HHM
WEALTH ADVISORS, LLC

November 2020

Point of View – Economy – Markets

Important Information

The views and opinions expressed are those of the speaker and are subject to change based on factors such as market and economic conditions. These views and opinions are not an offer to buy a particular security and should not be relied upon as investment advice. Past performance cannot guarantee comparable future results.

Important Information

Performance quoted is past performance and cannot guarantee comparable future results; current performance may be higher or lower.

Results shown assume the reinvestment of dividends.

An investment cannot be made directly in an index.

Investments with higher return potential carry greater risk for loss.

Investing in small companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

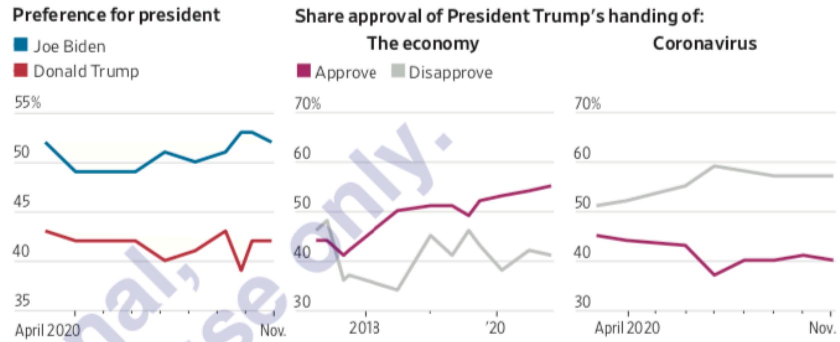
Foreign securities have additional risks, including exchange rate changes, political and economic upheaval, the relative lack of information about these companies, relatively low market liquidity and the potential lack of strict financial and accounting controls and standards.

Investing in emerging markets involves greater risk than investing in more established markets such as risks relating to the relatively smaller size and lesser liquidity of these markets, high inflation rates, adverse political developments and lack of timely information.

Fluctuations in the price of gold and precious metals often dramatically affect the profitability of the companies in the gold and precious metals sector. Changes in political or economic climate for the two largest gold producers, South Africa and the former Soviet Union, may have a direct effect on the price of gold worldwide.

Day before election poll

Biden Leads Trump By 10 Points in Poll



Source: WSJ/NBC News telephone polls, most recently of 1,000 registered voters conducted Oct. 29-31, 2020; margin of error +/- 3.1 pct. pts.

By Aaron Zitner

President Trump trails by 10 percentage points among voters nationally in the final days of his re-election campaign, facing substantial public anxiety over the coronavirus pandemic but with broad approval of his management of the economy, a new Wall Street Journal/NBC News poll finds.

Former Vice President Joe Biden leads Mr. Trump, 52% to 42%, in the poll's final reading of voter opinion before Election Day, essentially unchanged from Mr. Biden's 11-point advantage in mid-October. In particular, women and seniors have turned against the president, the poll finds, with both groups favoring Mr. Biden by double-digit margins.

However, the survey finds the race tightening when the landscape is narrowed to a set of 12 battleground states. Mr. Biden holds a 6-point lead across those states, 51% to 45%, compared with a 10-point lead last month.

Mr. Biden's advantage in swing states is within the poll's margin of error and corresponds with the many swing-state surveys that show close races and a potential path for Mr. Trump to build an Electoral College majority without winning the national popular vote, as he did in 2016.

"This election is probably the most competitive 10-point race I've seen," said Republican pollster Bill McInturff, who conducted the survey with Democrat Jeff Horwitt. Mr. Trump's support remains strong among his base of largely working-class, white voters, who are plentiful in the swing states.

While Mr. Biden holds large leads among people who have voted early or plan to, Mr. Trump holds a big lead among those who say they will vote on Election Day, the poll finds. Mr. Trump's hopes for victory rest in large part on efforts by the Republican National Committee to register swing-state voters who back Mr. Trump, and whose presence will be seen more on Election Day than in early balloting, Mr. McInturff said.

"The RNC has spent how many millions of dollars, and the only thing they've focused on is turnout of noncollege, white voters, especially in about six states," he said. Mr. McInturff said the party's efforts raised the potential that Mr. Trump has changed the electorate in his favor, much like former President George W. Bush did in 2004 by drawing more religious conservatives to the polls.

Mr. Horwitt said that Mr. Trump is facing an electorate that holds negative views of his overall job performance. In the 41 Journal/NBC News surveys that measured views of how Mr. Trump has handled his office, he said, "there was not a single poll that produced a result where more Americans approved than disapproved of his performance as president."

The 2020 campaign is approaching its end amid near-record voter interest and disquiet over the coronavirus pandemic that on Friday reached a high for new cases. Some 83% of voters rate themselves at the highest levels of interest in the campaign, a share unseen since just before former President Obama's first election in 2008.

Asked which issue was most important to their decision in the election—the economy or coronavirus—voters were divided almost evenly, a sign of how much the pandemic has upended expectations as they stood at the start of the election season.

Some 41% of voters named the economy as the most important issue, while 38% cited coronavirus—a 3-point gap that narrowed from 8 points last month. And in a sign of substantial concern about the virus, 55% said the worst of the pandemic was yet to come.

One of Mr. Trump's strongest advantages is that 55% of voters approve of his handling of the economy, 14 points more than who disapprove. One of his top challenges is that 57% disapprove of his management of the pandemic, 17 points more than who approve.

Mr. Trump is contending with significant opposition from two large voter groups: Women, who outnumber men in the electorate, and seniors.

The president trails Mr. Biden by 20 percentage points among women in the new survey, 57% to 37%, while leading among men by one point, 48% to 47%. If the election outcome matched those results, the 2020 campaign would show one of the largest gender gaps on record.

Among seniors in the national survey, Mr. Trump trails by 23 points, 58% to 35%, a substantial reversal from his winning margin among those voters in 2016, measured at between 7 and 10 points in various surveys of the electorate.

Seniors are a closely watched group, in large part because most swing states have larger shares of them than the national average.

Mr. Trump's hopes for an Electoral College majority turn in large measure on the fact that he is viewed more favorably in battleground states than among voters nationally.

In the 12 state battlegrounds, for example, Mr. Trump leads by 21 points among white men, compared with a 12-point lead among that group nationally. Among seniors, Mr. Trump trails Mr. Biden by 11 points in battleground states, compared with the 23-point deficit nationally.

The Wall Street Journal/NBC News poll was based on nationwide telephone interviews of 1,000 registered voters. It was conducted Oct. 29-31, 2020, by the polling organizations of Bill McInturff of Public Opinion Strategies and Jeff Horwitt of Hart Research Associates.

The sample was drawn in the following manner: Individuals were randomly selected from national lists of registered voters and were chosen by a systematic procedure to provide a balance of respondents by sex. Respondents reached on their cellphone were randomly selected from national lists of cellphone numbers.

Of the 1,000 interviews in the weighted data, 590 respondents were reached on a cellphone and screened to ensure that their cellphone was the only phone they had. Interviews were conducted in English and Spanish. The margin of error is plus or minus 3.1 percentage points.

In addition to the 1,000 voters in the national sample, 539 interviews were conducted in battleground states to create a sample of 833 registered voters in those states. The states included were Arizona, Florida, Georgia, Iowa, Maine, Michigan, Minnesota, North Carolina, New Hampshire, Nevada, Pennsylvania and Wisconsin. The margin of error for battleground states is plus or minus 3.4 percentage points.

Some 310 additional interviews were conducted among Latino voters to create a sample of 410 Latino registered voters. Respondents could take the survey in English or Spanish. The margin of error for this group is plus or minus 4.8 percentage points.

Source: *The Wall Street Journal*, November 2, 2020.

Investors' election verdict – "dream scenario for business"

THE WALL STREET JOURNAL.

Businesses Hope for More Predictability

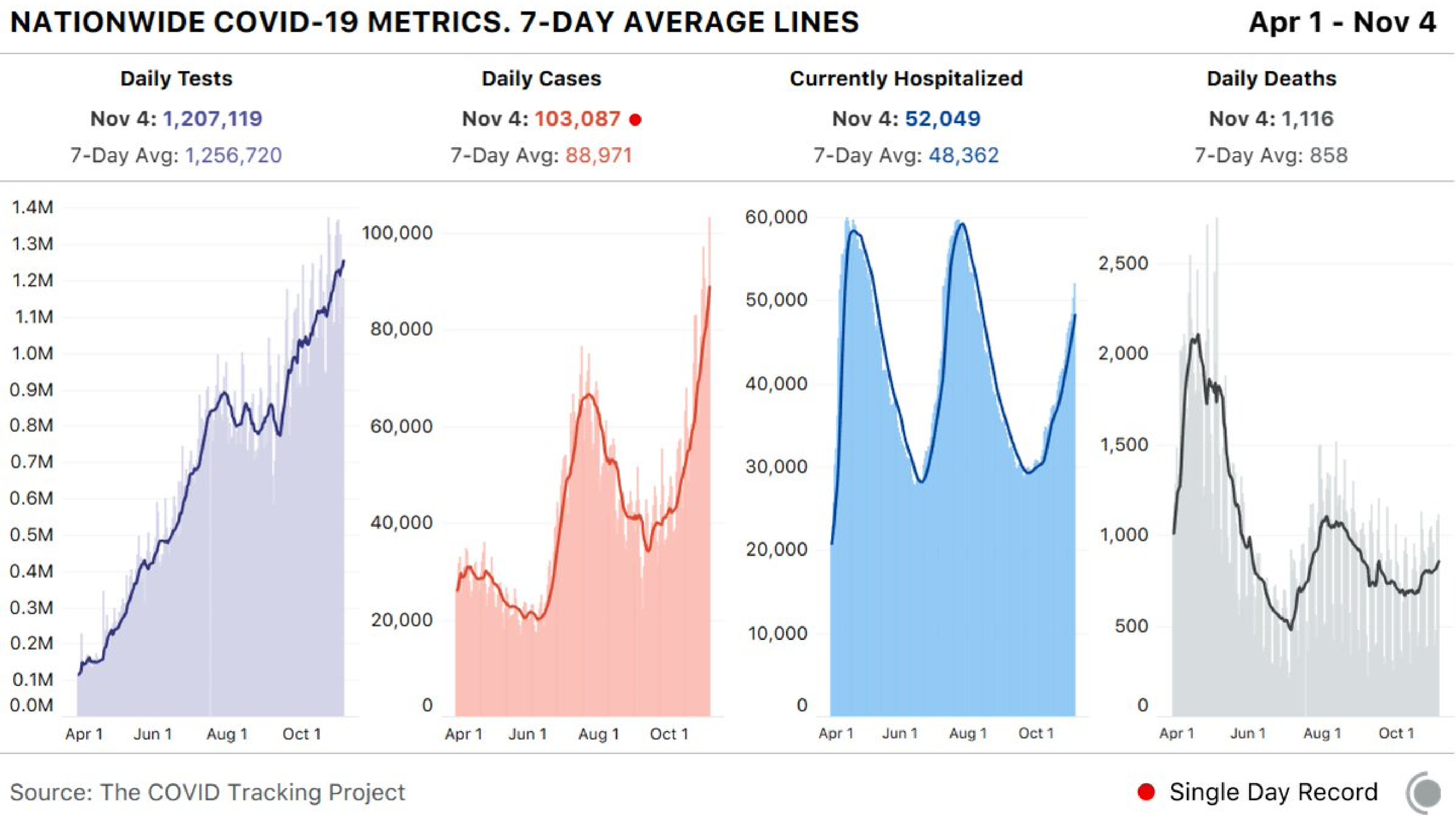
BY GREG IP

The election looks like it might yield a dream scenario for business: a moderate Democratic president whose more aggressive plans can't pass the Senate, but who eschews the unpredictability that has often marked the Trump administration.

Source: *The Wall Street Journal*, November 9, 2020.

Point of View

Covid-19 update – third surge, declining death rate

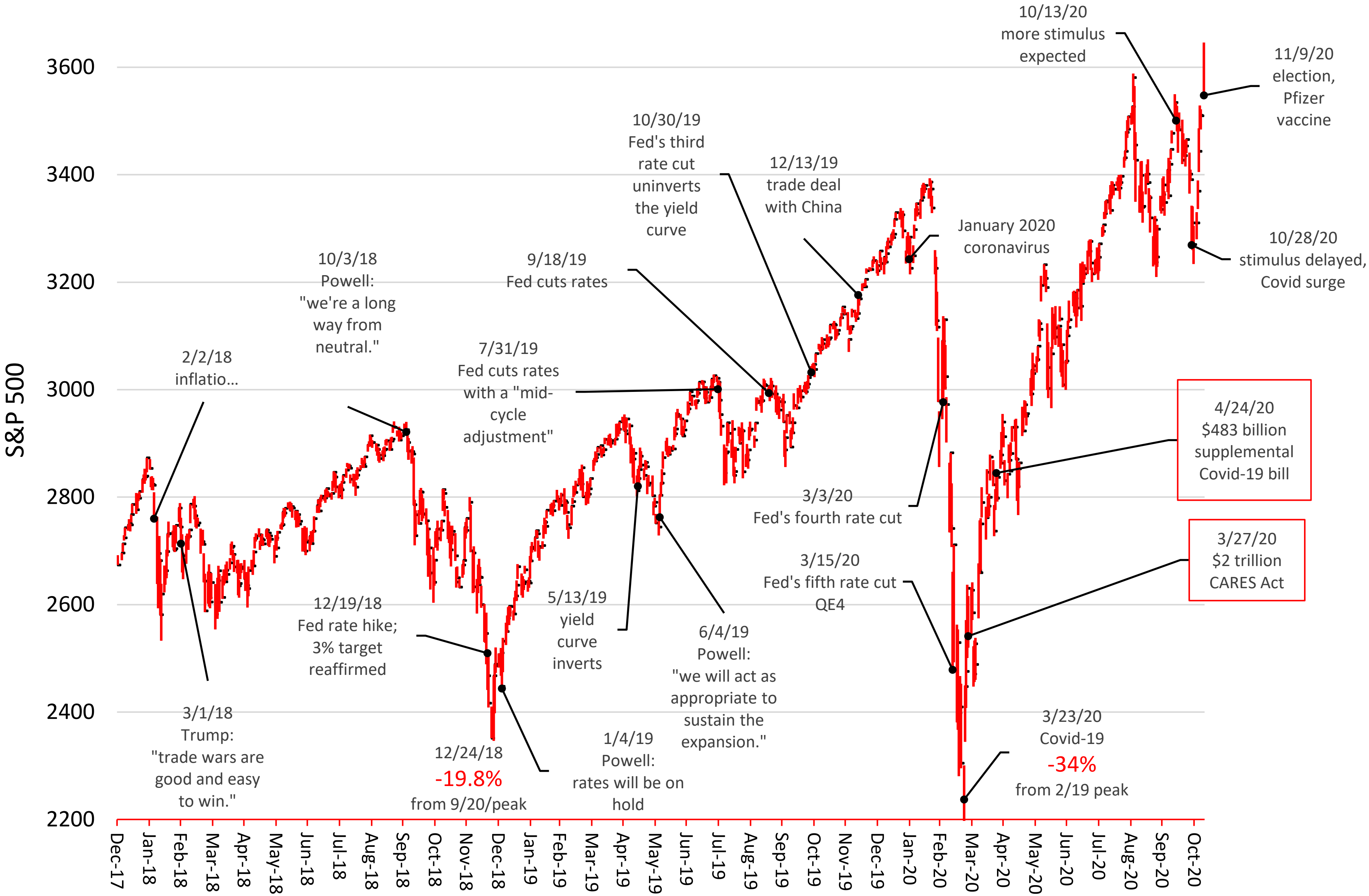


Stock Market

- 2000 bubble vs. now
- FAANGM phenomenon
- FAANGM PEG ratios
- “parabolic” is normal
- discounting strong 2021 earnings recovery
- low inflation ⇨ high P/E ratios

Stock market

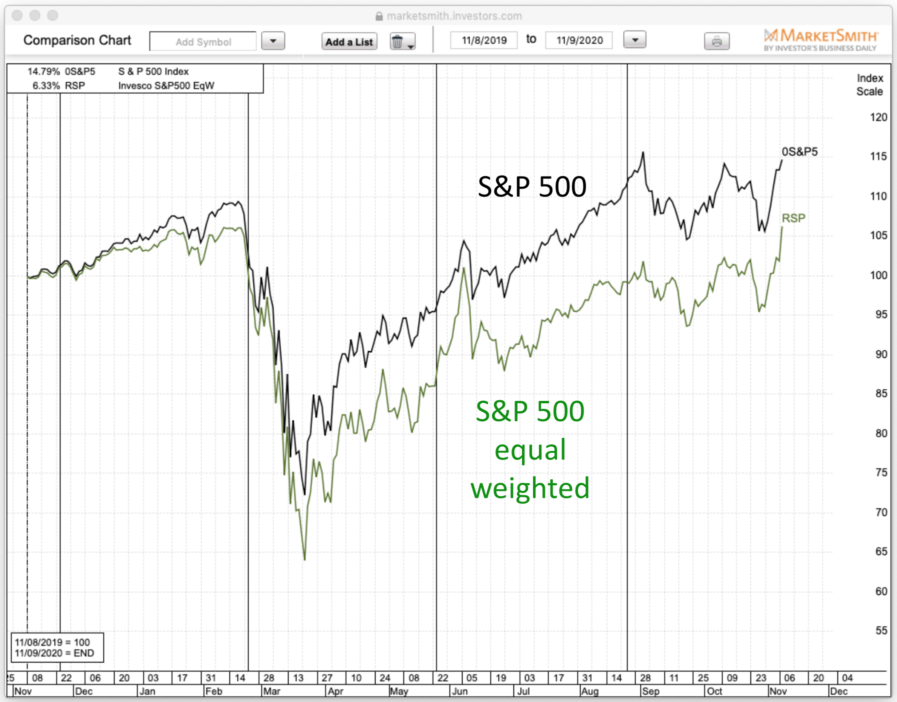
S&P 500 – new high



Source: Standard & Poor's. Data through November 9, 2020.

S&P 500 – rally is broadening out

1-year



3-months

Over the past year the S&P 500 has substantially outperformed the S&P 500 equal-weighted index due to the run-up and huge market cap of the FAANGMs.
In the past three months, that has reversed as market participation has broadened out.
Big rotation on Pfizer vaccine announcement.

Market bubble?

STREETWISE | By James Mackintosh

Market Is Exuberant, but It's No Bubble

"Investors aren't irrationally buying just anything just because money is cheap: they are rationally buying the things that benefit."

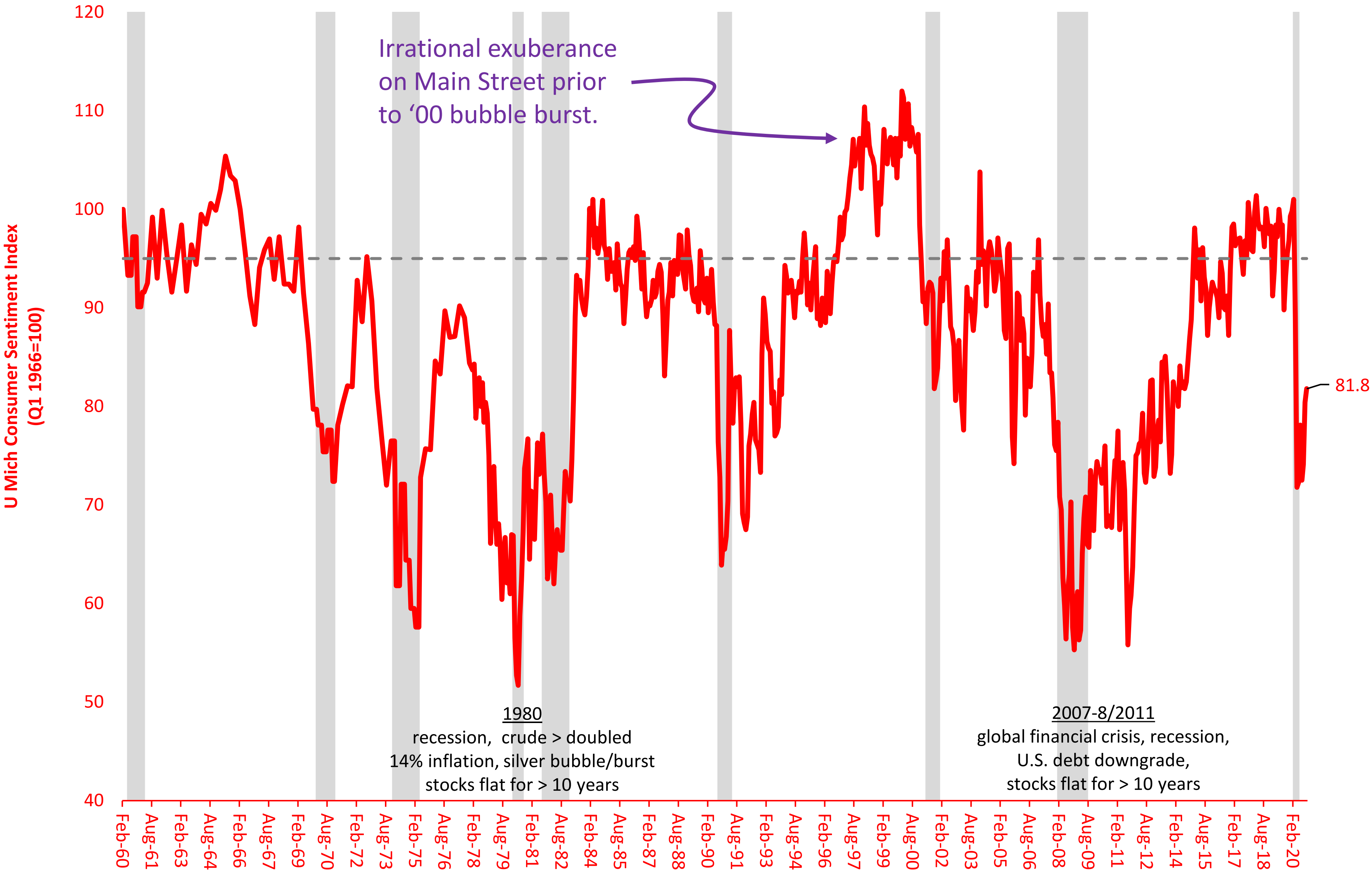
"U.S. stocks are more highly valued than in the past because they are dominated by big growth stocks, themselves justifiably more highly valued thanks to low rates."

Source: *The Wall Street Journal*, August 19, 2020.

Consumer sentiment

Hit by virus

2000 bubble vs. now

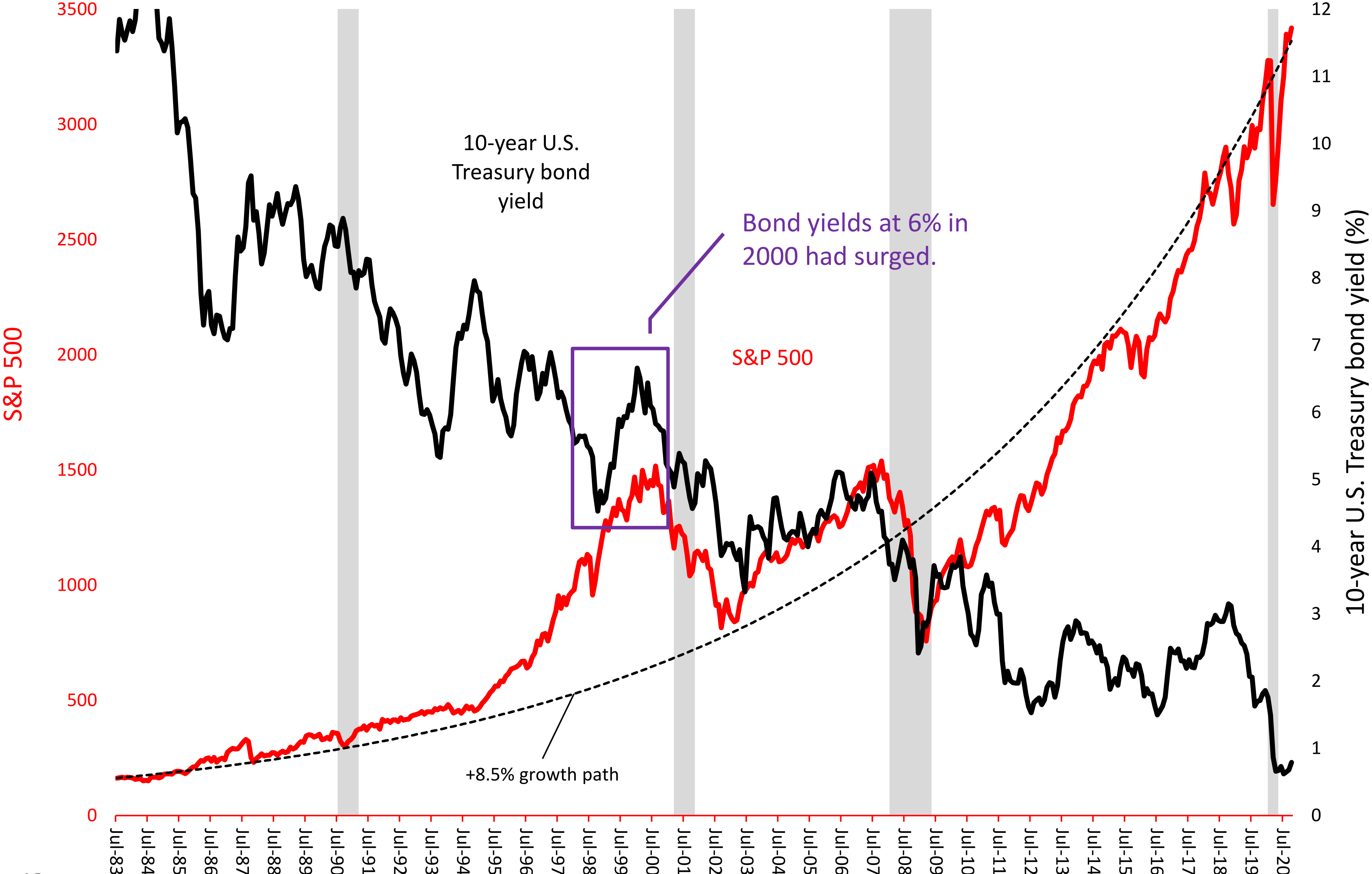


Source: The University of Michigan Survey Research Center, data through October 2020.

Stock market

2000 bubble vs. now

S&P 500 vs. 10-year U.S. Treasury bond yield

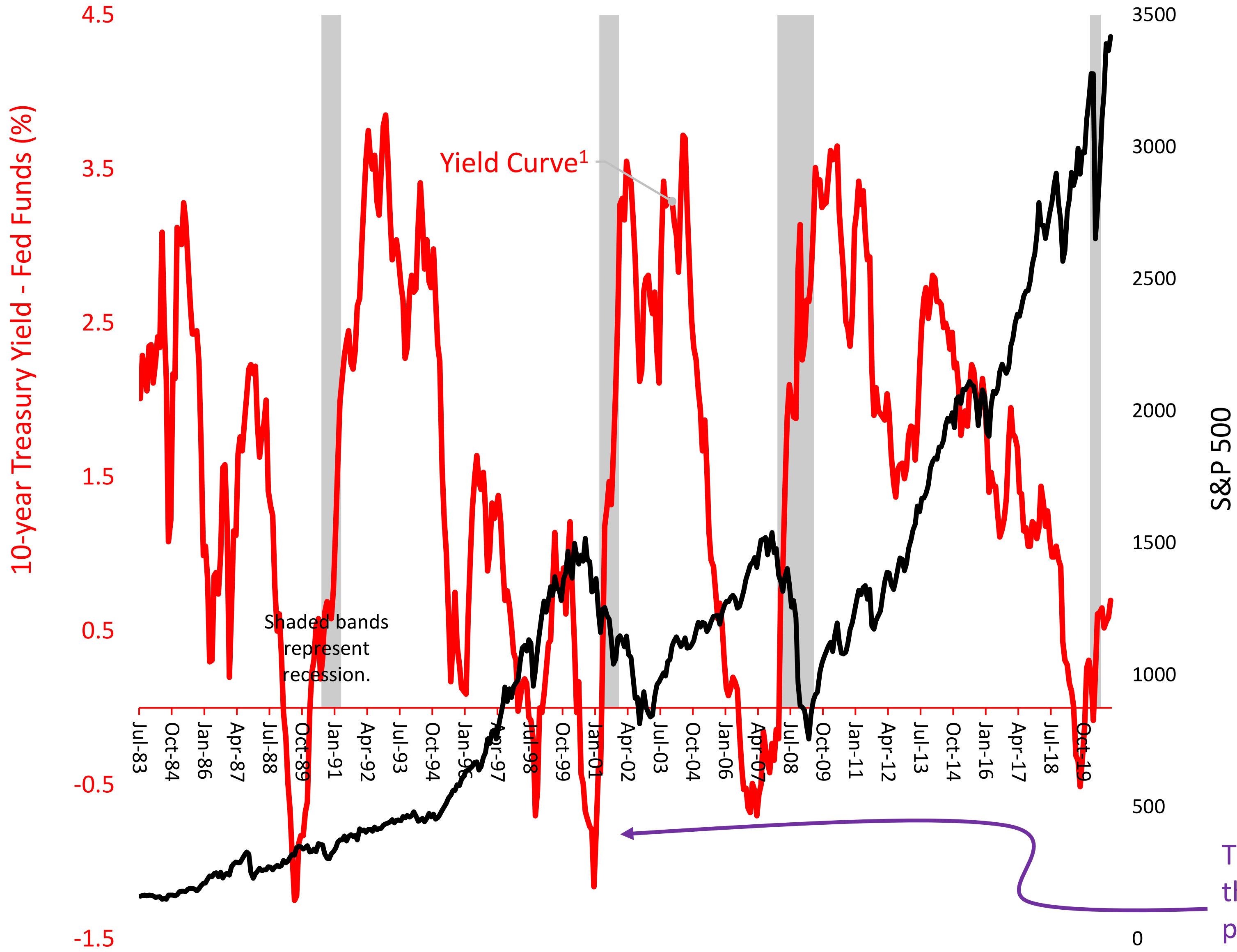


Sources: Federal Reserve, Standard & Poor's. Data through October 2020.

Federal Reserve policy

2000 bubble vs. now

Yield curve vs. the S&P 500



When the yield curve has inverted the economy has usually turned down into recession with a lag of a year or more.

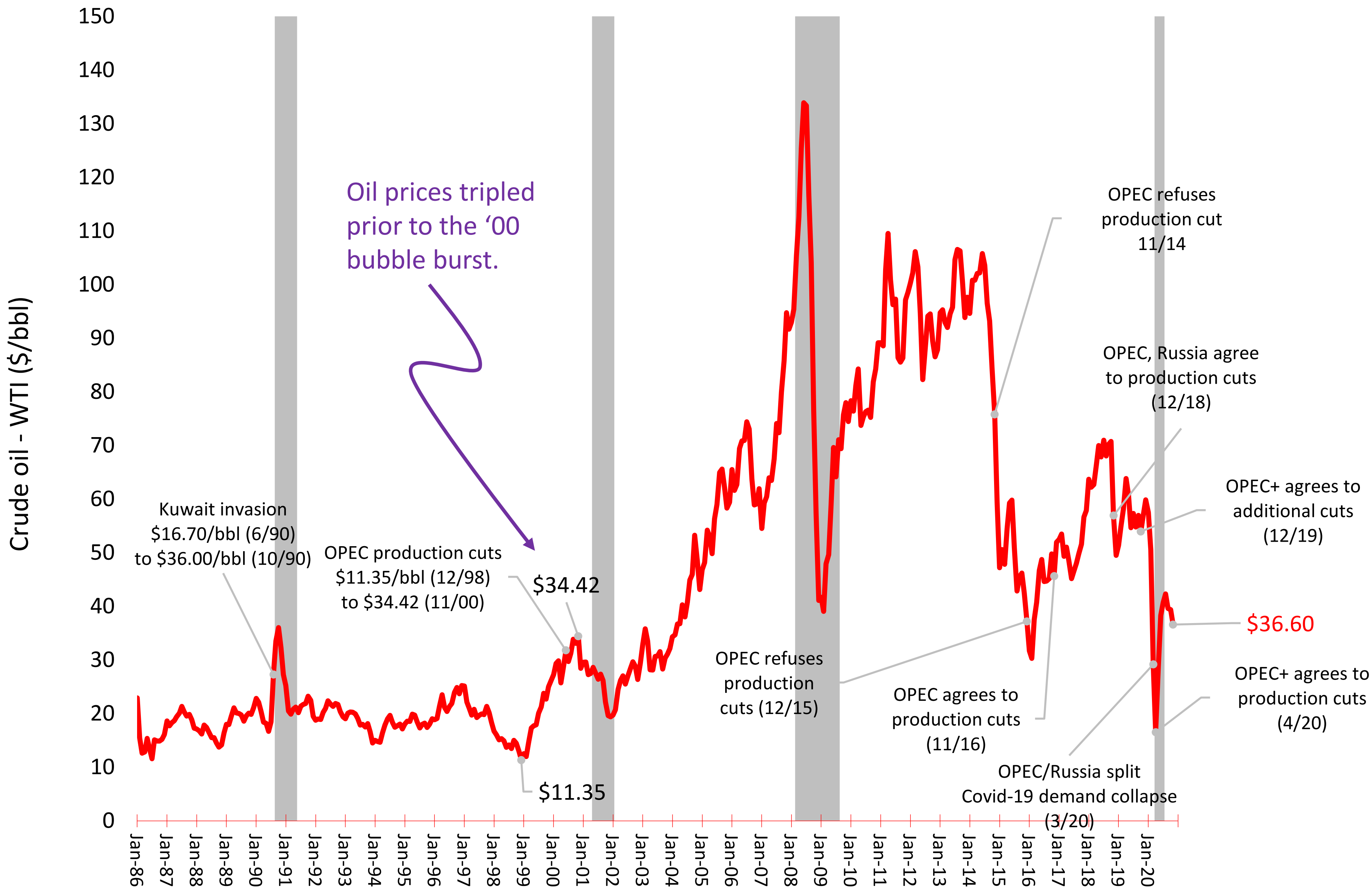
Today Fed policy is accommodative.

The Fed inverted the yield curve prior to the '00 bubble burst.

Sources: NBER, Federal Reserve and Standard & Poor's. Data through October 2020.

[1]The interest rate on the 10-year Treasury bond (long term) minus the fed funds rate (short term).

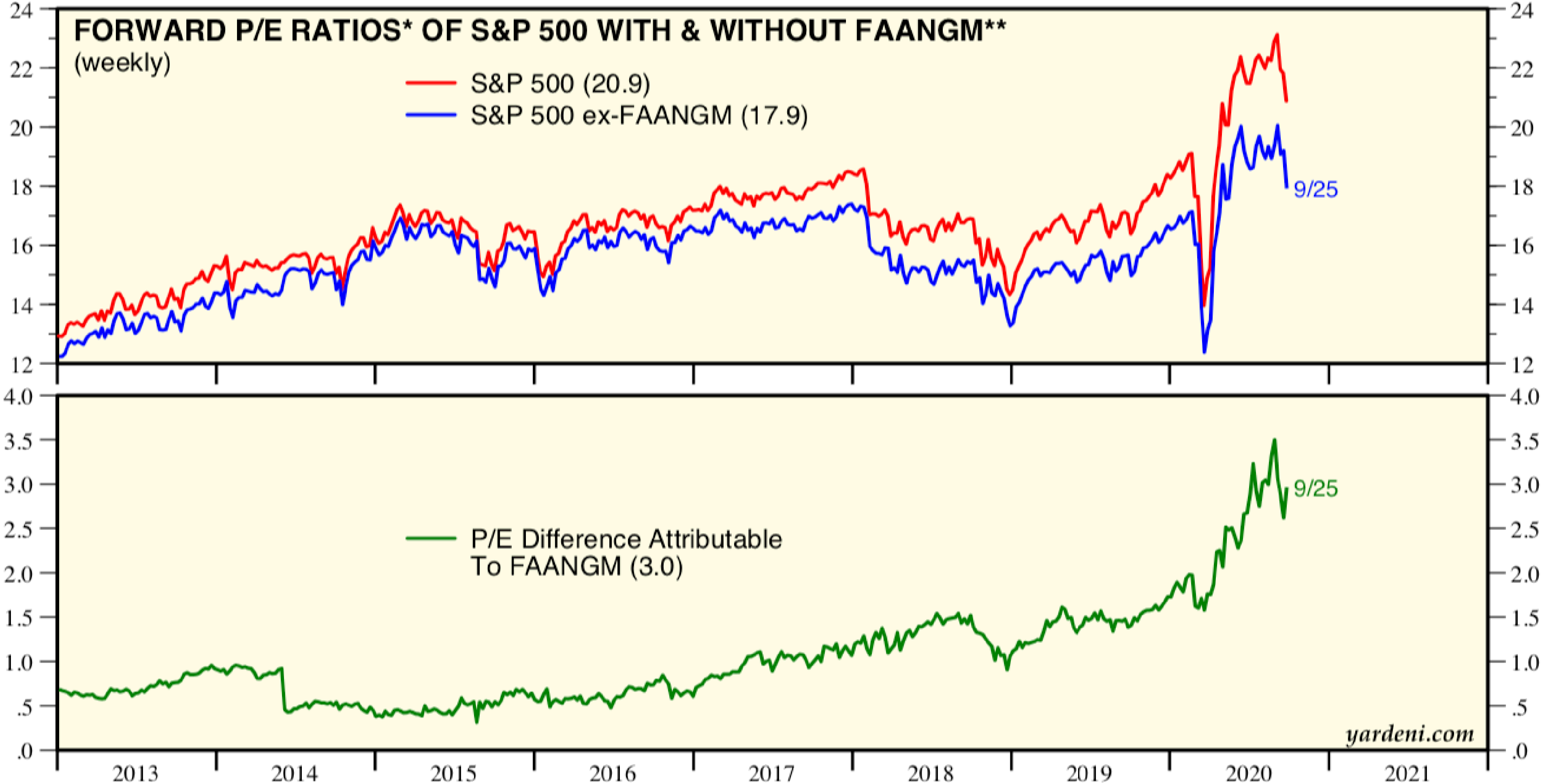
WTI spot crude oil prices vs. GDP growth



Sources: U.S. Energy Information Agency. Data through November 2, 2020.

S&P 500 and FAANGM

Figure 13.



* Price divided by consensus forward earnings forecast.
** FAANGM stocks include Facebook, Amazon, Apple, Netflix, Google (Alphabet), and Microsoft. Both classes of Alphabet are included.
Source: I/B/E/S data by Refinitiv.

Source: Yardeni Research, Inc., with permission. October 2, 2020.

S&P 500 – top 10 stocks

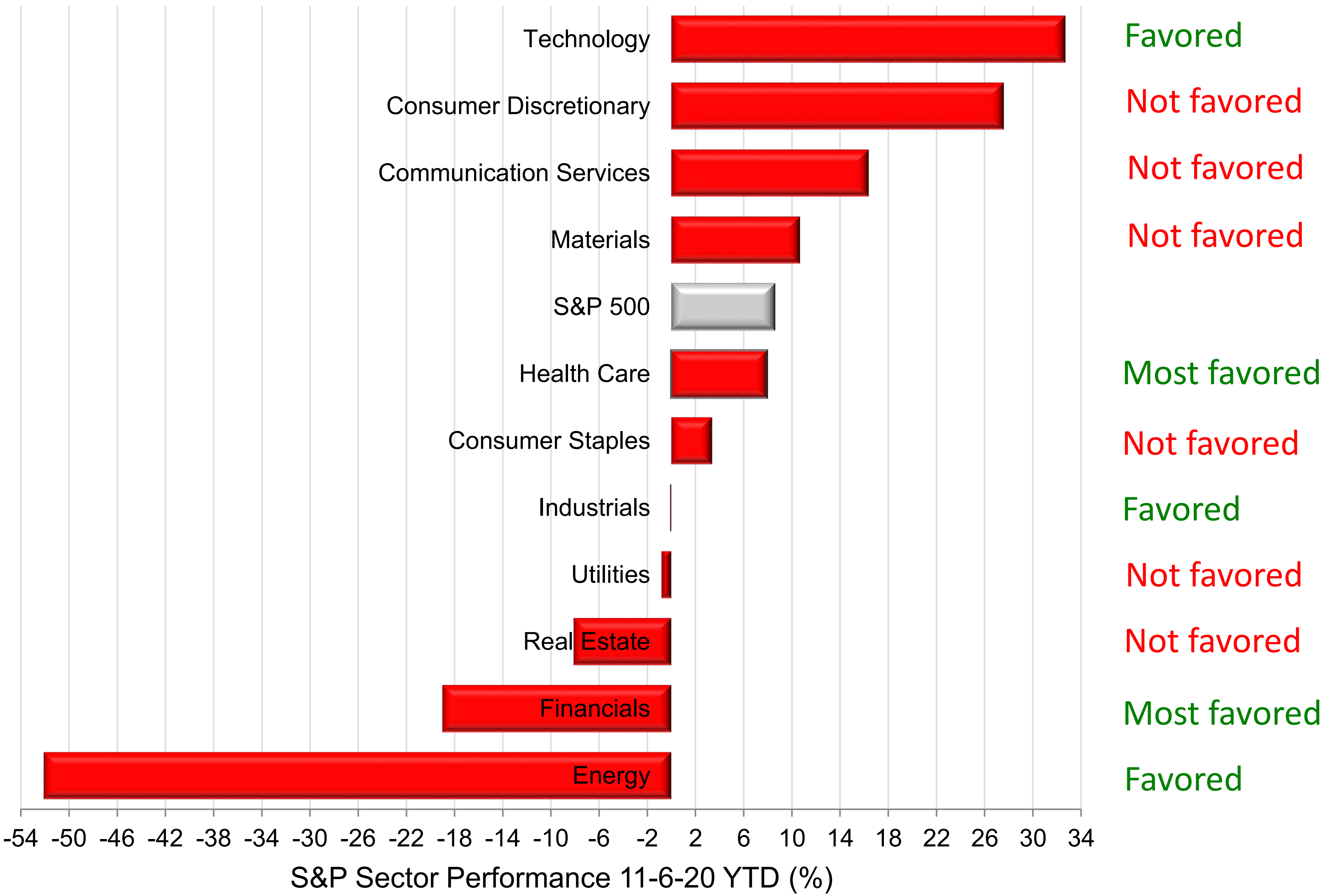
	Price	EPS 2021 (E)	P/E 2021 (E)	EPS Growth (%)[1]	PEG	Mkt Cap
AAPL	$116	3.95	29.4	17%	1.7	$2.0T
MSFT	$218	7.11	30.7	18%	1.7	$1.7 T
AMZN	$3,144	45.12	69.7	48%	1.5	$1.6T
GOOG	$1,763	61.30	28.8	13%	2.2	$1.2T
FB	$279	10.42	26.8	31%	0.9	$794B
BRKB	$222	10.79	20.6	5%	4.1	$540B
V	$213	5.48	38.9	9%	4.3	$390B
JNJ	$146	8.94	16.3	2%	8.2	$385B
JPM	$117	9.00	13.0	neg	n/a	$356B
PG	$138	5.59	24.7	10%	2.5	$343B
S&P 500	$3,550	167.10	21.2	0%	n/a	

[1] Two-year average annual EPS growth from 2019 through 2021.

At a P/E ratio of 21.2, the S&P 500's PEG ratio on normalized earnings growth of 7.5% is 2.8.

Source: MarketSmith, November 9, 2020.

S&P 2020 YTD sector returns vs. the strategists[1] calls



Source: Standard and Poor's

[1] From *Barron's* survey of 10 Wall Street strategists, published December 16, 2019.

Market pundits

Source: CNBC website, September 25, 2020.

Market pundits

Source: CNBC, November 6, 2020.

Experts' predictions

The "Armageddonists"

Date	Armageddonist	Quote
May 20, 2010	Nouriel Roubini	"There are some parts of the global economy that are now at the risk of a double-dip recession. From here on I see things getting worse." - *CBS*
June 4, 2011	David Rosenberg	"Another recession is coming, and soon. So says Gluskin Sheff economist David Rosenberg. Rosenberg, a longtime bear on the economy and the stock market, now says he is 99% sure we will have another recession by the end of next year." - *Fortune*
August 9, 2011	Jeff Gundlach	"It seems suicidal to buy a broad-based basket of stocks or economically sensitive commodities or emerging markets stocks - all of which are very leveraged to economic growth" - *Kiplinger;* and "Sell everything, nothing looks good" in July 2016 - *Reuters*
February 24, 2012	Lakshman Achuthan	"Lakshman Achuthan, co-founder of the Economic Cycle Research Institute, said on Friday that his research firm is sticking with the forecast it made in September: A new recession is inevitable, despite improvement in high-profile economic indicators, such as job creation and unemployment, and a stock market rally. Achuthan said data gathered since his September forecast only confirms his view that economic growth has slowed to such a degree that a downturn is now unavoidable, likely by late summer." - *CNN*
May 25, 2012	Marc Faber	"I think we could have a global recession either in Q4 or early 2013. That's a distinct possibility." When asked what were the odds, Faber replied, "100%" - *CNBC*
November 12, 2012	Robert Wiedemer	"The data is clear, 50% unemployment, a 90% stock market drop, and 100% annual inflation starting in 2013." - *Newsmax*
March 31, 2013	David Stockman	"When the latest bubble pops, there will be nothing to stop the collapse. If this sounds like advice to get out of the markets and hide out in cash, it is." - *Business Insider*
April 25, 2013	Albert Edwards	"We repeat our key forecasts of the S&P Composite to bottom around 450 (-70%), accompanied by sub 1% US ten year yields" - *CNBC,* following on Edwards' "ultimate death cross" in July 2012
May 30, 2013	Peter Schiff	"We've got a much bigger collapse coming…I am 100% confident the crisis that we're going to have will be much worse than the one we had in 2008" - *Marketwatch,* and "The crisis is imminent. I don't think Obama is going to finish his second term without the bottom dropping out. And stock market investors are oblivious to the problems." - *Money Morning*
October 15, 2013	Tom DeMark	"DeMark's Dow Jones Index chart covering the period from May 2012 to the present seems to be tracking, almost precisely, the months leading up to the 1929 stock market crash." "The market's going to have one more rally, then once we get above that high, I think it's going to be more treacherous... I think it's all preordained right now." - *Bloomberg*
November 6, 2013	Bob Janjuah	"We see a significant risk-on top before giving way, over the last three quarters of 2014 through 2015, to what could be a 25%-50% sell-off in global stock markets." - *Marketwatch*
July 24, 2014	David Levy	"David Levy says the United States is likely to fall into a recession next year, triggered by downturns in other countries, for the first time in modern history. "The recession for the rest of the world … will be worse than the last one," says Mr. Levy, whose grandfather called the 1929 stock crash . Mr. Levy predicts a US recession will throw its housing recovery in reverse, and push home prices below the low in the last recession. He says panicked investors are likely to dump stocks and flood into US Treasuries, a haven in troubled times, like never before." - *The Independent*
September 29, 2015	Carl Icahn	"I see real tremendous problems ahead and I don't think we are handling it right and nobody really wants to talk [it] out... We are headed toward a strong correction and possibly a complete meltdown but not systemic like 2008. It won't threaten the system, it's just going to threaten your livelihood and net worth....I do think you are in a very massive bubble and when it bursts it isn't going to be pretty, it could be a blood bath." - *Forbes*
January 7, 2016	George Soros	"Global markets are facing a crisis and investors need to be very cautious, billionaire George Soros told an economic forum in Sri Lanka on Thursday..."China has a major adjustment problem," Soros said. "I would say it amounts to a crisis. When I look at the financial markets there is a serious challenge which reminds me of the crisis we had in 2008." - *Bloomberg*
January 18, 2016	John Hussman	"A broad range of other leading measures, joined by deterioration in market action, point to the same conclusion that recession is now the dominant likelihood." - *Hussman Funds*
October 31, 2016	Simon Johnson	"Mr. Trump's presidency would likely cause the stock market to crash and plunge the world into recession...anti-trade policies would cause a sharp slowdown, much like the British are experiencing after their vote to exit the European Union." - *New York Times*
November 9, 2016	Paul Krugman	"It really does look like President Donald J. Trump, and markets are plunging....So we are very probably looking at a global recession, with no end in sight. I suppose we could get lucky somehow. But on economics, as on everything else, a terrible thing has just happened." - *New York Times*

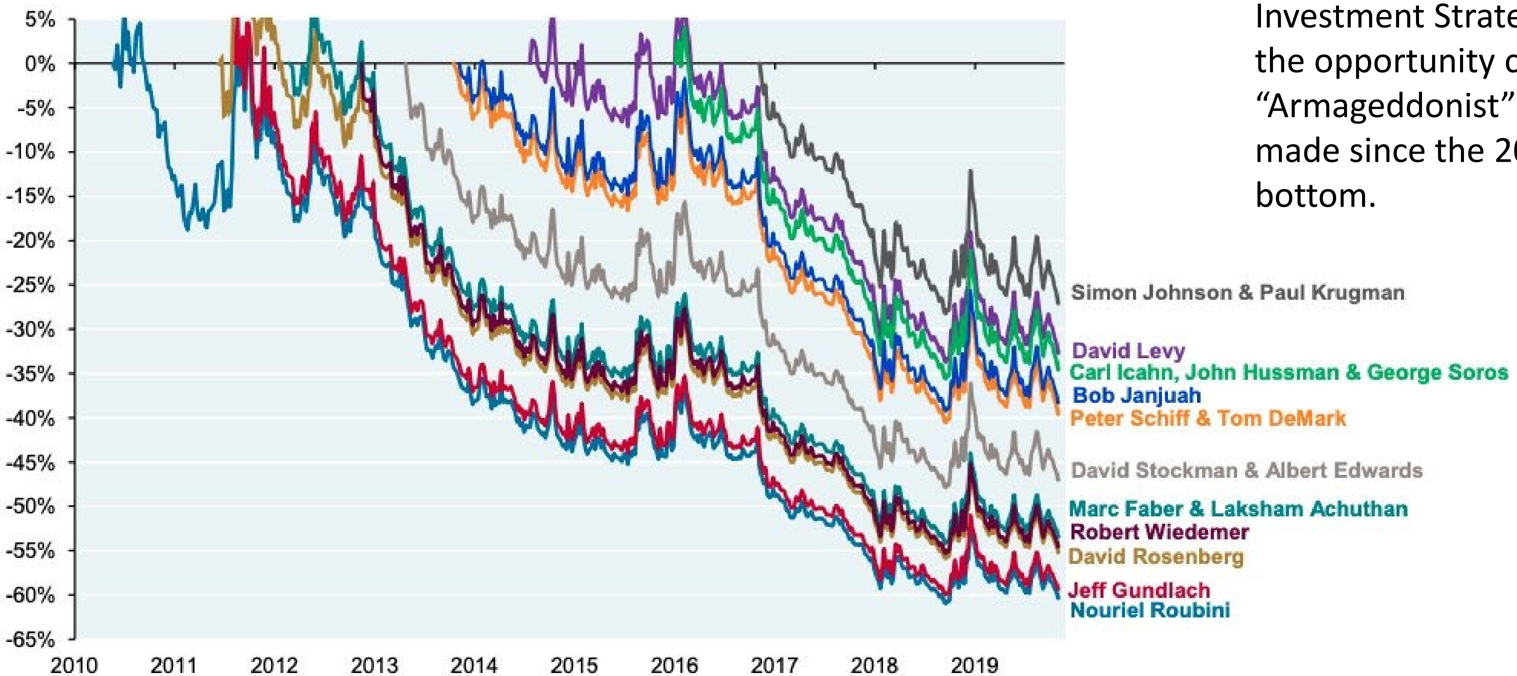
JP Morgan's Michael Cembalist, Chairman of Market and Investment Strategy, identified these notable Armageddon market calls since the 2009 market bottom.

Roubini
Rosenberg
Gundlach
Schiff
Icahn
Soros
Hussman
Krugman

Source: JPMorgan, *The Armageddonists and the Price of Fame,* Michael Cembalest, November 11, 2019.

The "Armageddonists" – opportunity cost

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.

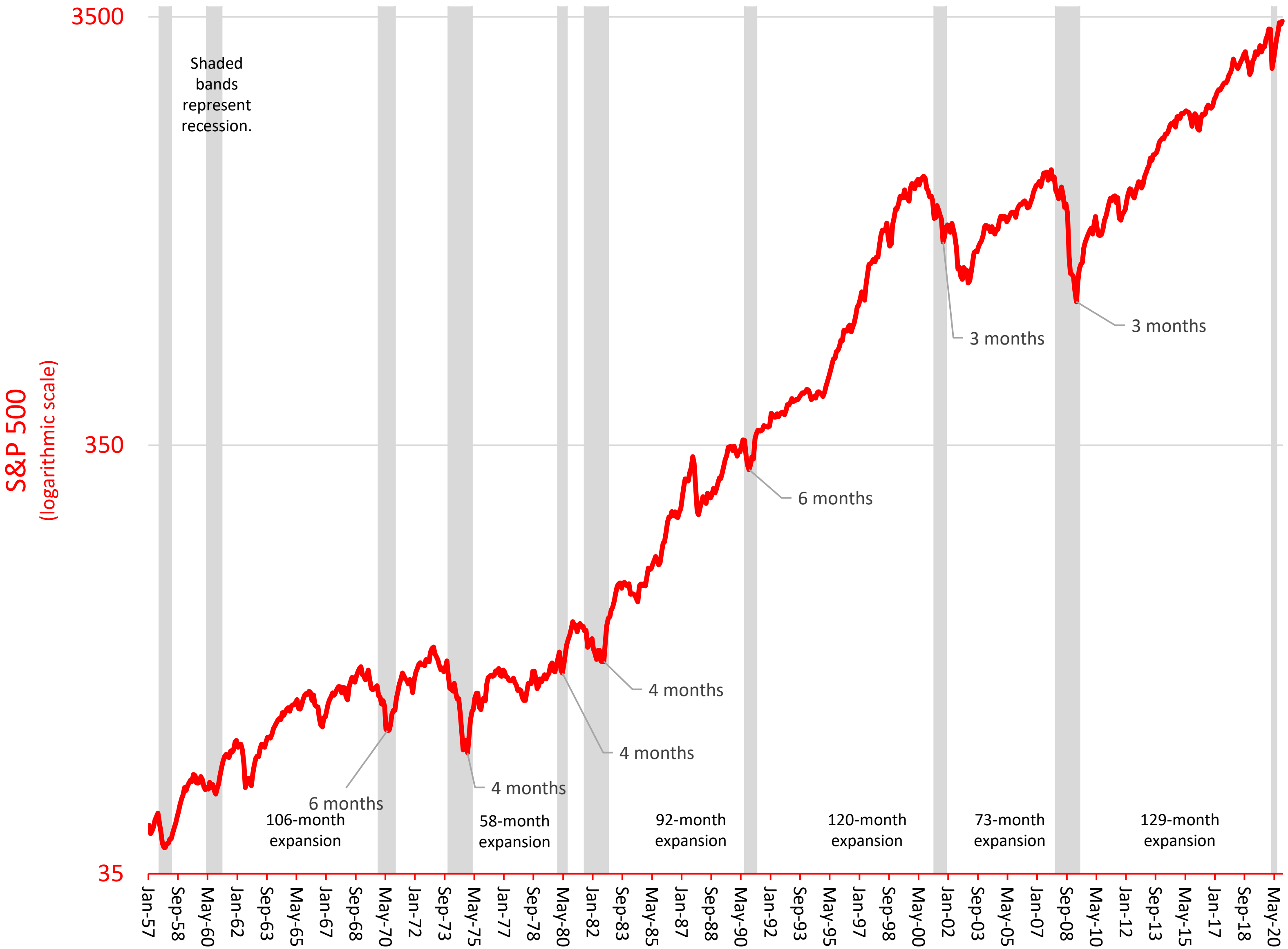
JP Morgan's Michael Cembalist, Chairman of Market and Investment Strategy, quantified the opportunity cost of these "Armageddonist" market calls made since the 2019 market bottom.

The chart above shows Michael Cembalist's calculation of the opportunity cost of shifting $1 from stocks to bonds, measured from the time of each Armageddonist's comment to November 8, 2019.

Source: JPMorgan, *The Armageddonists and the Price of Fame*. Michael Cembalest, November 11, 2019.

