



Point of View  
Economy – Markets – Investment Strategy  
November 2022



# 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.

# What's new?

- Q3 GDP
- Fed says there's a "Ways to Go"
- Still strong hiring data
- Still strong earnings estimates
- Weaker PMIs
- LEI down again
- Yield curve narrowing
- Dollar highs

## GDP forecast

# Atlanta Fed's GDPNow forecast

**Latest estimate: 3.1 percent — October 26, 2022**

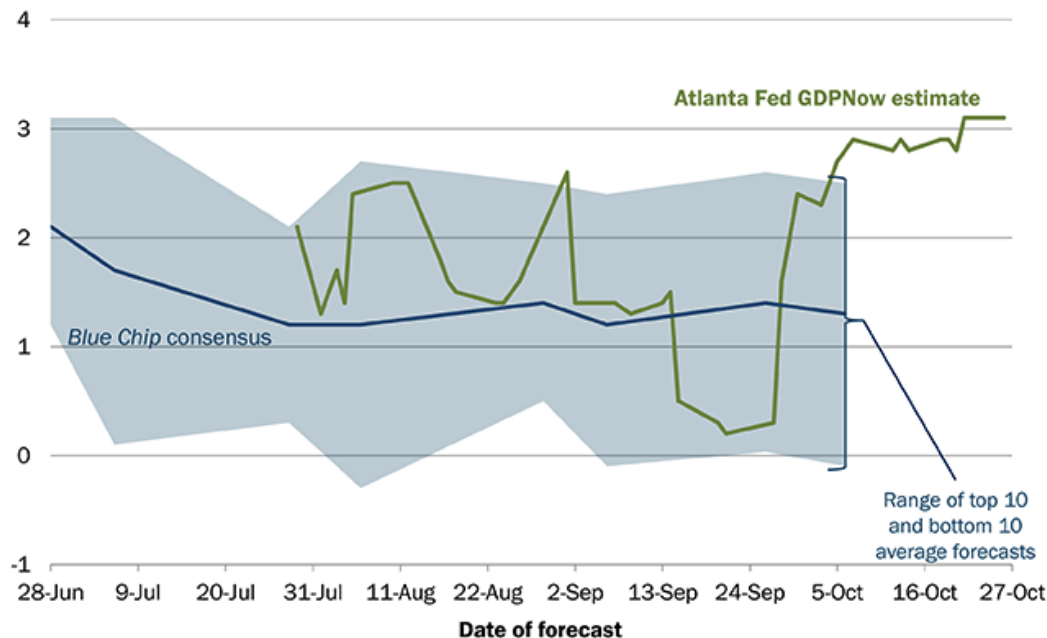
The GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the third quarter of 2022 is **3.1 percent** on October 26, up from 2.9 percent on October 19. After recent releases from the US Census Bureau, the US Department of the Treasury's Bureau of the Fiscal Service, and the National Association of Realtors, the nowcast of third-quarter real government spending growth increased from 2.4 percent to 3.8 percent, while the nowcast of the contribution of the change in real net exports to third-quarter real GDP growth decreased from 2.23 percentage points to 2.19 percentage points.

*This is the last GDPNow forecast for the third quarter. The first GDPNow forecast for the fourth quarter of 2022 will be on **Friday, October 28**. Please see the "Release Dates" tab below for a list of upcoming releases.*

Actual Q3 GDP  
growth came in  
at +2.6%.

### Evolution of Atlanta Fed GDPNow real GDP estimate for 2022: Q3

Quarterly percent change (SAAR)

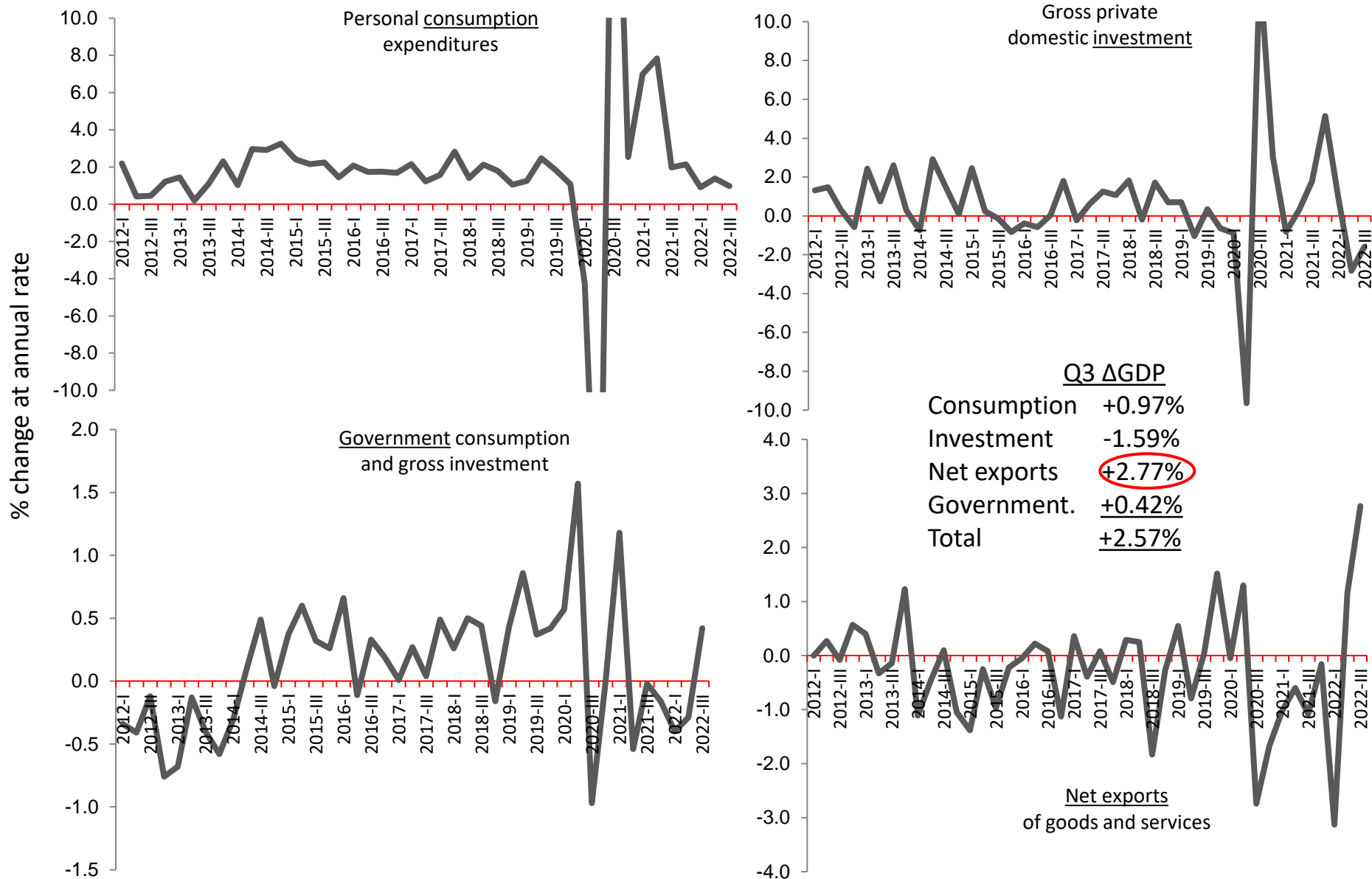


Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts

Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.

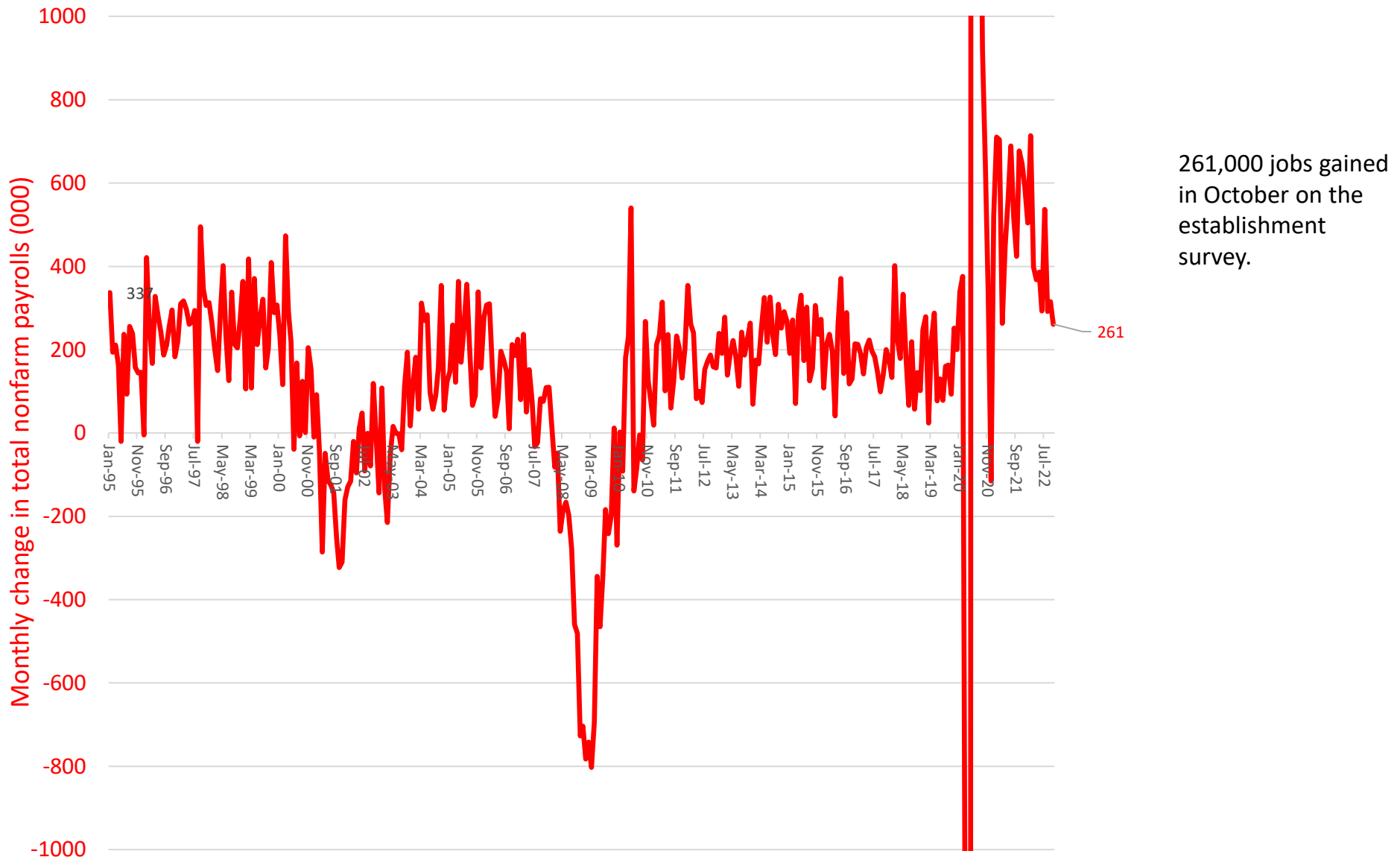
Source: Federal Reserve Bank of Atlanta, October 26, 2022.

# Contributions to GDP growth: C + I + G + Net Exports



# Economic data

## Net new job formation



Source: Bureau of Labor Statistics. Data through October 2022.

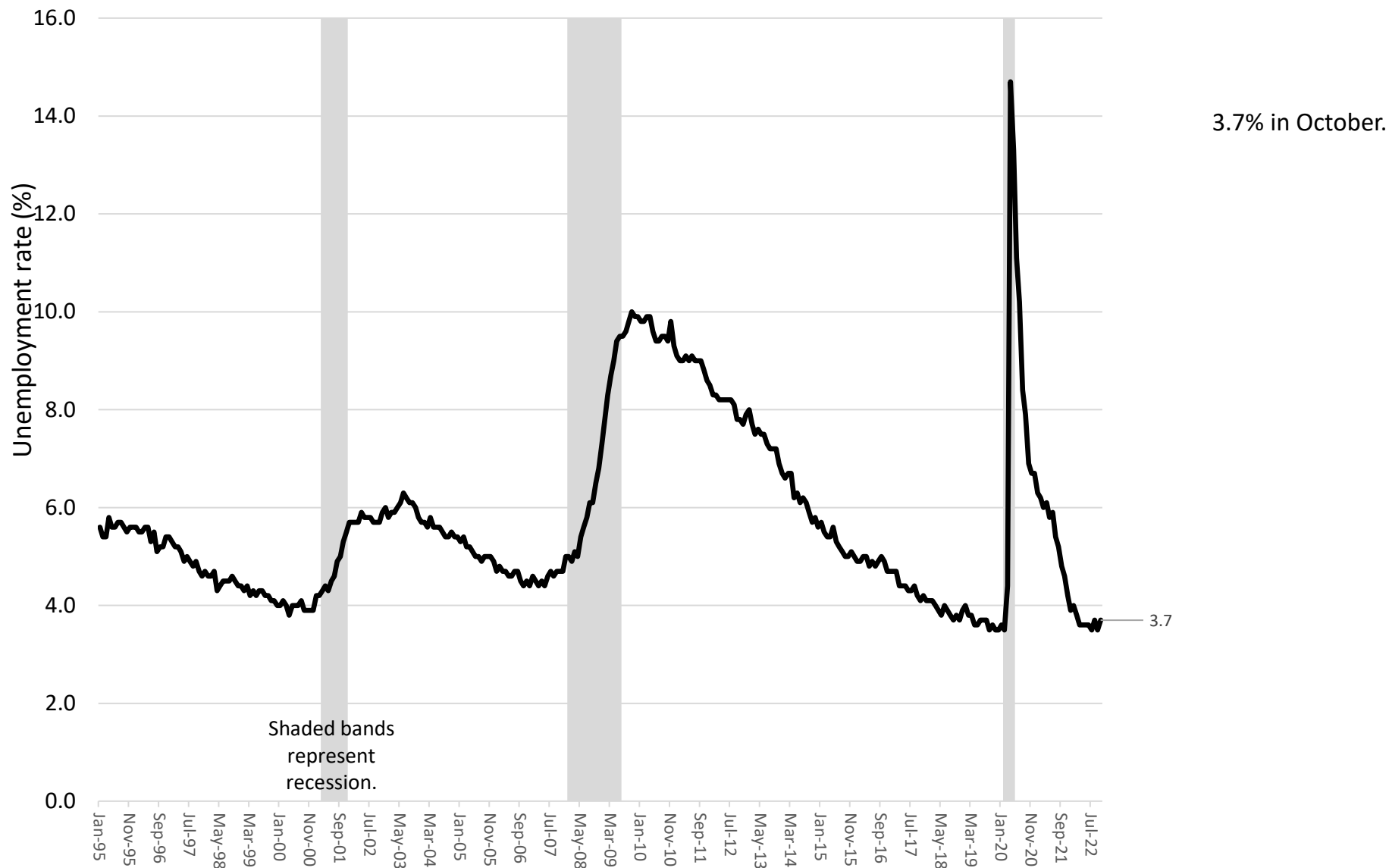
## THE WALL STREET JOURNAL.

# The U.S. Is Still Hiring on All Cylinders

America's jobs market shows no meaningful sign of slumping despite recession fears.

The labor market is cooling. That isn't to say it isn't hot.

## Unemployment rate



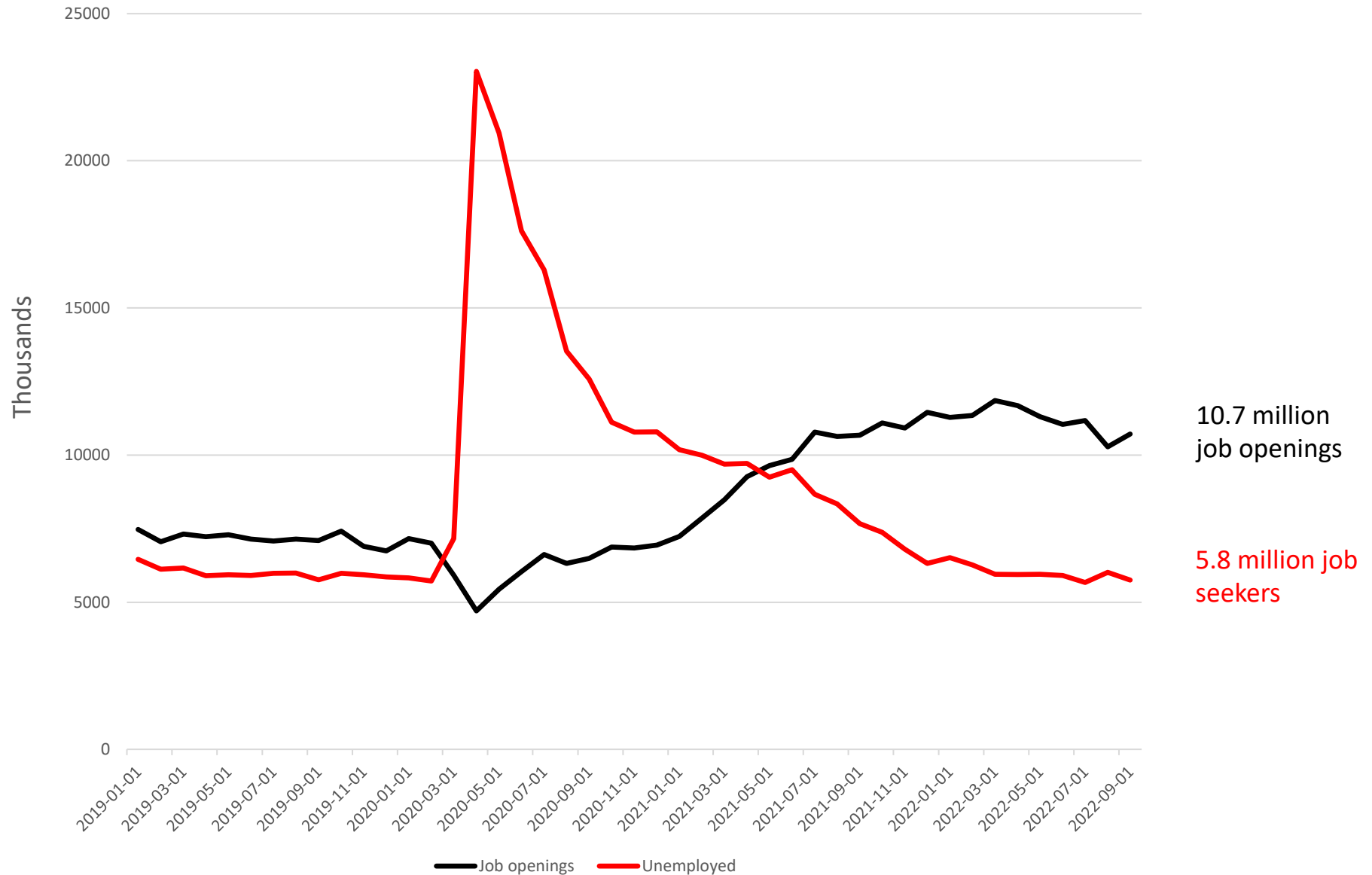
## THE WALL STREET JOURNAL.

