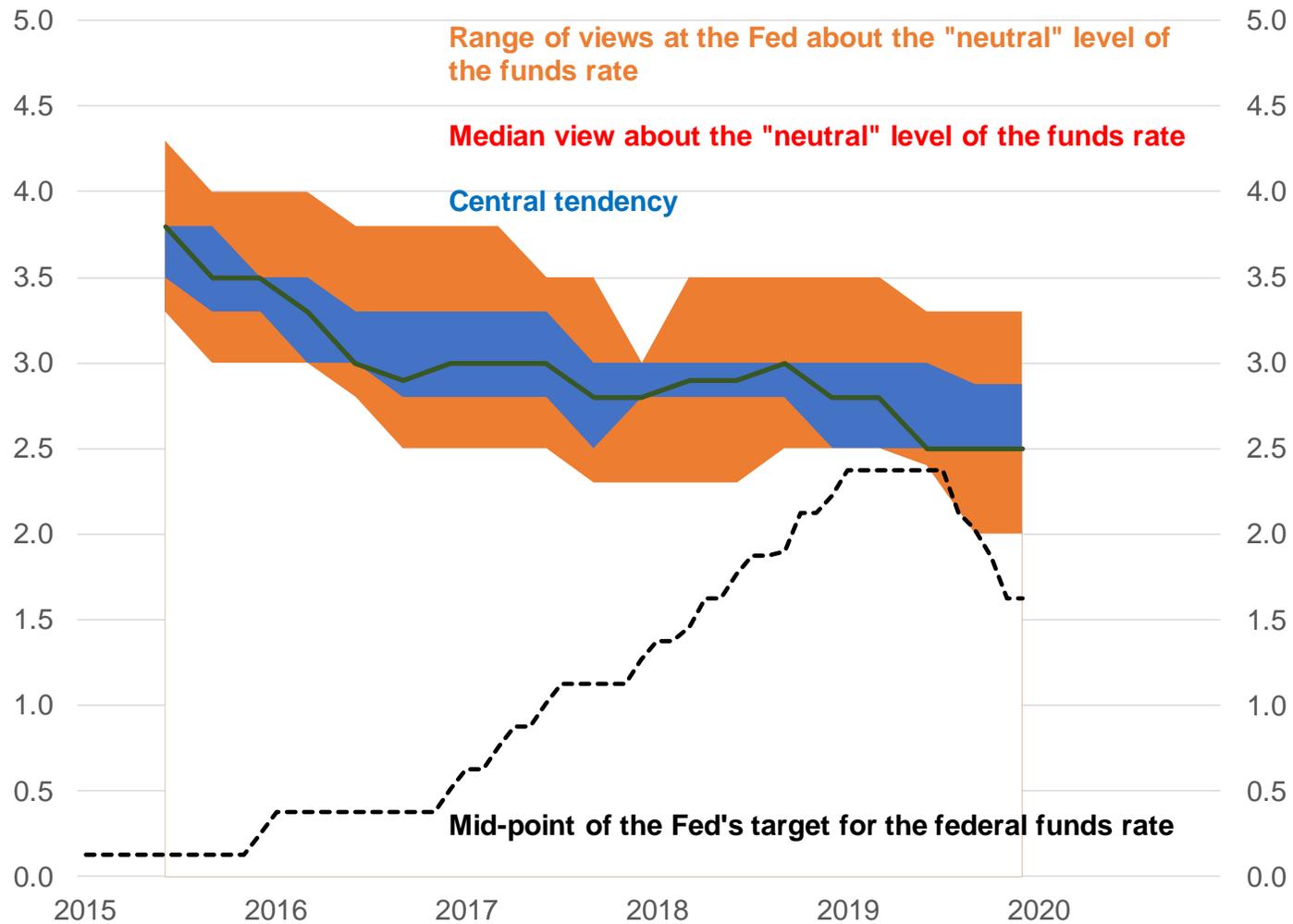
Selected components of 10-year Treasury yield (percentage points)



Sources: Haver Analytics; Federal Reserve Board. Updated through October 11, 2019.

... the Fed's Action Is Telling ...

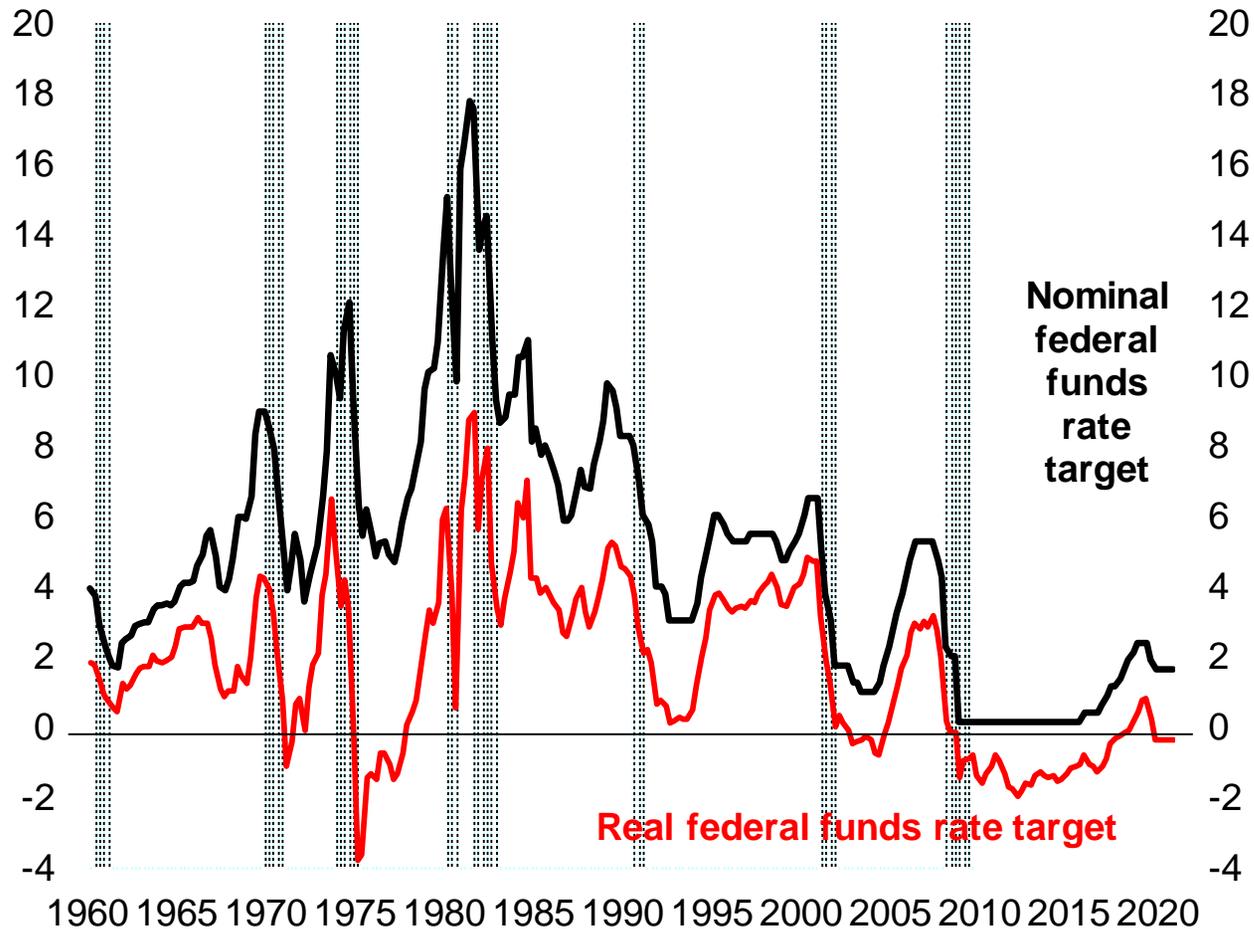
Steady state nominal federal funds rate (percent)



Note: This discussion usually focuses on the real equilibrium federal funds rate, referred to as R^ , the amount over the 2% inflation target.
Sources: Haver Analytics; Federal Reserve Board. Updated through September 18, 2019 (FOMC views) and November 8, 2019 (funds rate).*

... Especially When It's Already Easy

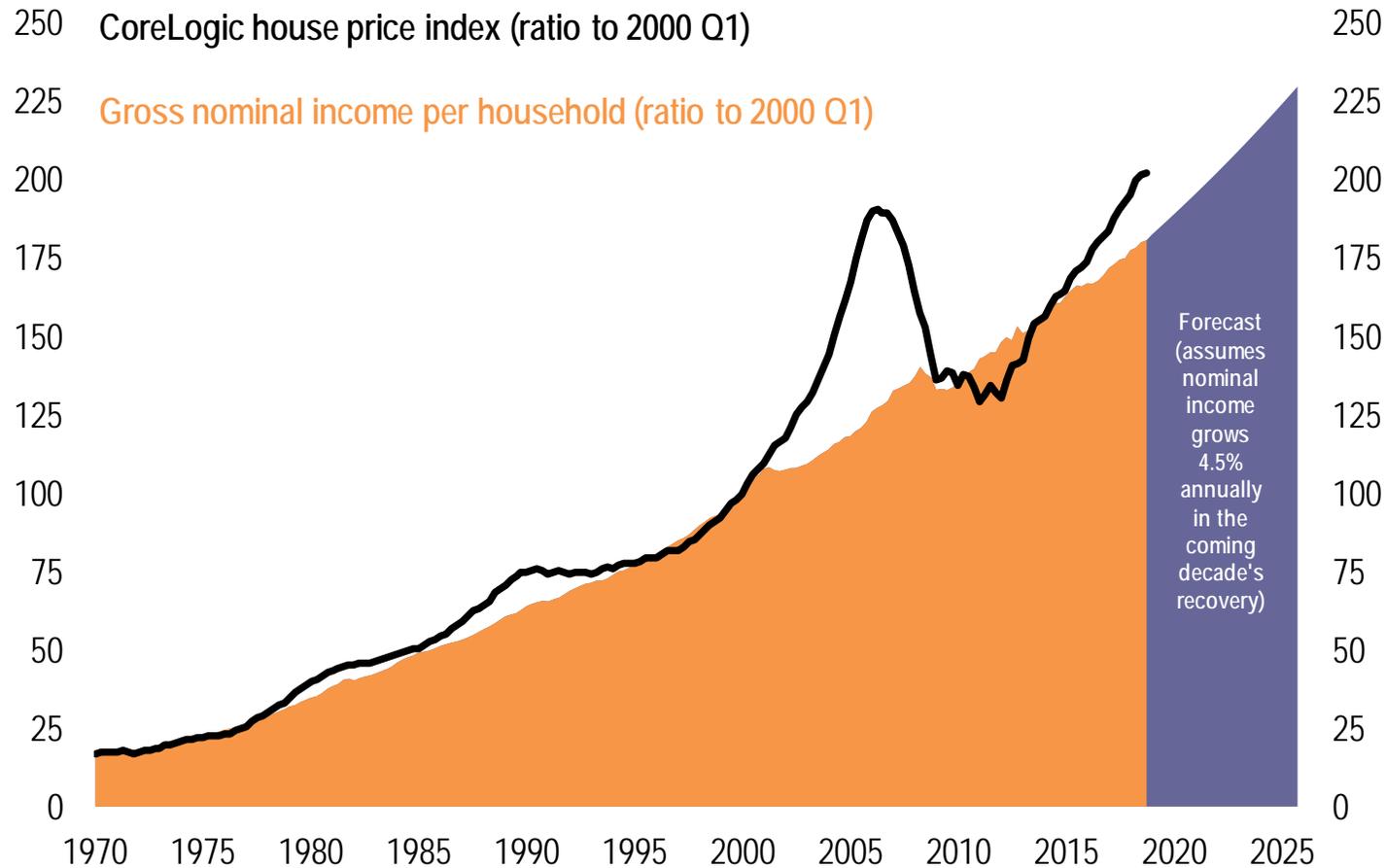
Nominal and real federal funds rate target (percent)



Sources: Haver Analytics; Federal Reserve Board; U.S. Department of Commerce. Updated through September 2019 (inflation) and November 1, 2019 (interest rates)

Plus, Nothing Today Rhymes With This

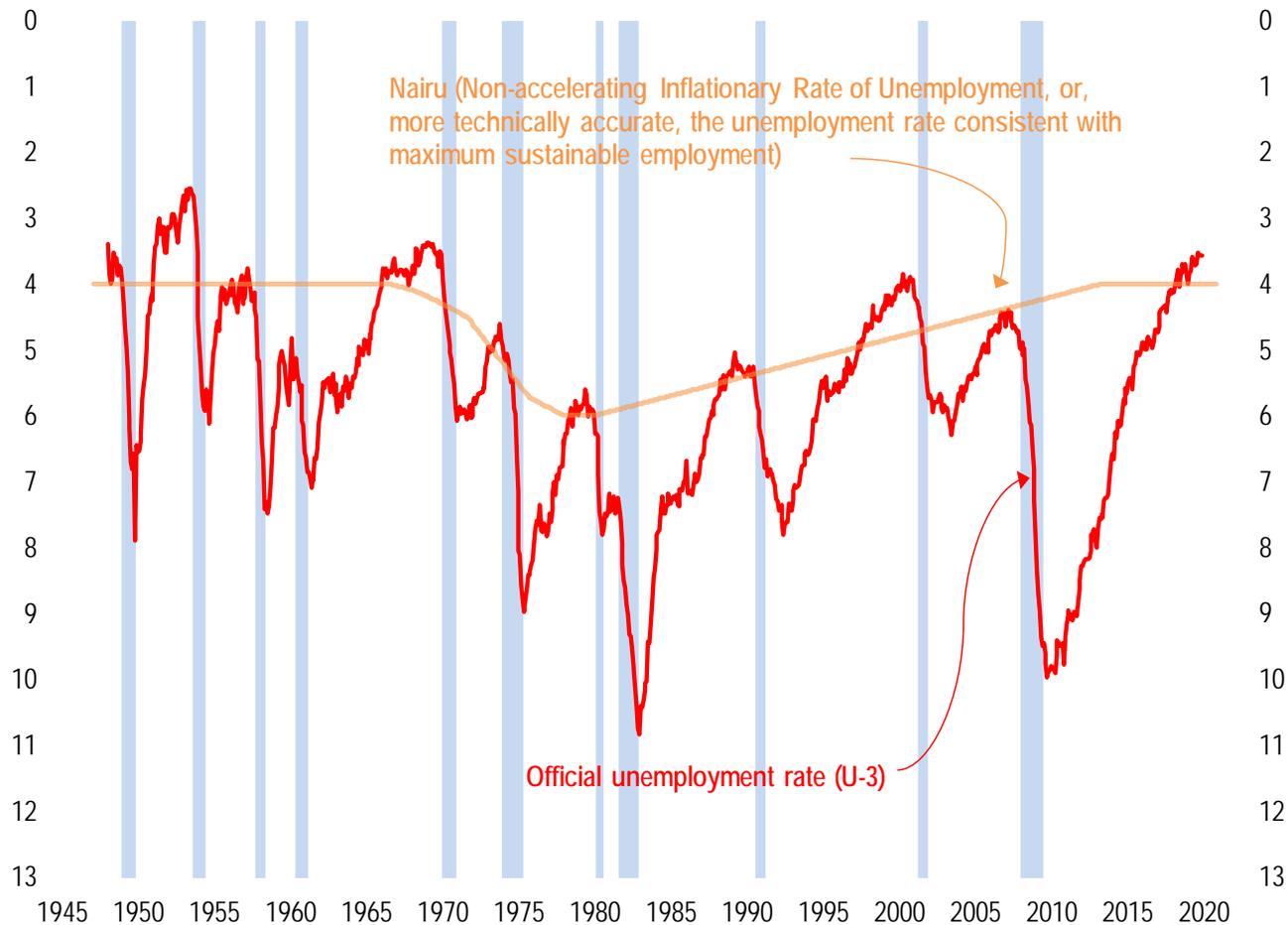
Nominal household income and house prices (January 2000 = 100)



Sources: U.S. Dep. of Commerce; CoreLogic; U.S. Department of Commerce. Updated through 2019 Q1.

So, Recession Talk Makes Little Sense

Unemployment, actual and *Nairu* (percent of the labor force, scale reversed)

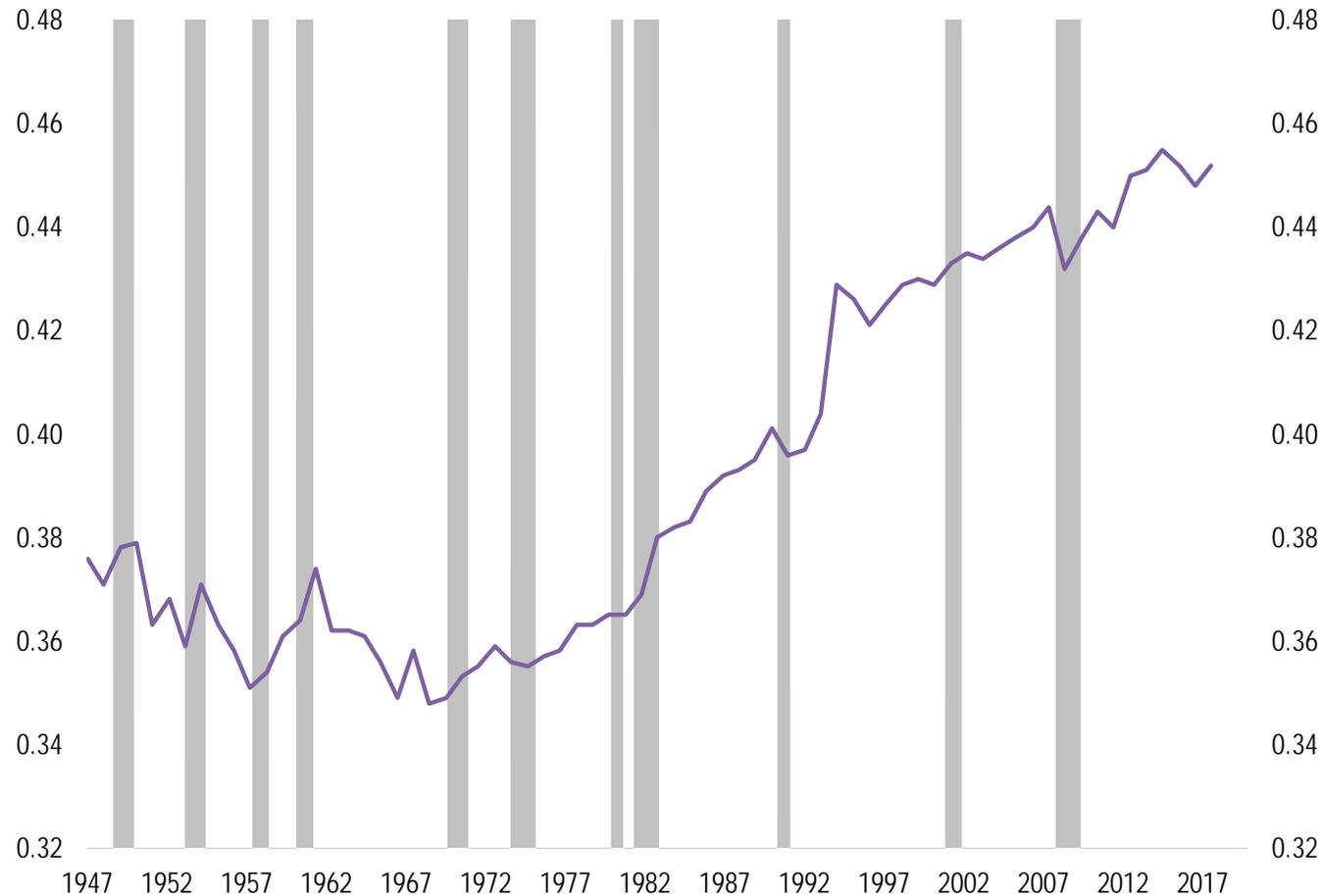


Sources: Haver Analytics; U.S. Department of Labor; Congressional Budget Office. Updated through October 2019.

(2) Tech Innovation, Socially Disruptive but Economically Empowering

Narrowing Income Distribution Arises ...

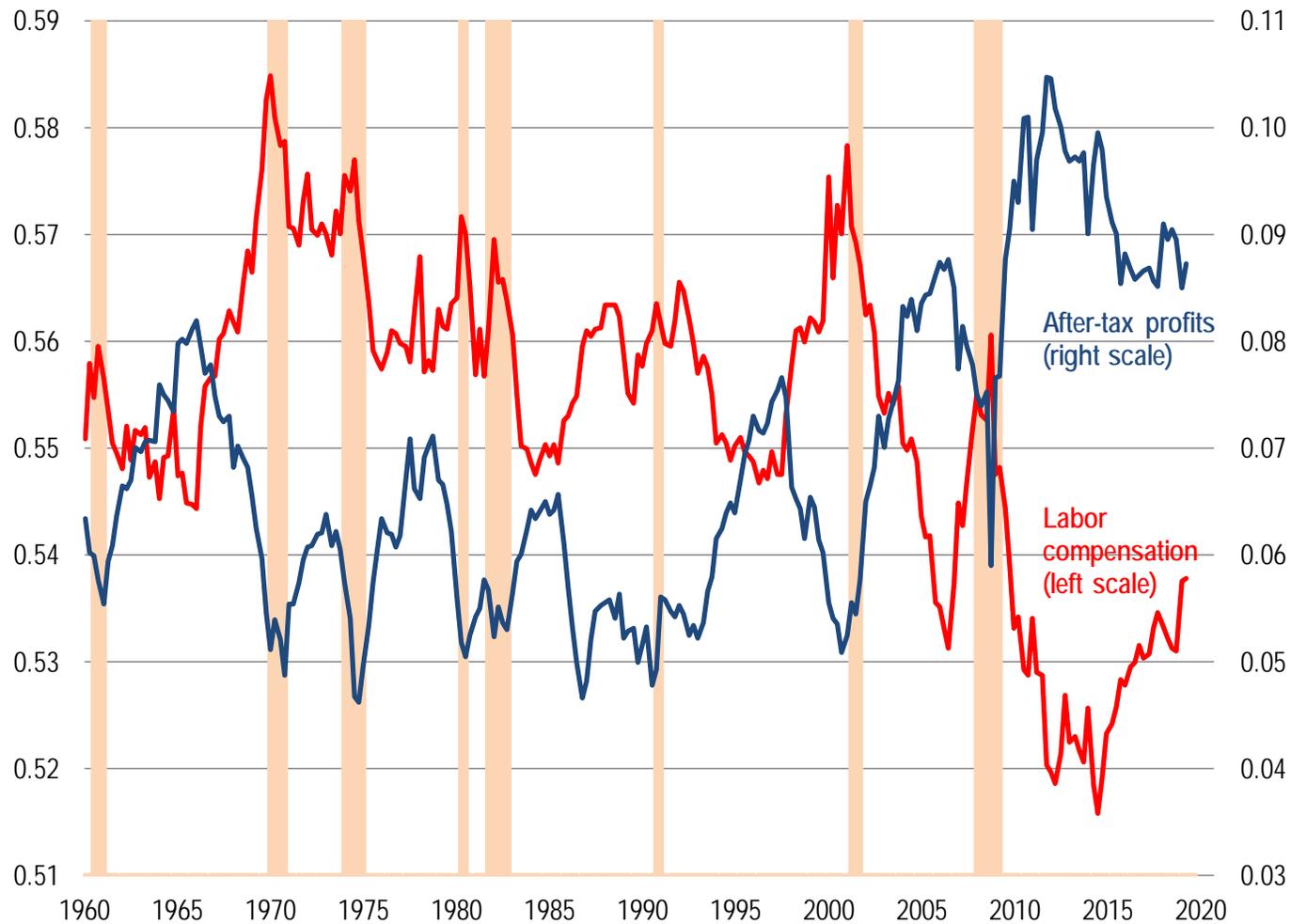
Gini coefficient (0=total equality, 1=all income goes to the emperor)



Sources: Haver Analytics; NBER-designated recessions; Census Bureau. Updated through 2016.

... from the Workplace, not Capitalism, ...