Federal Reserve policy

S&P 500 vs. recessions

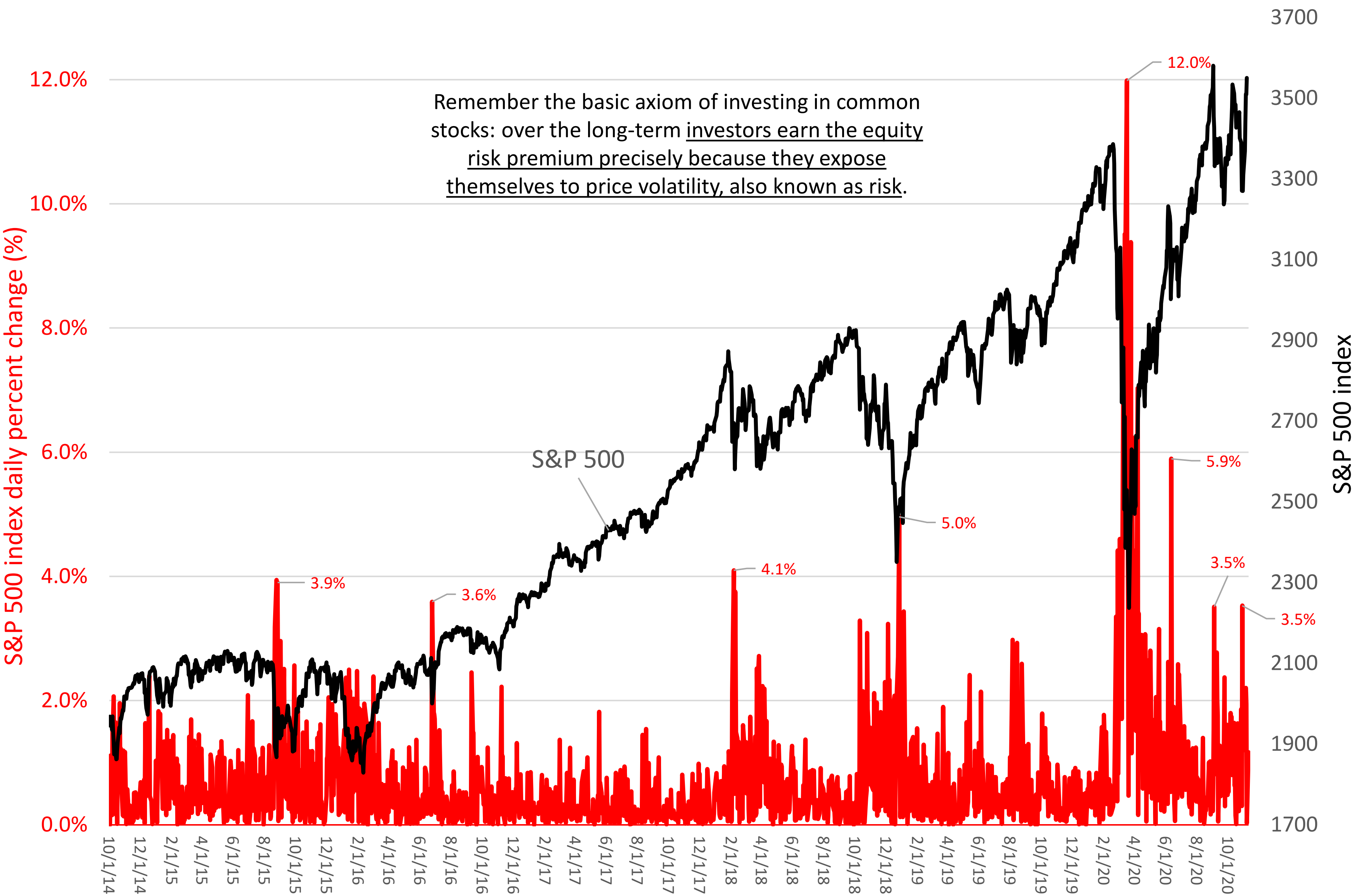


Stocks bottom months before recession-end.

Source: Standard and Poor's Corporation, National Bureau of Economic Research. Data through October 2020.

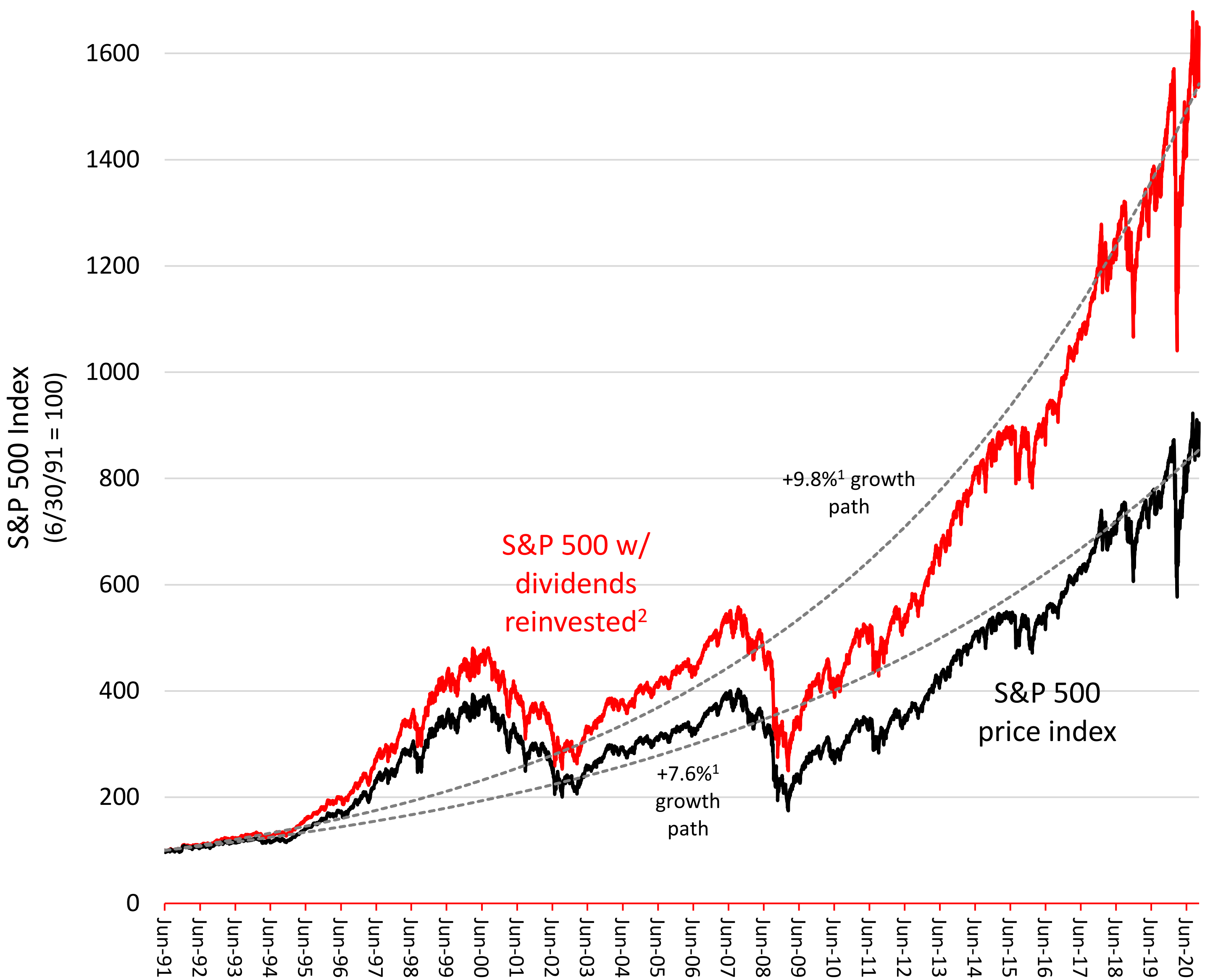
Stock market

S&P 500 volatility

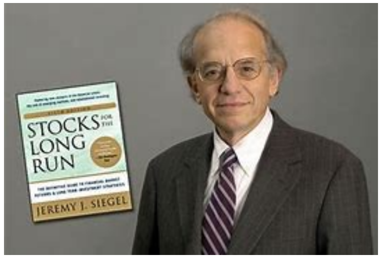


Source: Standard & Poor's. data through November 9, 2020.

Total return = 7.6% earnings-driven price + 2.2% dividends reinvested



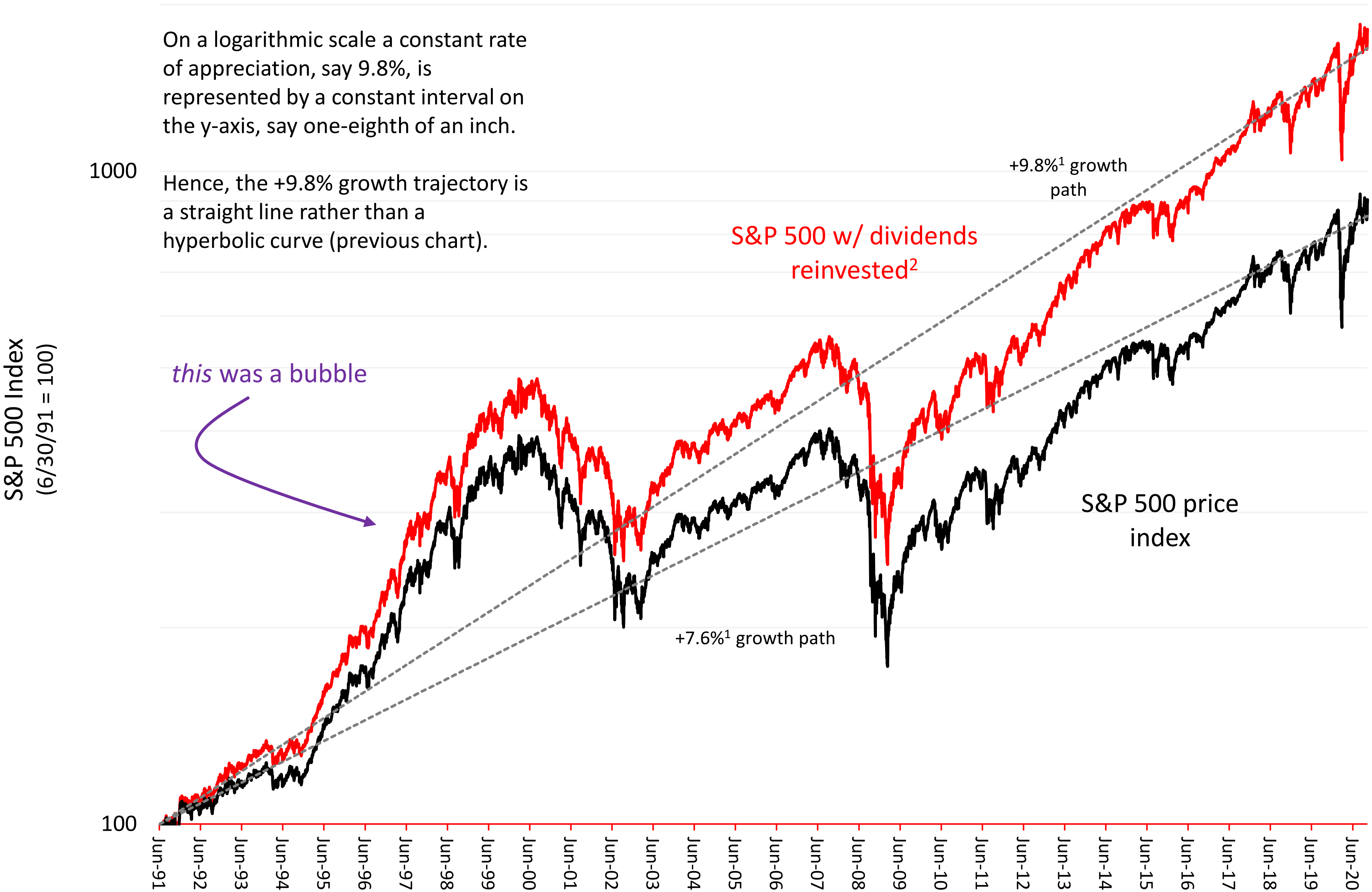
+9.8% per year S&P 500 total return over the last 29 years is in line with the stock market's long-term returns going back to 1926, or back even further to 1871.[3]



Source: Standard and Poor's. Data through November 5, 2020.[1] Compound annual growth rate. [2] S&P 500 total return index.
[3] per Professor Jeremy Siegel's seminal *Stocks for the Long Run*, first published in 1994.

Stock market arithmetic

Total return = 7.6% earnings-driven price + 2.2% dividends reinvested



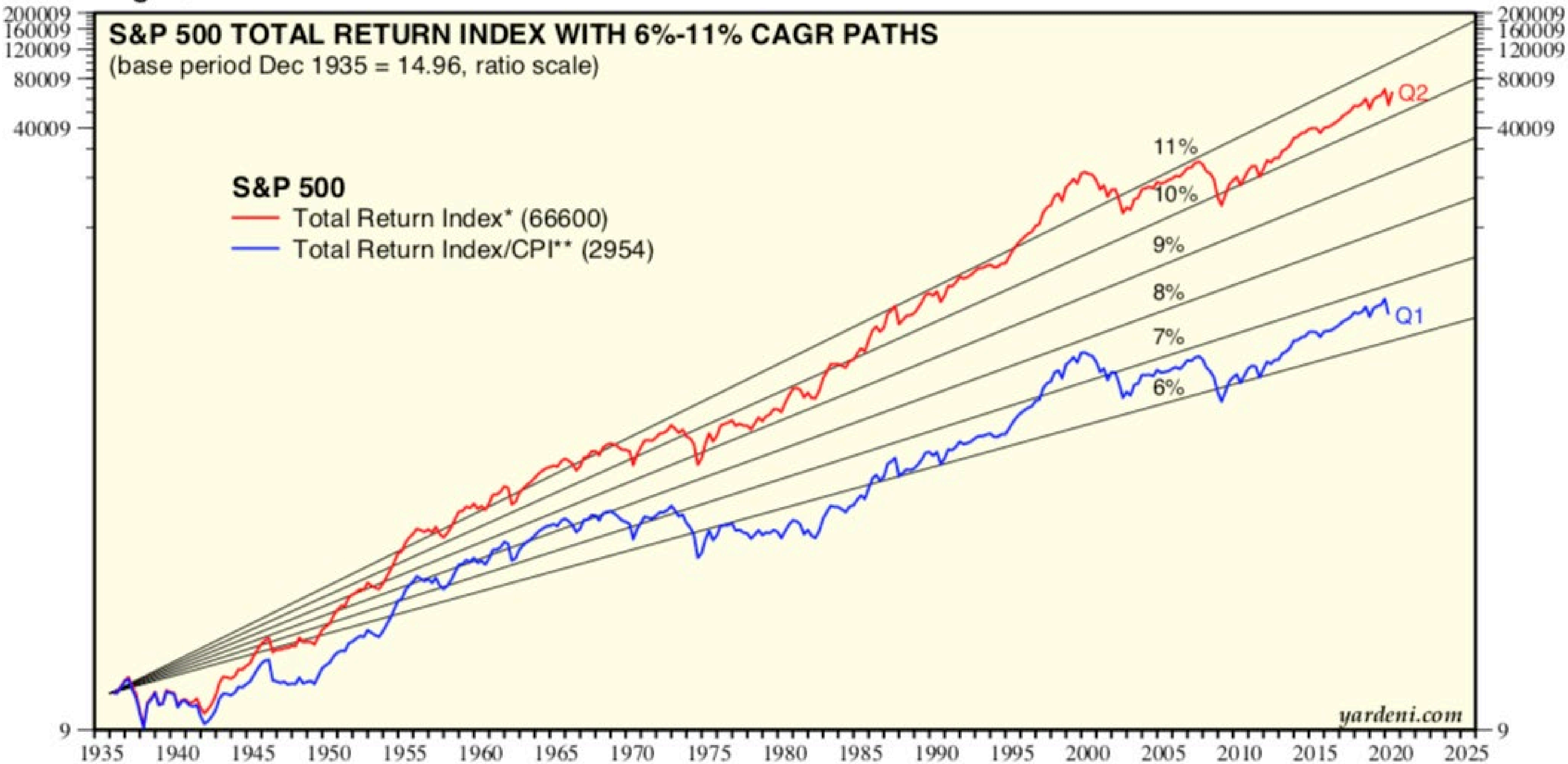
Source: Standard and Poor's. Data through November 5, 2020.[1] Compound annual growth rate. [2] S&P 500 total return index.

S&P 500 and crises

Source: Standard and Poor's. Data through October 2020. [1] Compound annual growth rate.

Total return and real total return

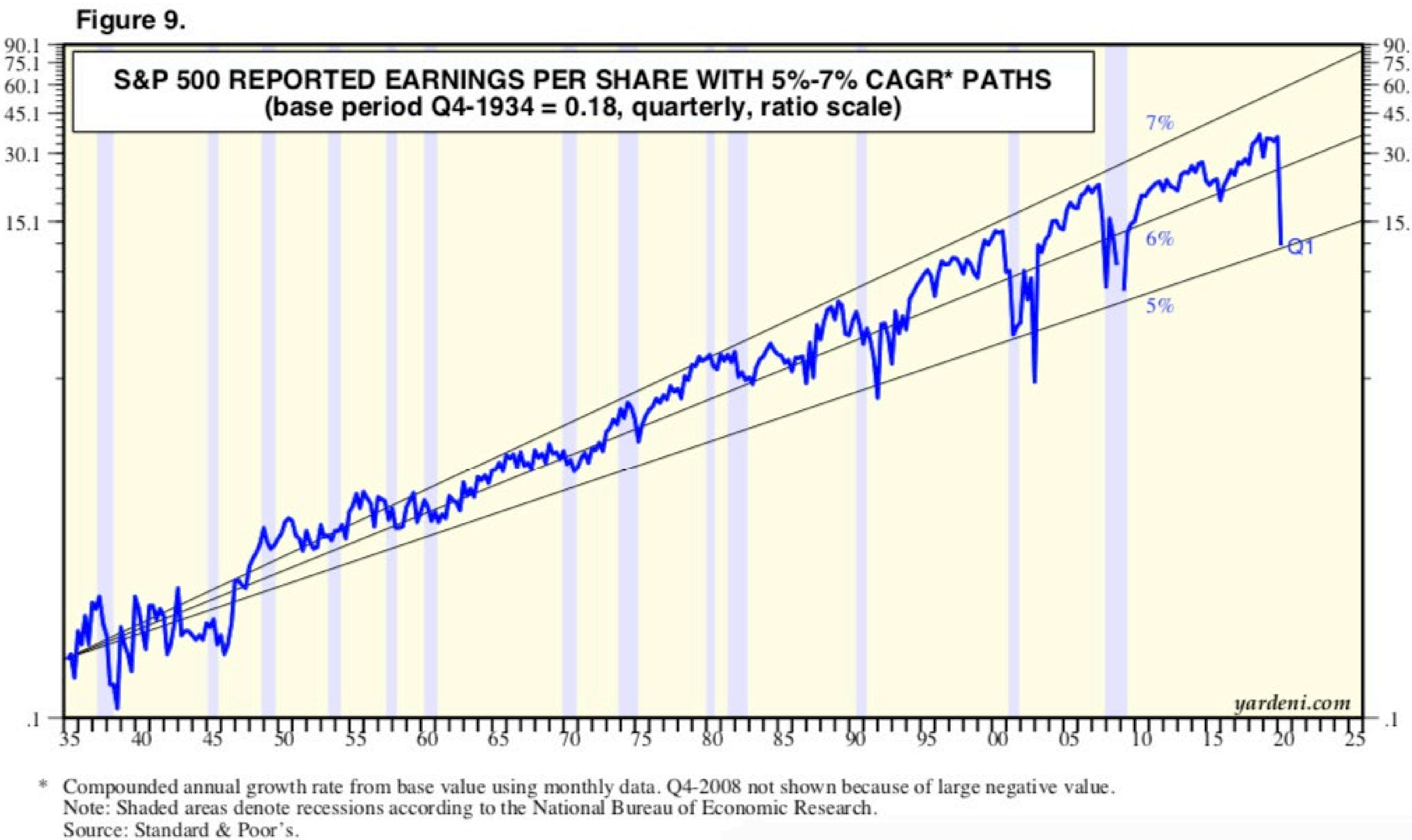
Figure 2.



* Includes reinvested dividends.
** Using last month of quarter CPI. Compounded monthly using base value.
Source: Standard & Poor's.

Source: Yardeni Research, Inc., with permission.

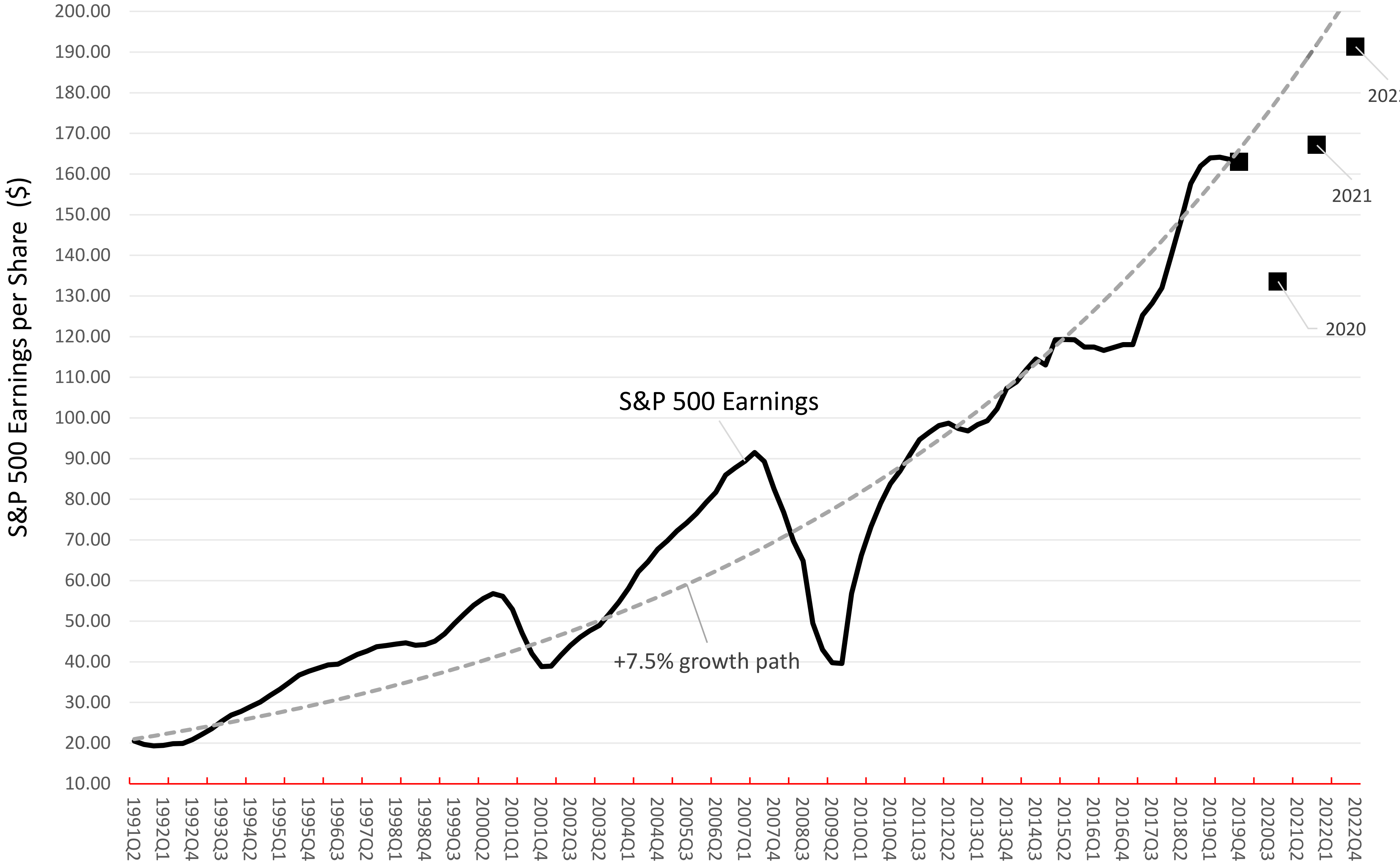
84 years of S&P 500 earnings growth



Source: Yardeni Research, Inc. with permission.

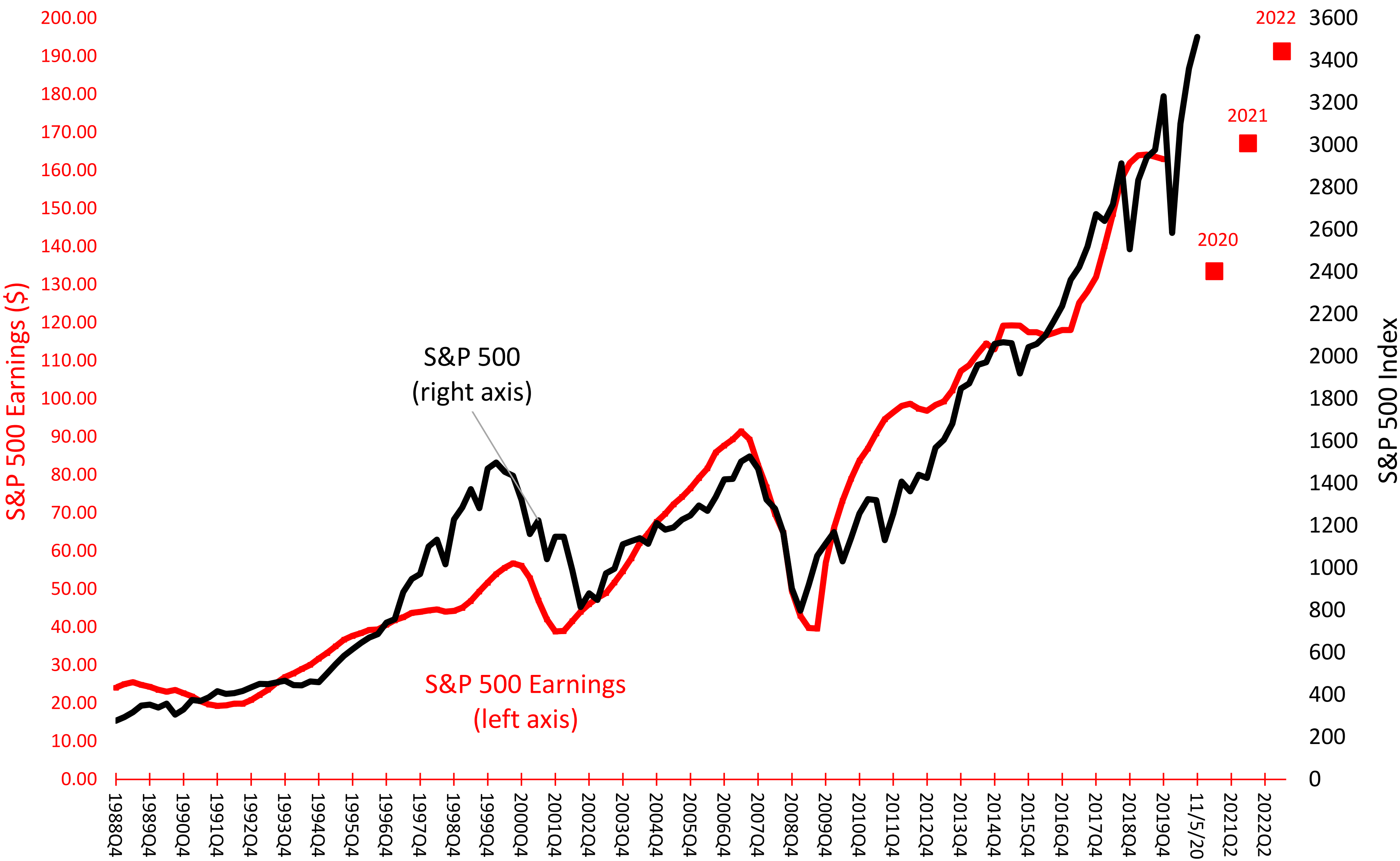
Stock market arithmetic

S&P 500 earnings – actual and I/B/E/S estimates



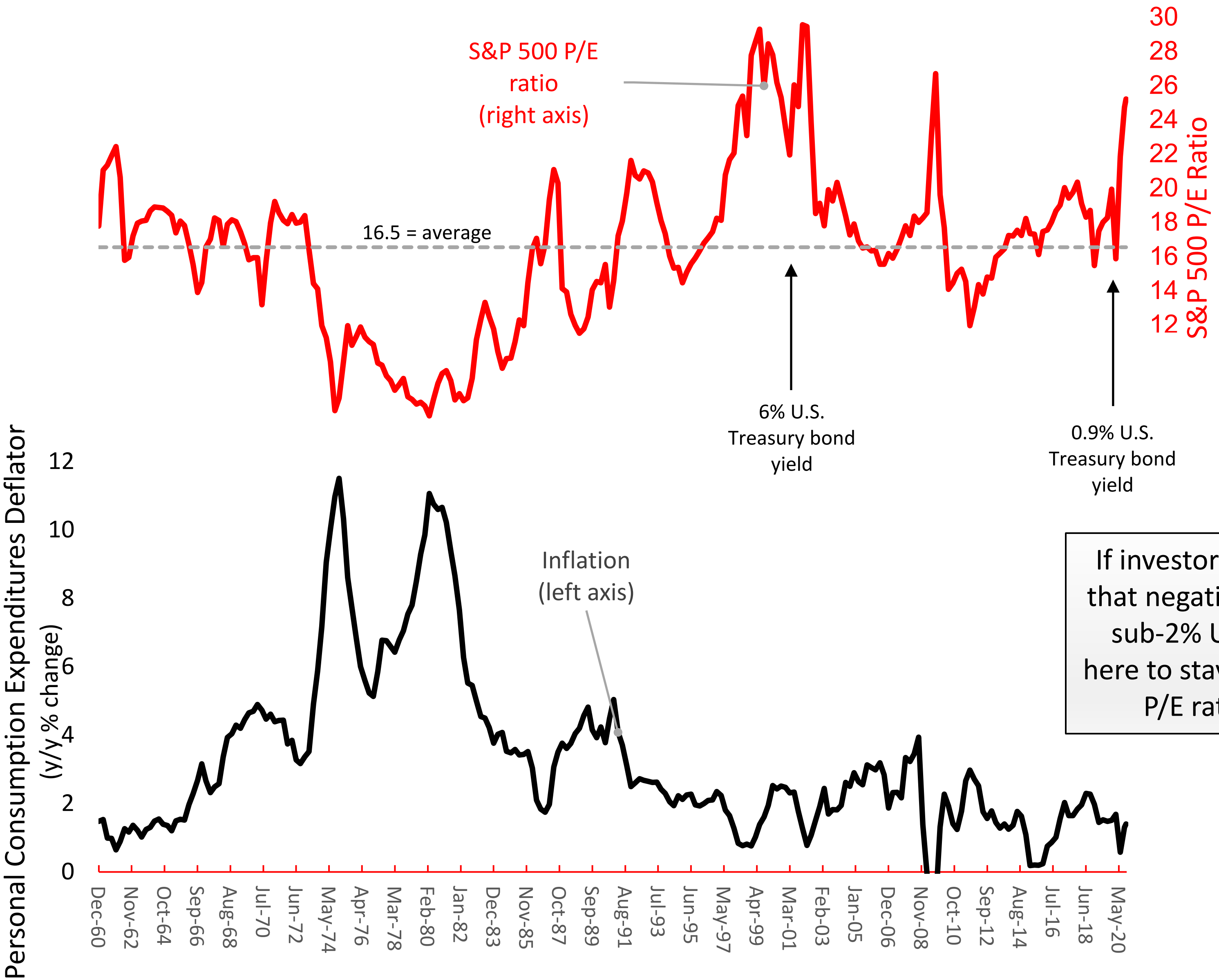
2019 (actual), 2020 (estimated), 2021 (estimated) and 2022 (estimated) bottom-up S&P 500 operating earnings per share as of November 2, 2020: for 2019(a), $162.97; for 2020(e), $133.55; for 2021(e), $167.10; for 2022(e), $191.29. Sources: Yardeni Research, Inc. and Thomson Reuters I/B/E/S for actual and estimated operating earnings from 2015. Standard and Poor's for actual operating earnings data through 2014.

S&P 500 vs. actual and I/B/E/S estimated earnings



2019 (actual), 2020 (estimated) and 2021 (estimated) bottom-up S&P 500 operating earnings per share as of November 2, 2020: for 2019(a), $162.97; for 2020(e), $133.55; for 2021(e), $167.10; for 2022(e), $191.29. Sources: Yardeni Research, Inc. and Thomson Reuters I/B/E/S for actual and estimated operating earnings from 2015. Standard and Poor's for actual operating earnings data through 2014; and stock index price data through November 5, 2020.

S&P 500 P/E ratio vs. inflation



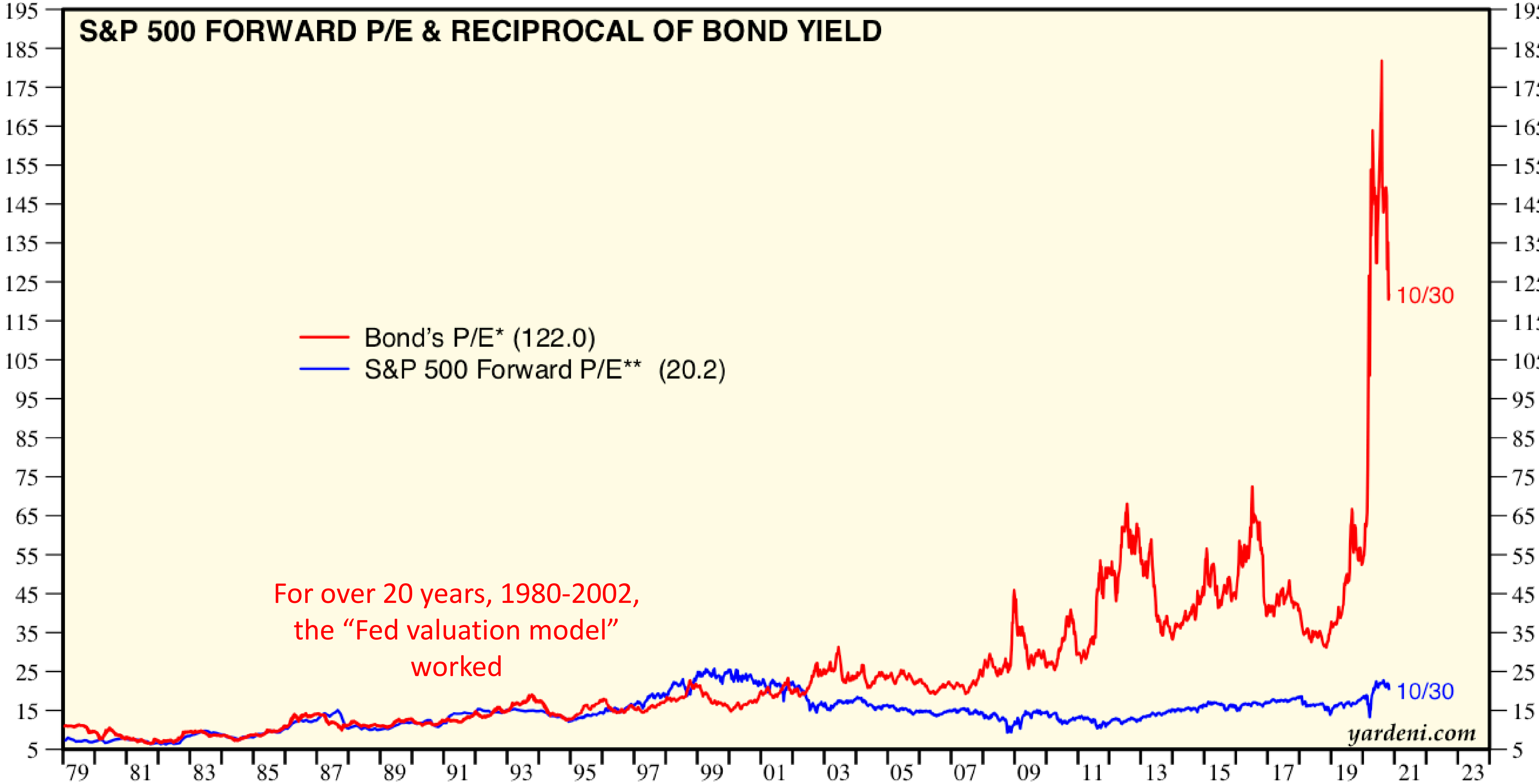
The S&P 500's latest P/E ratio (11/6/20) on trailing 12-months operating earnings is 25.2X; and 21.0X 2021 estimates.

If investors become convinced that negative yields abroad and sub-2% U.S. bond yields are here to stay, a new era of higher P/E ratios could result.

Sources: Standard & Poor's Corporation and Thomson Reuters I/B/E/S earnings estimates, BEA. Stock price data through November 6, 2020; inflation data through September 2020. Top panel, latest data point: 3509 ÷ estimated trailing operating earnings of $139.20 through 9/30/20 = 25.2X.

S&P 500 P/E ratio vs. bond yields

Figure 3.



* Reciprocal of 10-year US Treasury bond yield.
** 52-week forward consensus expected S&P 500 operating earnings per share. Monthly through March 1994, weekly thereafter.
Source: Standard & Poor's and I/B/E/S data by Refinitiv.

Source: Yardeni Research, Inc., with permission. November 4, 2020.

Stocks and politics

Get Ready for the Biden Stock Boom

By Ed Finn

"If Joe Biden is elected president, expect turbulence in the stock market. Between now and Jan. 20, when Mr. Biden would move into the White House, stocks could easily drop 10%.

Over a four-year Biden term, however, there is reason to believe that the total return on stocks, including reinvested dividends, will average about 10% a year, as they have for nearly a century. It's even possible that U.S. investors will enjoy annual stock returns of 15% or better during a Biden administration.

… Yet if a President Biden can control the federal budget deficit, if he can forge better relationships with America's trading partners, if he can reverse some of President Trump's anti-immigration policies, if he can bring a less combative atmosphere to Washington and the nation, there is no reason to think that during his term average annual stock returns, including dividends, can't be in the 10% range, as they have for the past 95 years.

Given Mr. Biden's ambitious plans to use increased tax revenue to fund more spending on green energy, health care and infrastructure, it's conceivable he could spur the U.S. economy enough to push annual stock returns to 15%.

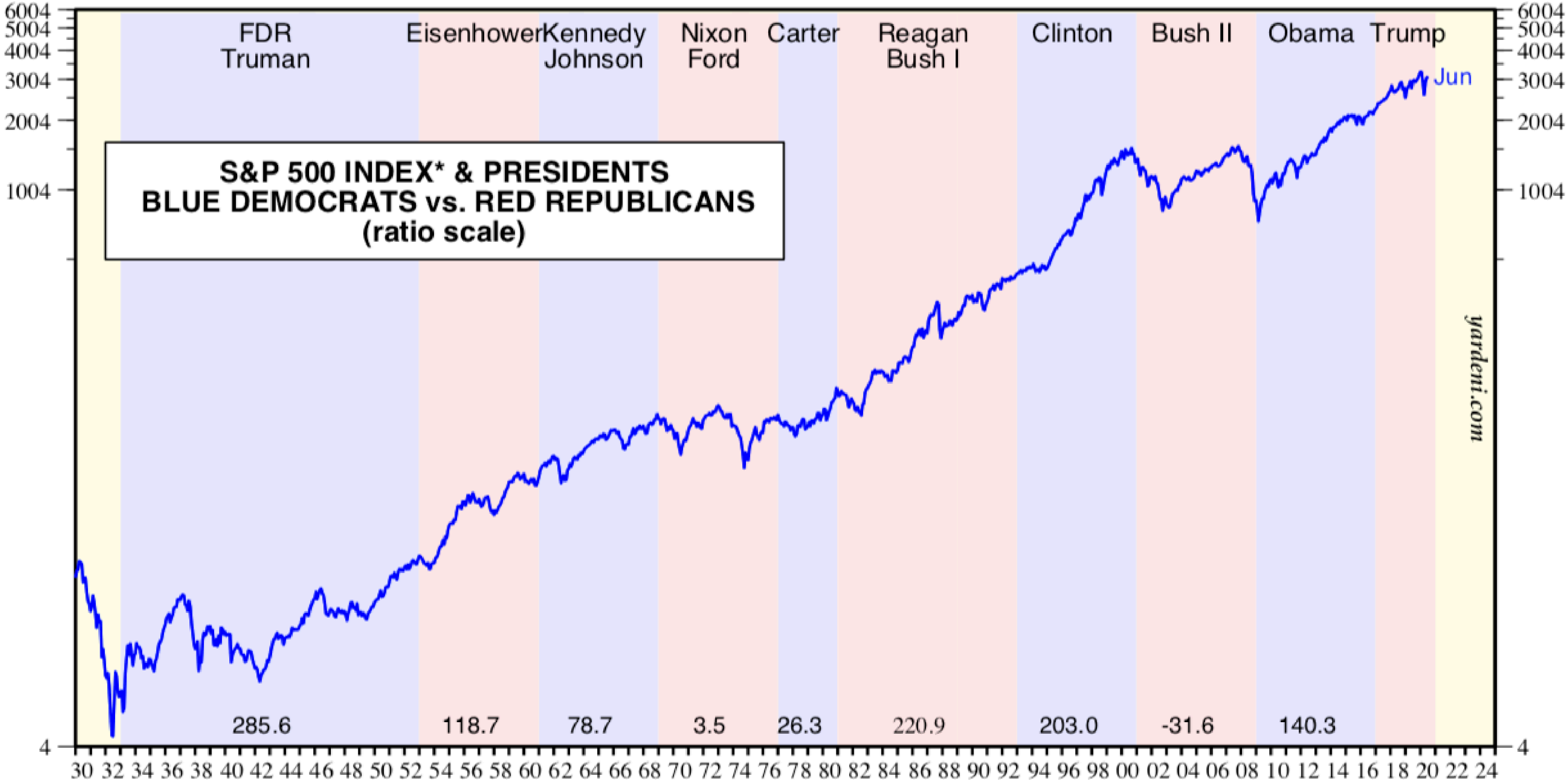
Returns averaged 17.5% a year under President Bill Clinton and 16.3% a year under President Barack Obama, according to Sam Stovall, chief investment strategist at the research firm CFRA. Compare this with 14.6% a year under Presidents Ronald Reagan and George H.W. Bush. George W. Bush, who was plagued by the crash of 2008 a few months before he left office, clocked in with a negative 4.5% a year. From the inauguration of Donald Trump through Aug. 7, stock returns have averaged about 13.7% a year."

Mr. Finn, a consultant to media companies, was editor and president of Barron's, 1998-2017.

Source: *The Wall Street Journal*, August 11, 2020.

Stocks and politics

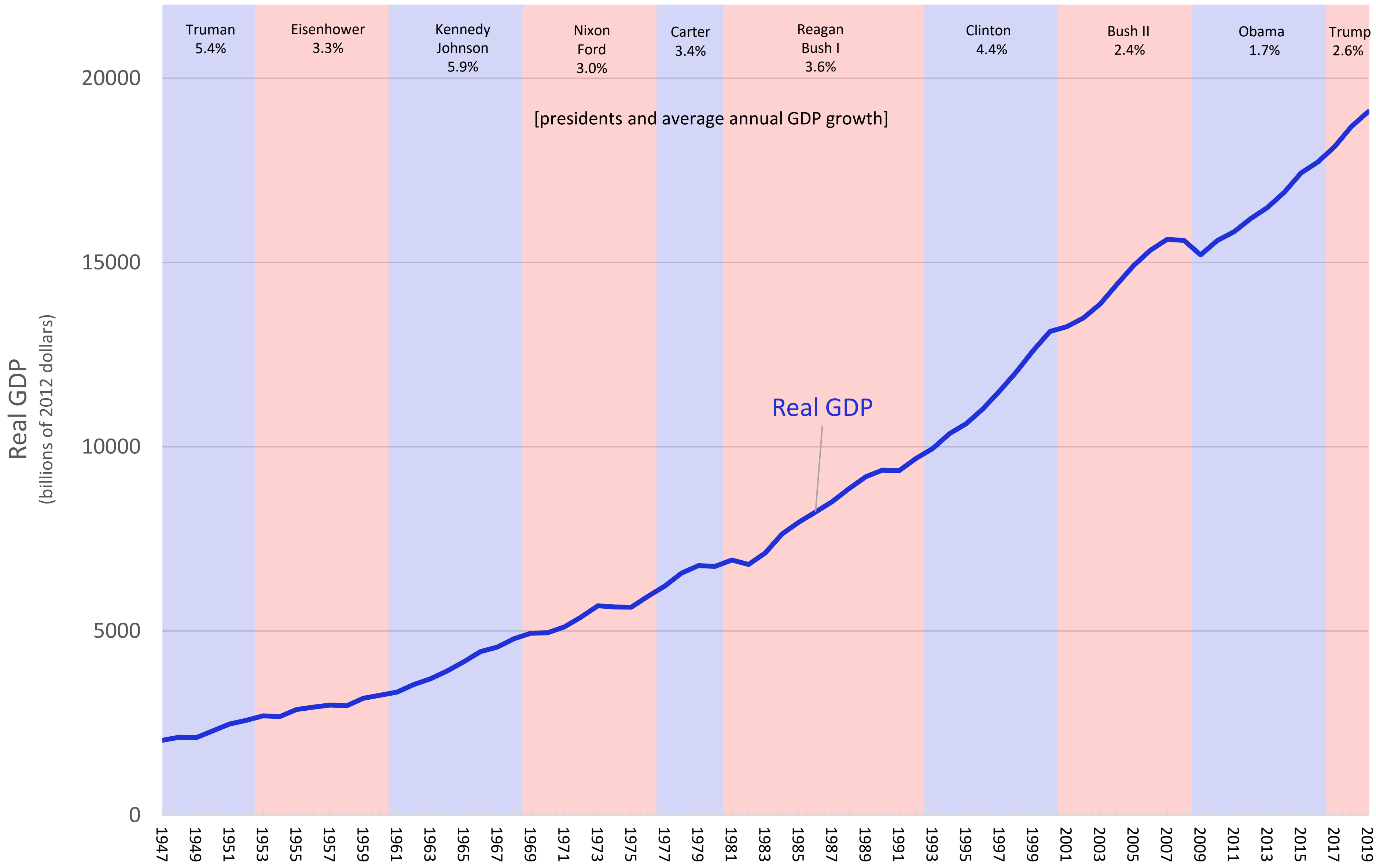
Figure 1.



* End-of-month daily data through 8/31/2016.
Note: Blue (red) shades represents Democrats (Republicans) in White House. Data above timeline are percentage changes in S&P 500 for each shade.
Source: Standard & Poor's.

Source: Yardeni Research, Inc., with permission, June 30, 2020.

GDP and politics



Source: BEA, annual GDP data through 2019.

Fed policy

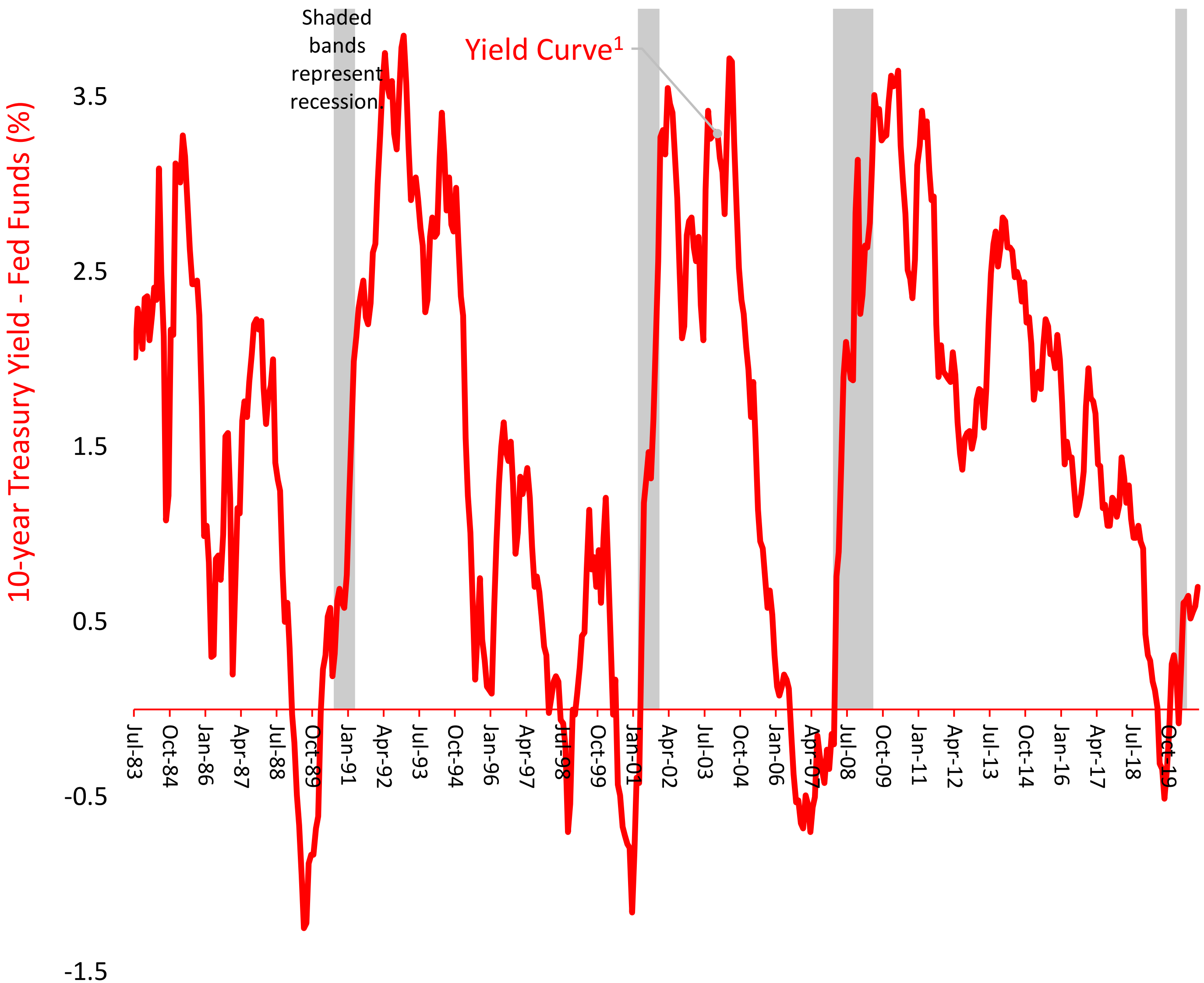
- “We’re not thinking about raising rates. We’re not even thinking about thinking about raising rates.”[1]
- abandoned the Phillips Curve inflation model[2]
- no longer aiming for a 2.0% bullseye on the inflation target but rather for an average around it[2]
- **Low Rates Forever!**[3]

- the Fed’s inflation forecasts have consistently been too high
- inflation expectations trending lower for past 15 years
- the Fed manages the yield curve
- the Fed has created every recession – by inverting the yield curve – since the 1950s

[1] Fed Chairman Powell, press conference June 10, 2020.
[2] Fed Chairman Powell’s speech, August 27, 2020.
[3] *The Wall Street Journal*, August 28, 2020.

Federal Reserve policy

Fed's key policy lever is the yield curve



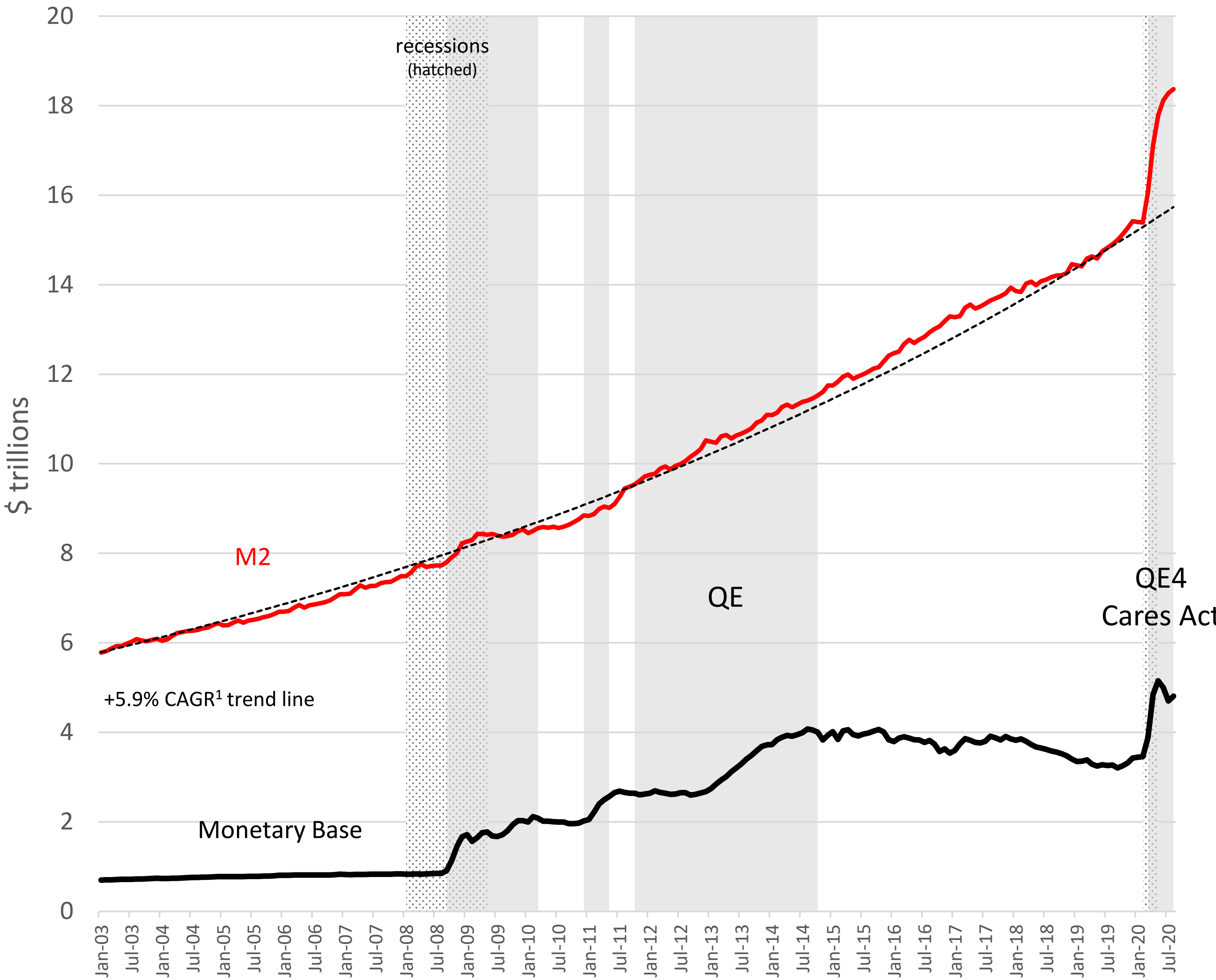
Flat or negative yield curves have preceded recessions.

Sources: NBER, Federal Reserve. Data through October 2020.

[1]The interest rate on the 10-year Treasury bond (long term) minus the fed funds rate (short term).

Federal Reserve policy

Quantitative easing, the monetary base and the money supply



M2: currency held by the public plus checking, savings and money market accounts.

A quadrupling of the monetary base with QE did not affect M2 growth. The CARES Act did … by putting money directly into consumers' and businesses' accounts.

Monetary base: currency in circulation plus reserve balances (deposits held by banks in their accounts at the Federal reserve).

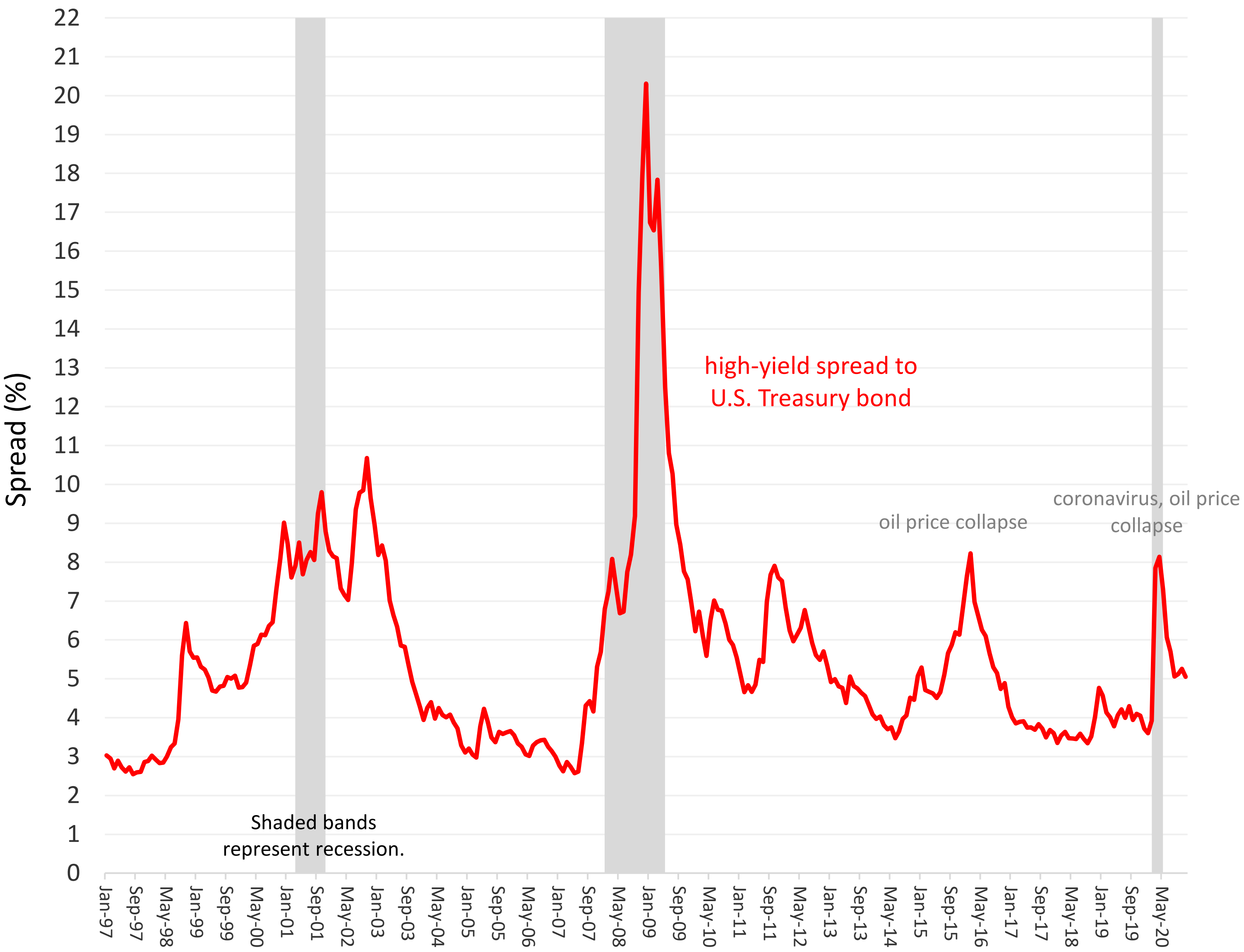
Source: Federal Reserve, statistical release H.3 and H.6. M2 data through August 2020; monetary base data through August 2020.
[1]CAGR = compound annual growth rate.