# Job Openings for September Show a Still-Tight Market

Job openings rose in September from the prior month in a still-tight labor market where demand for workers continued to far outpace the number of unemployed people looking for work.

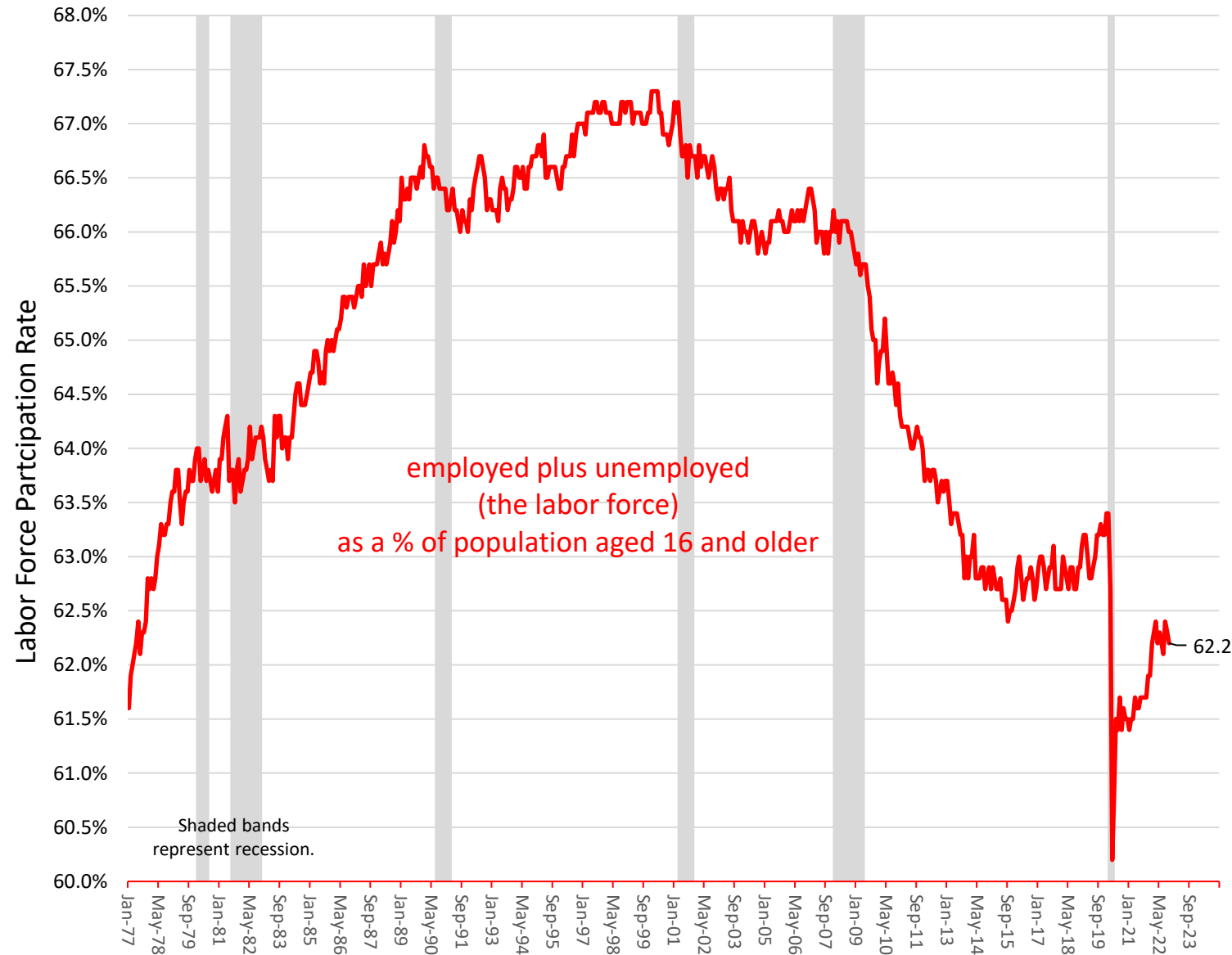
Employers' total job openings increased 437,000 to a seasonally adjusted 10.7 million in September from an upwardly revised 10.3 million openings the prior month, the Labor Department said Tuesday. September openings were well above the 5.8 million unemployed people seeking work—an imbalance that is putting pressure on wages and overall inflation.

# Job openings vs. unemployed job seekers



# Labor force participation rate<sup>1</sup> – hit by Covid

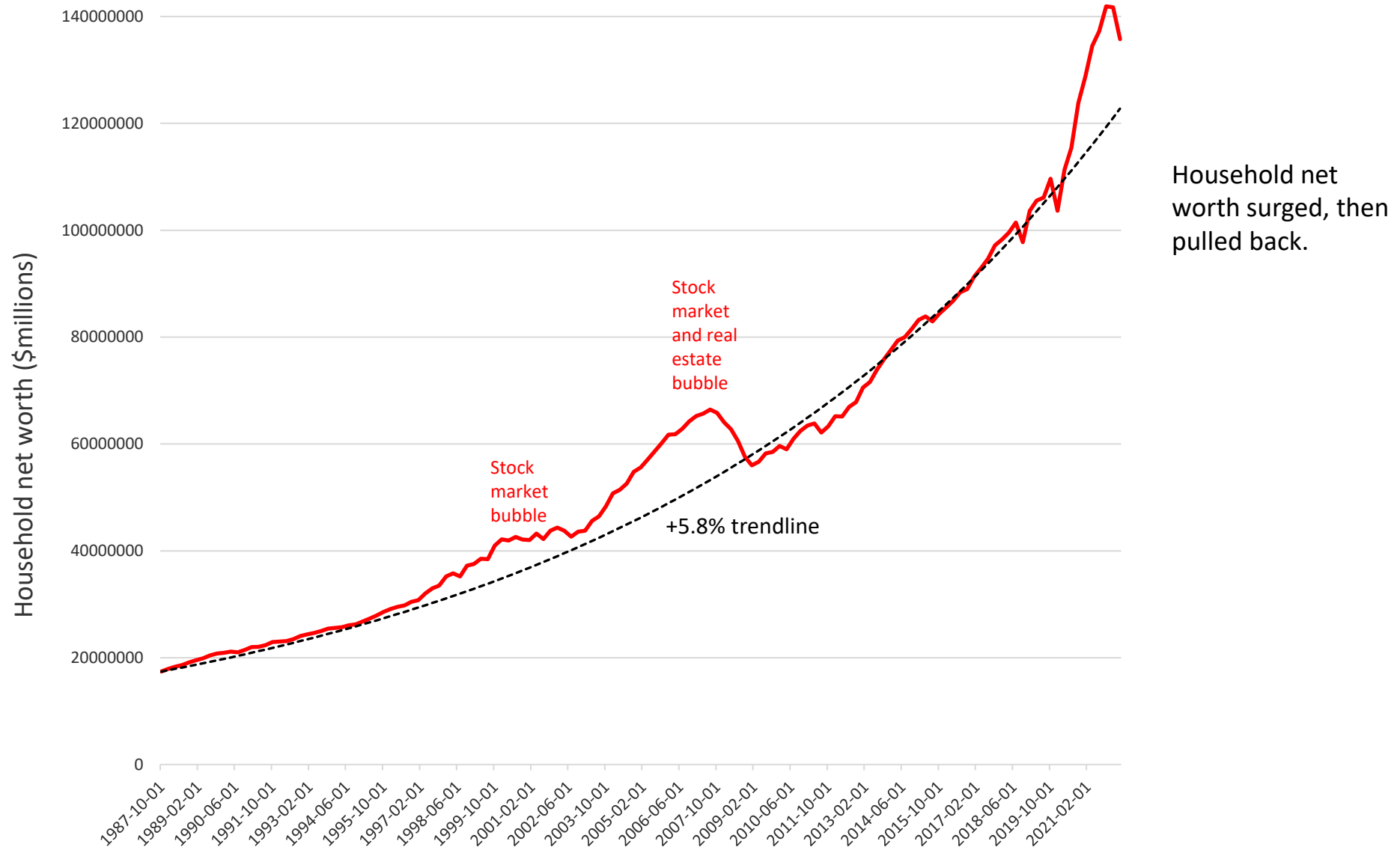
Americans were joining and staying in the labor force in increasing numbers ... until Covid-19.



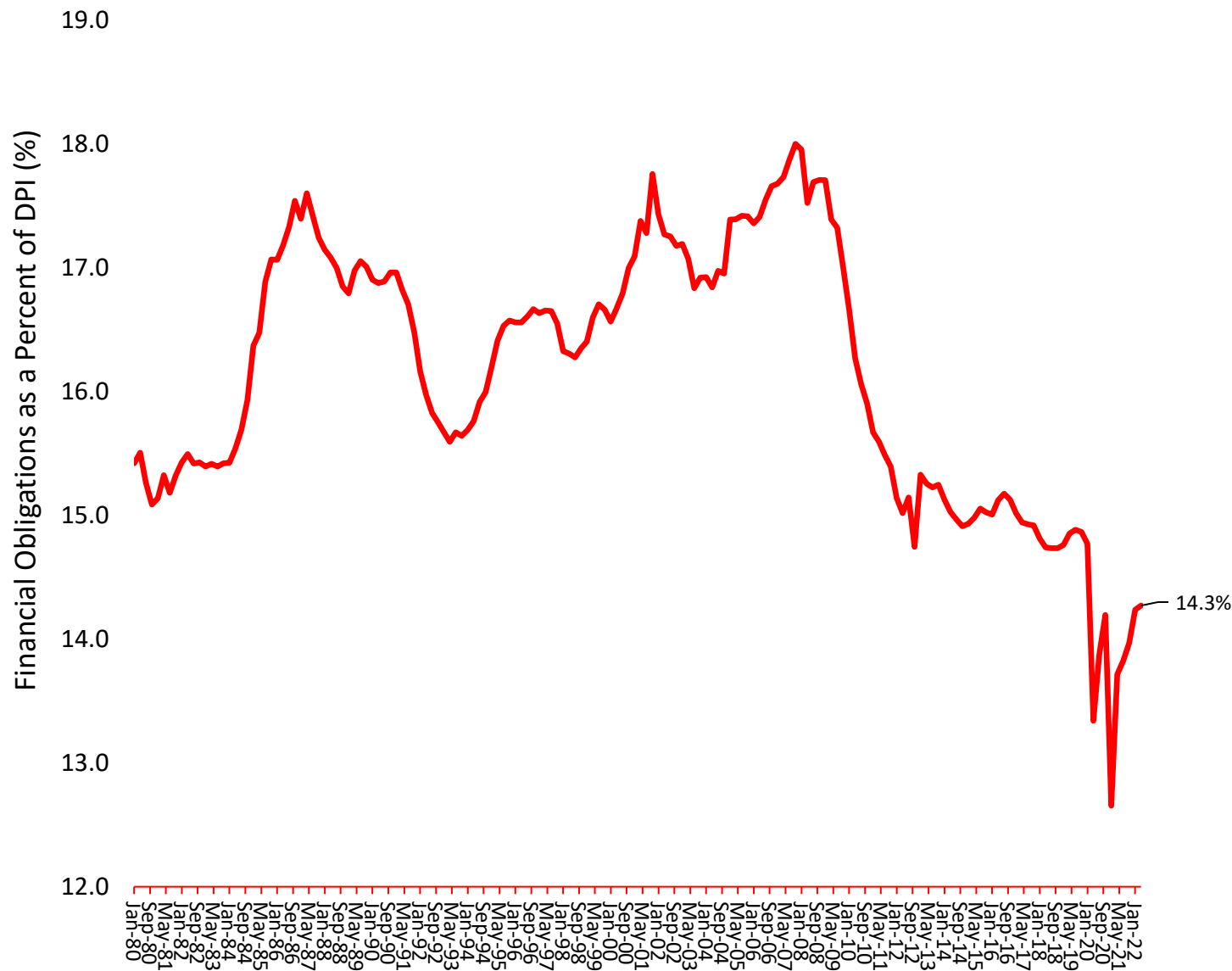
Source: BLS. Data through October 2022.

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

# Household net worth – the wealth effect



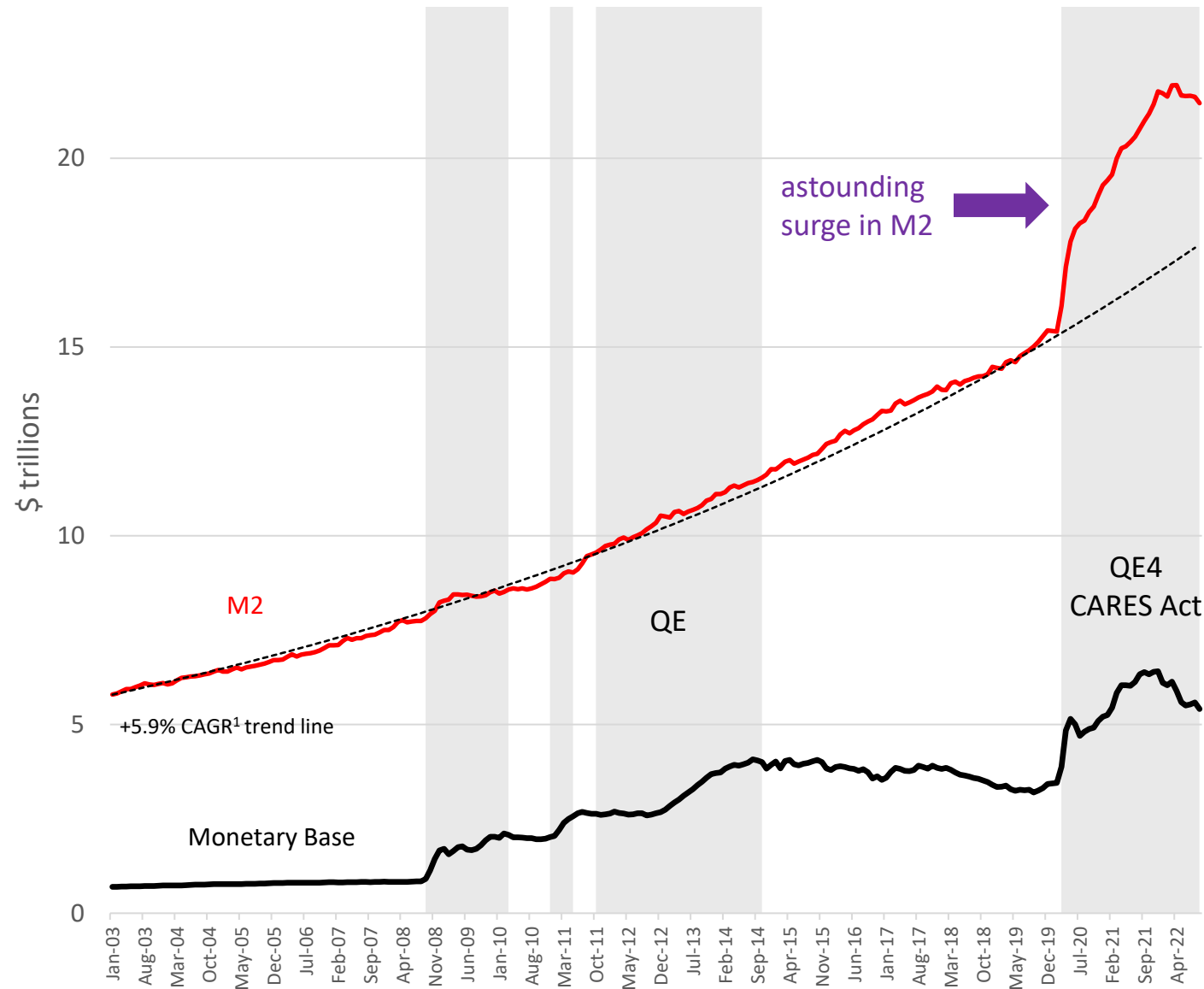
## Financial obligations ratio – near record low



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.

# Federal Reserve policy

## 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 and subsequent stimulus 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.6. Data through September 2022.

<sup>1</sup>CAGR = compound annual growth rate.

## THE WALL STREET JOURNAL.

### Flush Consumers Vex Fed Strategy

Washington's response to the pandemic left household and business finances in unusually strong shape, with higher savings buffers and lower interest expenses. It could also make the Federal Reserve's job of taming high inflation more difficult.

U.S. households still have around \$1.7 trillion in savings they accumulated through mid-2021 above and beyond what they would have saved if income and spending had grown in line with the pre-pandemic economy, according to estimates by Fed economists.

Around \$350 billion in excess savings as of June were held by the lower half of the income distribution, or around \$5,500 per household on average.