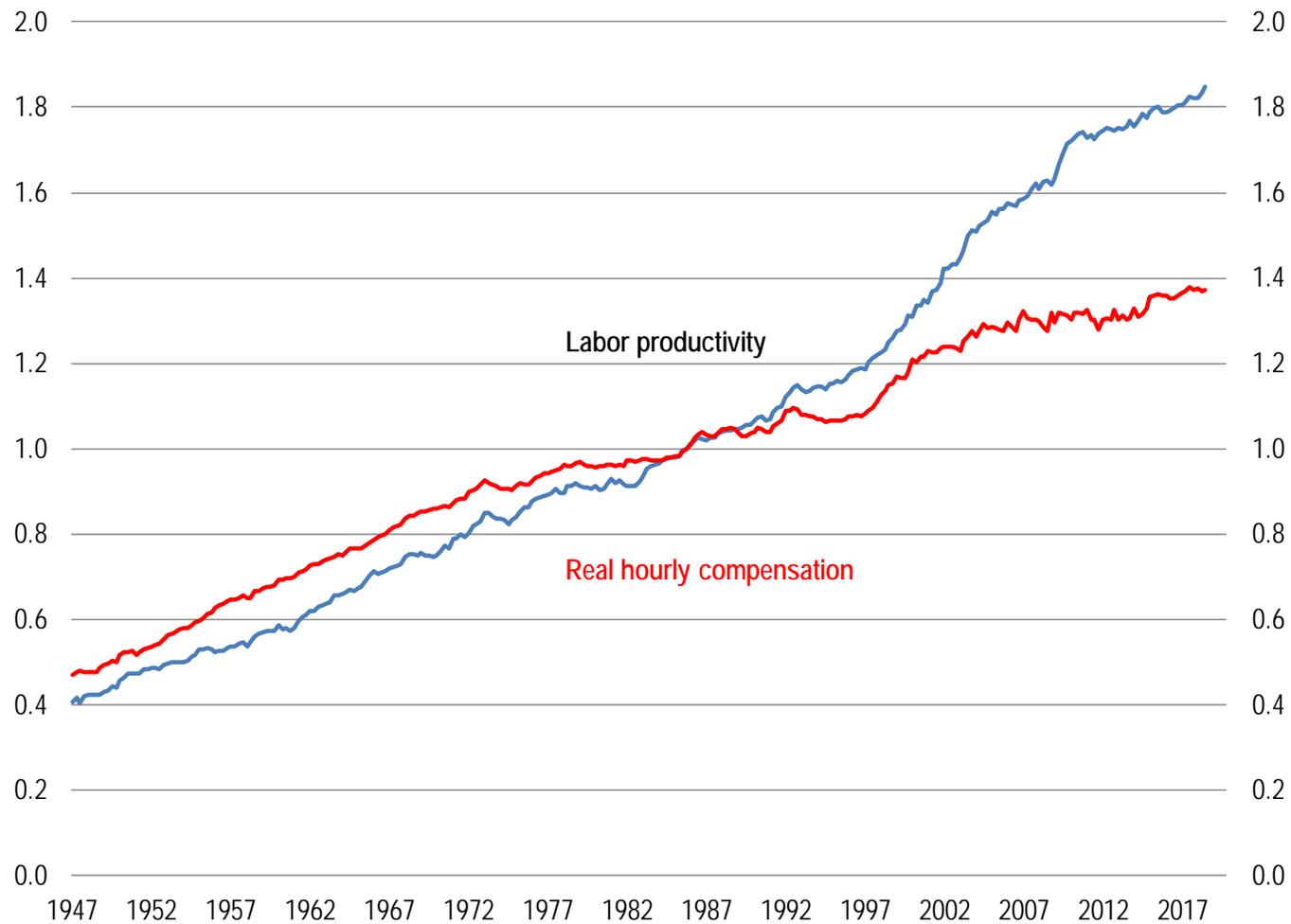
Income share (percentage of Gross Domestic Income)



Sources: Haver Analytics; NBER-designated recessions; U.S. Department of Commerce. Updated through 2018 Q4.

... and a New Twist of Innovation

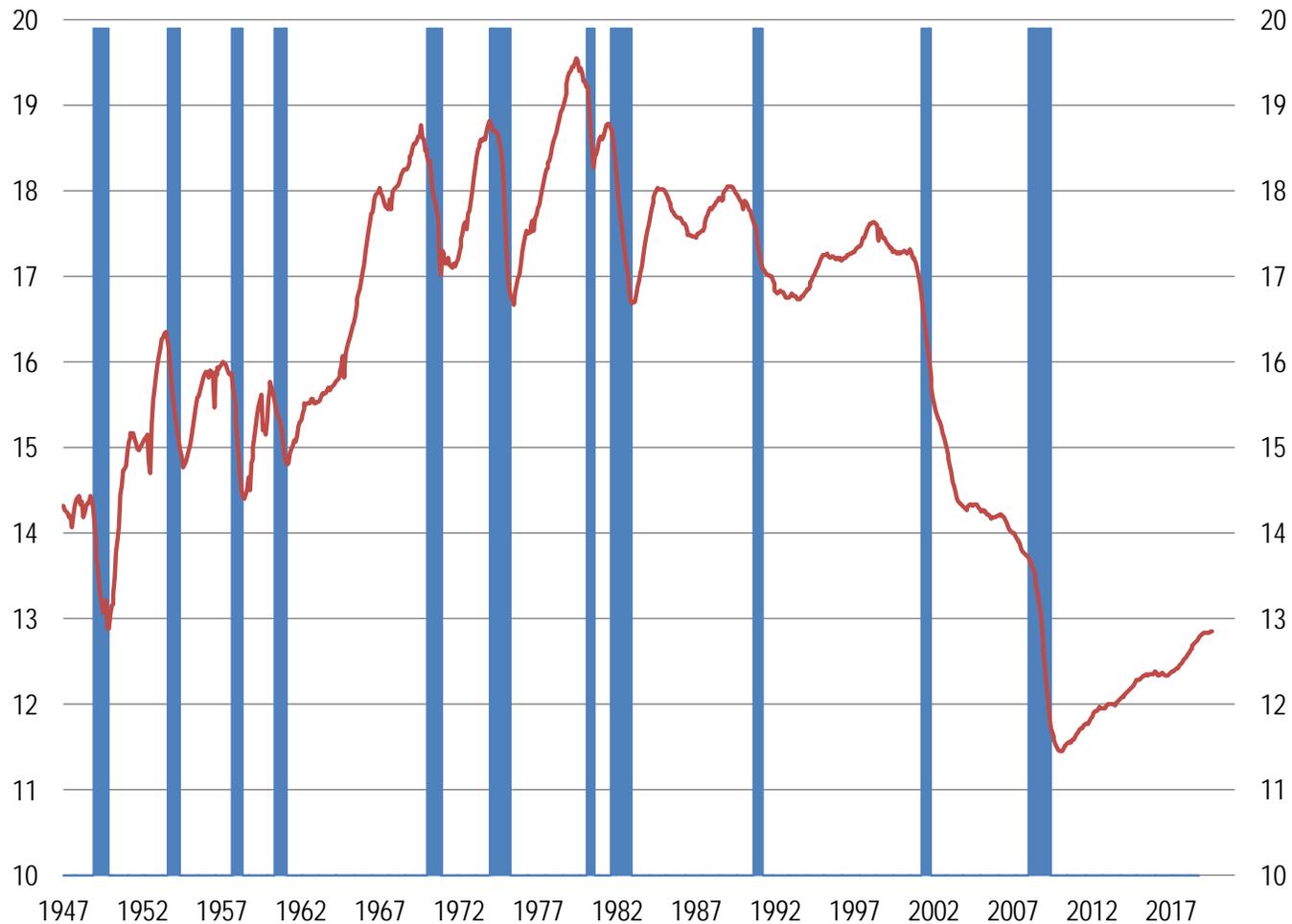
Labor productivity and real hourly compensation (ratio to respective 1985 Q4 level)



Sources: Haver Analytics; U.S. Department of Commerce. Updated through 2018 Q3.

Life Is More Challenging in Manufacturing

Nonfarm payroll employment in manufacturing (millions)

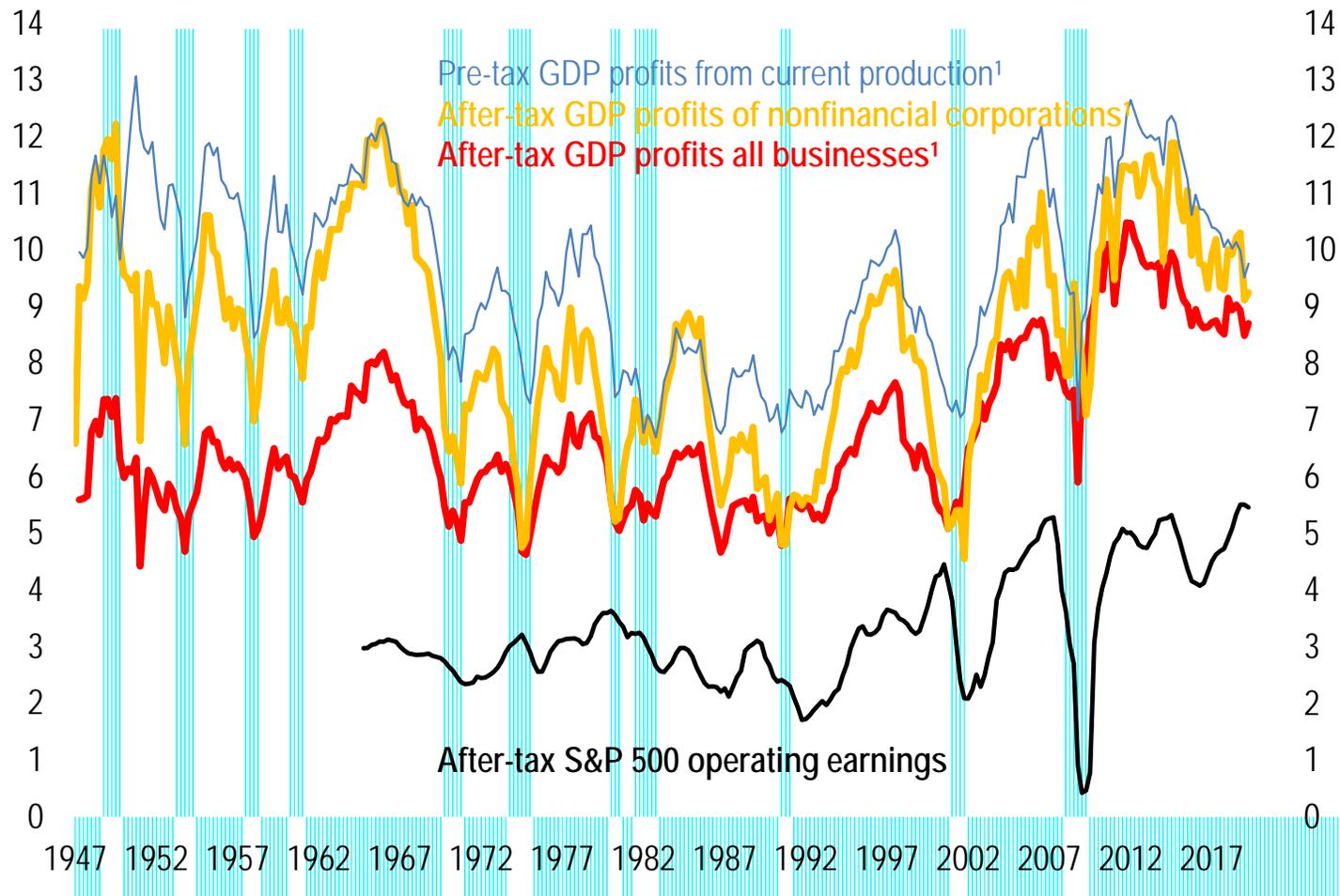


Sources: Haver Analytics; U.S. Department of Labor. Updated through September 2019.

Innovation Has Elevated Profit Margins ...

Stocks (Wilshire 5000, flt. adj., 12/31/70 = 830.27)

Earnings (\$ billions)

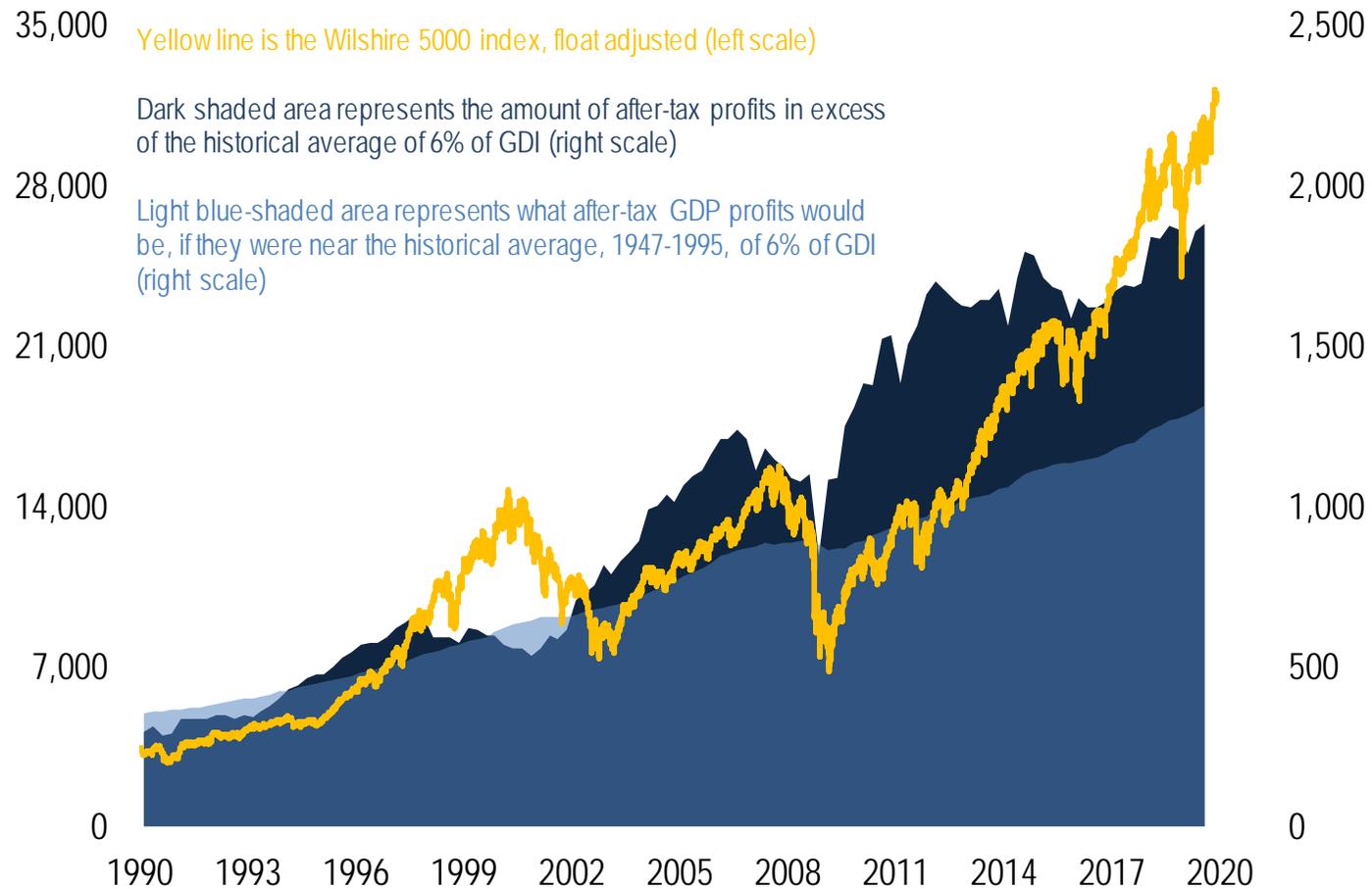


Sources: Haver Analytics; Wilshire; U.S. Department of Commerce. Updated through 2018 Q4 (profits) and August 16 2019 (stocks).

... and That Now Looks More Lasting

Stocks (Wilshire 5000, flt. adj., 12/31/70 = 830.27)

Earnings (\$ billions)

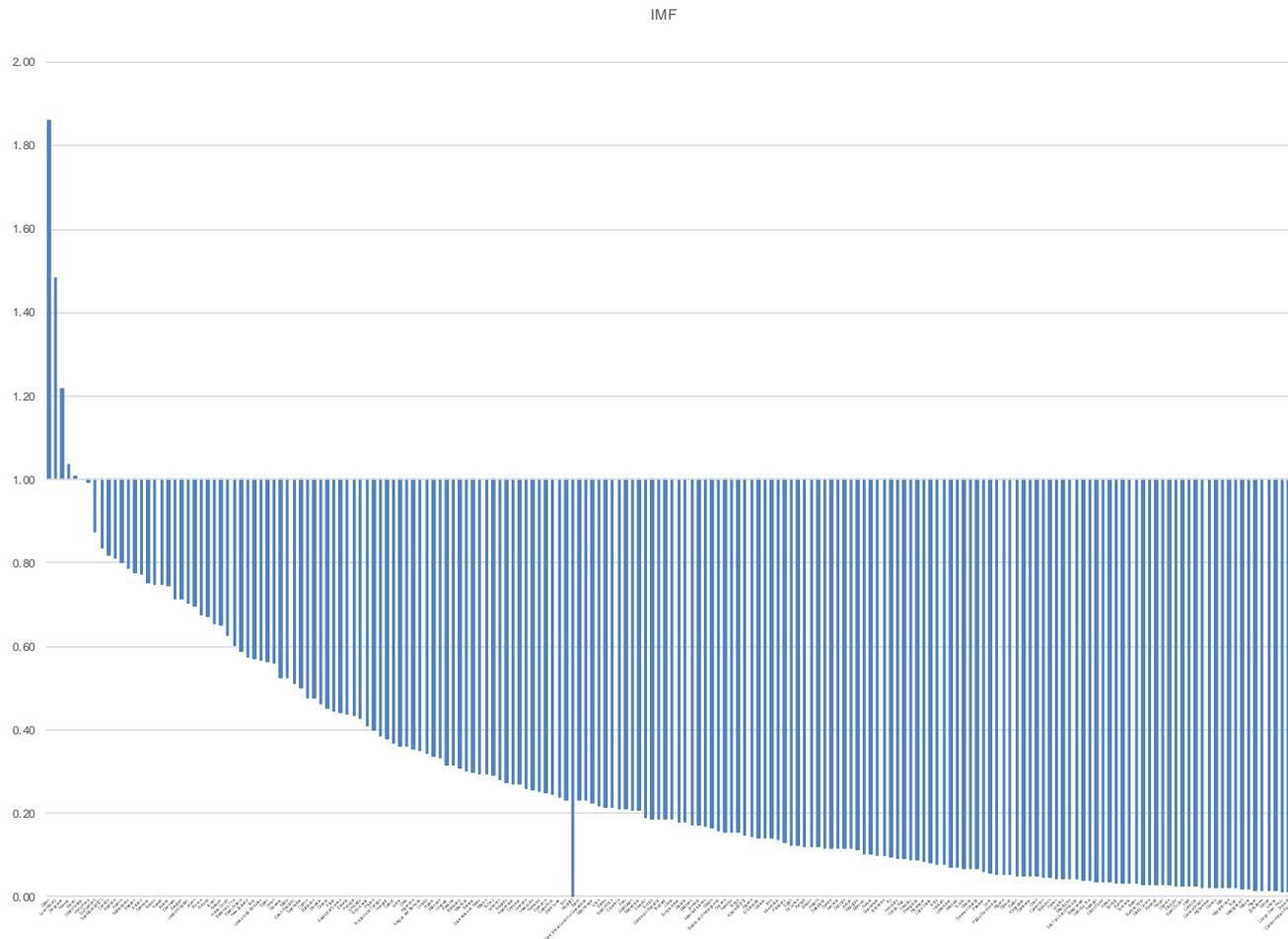


Sources: Haver Analytics; Wilshire; U.S. Department of Commerce. Updated through 2019 Q3 (profits) and December 6 2019 (stocks).

(3) Global Awakening

America Was Always Great, and ...

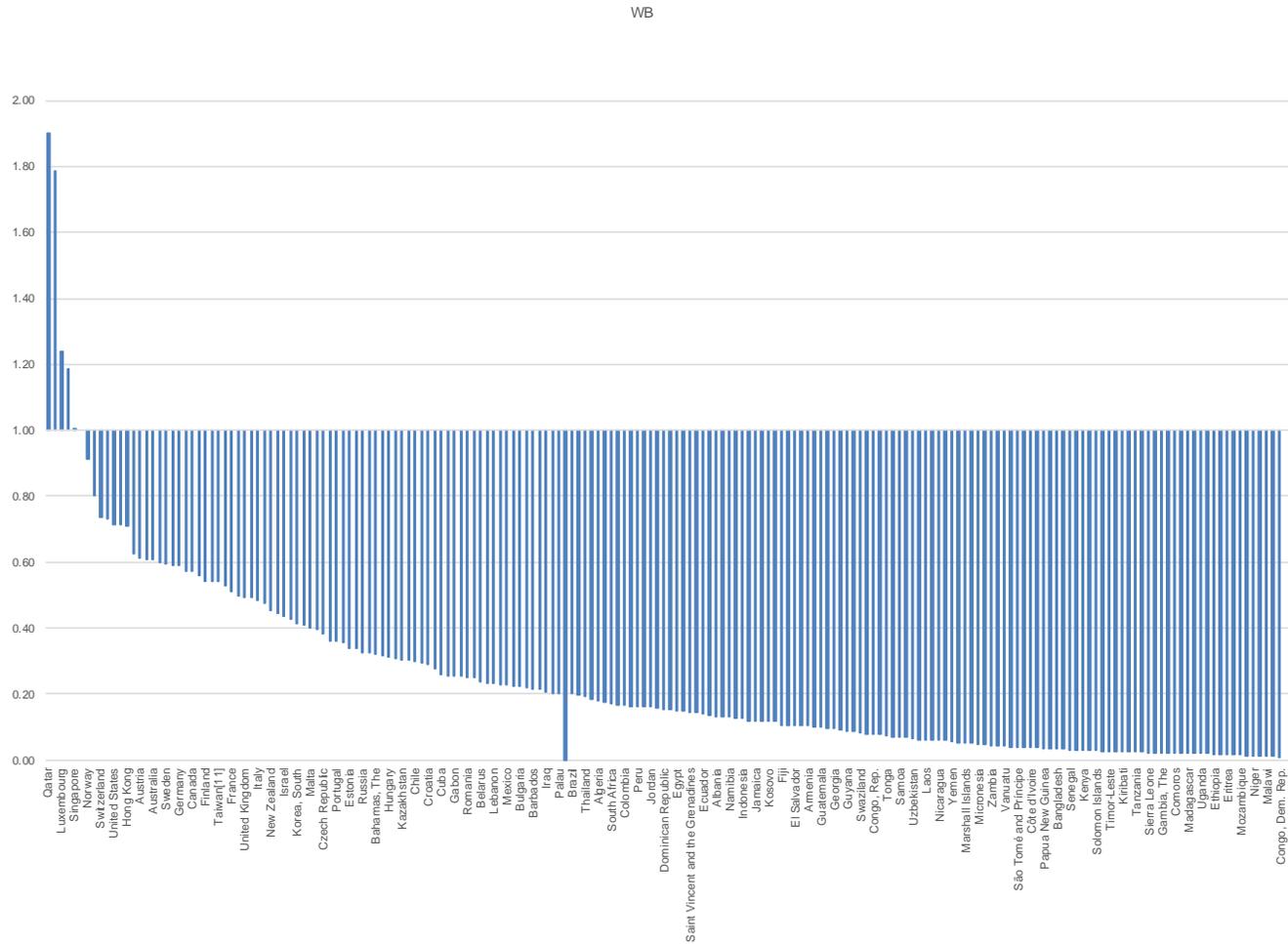
Relative real GDP per capita (ratio to U.S. real GDP per capita, 2016 dollars)



Sources: Haver Analytics; IMF. Updated through 2019 Q2.

... Most of the World's People ...