Bond Yields

- lowest yields in history
- yields don’t make sense by historic comparison
- Fed’s QE took yields to those levels
- the Fed and ECB continue to pin rates down

Stock market

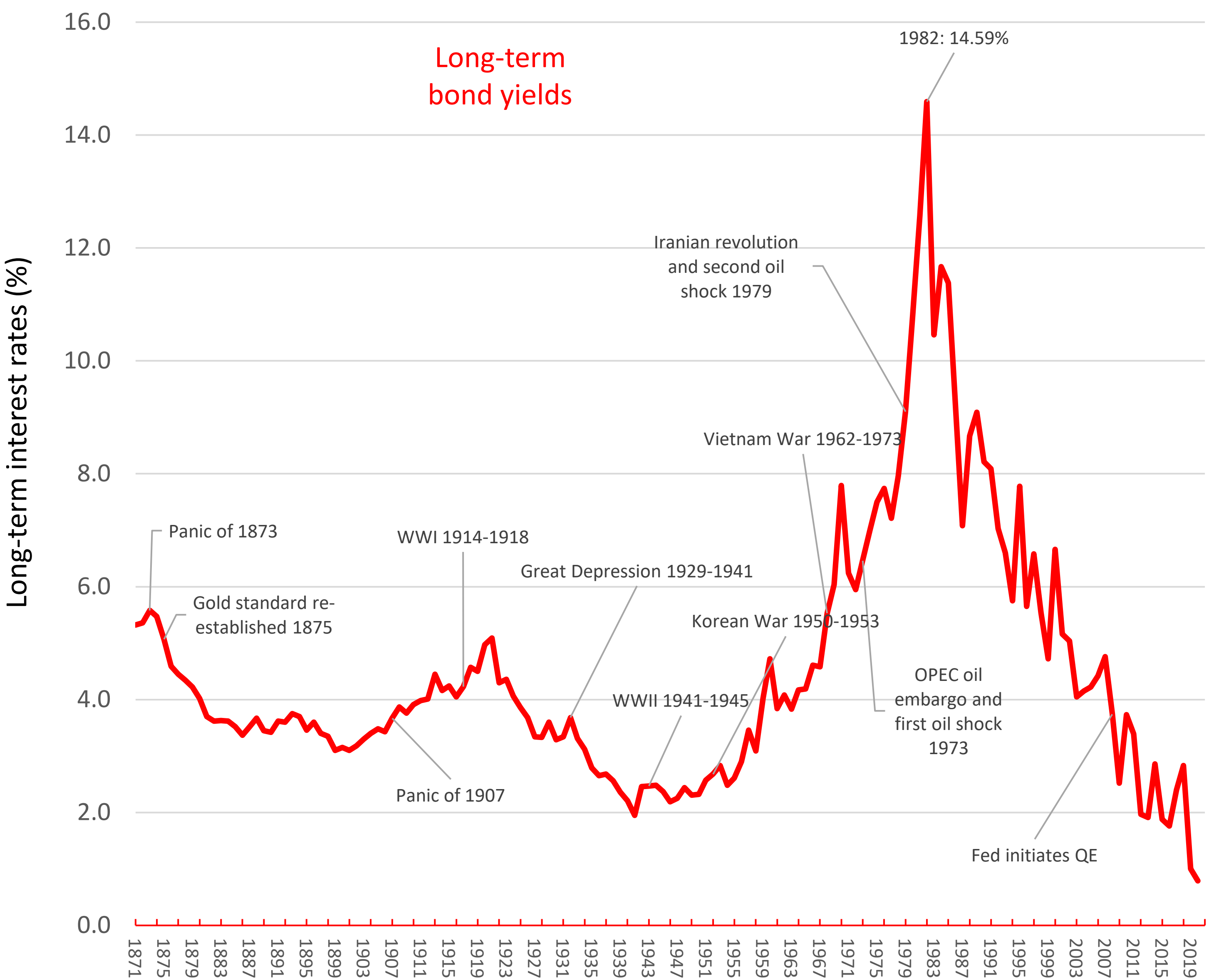
Fear, recovery reflected in the high yield-bond market



Recession fears were reflected here, but no longer.

Source: ICE Benchmark Administration Limited (IBA), ICE BofAML US High Yield Master II Option-Adjusted Spread [BAMLH0A0HYM2], retrieved from FRED, Federal Reserve Bank of St. Louis. Data through October 2020.

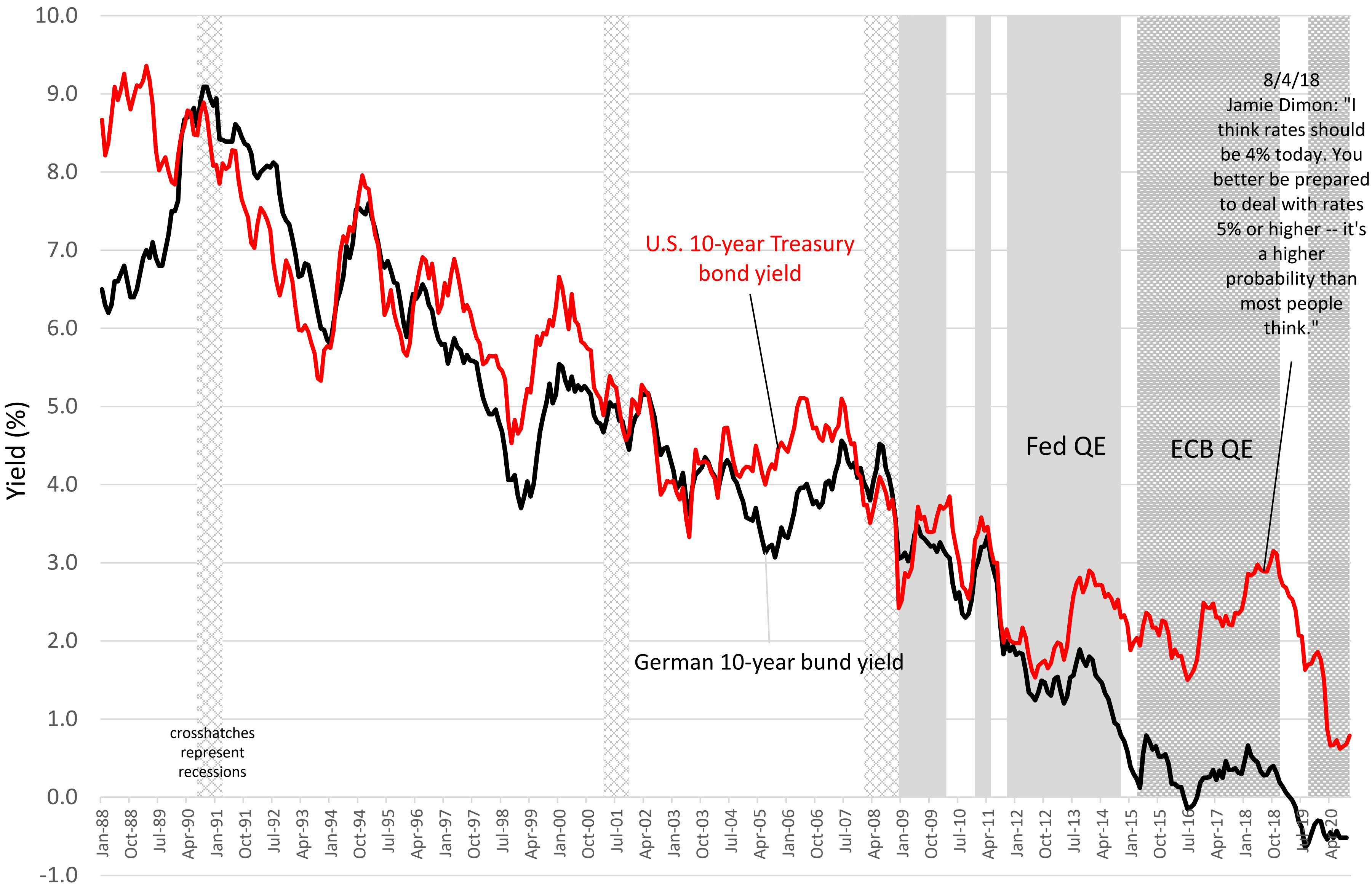
Record low U.S. Treasury bond yields



The lowest long-term interest rates in U.S. history.

Source: Online Data Robert Shiller, data through 2016; 10-year U.S. Treasury bond yield data from 2017; data through October 2020.

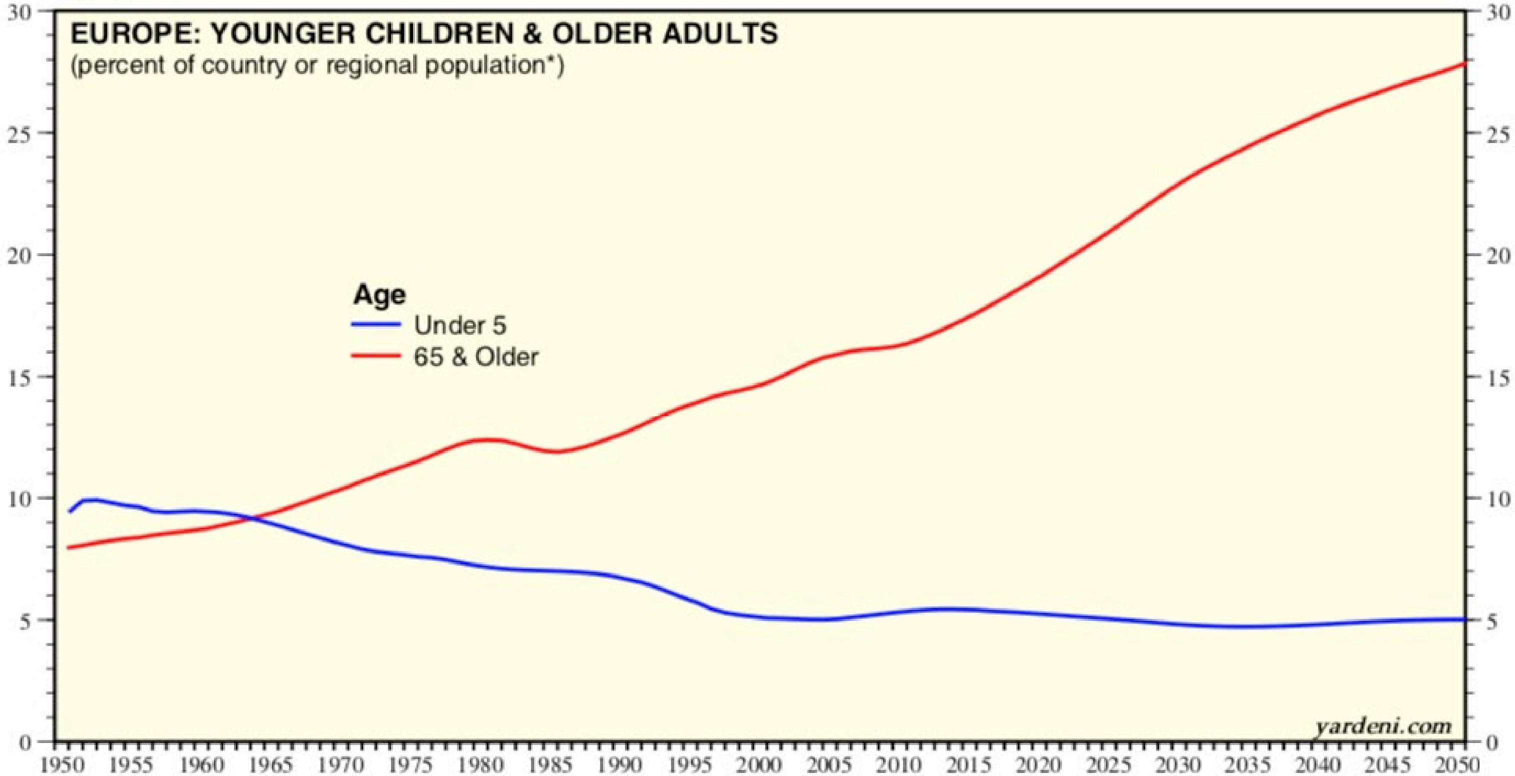
ECB QE is weighing on U.S. Treasury bond yields



Source: Federal Reserve, data through October 2020.

Europe's ageing population

Figure 9.



* Estimates through 2015, then projections through 2050.
Source: United Nations.

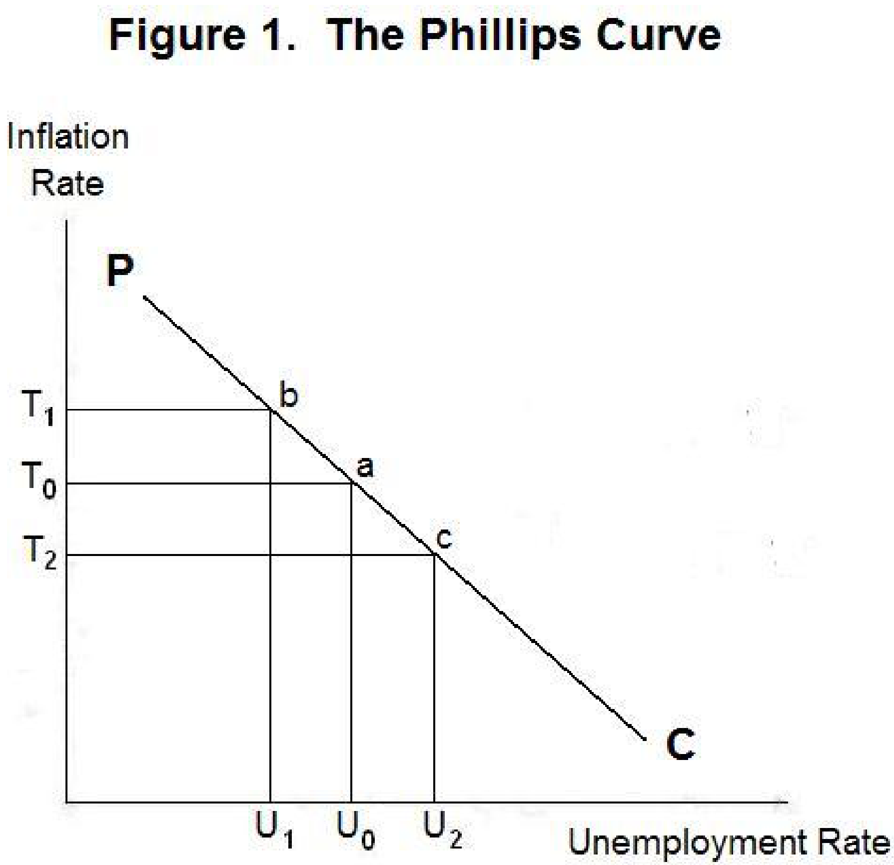
Demographics driving a global savings glut, driving bond yields down.

Source: World Bank, 2019. Data through 2017. Euro area includes the 19 countries that use the Euro currency, including Germany, France, Italy and Spain.

Inflation

- What Phillips curve?
- headline PCED +1.4%, +1.6% core
- employment cost inflation dropped
- productivity offsets rising employment costs
- inflation has been trending at +1.5% for 10 years
- inflation expectations in 15-year decline

Phillips curve

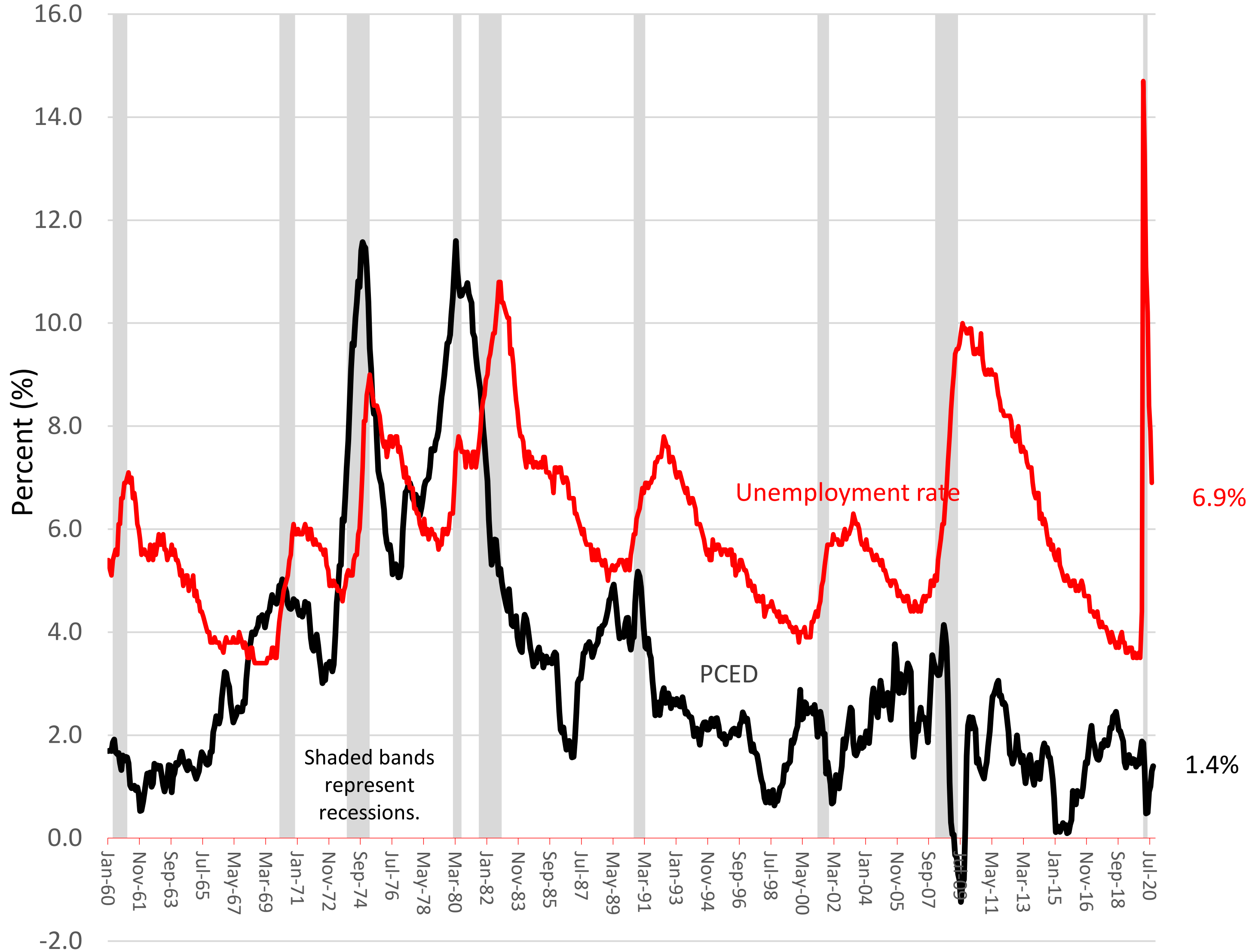


This simple schematic illustrates the common notion of an inverse relationship between inflation and the unemployment rate.

The theory behind the Phillips Curve: as labor becomes scarcer employers bid up wages, which are passed through to consumers in the form of higher prices.

This discussion is relevant at present because to the extent the Fed believes the Phillips Curve exists, today's record low unemployment rate might push them to head off higher inflation with more aggressive monetary tightening.

Phillips curve – unemployment vs. inflation

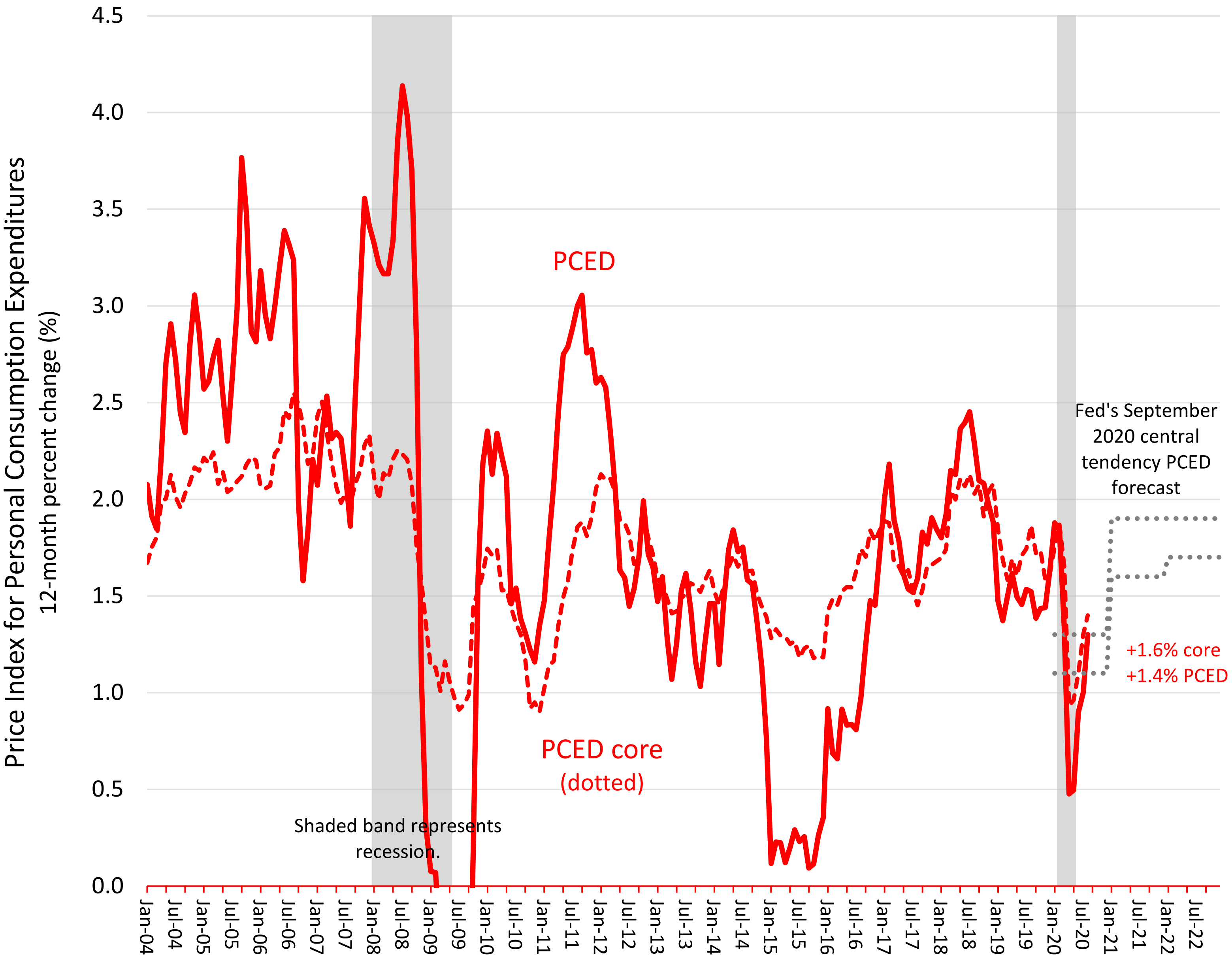


This chart illustrates the historic relationship between inflation and the unemployment rate. The correlation coefficient is +0.17, suggesting a positive, not inverse, relationship.

Reasons for global disinflation: a) labor unions lost power, b) globalization, c) technology revolution, d) Amazon, e) aging demographics.

Source: NBER, BLS, Federal Reserve Bank of St. Louis. Unemployment data through October 2020; PCED data through September 2020.

PCED – headline and core

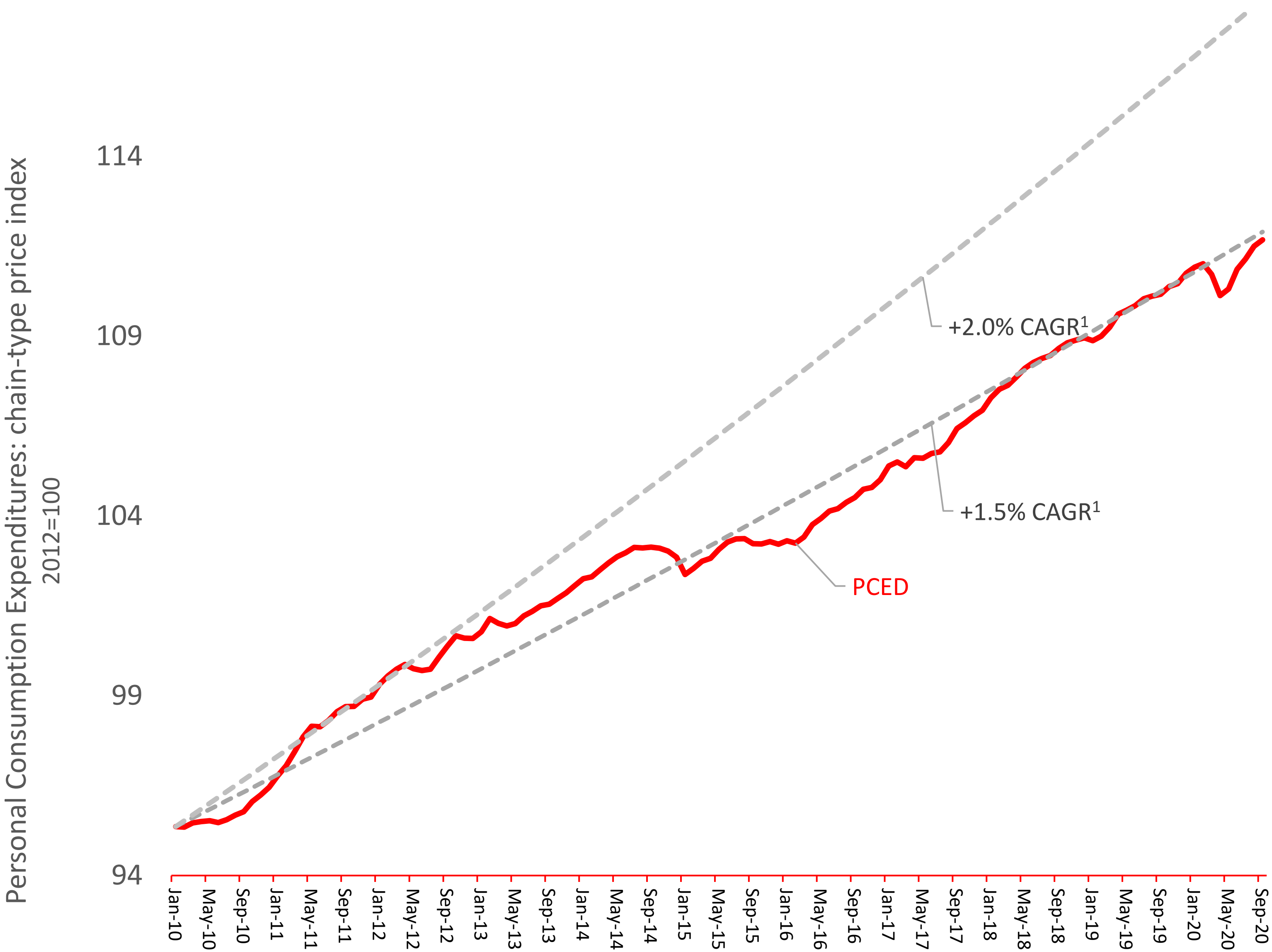


Inflation plunged with Covid-19.

At +1.4% inflation is running way below the Fed's longstanding +2% target.

Source: NBER, Federal Reserve Bank of St. Louis. Data through August 2020.

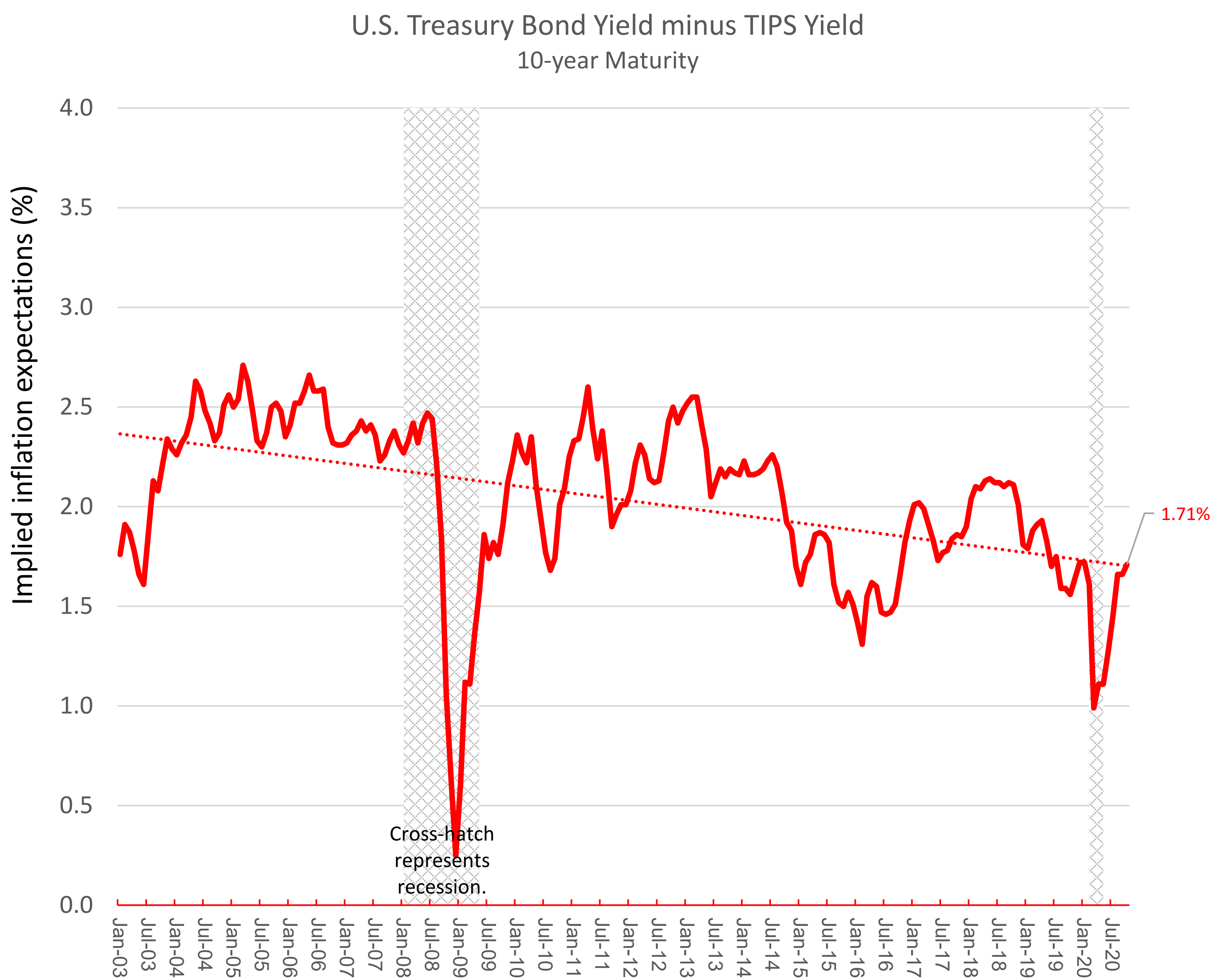
Inflation has been trending at 1.5% for years



Inflation has been running way below the Fed's 2% forecast and 2% target.

Source: U.S. Commerce Department reported by Federal Reserve Bank of St. Louis. Data through September 2020.
[1] CAGR = compound annual growth rate.

Inflation expectations have been declining for 15 years

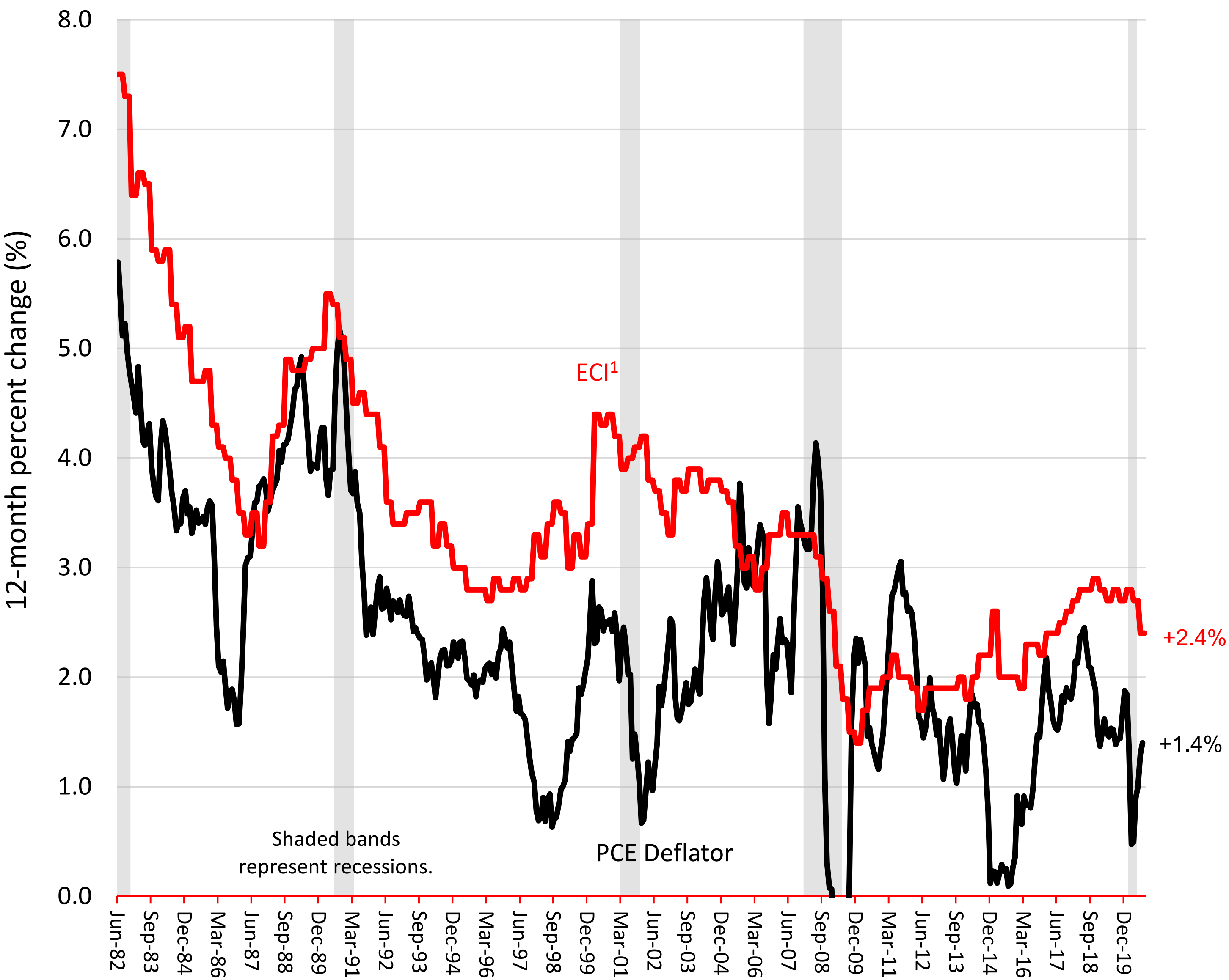


The difference between the nominal 10-year Treasury bond yield and the TIPS yield gives the market's opinion for a 10-year inflation forecast.

It has been trending lower for 15 years.

Source: Federal Reserve. Data through October 2020.

Employment cost index and inflation

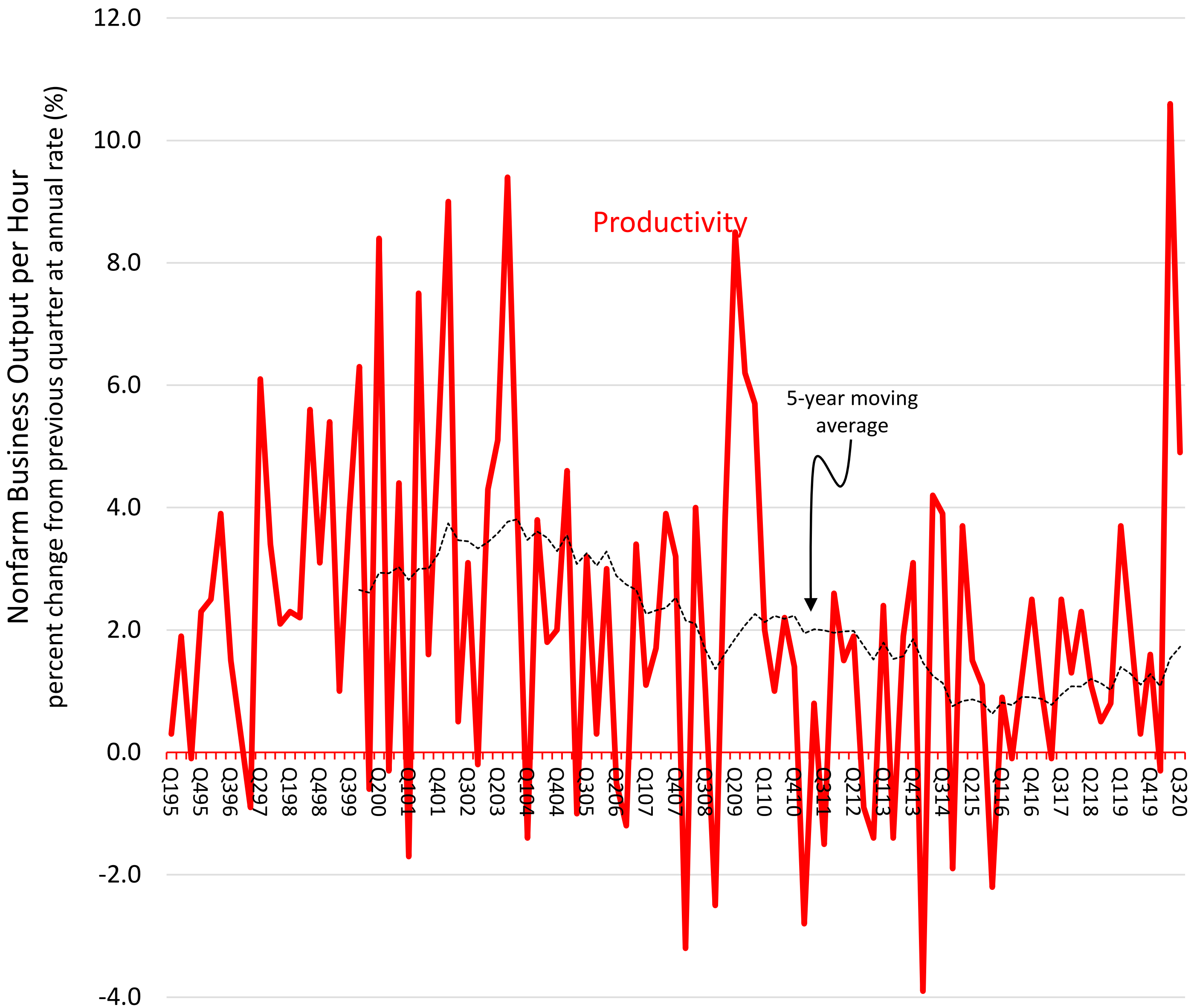


Overall inflation has remained well below wage and benefit inflation.

Inflation (PCE deflator) generally runs lower than measured ECI inflation because higher employment costs can be offset by productivity gains.

Source: Bureau of Labor Statistics and BEA. ECI quarterly data through September 2020. PCED monthly data through September 2020.
[1] Employment Cost Index. The BLS ‘s ECI is built with fixed weights for individual industries and occupations.

Productivity – trending up



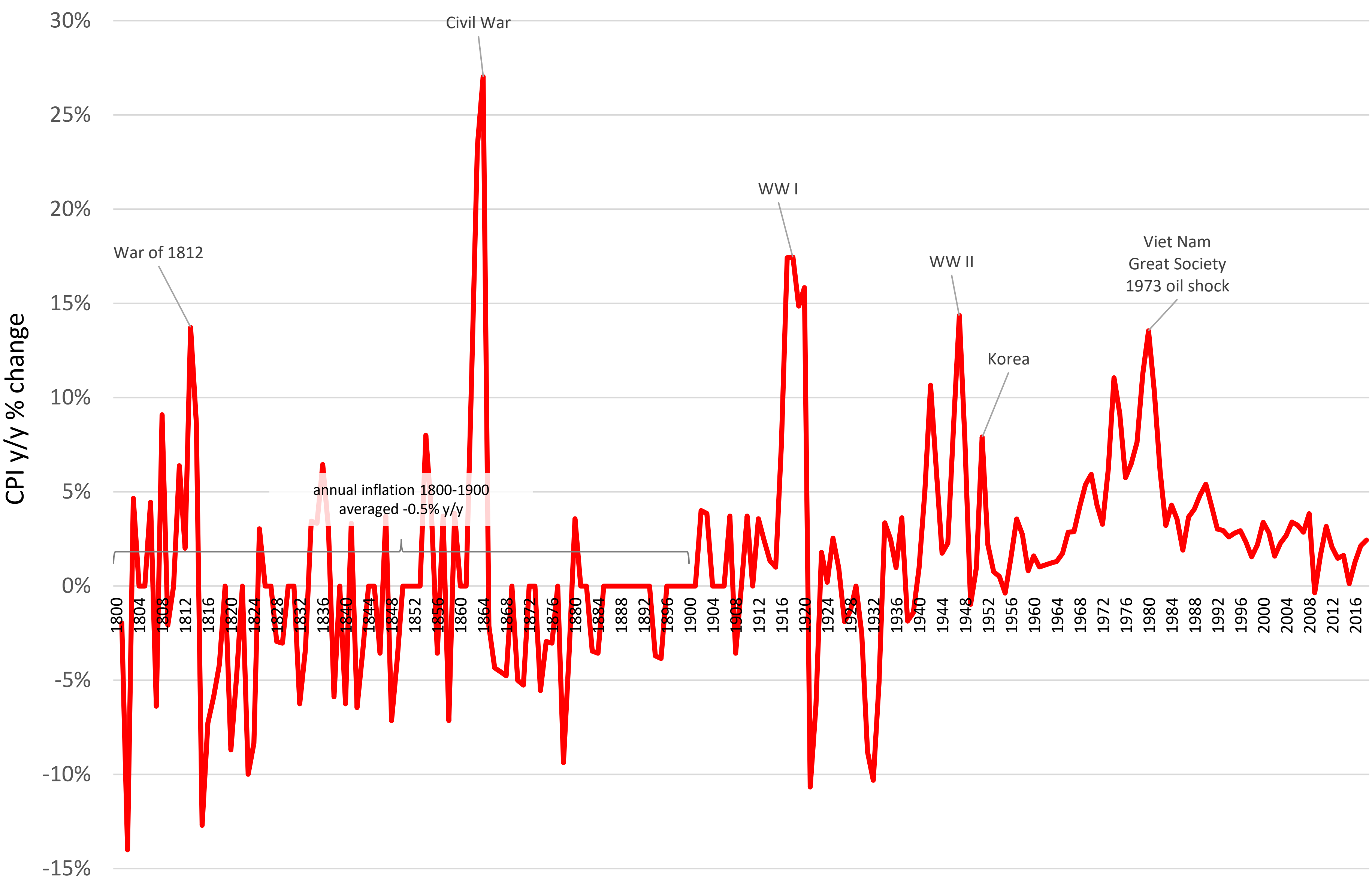
Productivity gains have averaged +1.7% per year for the last five years, lower than the historic average, but the trend is improving.

Productivity gains partially offset wage gains.

Source: Bureau of Labor Statistics, quarterly data through September 2020.

Inflation

CPI from 1800



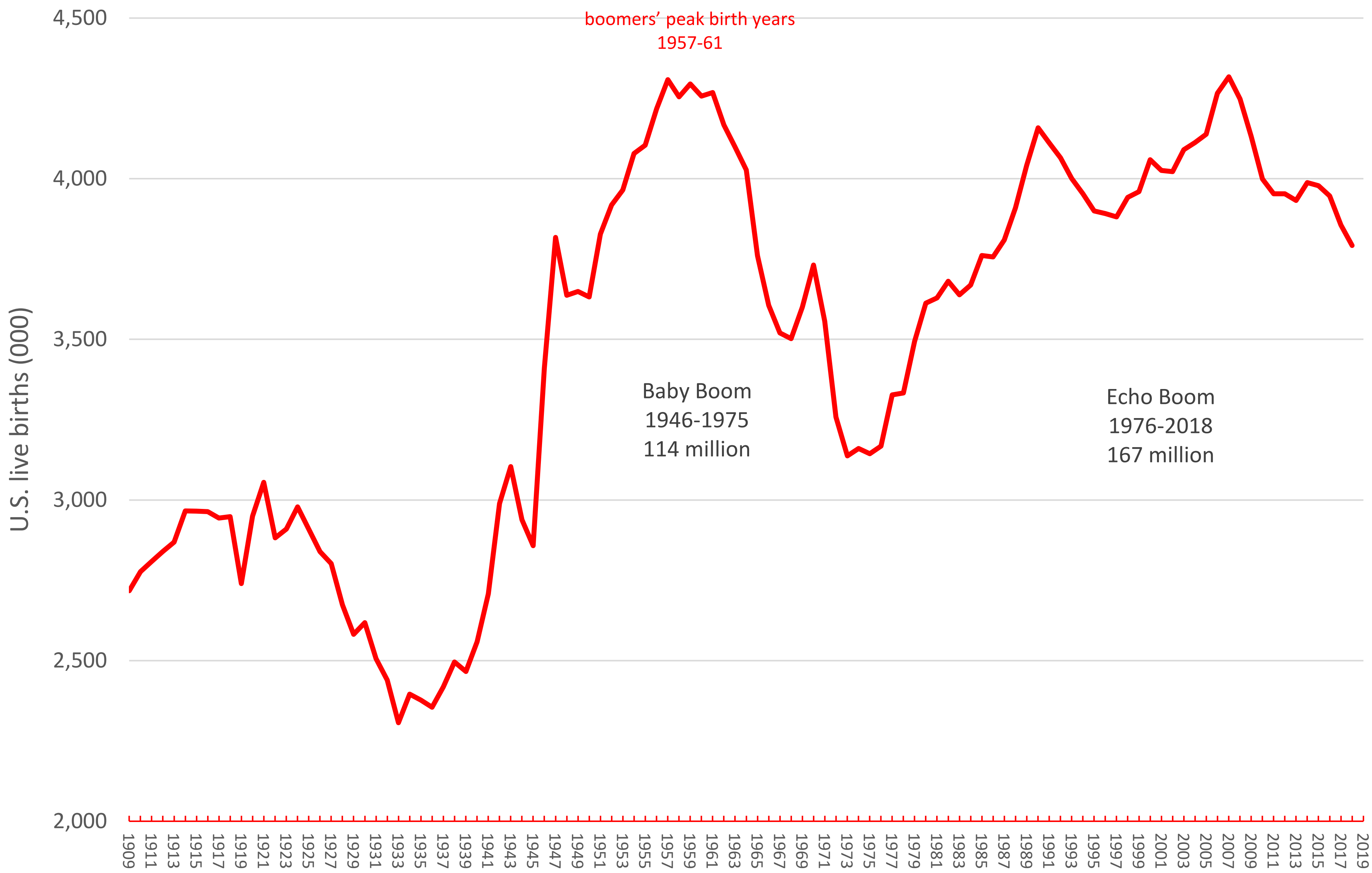
Source: For 1800 though 1970: FRBSL, *Historical Statistics of the United States, Colonial Times to 1970*, U.S. Department of Commerce. Page 197.
For 1970 through 2018: FRBSL.

Global demographics

- U.S. “echo boom” to drive a recovery in working age population growth
- U.S. working-age population forecasts are favorable compared to other major economies
- immigration accounts for 48% of U.S. population growth
- global population bust
- *working-age population in Europe, Japan and China is already in decline*

GDP growth potential = Δ productivity + Δ labor force

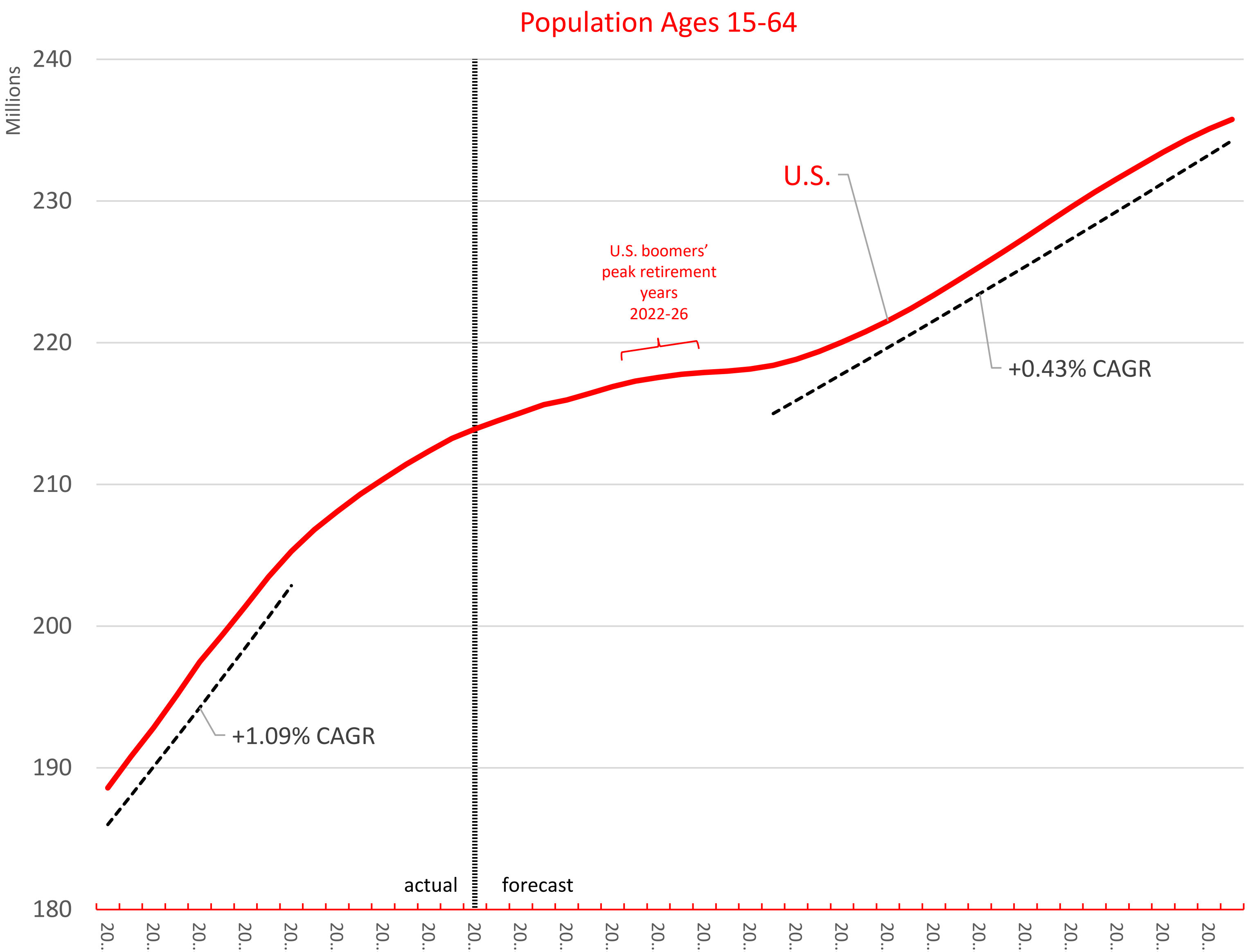
U.S. live birth profile



Source: U.S. Center for Health Statistics, annual data through 2018.

GDP growth potential = Δ productivity + Δ labor force

U.S. working age population forecast



The U.S.'s prime working age population growth is set to slow to a crawl through 2029.

Thereafter, beginning in 2030, growth picks up to a trend rate of +0.43% CAGR.

Source: World Bank, 2019. Data through 2017.

Immigration

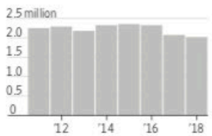
Immigration's Impact on Nation Grows

U.S. is relying more on newcomers, who now propel population gains in 10% of counties

By Janet Adamy
And Paul Overberg

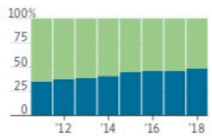
As growth slows...

Annual increase in U.S. population



...migrants' share is up...

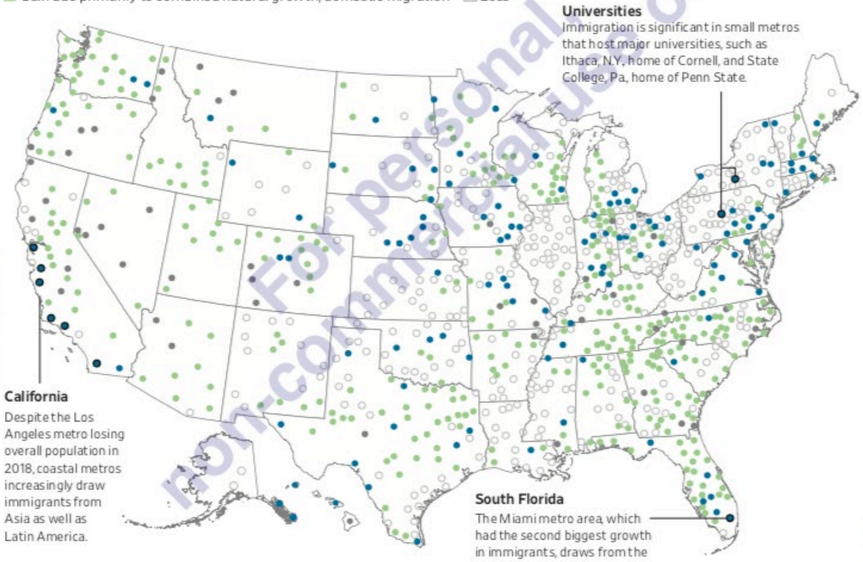
Increase from: Natural growth / Immigration



...fueled largely by arrivals in the East and South.

Number of migrants from abroad per 100,000 population from 2017-18, top destinations

2017-2018 population change in U.S. metro areas



*International migration was greater than combined gain/loss from natural growth and domestic migration
Source: U.S. Census Bureau

Max Rust/THE WALL STREET JOURNAL

WASHINGTON—About one in 10 U.S. counties grew in the fiscal year that ended last June primarily because of immigration—a significant increase from 2011—showing how new arrivals are shaping the nation as the population ages and the birthrate slows, new census figures show.

The share of U.S. population growth that comes from immigration has risen steadily since the start of the decade, when the fallout from the financial crisis prompted many people to delay having children.

That fertility lull has lasted longer than expected, and it overlaps with a large cohort of baby boomers facing retirement and rising death rates.

The share of U.S. population growth attributable to immigrants hit 48% for the fiscal year ended June 30, 2018, up from 35% in fiscal 2011.

The result is a country that is becoming increasingly dependent on immigrants to fill jobs and fund programs like Social Security and Medicare, economists said.

"We have a situation where U.S. fertility rates are really low and we're not actively adding to the workforce through natural increase," said Aparna Mathur, a resident scholar of economic policy at the American Enterprise Institute, a conservative think tank in Washington. "We cannot afford to talk about immigrants as bad for the U.S. economy."

Separate federal statistics released last year suggest that a number of women who put off having babies after the 2007-09 recession are forgoing them altogether. The general fertility rate in 2017 for women age 15 to 44 was 60.2 births per 1,000 women—the lowest since the government began tracking it more than a century ago, according to the National Center for Health Statistics.