# Federal Reserve policy

## Consumer spending



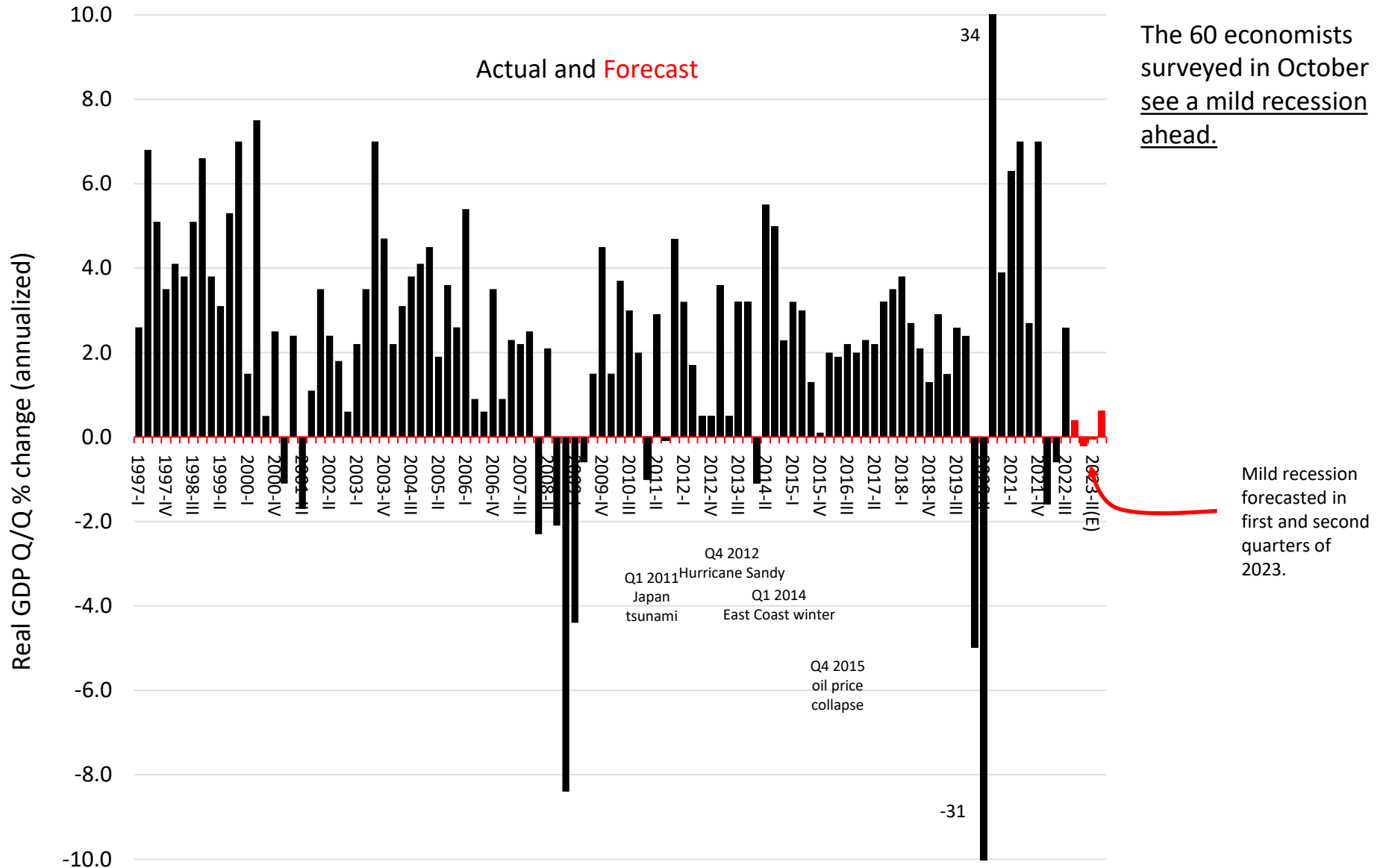
## THE WALL STREET JOURNAL.

### Economists Now Expect a Recession, Job Losses by Next Year

On average, economists put the probability of a recession in the next 12 months at 63%, up from 49% in July's survey.

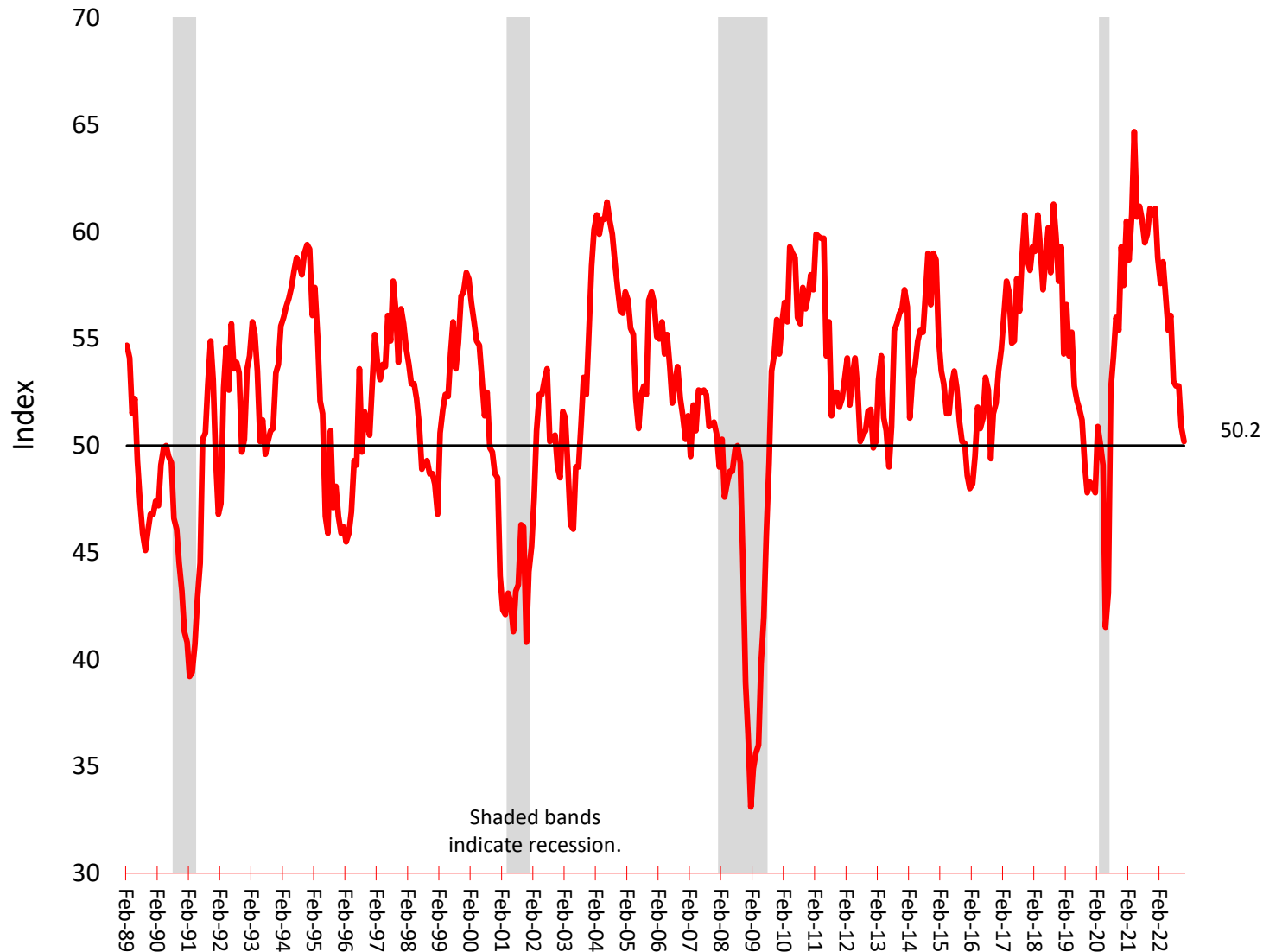
# Consensus GDP forecast

## GDP



# Economic data

## ISM manufacturing PMI



October at 50.2.

October new orders  
49.2.

Note the historic  
volatility in the  
manufacturing PMI.

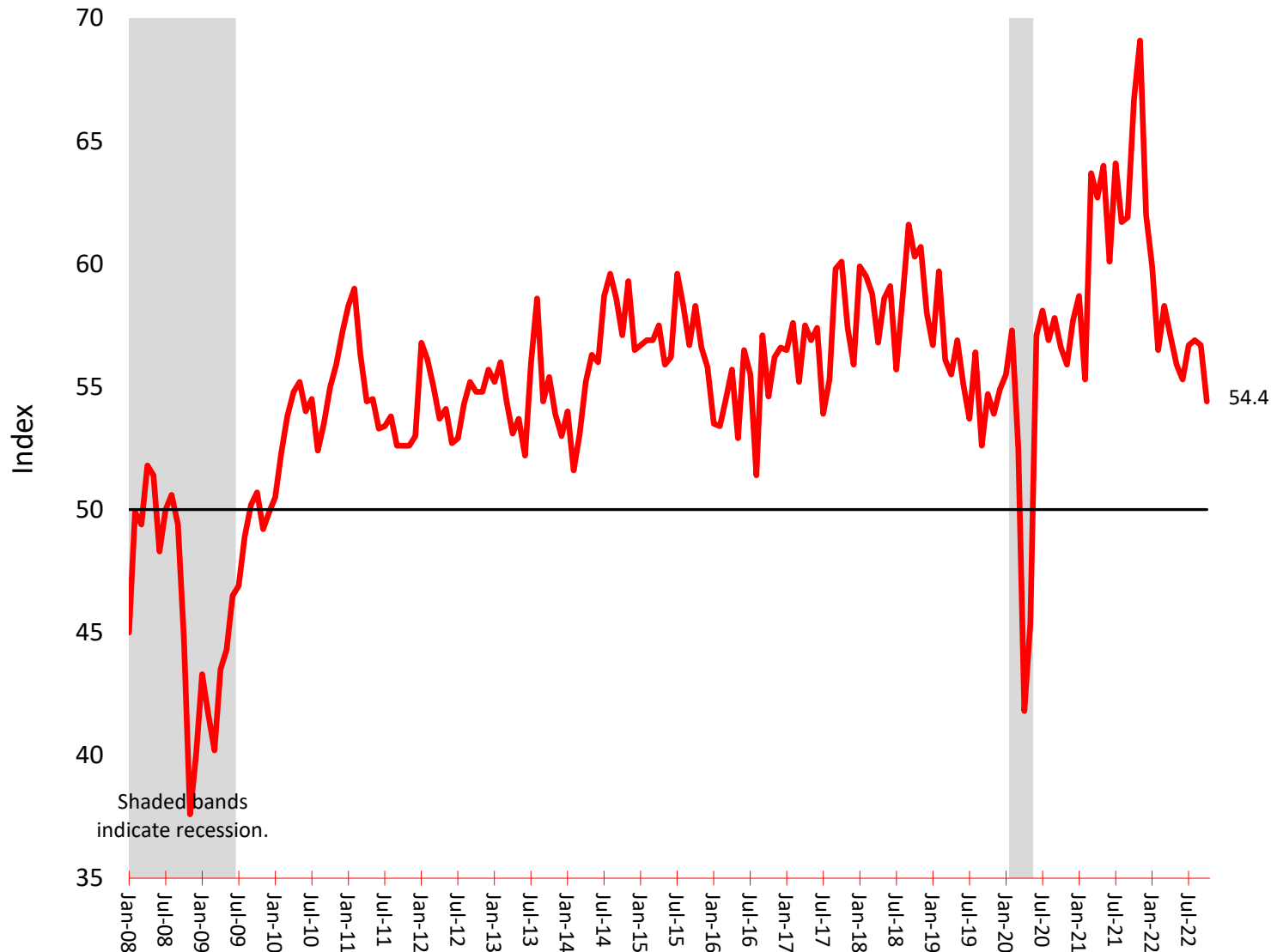
Note how this indicator  
has slumped well below  
50 even during periods  
of strong economic  
expansion, eg. 1995,  
1999, 2003, 2013, 2016.

Source: Copyright 2022, Institute for Supply Management. Data through October 2022.

ISM: "A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting. A Manufacturing PMI® above 48.7 percent, over a period of time, generally indicates an expansion of the overall economy."

# Economic data

## ISM services PMI



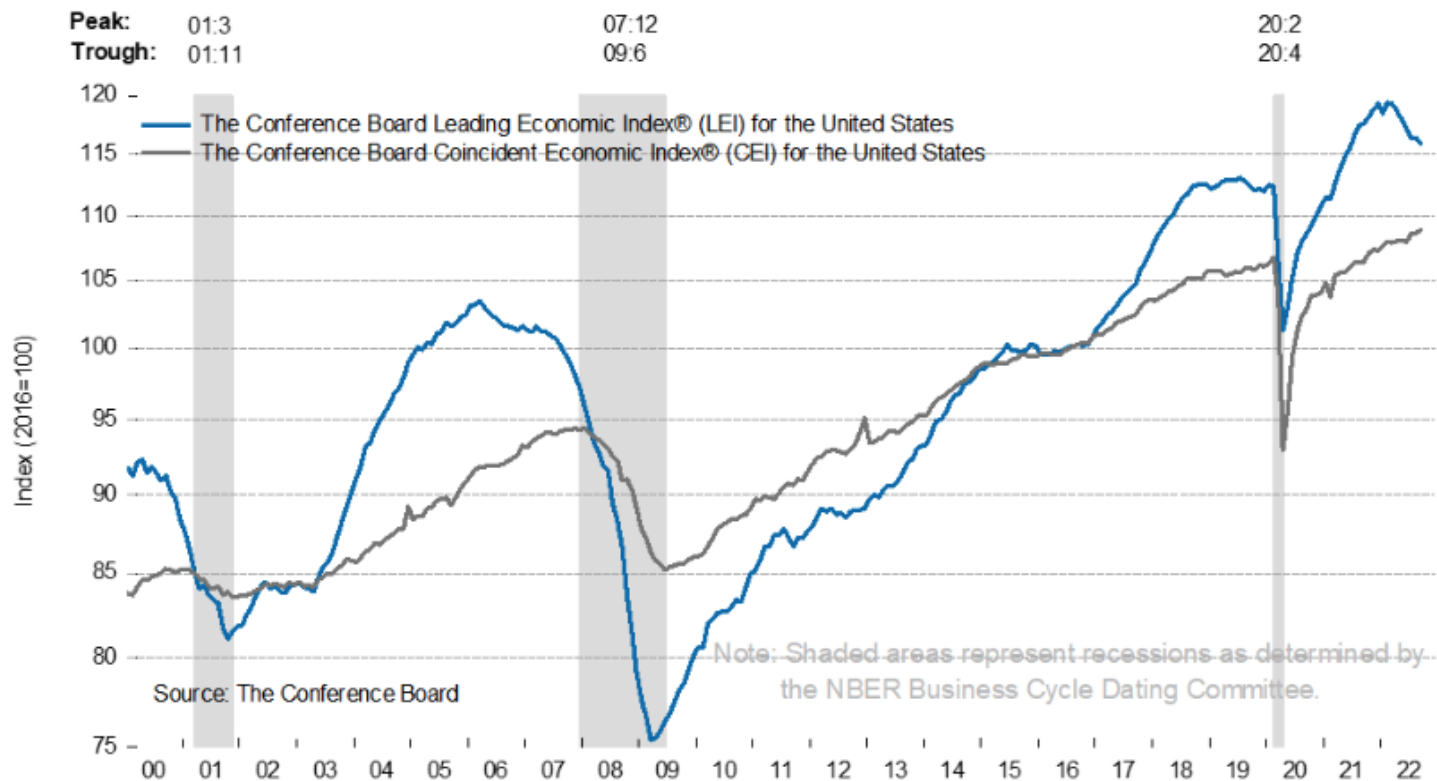
October at 54.4.

October new orders  
56.5.

Services comprise 89%  
of the U.S. economy<sup>1</sup>  
and 91% of total  
nonfarm jobs.

Source: Copyright 2022, Institute for Supply Management; data through October 2022. This data series was created in 2008. ISM: "A reading above 50 percent indicates that the services sector economy is generally expanding; below 50 percent indicates that it is generally contracting." "A Services PMI® above 50.1 percent, over time, generally indicates an expansion of the overall economy." <sup>1</sup>Value added as a percent of GDP.

## U.S. index of leading economic indicators – rolling over



“The US LEI fell again in September and its persistent downward trajectory in recent months suggests a recession is increasingly likely before yearend.”

This chart shows how the LEI has definitively rolled over well in advance of the last 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 20, 2022.

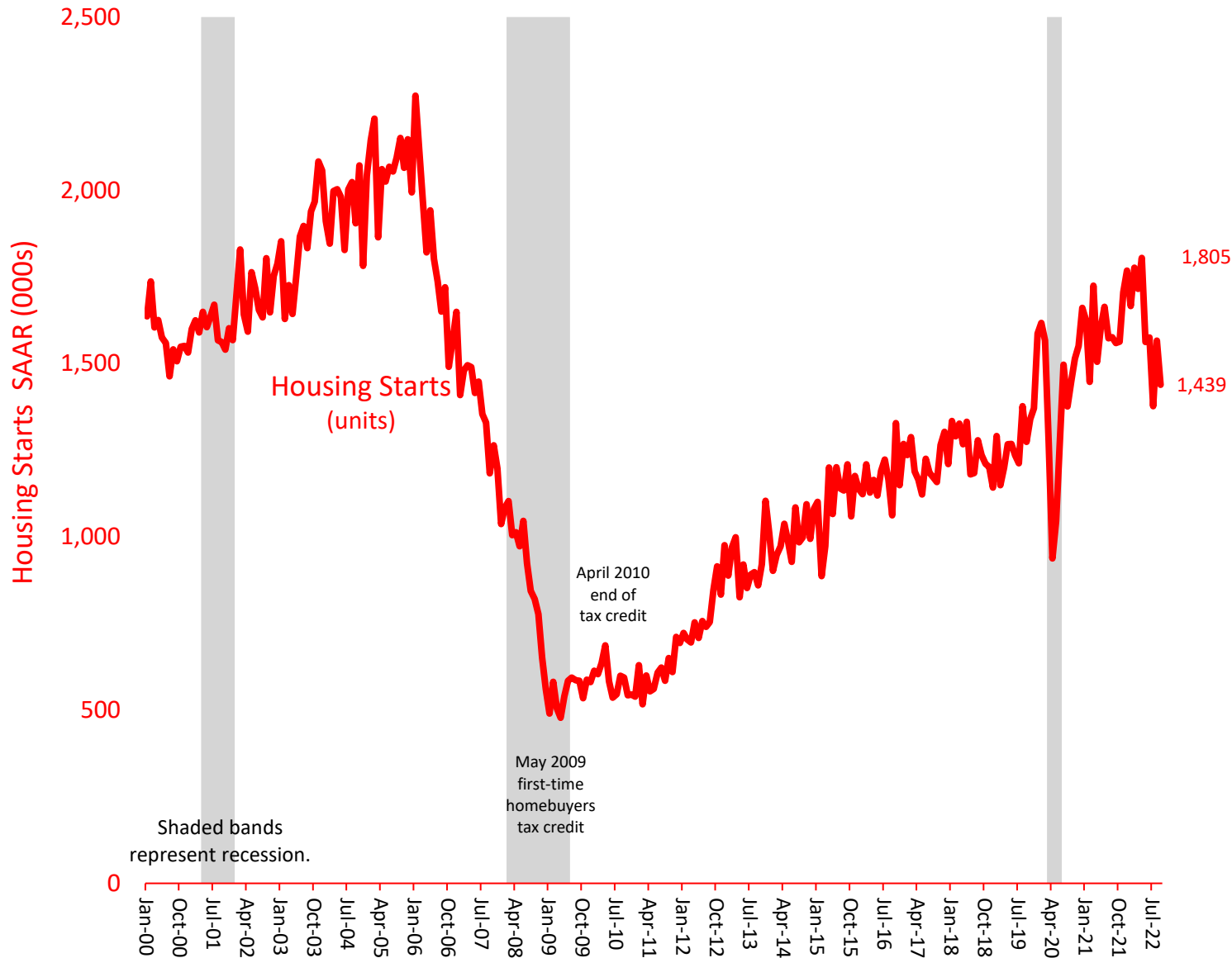
# Economy

## Jamie Dimon – recession coming



# Economic data

## Housing starts



1.439 million in September.