Relative real GDP per capita (ratio to U.S. real GDP per capita, 2016 dollars)

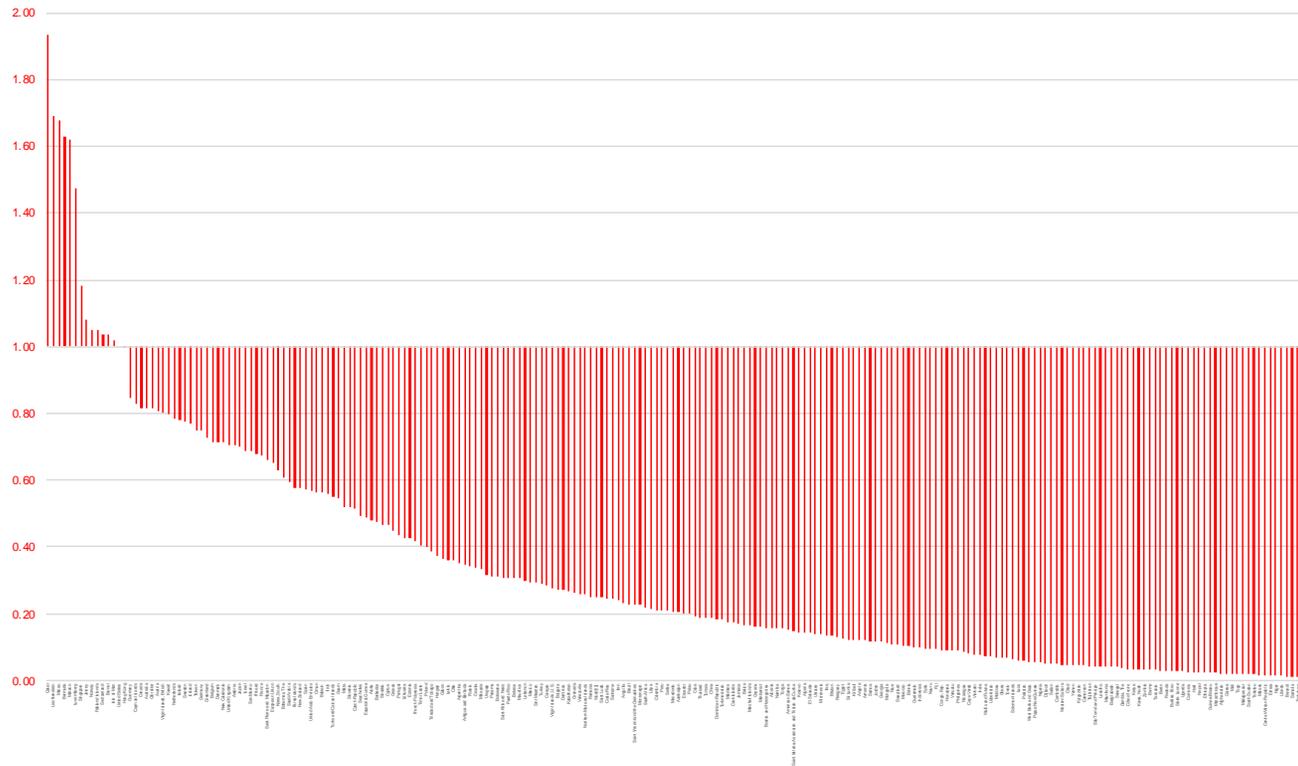


Sources: Haver Analytics; World Bank. Updated through 2019 Q2.

... Are Desperately Poor

Relative real GDP per capita (ratio to U.S. real GDP per capita, 2016 dollars)

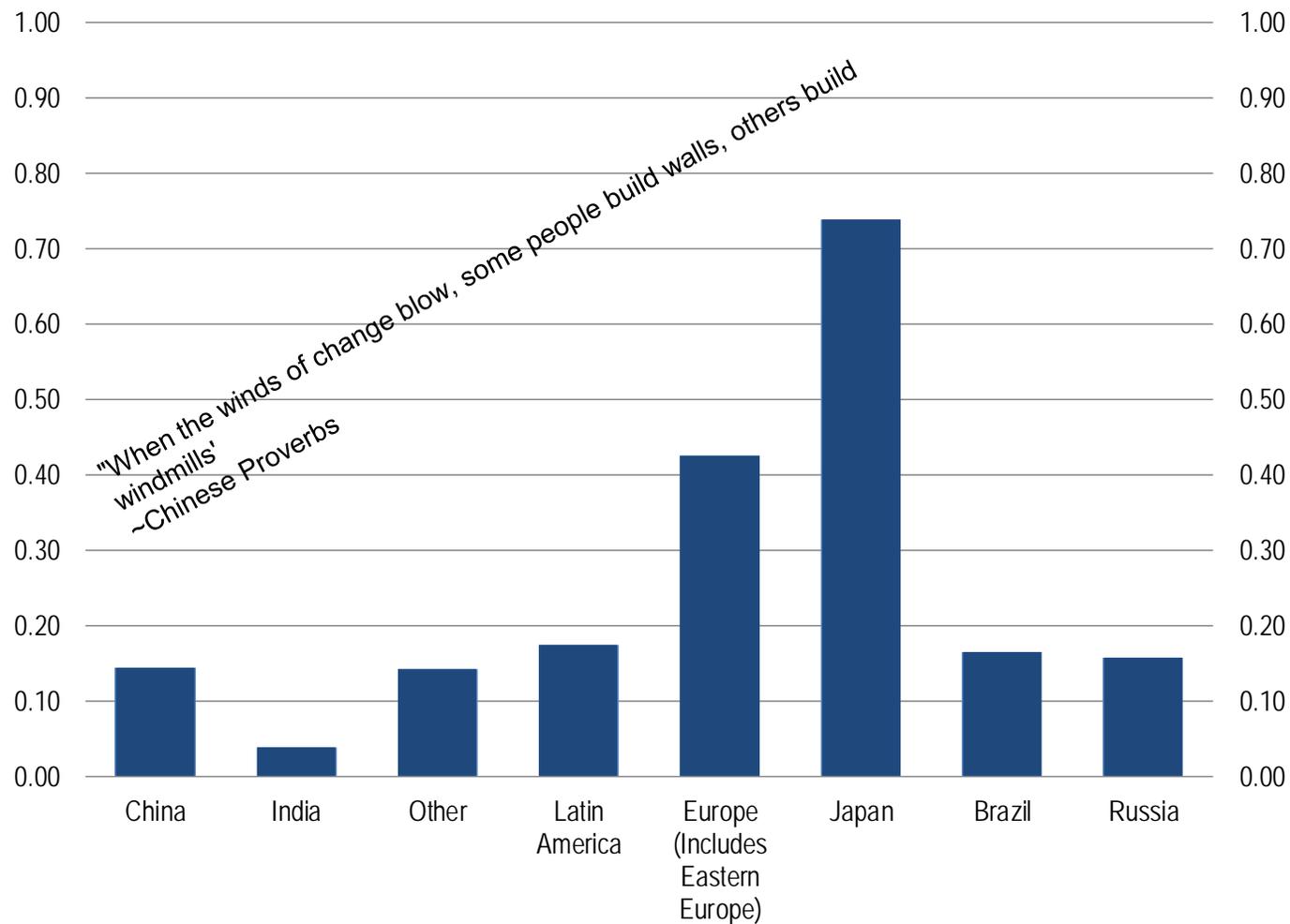
CIA



Sources: Haver Analytics; CIA. Updated through 2019 Q2.

So, Helping Others Helps Ourselves ...

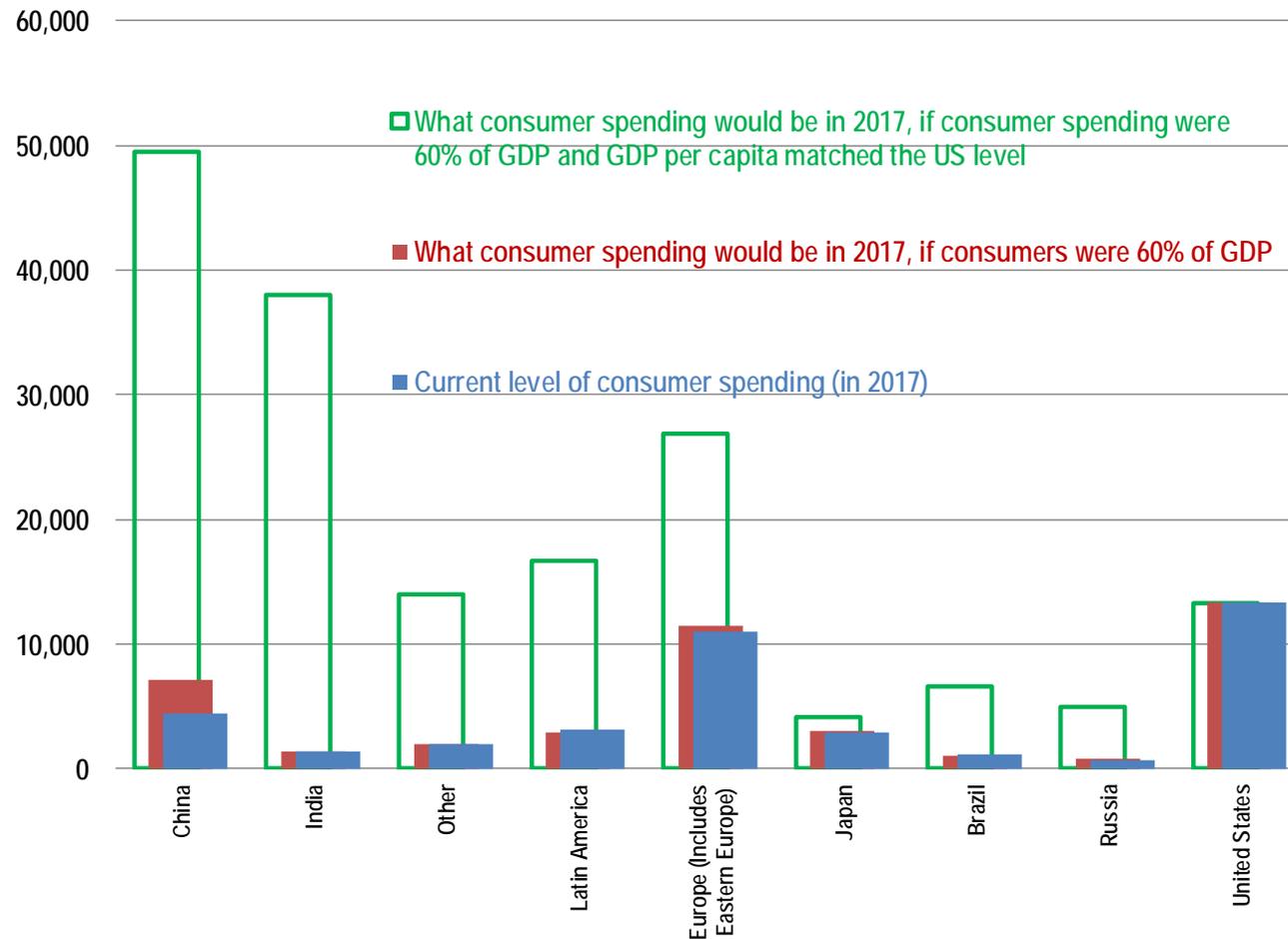
Relative real GDP per capita (ratio to U.S. real GDP per capita, 2016 dollars)



Sources: Haver Analytics; World Bank; JPMorgan Chase & Co. Updated through 2019 Q2.

... Because It Creates New Markets ...

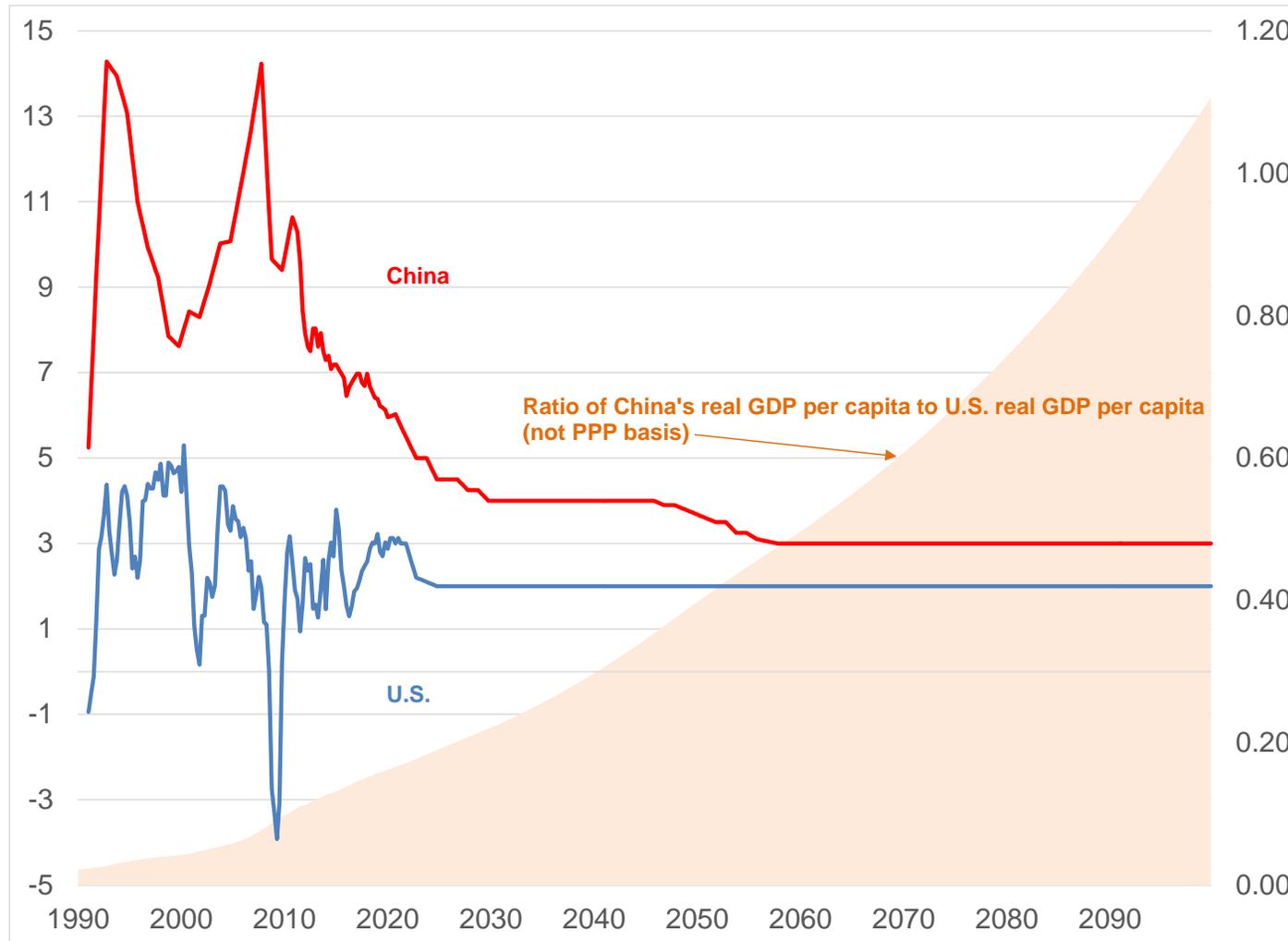
Consumer opportunities (chained 2009 dollars)



... and, Of Course, More Competition

Real GDP (% ch from 4 qtr earlier)

China's real GDP per capita (pctage of the U.S. level)



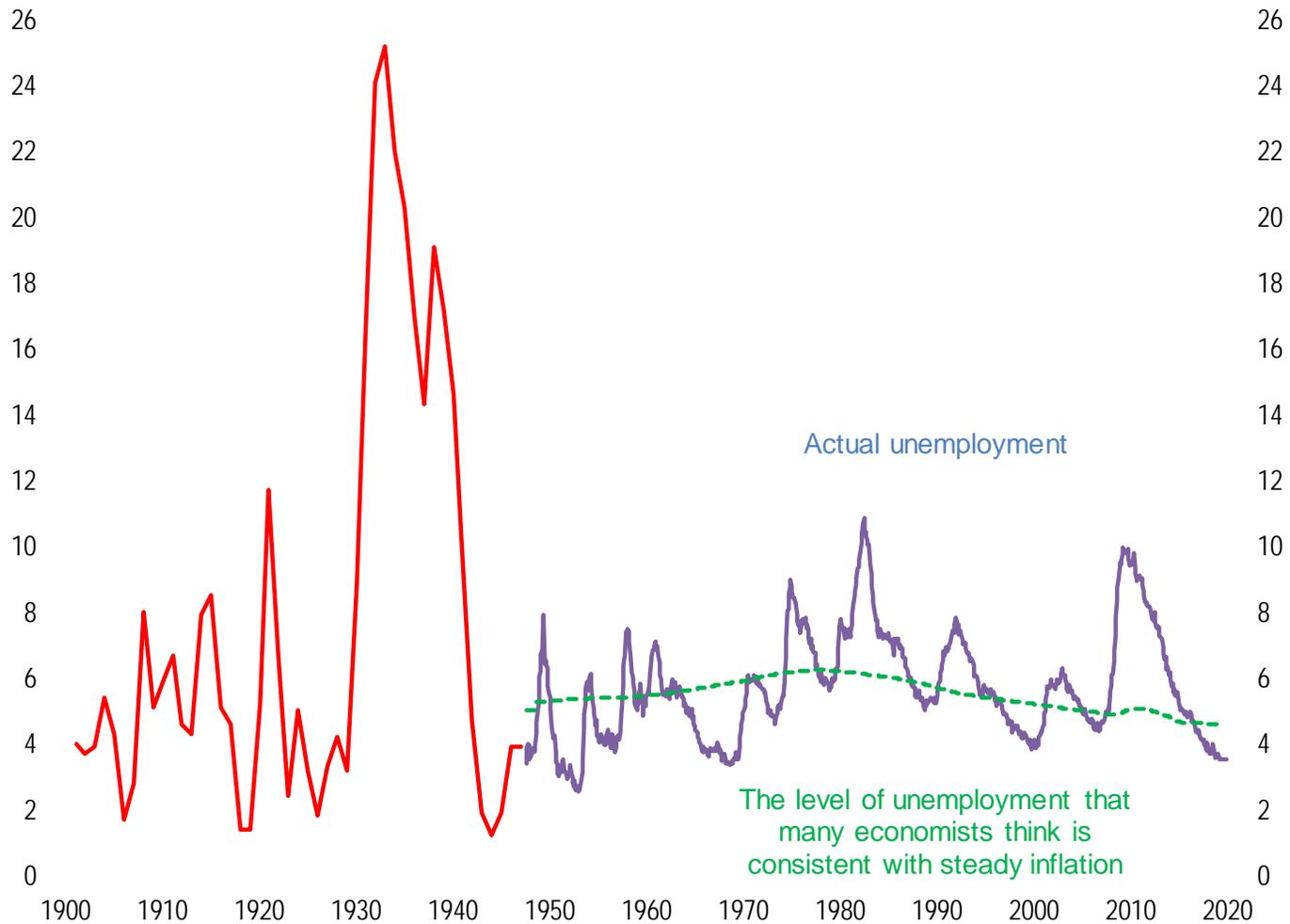
Sources: Haver Analytics; U.S. Department of Commerce; World Bank. Updated through 2019 Q1.

2020 ISSUES

GET USED TO A NEW GROWTH NORMAL

The Transition to Steady State ...

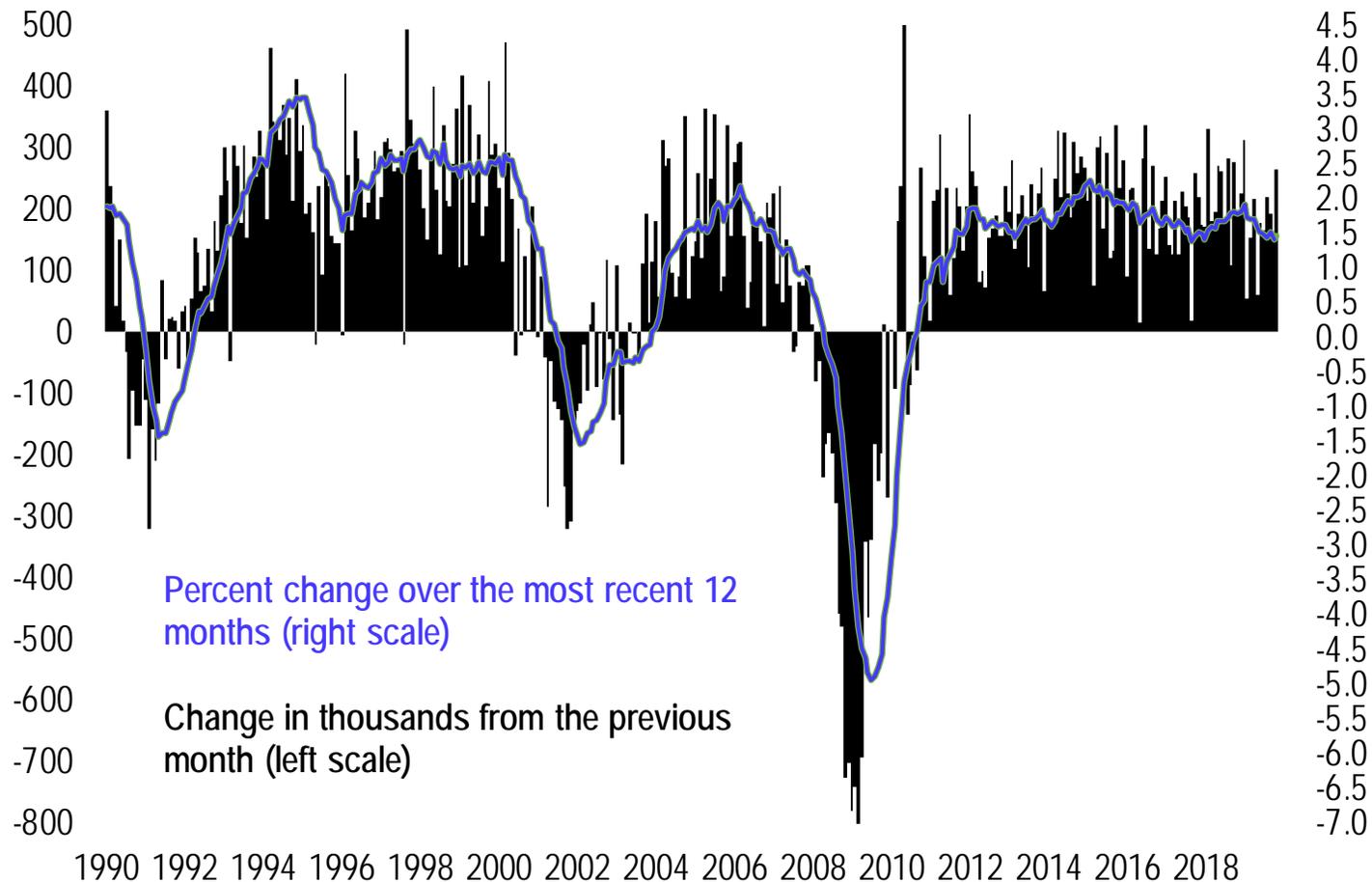
Unemployment (percent of the labor force)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

... Points to Slower Job Growth In 2020

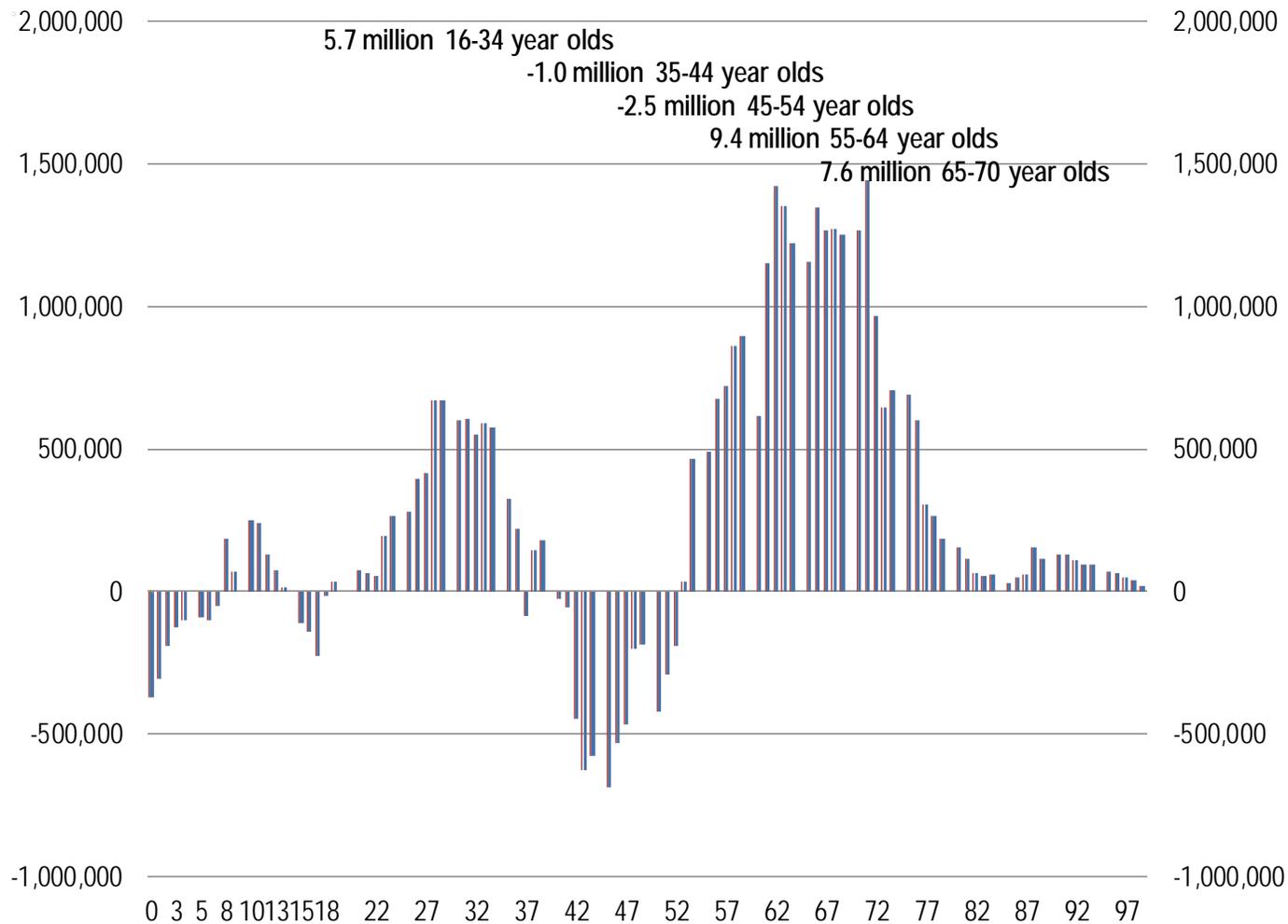
Nonfarm payroll employment (monthly change in thousands) (% change from 12 months earlier)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

And the Demographic Wave ...