Kenneth M. Johnson, a senior demographer at the University of New Hampshire, estimated that lower teen fertility accounts for about one-third of the overall decline in births among U.S. women.

The increase in women attending college is another force behind the birth decline, researchers say, because women with more skills face a greater financial trade-off if they pause their careers for children.

Still, the continued decline has flummoxed demographers, who expected a greater recovery in birthrates as effects of the recession faded.

For the last fiscal year, 298 of the nation's 3,142 counties grew primarily because of immigration instead of a surplus of births over deaths and from people moving around the country, according to the new Census Bureau figures. That is up from 247 counties in 2011, the earliest data in the figures released Thursday.

These counties include parts of large metro areas, such as most of the San Francisco Bay and the counties that contain San Diego, Houston, Dallas, Miami and Boston, as well as some of their suburban counties.

Fourteen states and the District of Columbia drew on immigration for more than half of their growth last fiscal year, including Florida, Kansas, Michigan, Ohio, Pennsylvania and Virginia.

Since 2010, the biggest share of immigrants—41%—has come from Asia, according to separate census figures. A fifth, or 21%, has come from Mexico and Central America, a flow of migrants that President Trump has sought to stem.

President Trump has made securing the southern U.S. border a top priority, saying earlier this month that the country couldn't take more immigrants because it's full.

Demographers said that maintaining a flow of immigrants, who are typically younger, is key to preventing the U.S. from becoming an older society where spending on the elderly absorbs an outsize share of the federal budget. The census numbers don't distinguish between legal and illegal immigrants.

The White House didn't respond to a request for comment Wednesday.

Advocates of immigration restrictions said that immigrants alone can't make up for an aging workforce or sufficiently fund entitlement shortfalls. "The bottom line is that it would take a ridiculous level of immigration to come close to maintaining even the current ratio of workers to nonworkers," said Steven Camarota, demographer and director of research at the Center for Immigration Studies. "Immigration isn't going to fix Social Security."

Almost one million people came to the U.S. last year, according to the census estimates. Though that is up 3% from 2017 and 5% from the average since the 2010 census, it is in line with longer-term averages.

Growth from immigration is spreading beyond traditional immigrant gateways. More than half of U.S. metropolitan areas gained more residents from abroad than they did from the rest of the country last fiscal year, the new census figures show.

—Louise Radnofsky contributed to this article.

The U.S. "is becoming increasingly dependent on immigrants to fill jobs and fund programs like Social Security and Medicare."

Netflix is the new birth control!

Words for Killing a Romantic Mood: Let's Watch Netflix

* * *

Is streaming video contributing to the nation's declining fertility rate?

By Shalini Ramachandran

Once upon a time, Netflix dates were synonymous with romance, best captured by the viral hashtag #NetflixandChill, a euphemistic suggestion disguised as an invitation to watch TV.

These days, the literal chill of the on-demand streaming video service is so great that some young couples call it the new birth control.

Consider this recent episode: Tony Lozzi, 35, tucked his children into bed and went downstairs to find his wife, Amber, streaming Netflix. She had been trying to get pregnant again, and he was in a romantic mood.

Death of kiss

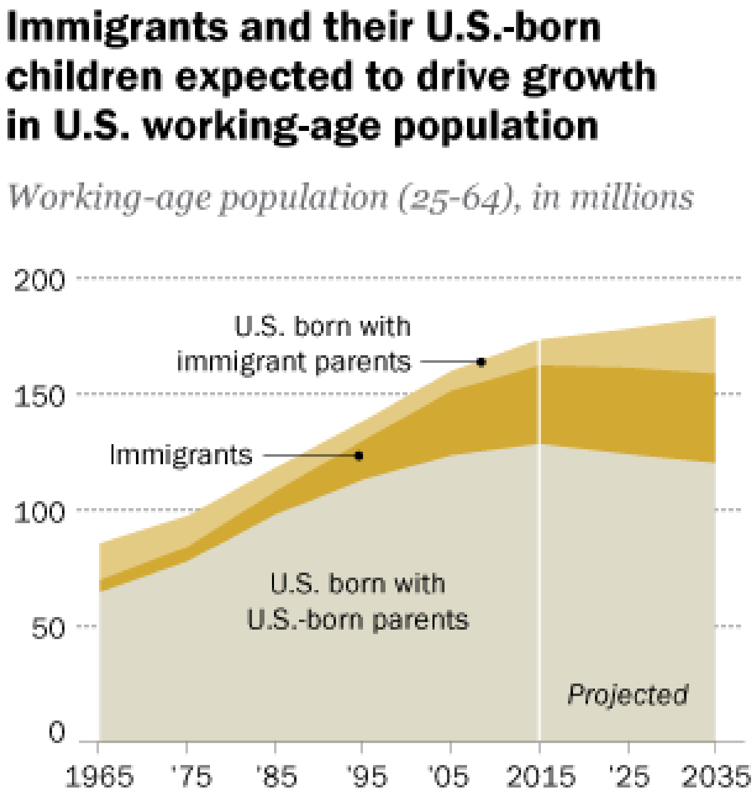
She made a counterproposal. "Or we could watch 'The Prophet,'" she said, referring to an animated movie based on a book by Lebanese-American author Kahlil Gibran.

"I'm a mom," the 31-year-old digital-marketing strategist explains. "I literally just want to Netflix and chill. We stop there."

Please turn to page A8

Source: *The Wall Street Journal*, April 18, 2019.

Immigration



Without future immigration the U.S. working-age population would decrease.

Source: Pew Research Center, *Immigration projected to drive growth in U.S. working-age population through at least 2035,* published March 8, 2017.

GDP growth potential = Δ productivity + Δ labor force
Working-age population forecasts

Figure 15.

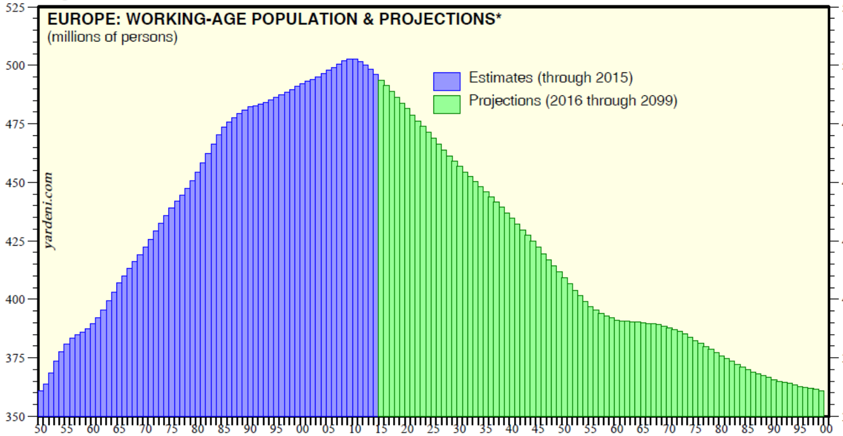


Figure 4.

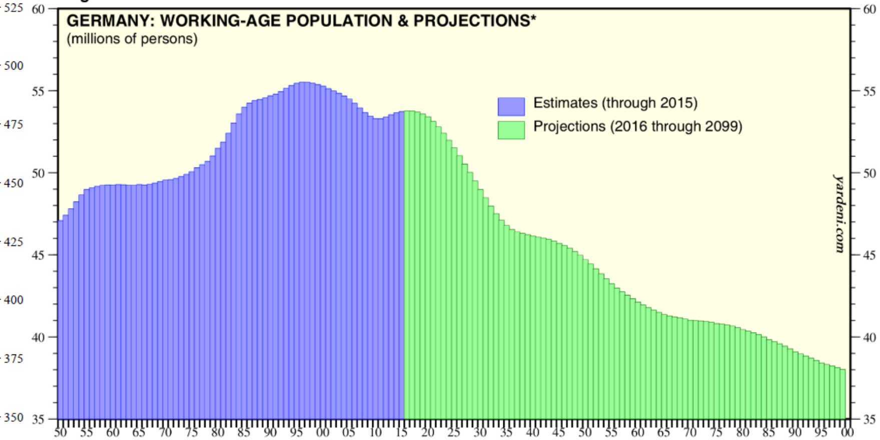


Figure 3.

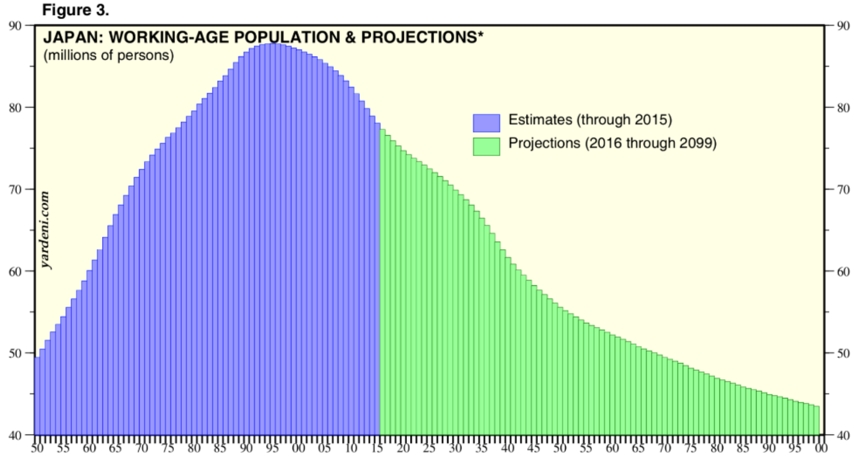


Figure 14.

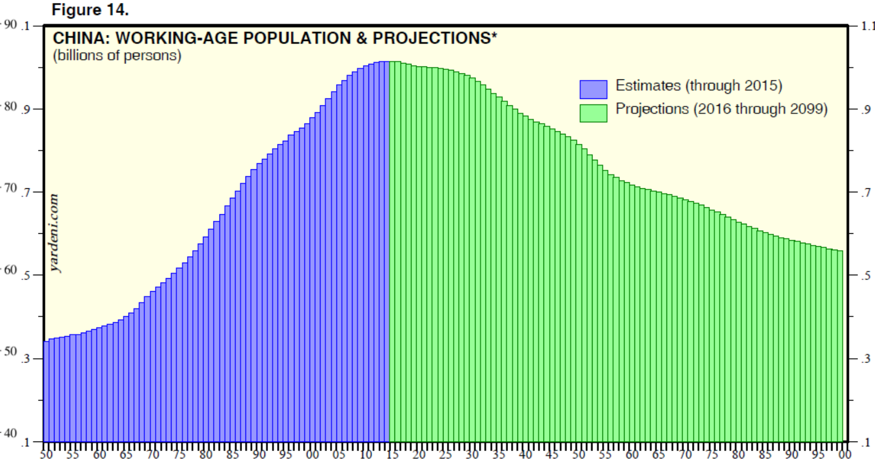
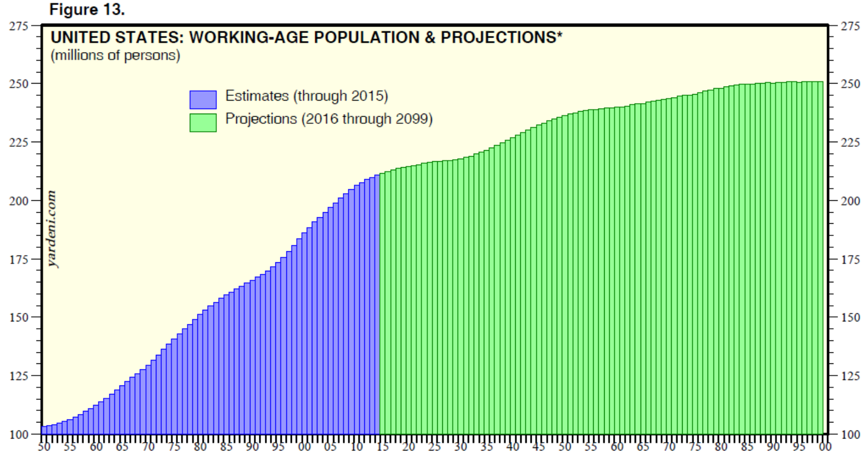


Figure 13.



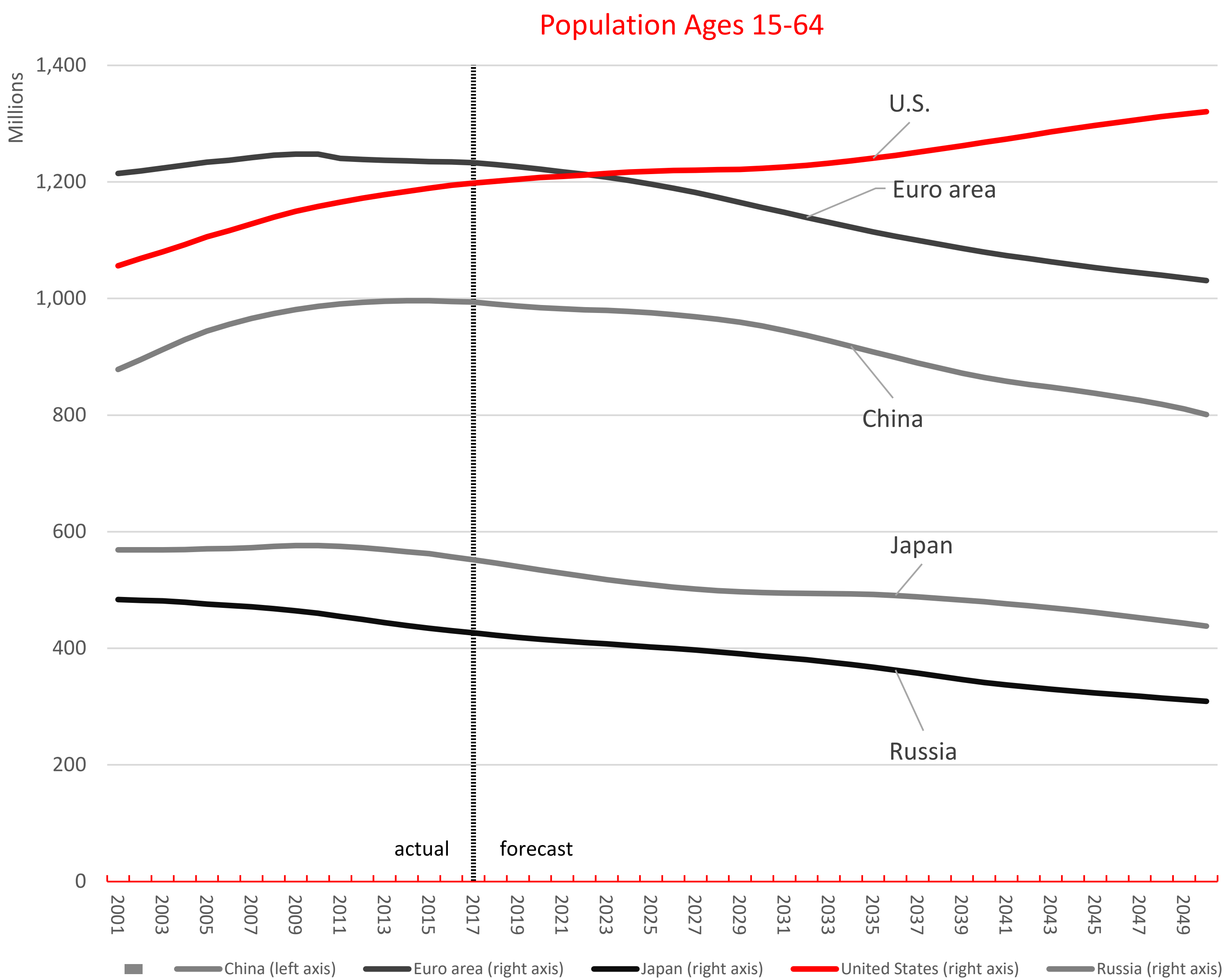
<u>U.S. demographics are favorable for long-term economic growth</u> in contrast to the world's other major economies.

* Persons 15-64 years old.
Source: United Nations.

Source: United Nations, illustrated by Yardeni Research, Inc., with permission.

GDP growth potential = Δ productivity + Δ labor force

Working age population forecasts



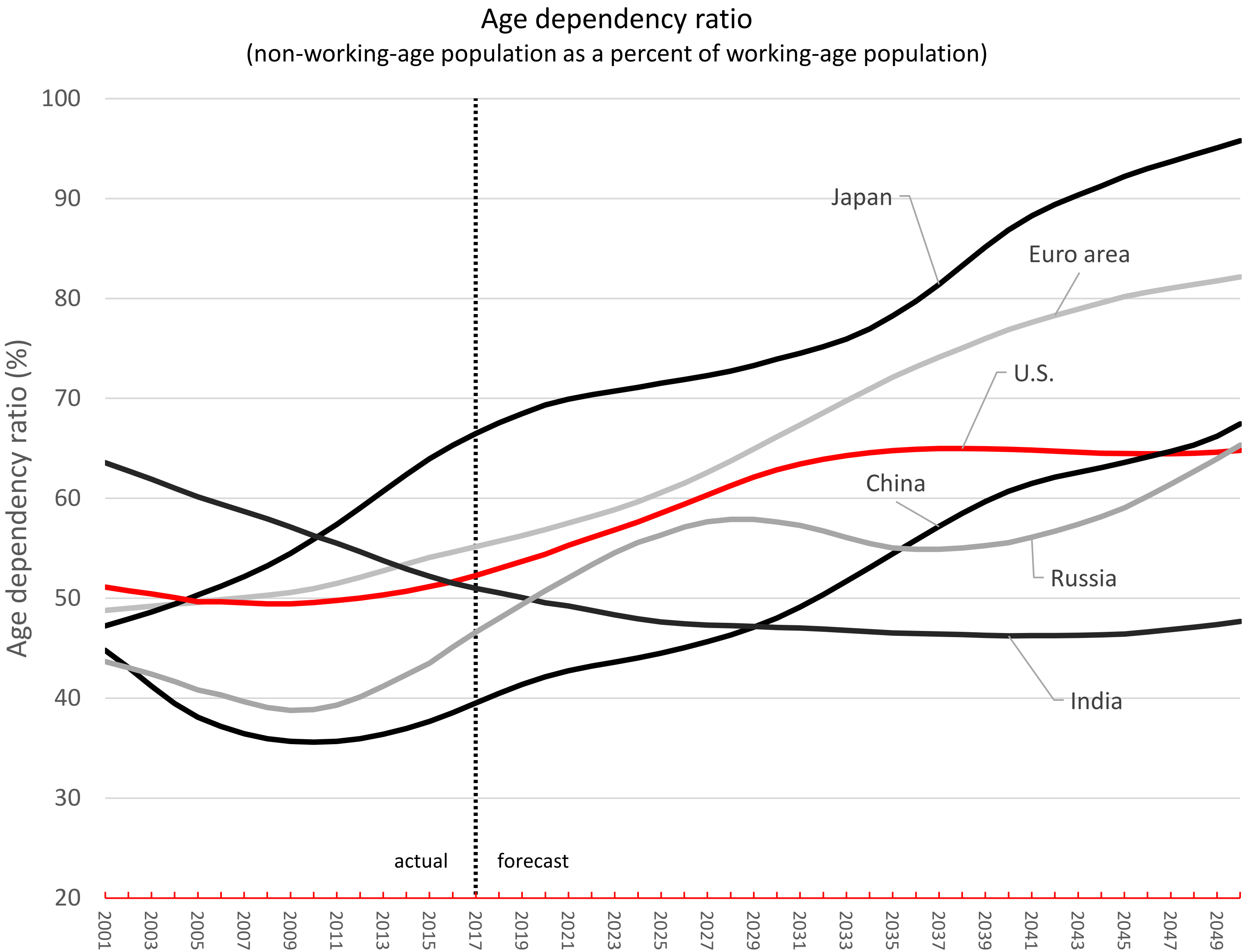
<u>The U.S. has favorable long-term demographic prospects</u> compared to the world's major economies.

The baby boom peaked in 1957-61. Which means that the boomers' peak retirement years will be 2022-2026.

Thereafter, growth in the working age population picks up.

Source: World Bank, 2019. Data through 2017. Euro area includes the 19 countries that use the Euro currency, including Germany, France, Italy and Spain.

Age dependency ratio



The U.S.'s long-term prospects are better than most.

Source: World Bank, 2019. Data through 2017. Euro area includes the 19 countries that use the Euro currency, including Germany, France, Italy and Spain.

Global population bust

FOREIGN AFFAIRS

REVIEW ESSAY

The Population Bust

Demographic Decline and the End of Capitalism as We Know It

By Zachary Karabell September/October 2019

"We do not face the challenge of a population bomb but a population bust—a relentless, generation-after-generation culling of the human herd."

Almost every country in Europe now has a fertility rate below the 2.1 births per woman that is needed to maintain a static population. … That trend is well under way in Japan, whose population has already crested, and in Russia, where the same trends, plus high mortality rates for men, have led to a decline in the population.

What is striking is that the population bust is going global almost as quickly as the population boom did in the twentieth century.

Fertility rates in China and India, which together account for nearly 40 percent of the world's people, are now at or below replacement levels. So, too, are fertility rates in other populous countries, such as Brazil, Malaysia, Mexico, and Thailand. Sub-Saharan Africa remains an outlier in terms of demographics, as do some countries in the Middle East and South Asia, such as Pakistan, but in those places, as well, it is only a matter of time before they catch up, given that more women are becoming educated, more children are surviving their early years, and more people are moving to cities.

Source: Foreign Affairs, September/October 2019.

Demographics

Global population bust

IHME

Measuring what matters

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The Lancet: World population likely to shrink after mid-century, forecasting major shifts in global population and economic power

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Publication date:

July 14, 2020

Reposting of press release published by The Lancet

- *By 2100, projected fertility rates in 183 of 195 countries will not be high enough to maintain current populations without liberal immigration policies.*
- *World population forecasted to peak in 2064 at around 9.7 billion people and fall to 8.8 billion by century's end, with 23 countries seeing populations shrink by more than 50%, including Japan, Thailand, Italy, and Spain.*
- *Dramatic declines in working age-populations are predicted in countries such as India and China, which will hamper economic growth and lead to shifts in global powers.*
- *Liberal immigration policies could help maintain population size and economic growth even as fertility falls.*
- *Authors warn response to population decline must not compromise progress on women's freedom and reproductive rights.*

Source: IHME, July 14, 2020.

Global population bust

Landmark UW study projects dramatic plunge in global population

by KOMO News Staff | Wednesday, July 15th 2020

SEATTLE - A dramatic decline in the human fertility rate will trigger a drop in the global human population by 2100, ushering in convulsive changes to world civilization, says a new study by the University of Washington.

The study, carried out by UW's Institute for Health Metrics and Evaluation, projects that the average number of children a woman delivers over her lifetime will drop from 2.4 today to 1.7 by the end of the century - far below the replacement level of 2.1 births per woman. In 1950, an average of 4.7 children were being born for every woman worldwide.
As a result, nearly every country on the planet will have a declining population by the end of the century. The study projects that world population will likely peak in 2064 at around 9.7 billion, and then decline to about 8.8 billion by 2100 - about 2 billion lower than some previous estimates.
Some countries could see their populations drop by more than half, including Japan (from around 128 million people in 2017 to 60 million in 2100), Thailand (71 million to 35 million), Spain (46 million to 23 million), Italy (61 million to 31 million), Portugal (11 million to 5 million), and South Korea (53 million to 27 million).

An additional 34 countries are expected to have population declines of 25 to 50%, including China (1.4 billion in 2017 to 732 million in 2100).
Fewer births and longer life expectancy will also mean a drastically older population in most of the world and a much smaller working-age population. That fact alone will have massive implications, as nations squeeze more taxes from an ever-smaller working class to support an expanding elderly class with growing medical needs.

Source: KOMO News online, July 15, 2020.

If the U.N.'s Sustainable Development Goals for education and contraceptive use are met in full, the researchers estimate that population could be as low as 6.29 billion in 2100. That would be 33% lower than the lowest current U.N. projection, and around 1.5 billion fewer than Earth's population today.

Source: *The Wall Street Journal*, July 28, 2020.

Economy before Covid-19

"The fundamentals of the U.S. economy remain strong. However, the coronavirus poses evolving risks to economic activity. In light of these risks and in support of achieving its maximum employment and price stability goals, the Federal Open Market Committee decided today to lower the target range for the federal funds rate by 1/2 percentage point, to 1 to 1-1/4 percent." – Federal Reserve 3/3/20.

Economy after Covid-19

- collapse in the data
- consensus V-shaped recovery
- surprising better-then-expected data

New business formation

Rising From the Pandemic's Destruction: A Million New Businesses

By Gwynn Guilford and Charity L. Scott

The pandemic forced hundreds of thousands of small businesses to close. For Madison Schneider, it was a good time to start a new one.

The 22-year-old in Haviland, Kan., opened Lela's Bakery and Coffeehouse on Sept. 12, naming it after her grandmother. It has been busy every day since, she said. "It just felt like the right thing to do," Ms. Schneider said.

Americans are starting new businesses at the fastest rate in more than a decade, according to government data, seizing on pent-up demand and new opportunities after the pandemic shut down and reshaped the economy.

SHANE BROWN FOR THE WALL STREET JOURNAL

Madison Schneider used about $8,000 in personal savings to finance her Kansas bakery. Her parents lent her money to buy an espresso machine while residents helped her paint the ceiling tiles and pull up old carpet.

Applications for the employer identification numbers that entrepreneurs need to start a business have passed 3.2 million so far this year, compared with 2.7 million at the same point in 2019, according to the U.S. Census Bureau. That group includes gig-economy workers and other independent contractors who may have struck out on their own after being laid off.

Even excluding those applicants, new filings among a subset of business owners who tend to employ other workers reached 1.1 million through mid-September, a 12% increase over the year-earlier period and the most since 2007, the data show.

"This pandemic is actually inducing a surge in employer business startups that takes us back to

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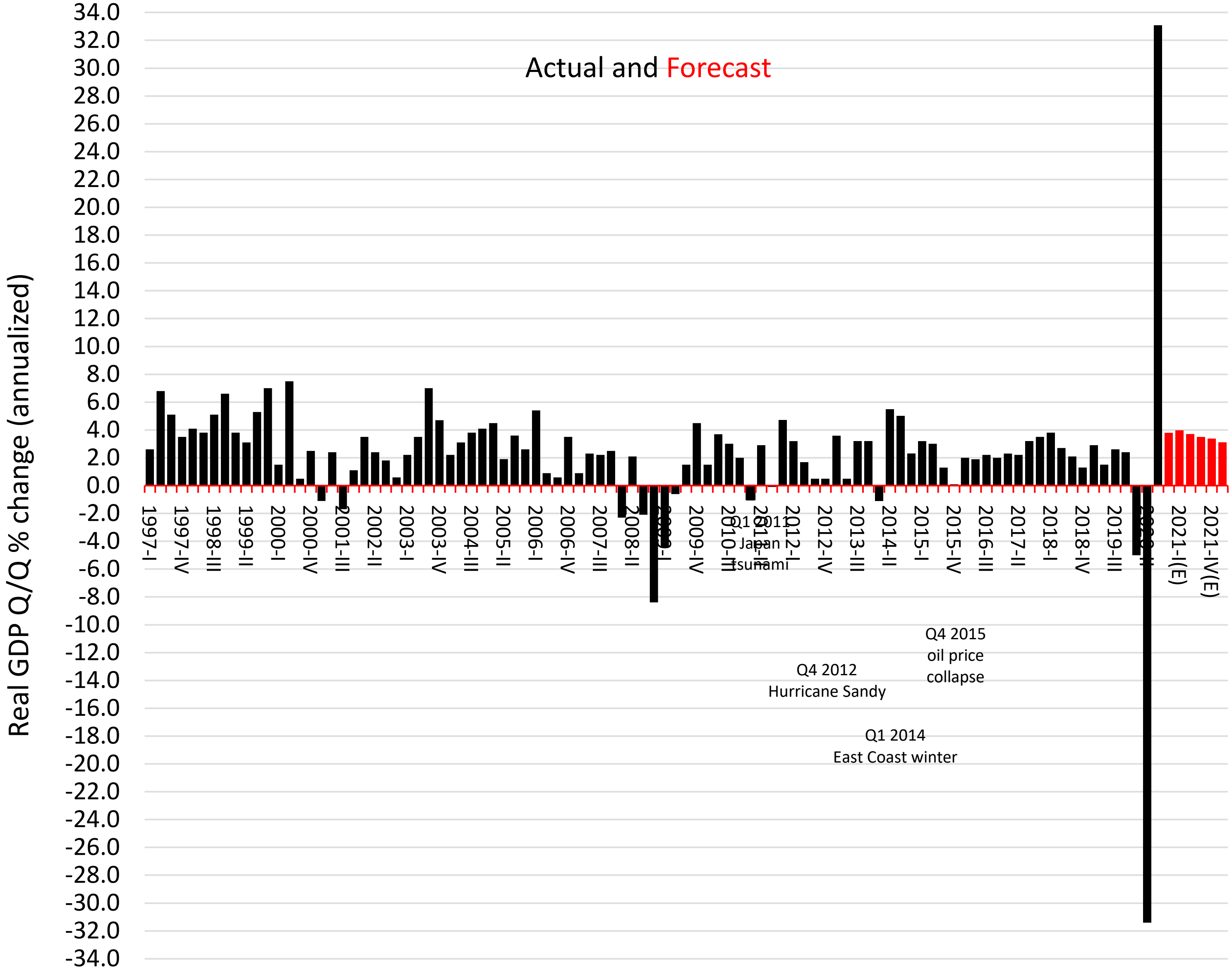
Source: *The Wall Street Journal*, September 26, 2020.

Consensus GDP forecast

Huge contraction with V-shaped recovery forecast

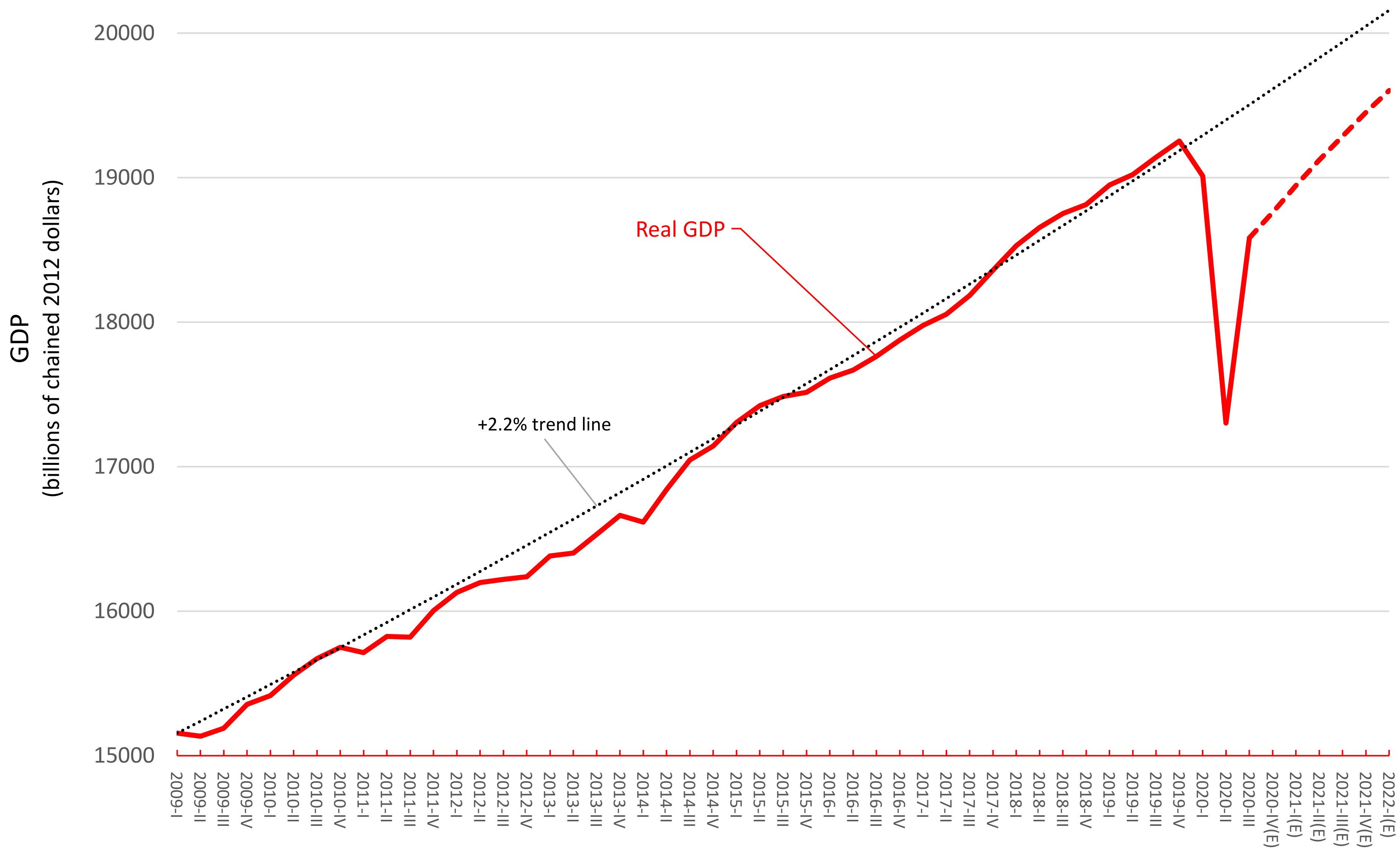


The 60 economists surveyed in mid-October see a V-shaped contraction and recovery over the seven quarters ahead.

Sources: Bureau of Economic Analysis, actual quarterly data through September 2020. *The Wall Street Journal* survey released October 2020.

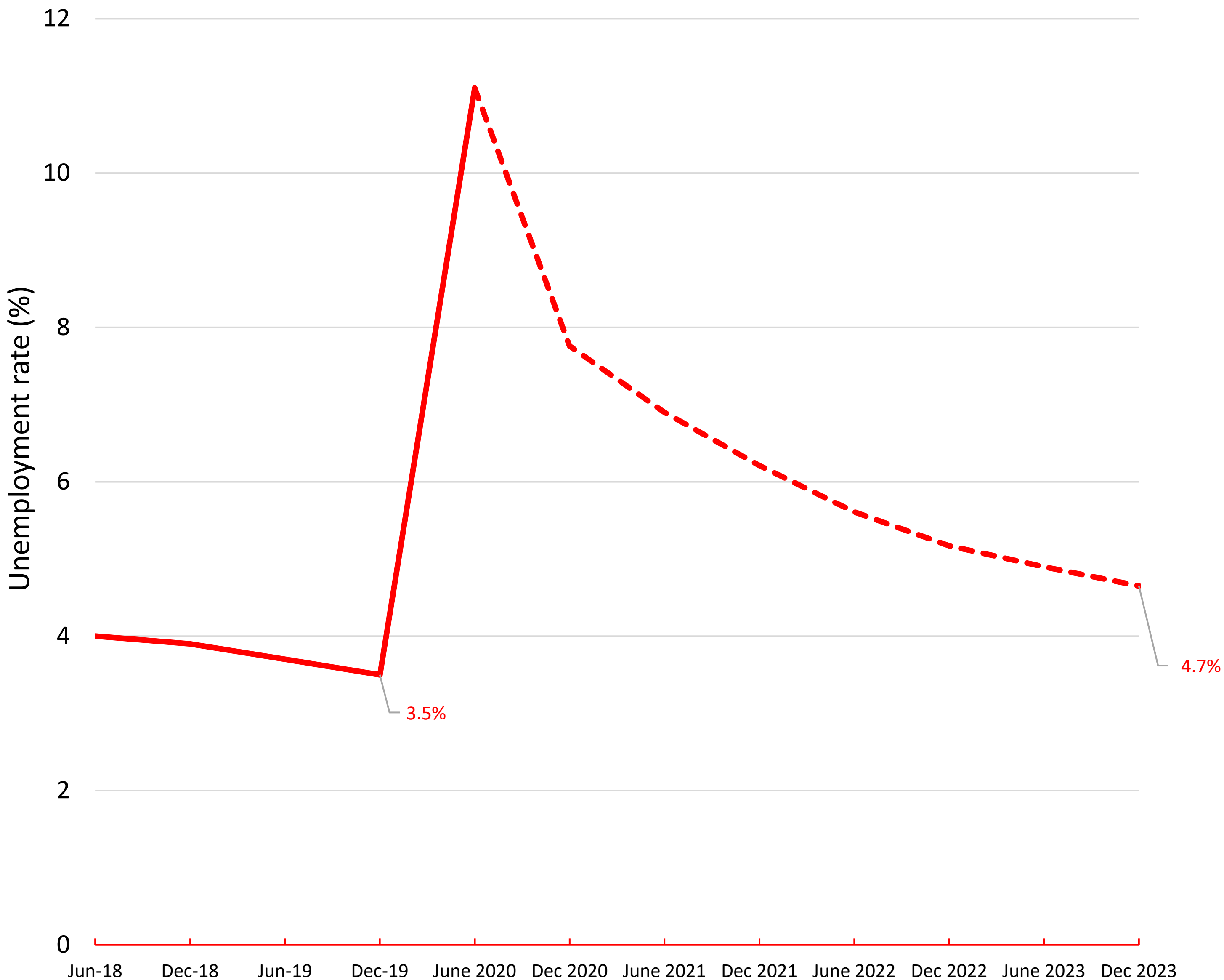
Consensus GDP forecast

V-shaped consensus forecast (WSJ survey)



Sources: Bureau of Economic Analysis, actual quarterly data through September 2020. *The Wall Street Journal* survey released October 2020.

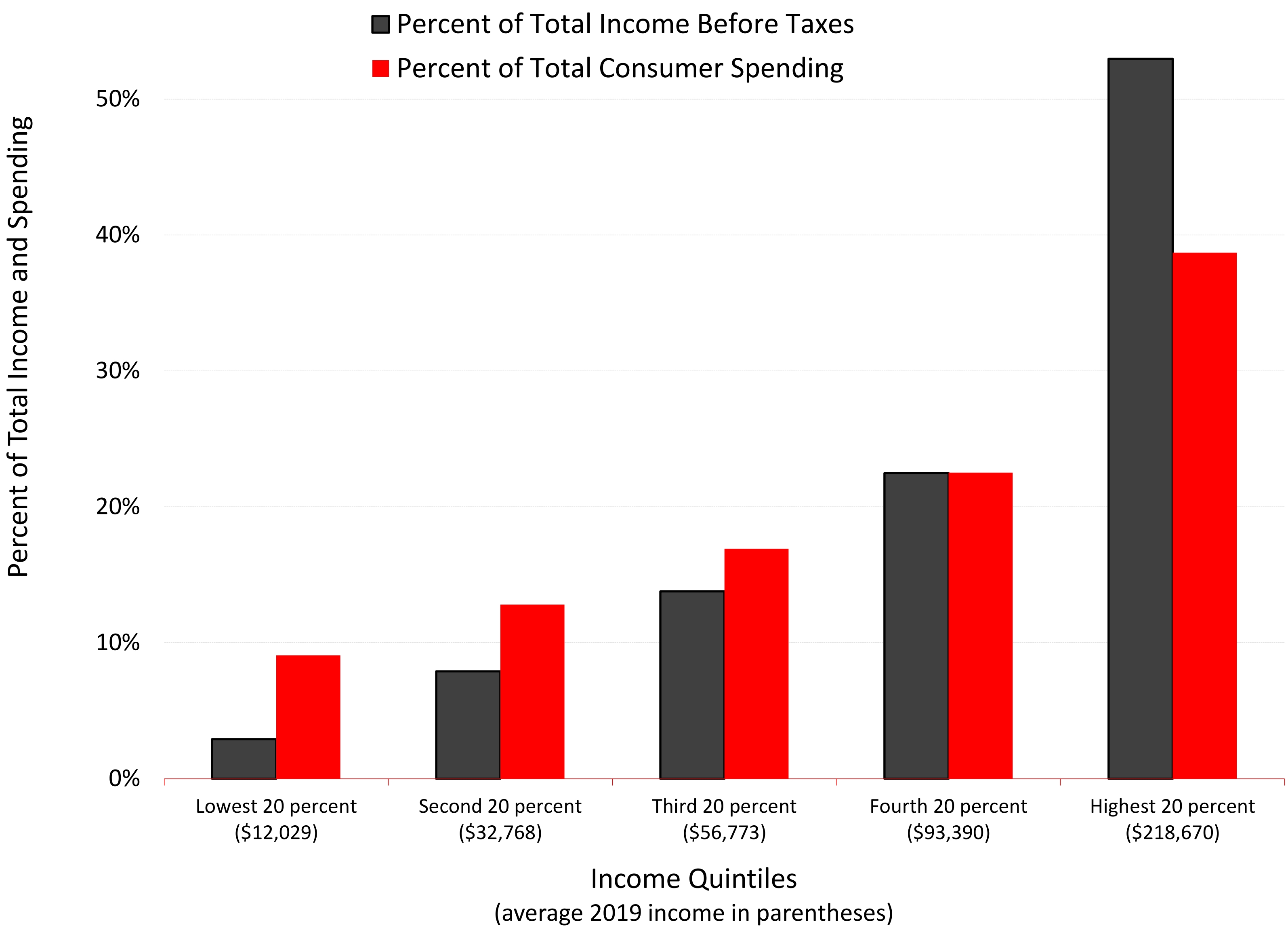
V-shaped consensus forecast (WSJ survey)



The 60 economists surveyed in mid-October see a gradual recovery in the unemployment rate to 4.7% by the end of 2023.

Sources: BLS, actual data through December 2019. *The Wall Street Journal* survey released October 2020.

Distribution of consumer income and spending

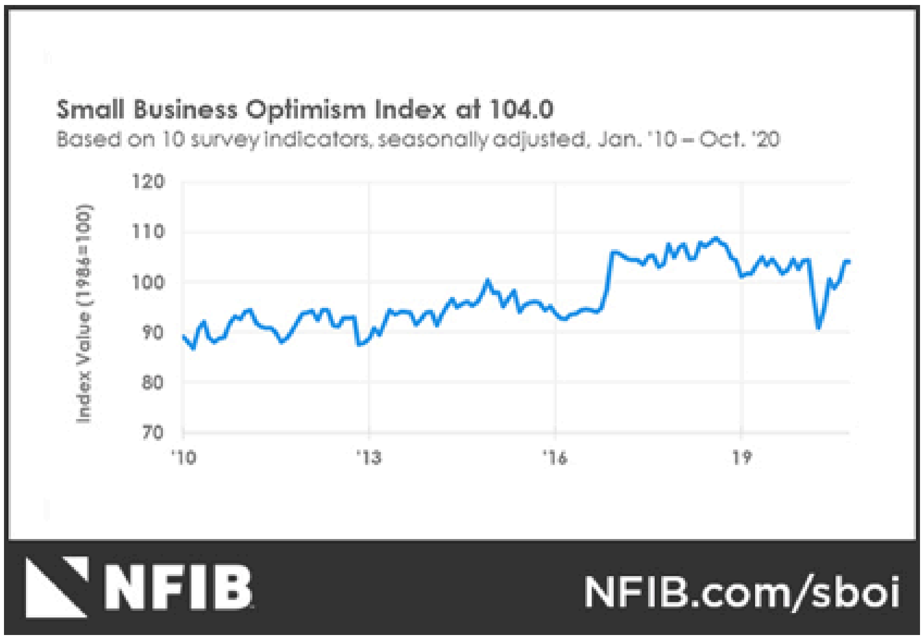


Consumer spending is heavily skewed toward higher income consumers.

Source: BLS, Consumer Expenditure Survey 2019, released September 2020.

Small business optimism index – rebound

The NFIB Optimism Index remained at 104.0 in October, unchanged from September and a historically high reading. … "We see solid momentum going into the 4th quarter, and another good quarter could get the GDP back to its 2019 closing levels."



Small Business Optimism

Abrupt Turn in Small Business Optimism Ends 39-Month Historic Run

Index Component	Net %		Change From Oct.
Plans to Increase Employment	18%	▼	-5
Plans to Make Capital Outlays	27%	▼	-1
Plans to Increase Inventories	12%	▲	1
Expect Economy to Improve	27%	▼	-5
Expect Real Sales Higher	11%	▲	3
Current Inventory	4%	▼	-1
Current Job Openings	33%	▼	-3
Expected Credit Conditions	-4%	▲	1
Now a Good Time to Expand	13%	—	0
Earnings Trends	-3%	▲	9

NFIB NFIB.com/sboi

Source: NFIB. October data released November 10, 2020.

Small businesses

Small businesses play a major role in the American economy:

- Represents 99% of all employer firms
- Employ about half of private-sector employees
- Generated 60% to 80% of net new jobs annually over the last decade
- Create more than half of nonfarm private gross domestic product (GDP)

Table 2.

Percentage of Total Employment by Enterprise Employment Size: 2003–2012

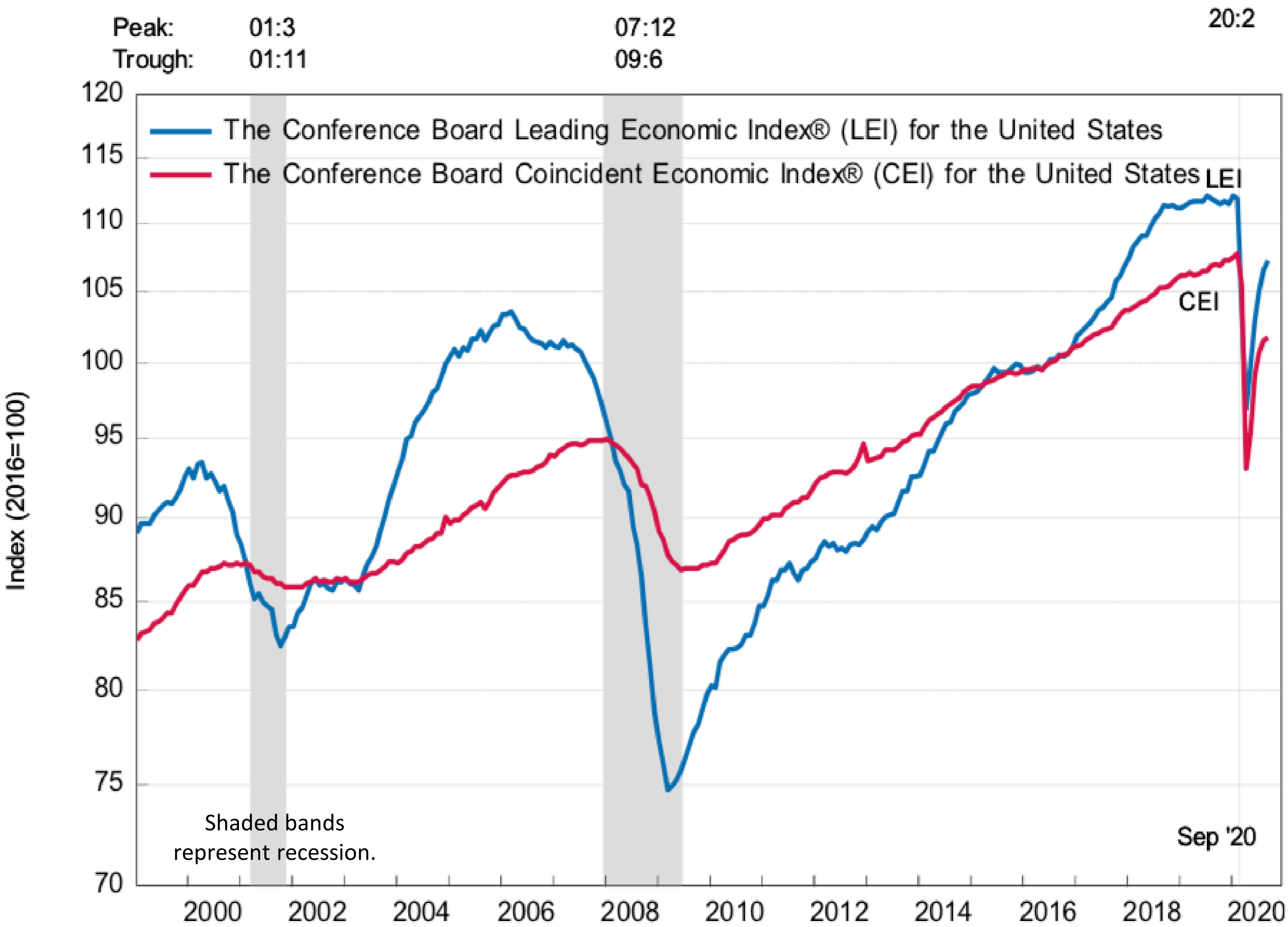
(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/econ/susb/methodology.html*)

Enterprise employment size	Percentage of total employment									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Enterprises with fewer than 500 employees	50.7	50.9	50.4	50.2	49.6	49.4	49.2	49.1	48.5	48.4
Very small enterprises	18.4	18.4	18.3	18.0	18.1	17.8	18.1	18.4	17.9	17.6
Small enterprises	17.8	17.9	17.6	17.6	17.3	17.1	16.9	16.6	16.6	16.7
Medium enterprises	14.5	14.6	14.5	14.6	14.2	14.5	14.1	14.2	14.0	14.0
Large enterprises	49.3	49.1	49.6	49.8	50.4	50.6	50.8	50.9	51.5	51.6

Source: U.S. Census Bureau, 2012 Statistics of U.S. Businesses.

Sources: National Federation of Independent Business website (top panel); U.S. Census Bureau, Statistics of U.S. Businesses Employment and Payroll Summary: 2012, released February 2015 (bottom panel).

U.S. index of leading economic indicators – slowing recovery



The LEI increased +0.7% in September, following a +1.2% increase in August, a +2.0% increase in July and a +3.1 increase in June.

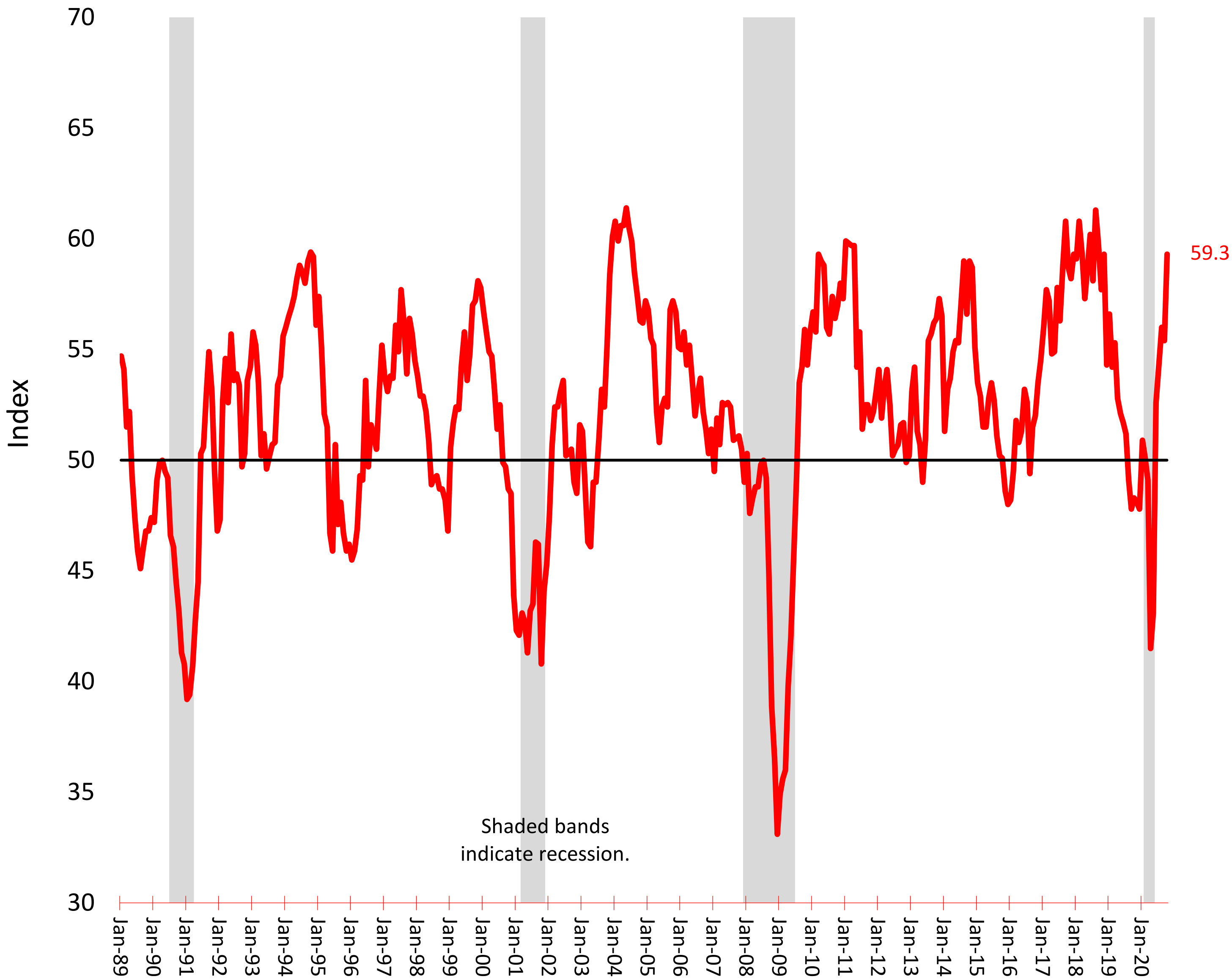
The September forecast was +0.6%.

" … the decelerating pace of improvement suggests the US economy could be losing momentum heading into the final quarter of 2020."

This chart shows how the LEI has definitively rolled over well in advance of the last two recessions.

The Conference Board Leading Economic Index® (LEI) components: 1) average weekly hours worked, manufacturing; 2) average weekly initial unemployment claims; 3) manufacturers' new orders – consumer goods and materials; 4) ISM index of new orders; 5) manufacturers' new orders, nondefense capital goods; 6) building permits – new private housing units; 7) stock prices, S&P 500; 8) Leading Credit Index™; 9) interest rate spread; 10-year Treasury minus fed funds; 10) index of consumer expectations.,
Source: ©The Conference Board. Data through September, released October 22, 2020.

ISM manufacturing PMI – recovery



October at 59.3 vs. 56.0 estimate.

New orders a strong 67.9.

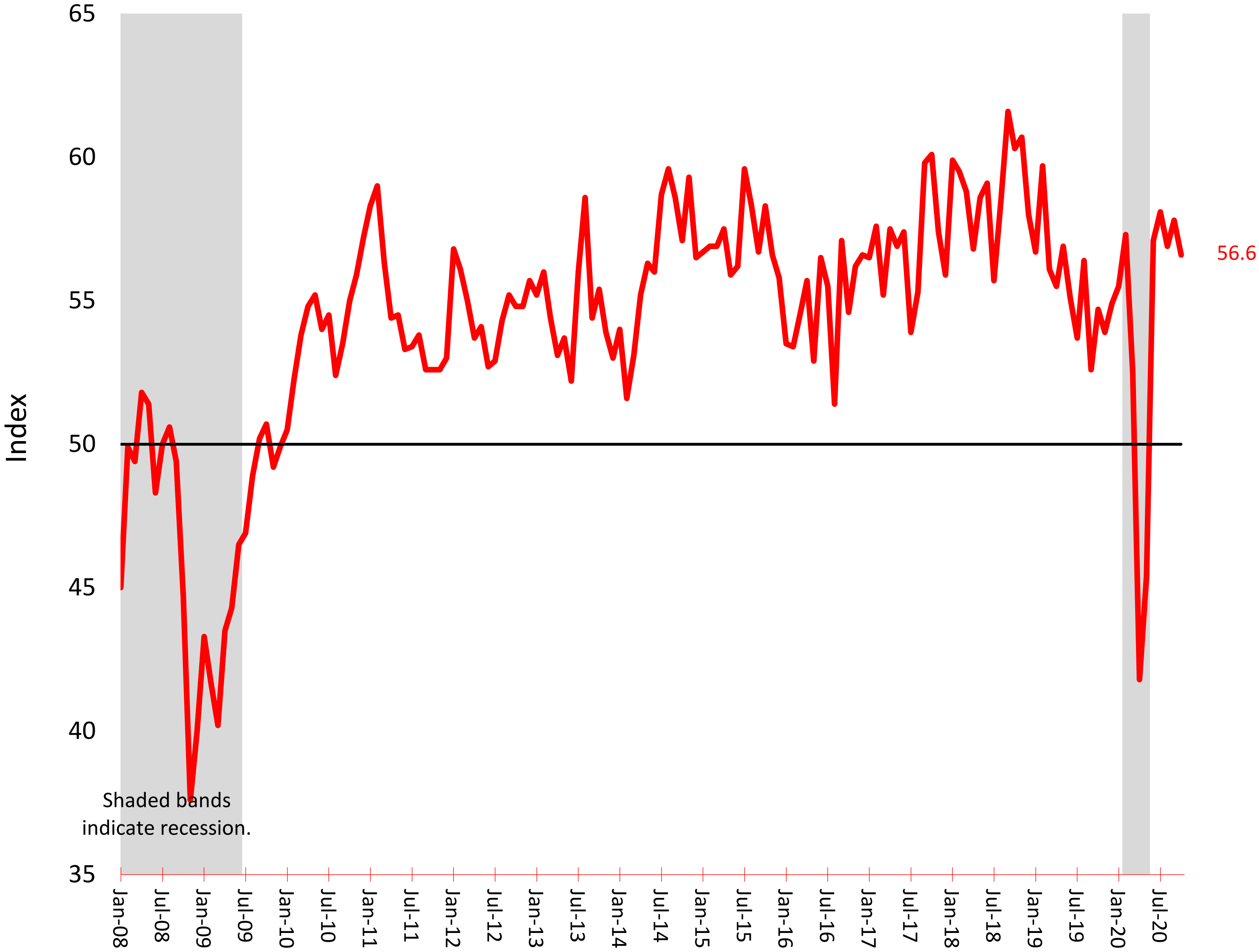
Note the historic volatility in the manufacturing PMI.