September permits at 1.564 million.

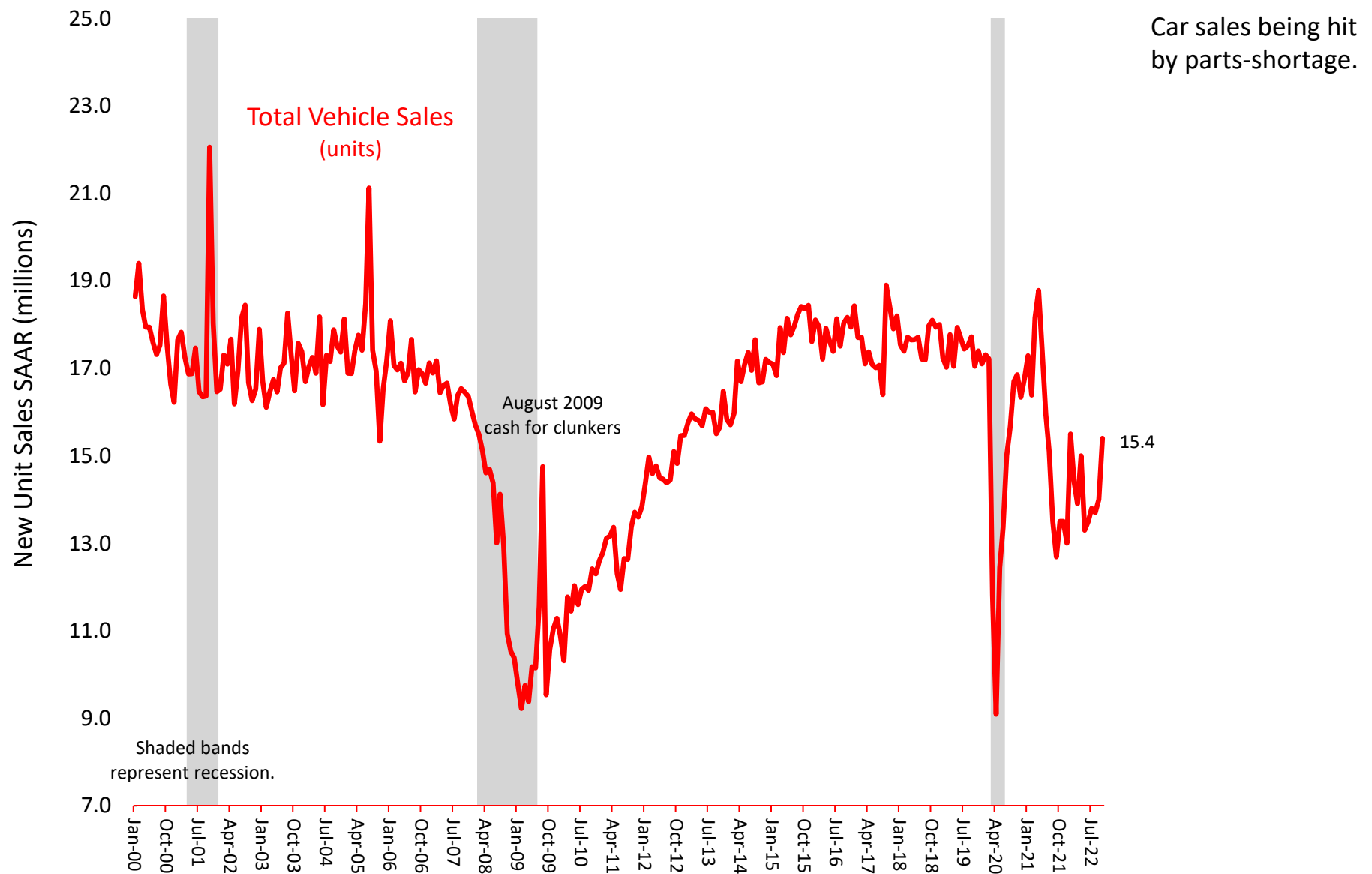
“Housing starts also remain(ed) well below the projected rate of 1.6 to 1.8 million that is consistent with long-term demographics and the replacement of the existing housing stock (Herbert, McCue, and Spader 2016).”<sup>1</sup>

Sources: BEA and U.S. Census Bureau. Data through September 2022.

<sup>1</sup> *Economic Report of the President*, Council of Economic Advisors, February 2018

# Economic data

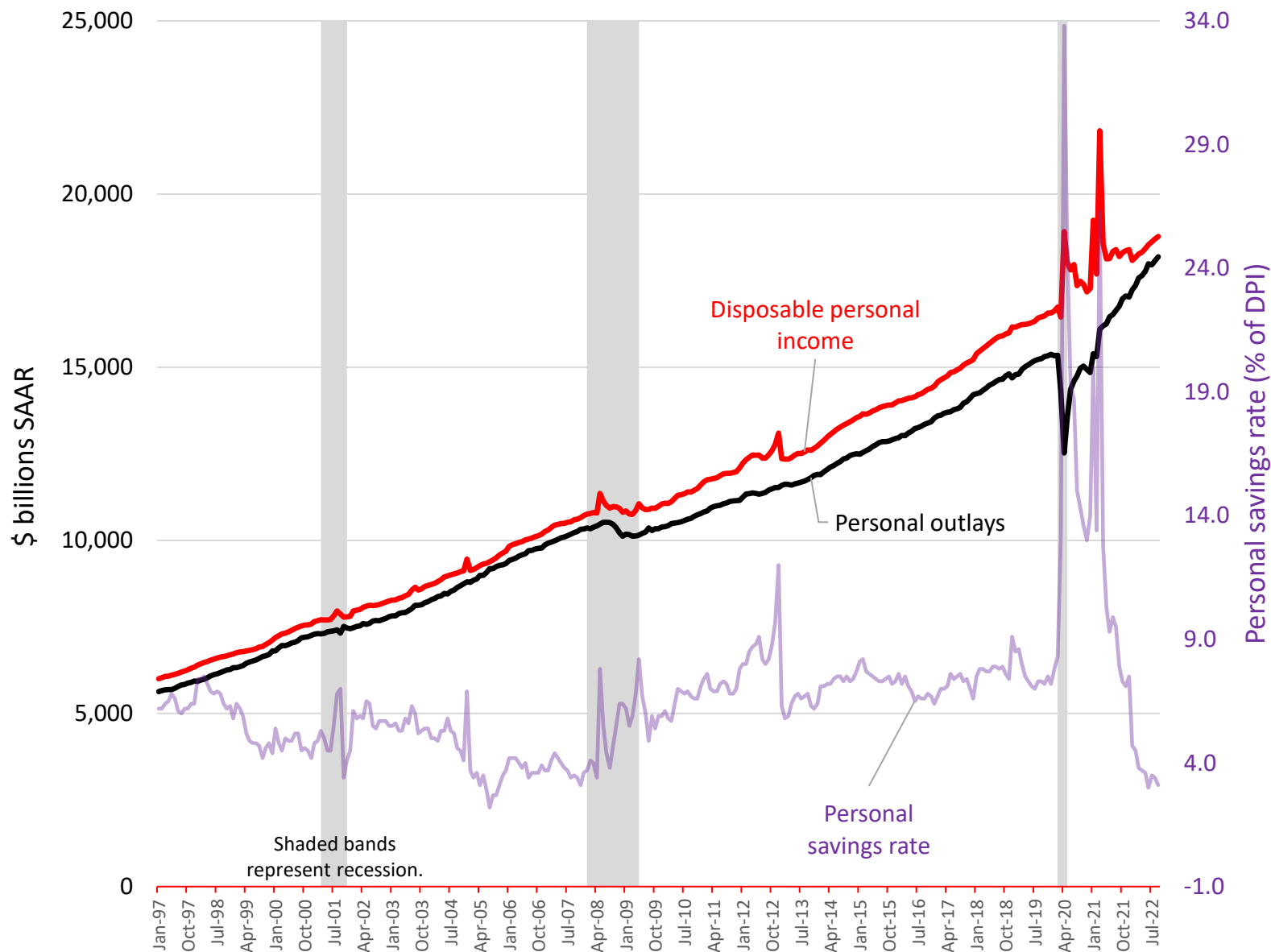
## Vehicle sales



Sources: BEA. Data through October 2022.

Consumer income

# Disposable personal income, spending and saving



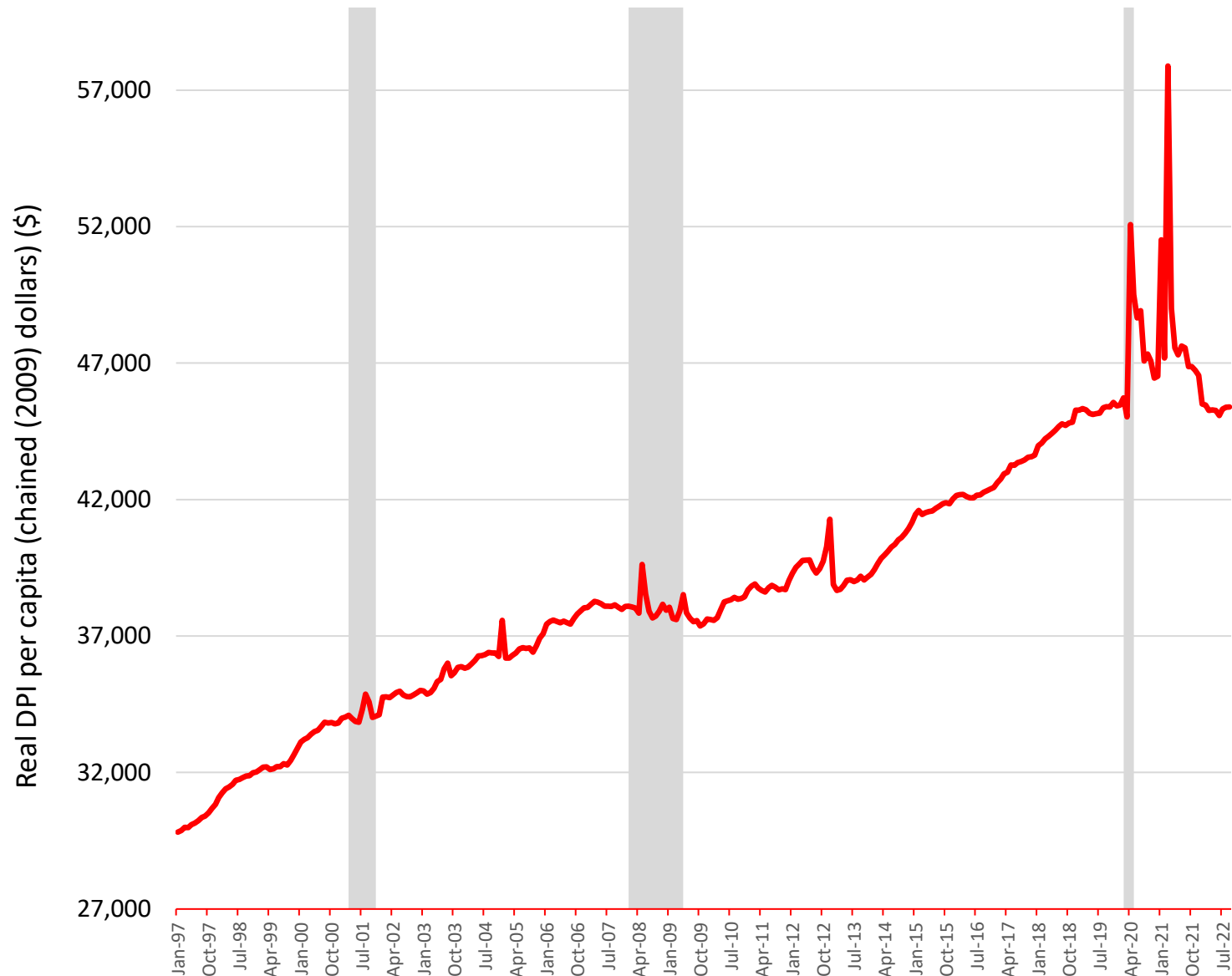
DPI up just +3.2% y/y, with the PCED up +6.2% y/y.

Personal outlays up +8.5% y/y.

The savings rate, at 3.1%, is below pre-Covid levels.

Consumer income

# Real disposable personal income per capita



Inflation is cutting into real income.

Real DPI per capita is down -3.2% y/y.

U.S. dollar (\$)

U.S. Dollar index – surging

# BARRON'S

CURRENCIES | COVER

## The U.S. Dollar Is Superstrong. How to Invest Now.

There's a double discount now for U.S. investors in battered stock markets overseas. Japan looks very attractive.



MAGAZINE

U.S. dollar (\$)

U.S. Dollar index – surging

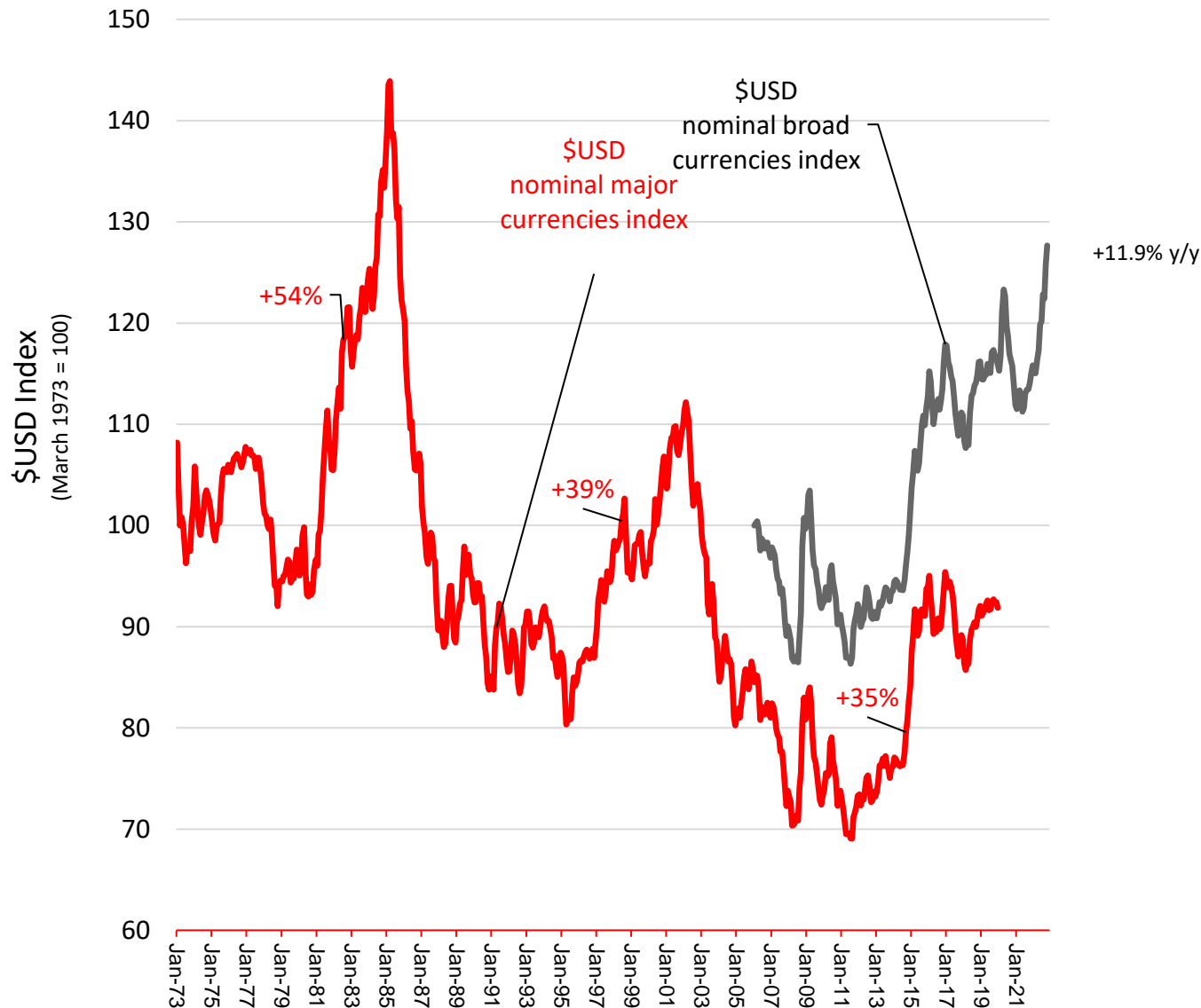
**THE WALL STREET JOURNAL.**

# **Dollar's Strength Spells Trouble Globally**

Surge threatens to worsen slowdown, raise inflation woes for central banks.

U.S. dollar (\$)

## U.S. Dollar index – surging



The dollar's surge created a headwind for S&P 500 earnings in 2014-15.

Trending higher since then.

"... no model projecting directional movements in exchange rates is significantly superior to tossing a coin."

-- Alan Greenspan<sup>1</sup>

Source: Federal Reserve. Data through October 2022.

<sup>1</sup>Federal Reserve, Remarks by Chairman Alan Greenspan before the Economic Club of New York, March 2, 2004.