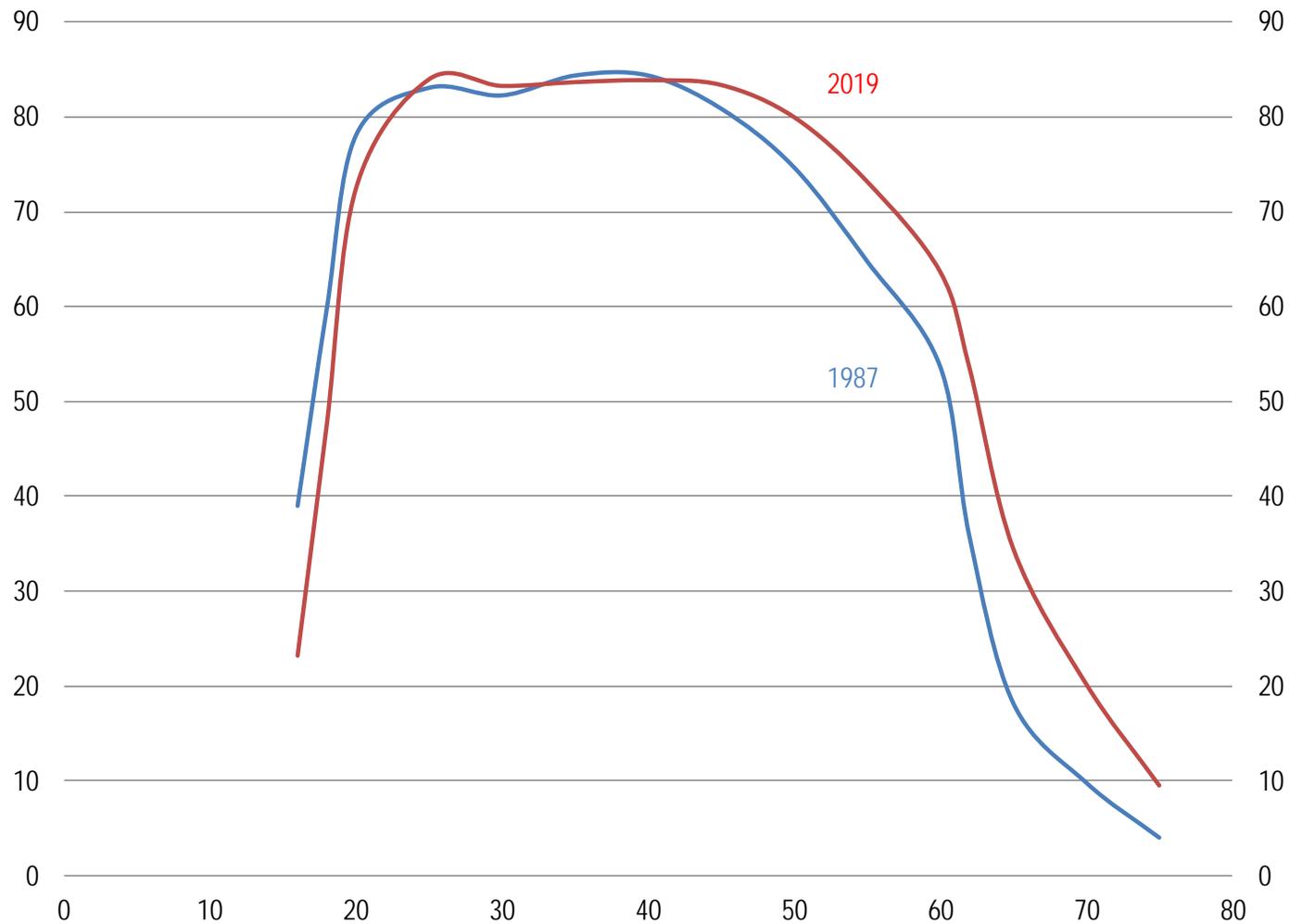
Change in population cohorts since 2008 (number of people by age)



Sources: Haver Analytics; Census. Updated through November 2019.

... Which Bloats the Retiring Population ...

Working-age, labor force and employment (ave mn ch in '000 in the most recent 12 months)

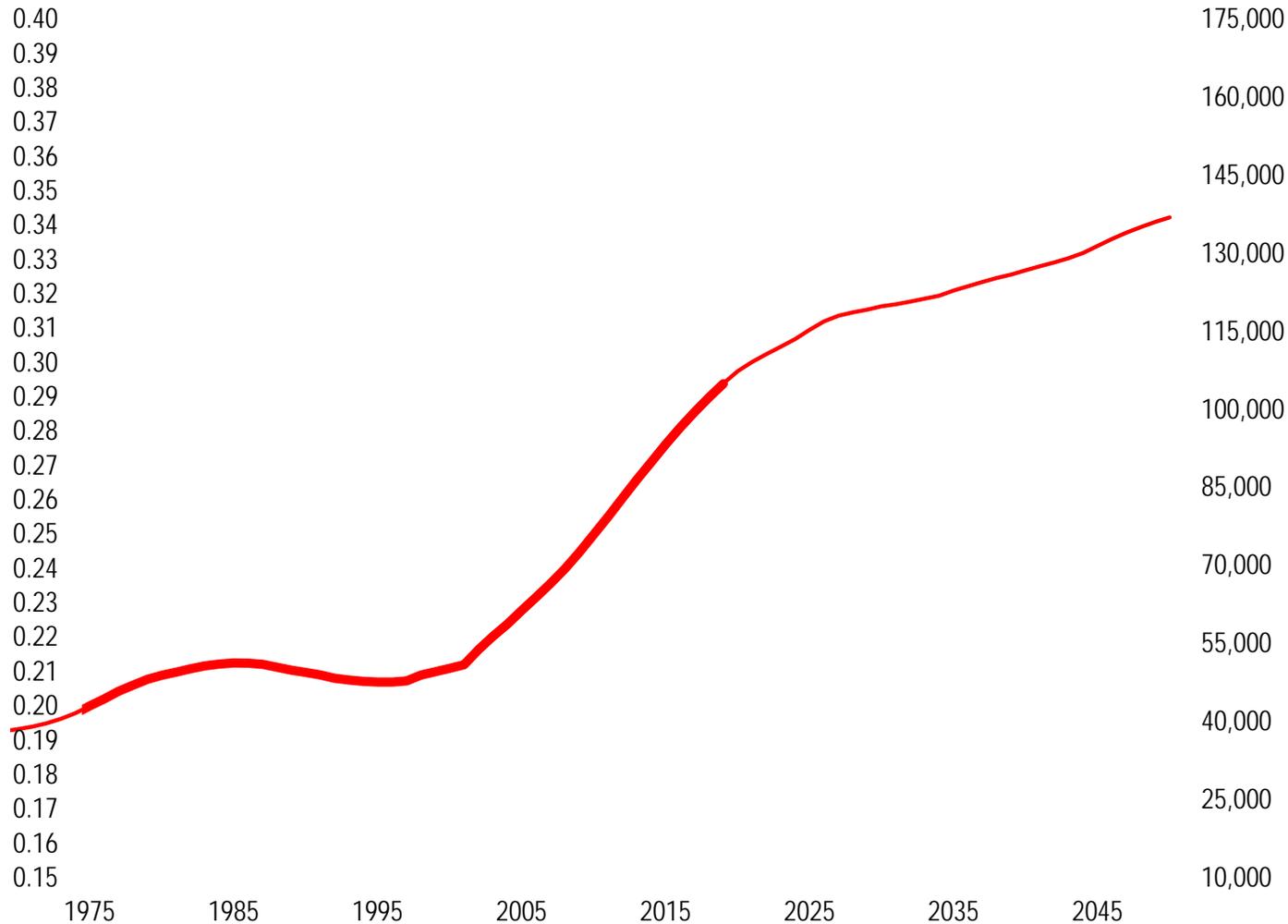


Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

... Still More to Go ...

People over 55 years of age (% of the population)

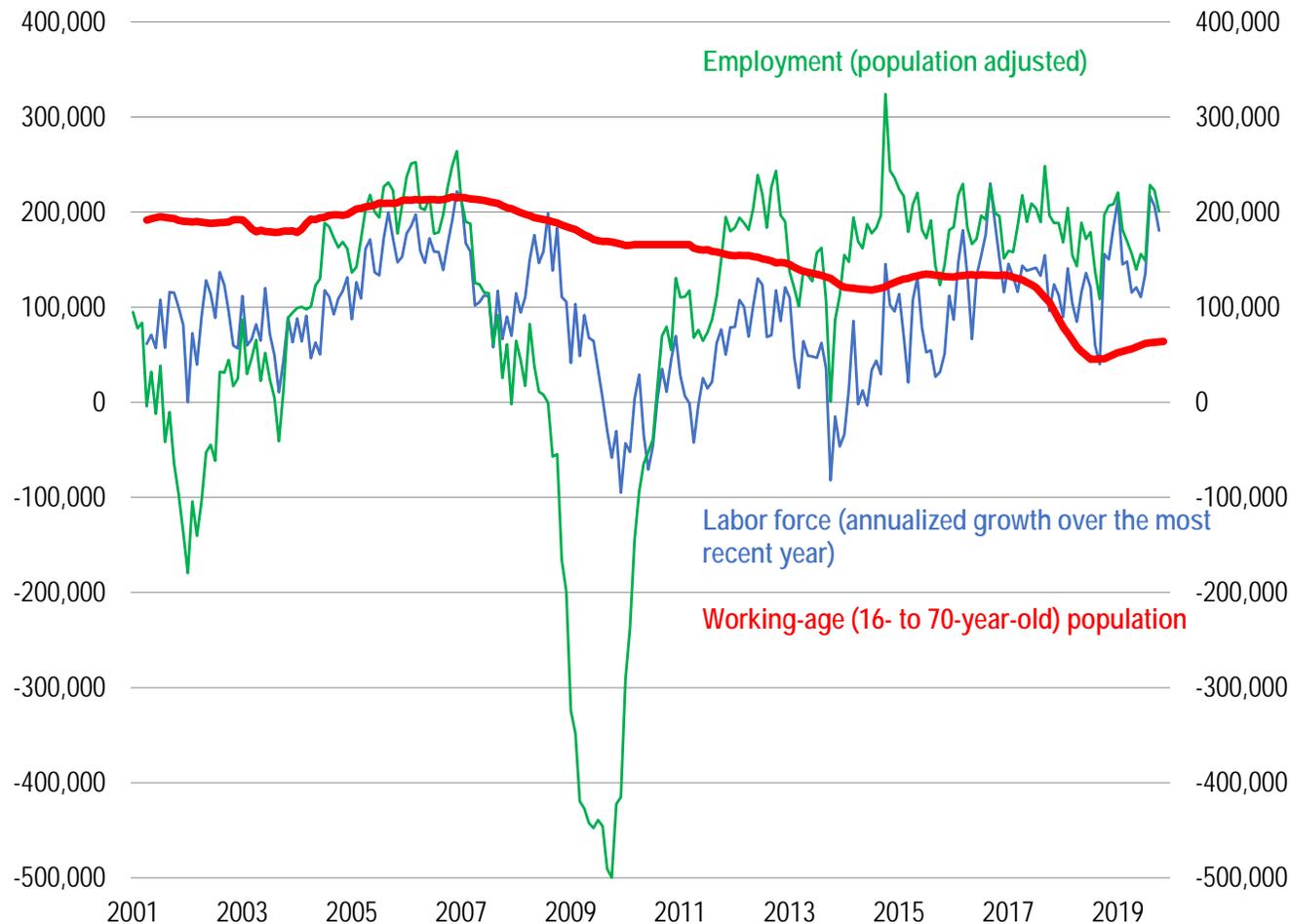
(thousands)



Sources: Haver Analytics; U.S. Department of Labor. Updated through June 2019.

... Is Slowing Steady State Growth ...

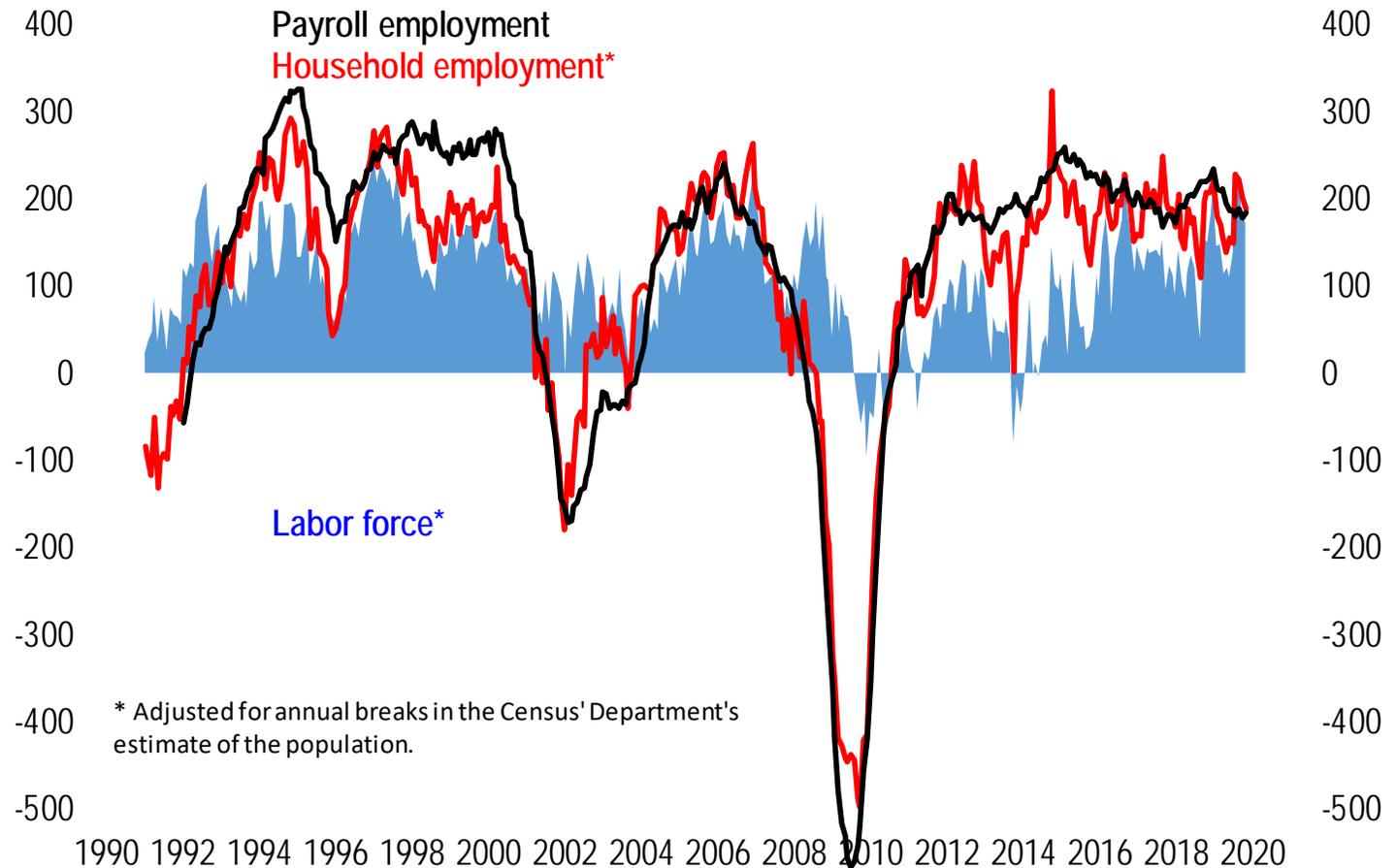
Population, labor force and employment (ave mn ch vs 12 months earlier, thousands)



Sources: Haver Analytics; U.S. Department of Labor; Census. Updated through October 2019 (employment) and November 2019 (others).

... All Types of Employment

Employment and the labor force (monthly change in thousands over the most recent 12 months)

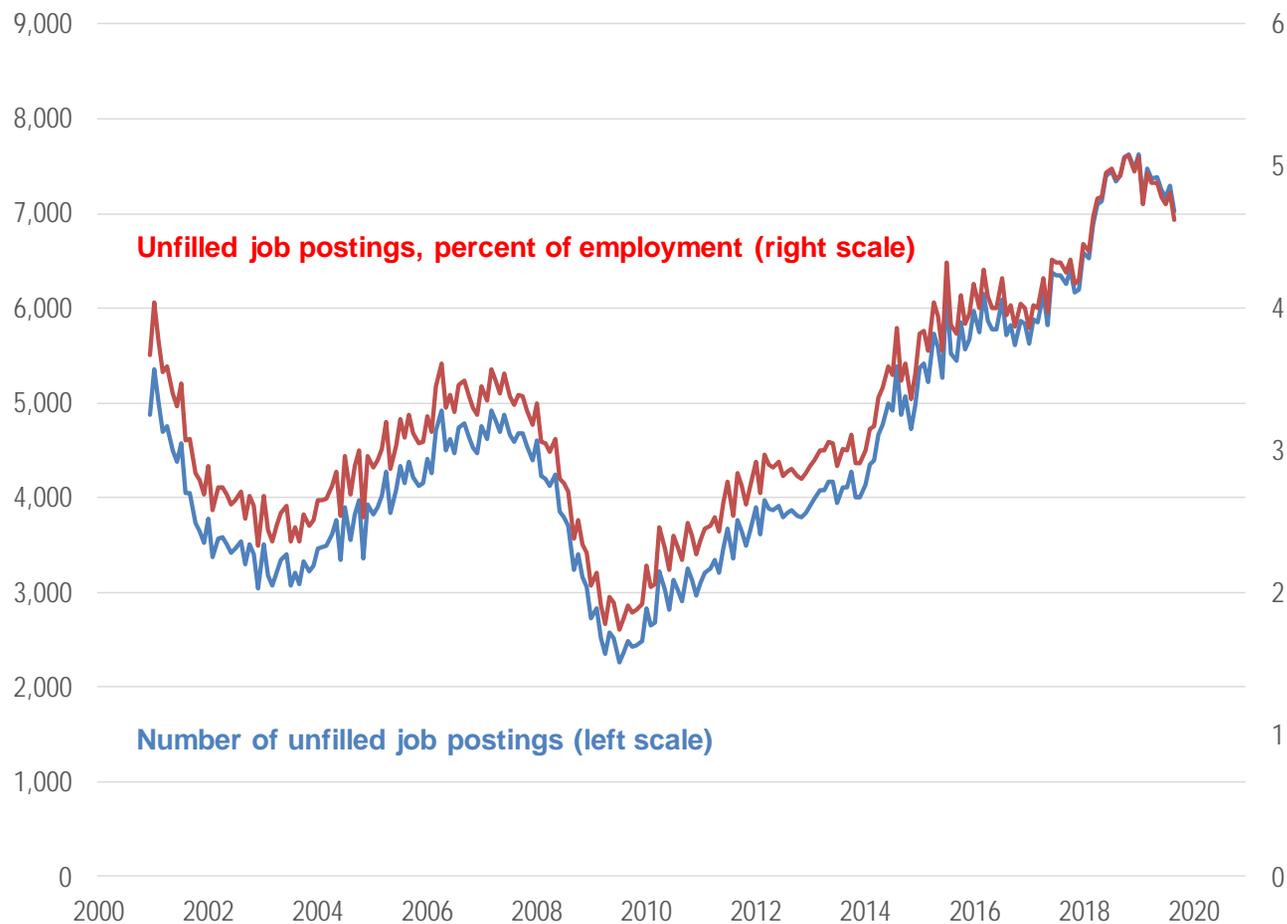


Sources: Haver Analytics; U.S. Department of Labor. Updated through November 2019.

In Time, Immigration Will Help ...

Unfilled job postings (thousands)

(percent of employment)

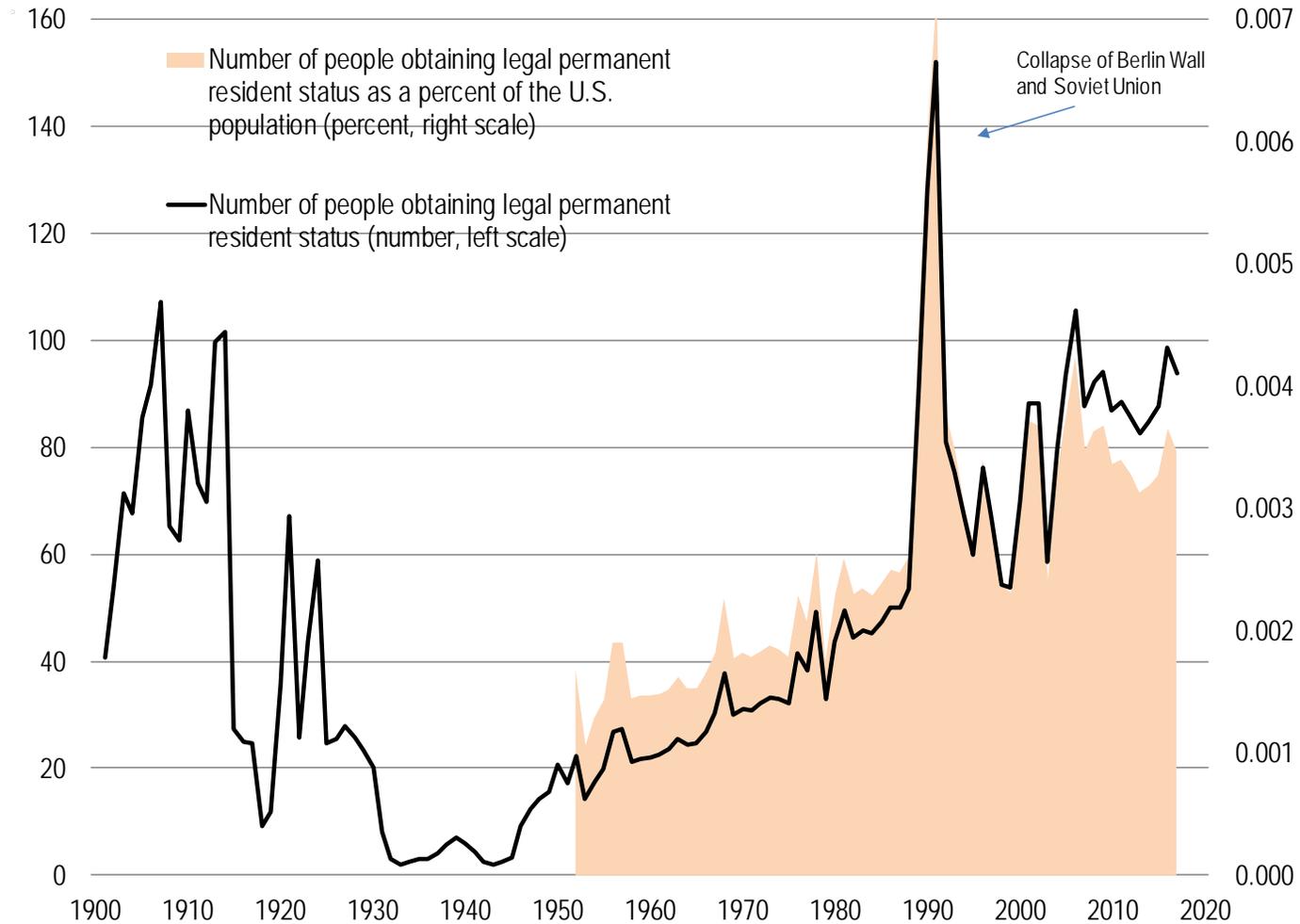


Sources: Haver Analytics; U.S. Department of Labor. Updated through September 2019.