Note how this indicator has slumped well below 50 even during periods of strong economic expansion, eg. 1995, 1999, 2003, 2013, 2016.

Source: Copyright 2020, Institute for Supply Management. Data through October 2020.

ISM: “A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting. A PMI in excess of 42.9 percent, over a period of time, generally indicates an expansion of the overall economy.”

ISM services PMI – big rebound



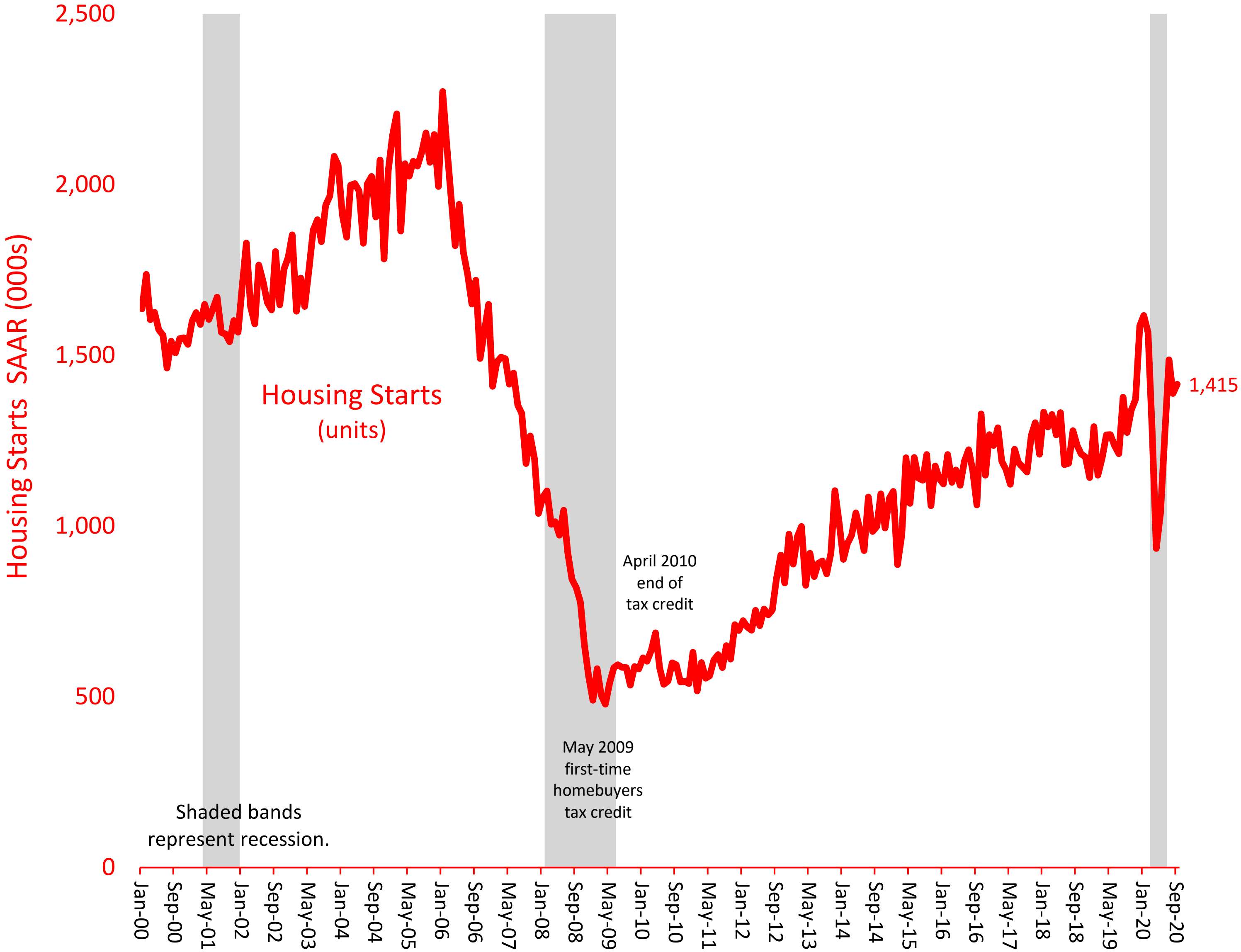
56.6 in October vs. 57.4 estimate.

New orders strong at 58.8.

Services comprise 89% of the U.S. economy[1] and 91% of total nonfarm jobs.

Source: Copyright 2020, Institute for Supply Management; data through October 2020. This data series was created in 2008. ISM: "A reading above 50 percent indicates that the non-manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting." "An NMI® above 48.6 percent, over time, generally indicates an expansion of the overall economy." [1]Value added as a percent of GDP.

Housing starts – snap-back



1.415 million in September vs. 1.388 million in August.

September forecast was 1.440 million.

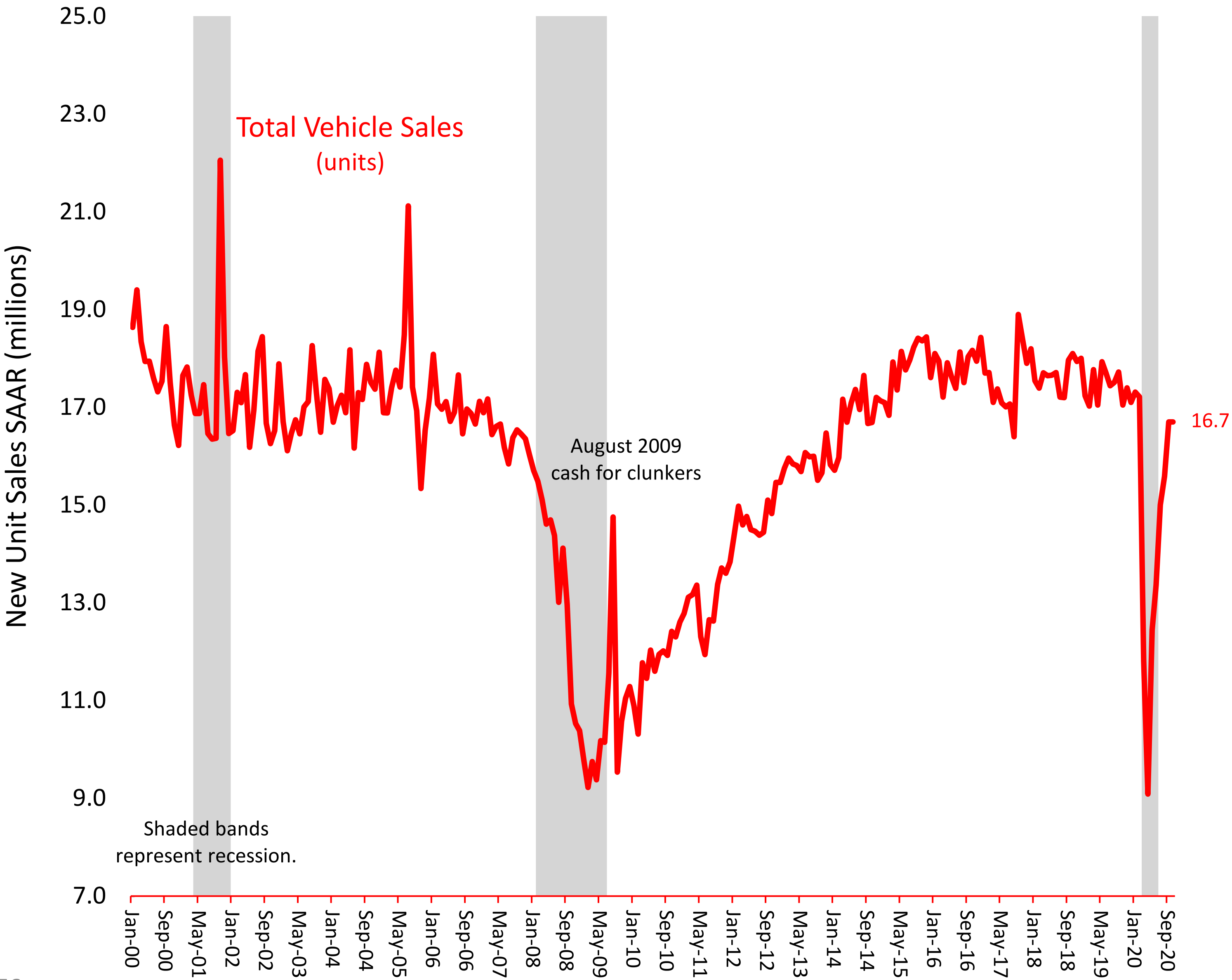
Housing breakout crushed by virus and rebounding.

"Housing starts also remain(ed) well below the projected rate of 1.6 to 1.8 million that is consistent with long-term demographics and the replacement of the existing housing stock (Herbert, McCue, and Spader 2016)." [1]

Sources: BEA and U.S. Census Bureau. Data through September 2020.

[1] *Economic Report of the President*, Council of Economic Advisors, February 2018

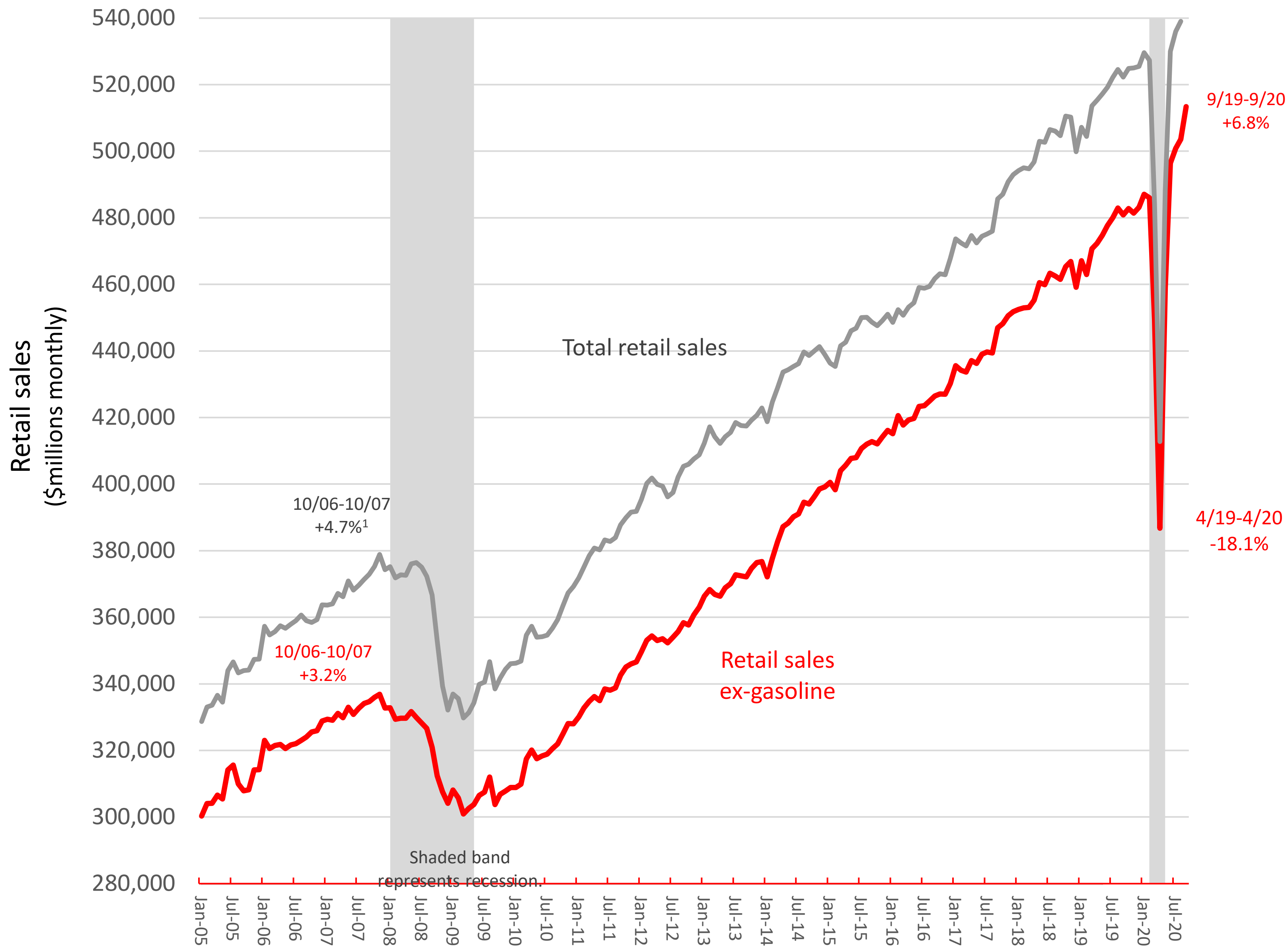
Vehicle sales – collapse and recovery



Car sales collapsed with coronavirus. Impressive rebound.

Sources: BEA. Data through October 2020.

Retail sales – coronavirus collapse and recovery



Source: U.S. Census Bureau. Data through September 2020.

<u>September surprise.</u>

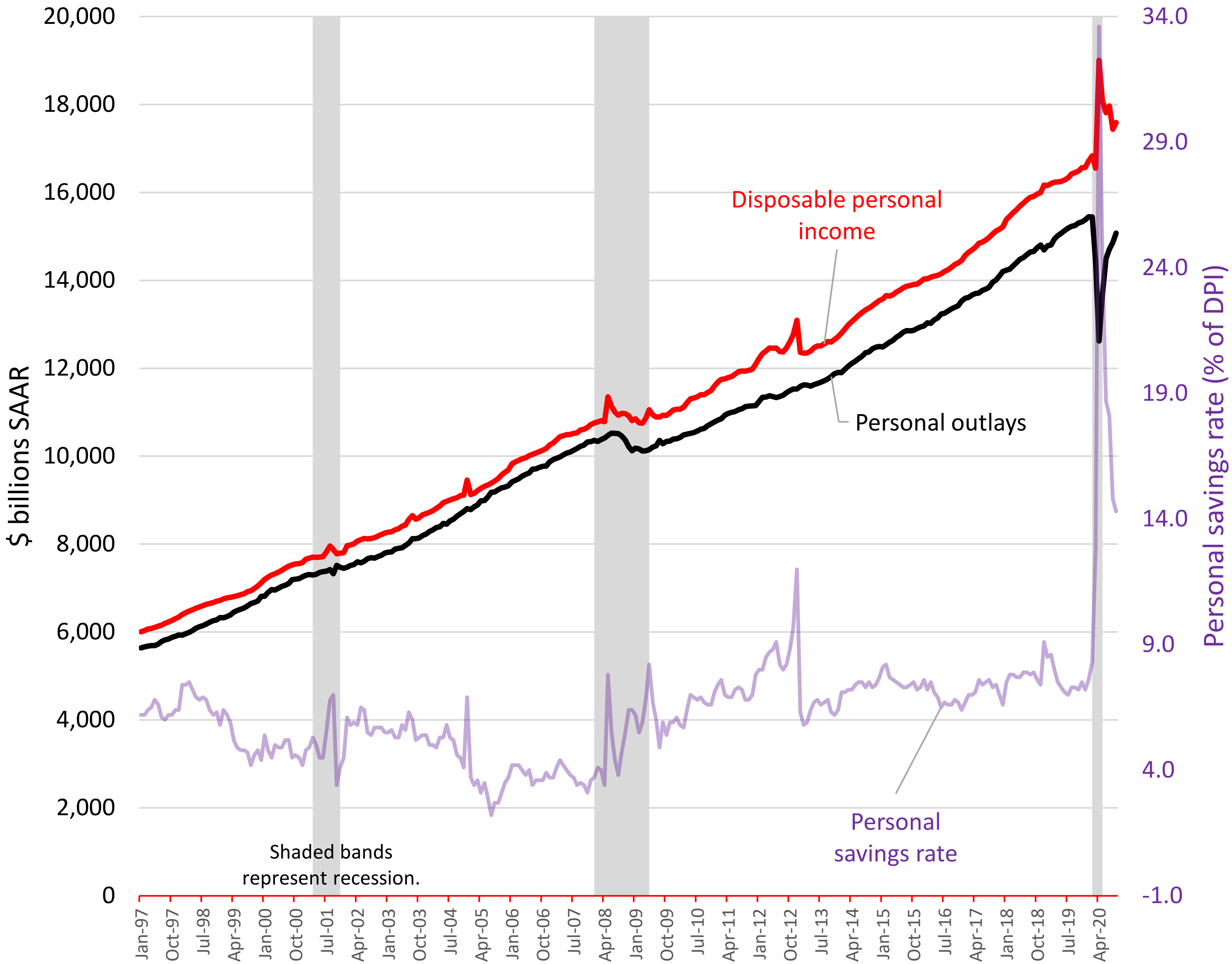
Retail sales up +1.9% m/m vs. +0.7% forecast.

Retail sales ex-gasoline up +6.8% y/y compared to August's +4.3% y/y.

Retail sales comprise 30% of GDP.

Consumer income

Disposable personal income, spending and saving



Source: Bureau of Economic Analysis, monthly data through September 2020.

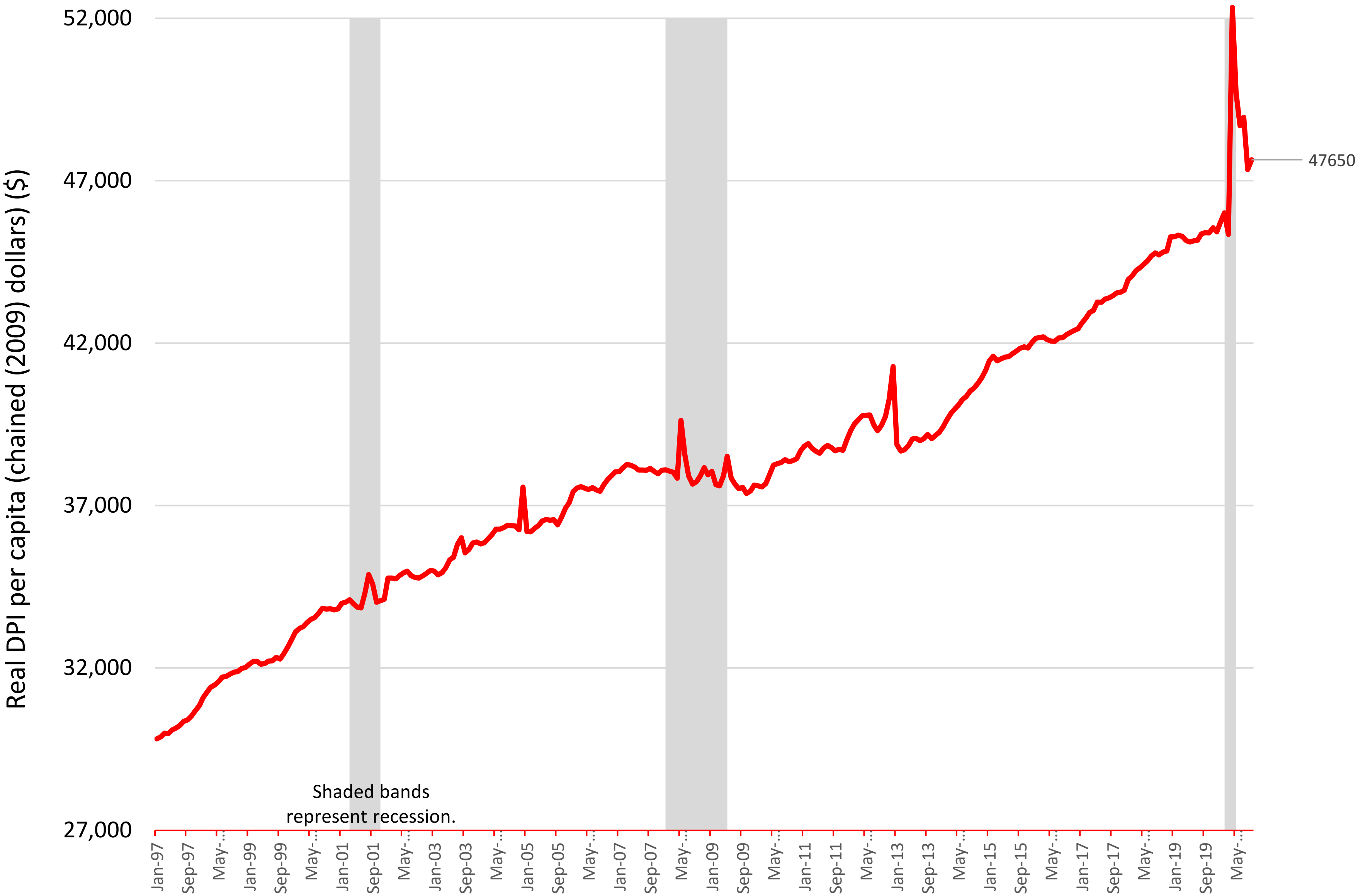
In April, DPI surged with CARES Act distributions. Consumer spending plunged as consumers were housebound.

Since April, we've seen a reversal in both.

The savings rate declined from 32% in April to 14% in September.

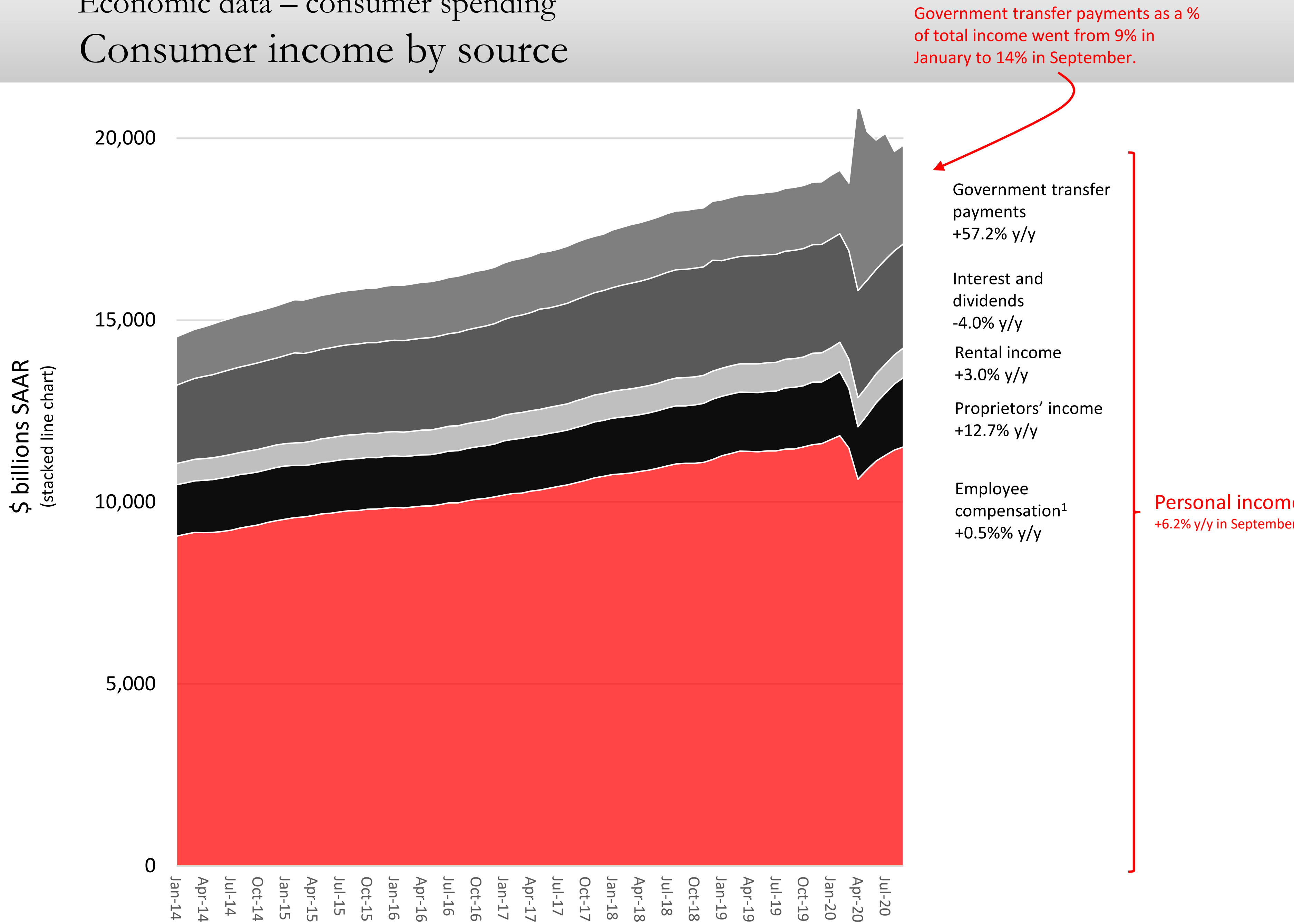
Consumer income

Disposable personal income per capita – surged on CARES



Sources: Bureau of Economic Analysis, monthly data through September 2020.

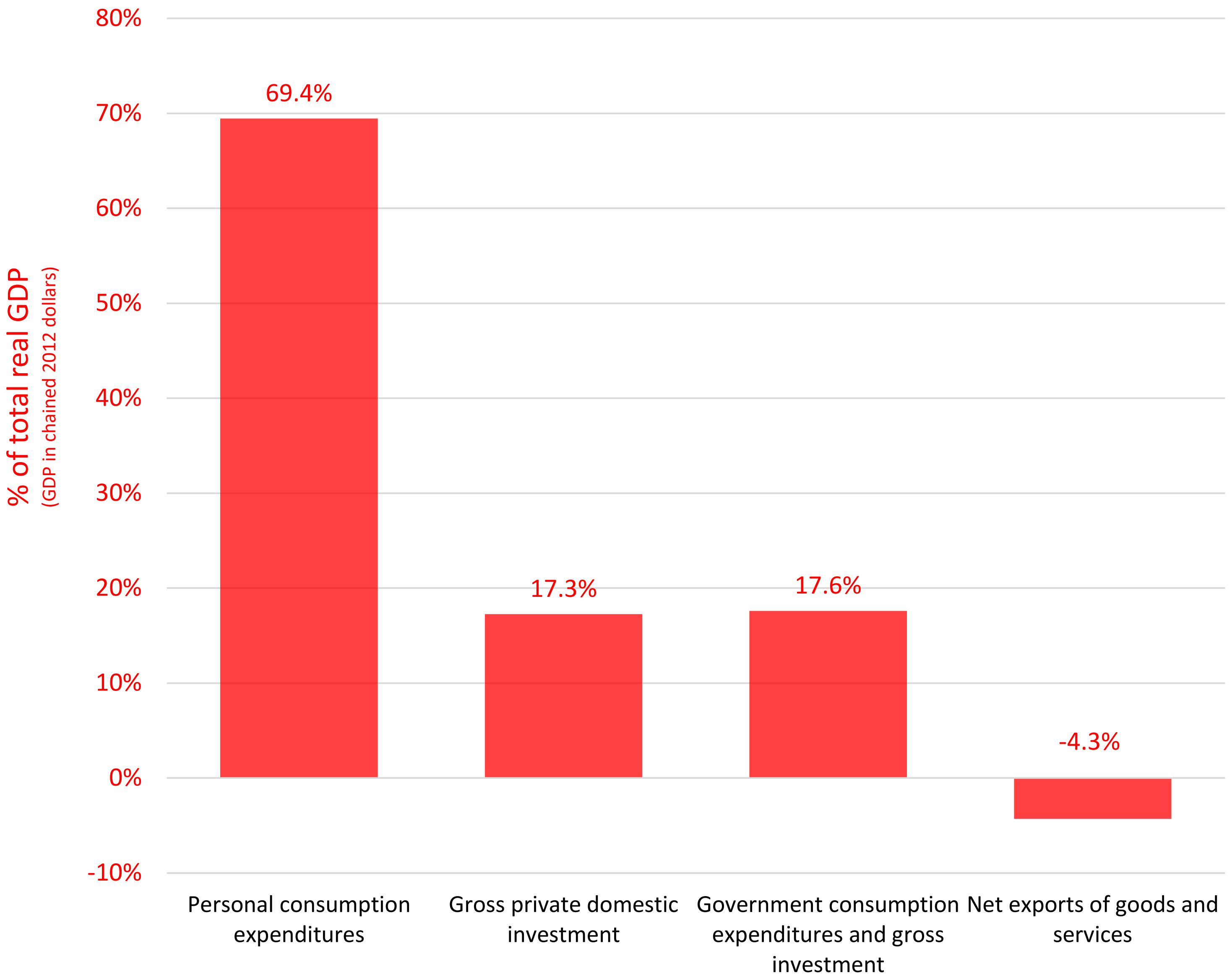
Consumer income by source



Source: Bureau of Economic Analysis, monthly data through September 2020.

[1] 56% of total personal income. Includes wages, salaries, benefits and employer contributions for social security and Medicare.

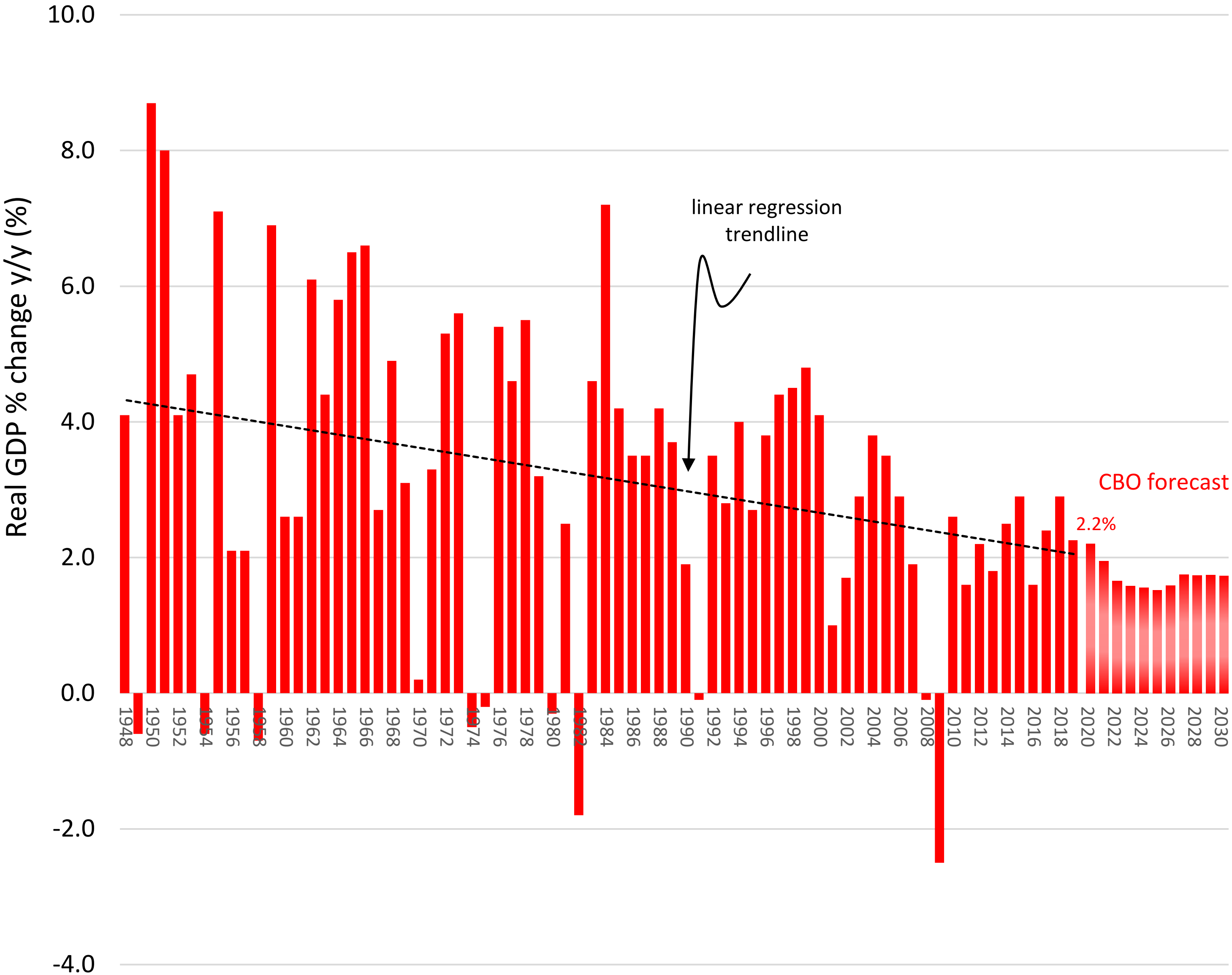
GDP breakdown



Consumer spending drives the U.S. economy.

Source: BEA. Data for the quarter ended March 30, 2020.

GDP growth
CBO's January 2020 forecast



The U.S. economy is running at its full calculated potential, according to the CBO.

Since the 1950s, U.S. GDP growth has been gradually slowing, principally due to slower population growth and declining labor force participation.

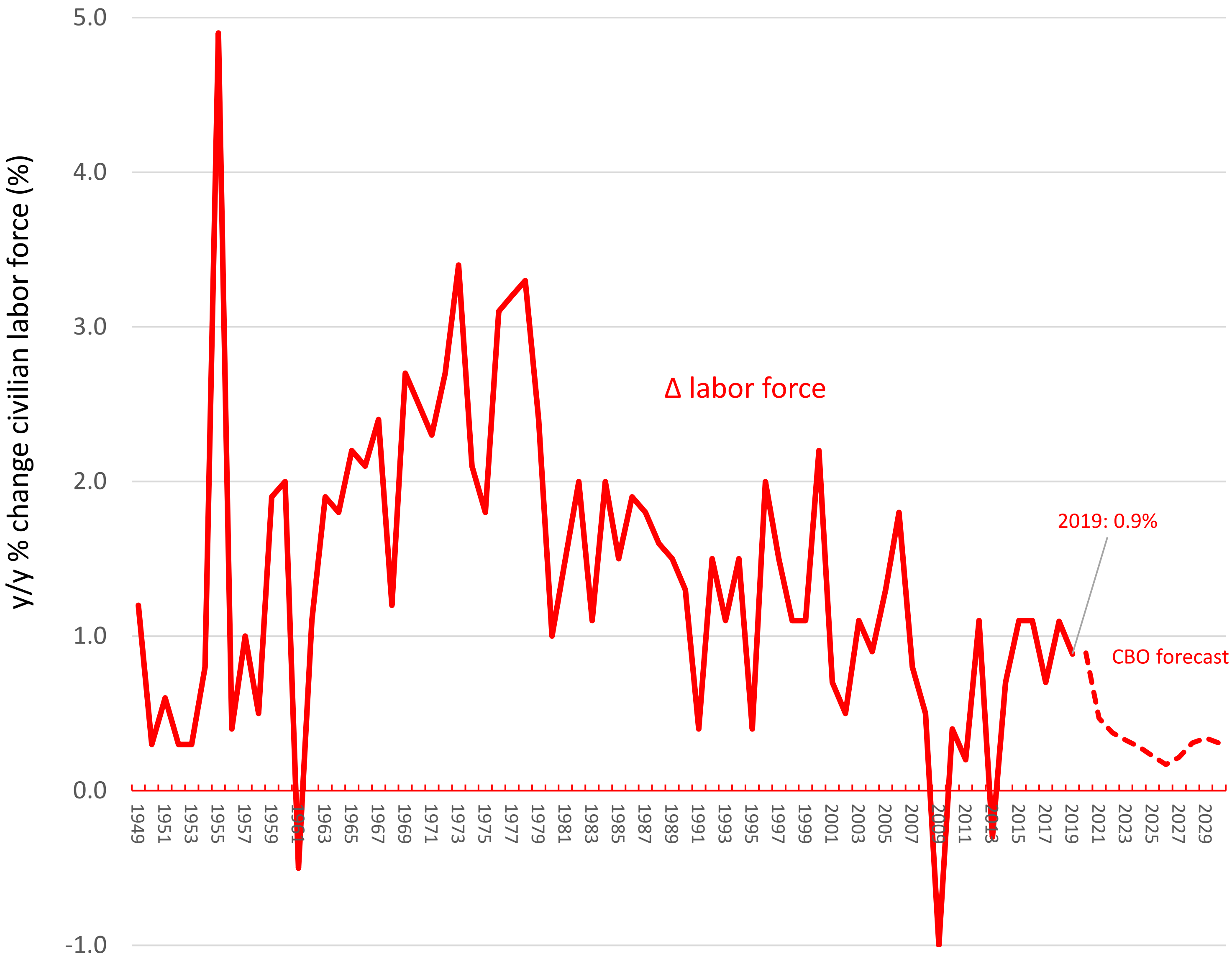
The Congressional Budget Office forecasts an average of < +2.0% annual GDP growth through 2030.

+2.2% GDP growth forecast for 2020

Sources: BEA, CBO. Actual annual data through 2019; and CBO forecast through 2030 dated January 2020 from the CBO's report *The Budget and Economic Outlook: 2020 to 2030.*

GDP growth potential = Δ productivity + Δ labor force

Labor force



The labor force surged post-WWII, peaking in the late 1970s. Since then the U.S. has seen gradually slowing growth in the labor force partly due to the aging population and partly due to a declining participation rate.

The Congressional Budget Office forecasts annual labor force growth slowing to a low of just +0.2% in the period 2025-2027.

Sources: BLS, CBO. Actual annual data through 2019; and CBO forecast through 2030 dated January 2020 from the CBO's report *The Budget and Economic Outlook: 2020 to 2030.*

GDP growth potential = Δ productivity + Δ labor force

Productivity

Labor force productivity gains are driven by the application of automation, technology and improved work methods.

The Congressional Budget Office forecasts a recovery in annual productivity gains, averaging +1.5% through 2030.

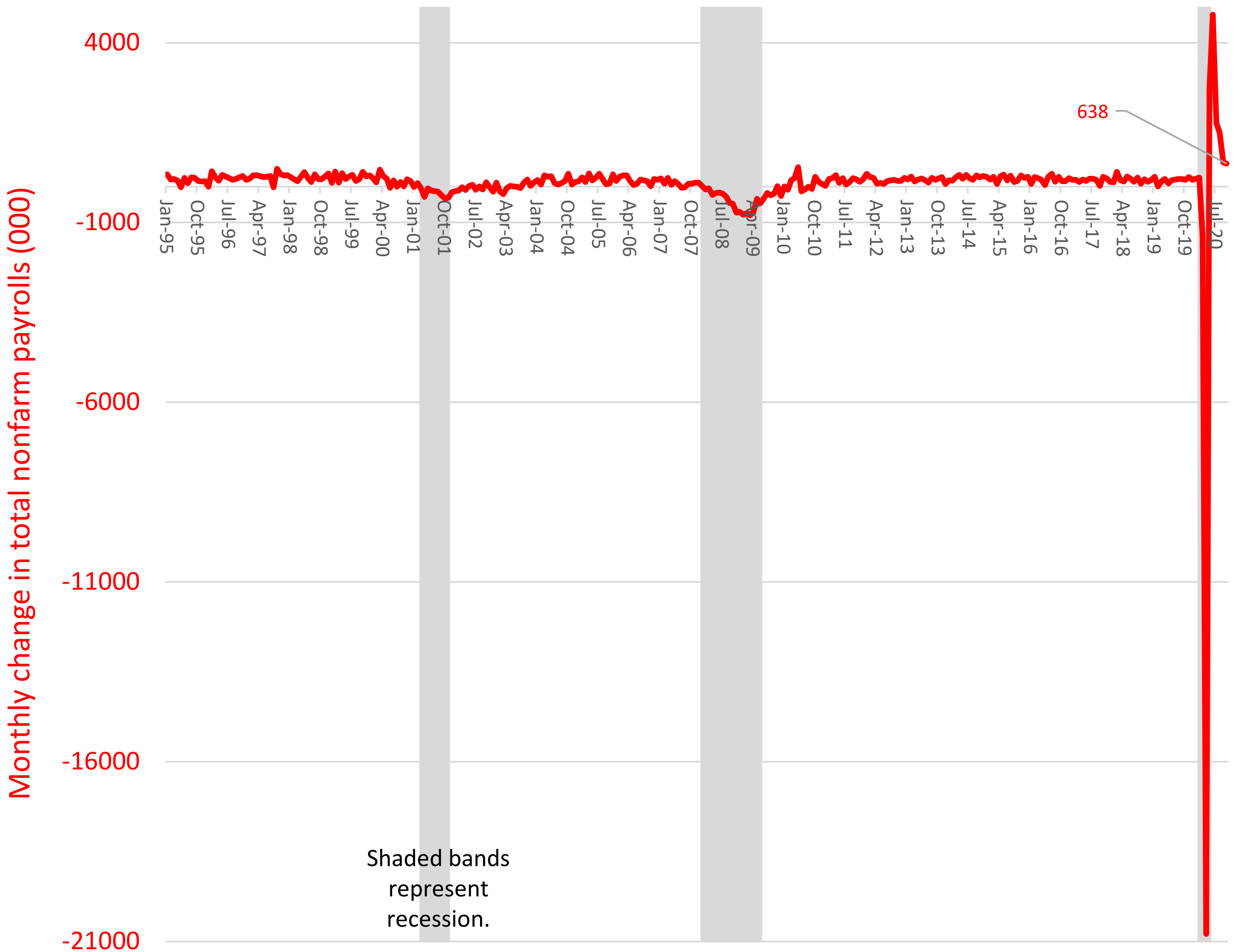
Sources: BLS, CBO. Actual annual data through 2019; and CBO forecast through 2030 dated January 2020 from the CBO's report *The Budget and Economic Outlook: 2020 to 2030.*

Jobs and wages

- from full-employment to coronavirus collapse
- May/June surprise
- strong relative U.S. job formation forecast long-term

Economic data – jobs

Net new job formation



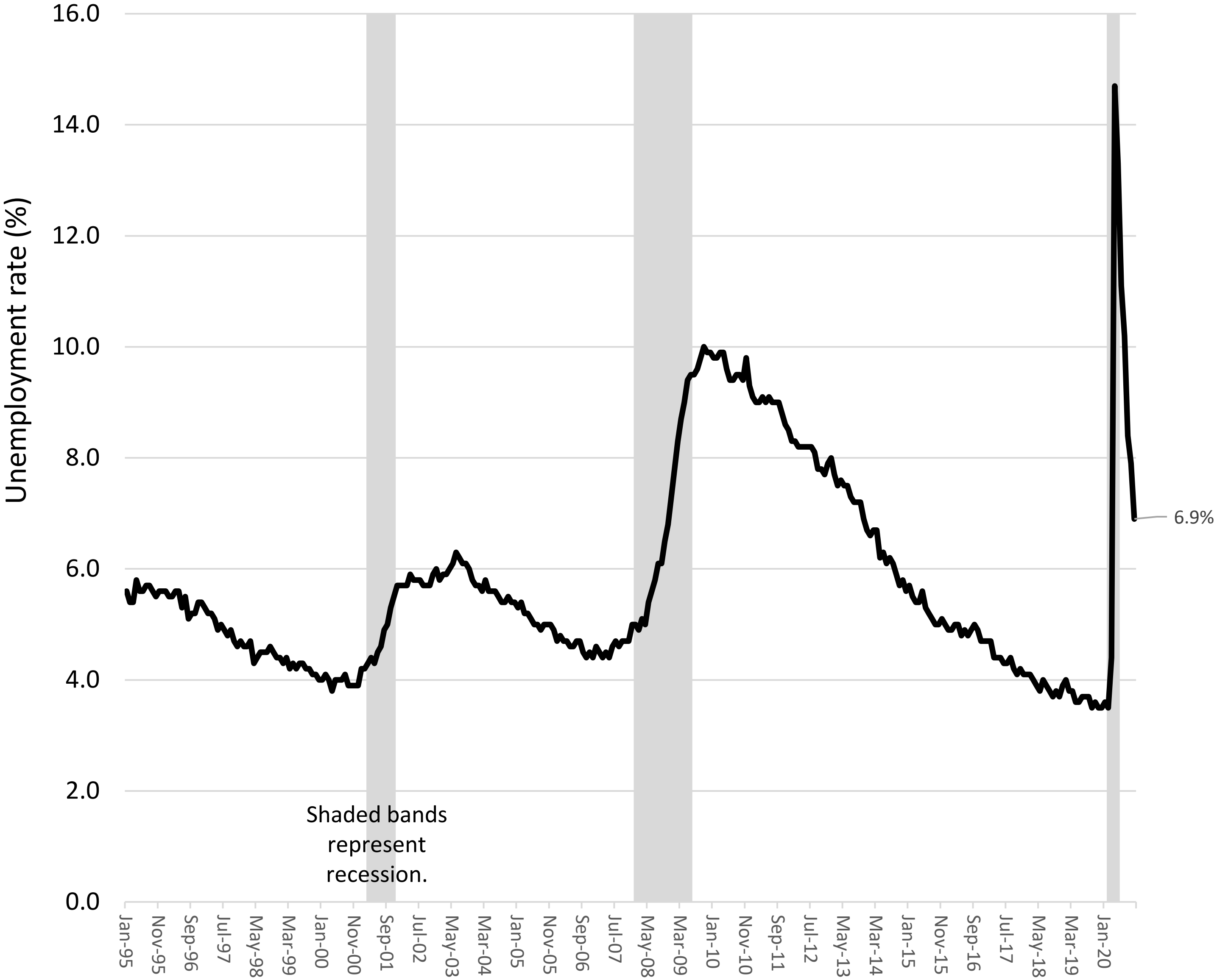
638,000 jobs gained in October, down from 672,000 in September, and compared to 530,000 forecast.

In normal times, accounting for population growth, 95,000 new jobs per month are required to maintain a stable unemployment rate.

Source: Bureau of Labor Statistics. Data through October 2020.

Economic data – jobs

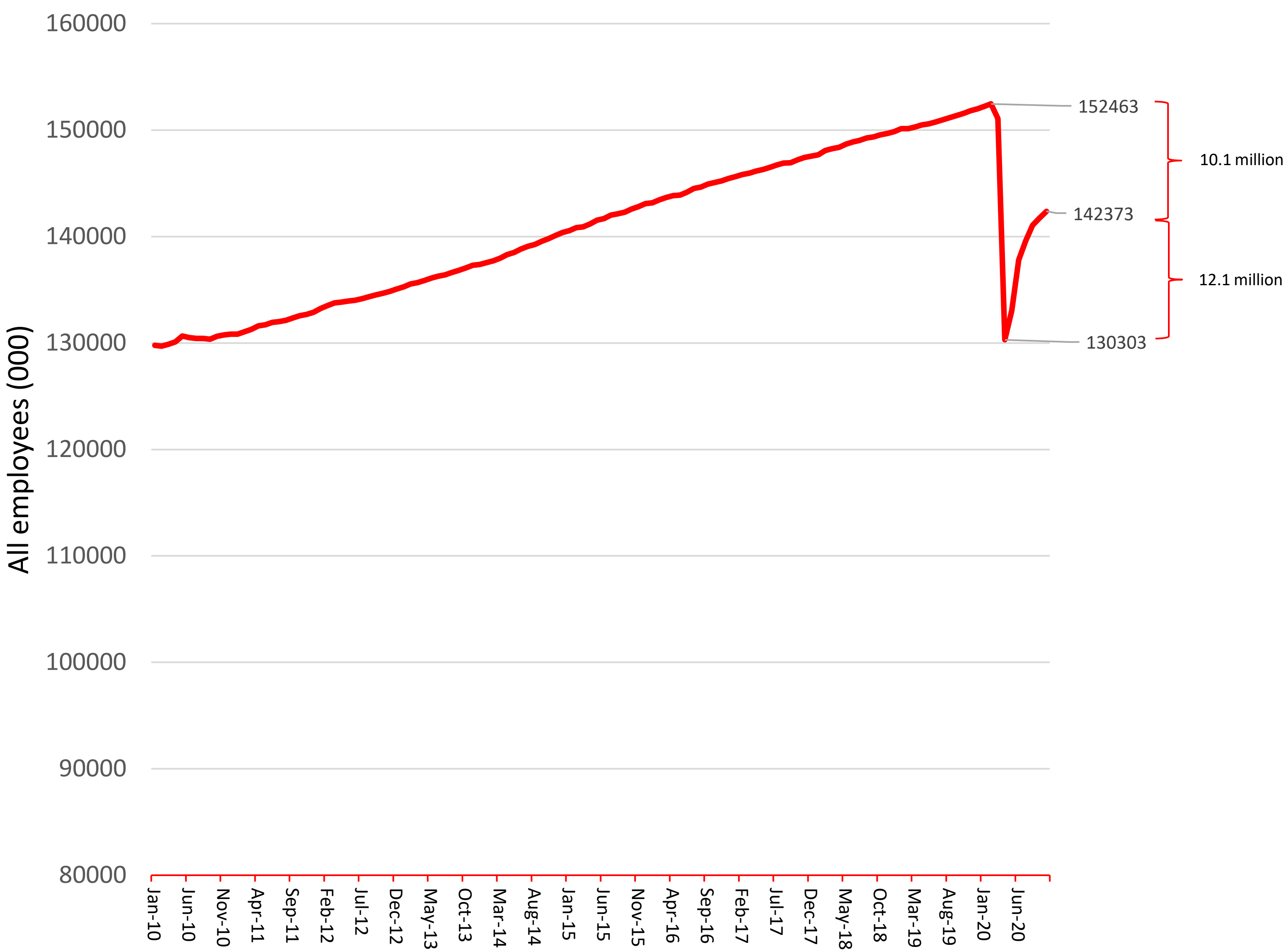
Unemployment rate



Drop to 6.9% in October, from 7.9% in September, and compared to 7.7% estimated.

Source: Bureau of Labor Statistics. Data through October 2020.

Total employment



October total employment down 10.1 million (-6.6%) from February peak.

Up 12.1 million from the April bottom.

Source: Bureau of Labor Statistics. Data through September 2020.

95,000 new monthly jobs required for stable unemployment rate

The Recovery Is Reaching Its End

By Edward P. Lazear

When unemployment dropped below 5% three years ago, some economists, including at the Federal Reserve, concluded that the labor market had topped out—that those still out of work would never get jobs. Three years and nearly eight million additional jobs later, it's clear they were wrong.

Only now has job creation begun slowing down—implying that labor-market slack is almost eliminated, and the economy is getting close to the end of a long recovery. That doesn't imply that recession is imminent. It is possible to continue at full employment for long periods. At this point, the Fed's job is to prevent solid economic growth from becoming a steep post-peak decline.

How do we know that we are close to the end of the recovery phase? Three statistics from the Bureau of Labor Statistics' employment summaries provide clues. As slack vanishes, job growth slows, the employment rate reaches full-employment levels, and wage growth steadies at rates consistent with productivity growth. All three have occurred.

In a stable full-employment economy, job creation must be sufficient to accommodate a growing population. The key to determining the number of needed new jobs is the employment rate—the proportion of the working-age population that is employed.

To calculate the number of jobs needed to maintain stability, take the monthly addition to the working-age population and multiply it by the employment rate that would prevail in a full-employment economy, which falls as the population ages and is currently around 60.5%. The working-age population is growing by about 156,000 a month. It is therefore necessary to create 95,000 jobs each month to keep employment rates stable at full employment.

May's new-jobs figure, 75,000, was a bit below that—but, because of monthly volatility, not statistically below. The three-month average of jobs added was 151,000—above the required 95,000 but well below the 2018 average of 223,000 a month. Job creation is slowing, as it must when full employment is reached.

The leveling of the employment rate is another sign of full employment. At its low in November 2010, the rate was 58.2%. It reached a high of 60.7% earlier this year, then fell back to 60.6%, where it has remained since March. Although that's lower than the prior peak (63.4% in December 2006), the aging of the workforce means that the rate is unlikely to get much above where it is now.

Wage growth rates also suggest that the recovery phase is near its end. Early in a recovery, wages are flat because there is abundant unemployed labor that can be hired back at prevailing wages. As the labor market tightens, employers must pay more to attract workers. In a stable full-employment economy, wages continue to rise, but only at rates consistent with increases in productivity. Wage growth over the past 12 months was 3.1%, down slightly from a 12-month high of 3.4% in February. Inflation was 1.8% over the past 12 months, and productivity growth has averaged 1.5%. Adding 1.8% to 1.5% implies that nominal wage growth should be 3.3% to keep pace with productivity, about where the U.S. has been since last October.

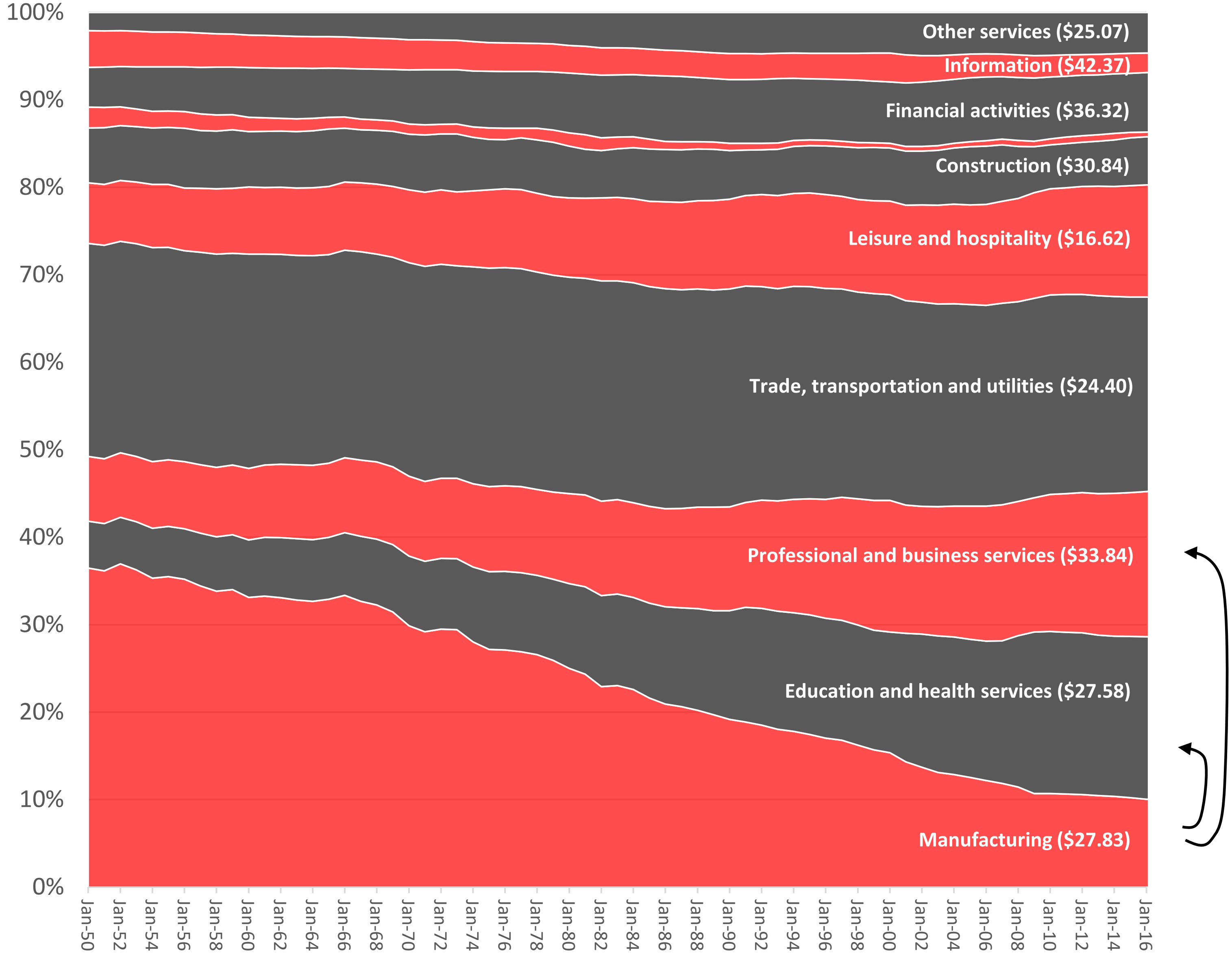
The employment and wage statistics suggest that the slack associated with the 2007-09 recession is all but eliminated. This conclusion, based on labor-market data, is consistent with other market indicators. An S& P 500based forecast signals economic growth during the next four quarters of slightly below 2%, which is below the past two years' growth rate.

Historically, economic growth slows when a recovery ends. But there is no law of economics, either theoretical or empirical, that says a recession soon follows the elimination of labor-market slack. Growth depends at least in part on government decisions. Policy makers and Fed officials should bear this in mind. Their job is to maintain growth and prevent a positive economic situation from turning into an unnecessary recession.