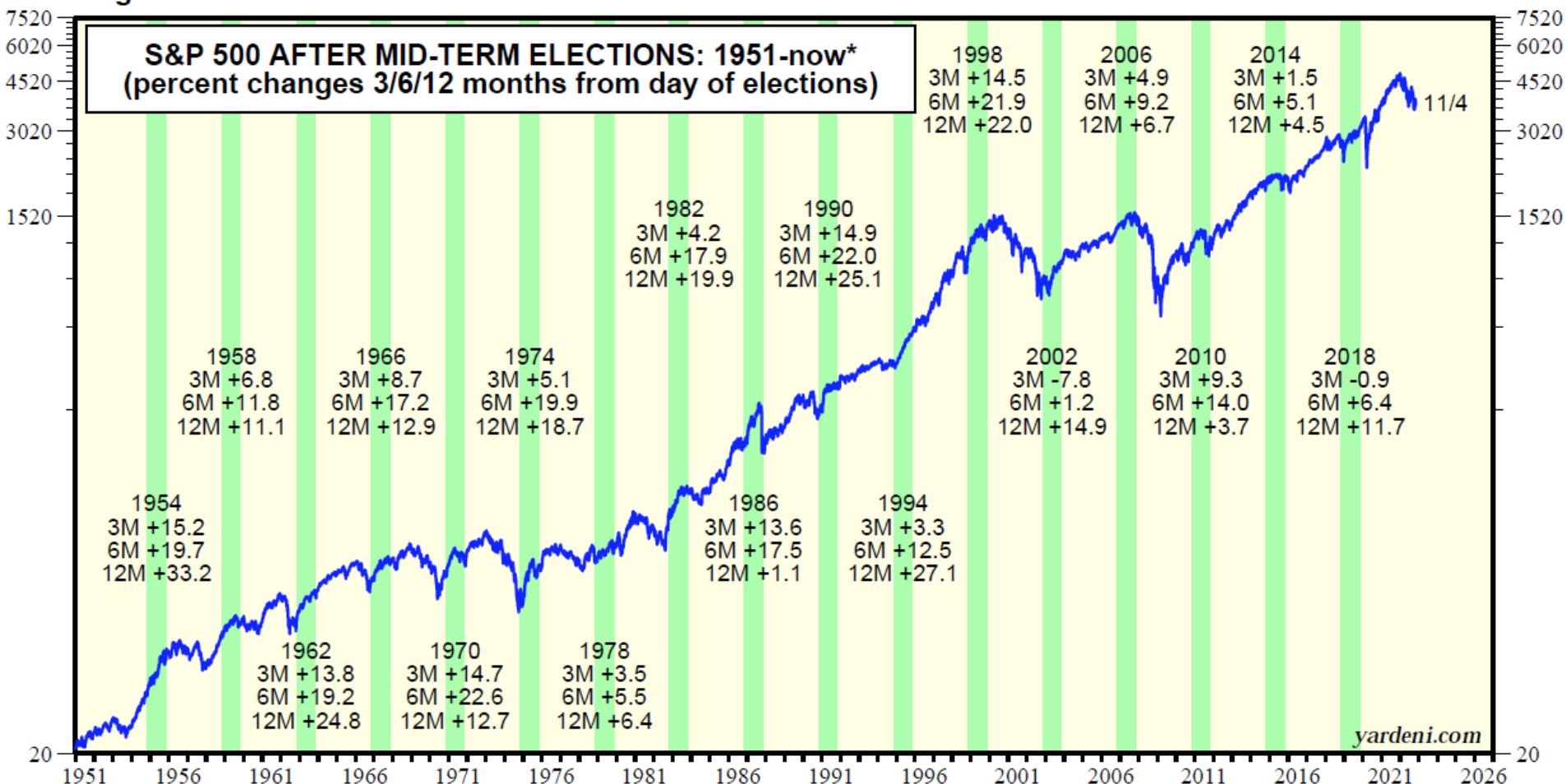
# Stock Market

- bear market
- stocks vs. fed funds rate and bond yields
- 2000 bubble vs. now
- “parabolic” is normal
- skeptical of 2022/2023 earnings estimates
- What is the right P/E multiple?

# Stock market

## S&P 500 and mid-term elections

Figure 3.

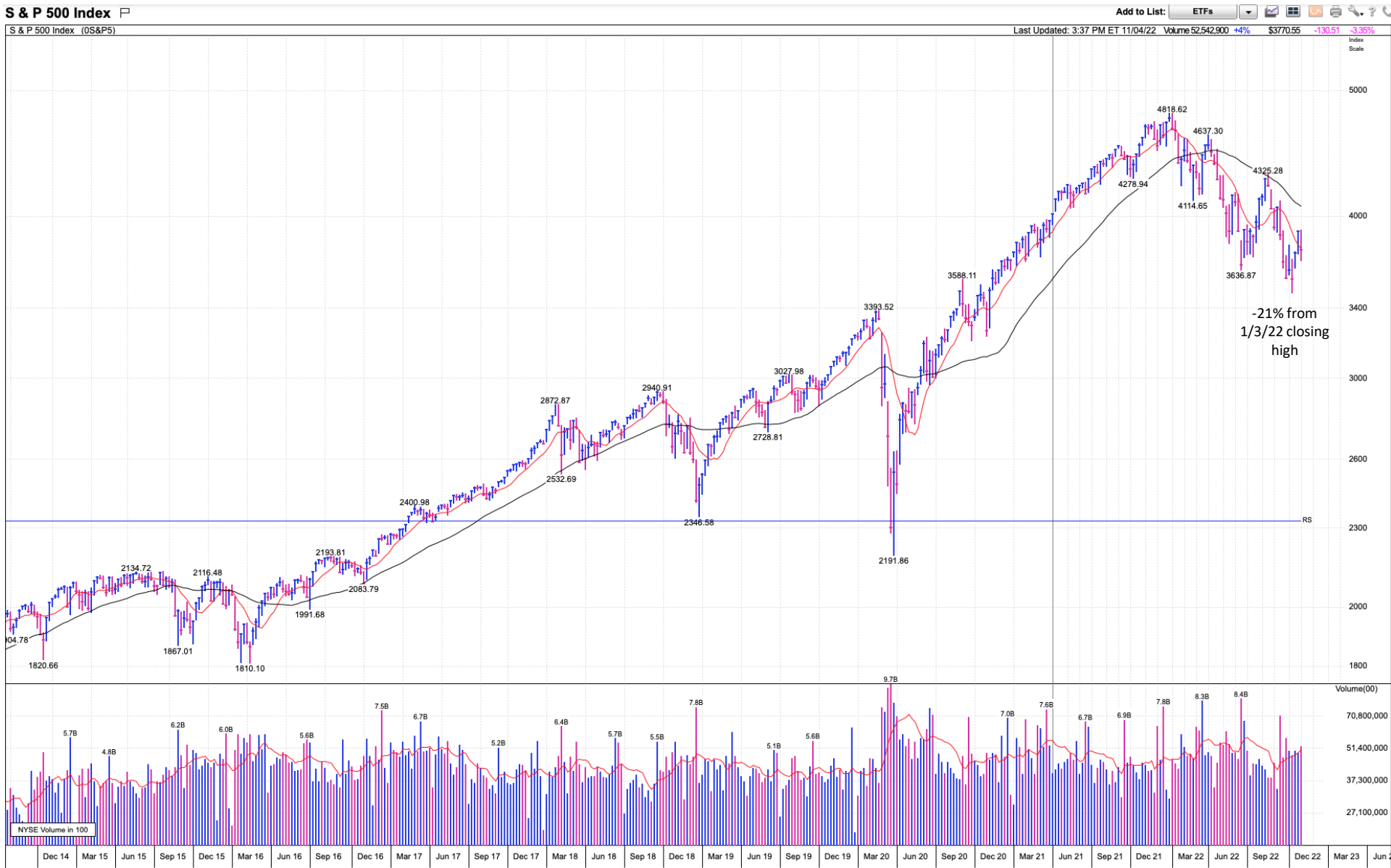


\* S&P 500 up (down) during 12-month span following election day in green (red) shaded area. Prior to 1969, markets were closed on election day, therefore used "latest close" for those dates.

Source: Haver Analytics, Standard & Poor's, YRI calculations.

# Stock market

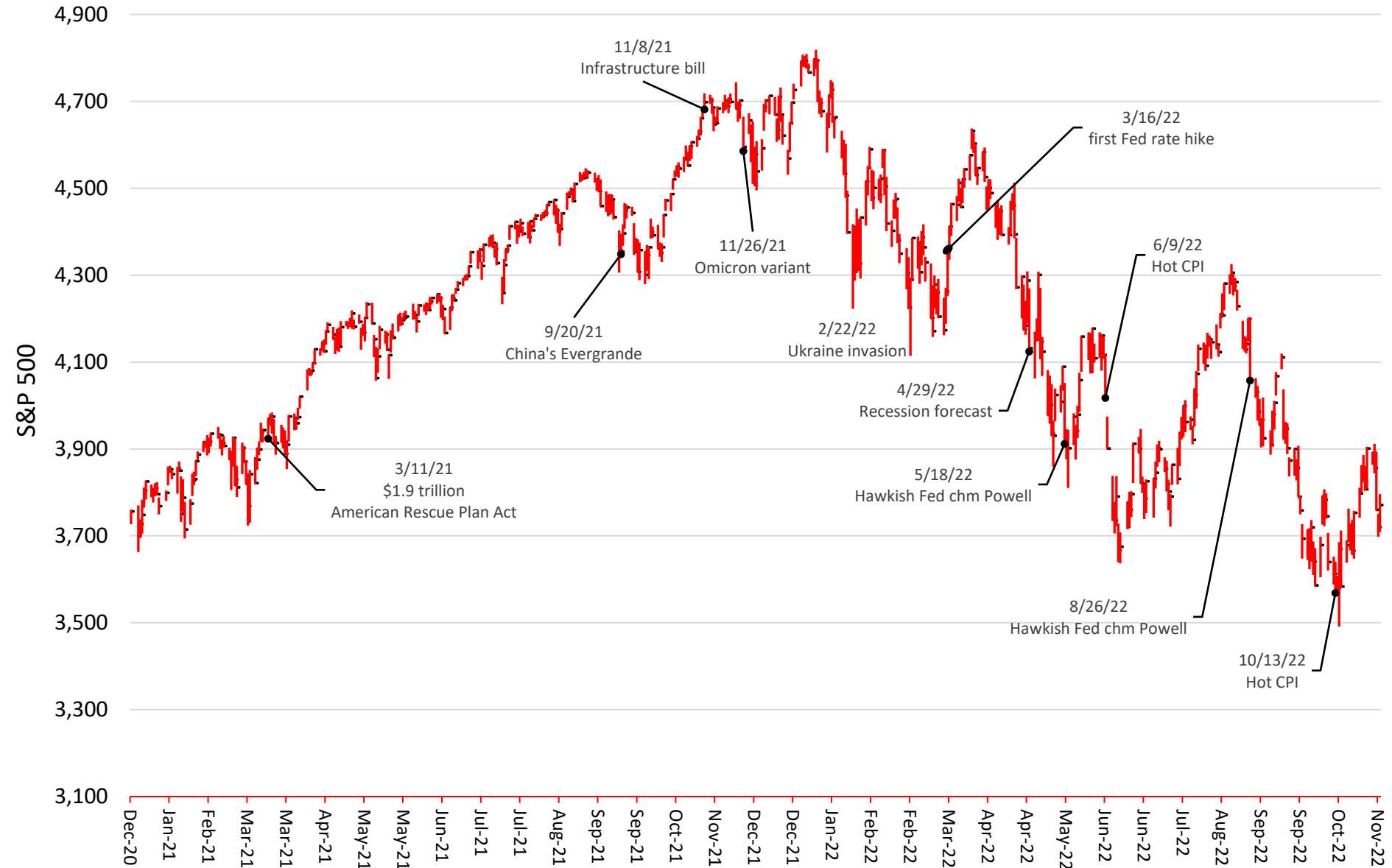
## S&P 500 – bear market



Source: Standard & Poor's and MarketSmith, Inc. Data through November 4, 2022.

# Stock market

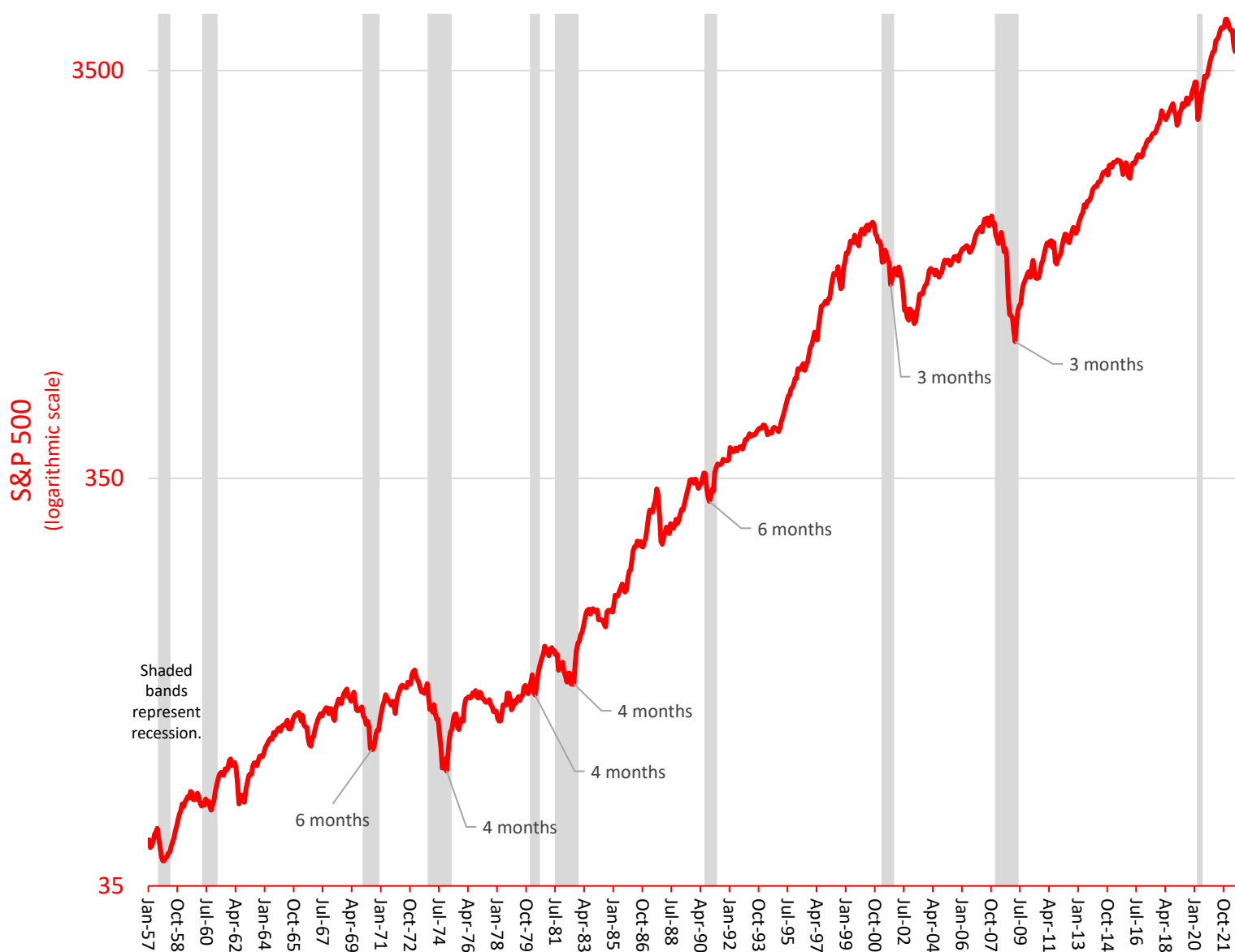
## S&P 500



Source: Standard & Poor's. Data through November 4, 2022.

# Stock market

## S&P 500 vs. recessions



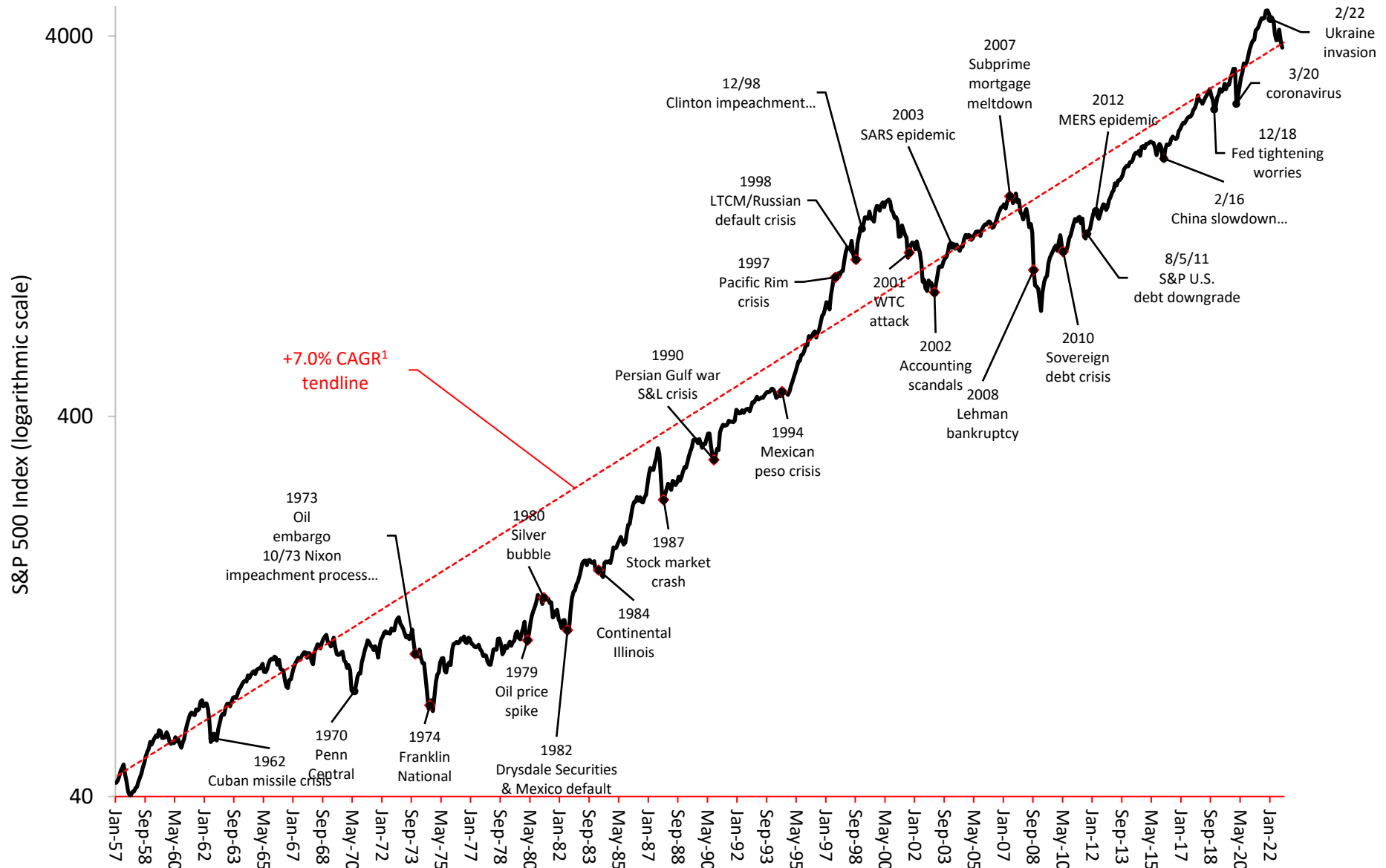
Big declines are associated with recessions.