... But Politics Is An Obstacle

Legal permanent status (thousands per month)

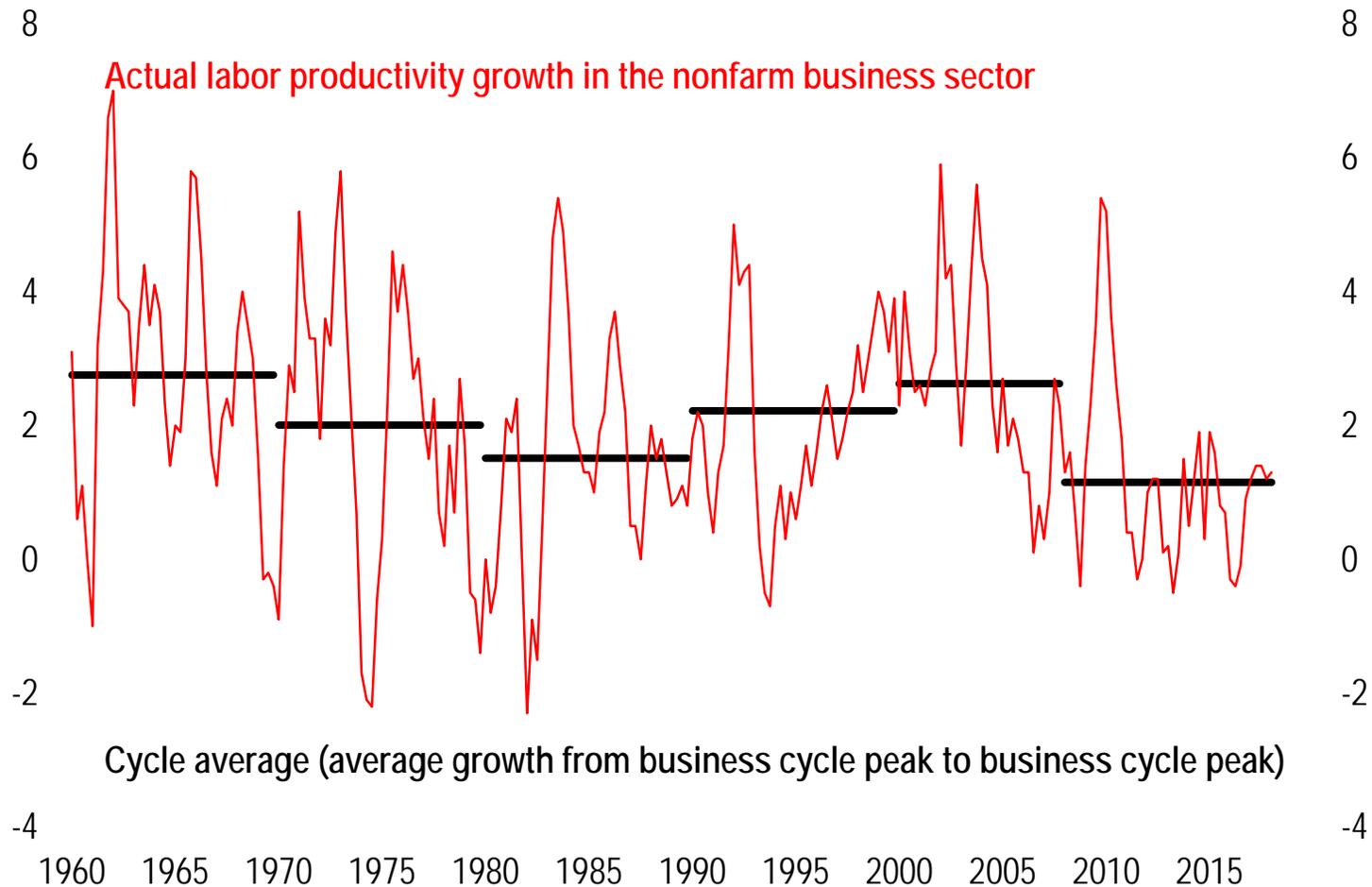
(percent of the population)



Sources: Haver Analytics; Wilshire; U.S. Department of Labor; Department of Homeland Security. Updated through 2017.

Productivity, ...

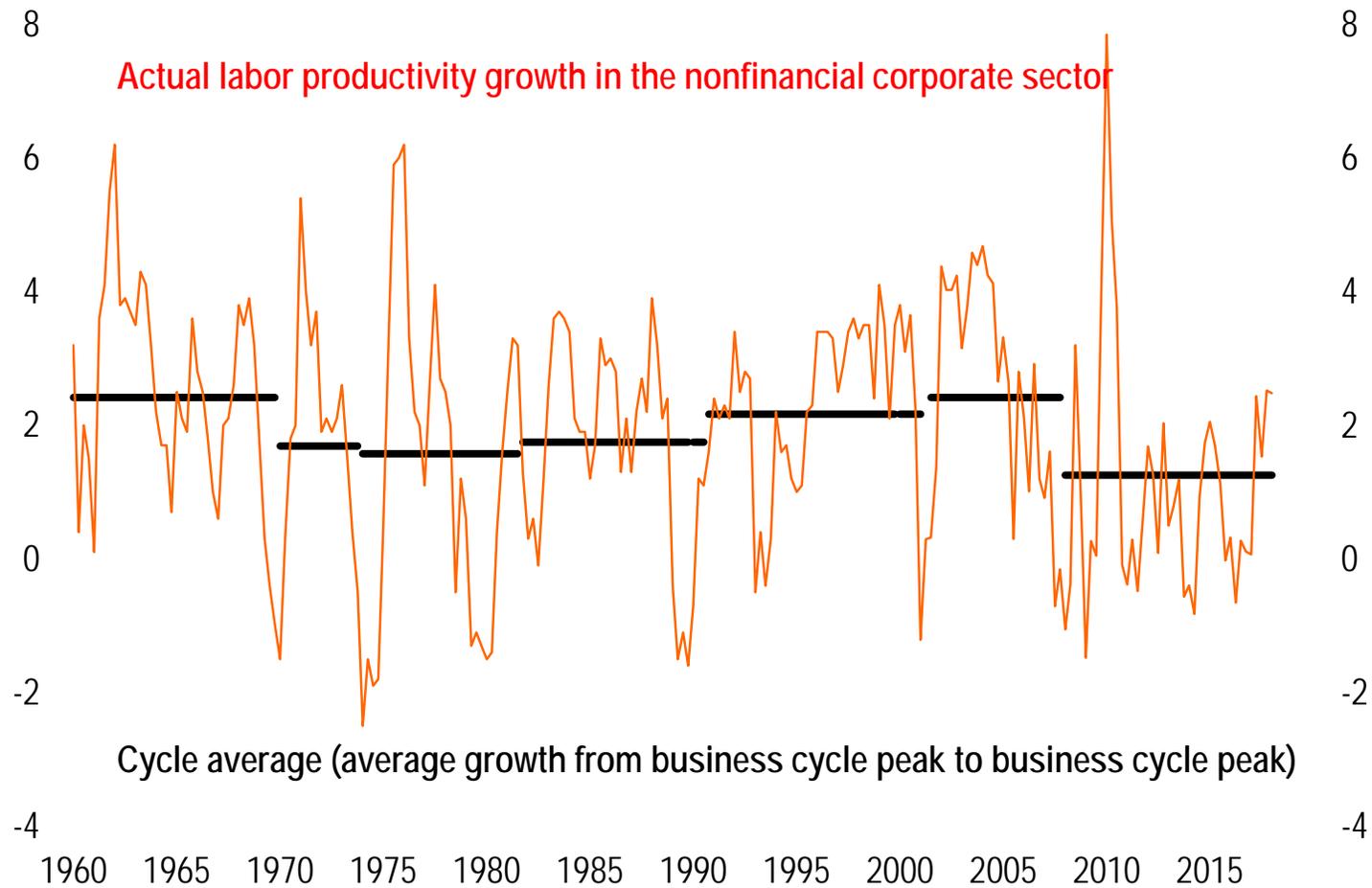
Nonfarm business labor productivity (annualized % change from 4 quarters earlier)



Sources: Haver Analytics; U.S. Department of Labor. Updated through 2018 Q2.

... Which Has Been Slow, ...

Nonfarm business labor productivity (annualized % change from 4 quarters earlier)

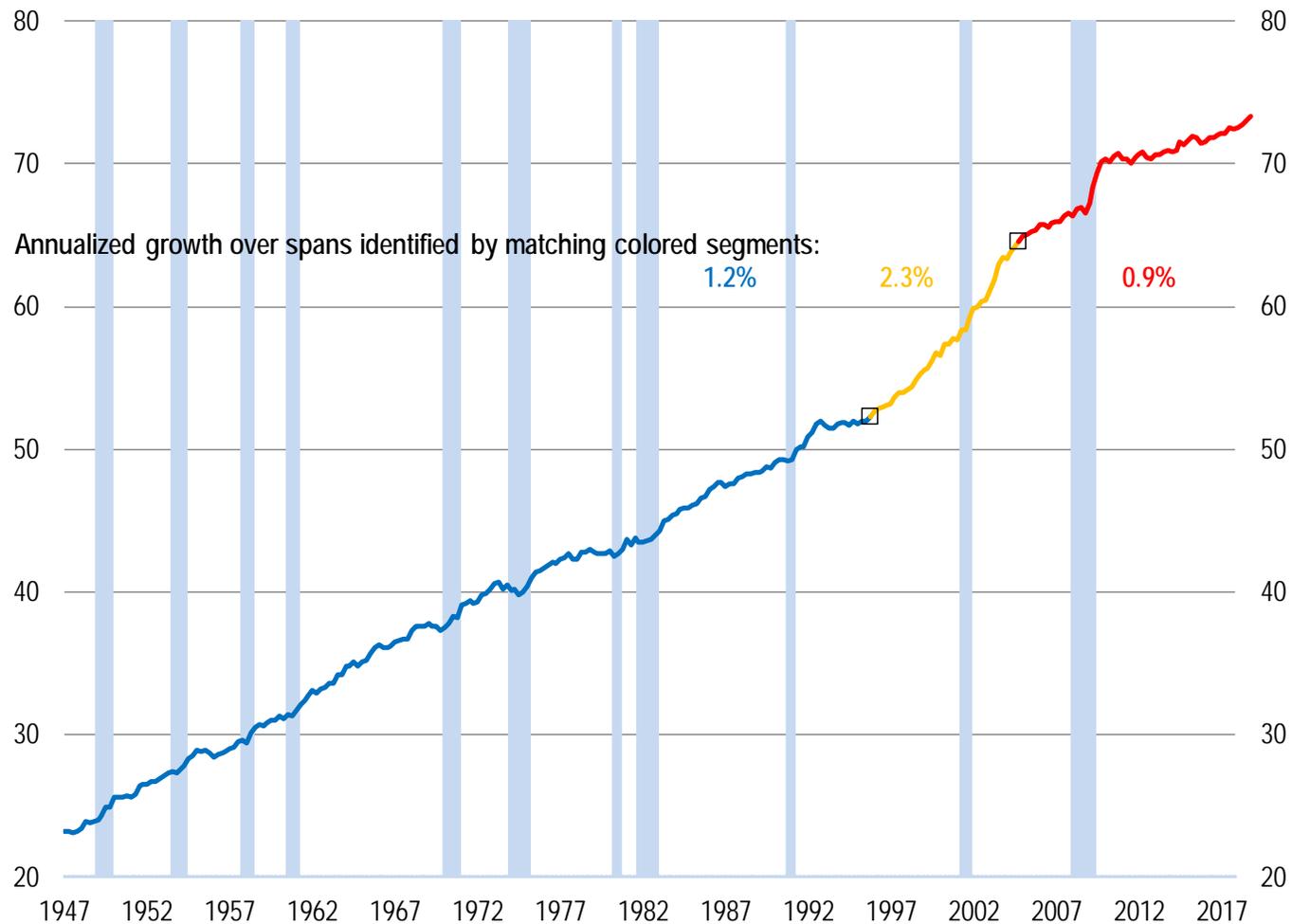


Sources: Haver Analytics; U.S. Department of Labor. Updated through 2018 Q2.

... Is Always a Wild Card

Real GDP per hour (\$ per hour)

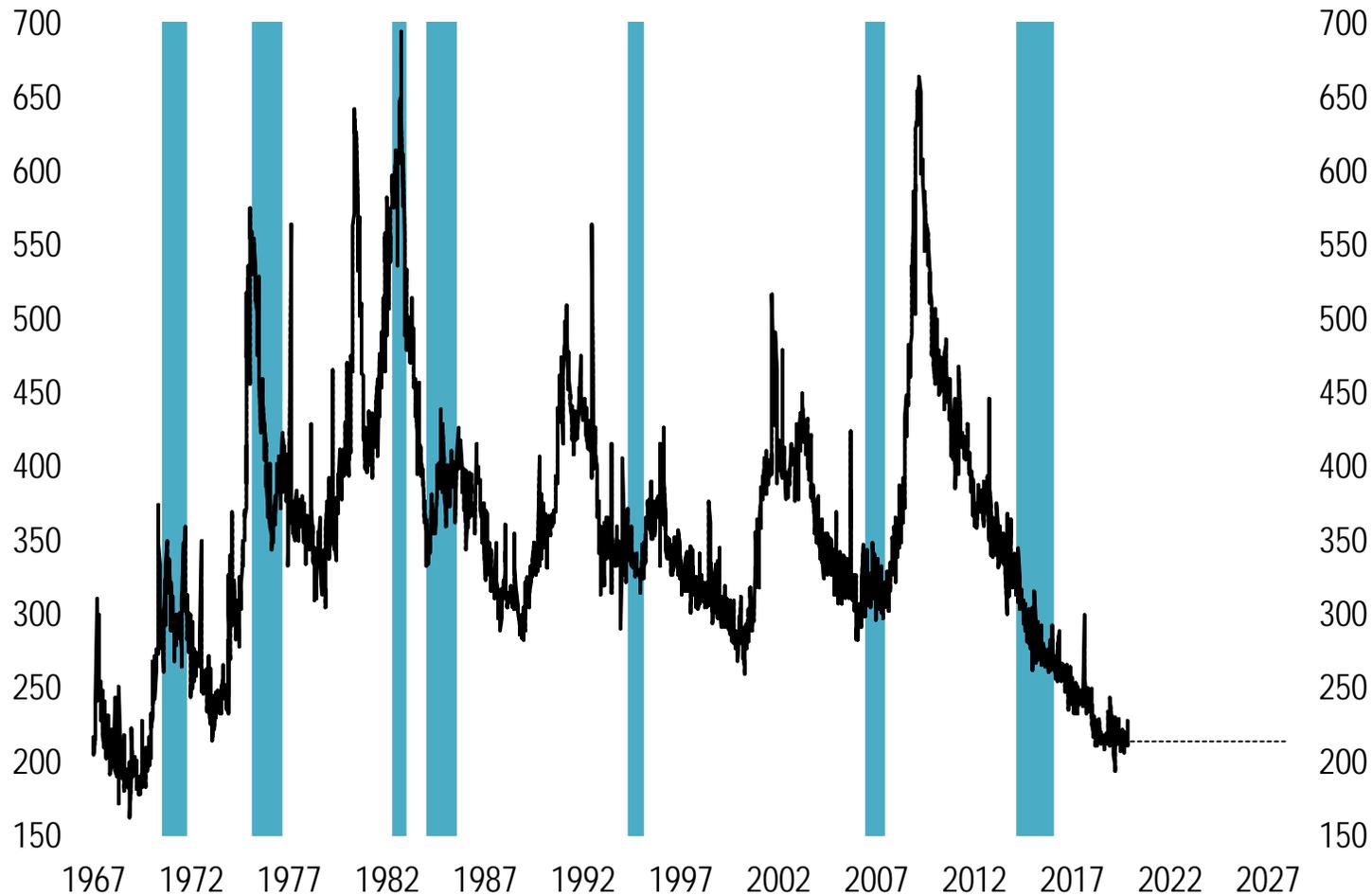
(annualized percent change)



Sources: Haver Analytics; U.S. Department of Labor; U.S. Department of Commerce. Updated through 2018 Q4.

Best Way to Tell If Growth Is OK ...

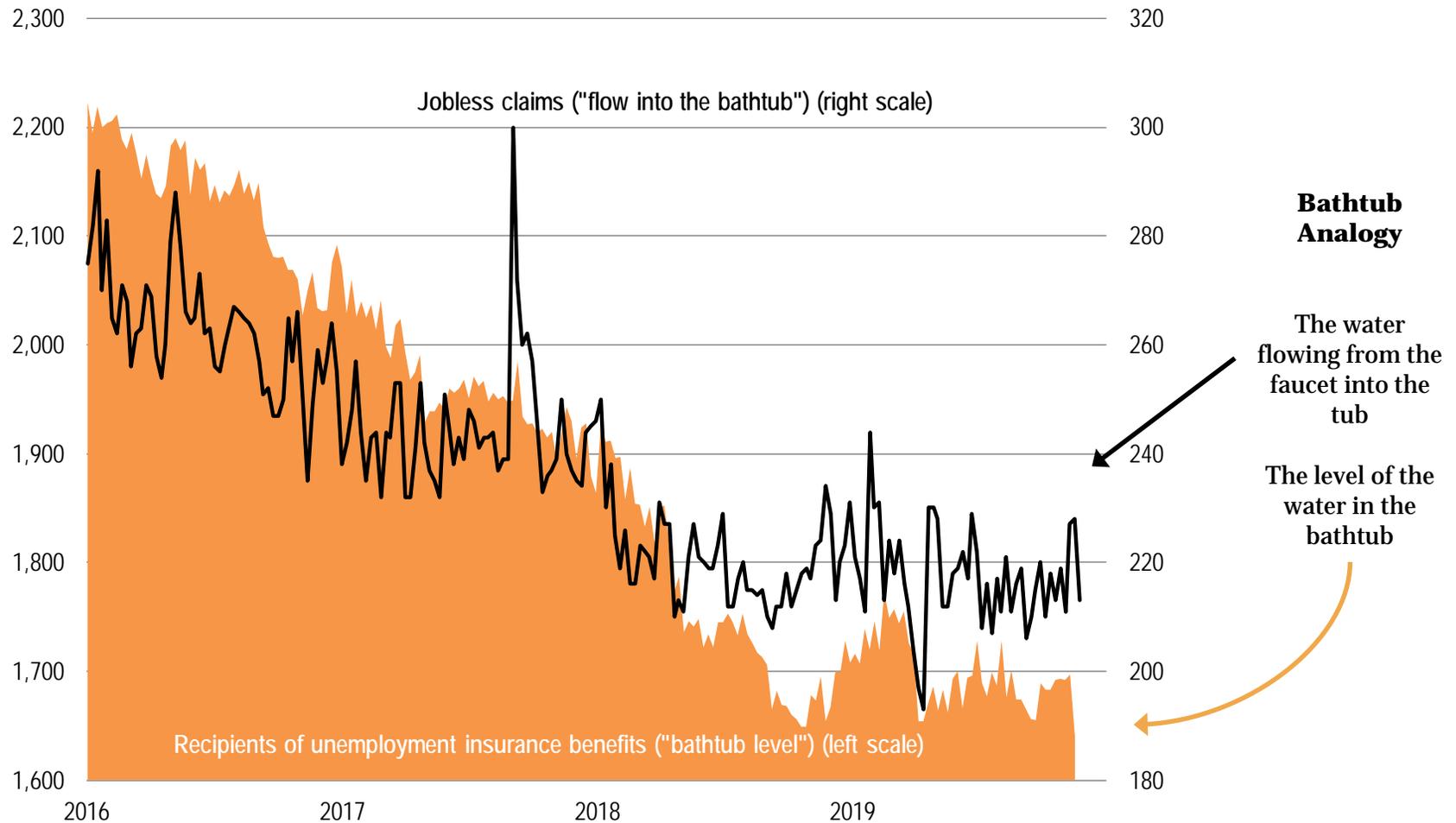
Initial applications for unemployment benefits (thousands, weekly)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 23, 2019.

... That and Its Cousin ...

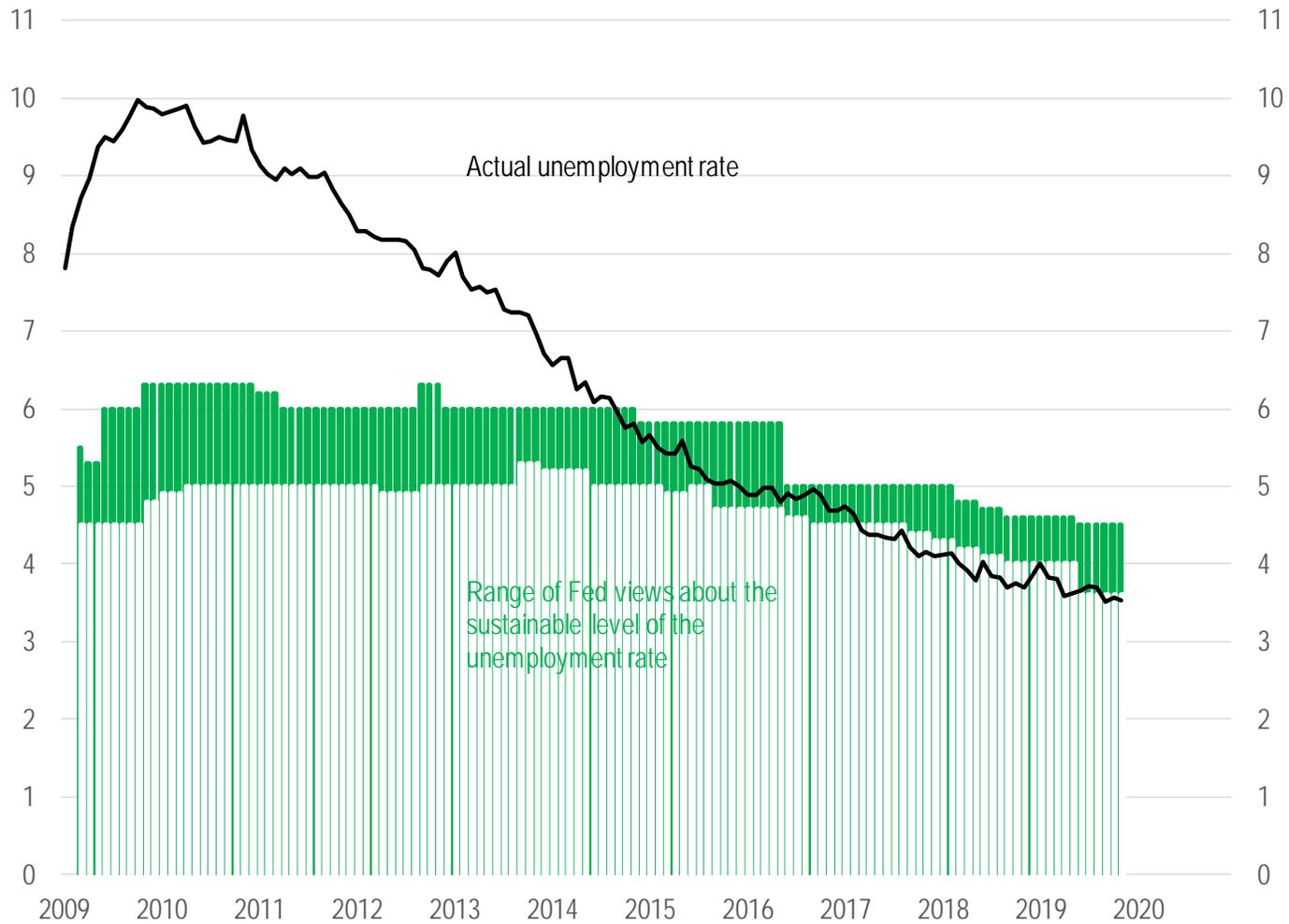
Claimants (number) Initial applications for unemployment benefits (thousands, weekly)



Sources: Haver Analytics; U.S. Department of Labor. Updated through November 16, 2019 (claimants) and November 23, 2019 (claims).