Mr. Lazear, who was chairman of the President's Council of Economic Advisers from 2006-09, is a professor at Stanford University's Graduate School of Business and a Hoover Institution fellow.

Source: *The Wall Street Journal*, June 19, 2019.

All jobs by category (average hourly earnings in parentheses)

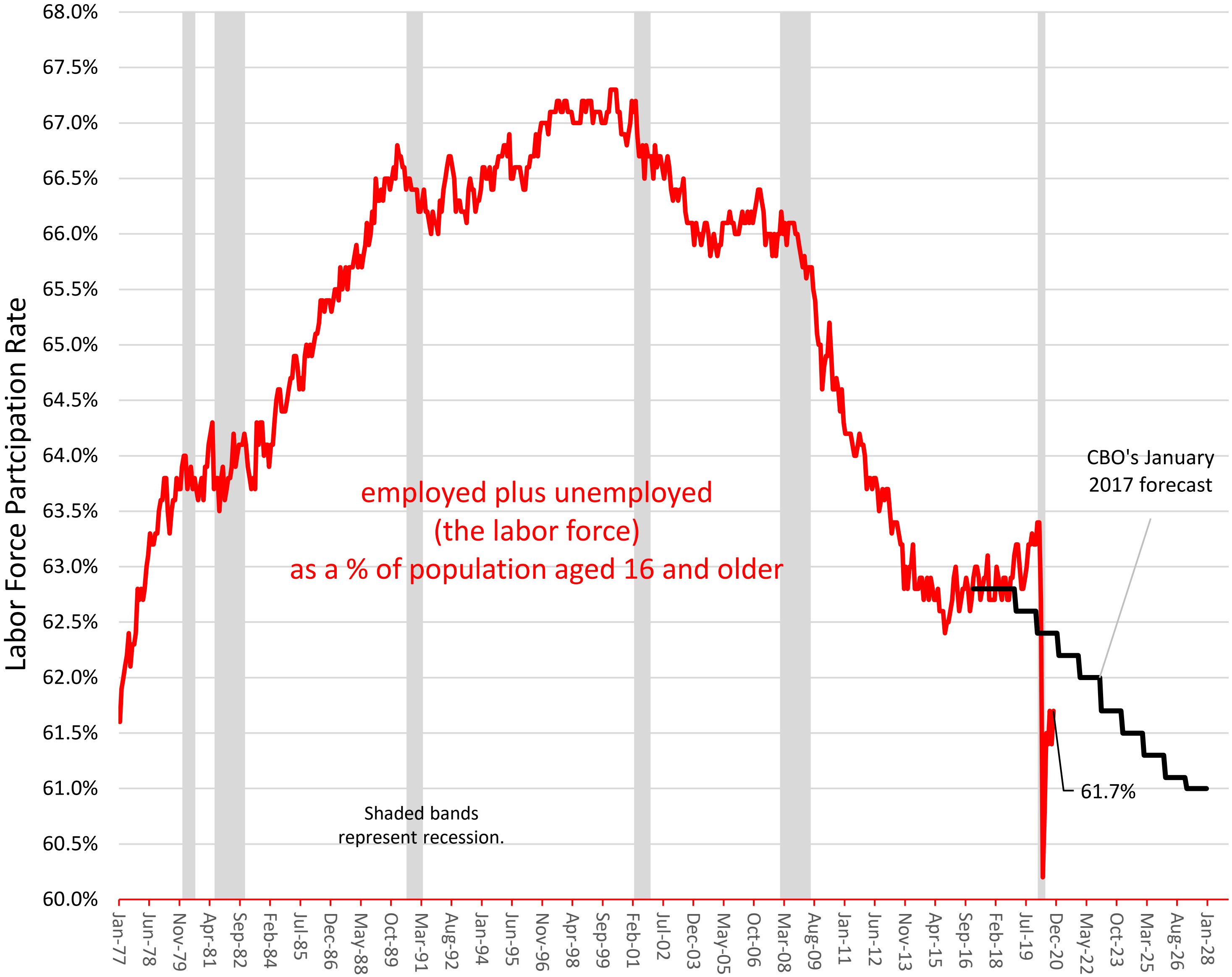


In 1950, manufacturing jobs were 37% of total private sector jobs. Today that figure is 10%; and just 8.6% of total nonfarm jobs.

Some manufacturing jobs have been replaced by lower-paying jobs in leisure and hospitality; but many more have been replaced by equal- or higher-paying jobs in health services and professional and business services.

Source: Bureau of Labor Statistics. Employment data through August 2019, AHE data through August 2019. Mining and logging ($34.06) is the small sliver, fourth from the top.

Labor force participation rate[1] – recovering



Americans were joining and staying in the labor force longer than the CBO forecast three years ago … until Covid-19.

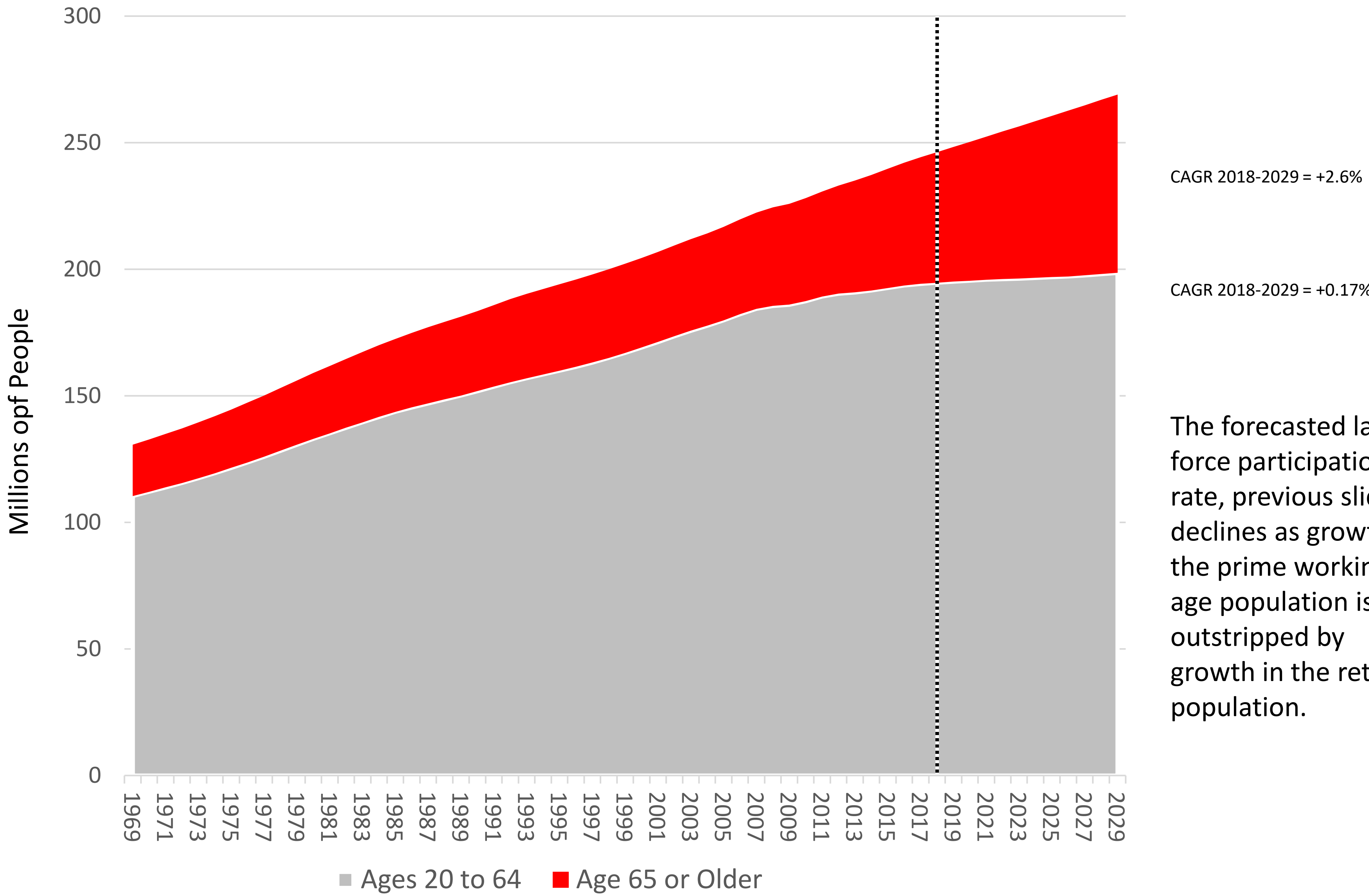
CBO forecasts a long-term decline in the participation rate as the age cohort 65 and older takes an increasing share of the total working age population aged 16 and older.

See next slide.

Source: BLS actual data through September 2020; and Congressional Budget Office, January 2017 report *The Budget and Economic Outlook: 2017 to 2027*.

[1]Labor force participation rate: the proportion of the civilian noninstitutional population 16 years of age and older either at work or actively seeking work.

Population by age group



The forecasted labor force participation rate, previous slide, declines as growth in the prime working-age population is outstripped by growth in the retired population.

Source: Congressional Budget Office, January 2019 report *The Budget and Economic Outlook: 2019 to 2029*. Actual data through 2017.
CAGR = compound annual growth rate.

Labor force statistics

The Bureau of Labor Statistics publishes two employment surveys each month, the Current Population Survey (CPS; household survey) and the Current Employment Statistics survey (CES; establishment survey). The household survey is a sample survey of about 60,000 eligible households conducted by the U.S. Census Bureau for the U.S. Bureau of Labor Statistics (BLS). The establishment survey collects data each month from the payroll records of a sample of about 144,000 businesses and government agencies, representing approximately 554,000 individual worksites, in order to provide detailed industry data on employment, hours, and earnings of workers on nonfarm payrolls. The active sample includes approximately one-third of all nonfarm payroll employees.

Household survey. The sample is selected to reflect the entire civilian noninstitutional population. Based on responses to a series of questions on work and job search activities, each person 16 years and over in a sample household is classified as employed, unemployed, or not in the labor force.

Establishment survey. The sample establishments are drawn from private nonfarm businesses such as factories, offices, and stores, as well as from federal, state, and local government entities. Employees on nonfarm payrolls are those who received pay for any part of the reference pay period, including persons on paid leave. Persons are counted in each job they hold.

The household survey includes agricultural workers, self-employed workers whose businesses are unincorporated, unpaid family workers, and private household workers among the employed. These groups are excluded from the establishment survey. The household survey includes people on unpaid leave among the employed. The establishment survey does not. The household survey is limited to workers 16 years of age and older. The establishment survey is not limited by age. The household survey has no duplication of individuals, because individuals are counted only once, even if they hold more than one job. In the establishment survey, employees working at more than one job and thus appearing on more than one payroll are counted separately for each appearance.

Source: Bureau of Labor Statistics.

Labor force definitions

The labor force is the sum of employed and unemployed persons.

Employed persons consist of: persons who did any work for pay or profit during the survey reference week; persons who did at least 15 hours of unpaid work in a family-operated enterprise; and persons who were temporarily absent from their regular jobs because of illness, vacation, bad weather, industrial dispute, or various personal reasons.

Persons are classified as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work. Persons who were not working and were waiting to be recalled to a job from which they had been temporarily laid off are also included as unemployed. Receiving benefits from the Unemployment Insurance (UI) program has no bearing on whether a person is classified as unemployed.

The marginally attached are those persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months, but were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey. Among the marginally attached, discouraged workers were not currently looking for work specifically because they believed no jobs were available for them or there were none for which they would qualify.

The nation's unemployment rate is widely recognized as a key indicator of labor market performance. As a way to help assess labor market conditions from several perspectives, the Bureau of Labor Statistics (BLS) publishes five alternative measures of labor underutilization every month. Definitions of two of those, U-3 and U-6, are as follows:

U-3: Total unemployed persons, as a percent of the civilian labor force (the official unemployment rate).
U-6: Total unemployed persons, plus all marginally attached workers, plus all persons employed part time for economic reasons, as a percent of the civilian labor force plus all "marginally attached" workers (the broadest measure of unemployment).

$$\text{U-3 unemployment rate} = \frac{\text{total unemployed}}{\text{total employed} + \text{total unemployed}}$$

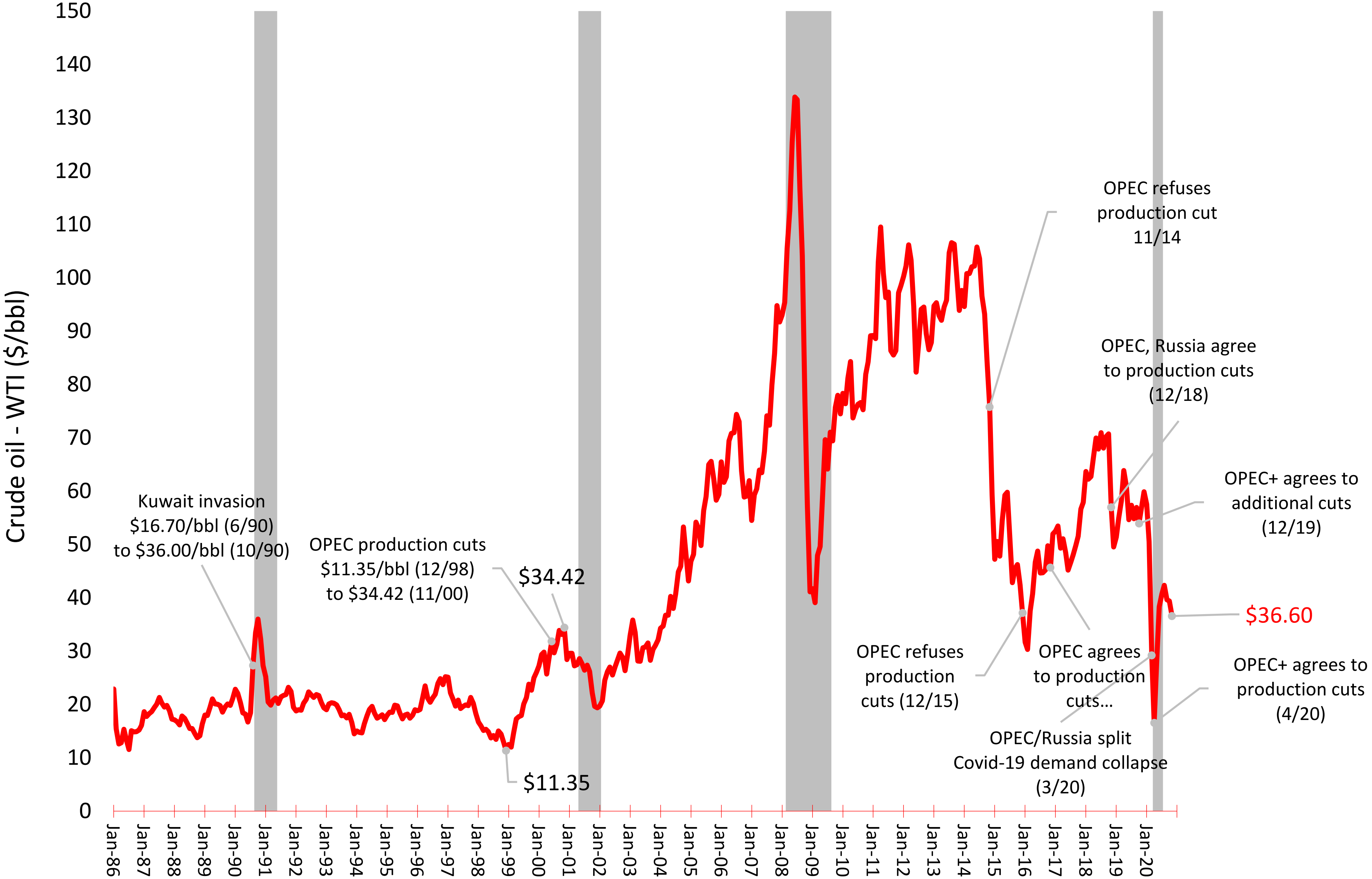
Source: Bureau of Labor Statistics.

Crude oil

- price rebound with OPEC cut (11/16)
- followed by OPEC, Russia, U.S., Canada record production (2017-2018)
- followed by OPEC cut (12/18)
- additional OPEC+ cut (12/19)
- OPEC/Russia split, oil plunges (3/20)
- OPEC+ cut (4/20)

Oil

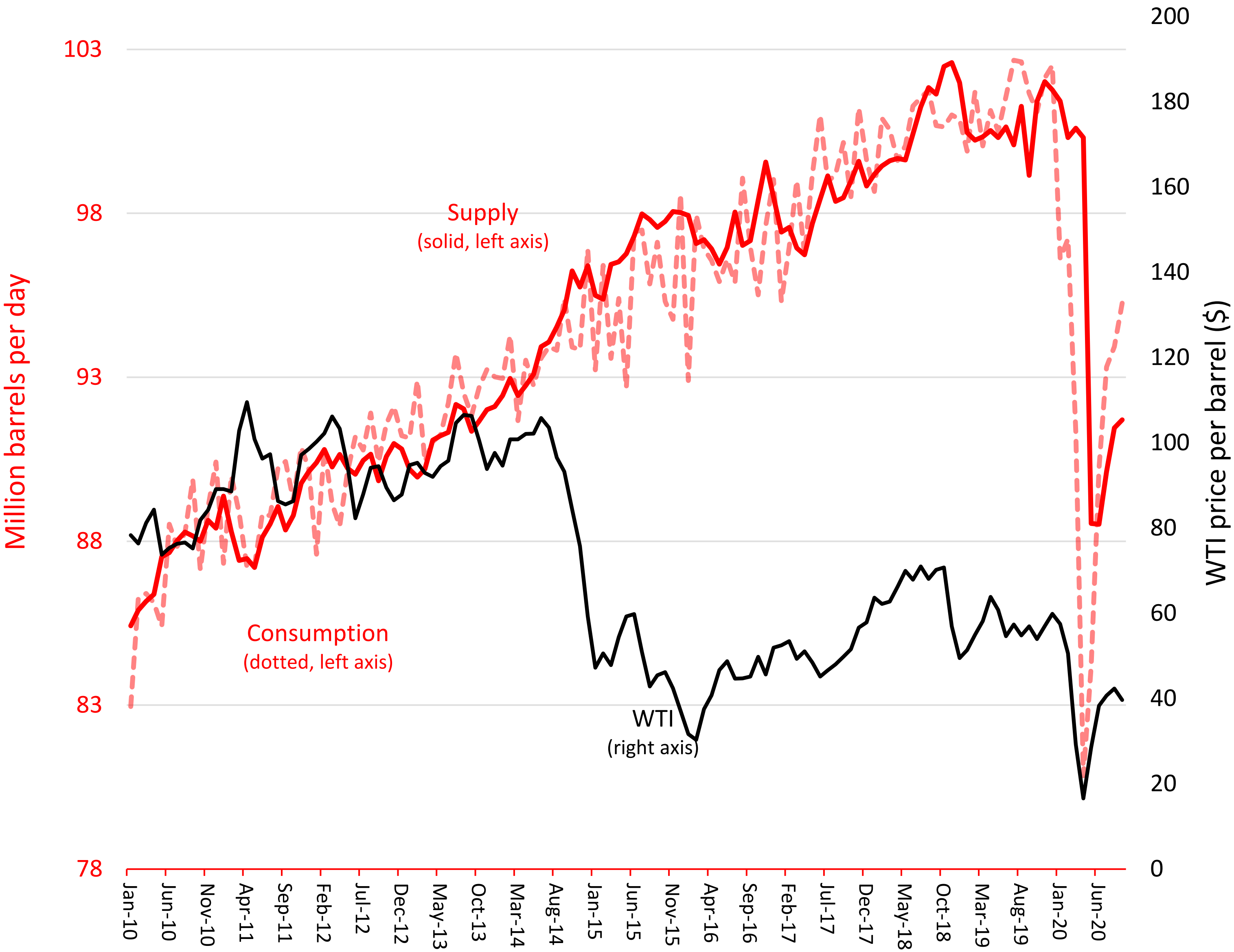
WTI spot crude oil prices vs. recessions



Sources: U.S. Energy Information Agency. Data through November 2, 2020.

Oil

World crude oil supply vs. consumption



Global consumption plunged beginning in January 2020 with coronavirus, leaving markets oversupplied.

Consumption and prices are recovering with a cut in production.

Source: U.S. Energy Information Agency, October 2020, *Short-Term Energy Outlook*, supply and consumption data through September 2020. Includes condensate and natural gas liquids.

Federal government debt

Missing from the president's State of the Union address was any mention of a looming threat: the growing national debt.[1]

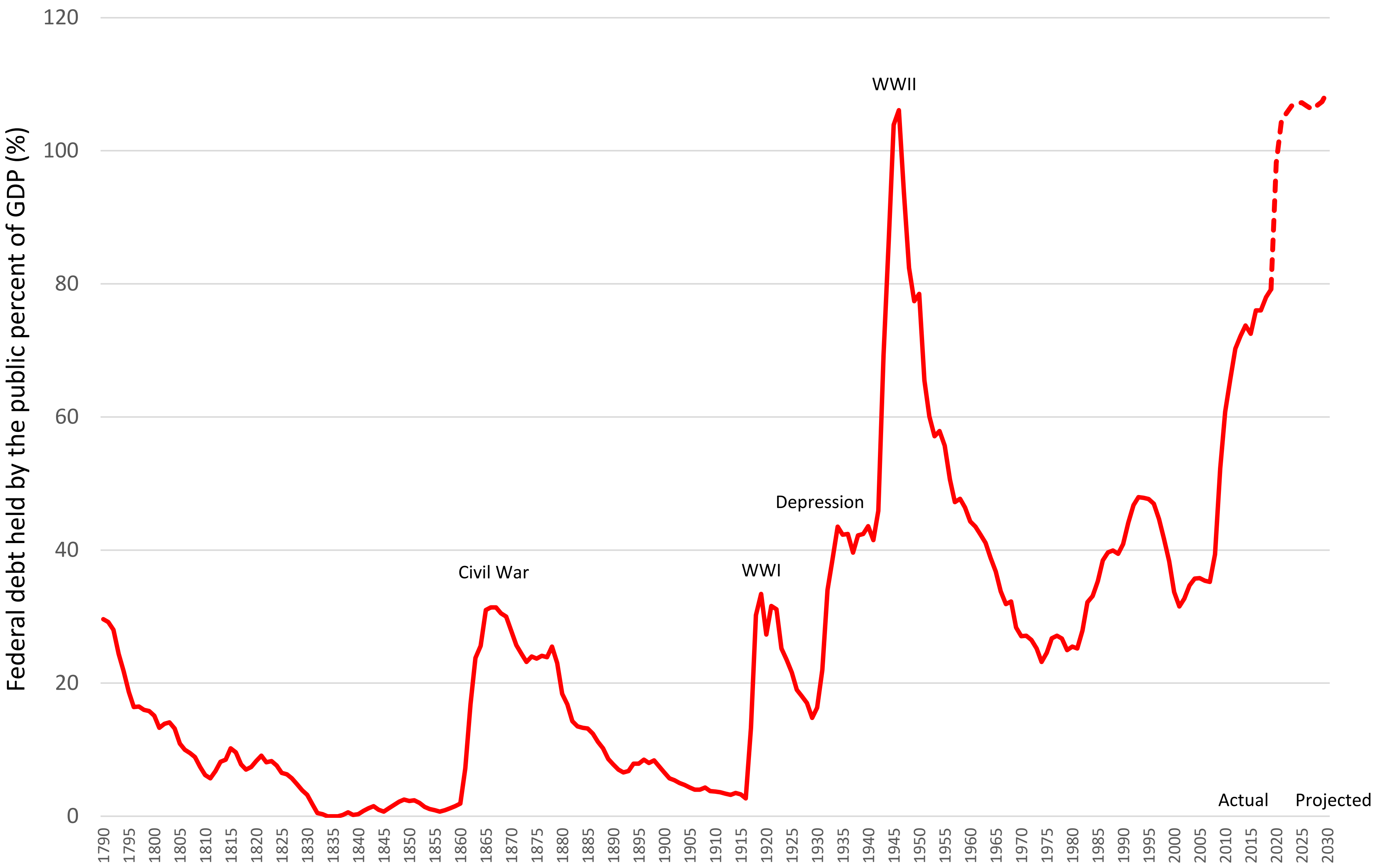
Federal budget

- CBO's September 2020 projections
- increasing deficits, rising debt
- Could we fix it?
- low U.S. tax burden allows flexibility to solve long-term entitlements problem

[1] *Barron's,* February 10, 2020.

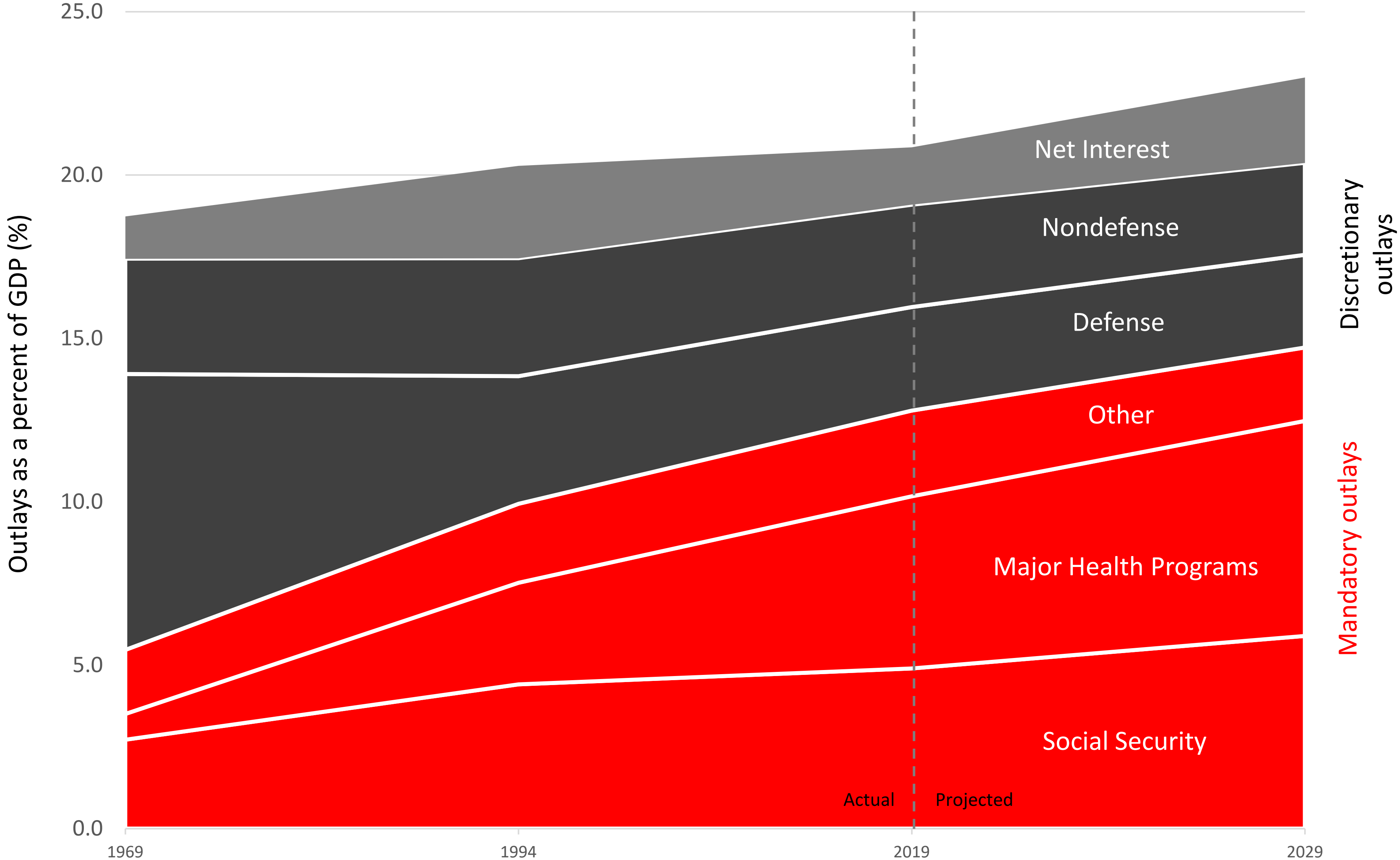
Federal deficit and debt

Federal debt % of GDP through 2030



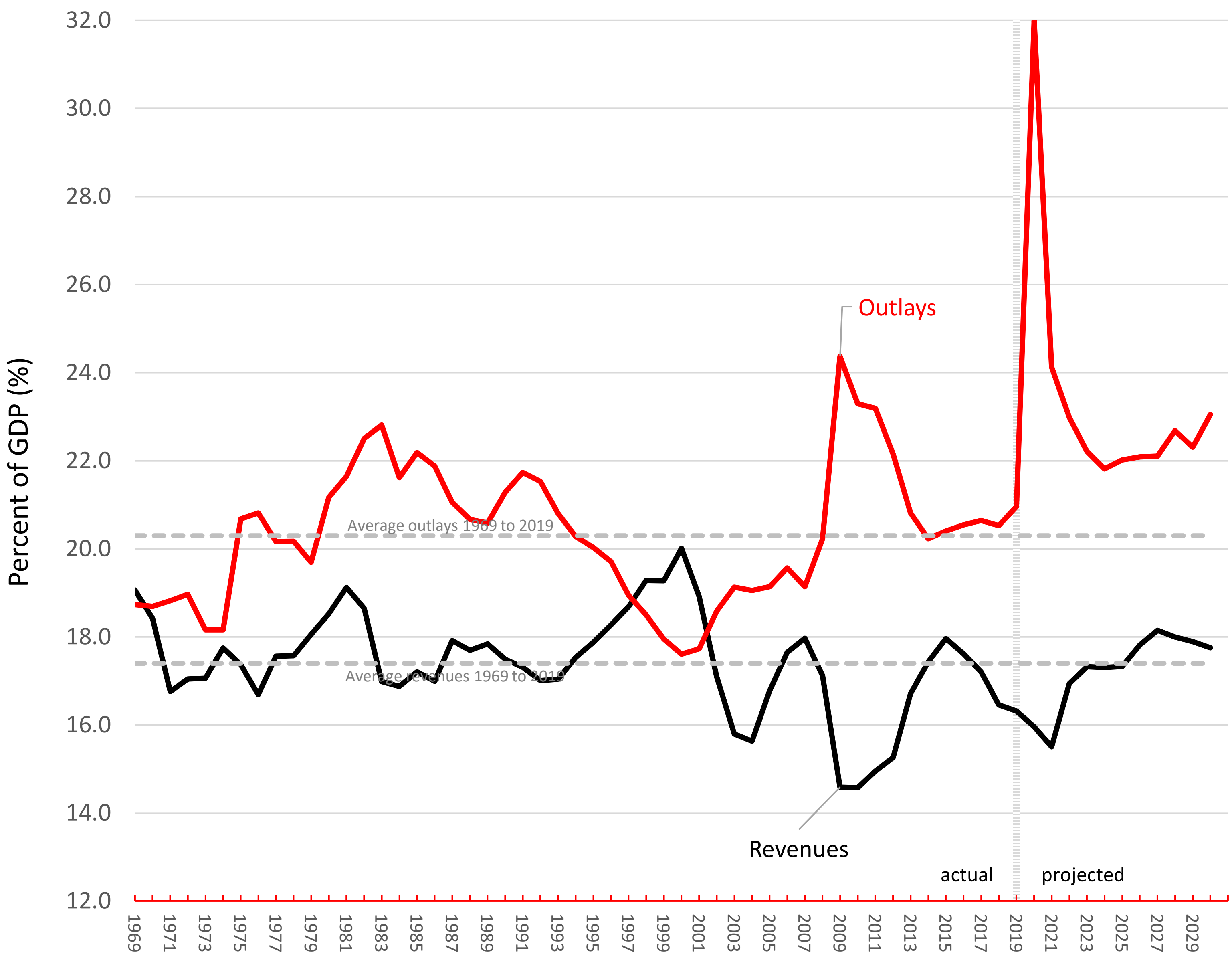
Source: Congressional Budget Office, *An Update to the Budget Outlook: 2020-2030,* released August 2020.

Federal outlays % of GDP



Source: Congressional Budget Office, *An Update to the Budget and Economic Outlook: 2019 to 2029*, released August 2019. Major health care programs consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as outlays to subsidize health insurance purchased through the marketplaces established under the Affordable Care Act and related spending. CBO's interest rate forecasts have the fed funds rate rising gradually to 2.7% by 2029 and the 10-year Treasury bond yield rising to 3.2% by 2029.

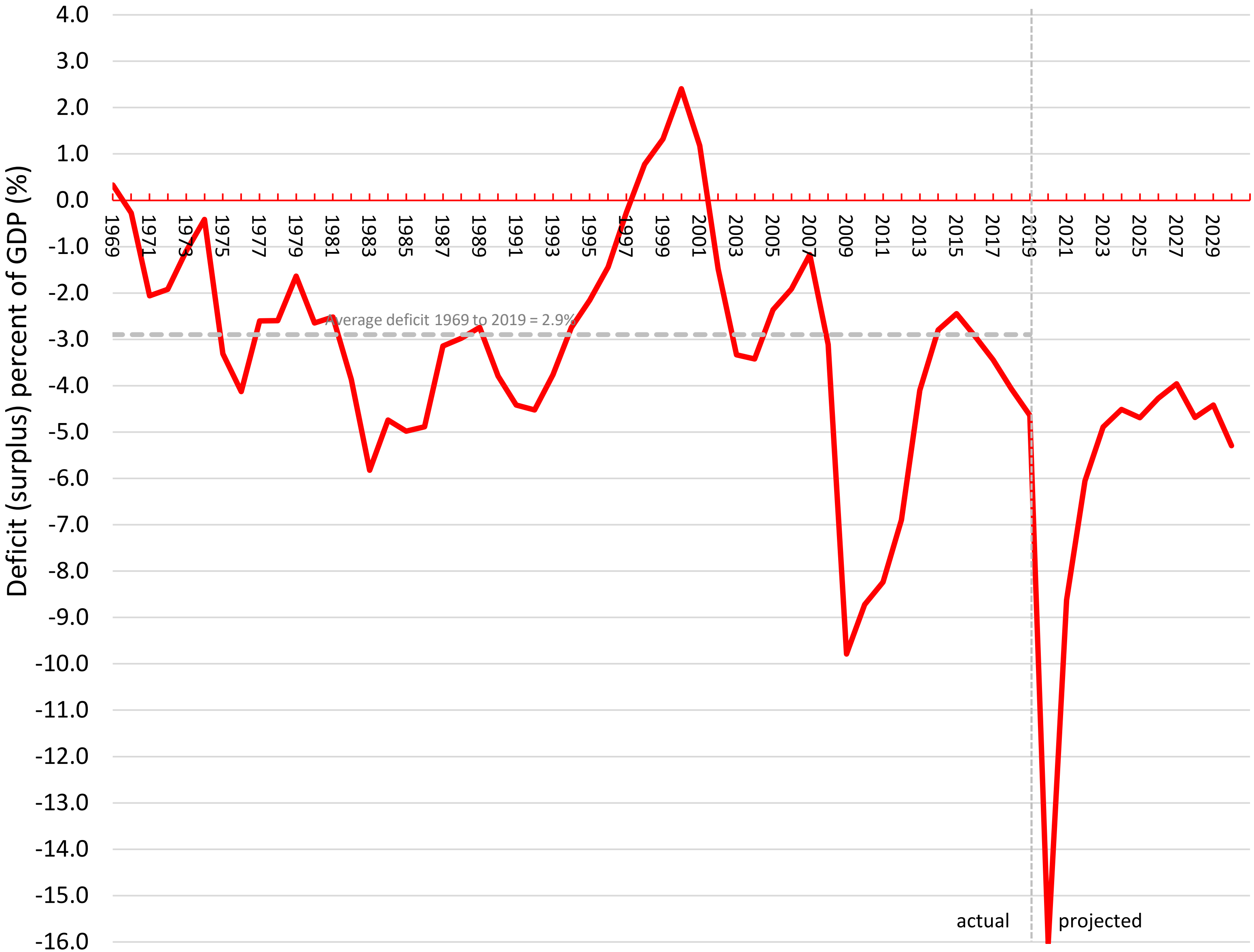
Federal revenues and outlays



In 2019 federal spending outstripped revenues by an amount equal to 4.7% of GDP per year.

Source: Congressional Budget Office, *An Update to the Budget Outlook: 2020-2030,* released August 2020.

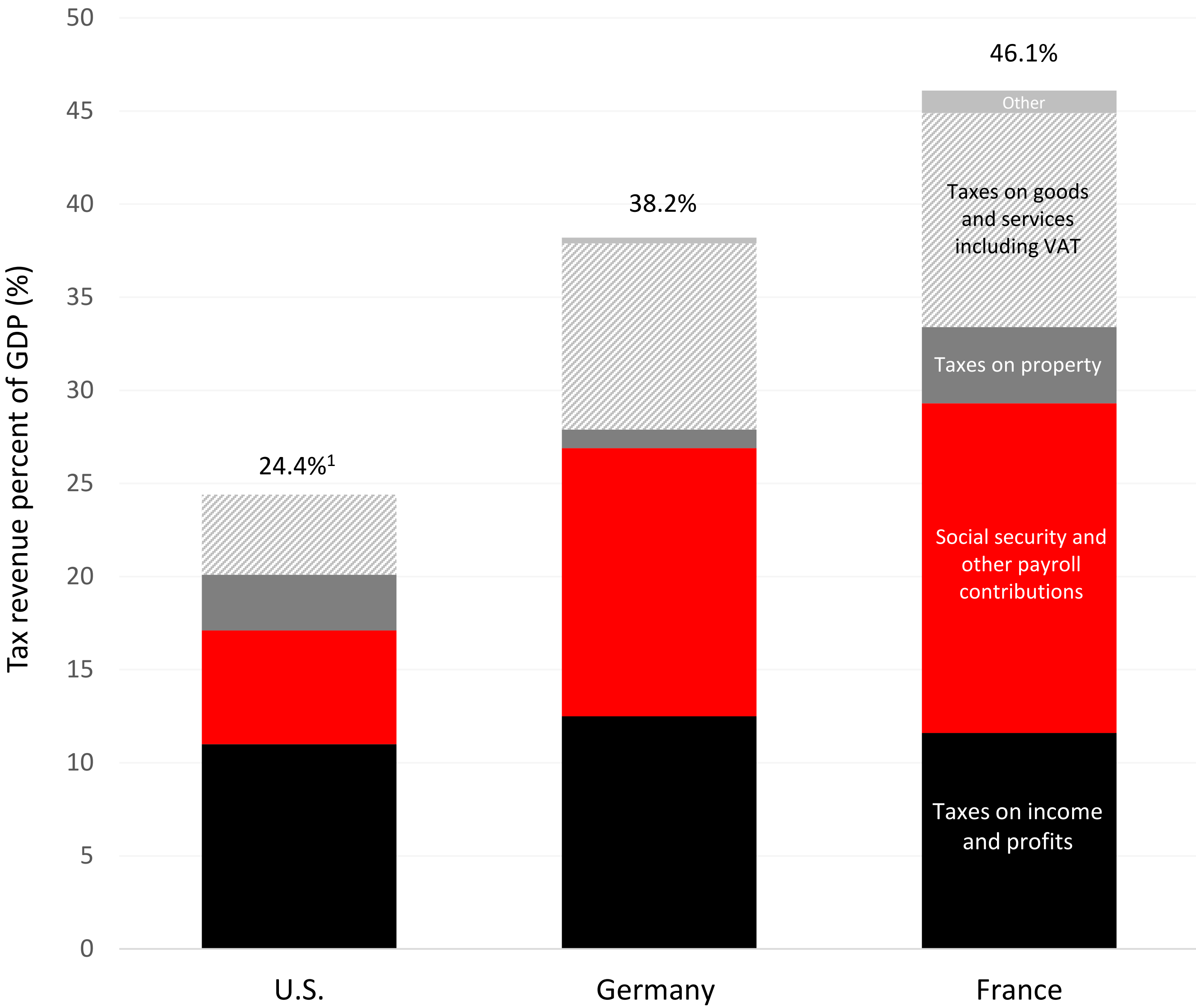
Federal deficit



The deficit is projected to rise from 4.7% of GDP in 2019 (actual) to 5.3% of GDP in 2030.

Source: Congressional Budget Office, *An Update to the Budget Outlook: 2020-2030,* released August 2020.

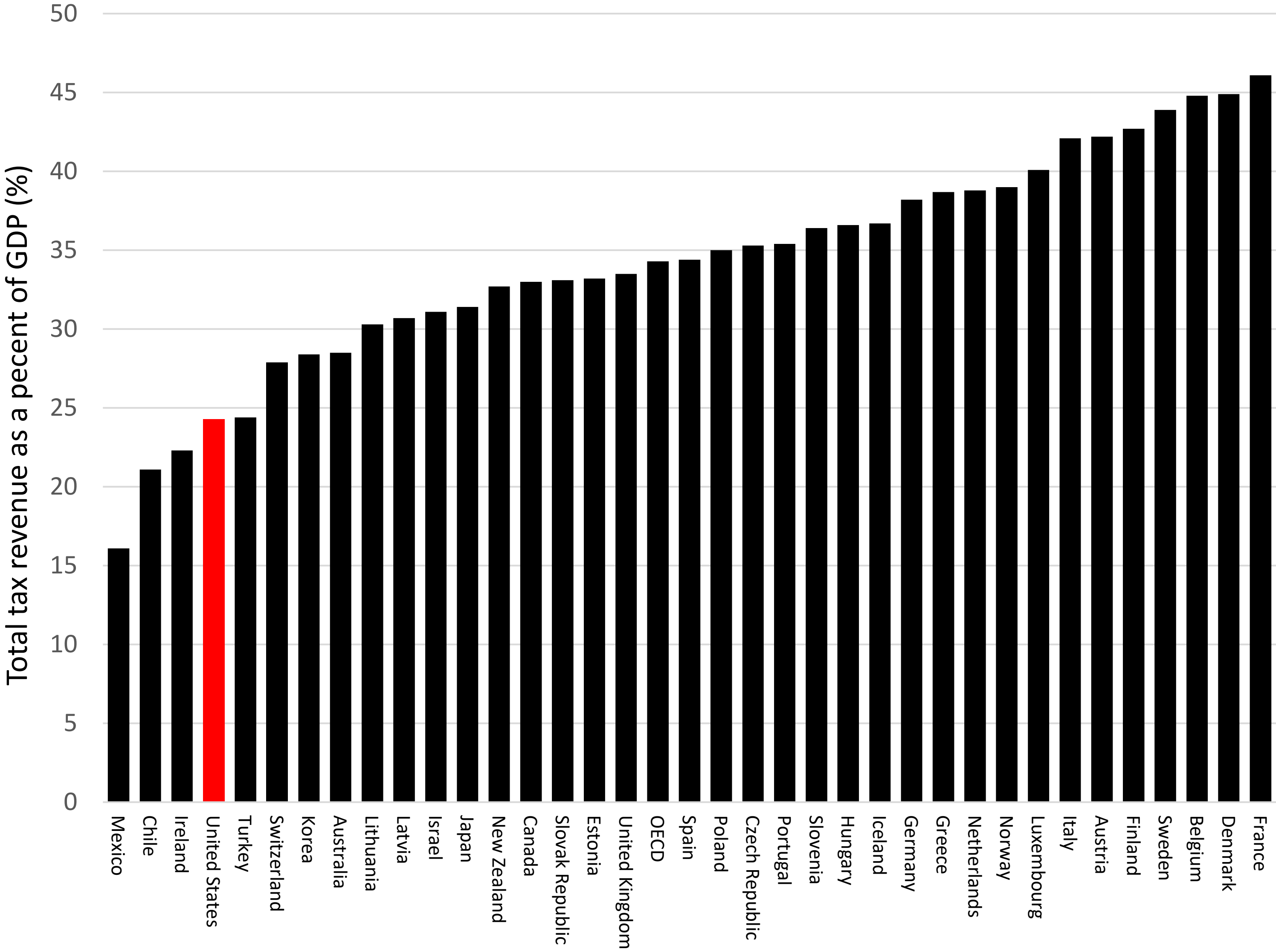
Tax structure U.S. vs. France and Germany



The U.S. has a much lower total tax burden and takes a very different approach to raising tax revenues compared to most other developed economies.

Source: OECD Revenue Statistics 2019, published December 5, 2019. Data for 2018. [1]27.1% in 2017.

Taxes % of GDP – U.S. is the lowest of major developed



The U.S.'s comparatively low tax burden allows flexibility in solving its long-term entitlement spending problem.

Source: OECD, Revenue Statistics 2019. 2018 data for all countries except 2017 data for Australia and Japan. Includes data for the 36 OECD countries and does not include non-OECD countries such as China, Brazil, India and Russia. Includes all forms of taxes: federal, state and local; income taxes, sales taxes, VAT taxes, estate taxes, property taxes, etc.

Modern Monetary Theory

- The federal government can and should run large budget deficits in order to achieve full employment.
- The federal government deficit is clearly too small if there is any unemployment, a sign of underutilized resources.
- There is no well-defined limit on deficit financed government spending unless and until inflation heats up.
- Inflation can be taxed away. Targeted taxes can reduce excess demand.

Yardeni Research

Morning Briefing - July 8, 2020

Modern Monetary Theory: In Theory & In Practice

Check out the accompanying pdf and chart collection.

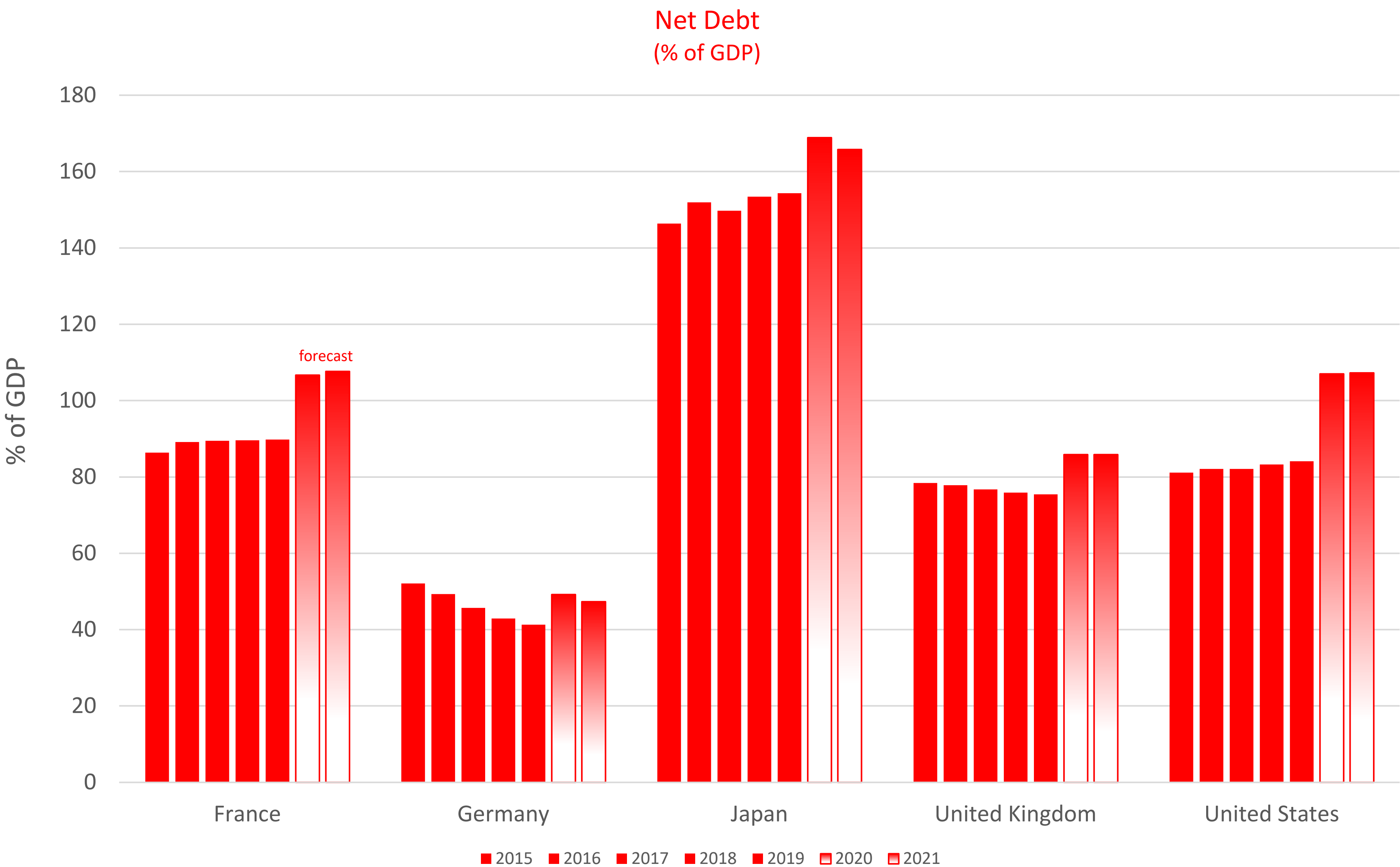
(1) Meet Stephanie Kelton. (2) A manifesto for the people's economy. (3) A champion of big government. (4) Resource allocation debate: government vs markets. (5) The magic of printing money. (6) Fiscal policy should take the lead in creating full employment. (7) Economic deficits matter more than budget deficits. (8) MMT is the New Deal on steroids. (9) Fighting inflation by raising taxes. (10) Public service jobs for all. (11) The Wiz is a Utopian. (12) Big-government politicians on both sides of the aisle embrace MMT. (13) Trump administration unites fiscal and monetary policy in MMT alliance to fight the GVC.

(I) MMT Description: Meet Professor Kelton. Stephanie Kelton is the most vocal proponent of Modern Monetary Theory (MMT) today. She is a former chief economist on the US Senate Budget Committee and professor of economics and public policy at Stony Brook University. Her June 2020 book, *The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy*, reads like the MMT movement's manifesto. Melissa and I have written about MMT before (see here and here). Kelton's new book provides us with more to write about both her theory and her policy prescriptions.

Kelton argues that the federal government can and should run large budget deficits as long as inflation remains subdued. MMT opponents' main objection is that the theory provides a blank check for the government to get much bigger. It provides the government with too much power to allocate resources. Free-market capitalists believe that markets do a much better job of doing so than politicians and bureaucrats. Kelton clearly disagrees; but before we go there, let's dive into her theoretical description of MMT:

(1) *Printing press*. The central premise of MMT is that the US federal government, as the exclusive issuer of its sovereign currency (i.e., the US dollar), can "print" money without limit. It can do so as necessary to service or to pay down the public debt. It follows, therefore, that there is no well-defined limit on deficit-financed government spending unless and until inflation heats up.

Debt-to-GDP comparisons

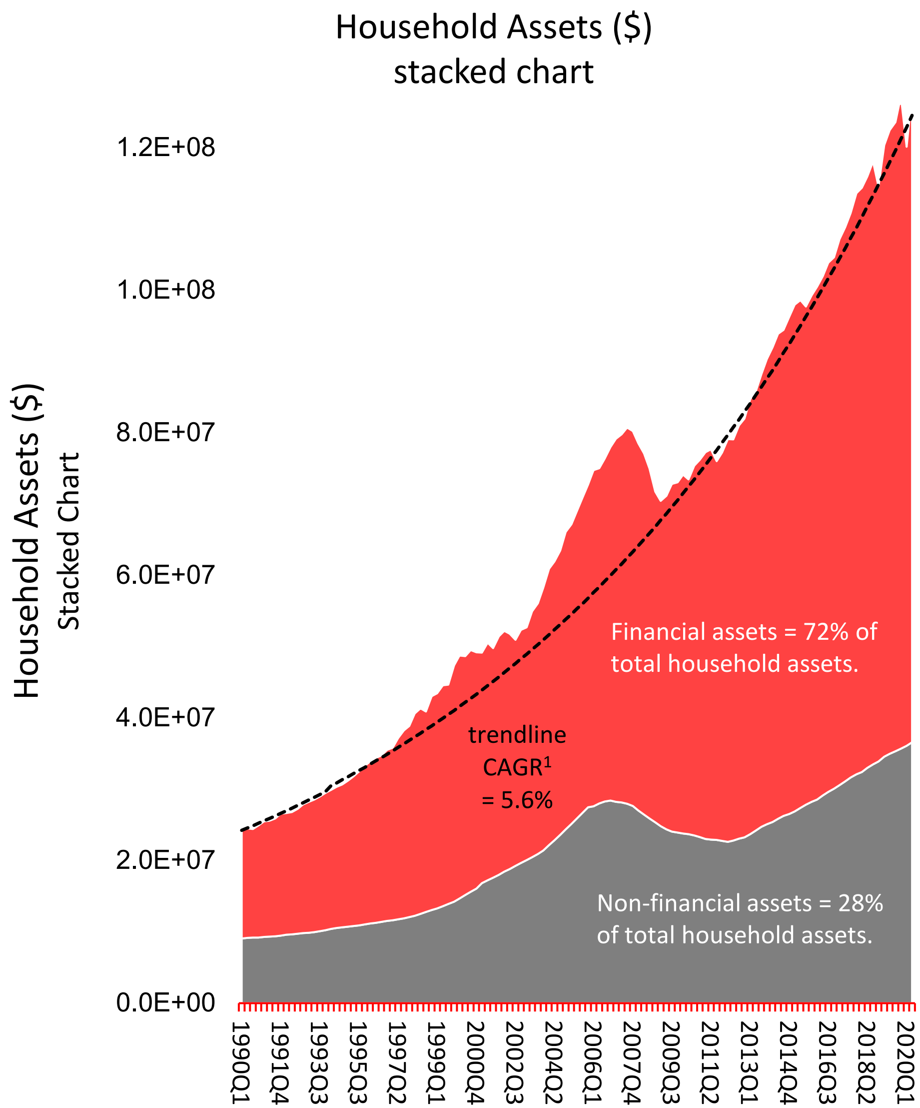


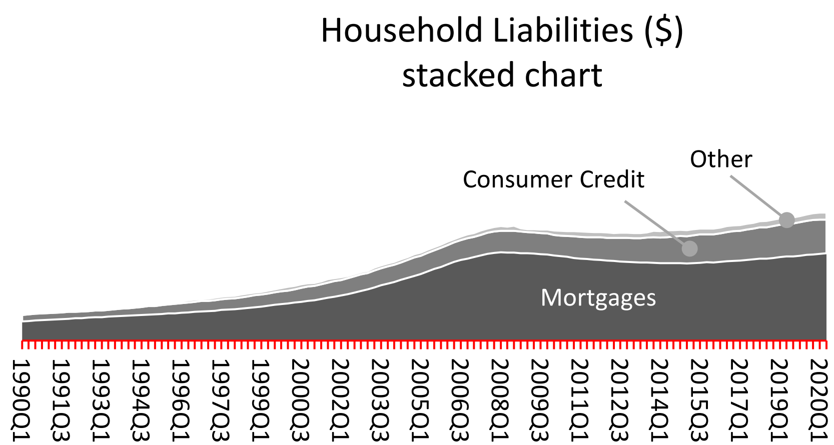
Source: IMF. Actual data through 2019.