Stocks often bottom months before recession-end.

Source: Standard and Poor's Corporation, National Bureau of Economic Research. Data through October 2022.

# Stock market

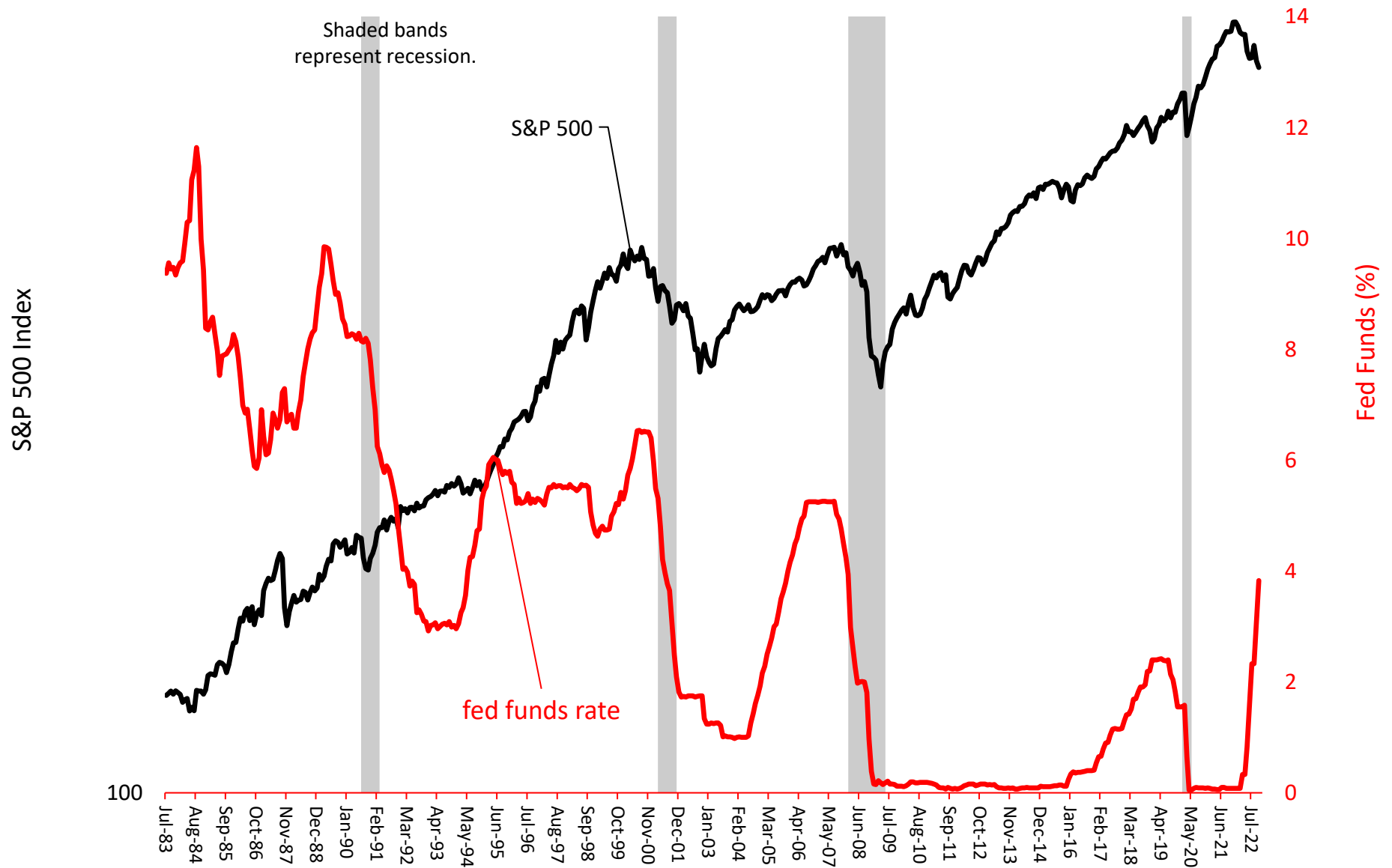
## S&P 500 and crises



Source: Standard and Poor's. Data through October 2022. <sup>1</sup> Compound annual growth rate.

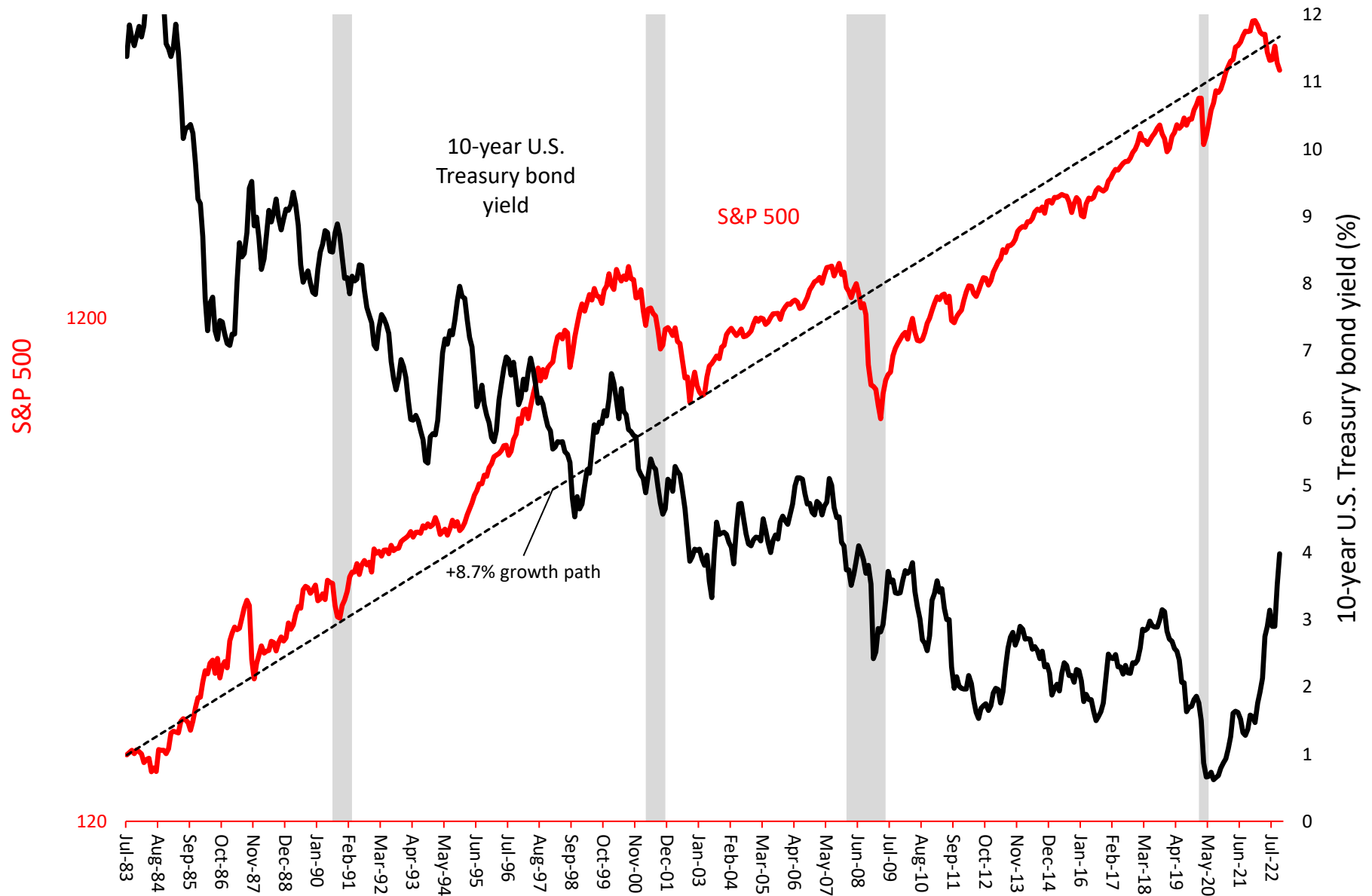
# Stock market

## S&P 500 vs. fed funds rate



Sources: Federal Reserve, Standard & Poor's. Data through October 2022.

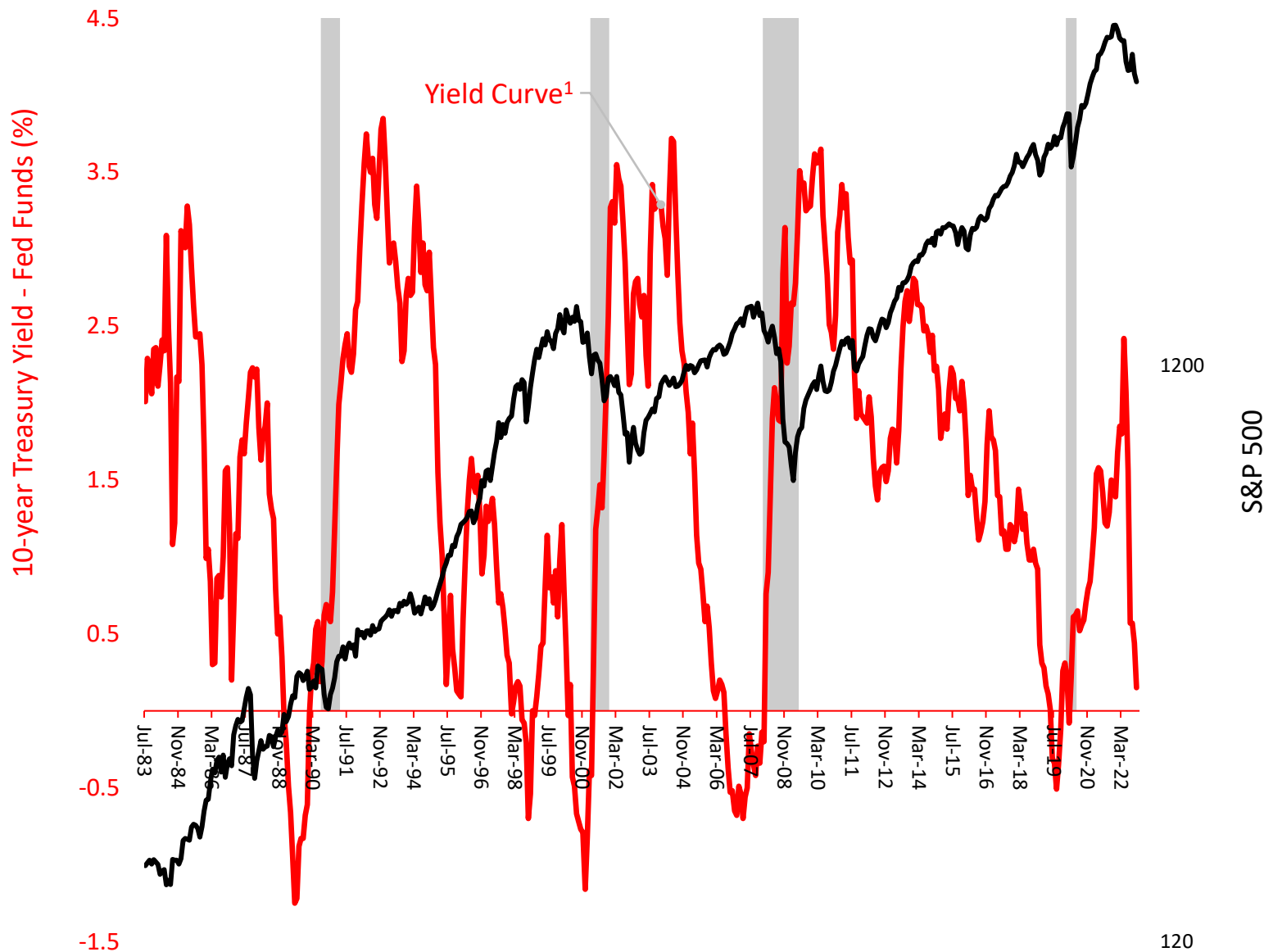
# Stock market S&P 500 vs. 10-year U.S. Treasury bond yield



Sources: Federal Reserve, Standard & Poor's. Data through October 2022.

# Federal Reserve policy

## 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, the yield curve looks to be headed for inversion.

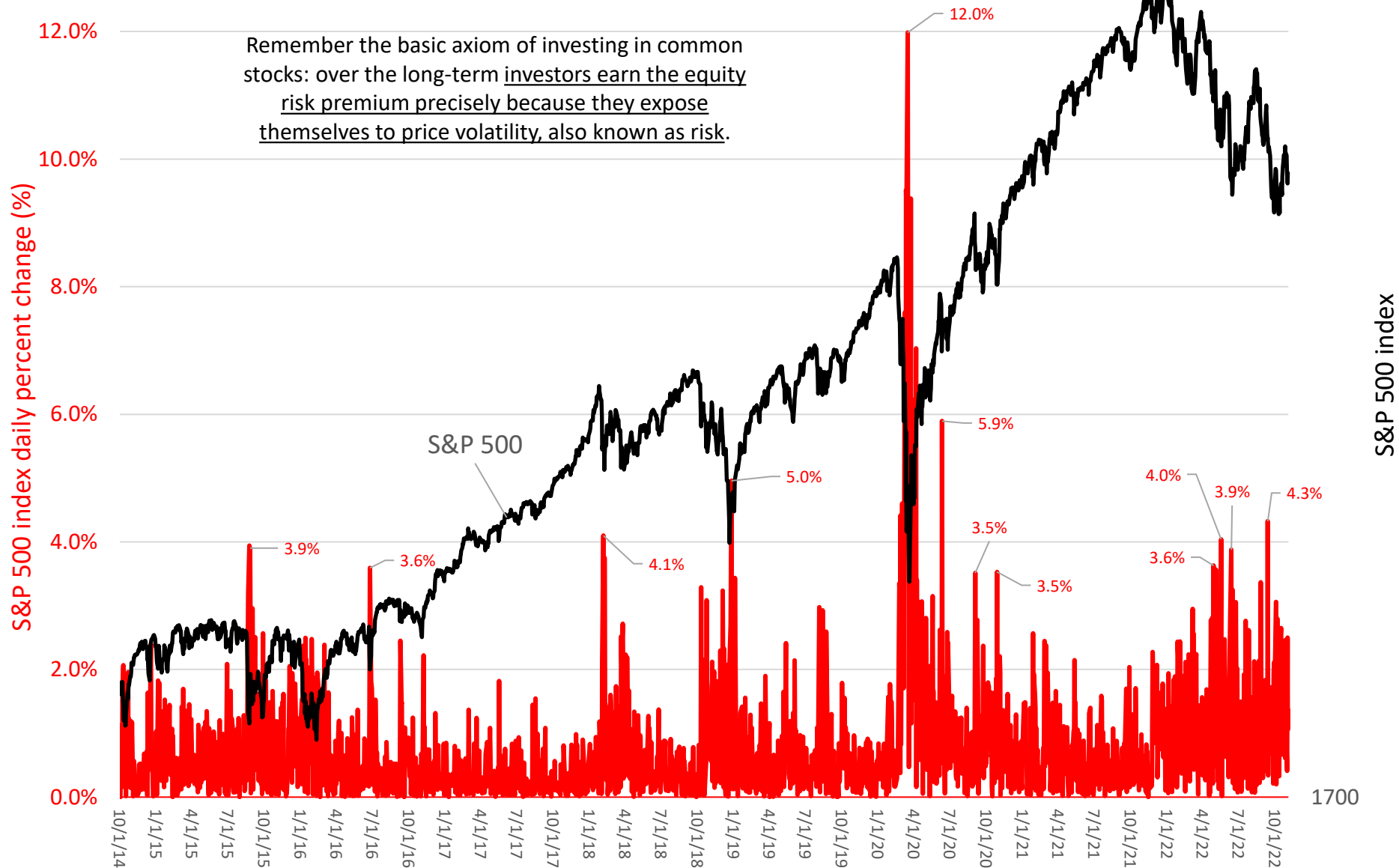
Sources: NBER, Federal Reserve and Standard & Poor's. Data through October 2022.

<sup>1</sup>The interest rate on the 10-year Treasury bond (long term) minus the fed funds rate (short term).