... and This One

Unemployment rate (% of the labor force)

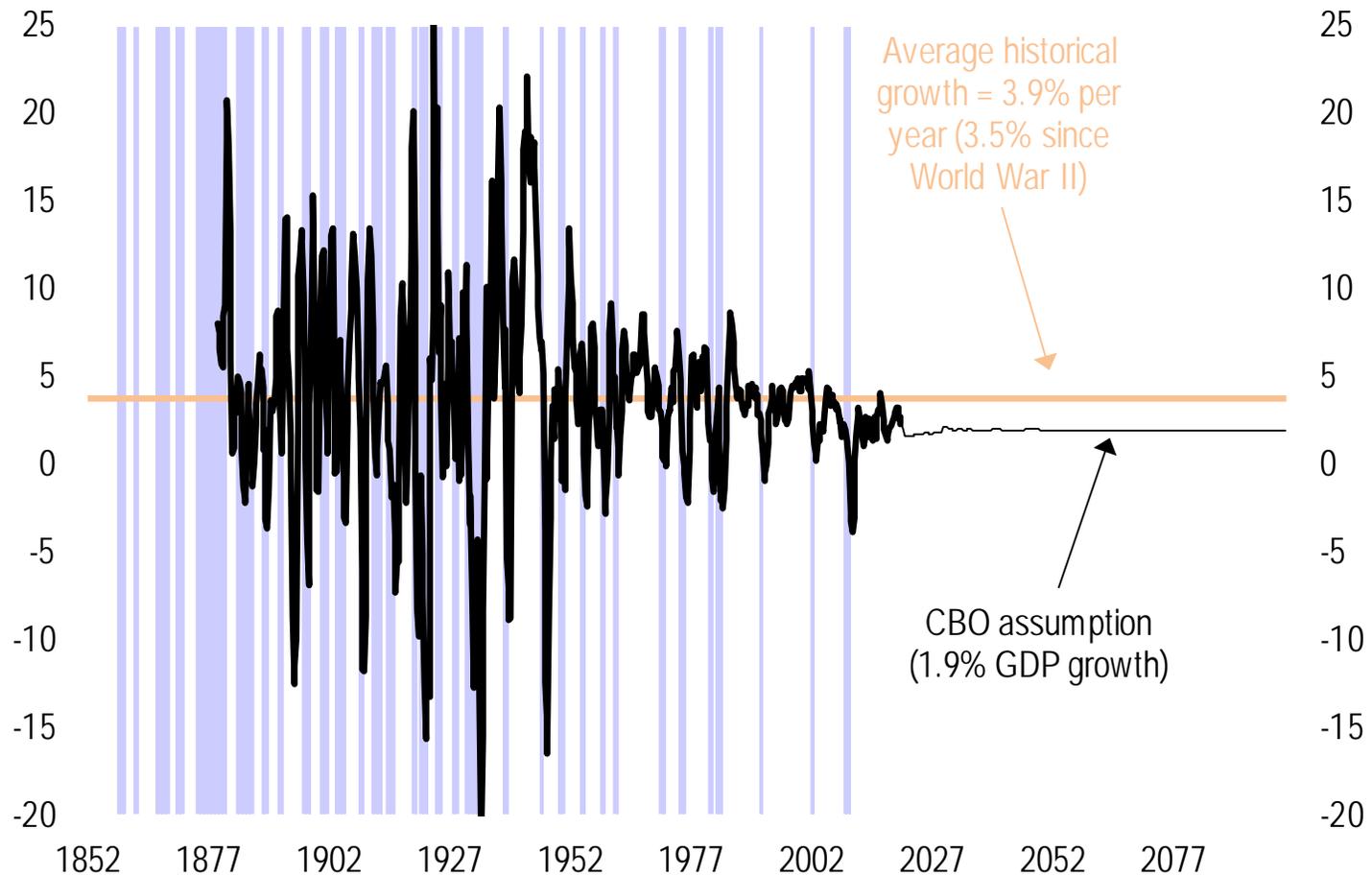


Sources: Haver Analytics; U.S. Department of Labor; Federal Reserve Board. Updated through November 2019 (unemployment) and September 18, 2019 (FOMC unemployment assumptions).

THE FEDERAL DEFICIT ISSUE WILL REMAIN A
THINK-ABOUT-IT-TOMORROW ISSUE

The Understand It, Follow the Growth

Real U.S. GDP growth (percent change from four quarters earlier)

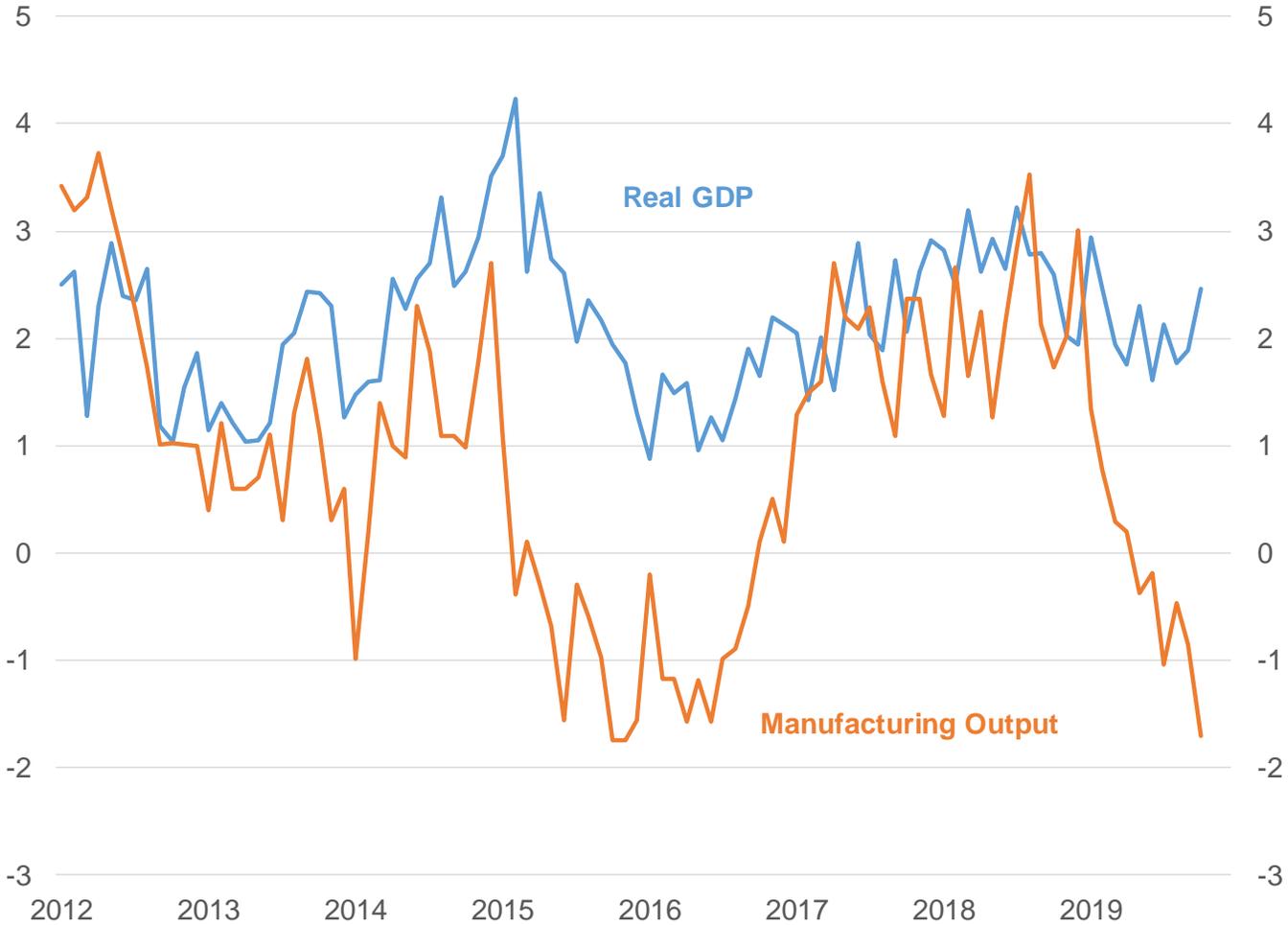


Sources: Haver Analytics; U.S. Department of Commerce; NBER Macroeconomic database. Updated through 2019 Q2.

OIL DEVELOPMENTS WILL SHAPE INDUSTRIAL TRENDS

The 2019 Industrial Stall ...

Real GDP and manufacturing output (percent change from 12 months earlier)

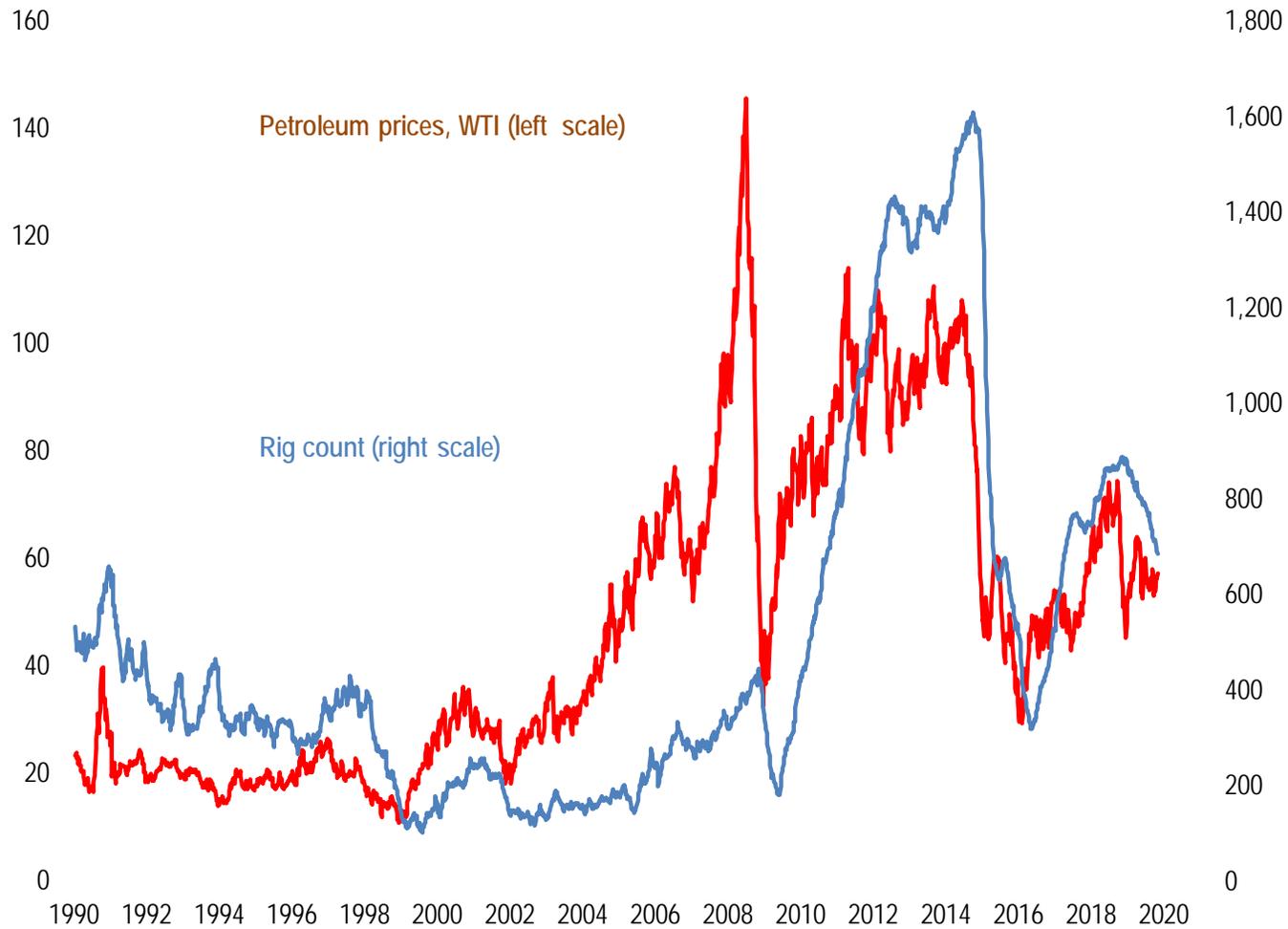


Sources: Haver Analytics; Macroeconomic Advisers; Federal Reserve Board. Updated through October 2019.

... Was Tied to Energy Chill ...

WTI (dollars per barrel)

Active rigs (number)

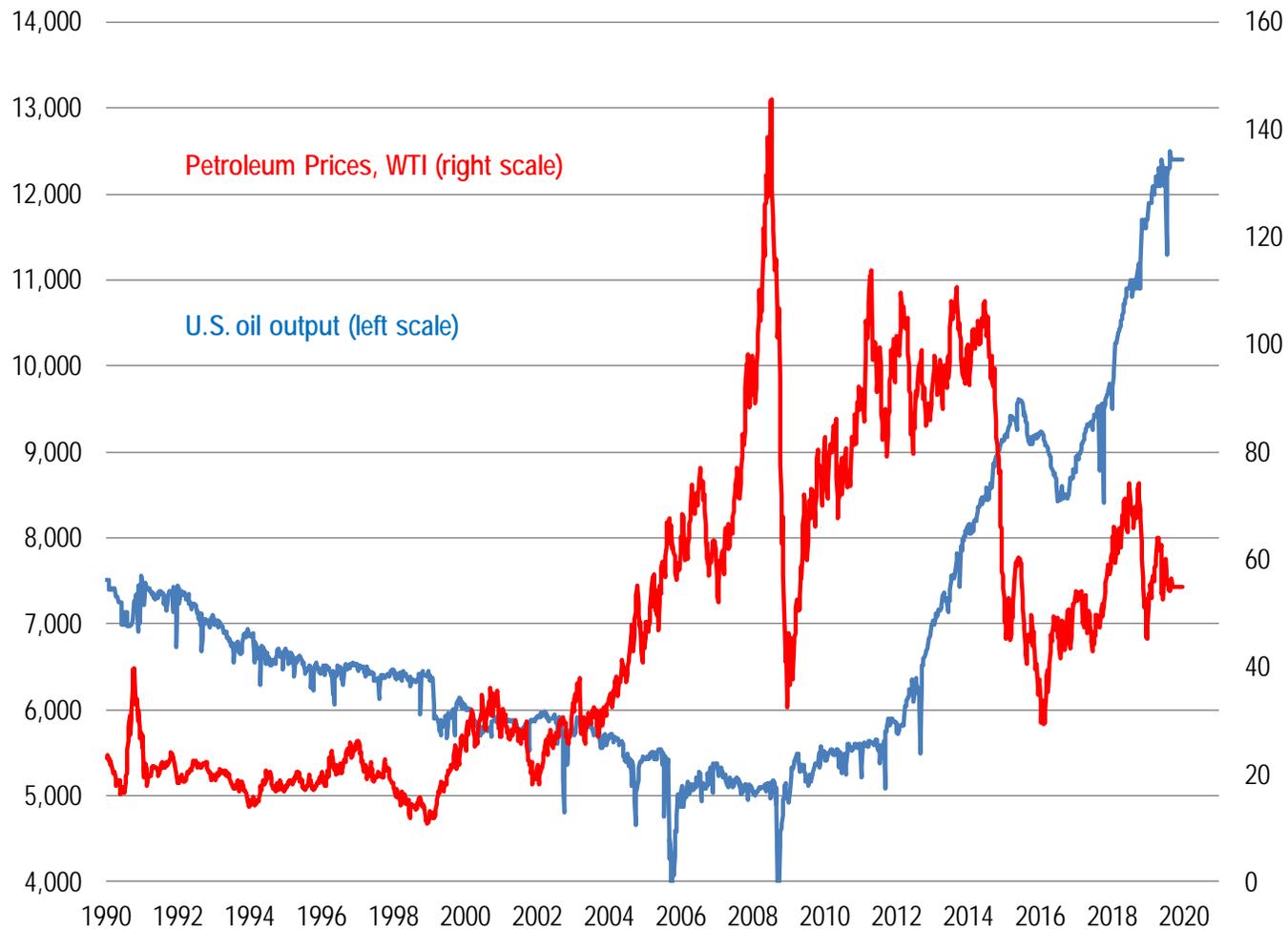


Sources: Haver Analytics; Energy Information Agency; Baker Hughes. Updated through November 29, 2019.

... And Oil Glut

U.S. oil output (thousands of barrels daily)

WTI (dollars per barrel)

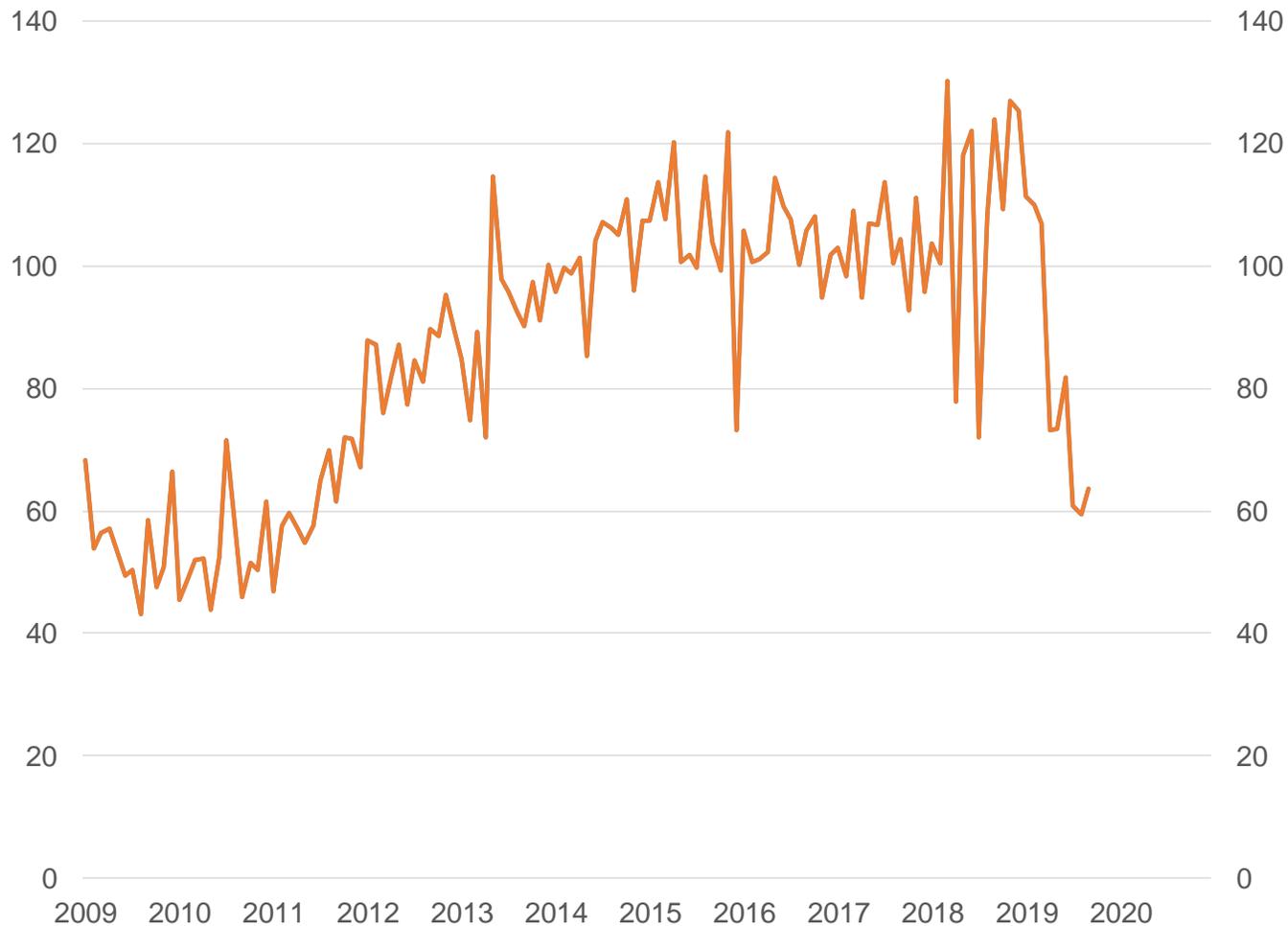


Sources: Haver Analytics; Energy Information Agency. Updated through August 16, 2019.

BOEING'S 737 MAX 8 (AND ITS ECONOMIC VORTICES) WILL TAKE TO THE SKIES

Boeing's Grounded 737 Max 8 Cuts Output

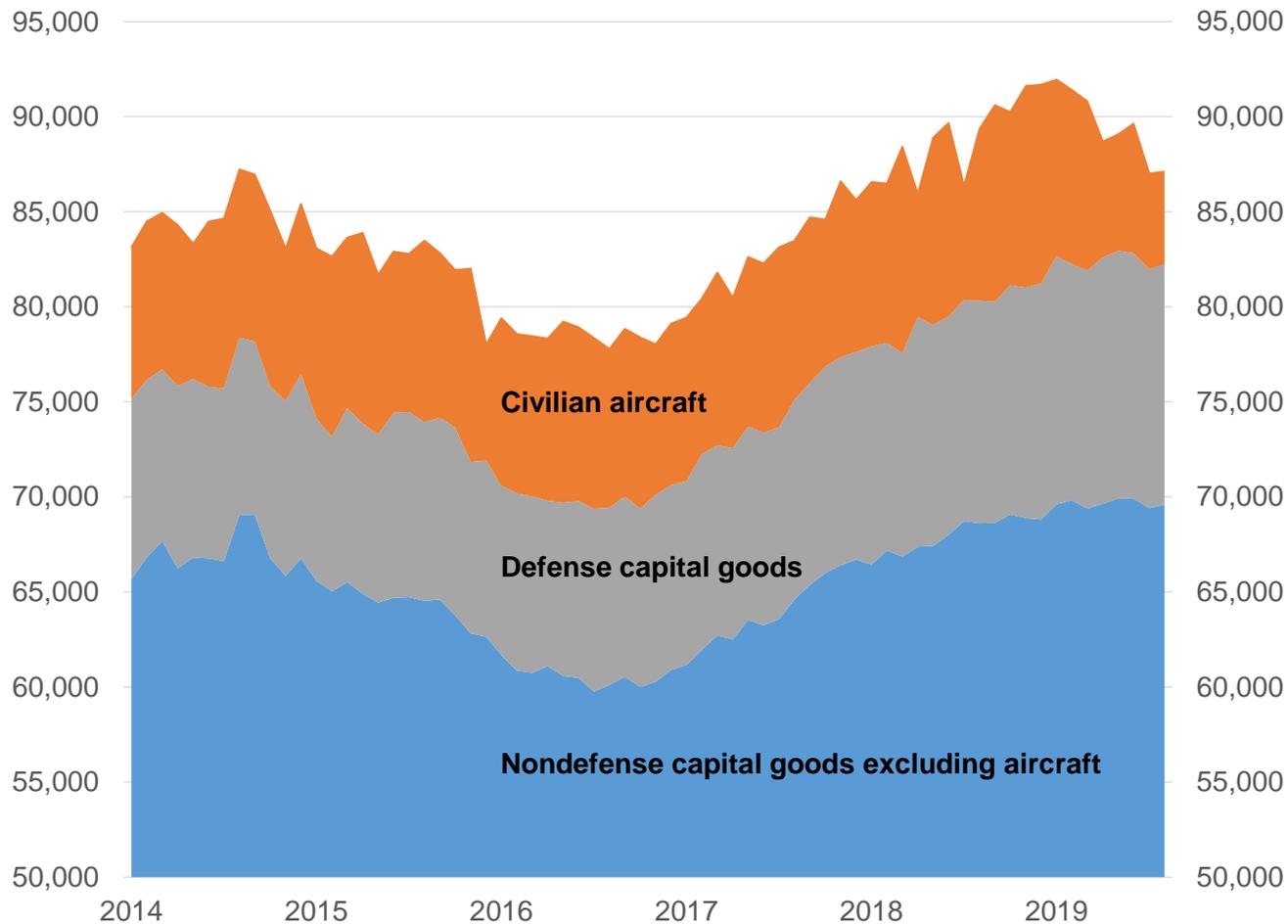
Shipments of nondefense capital goods (billions of dollars annualized)



Sources: Haver Analytics; Census. Updated through October 2019.

Aircraft Activity Chills Cap Ex Shipments ...