Household balance sheets

- new highs in household net worth
- new lows in household leverage
- financial obligations ratio at record low means that consumers are in record good shape to spend money

Household assets and liabilities





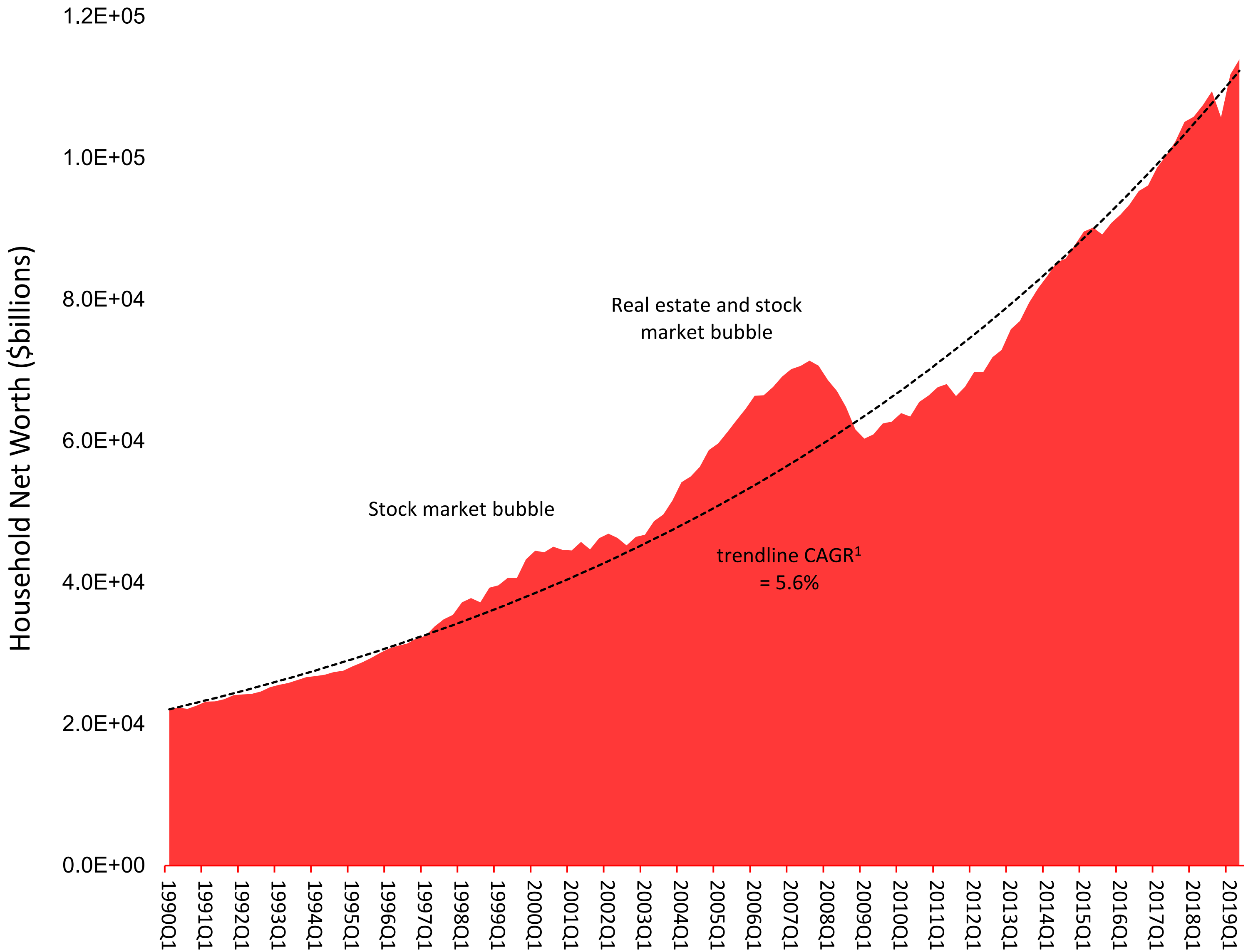
Source: Federal Reserve. Financial Accounts of the United States Schedule Z.1, B.103. Quarterly data through June 2020, released September 21, 2020. [1]Compound annual growth rate. $1.0E+08 = $100 trillion.

Household leverage – new lows

After the financial crisis 10 years ago, households have de-leveraged considerably.

Source: Federal Reserve. Financial Accounts of the United States Schedule Z.1, B.103. Quarterly data through June 2020, released September 21, 2020.

Household net worth



Recovered from the pandemic dip.

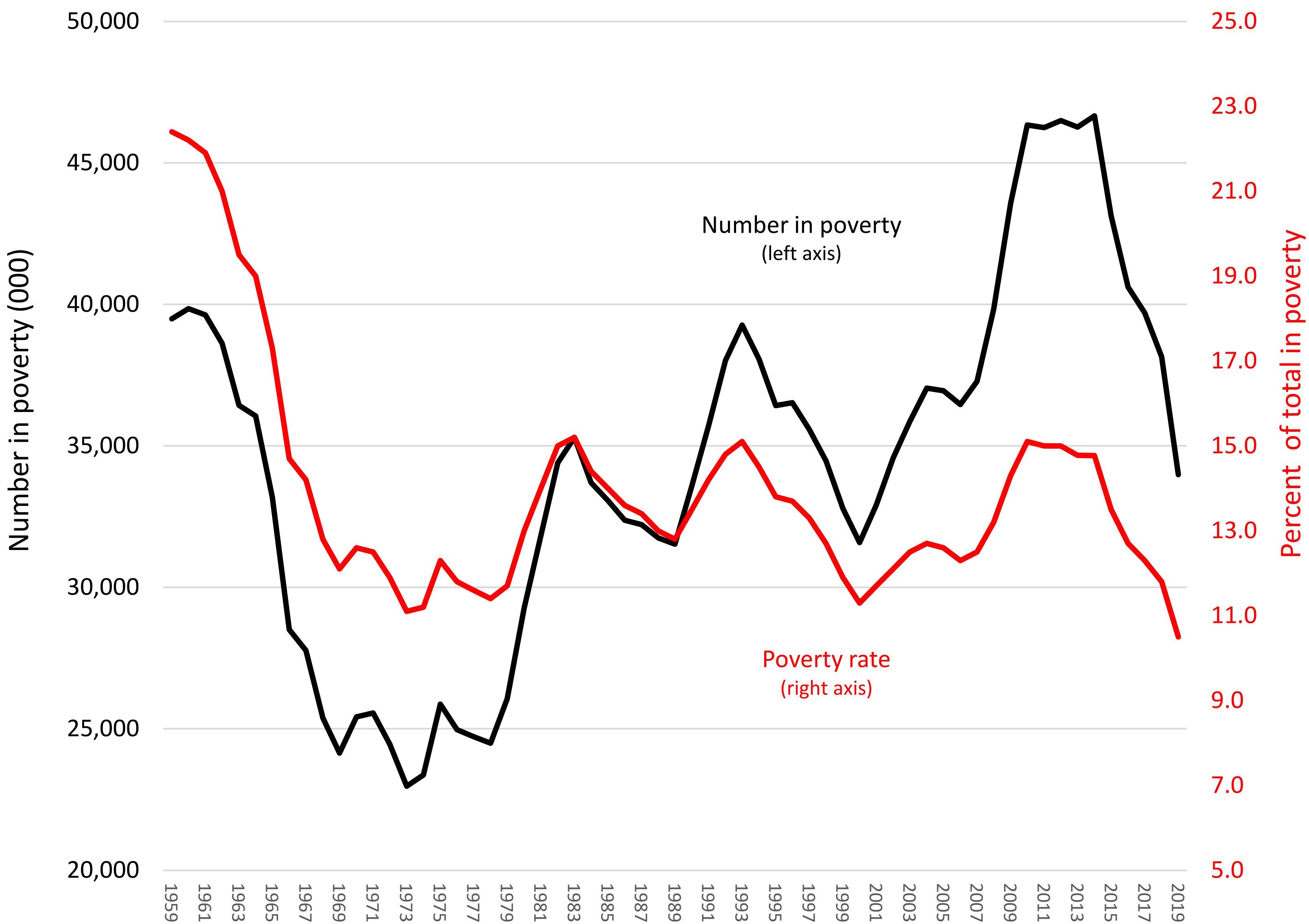
Source: Federal Reserve. Quarterly data through June 2020, released September 21, 2020. [1]Compound annual growth rate. $1.0E+05 = $100 trillion.

Financial obligations ratio – record lows

This measure shows that percent of monthly after-tax income that the average household pays for fixed recurring monthly obligations, such as a mortgage, car payment, utilities, real estate taxes, etc.

Source: Federal Reserve. Quarterly data through March 2020.

Poverty rate – record low

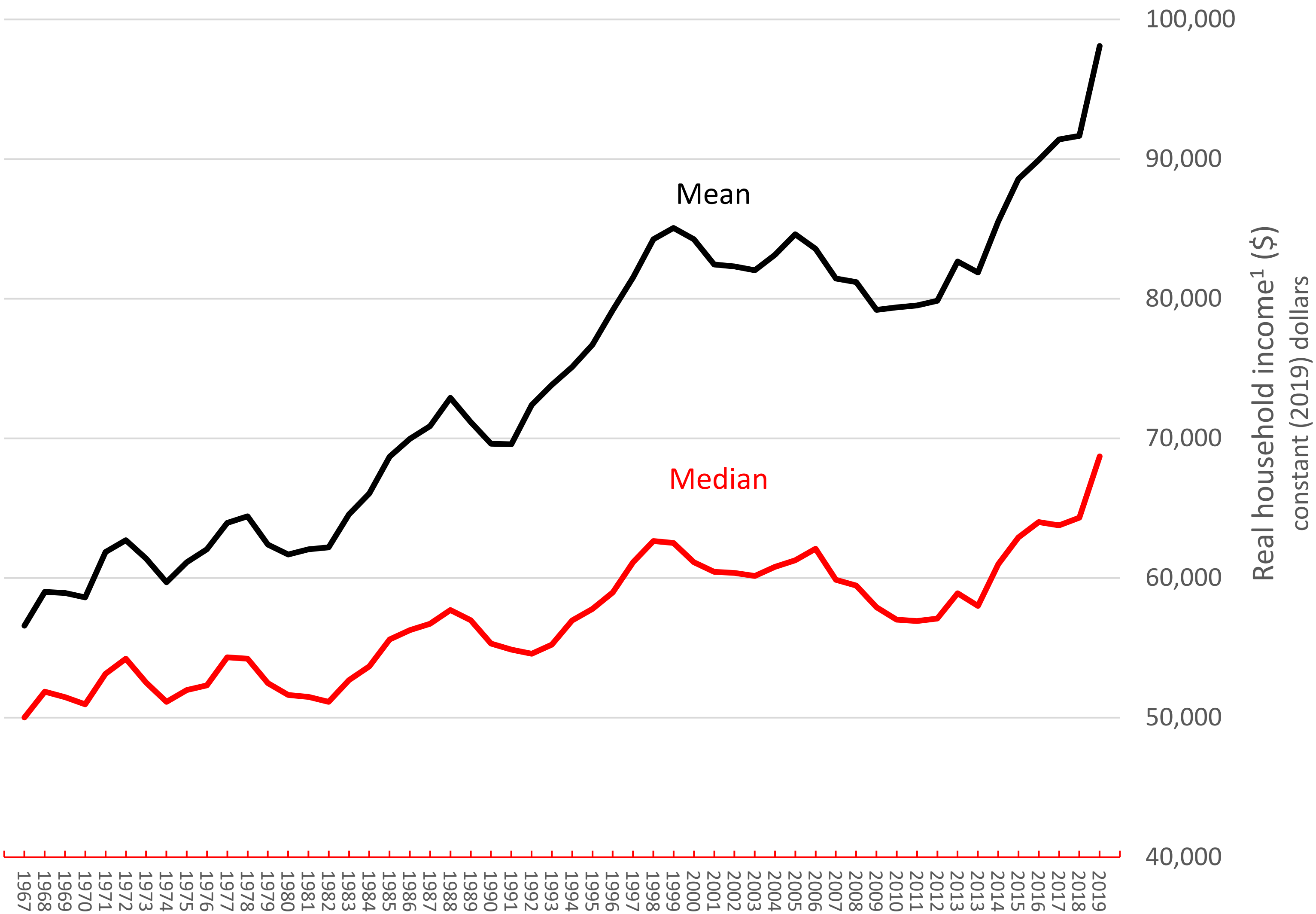


The poverty rate is a record low.

Source: U.S. Census Bureau. *Income and Poverty in the United States: 2019.* Issued September 2020. Data through 2019.

[1] The Census Bureau's income estimates are based solely on money income before taxes and do not include the value of non-cash benefits such as food stamps, Medicare, Medicaid, public housing and employer-provided fringe benefits.

Median and mean household income



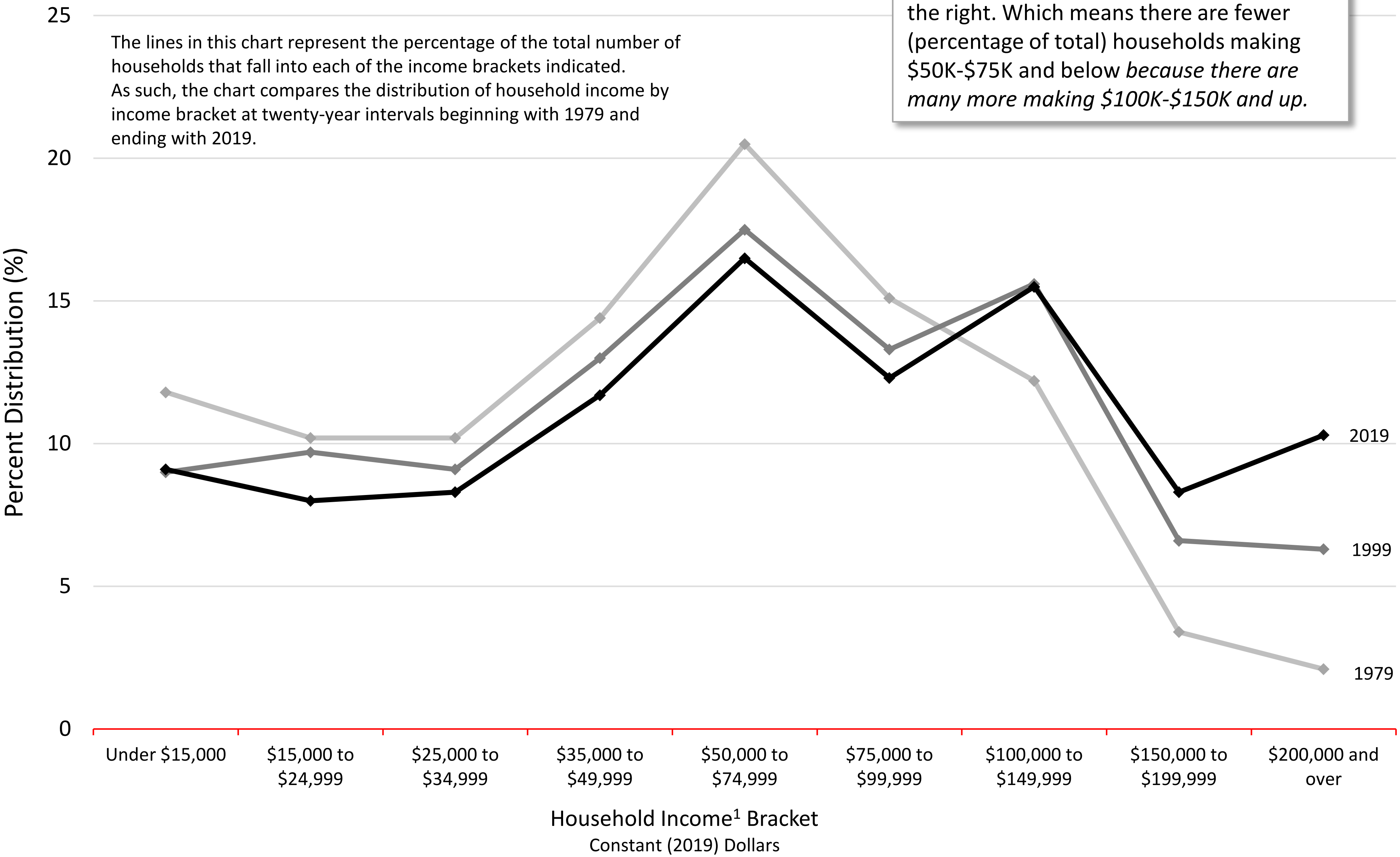
New highs in household mean and median money income.

NOTE: These measures based on money income don't account for income re-distribution inherent in the tax code, food stamps, Medicare, Medicaid, public housing, etc.

Source: U.S. Census Bureau. *Income and Poverty in the United States: 2019*. Issued September 2020. Data through 2019.
[1] The Census Bureau's income estimates are based solely on money income before taxes and do not include the value of non-cash benefits such as food stamps, Medicare, Medicaid, public housing and employer-provided fringe benefits.

Income distribution

Over the last 40 years, the distribution of income has both flattened and shifted to the right. Which means there are fewer (percentage of total) households making $50K-$75K and below *because there are many more making $100K-$150K and up.*



Source: U.S. Census Bureau. *Income and Poverty in the United States: 2019*. Issued September 2020. Data through 2019.

[1] The Census Bureau's income estimates are based solely on money income before taxes and do not include the value of non-cash benefits such as food stamps, Medicare, Medicaid, public housing and employer-provided fringe benefits.

2018 Auten-Splitter study

VI. Summary and Conclusions

Using tax return data, Piketty and Saez (2003) argued that the top one percent income share more than doubled compared to 1960. This analysis, however, did not account for the effects of major tax reforms, income sources not reported on individual income tax returns, or changes in marriage rates, which resulted in a distorted view of income inequality levels and trends. Piketty, Saez, and Zucman (2018) reached similar conclusions after addressing some of these issues by allocating total national income and measuring income groups by the numbers of adults. But other issues were left unaddressed and our analysis shows that their conclusions are highly sensitive to certain allocation assumptions. Alternative assumptions that we believe are more appropriate lead to quite different results, especially in recent decades.

Using administrative U.S. tax data, this paper develops measures of pre-tax and after-tax income that target total national income to examine levels and trends in top income shares from 1960 to 2015. Our measure of pre-tax top one percent income shares increased by less than 3 percentage points. While pre-tax income measures how individuals are compensated for their labor and investments, it provides an incomplete picture of the overall resources available across the income distribution. Our measure of after-tax top one percent income shares, which includes government transfers, increased less than half a percentage point since 1960. Even during the more recent period since 1979, we estimate that it increased less than one percentage point.

Our results highlight the importance of accounting for tax reforms and including income not reported on tax returns. The most important factors in our differences from Piketty and Saez (2003) are accounting for C corporation retained earnings, corporate and business property taxes, employer payroll taxes and insurance, and changing family structures. Our results also highlight the sensitivity of top income share estimates to the assumptions used to allocate income not reported on tax returns. For example, the most important difference with Piketty, Saez, and Zucman (2018) arises from the allocation of underreported income. In addition, we account for numerous changes in how income is reported on tax returns over time due to reforms.

Our results suggest an alternative narrative about top income shares: changes in the top one percent income shares over the last half century are likely to have been relatively modest.

Source: *Income Inequality in the United States: Using Tax Data to Measure Long-term Trends*, August 23, 2018. Authors: Gerald Auten, Office of Tax Analysis, U.S. Treasury Department; David Splinter, Joint Committee on Taxation, U.S. Congress. Paper written for the Joint Committee on Taxation a bi-partisan committee of both houses of Congress.

2018 Auten-Splitter study

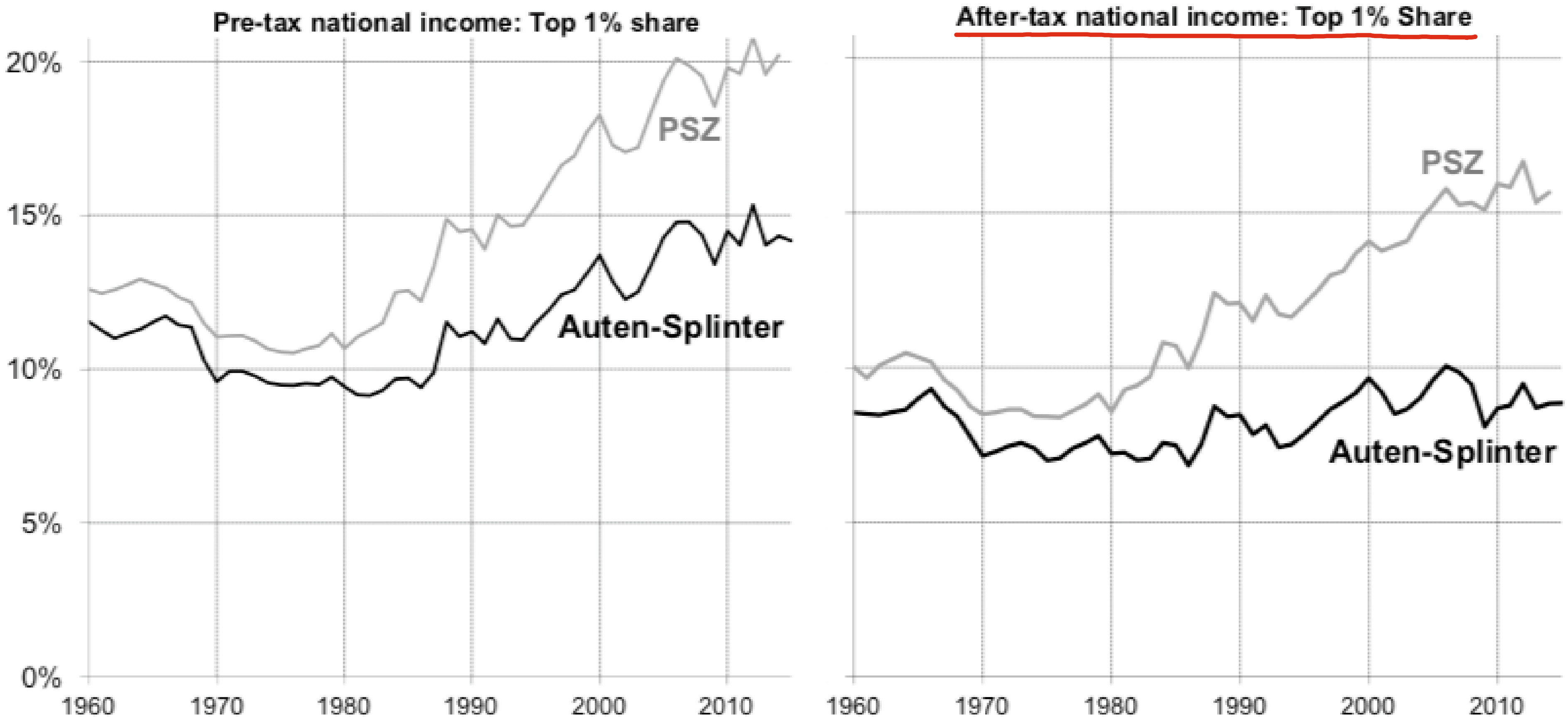


Figure 1: Total income as a share of NIPA income

Notes: Adjustments used to estimate Auten-Splinter pre-tax and after-tax income are listed in Tables 1, 2, and A1 and described in detail in the online appendix.
Sources: Authors' calculations, and Piketty, Saez, and Zucman (2018, PSZ in figure).

Source: *Income Inequality in the United States: Using Tax Data to Measure Long-term Trends*, August 23, 2018, page 32. Authors: Gerald Auten, Office of Tax Analysis, U.S. Treasury Department; David Splinter, Joint Committee on Taxation, U.S. Congress. Paper written for the Joint Committee on Taxation a bi-partisan committee of both houses of Congress.

2020 forecasts

Barron's 2020 Outlook: Stocks Are Headed Higher. Here's Which Sectors Will Benefit the Most.

By Nicholas Jasinski   Updated December 16, 2019 / Original December 13, 2019

Illustration by Marcin Wolski

Wall Street spends a great deal of time and money trying to forecast relative performance among sectors, styles, markets and even asset classes.

In December of every year *Barron's* publishes its survey of the 10 top Wall Street strategists' picks vs. pans among the S&P 500's 11 sectors.

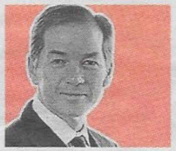
Source: *Barron's*, December 16, 2019.

Investment Strategy
2020 forecasts

2020 | OUTLOOK

A More Muted Year Ahead

There's no recession in the forecast for 2020, and our panel sees a return to earnings growth that could push stocks slightly higher





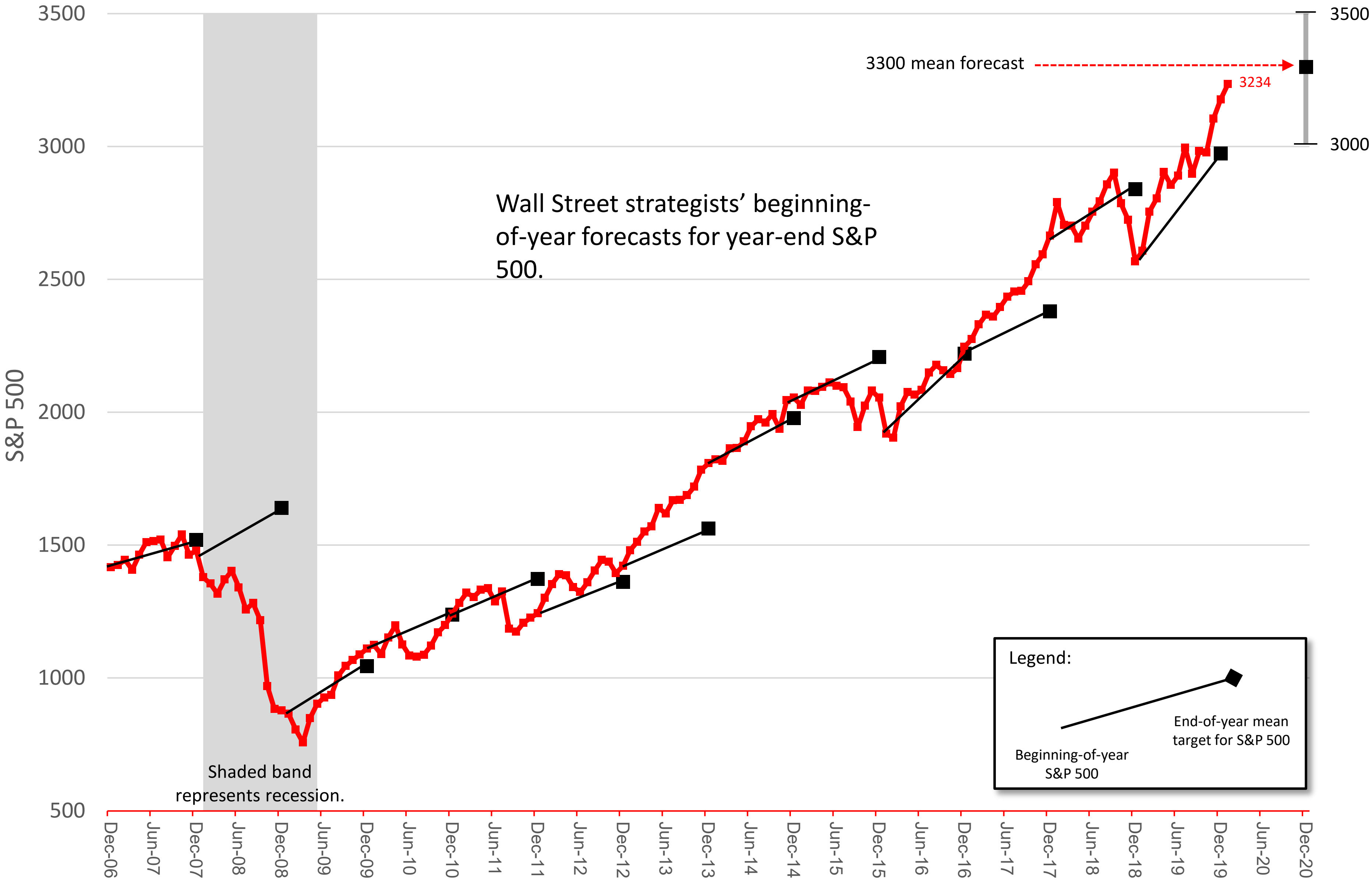


Name	Firm	S&P 500 Target	S&P 500 EPS	S&P 500 P/E	US GDP Growth	Fed Funds Rate	10-Yr Treasury Yield	Overweight Sectors	Underweight Sectors
Lori Calvasina	RBC Capital Markets	3350	$174.00	19.3	2.00%*	1.50%-1.75%*	2.10%*	Financials, Industrials, Utilities	Communication Services, Consumer Discretionary, Materials
Richard Lacaille	State Street	3249	$165.80	19.6	1.90%	1.75%-2.00%	1.80%	Financials, Health Care, Technology	Consumer Discretionary, Real Estate, Utilities
Dubravko Lakos-Bujas	J.P. Morgan	3400	$180.00	18.9	1.50%	1.25%-1.50%	2.05%	Communication Services, Energy, Health Care, Industrials, Materials	Real Estate, Staples, Utilities
Saira Malik	Nuveen	3100	$174.00	17.8	2.10%	1.50%-1.75%	2.00%	Financials, Health Care	Industrials, Materials
Edward Yardeni	Yardeni Research	3500	$172.00	20.3	2.00%	1.25%-1.50%	1.50%	Energy, Financials, Health Care	Consumer Staples, Utilities
Tobias Levkovich	Citi	3375	$174.25	19.4	2.00%	1.50%-1.75%	1.75%	Consumer Discretionary, Energy, Financials, Health Care, Industrials, Technology	Communication Services, Consumer Staples, Utilities
Savita Subramanian	Bank of America Securities	3300	$177.00	18.6	1.70%	1.50%-1.75%	2.20%	Consumer Discretionary, Financials, Industrials, Utilities	Consumer Staples, Materials, Real Estate
Rob Sharps	T. Rowe Price	3250	$170.00	19.1	2.25%	1.25%-1.50%	1.80%	Financials, Health Care	Consumer Discretionary
Mike Wilson	Morgan Stanley	3000	$177.00	16.9	1.80%**	1.50%-1.75%**	1.75%**	Consumer Staples, Financials, Utilities	Consumer Discretionary, Technology
Rick Rieder	BlackRock	3480	$174.00	20.0	1.80%	1.50%-1.75%	2.00%	Consumer Discretionary, Financials, Health Care, Real Estate, Technology	Energy, Materials

*RBC estimates **Morgan Stanley estimates

Source: *Barron's,* December 16, 2019.

S&P 500 beginning-of-year forecasts



Source: Standard & Poor's, data through January 3, 2020. *Barron's* survey of 10 Wall Street strategists, December 16, 2018.

Wall Street's sector calls for 2020 – should you take their advice?

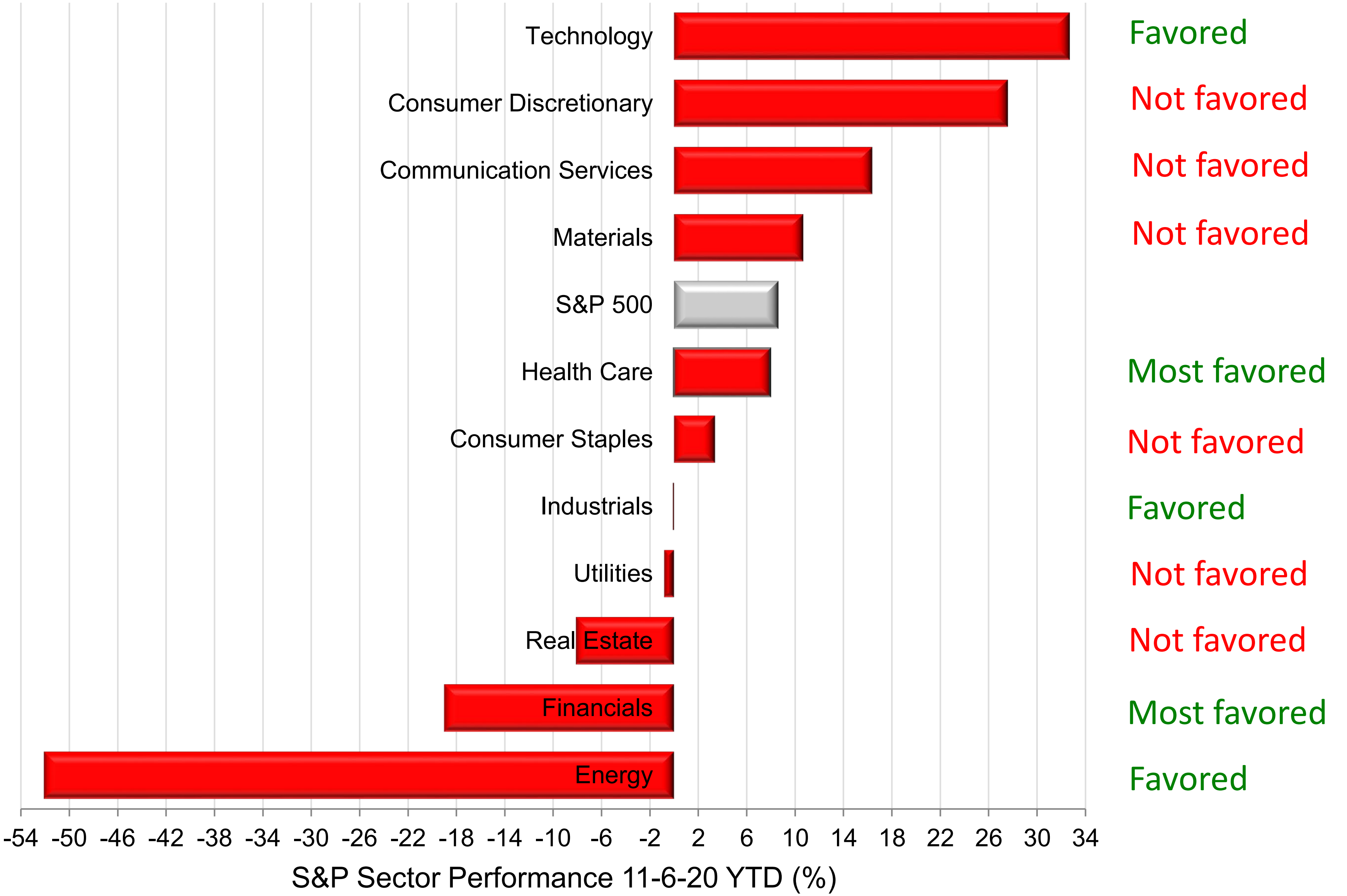
Barron's 2020 Forecast[1]

Survey of 10 stock market strategists' sector picks and pans for 2020

	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Communications Services	Utilities	REITs
RBC Capital Markets	-			+		+		-	-	+	
Yardeni Research		-	+	+	+					-	
T. Rowe Price	-			+	+						
Nuveen				+	+	-		-			
State Street	-			+	+		+			-	-
J. P. Morgan		-	+		+	+		+	+	-	-
Citi	+	-	+	+	+	+	+		-	-	
Morgan Stanley	-	+		+			-			+	
Blackrock	+		-	+	+		+	-			+
BofA Securities	+	-		+		+		-		+	-
Net (+/-)	**-1**	**-3**	**+2**	**+9**	**+7**	**+3**	**+2**	**-3**	**-1**	**-1**	**-2**

[1] Published December 16, 2019.

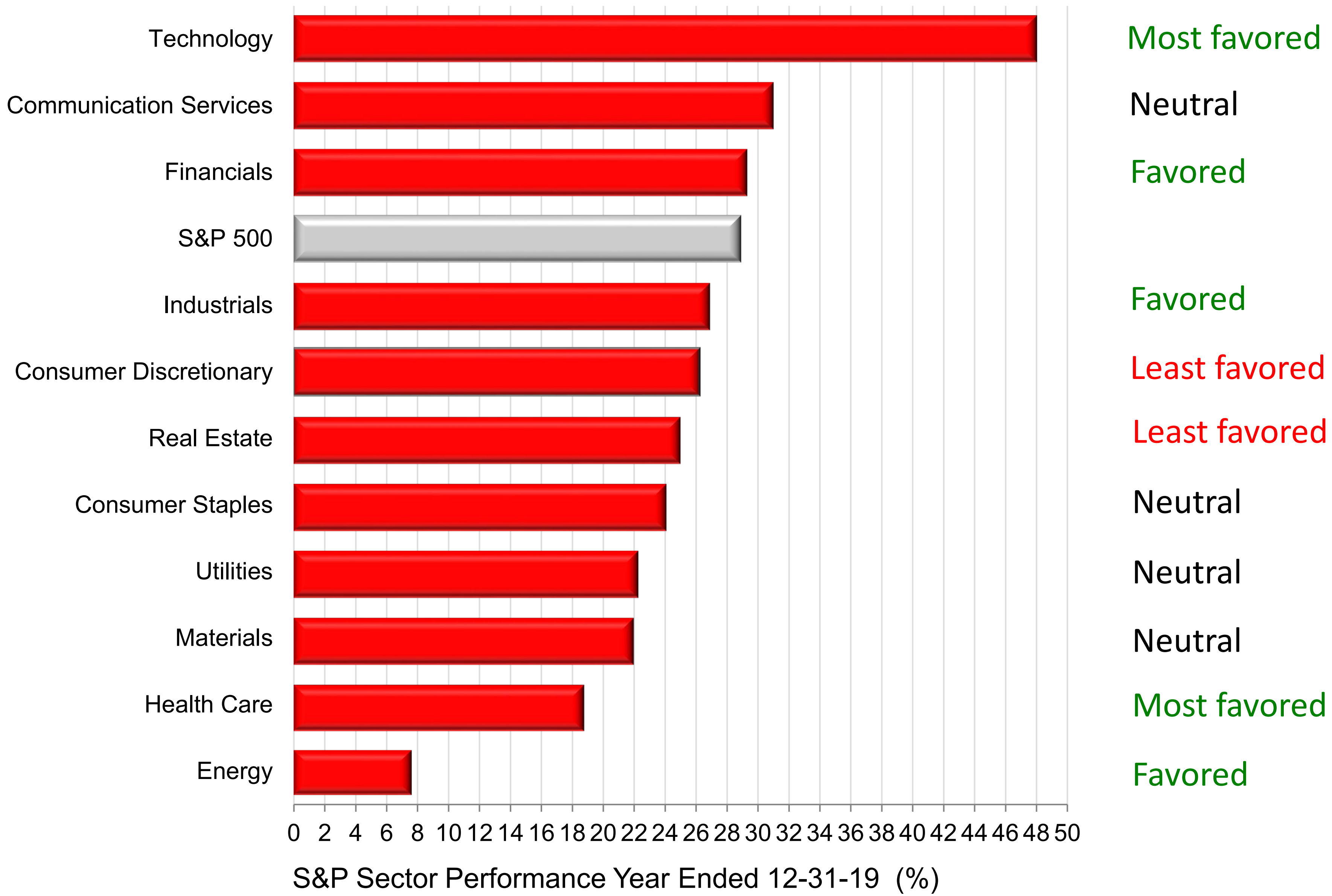
S&P 2020 YTD sector returns vs. the strategists[1] calls



Source: Standard and Poor's

[1] From *Barron's* survey of 10 Wall Street strategists, published December 16, 2019.

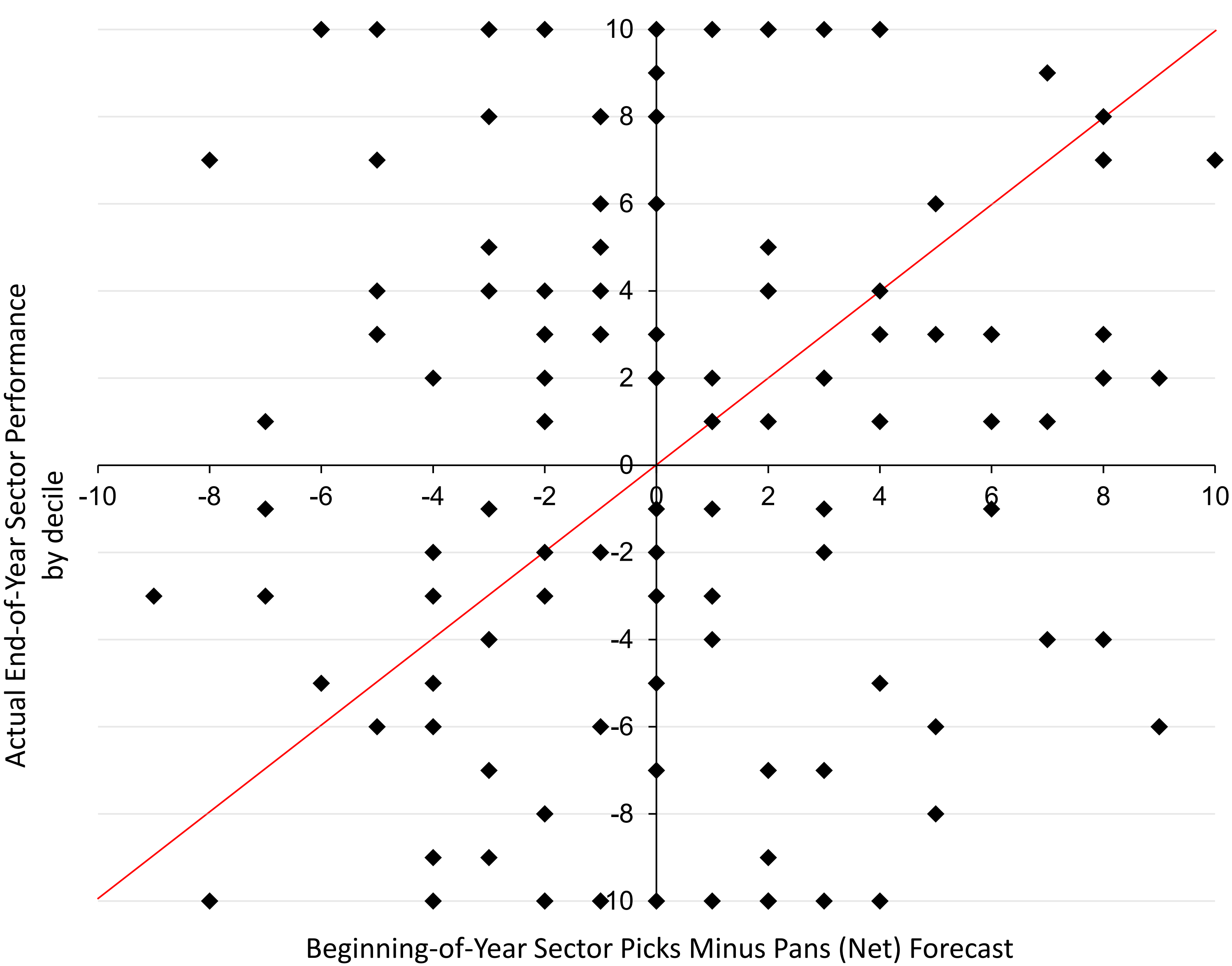
S&P 2019 sector returns vs. the strategists[1] calls



Source: Standard and Poor's

[1] From *Barron's* survey of 10 Wall Street strategists, published December 17, 2018.

Summary of Wall Street's sector calls 2007-2019

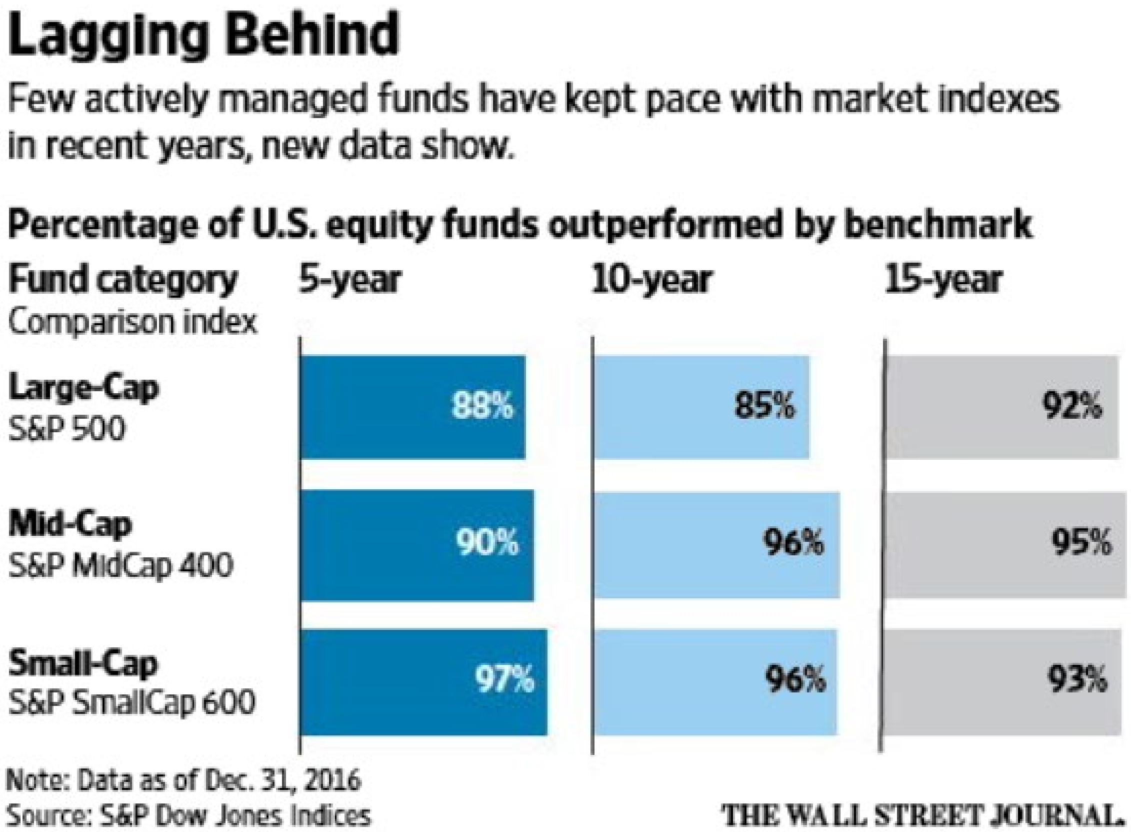


Strategists are no better than throwing darts.

If the strategists surveyed, collectively, were able to systematically give valuable sector picking advice, then these data points would lie along the indicated approximate 45-degree angle: sectors with high net picks would correspondingly perform relatively highly and sectors with negative net picks would perform relatively negatively. These data look pretty random.

Sources: Standard and Poor's for actual annual sector performance data. *Barron's* surveys for beginning-of-year sector picks minus pans (net) figures.

Active vs. passive … stock market became more efficient



Source: *The Wall Street Journal*, April 13, 2017.

BY MARK HULBERT

What changed? One big factor is that, starting about 15 years ago, the stock market became more efficient—leaving fewer shares mispriced—for several reasons, including the increasing influence of big, sophisticated institutional investors, more information disclosure by companies because of increased regulation, improved market liquidity due to a decline in trading costs, and an explosion in algorithmic trading, according to research conducted by Fangjian Fu and Sheng Huang, finance professors at Singapore Management University.

Source: *The Wall Street Journal*, May 8, 2017.

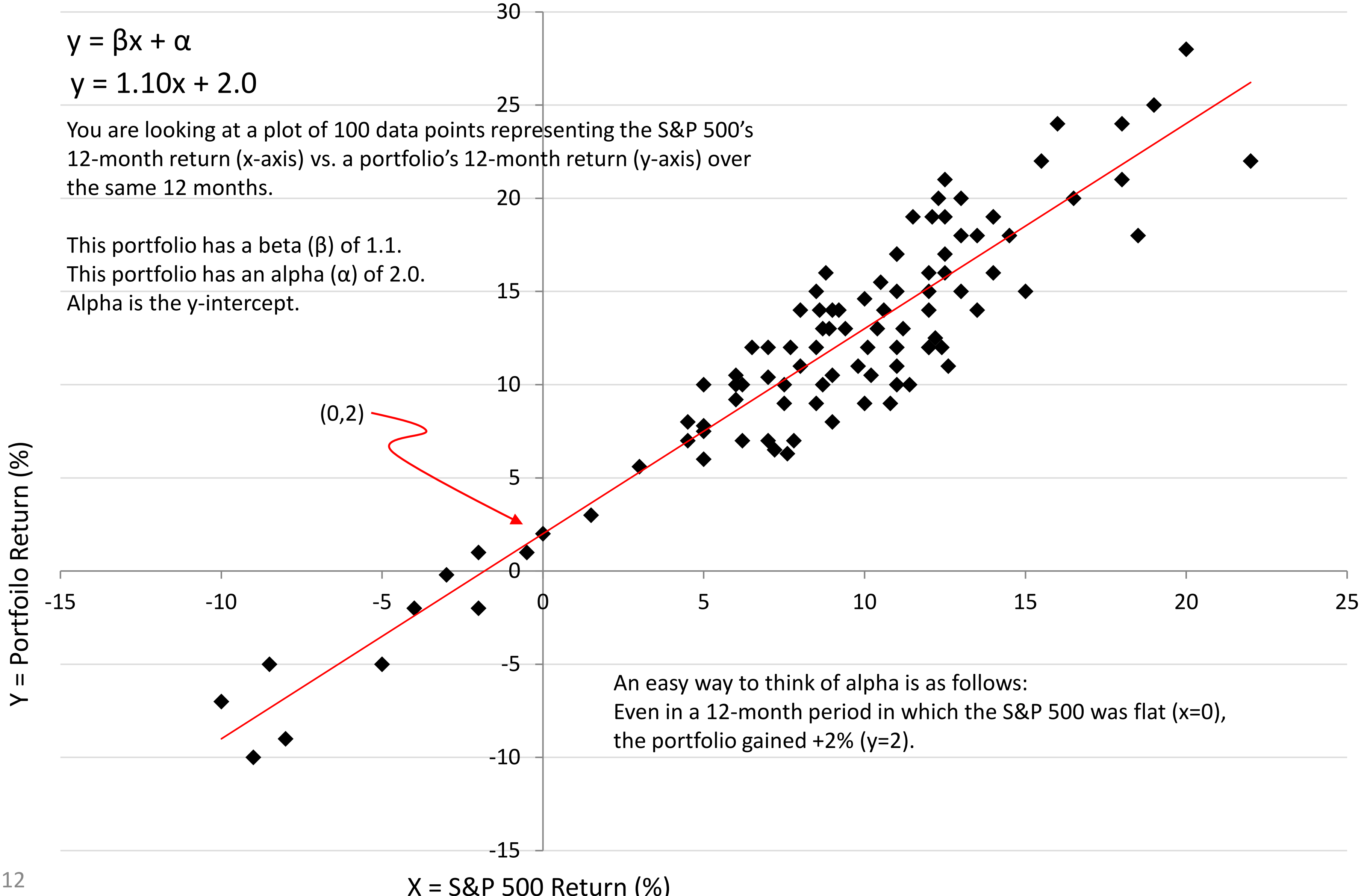
What is Alpha(α)?

$y = \beta x + \alpha$

$y = 1.10x + 2.0$

You are looking at a plot of 100 data points representing the S&P 500's 12-month return (x-axis) vs. a portfolio's 12-month return (y-axis) over the same 12 months.

This portfolio has a beta (β) of 1.1.
This portfolio has an alpha (α) of 2.0.
Alpha is the y-intercept.



An easy way to think of alpha is as follows:
Even in a 12-month period in which the S&P 500 was flat (x=0), the portfolio gained +2% (y=2).

Modern Portfolio Theory

Wall Street strategists' dismal track record with their S&P 500 sector recommendations illustrates how extremely difficult it is to systematically add α with tactical asset allocation – ie. trying to guess which sectors, styles, markets (foreign vs. domestic) or asset classes (eg. stocks, bonds, commodities, gold, etc.) are going to outperform and which are going to lag. In my opinion, MPT is still the best investing mousetrap yet devised.

"Your mother called to remind you to diversify."

Modern Portfolio Theory

Figure 1. Efficient frontier

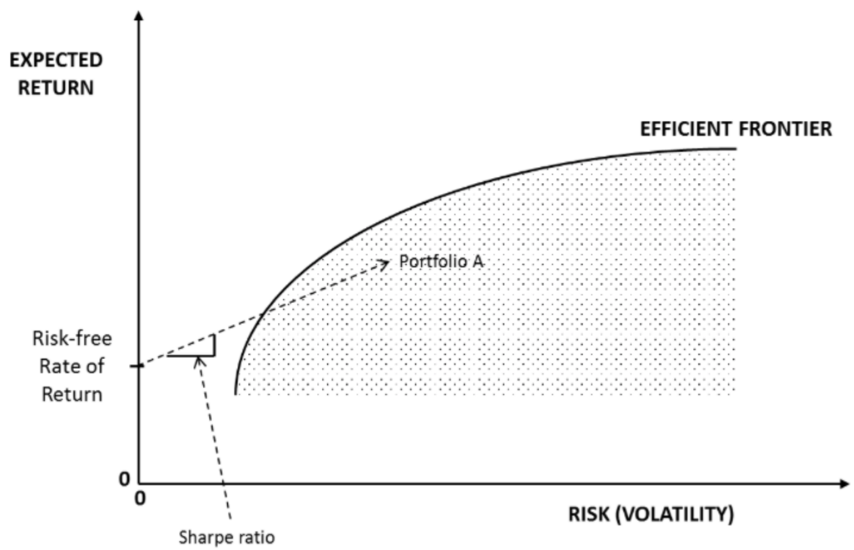
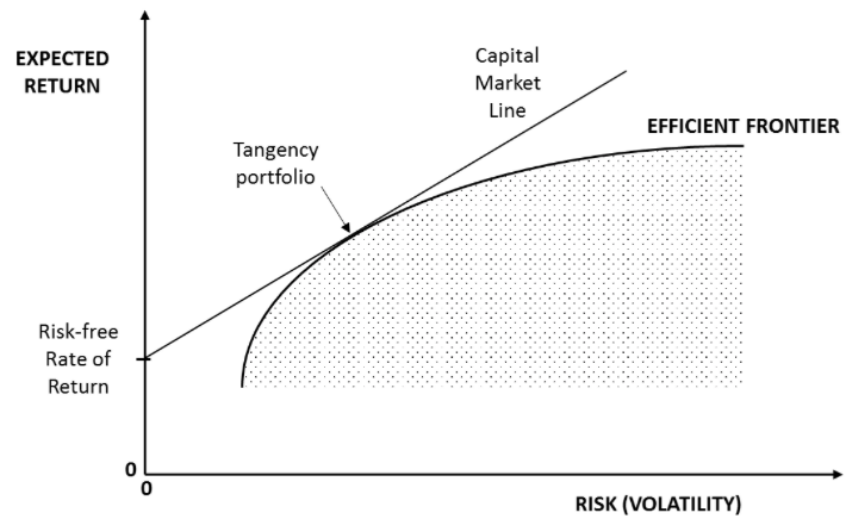


Figure 2. The capital market line



The dots under the curve in Figure 1 represent "inefficient" portfolios – some are even single stocks. Each one can be diversified further, either to reduce volatility without reducing expected return, or to increase expected return without increasing volatility. The ones that can't be so diversified any further lie on the efficient frontier.

Each portfolio has a "Sharpe ratio," named after Markowitz's successor in the development of portfolio theory, William F. Sharpe. The Sharpe ratio (see Figure 1) is the ratio of expected return (over and above the risk-free rate) to "risk," i.e. volatility (standard deviation of returns). Note that the inefficient Portfolio A's Sharpe ratio is lower than that of a portfolio on the efficient frontier above it.

The next step in the theory was to realize that the portfolio with the highest Sharpe ratio is the "tangency portfolio" – see Figure 2. The tangency portfolio is the portfolio at the intersection of a line drawn from the risk-free security that is tangent to the efficient frontier. This line is called the capital market line.

Any portfolio on the capital market line can be obtained by combining the risk-free asset with the tangency portfolio. Therefore, a portfolio on that line is *more* efficient than a portfolio on the efficient frontier. (For the upper right-hand part of that line, you have to assume that not only can you invest at the risk-free rate, you can also borrow at it.)

So it matters what the tangency portfolio is. If you make the assumption that all publicly available information is known to all investors, and that markets are in equilibrium, this leads to the conclusion that the tangency portfolio is the capitalization-weighted market portfolio. This is not in the least surprising – indeed it is trivial – since in equilibrium all investors, all with the same knowledge, will invest their risk assets in the same portfolio. And the only way they can all do that is if it is the market portfolio. It was this insight that originally brought forth the idea of creating capitalization-weighted index funds to mimic the market.

Source: The Myths and Fallacies about Diversified Portfolios, by Michael Edesses, January 9, 2017.

Modern Portfolio Theory = Asset Allocation

Modern portfolio theory was introduced by Harry Markowitz with his paper "Portfolio Selection," which appeared in the 1952 *Journal of Finance*.

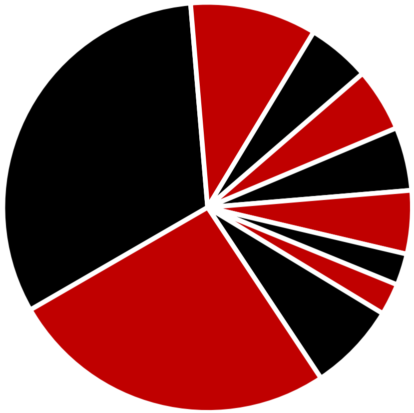
Thirty-eight years later, he shared a Nobel Prize with Merton Miller and William Sharpe for what has become a broad theory for portfolio selection.