# Stock market

## S&P 500 volatility

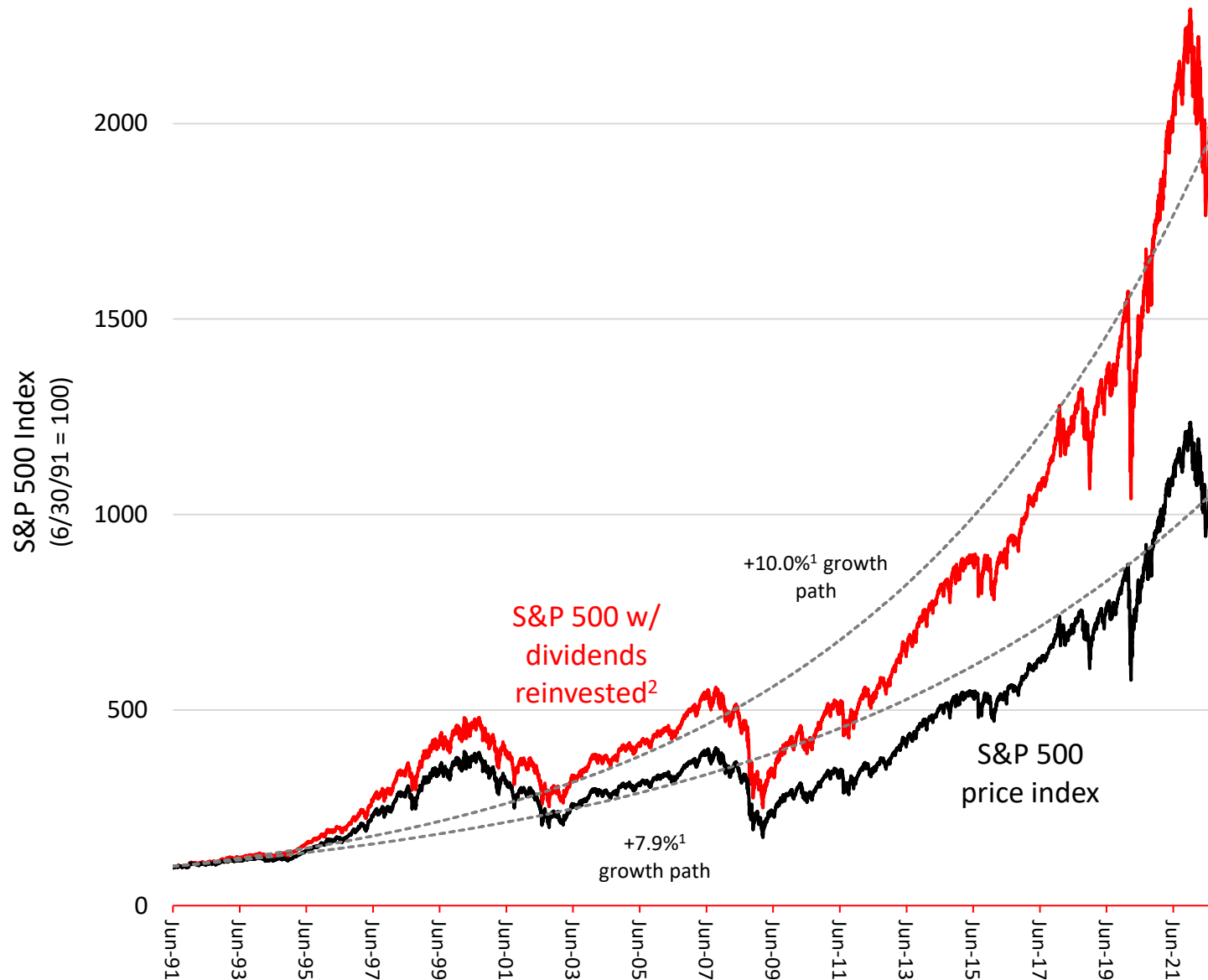
Remember the basic axiom of investing in common stocks: over the long-term investors earn the equity risk premium precisely because they expose themselves to price volatility, also known as risk.



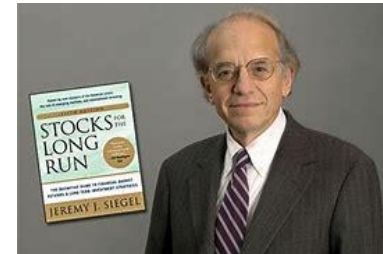
Source: Standard & Poor's, data through November 4, 2022.

## Stock market arithmetic

Total return = 7.9% earnings-driven price + 2.1% dividends reinvested



+10% per year S&P 500 total return over the last 30 years is in line with the stock market's long-term returns going back to 1926, or back even further to 1871.<sup>3</sup>



Source: Standard and Poor's. Data through November 4, 2022.<sup>1</sup> Compound annual growth rate. <sup>2</sup> S&P 500 total return index. <sup>3</sup> per Professor Jeremy Siegel's seminal *Stocks for the Long Run*, first published in 1994.

## Stock market arithmetic

Total return = 7.9% earnings-driven price + 2.1% dividends reinvested

On a logarithmic scale a constant rate of appreciation, say 10%, is represented by a constant interval on the y-axis, say one-eighth of an inch.

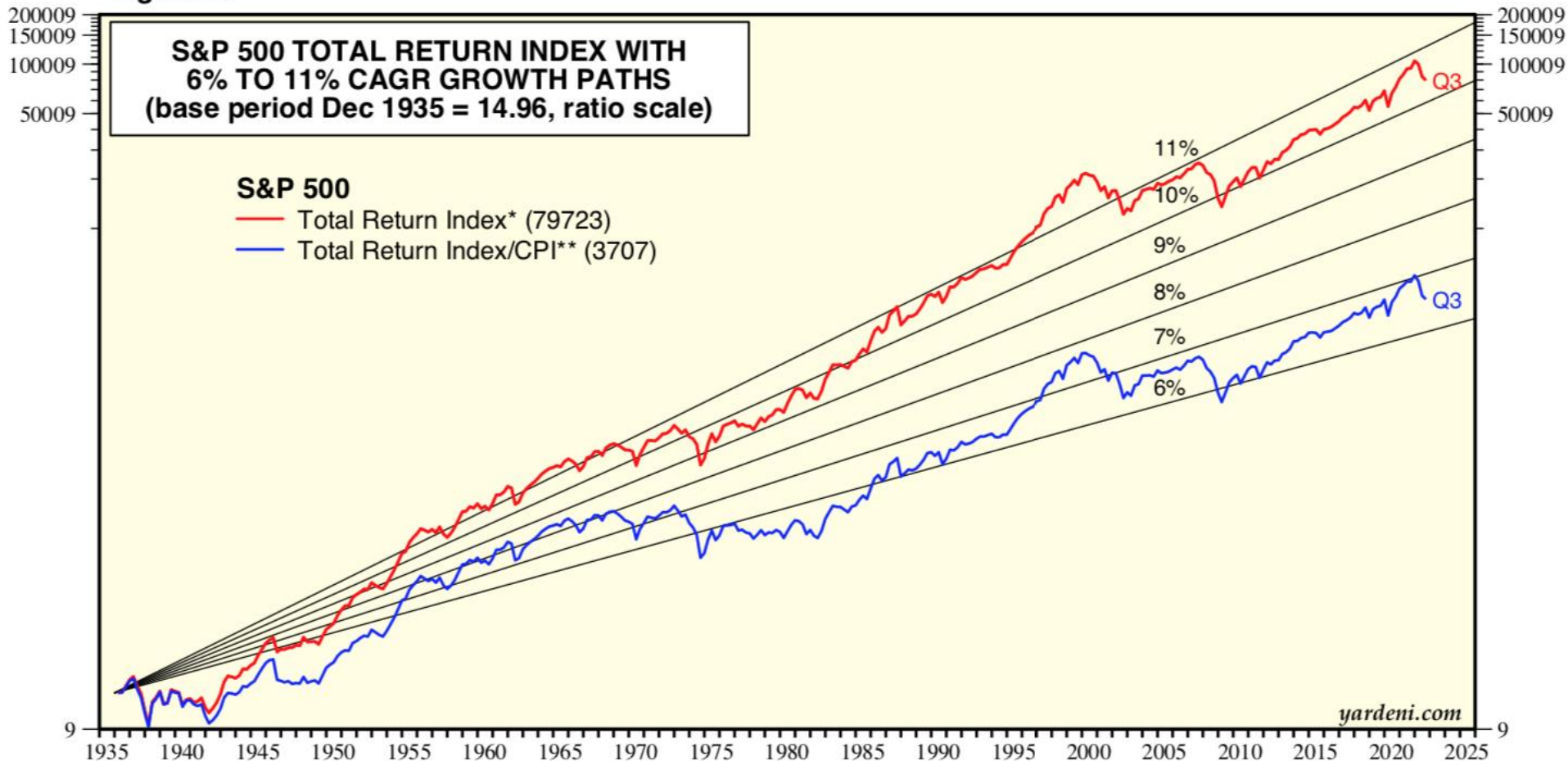
Hence, the +10% growth trajectory is a straight line rather than a hyperbolic curve (previous chart).



Source: Standard and Poor's. Data through November 4, 2022. <sup>1</sup> Compound annual growth rate. <sup>2</sup> S&P 500 total return index.

# Total return and real total return

Figure 6.



\* Includes reinvested dividends.

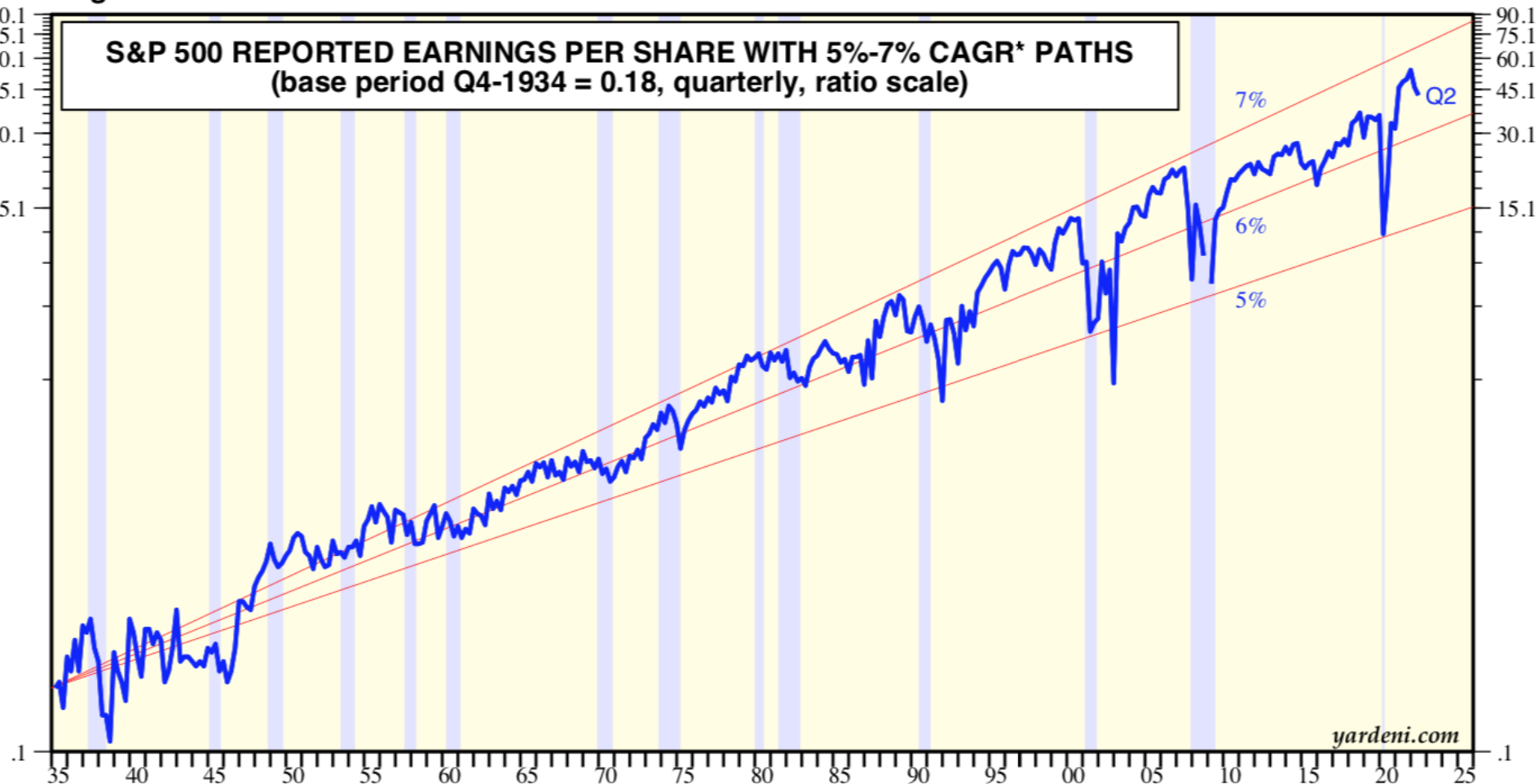
\*\* Using last month of quarter CPI. Compounded monthly using base value.

Source: Standard & Poor's.

# Stock market arithmetic

## 85 years of S&P 500 earnings growth

Figure 9.

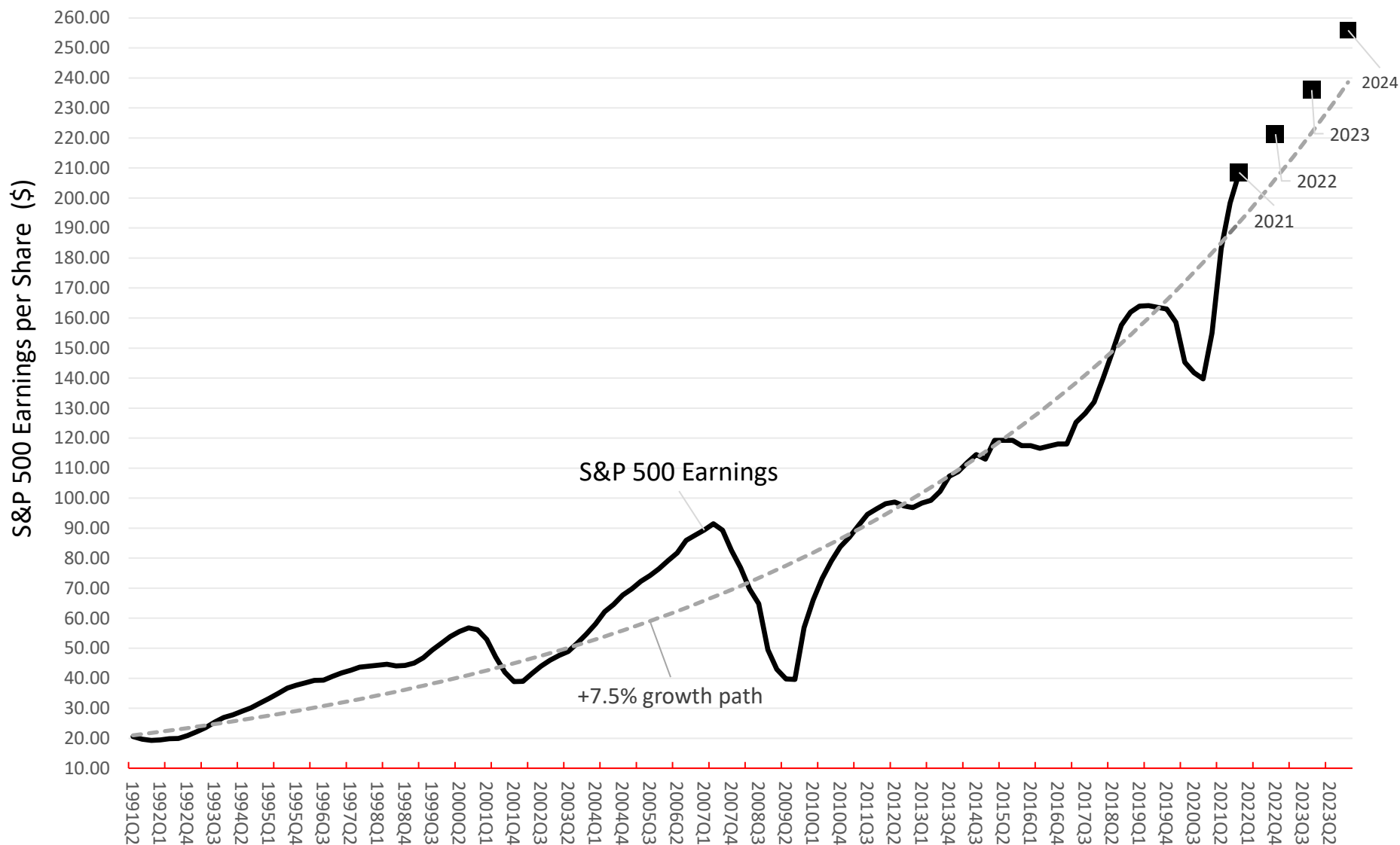


\* Compounded annual growth rate from base value using monthly data. Q4-2008 not shown because of large negative value.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Source: Standard & Poor's.

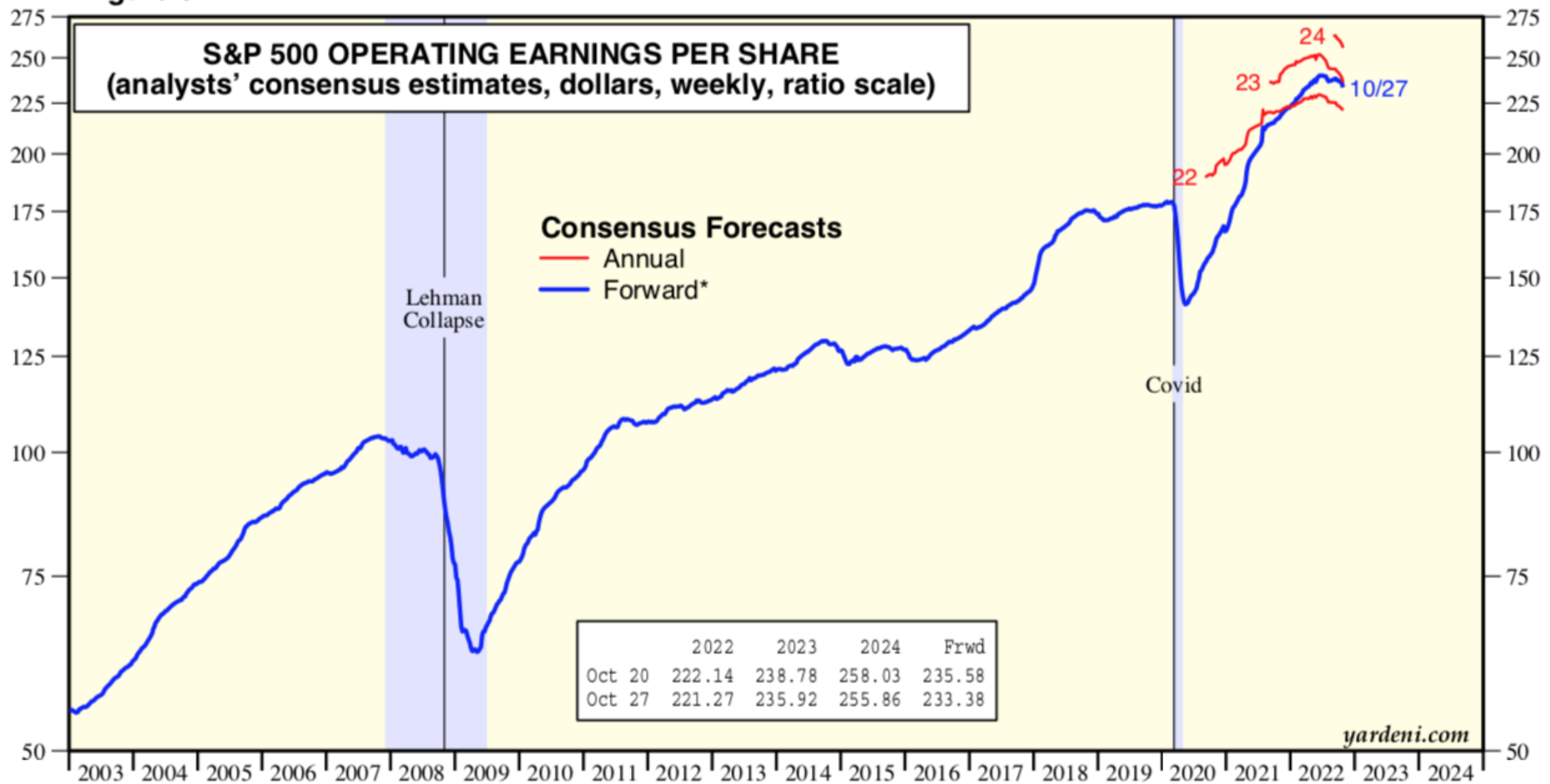
# S&P 500 earnings – actual and I/B/E/S estimates



2021 (actual), 2022 (estimated), 2023 (estimated) and 2024 (estimated) bottom-up S&P 500 operating earnings per share as of October 31, 2022: for 2021(a), \$208.53; for 2022(e), \$221.27; for 2023(e), \$235.92; for 2024(e), \$255.86. 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&amp;P earnings estimates getting trimmed

Figure 5.