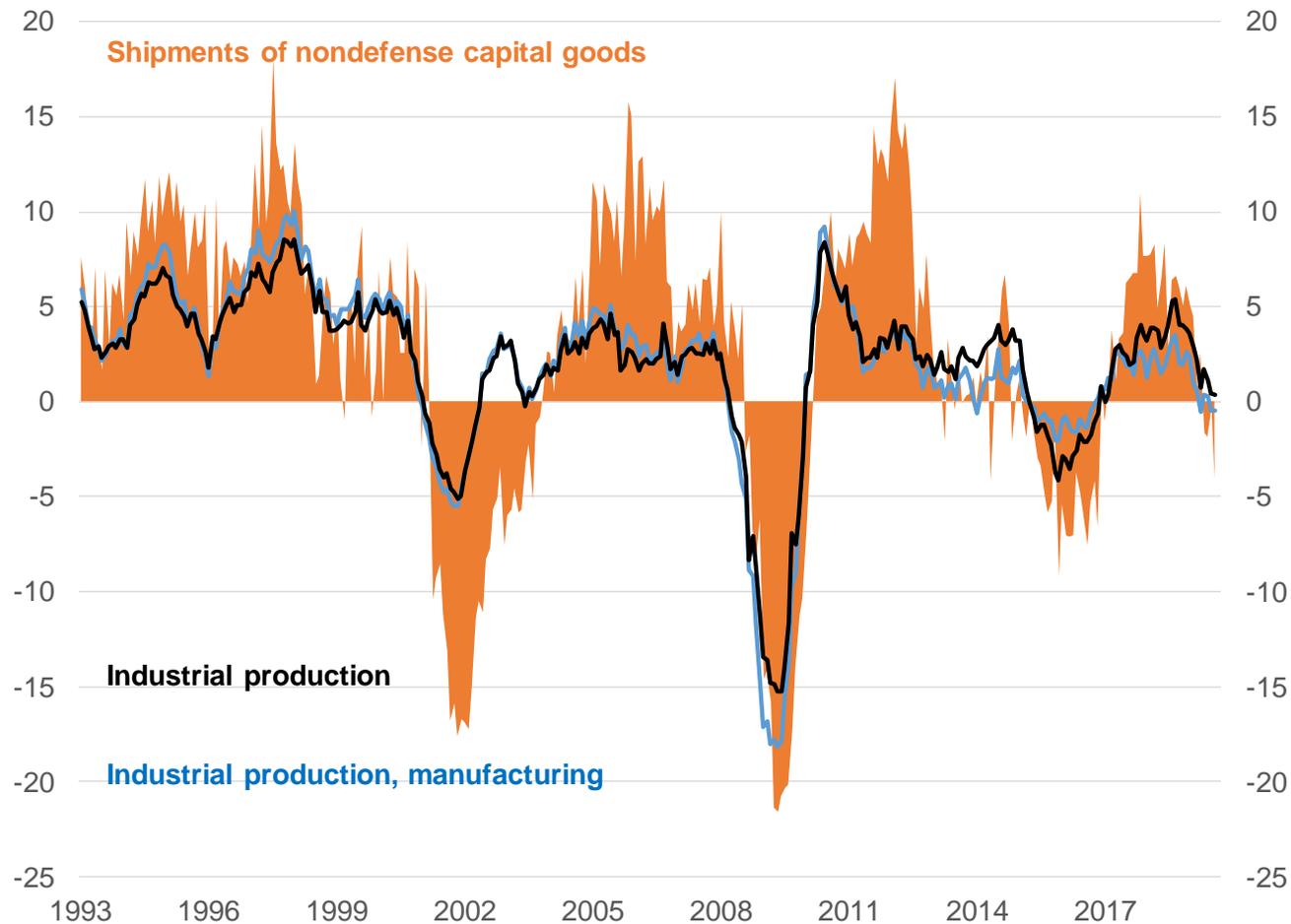
Shipments of nondefense capital goods (billions of dollars annualized)



Sources: Haver Analytics; Census. Updated through July 2019.

... Which Drive Industrial Production

Shipments of nondefense capital goods (billions of dollars annualized)



Sources: Haver Analytics; Census. Updated through July 2019.

Planes Parked on Tarmacs Aren't Cap Ex ...

Business investment details (annual percent change over the period shown)

	2014	2015	2016	2017	2018	2019Q3	2020	relative importance (%)	contribution to total in 2019 swing (pct pts)
Business Investment	6.9	-0.9	2.4	5.4	5.9	0.1		100.0	-5.8
Structures	9.3	-10.9	4.3	1.5	2.6	-7.8		21.2	-2.2
Commercial & health care	13.8	5.6	21.8	-2.3	-2.7	-6.7		6.3	-0.3
Manufacturing	29.4	10.8	-7.7	-14.9	-2.1	-1.2		2.4	0.0
Power & Communications Facilities	-16.2	9.1	10.6	-11.4	1.1	-2.7		4.0	-0.2
Mining Activity	16.3	-46.8	-22.9	46.8	14.4	-16.0		4.2	-1.3
Memo: Baker Hughes rig count (# at quarter end)	1,911	755	586	921	1,072	848			
Other	12.5	2.7	9.0	0.5	2.8	-8.6		4.3	-0.5
Equipment	5.6	1.9	-1.4	8.5	5.0	-1.1		43.1	-2.6
Information processing	6.4	7.0	5.0	12.0	5.7	2.7		14.2	-0.4
Co Computers and other equipment	-0.1	-2.4	2.1	9.1	7.8	0.5		4.0	-0.3
Otl Other	9.3	10.9	6.2	13.2	4.8	3.5		10.3	-0.1
Industrial	4.3	1.1	-0.3	8.0	3.5	1.7		9.0	-0.2
Transportation	9.4	7.5	-8.8	1.4	7.3	-7.8		10.3	-1.6
Memoranda:									
Value of transportation equipment (\$ billion)	282.3	306.3	283.6	288.7	311.0	295.8		303.7	
Boeing 737 Max 8 deliveries (\$ billion) ¹	9.25			9.3	32.0	0.0	<u>78</u>		
Other	1.7	-10.3	-2.2	12.6	3.0	-1.3		9.6	-0.4
Intellectual Property Products	6.9	2.9	6.6	4.0	9.3	7.0		35.7	-0.8
Software	6.8	4.6	8.8	8.1	11.6	9.5		14.6	-0.3
R&D	7.2	1.6	5.5	1.2	8.1	5.9		17.8	-0.4
Entertainment, literary, artistic	6.3	2.6	3.5	2.0	5.7	2.0		3.3	-0.1

¹ Delivered 57 Max 8s from January through mid-April, worth \$7.1 billion.

Sources: Haver Analytics; Macroeconomic Advisers; Federal Reserve Board. Updated through August 2019.

... Nor Are they Exported

U.S. goods exports
(billions of chained 2012 dollars, both scales)

Civilian aircraft exports



Sources: Haver Analytics; Macroeconomic Advisors; Federal Reserve Board. Updated through August 2019.

USMCA COMES ABOARD

Remaining USMCA Hurdles

Several issues are holding up passage of the U.S. Mexico Canada Agreement and time is running out to reach a deal this year.

(1) House Speaker Nancy Pelosi is pushing to strip out sweeping legal protections for online content in the new trade pact with Mexico and Canada, in what would be a blow for big technology companies. Internet firms lobbied hard to include the immunity language in the trade agreement, seeing it as a way to extend to Mexico and Canada the broad umbrella of legal protection they enjoy in the U.S. But the trade-pact language also could make it harder for Congress to withdraw the current federal online protections for internet firms in the future, some lawmakers fear. That is causing second thoughts about including the legal shield—regarded by tech firms as a pillar of the internet—in a trade pact.

(2) Mexico opposes labor inspections at Mexican factories, a key demand of U.S. Democratic lawmakers. Both sides are close to reaching a compromise on this issue that does not violate Mexico's sovereignty.

(3) The U.S. wants to remove a provision guaranteeing 10 years of data protection for biologic drugs (favored by Democrats and Mexico).

USMCA Versus Nafta

Nafta

Mexico's hourly wages for parts are \$3.41 and for assembly \$7.34, compared with \$20 hourly for Canada and the US

USMCA

30% of vehicle production by workers earning \$16 hourly

Steel and Aluminum Tariffs

Steel and aluminum tariffs rescinded subject to oversight guidelines

Rules of Origin

Zero tariffs for autos if 62.5% of components are made in the North American market

Zero tariffs for autos if 75% of components are made in the North American market

70% of steel and aluminum in cars come from the North American market

Access to Canada's Dairy Market

US farm exports to Canada rise by \$560 million, up to 3½% of Canada's \$16 billion industry

USMCA Versus Nafta (continued)

Nafta

USMCA

Dispute Resolution

No change in the dispute resolution process

Sunset Clause

No automatic sunset clause or predetermined ending to the agreement

Anyone can withdraw with six months' notice. USMCA is meant to last for only 16 years but after 6 years, members will get together to fix any problems.

Protection of Intellectual Property

Intellectual property rules stiffened for the first time, stopping suspected counterfeit or pirating of goods

USMCA Versus Nafta (continued)

Nafta

USMCA

Section 31.10 provision in the landmark trade deal requires any USMCA country to give 3 months' notice to the other two countries before it begins negotiating a free trade deal with any "non-market country." If any of the members opposes that agreement, they are permitted to give notice to withdraw from the USMCA.

Gary Clyde Hufbauer, a senior fellow at the Peterson Institute for International Economics in Washington, says "It puts a cloud over the ability of Mexico and Canada to negotiate with China and other 'non-market countries.'"

TARIFFS WILL DRIFT TO THE BACK PAGES ...
HOPEFULLY

Consumers Haven't Seen Tariffs ...

Core chain price index for PCE excluding food and energy (% change from 12 months earlier)



Sources: Haver Analytics; U.S. Department of Commerce. Updated through October 2019.

... Because China Chose to Devalue

Price of mfg imports from China (% ch vs 12 mn earlier) ¥/US\$ fx rate (% ch vs April 2018)



Sources: Haver Analytics; Federal Reserve Board; U.S. Department of Labor. Updated through October 2019 (prices) and December 6 2019 (Yuan).

Counterbalancing Offsets

Tariffs

2018

25% on \$50 billion

\$12.5 billion

10% on \$200 billion

\$20.0 billion

May 10, 2019

15% additional on \$200 billion

\$30.0 billion

Yuan devaluation

12% depreciation (¥6.25/\$ in early 2018 to ¥6.90/\$ now)

Goods imports from China \$525 billion

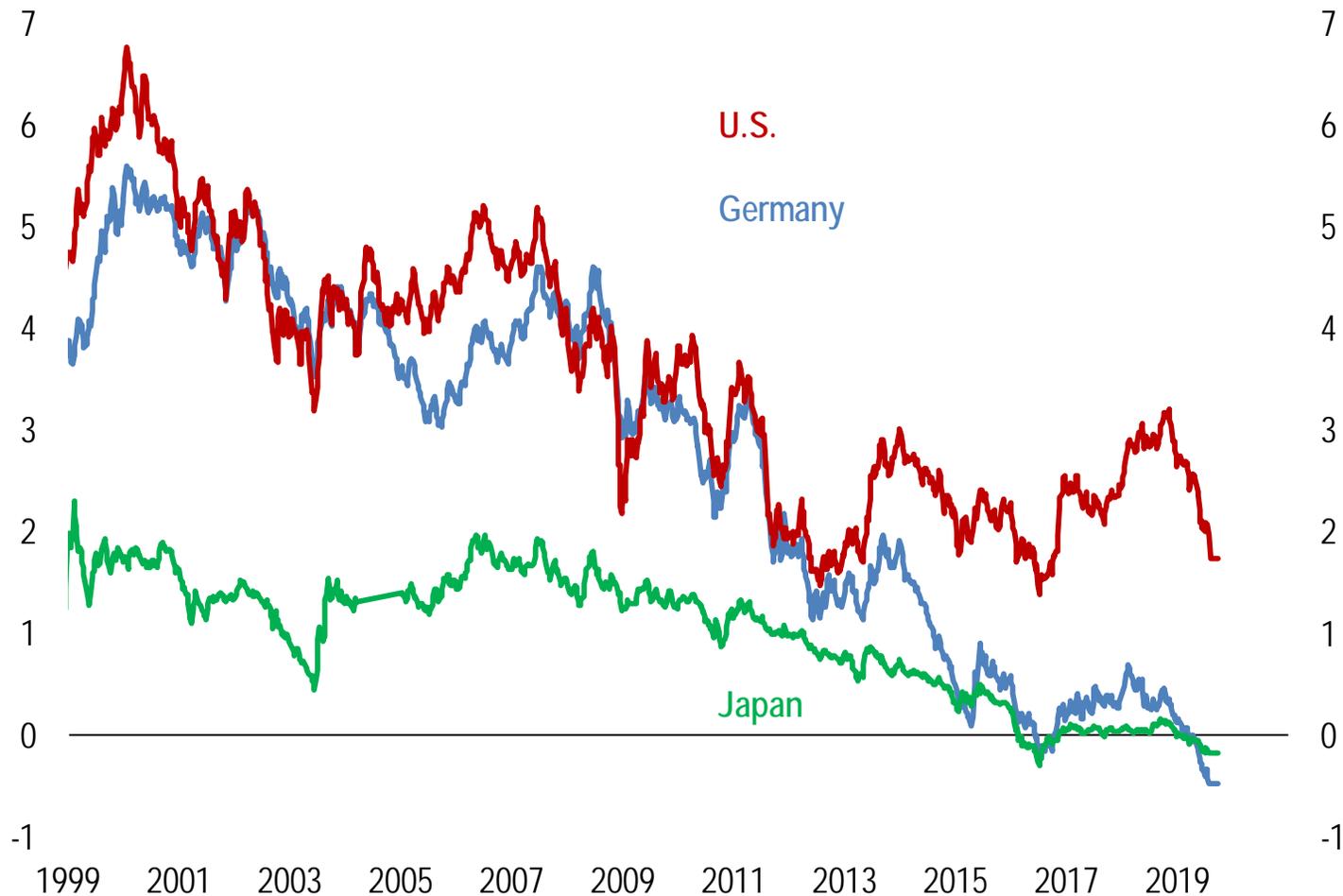
Mark-to-market reduction in dollar cost of merchandise

-\$65.6 billion

BOND YIELDS WILL EMERGE FROM CONVALESCENCE

QE Elsewhere Came Ashore in 2014

Selected 10-year sovereign yields (percent)



Sources: Haver Analytics; Federal Reserve Board; Bank of Japan; European Central Bank. Updated through February 4, 2019.

Decoupling Bonds from Economic Reality

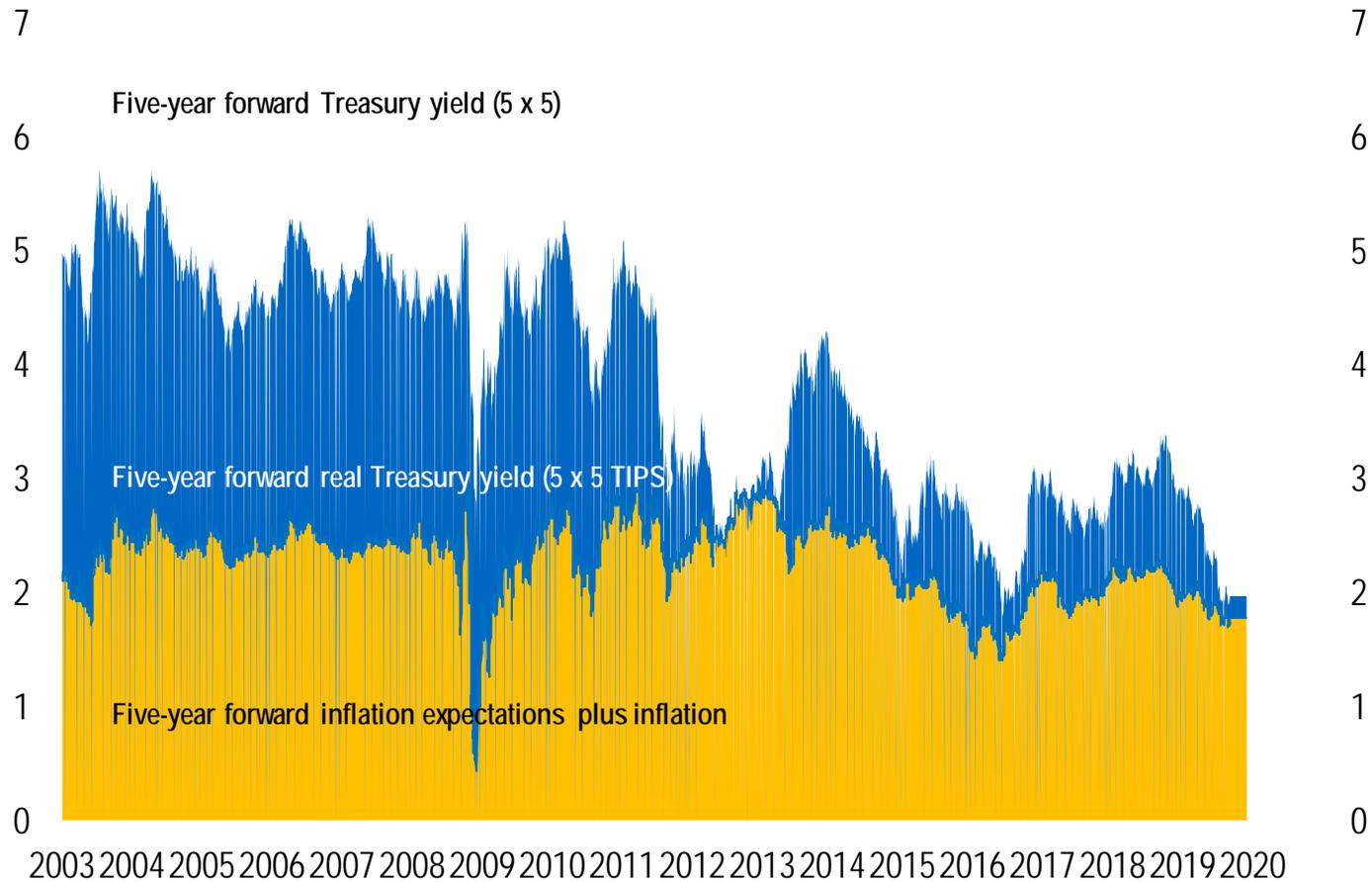
2- and 10-year Treasury yields (percent per annum)



Sources: Haver Analytics; Federal Reserve Board. Updated through October 11, 2019.

QE Distorts Real Sovereign Yields ...

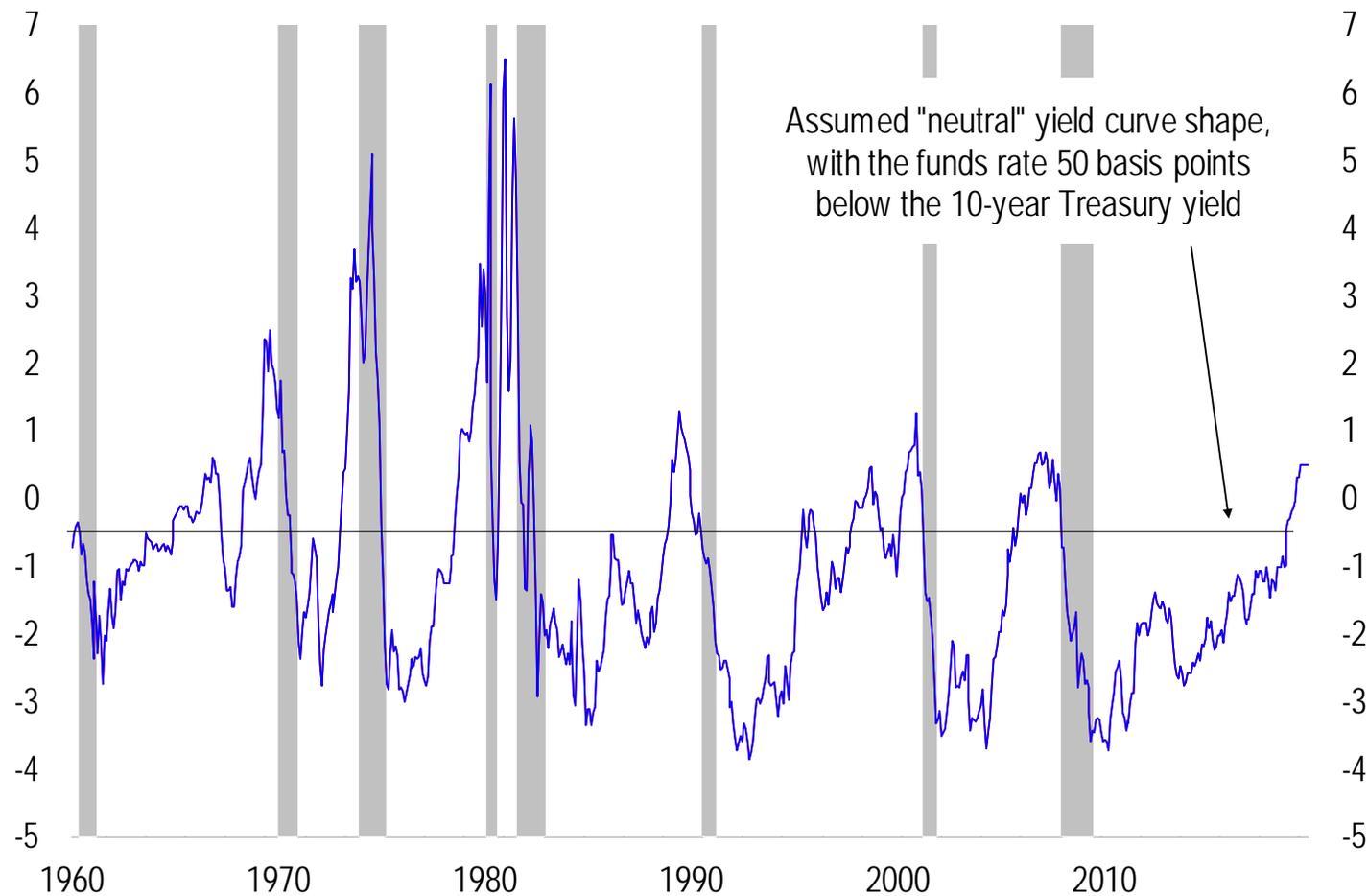
Selected components of 10-year Treasury yield (percentage points)



Sources: Haver Analytics; Federal Reserve Board. Updated through October 11, 2019.

... and Messes With the Yield Curve

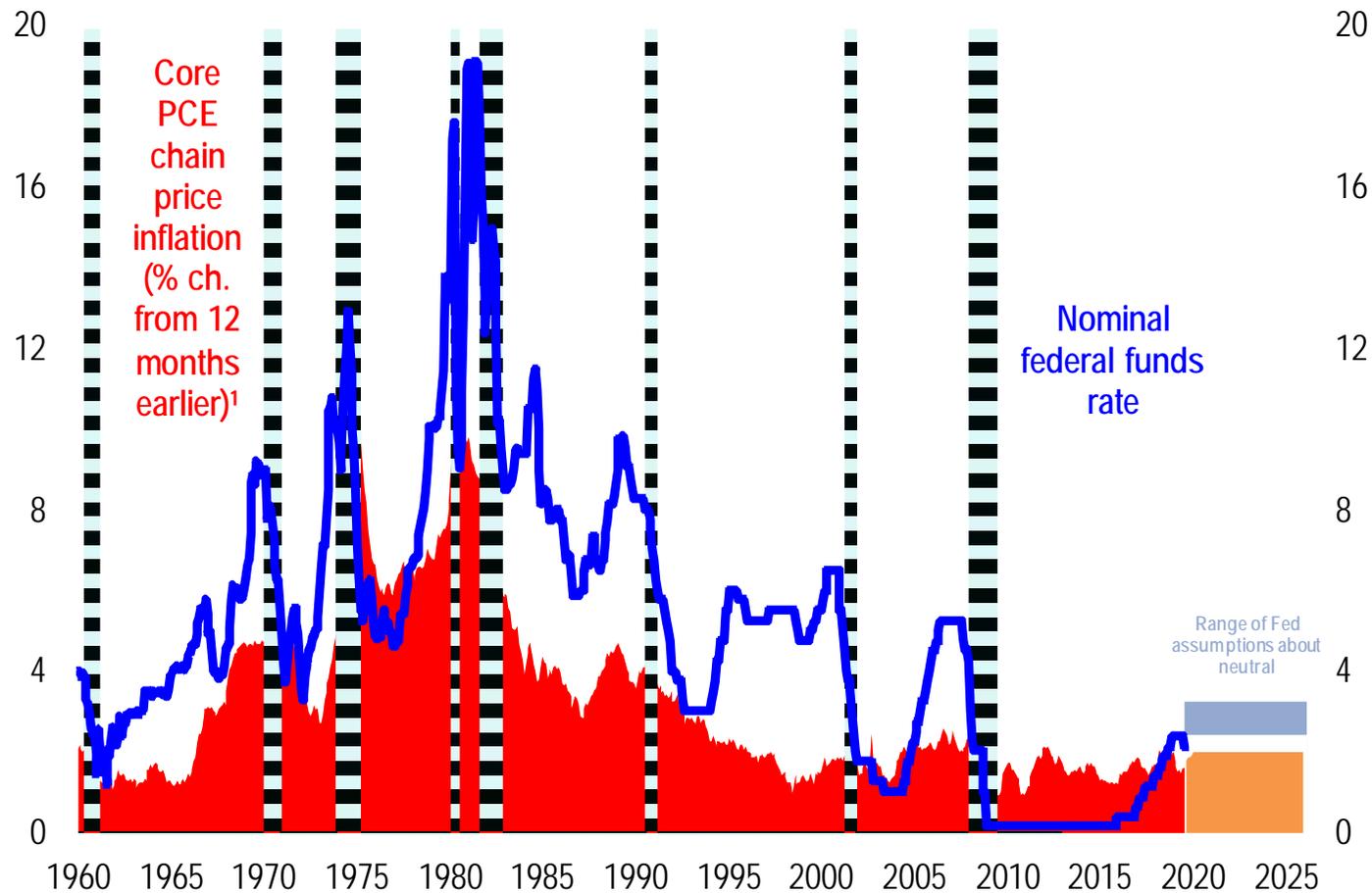
Selected 10-year sovereign yields (percent)



Sources: Haver Analytics; NBER-designated recession bars; Federal Reserve Board. Updated through September 6, 2019.