<u>Modern Portfolio Theory</u>

Diversify

Optimize

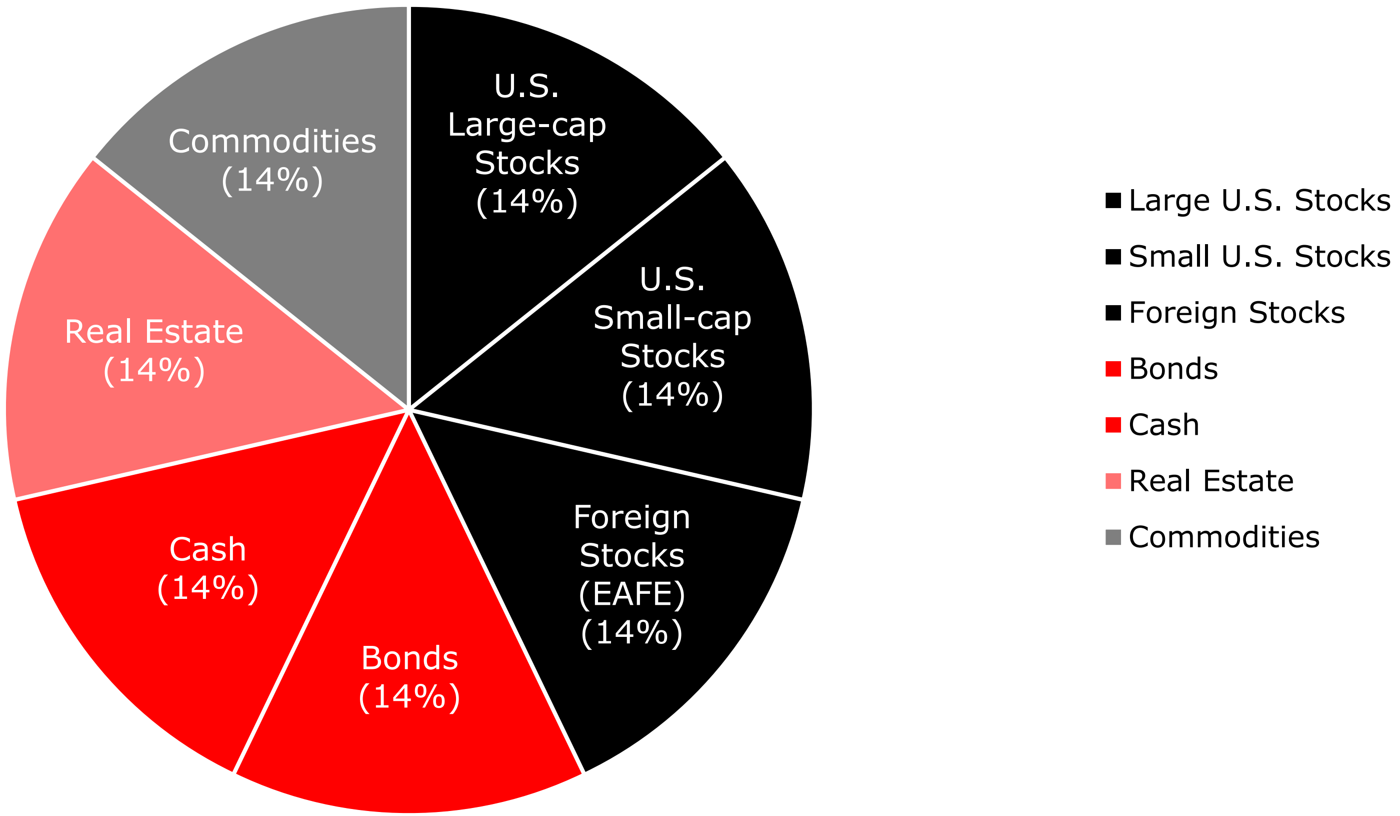
Rebalance



Asset allocation and diversification do not guarantee a profit or eliminate the risk of loss.
Source: Riskglossary.com

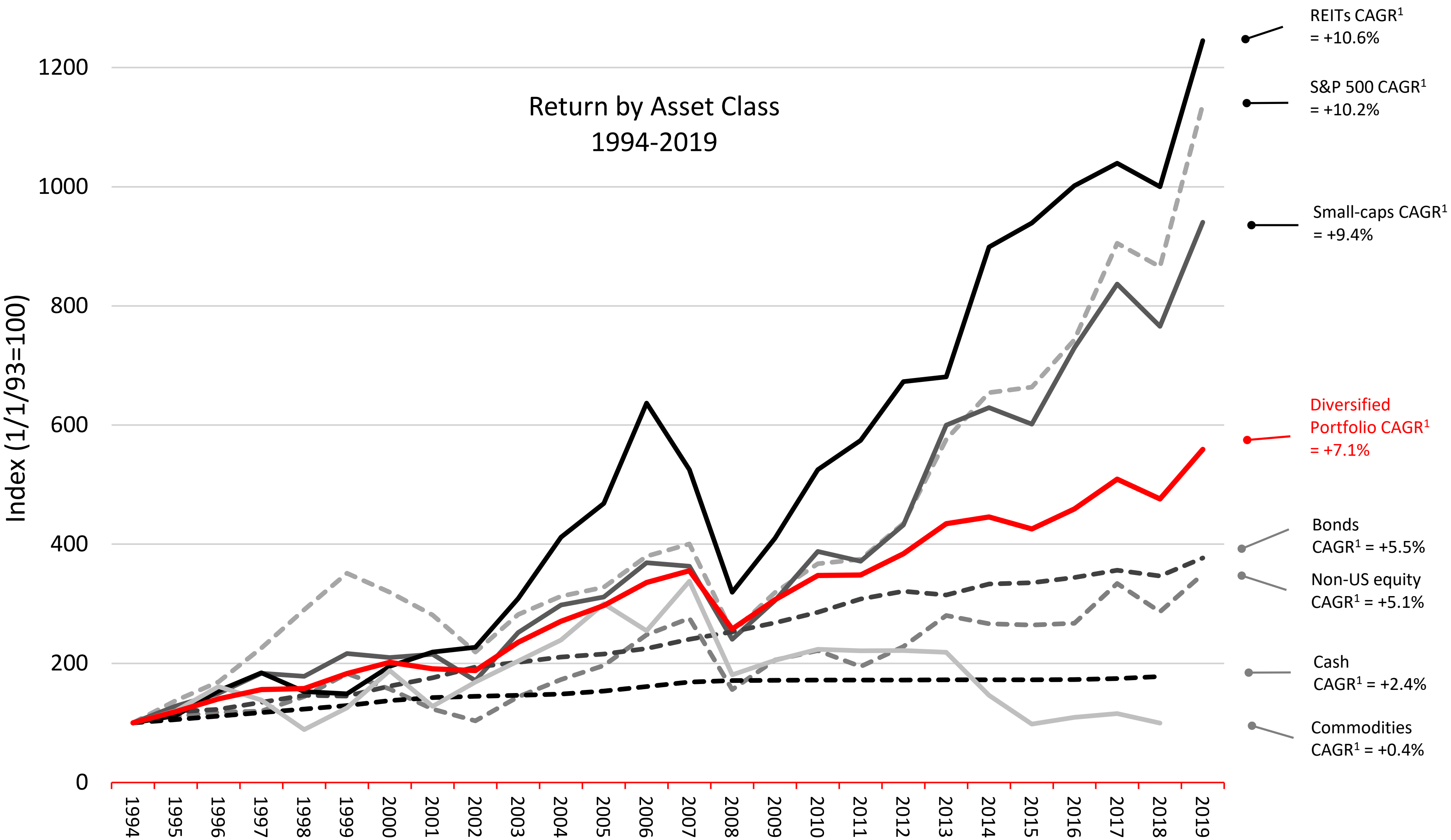
Asset Allocation — An Example

Let's construct a global balanced portfolio using 7 asset classes …



Source: ©2012 The 7Twelve ™ Portfolio powerpoint presentation, by Craig Israelsen. Used with permission. Indexes used in this illustration: Large-cap US equity represented by the S&P 500 Index. Small-cap US equity represented by the Ibbotson Small Companies Index from 1970-1978, and the Russell 2000 Index starting in 1979. Non-US equity represented by the MSCI EAFE Index. Real estate represented by the NAREIT Index from 1970-1977 and the Dow Jones US Select REIT Index starting in 1978.Commodities represented by the Goldman Sachs Commodities Index (GSCI). As of February 6, 2007, the GSCI became the S&P GSCI Commodity Index.U.S. Aggregate Bonds represented by the Ibbotson Intermediate Term Bond Index from 1970-75 and the Barclays Capital Aggregate Bond index starting in 1976. Cash represented by 3-month Treasury Bills.

Asset Allocation over 25 years — An Example



Past performance is not a guarantee of future results. An investment cannot be made directly in the indexes used in this illustration. [1]Compound annual growth rate.
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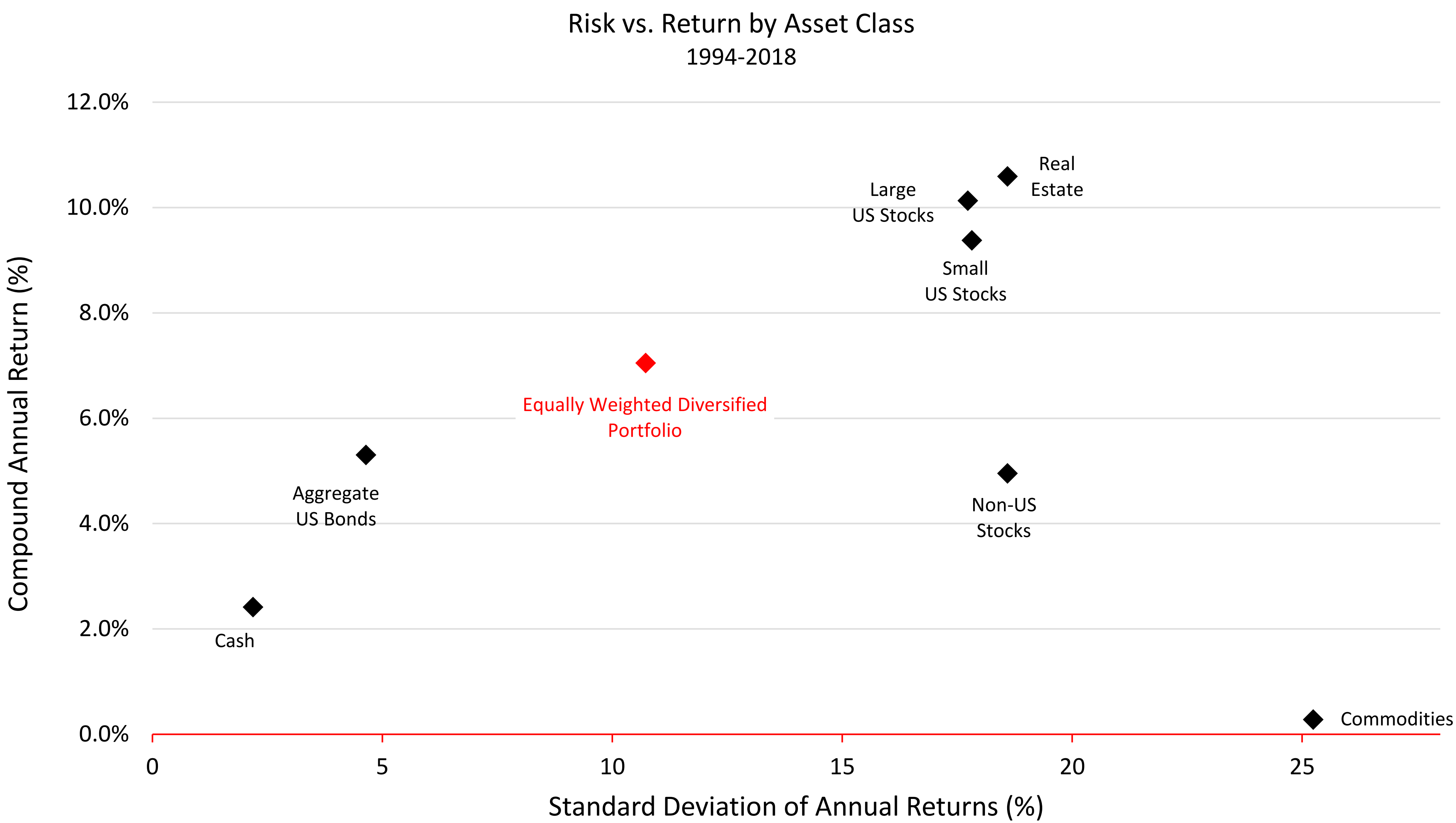
Asset Allocation over 25 years — the efficient frontier



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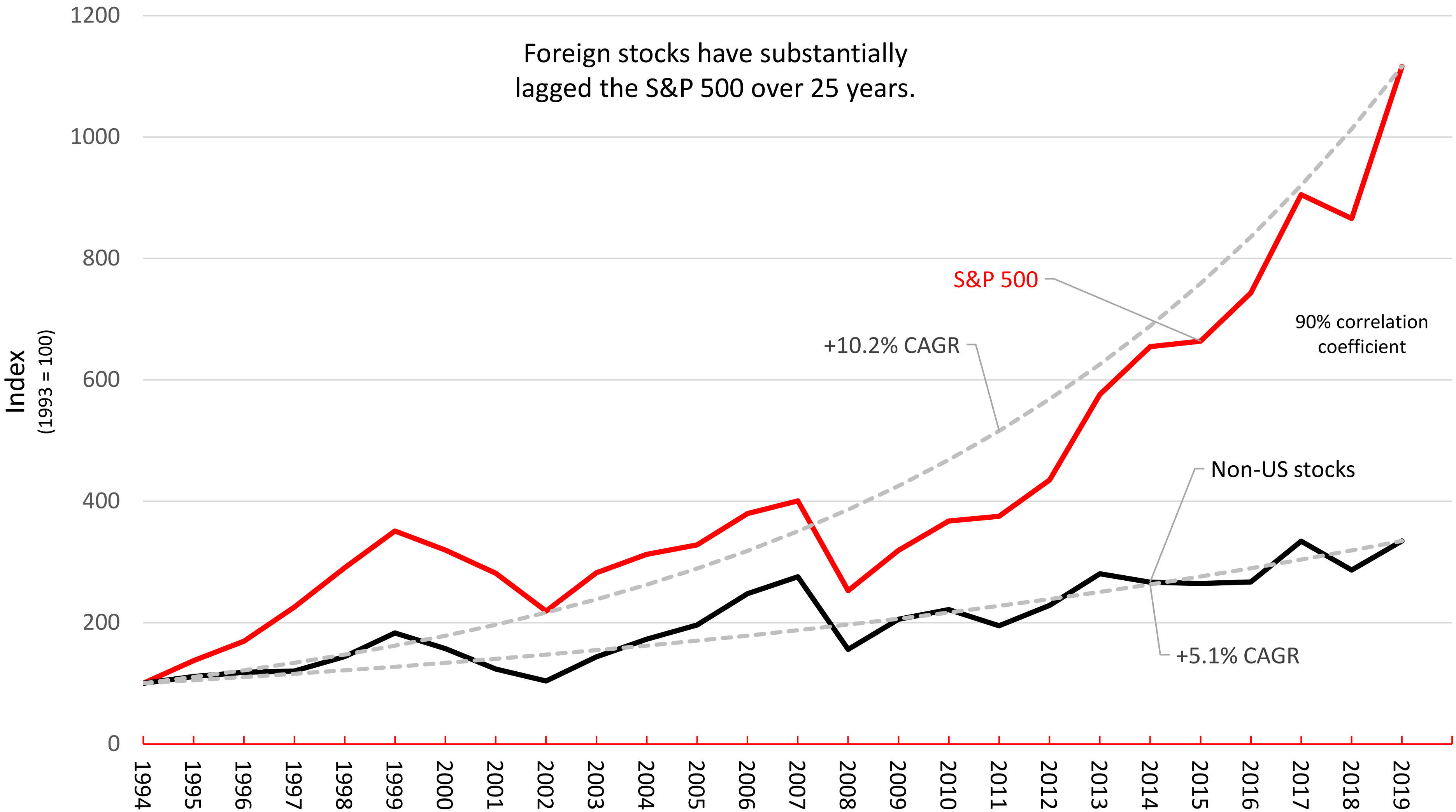
U.S. vs. foreign stocks – 25 years



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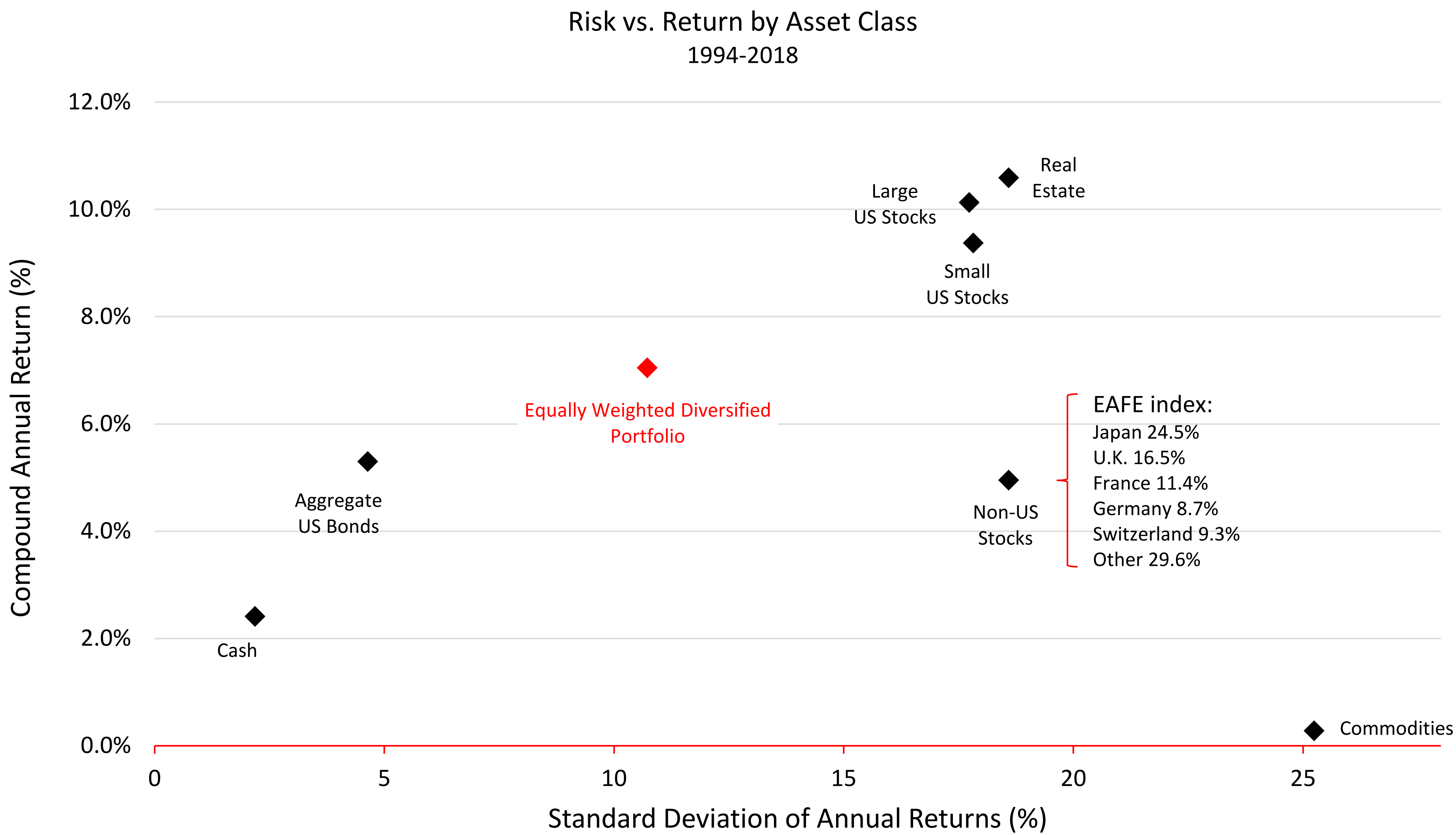
Asset Allocation over 25 years — the efficient frontier



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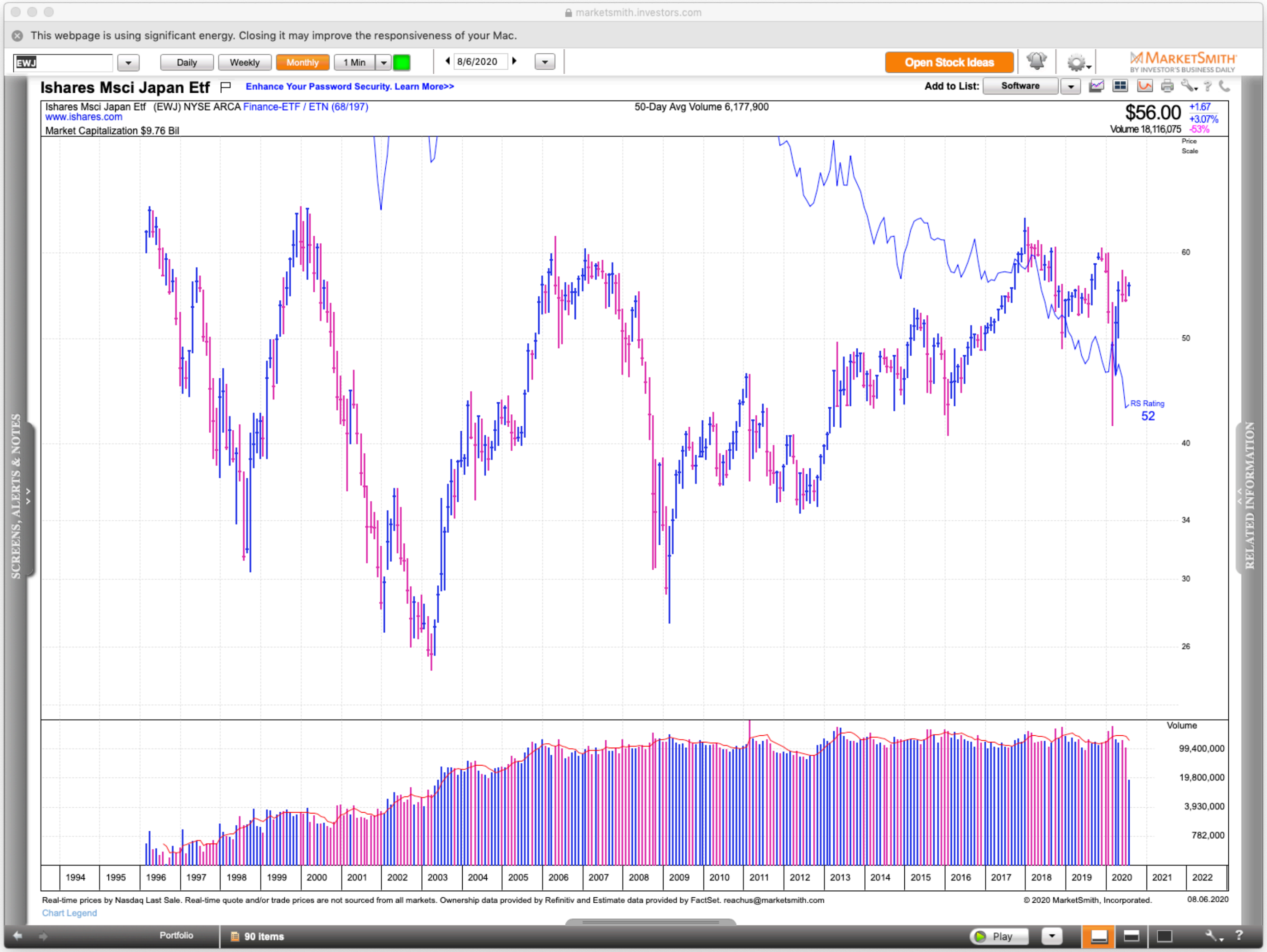
EAFE index construction – know what you own



Japanese stocks have gone nowhere over 24 years with high volatility. *Negative* Sharpe ratio.

Source: MarketSmith, Incorporated. August 6, 2020.

Japanese stocks drove big EAFE returns prior to 1990

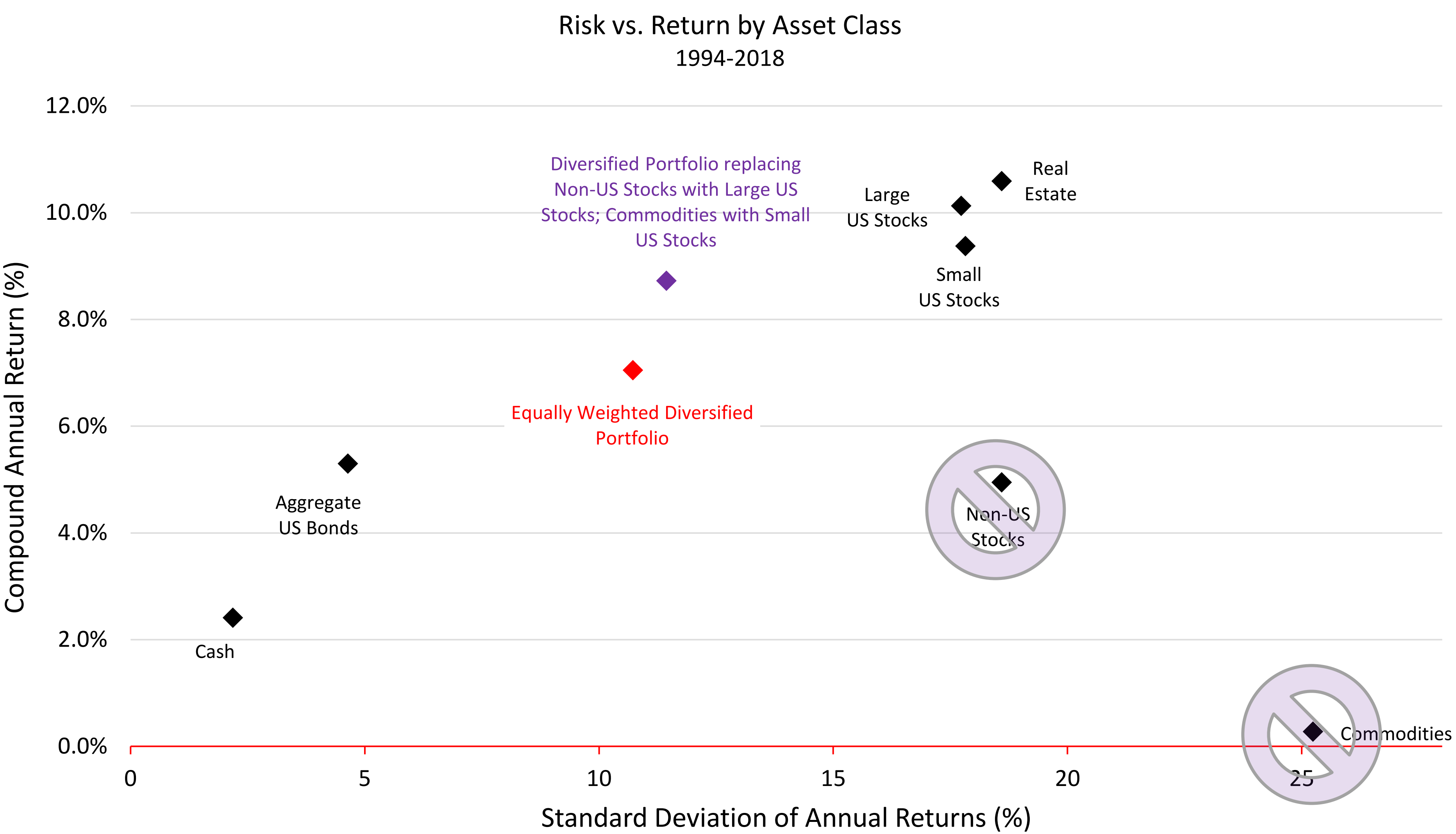
The Japanese stock market bubble of the 1980s drove the EAFE to outperform the S&P 500.

Over the last 25 years the EAFE has lagged the S&P 500 as Japanese stocks have made zero gains, with huge volatility.

Negative Sharpe ratio.

Source: Nikkei Industry Research Institute, Nikkei Stock Average, Nikkei 225 [NIKKEI225], retrieved from FRED, Federal Reserve Bank of St. Louis; August 26, 2019.

Asset Allocation over 25 years — improved



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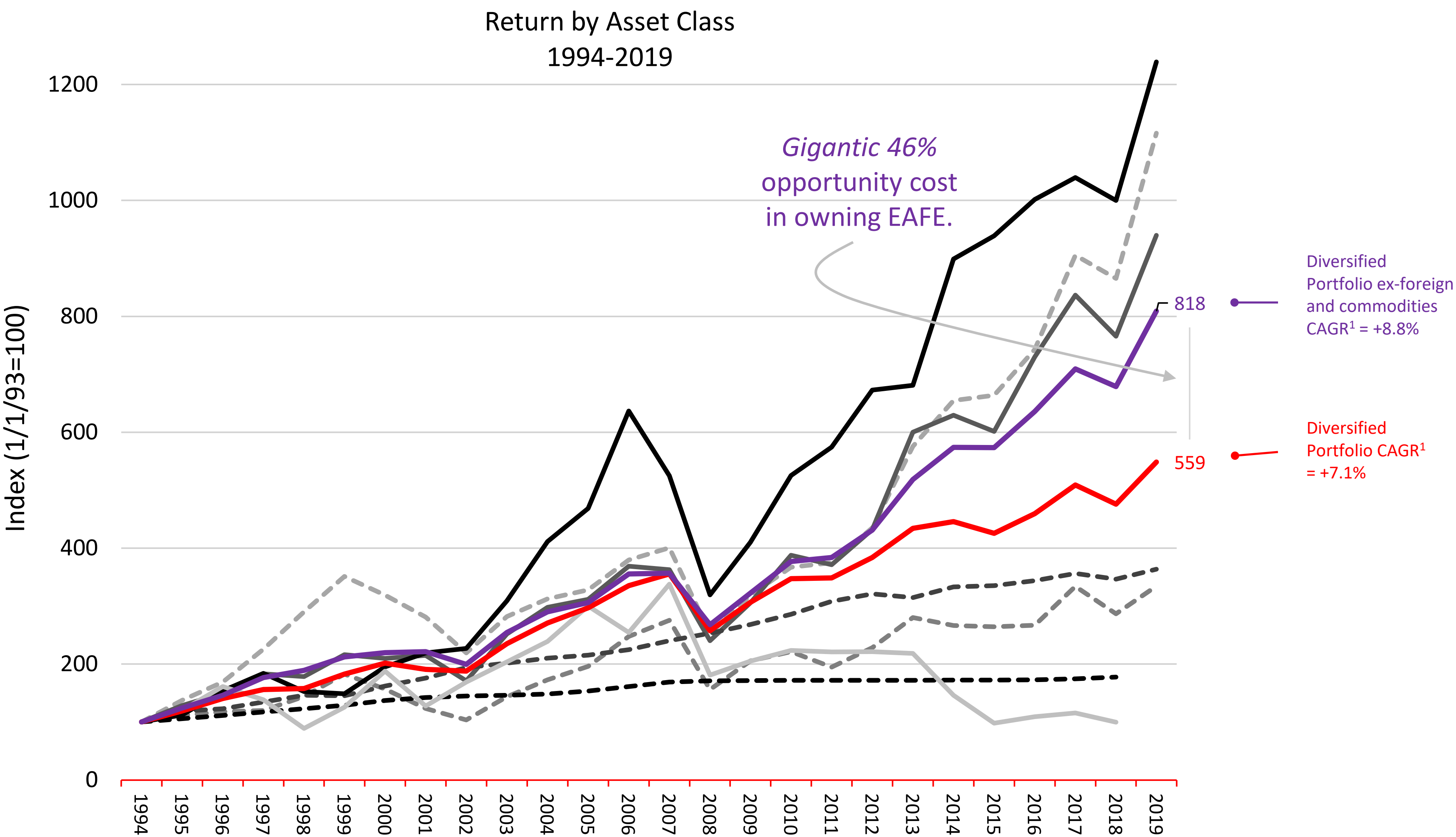
Asset Allocation over 25 years — An Example



Past performance is not a guarantee of future results. An investment cannot be made directly in the indexes used in this illustration. [1]Compound annual growth rate.
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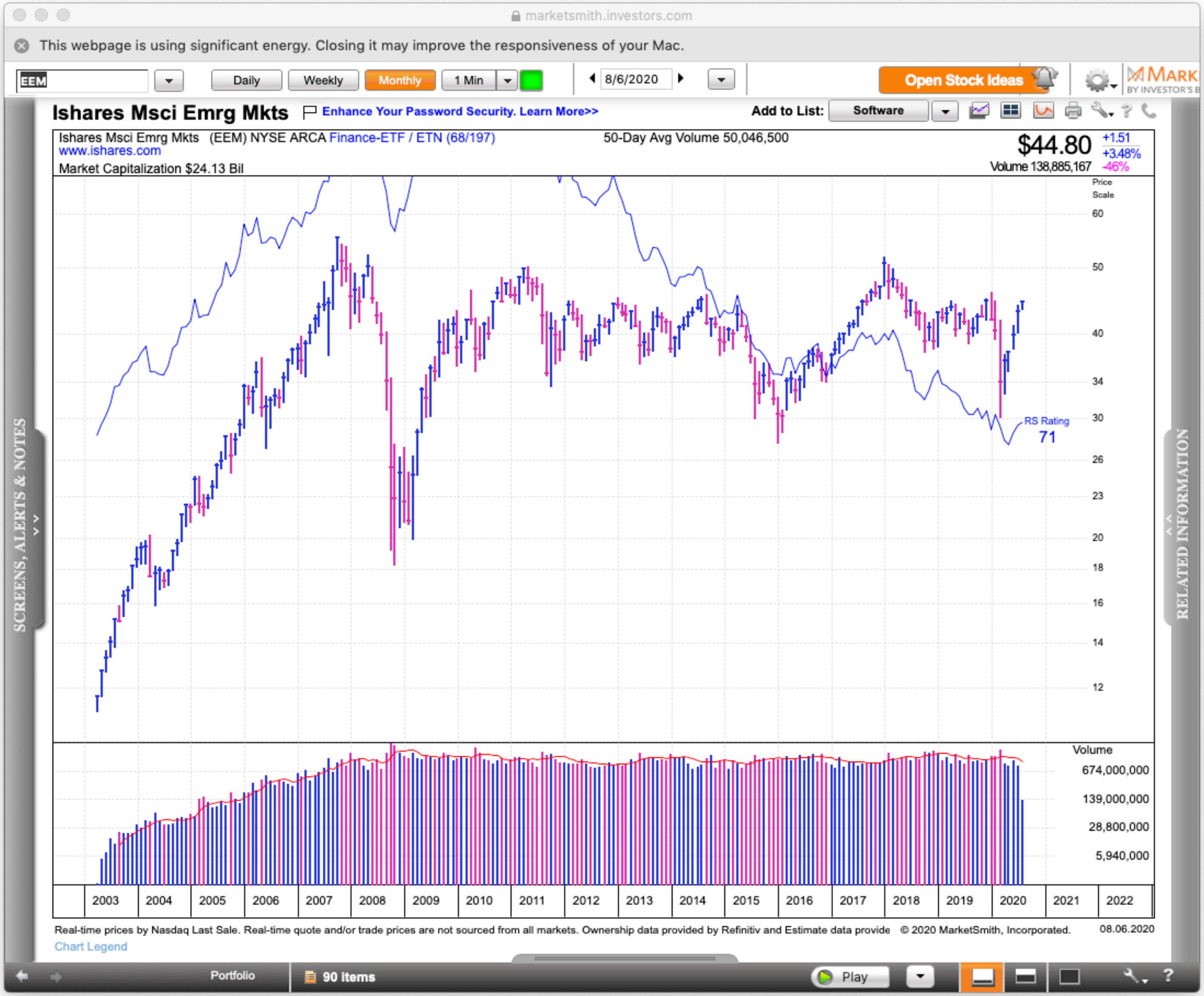
Emerging markets – 16 years



Following the China boom that peaked in 2007, the emerging markets index ETF has gone sideways for 12 years.

Source: ©MarketSmith, Inc. Data through August 6, 2020.

China – drives the emerging markets index

The FXI (China ETF) drives the EEM (emerging markets ETF).

Source: ©MarketSmith, Inc. Data through August 6, 2020. Yardeni Research Inc., with permission.

Emerging markets index – heavy China weighting

China will get old before it gets rich.

Old Age Will Put China to Rest

INSIDE VIEW

By Andy Kessler

The trade tiff with China lingers on—let's just cut a deal for zero tariffs and move on. Then we can tackle the next question: Is there any real chance that China—with gross domestic product per capita lower than Mexico's—could soon pass the U.S. in size and strength? The prospect is daunting, but we've been here before. Does anyone remember books like "Trading Places: How We Are Giving Our Future To Japan"? Me neither. The reality is that for every country, demographics is destination.

I recently attended the Sohn Conference in San Francisco, which raises money for charity by having hedge-fund managers pitch their best investment idea. Most talks were about broken stocks or esoteric cloud software companies hoping to double in value in three years. But Adam Fisher from Commonwealth Asset Management talked about decadeslong trends in China. (I didn't talk to Mr. Fisher directly: Silly securities laws prohibit funds from marketing broadly while they're raising money. So my notes will have to do.)

It turns out that China's work-age population has peaked or is close to peaking—that pesky one-child policy worked. Even worse for Beijing, according to projections by the United Nations Development Program, China's 65-and-over population is expected to grow by more than 150%, from 135 million in 2015 to 340 million by 2040, which will be 21% of the population. That's a lot of retirees. By the way, the current retirement age in China is 60 for men, 55 for women, though both are set to increase gradually.

By comparison, Japan's 65-and-older population reached 26% by 2015. But as the saying goes, Japan got rich before it got old. What about China?

According to the political economist Nicholas Eberstadt, less than 65% of Chinese workers are covered by any retirement benefits. That share drops to 35% for urban migrants. That's many mouths to feed in old age.

And here's where it gets dicey. China's big coastal cities, Beijing, Shanghai, Shenzhen and Guangzhou, have already caught up with the wealthy countries of East Asia in terms of productivity and purchasing power parity. Mr. Fisher notes that sustained growth will therefore depend on improvements in China's inland. He calculates that western China would have to increase its total-factor productivity by 8% to 10% a year to pay for those 205 million additional retirees. Unless China develops an antigravity device or a perpetual motion machine, that's a virtual impossibility.

Recall what happened in Japan. Since its stock market peaked in 1990, Mr. Fisher says, total hours worked in Japan have dropped 20%. In the U.S., hours worked rose 40% in the same period. Even though Japan's productivity was higher than the U.S. (with a stress on "was"), its nominal GDP flatlined. Its government had to step in with increasingly worthless stimulus programs.

Retirees will be a fifth of its population by 2040, and productivity will quickly fade out.

Japan's debt-to-GDP ratio has risen to an eye-popping 238%, while interest rates have dropped. The interest-rate decline has been partially offset by the strong yen. This was the great "carry trade," of which many hedge funds took advantage: Borrow cheap in Japan and invest elsewhere, though you'd lose some of the leverage when repaying the loans with a more expensive currency.

Mr. Fisher thinks something similar will happen in China. As its public sector—yes, the Communist Party—levers up to compensate for the GDP shortfall, interest rates will drop, then drop some more. Mr. Fisher thinks they're headed toward zero.

Why? Here's how the Federal Reserve puts it generally: "The overall boost to savings at the expense of current consumption caused by an increase in life expectancy puts downward pressure on r-star," the "natural" rate of interest. Also, more retirees mean lower output, so governments must intervene with stimulus as production drops.

China's currency is also a factor. Maybe the yuan will rise like the yen, creating another great opportunity for a carry trade. But no one can say (this is why macro investors have spotty records). Remember that unlike Japan, China will get old before it gets rich. Ever lower interest rates might mean an ever-weaker currency. Or they could mean China will prop up interest rates to protect its currency, which would further hurt its economy. A rock and a hard place.

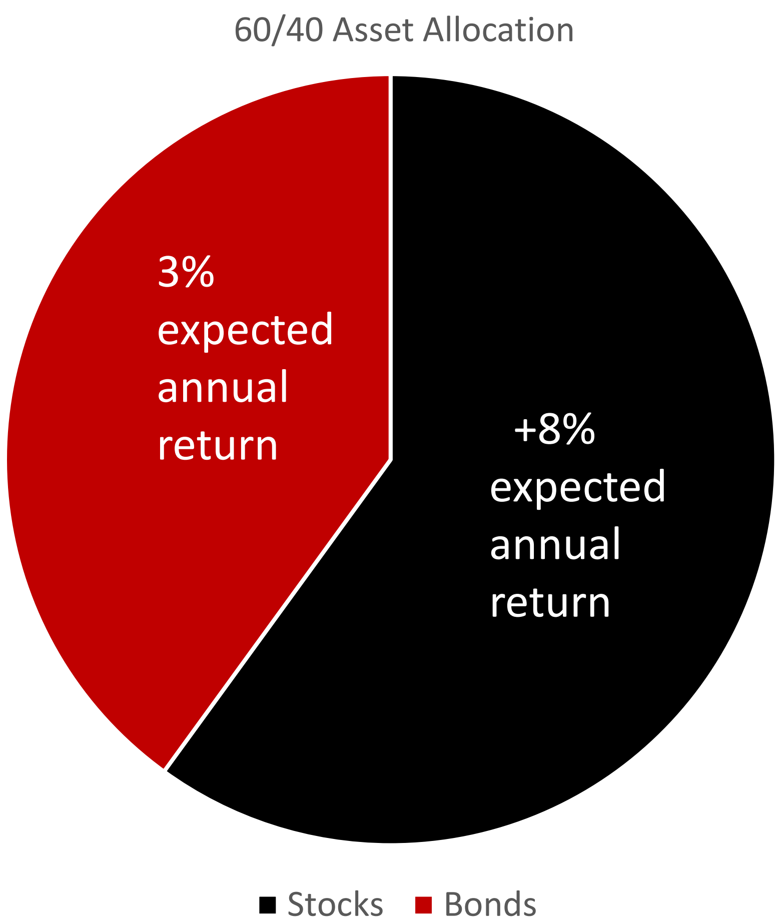
Beyond an interesting investment thesis, this has global implications. China is a manufacturing powerhouse, but for how long? Rising wages mean its comparative advantage is leaking away. Productivity growth is its only hope. Think robots!

Unlike a one-child policy, productivity can't be legislated. It takes smart people with incentives and property rights to innovate and solve real problems. White House National Economic Council director Larry Kudlow told last year's Wall Street Journal CEO Council that China's "state run economics is doomed to failure. Doomed." As its population ages, we'll see if Messrs. Kudlow and Fisher are right.

Write to kessler@wsj.com.

Source: *The Wall Street Journal*, November 18, 2019.

Setting expectations



Fixed income returns can no longer boost portfolio total returns as they have over the last 40 years.

Expect very modest fixed income returns going forward.

60% X 8% = 4.8%
40% X 3% = 1.2%
6.0% weighted expected return

Annuities – William Sharpe sees value

32 BARRON'S

RETIREMENT INCOME

Solving the 'Hardest Problem in Retirement'

AN INTERVIEW WITH WILLIAM SHARPE, NOBEL LAUREATE IN ECONOMICS

BY SARAH MAX

NOBEL PRIZE-WINNING ECONOMIST WILLIAM Sharpe has spent most of his career thinking about risk. He's behind the Capital Asset Pricing Model for gauging systemic risk and the eponymous Sharpe ratio, which captures risk-adjusted return.

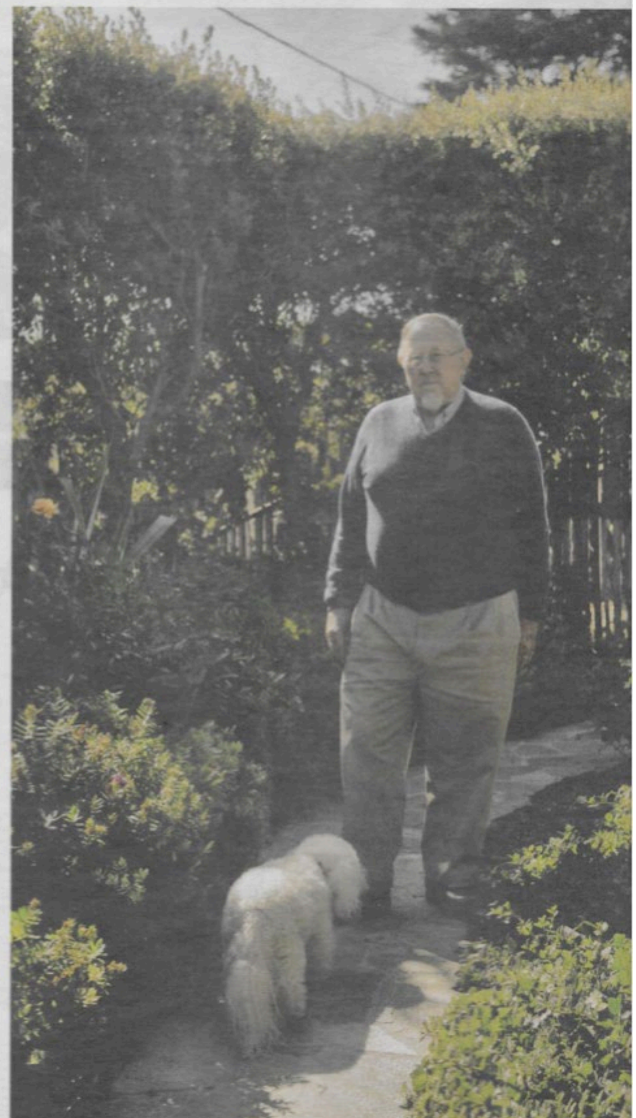
A few decades ago, Sharpe turned his attention to what may be the biggest risk of all for most Americans—running out of money in retirement. The professor of finance, emeritus, at Stanford University's Graduate School of Business created a computer program that eventually covered 100,000 retirement-income scenarios based on different combinations of life spans and investment returns for a retired couple. Sharpe has made this program available in a free ebook, *Retirement Income Scenario Matrices* (stanford.edu/~wfsharpe).

Of course, it's one thing to understand all of the possibilities and another to plan for them. The most difficult problem in finance, says Sharpe, is knowing how to strike a balance between having enough income to meet your current needs (and wants, assuming you've saved enough) and having enough to get you through your lifetime.

Sharpe acknowledges that there's no easy answer, though he has a few ideas for how retirees can better manage this risk. *Barron's* recently spoke with Sharpe about what he has called the "nastiest, hardest problem in finance."

Barron's: How do you describe yourself?

Bill Sharpe: Well, I'm 85, so that gives you some information. I would call myself semi-



Photograph by Tracy Nguyen

Why is creating sustainable retirement income such a hard problem?

If you invest your money in almost anything except an annuity with cost-of living adjustments, you're going to be subject to two kinds of uncertainty – investment uncertainty and mortality uncertainty.

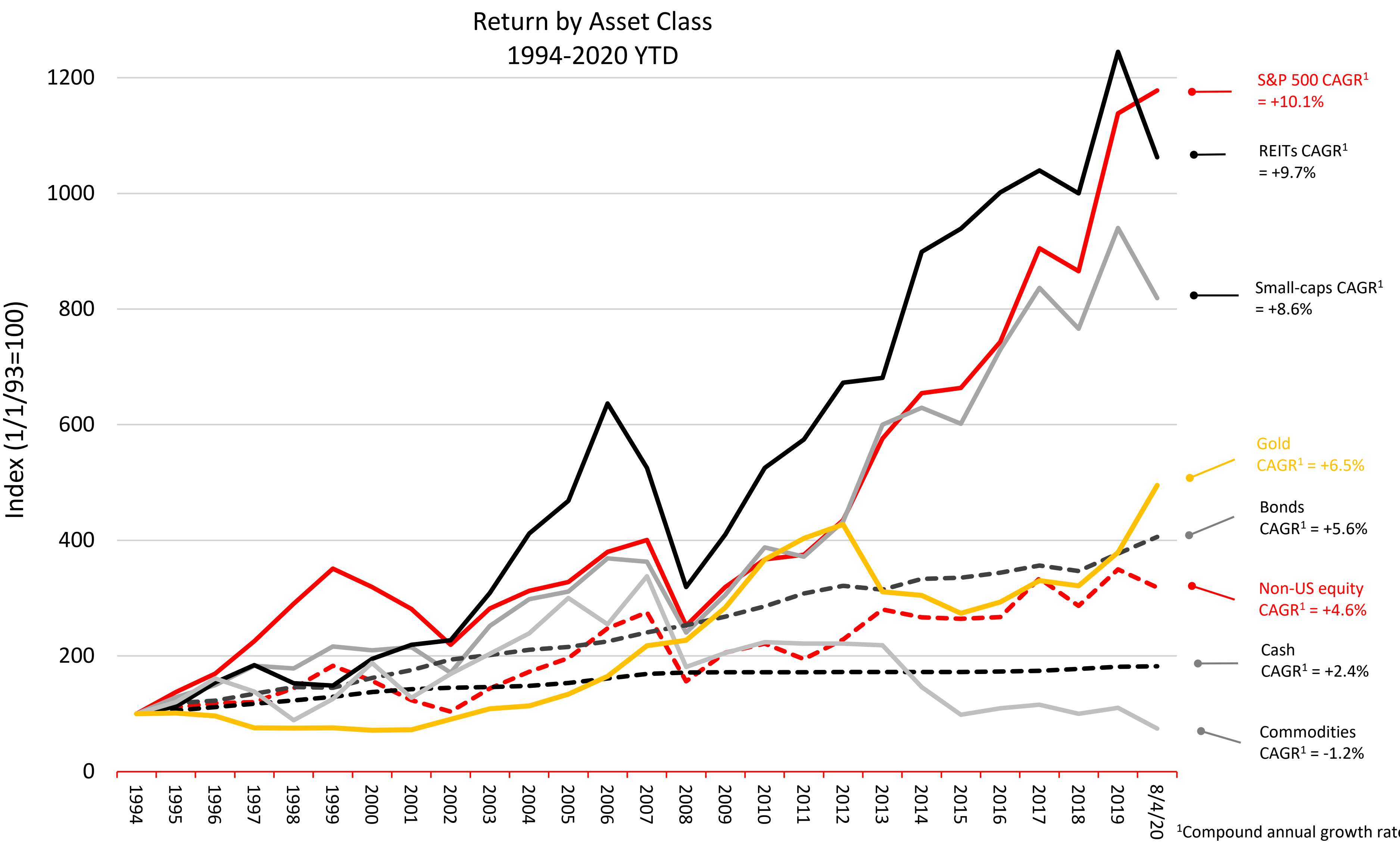
Let's talk about annuities. They're criticized for their cost and complexity. Is it deserved?

It it's most basic form, an annuity is a way to spread the risk of longevity. … Annuities are a vehicle for pooling that risk. … when we retire, longevity risk is at least as big a risk as investment risk , and you really should consider pooling some of that, particularly as you get into the later stages of retirement.

The insurance and investment industries are beginning to come together and provide products where you can take some investment risk and also pool longevity risk. … I think it's interesting, and I think you're going to see more products that cross over."

Source: *Barron's*, November 18, 2019.

Asset returns over 25 years



[1]Compound annual growth rate.

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Asset returns vs. risk over 25 years

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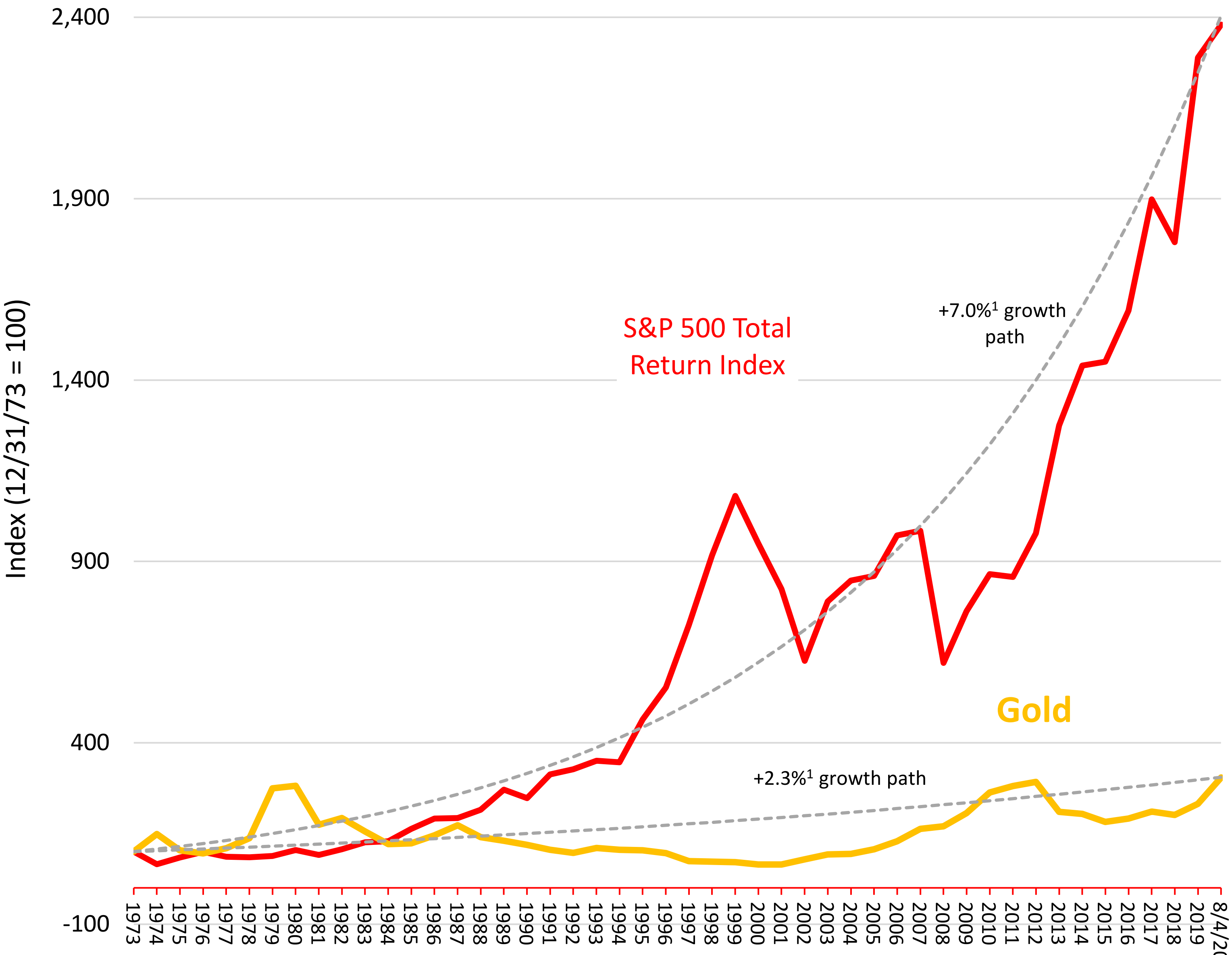
Gold vs. stocks since gold's 1973 unpegging – adjusted for inflation



This chart illustrates the stark contrast between the long-term, after-inflation returns for stocks and gold.

<u>Stocks are the only asset class in which you get to invest in human ingenuity, creativity and drive to create wealth.</u>

Sources: Standard & Poor's, FRB St. Louis, BLS. Data through August 4, 2020. [1]Compound annual growth rate.

Gold – compared to U.S. markets

Table 1. Size of Selected Asset Markets

Item	Outstanding (billions of dollars)	Growth, 2018:Q4–2019:Q4 (percent)	Average annual growth, 1997–2019:Q4 (percent)
Equities	38,491	26.4	8.6
Residential real estate	37,768	3.8	5.5
Commercial real estate	20,007	8.0	7.1
Treasury securities	16,629	6.8	7.5
Investment-grade corporate bonds	5,949	4.1	8.4
Farmland	2,555	1.8	5.5
High-yield and unrated corporate bonds	1,341	4.9	6.6
Leveraged loans*	1,193	5.0	15.1
Total	123,933		
Price growth (real)			
Commercial real estate**		4.6	2.6
Residential real estate***		1.4	2.0

Note: The data extend through 2019:Q4. Growth rates are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period. Equities, real estate, and farmland are at market value; bonds and loans are at book value.

* The amount outstanding shows institutional leveraged loans and generally excludes loan commitments held by banks. For example, lines of credit are generally excluded from this measure. Average annual growth of leveraged loans is from 2000 to 2019:Q4, as this market was fairly small before then.

** One-year growth of commercial real estate prices is from September 2018 to December 2019, and average annual growth is from 1998:Q4 to 2019:Q4. Both growth rates are calculated from value-weighted nominal prices deflated using the consumer price index.

*** One-year growth of residential real estate is from September 2018 to December 2019, and average annual growth is from 1997:Q4 to 2019:Q4. Nominal prices are deflated using the consumer price index.

Source: For leveraged loans, S&P Global Market Intelligence, Leveraged Commentary & Data; for corporate bonds, Mergent, Inc., Corporate Fixed Income Securities Database; for farmland, Department of Agriculture; for residential real estate price growth, CoreLogic; for commercial real estate price growth, CoStar Group, Inc., CoStar Commercial Repeat Sale Indices; for all other items, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

Gold is a comparatively small asset class.

Above-ground stock of gold ex-jewelry at $2000/oz = $6 trillion.[1]

Source: Federal Reserve, Financial Stability Report, May 2020. [1] Sunshine Profits online, August 6, 2020.

Important Information

All material presented is compiled from sources believed to be reliable and current, but accuracy cannot be guaranteed. This is not to be construed as an offer to buy or sell any financial instruments and should not be relied upon as the sole factor in an investment making decision. As with all investments there are associated inherent risks. Please obtain and review all financial material carefully before investing.

The opinions expressed are those of the author, are based on current market conditions and are subject to change without notice.

These materials may contain statements that are not purely historical in nature but are "forward-looking statements." These include, among other things, projections, forecasts, estimates of income, yield or return or future performance targets. These forward-looking statements are based upon certain assumptions, some of which are described herein. Actual events are difficult to predict and may substantially differ from those assumed. All forward-looking statements included herein are based on information available on the date hereof and Fritz Meyer assumes no duty to update any forward-looking statement. Accordingly, there can be no assurance that estimated returns or projections can be realized, that forward-looking statements will materialize or that actual returns or results will not be materially lower than those presented.

Note: Not all products, materials or services available at all firms. Advisers, please contact your home office.