Real Policy Rates Know the Real Deal

Nominal federal funds rate and core inflation (percent)

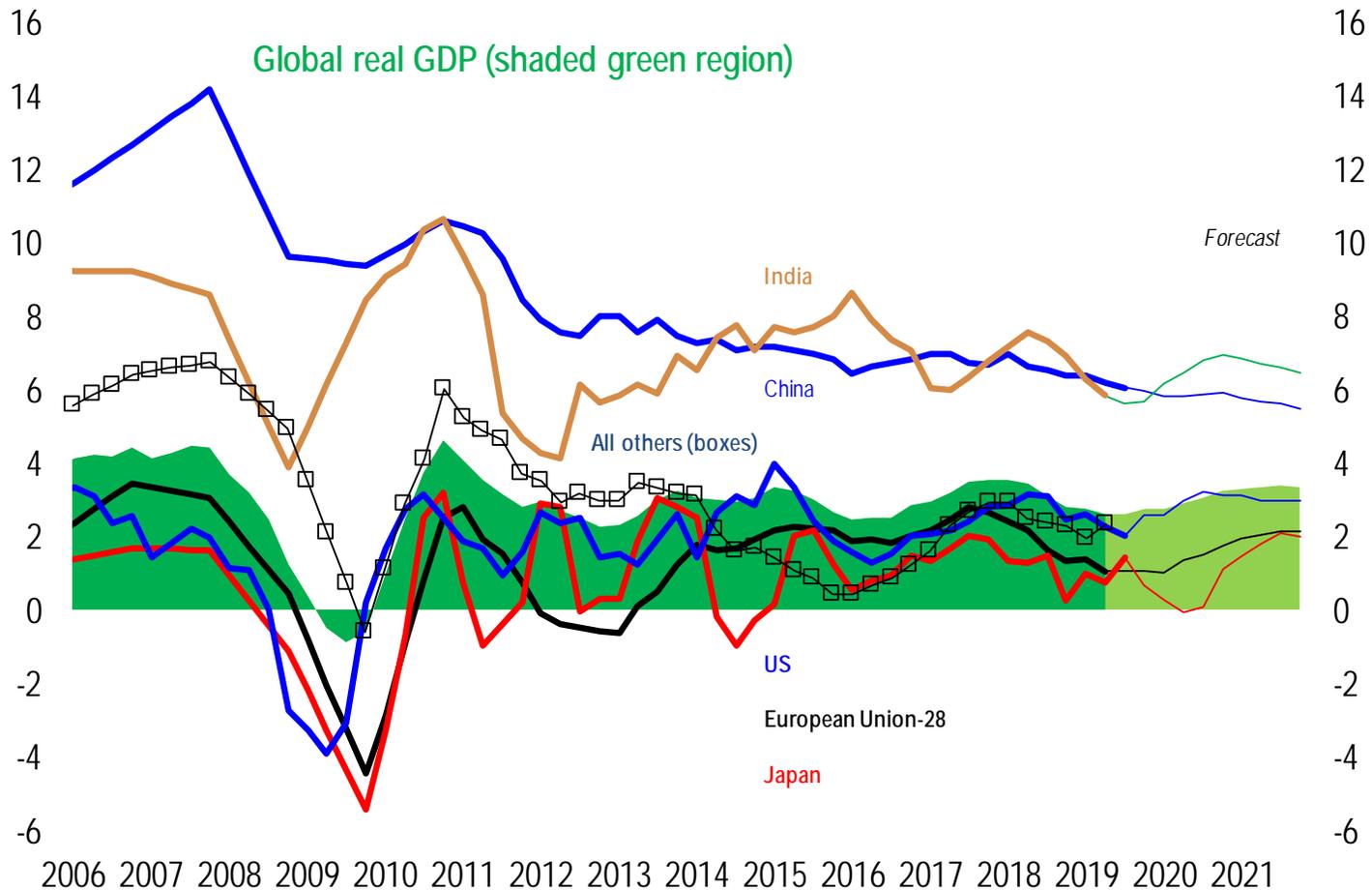


¹ The inflation metrics that the Federal Reserve Board uses to communicate its policies.

Sources: Haver Analytics; U.S. Department of Commerce; Federal Reserve Board. Updated through July 2019 (inflation) and September 6, 2018 (federal funds rate).

Global Growth May be Soft ...

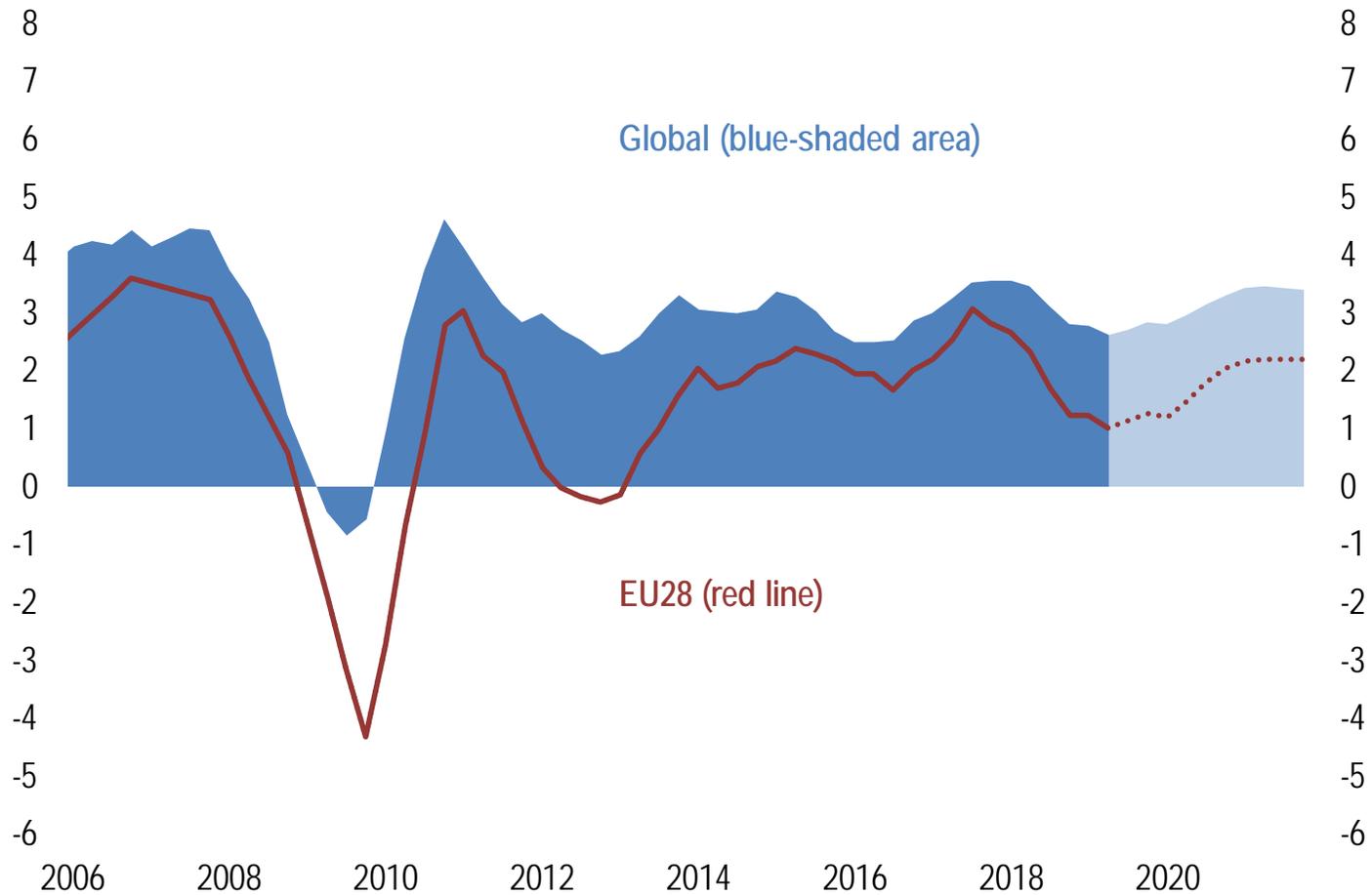
Real GDP in selected regions (percent change from four quarters earlier)



Sources: Haver Analytics; OECD; World Bank; IMF; CIA; U.S. Department of Commerce; J.P. Morgan. Updated through 2019 Q3.

... and the EU-28 Profiles That ...

Real GDP (percent change from four quarters earlier)

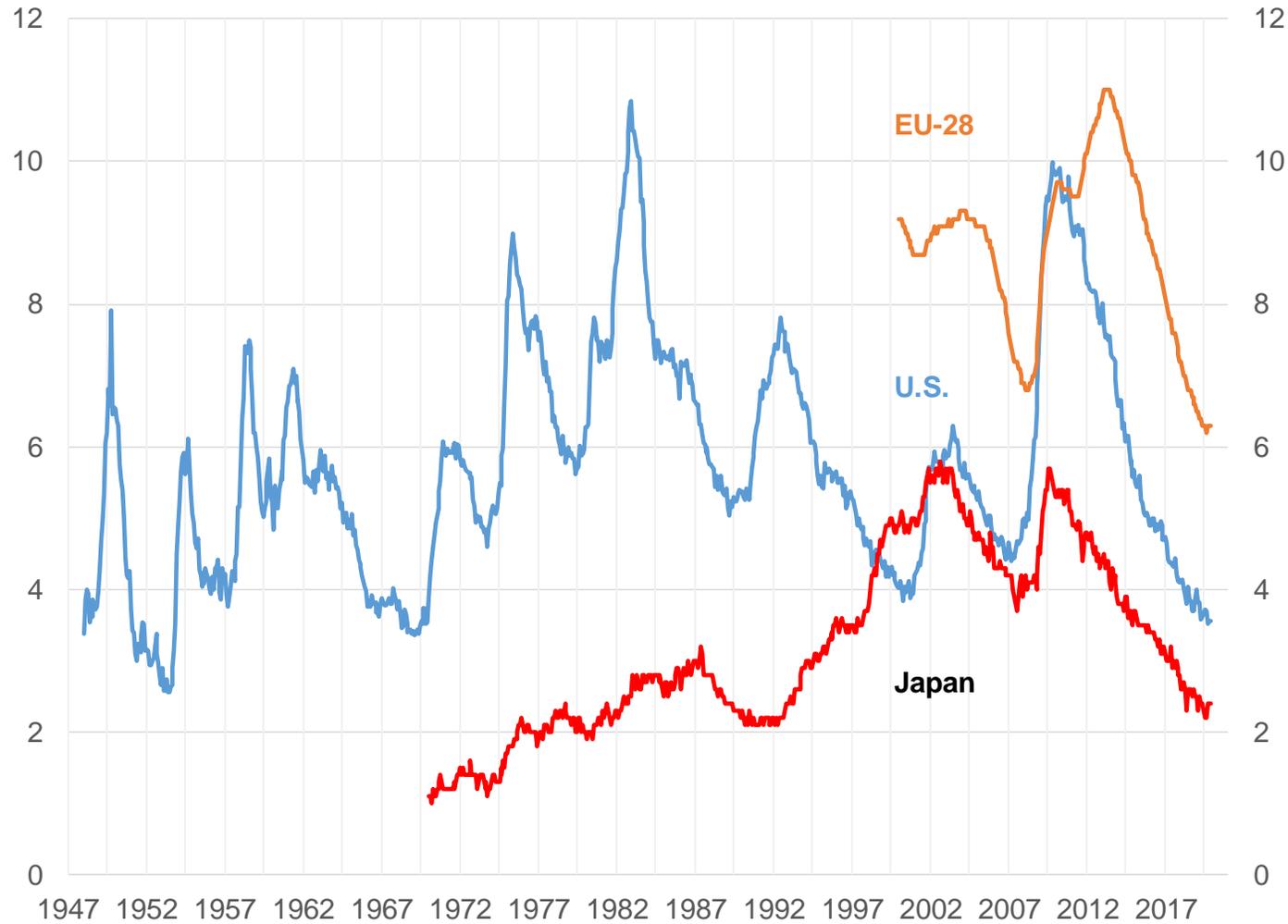


Note: Global real GDP is constant 2016 dollars (not PPP basis).

Source: Haver Analytics; U.S. Department of Commerce, World Bank, IMF, CIA. Updated through 2019 Q2.

... But Job Markets Aren't ... Soft

Unemployment rate (percent of the labor force)

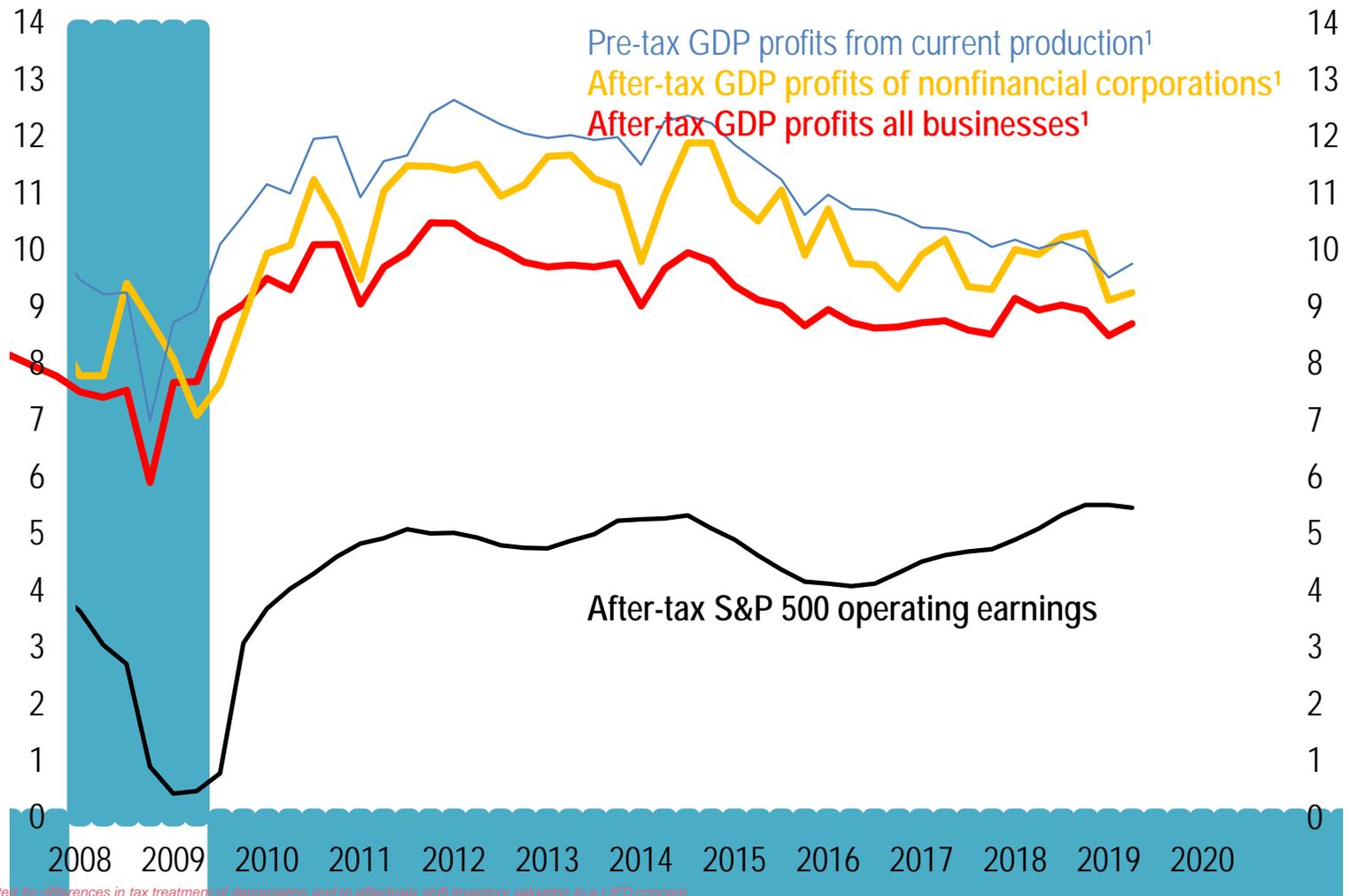


Sources: Haver Analytics; U.S. Department of Labor; International Statistical Agencies. Updated through September 2019 (Europe and Japan) and November 2019 (U.S.).

PROFIT MARGINS LIKELY TO REMAIN IN HIGH EARTH ORBIT

Some Drags on Profit Margins Will Lift ...

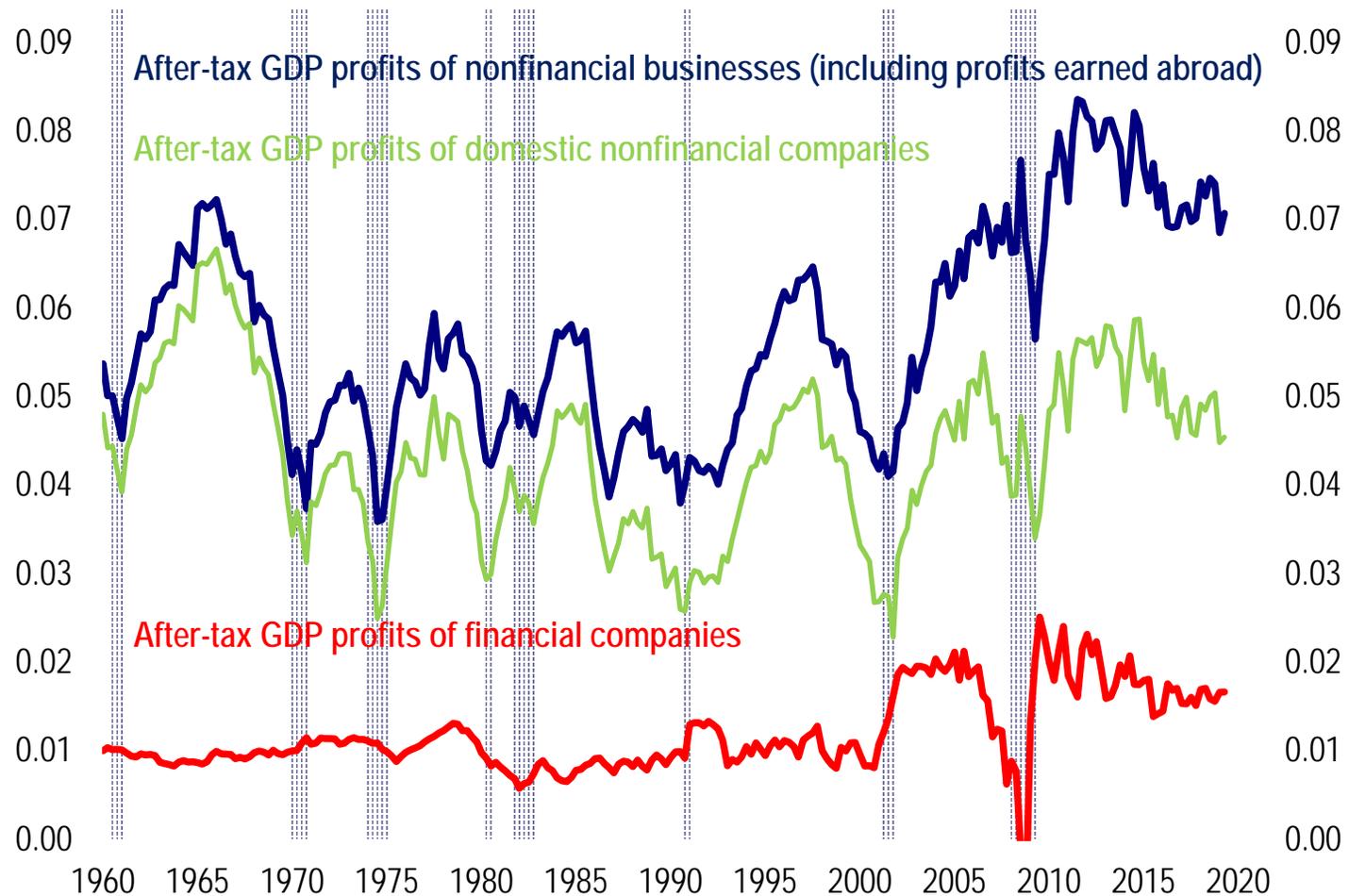
Profits (share of GDI)



¹ Economic profits are adjusted for differences in tax treatment of depreciation and to effectively shift inventory valuation to a LIFO concept.
Sources: Haver Analytics; NBER-designated recession bars; U.S. Department of Commerce; Standard & Poor's. Updated through 2019 Q2.

... Keeping Them On Unprecedented Turf

Profits (share of GDI)

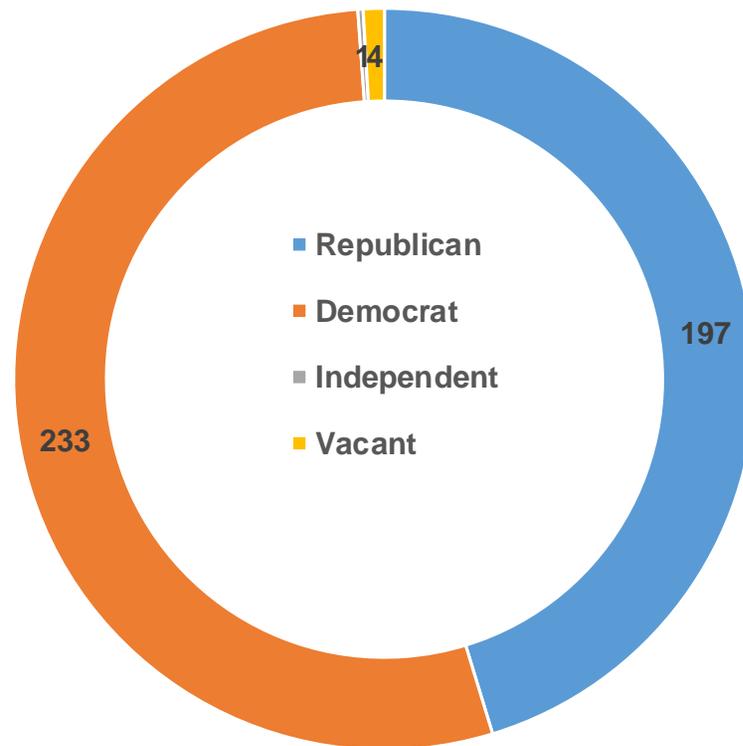


¹ Economic profits are adjusted for differences in tax treatment of depreciation and to effectively shift inventory valuation to a LIFO concept.
Sources: Haver Analytics; NBER-designated recession bars; U.S. Department of Commerce; Standard & Poor's. Updated through 2019 Q2.

THE 2020 PRESIDENTIAL ELECTION LIKELY TO STAY OUT OF THE ECONOMIC STADIUM

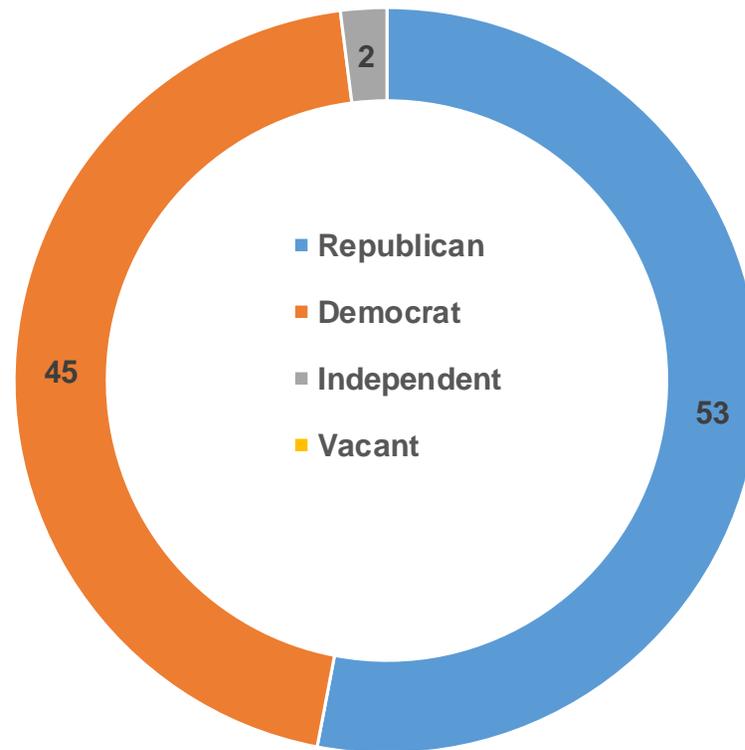
Divided, We Stand ...

U.S. House of Representatives



... It's the Beauty of Democracy. And, ...

U.S. Senate



'One Swallow Does Not a Summer Make'

CONCLUSION

The 2020 Outlook, Long Story Short ...



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