\* Time-weighted average of analysts' consensus estimates for S&P 500 operating earnings for current year and next year.

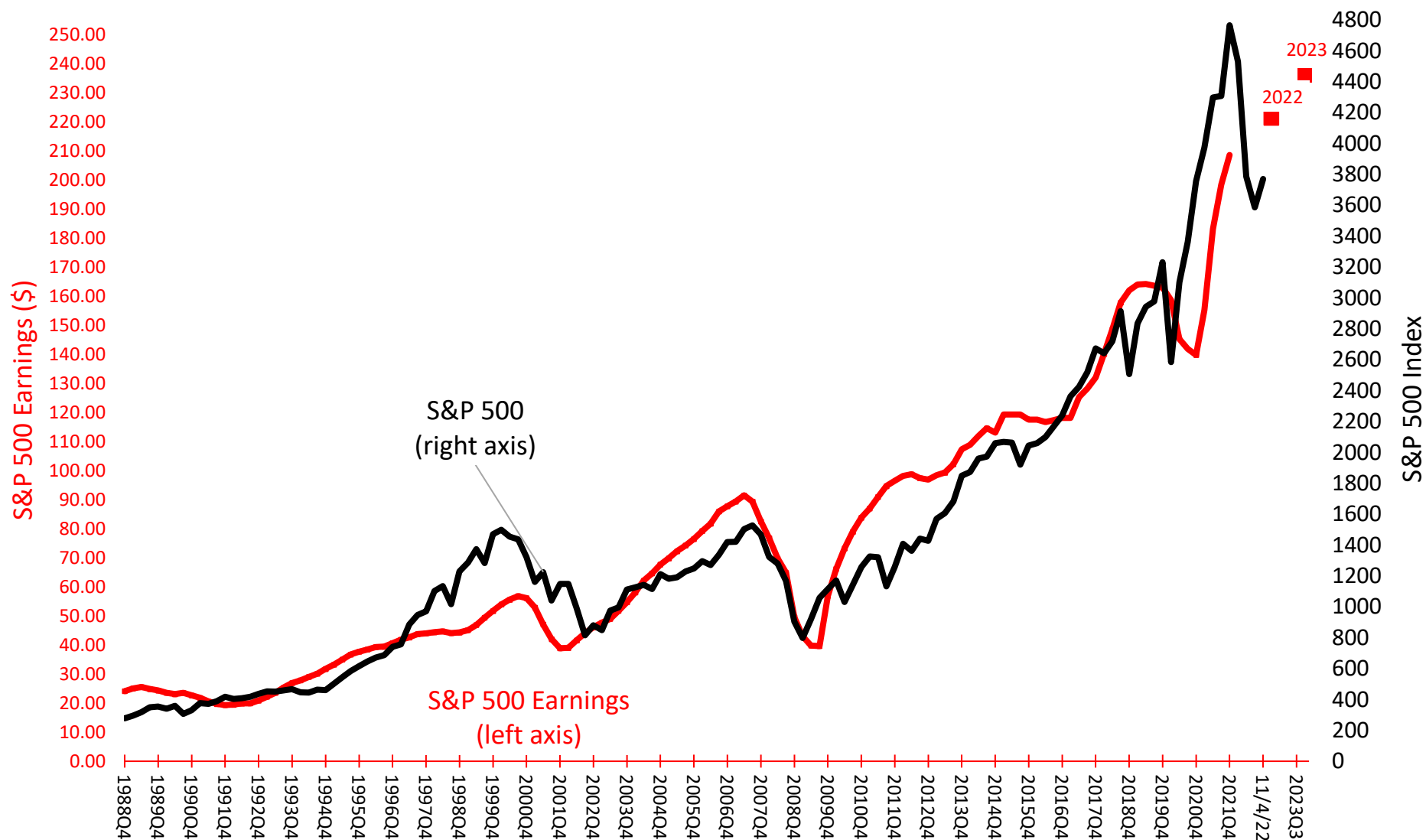
Note: Shaded areas are recessions according to the National Bureau of Economic Research.

Note: Lehman collapsed 9/15/2008. COVID-19 = WHO declares global pandemic on 3/11/2020.

Source: I/B/E/S data by Refinitiv.

# Valuation

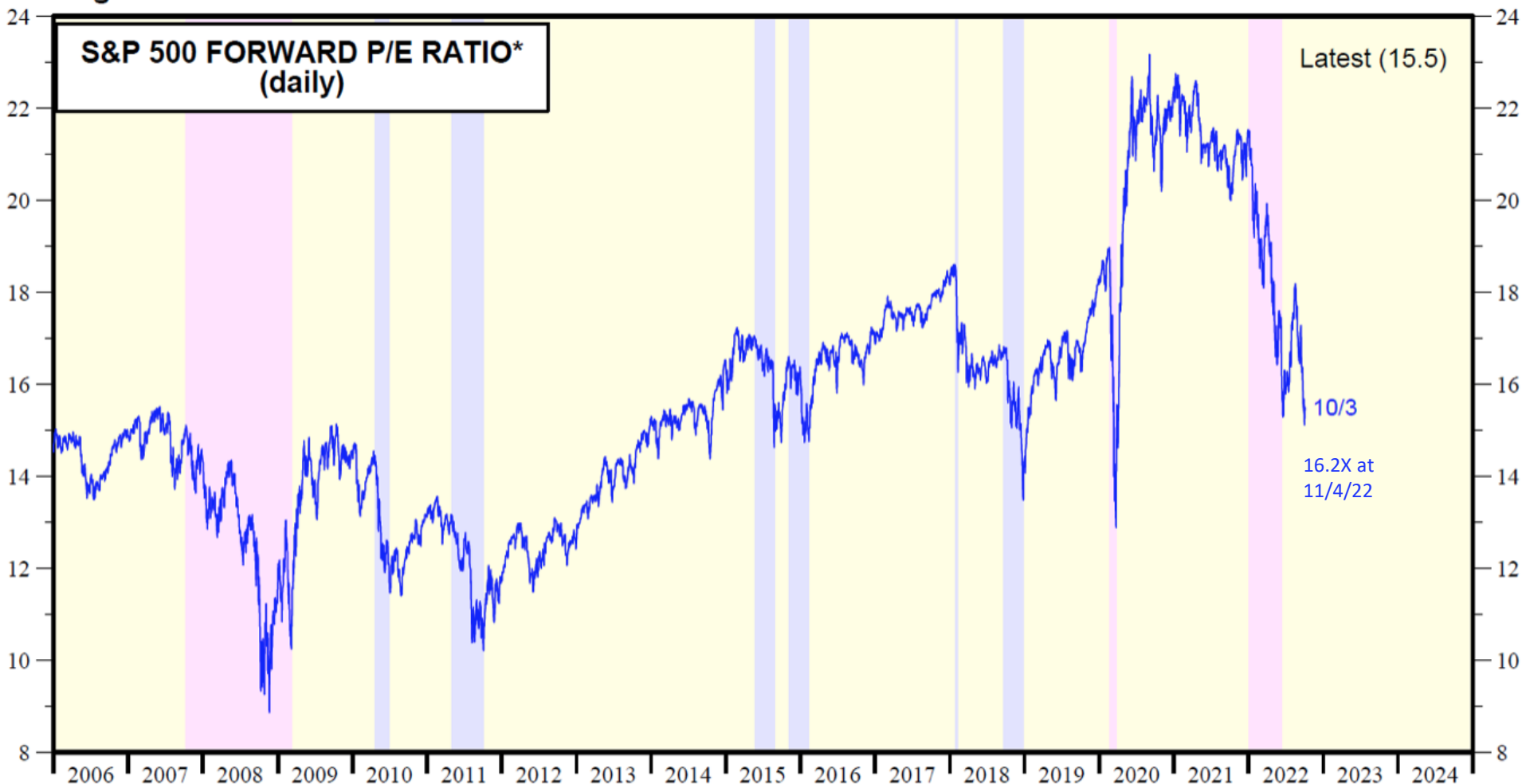
## S&P 500 vs. actual and I/B/E/S estimated earnings



2021 (actual), 2022 (estimated) and 2023 (estimated) bottom-up S&P 500 operating earnings per share as of October 31, 2022: for 2021(a), \$208.53; for 2022(e), \$221.27; for 2023(e), \$235.92. 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; index price data through November 4, 2022.

## S&amp;P index forward P/E ratio

Figure 3.



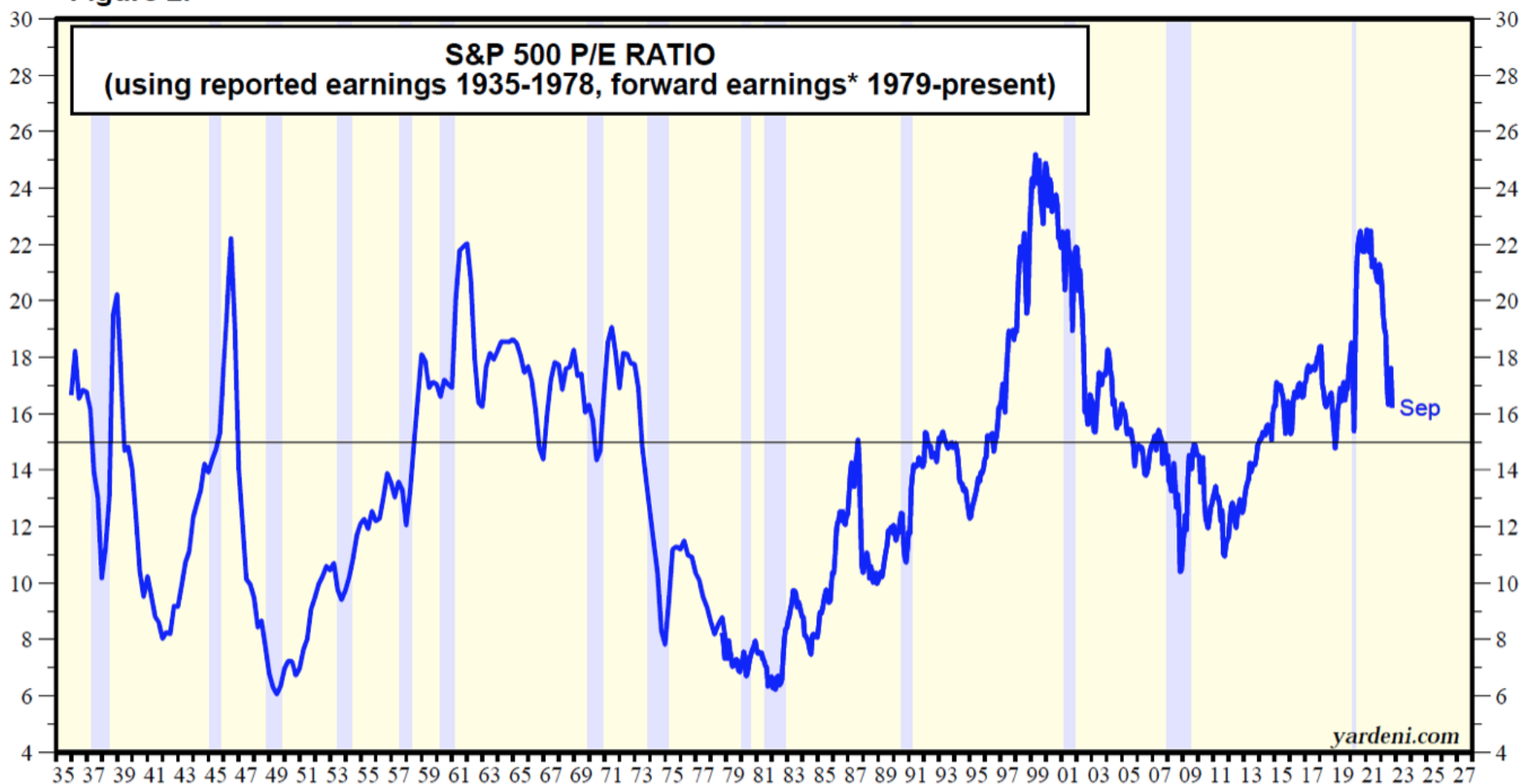
\* Price divided by 52-week forward consensus expected operating earnings per share.

Note: Shaded red areas are S&P 500 bear market declines of 20% or more. Blue shaded areas are correction declines of 10% to less than 20%. Yellow areas are bull markets.

Source: I/B/E/S data by Refinitiv and Standard & Poor's.

## S&amp;P index forward P/E ratio

Figure 2.



\* Four-quarter trailing sum of reported earnings through 1978, then time-weighted average of analysts' consensus estimates for S&P 500 operating earnings per share for current year and next year. Monthly from January 1979.

Note: Shaded areas are recessions according to the National Bureau of Economic Research.

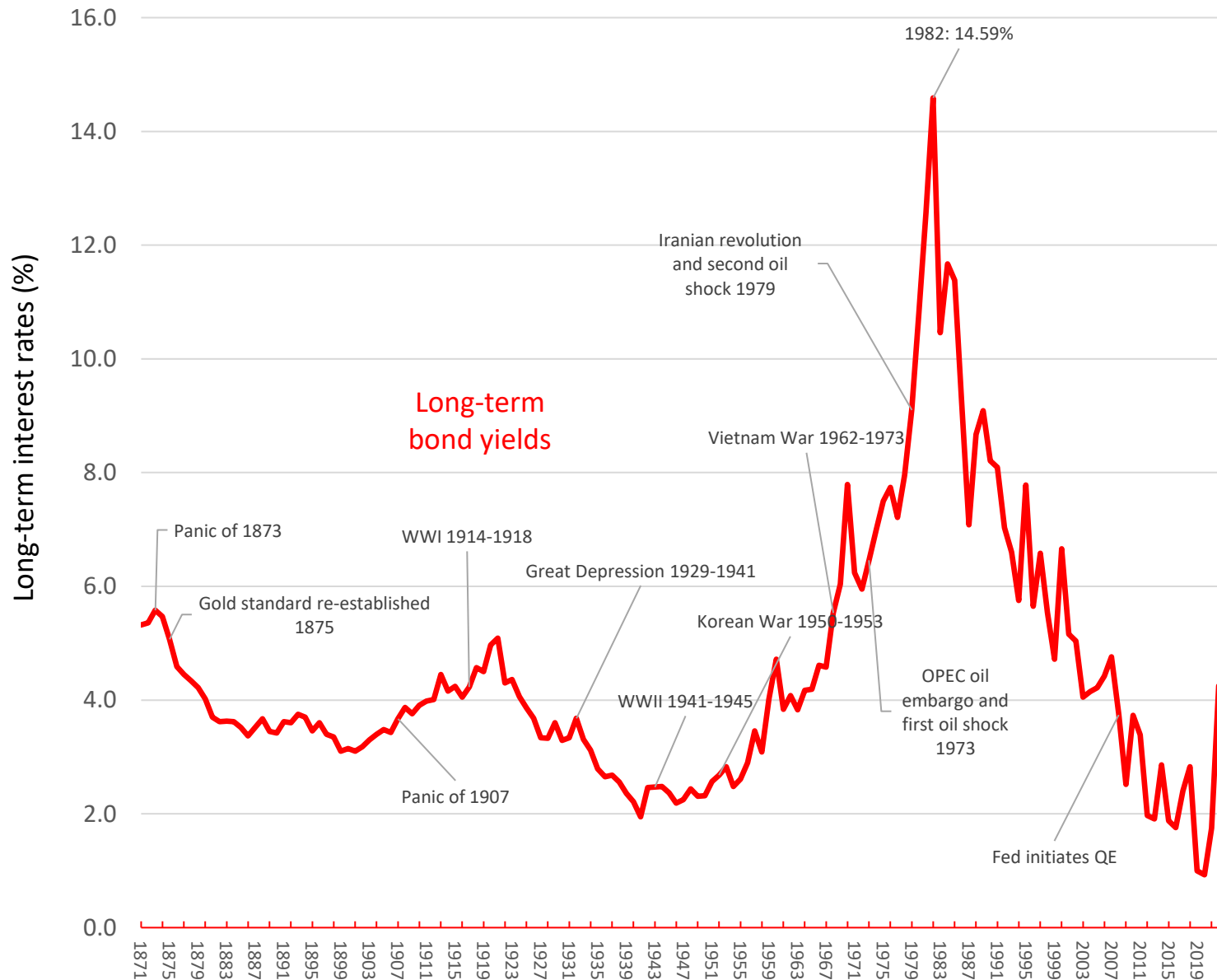
Source: I/B/E/S data by Refinitiv and Standard & Poor's.

# Bond Yields

- High-yield spread turned down
- Very low yields by historic comparison

# Bond yields

## U.S. Treasury bond yields



Rising from 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 2022.

## Fed policy



## THE WALL STREET JOURNAL.

### Fed Lifts Rates, Signals ‘Ways to Go’

After the decision, Chairman Jerome Powell said officials would contemplate a smaller hike at their next meeting in December. But he cautioned that they might raise borrowing costs next year more than they have projected.

“The question of when to moderate the pace of increases is now much less important than the question of how high to raise rates and how long to keep monetary policy restrictive,” he said at a news conference.

Mr. Powell also warned that reducing the size of rate increases didn’t mean the Fed thought it was close to pivoting away from raising rates.

“It is very premature to be thinking about pausing,” Mr. Powell said. “We think we have a ways to go.”

# Chairman Powell – hawkish speech, pain to come

August 26, 2022

## *Monetary Policy and Price Stability*

Chair Jerome H. Powell

At “Reassessing Constraints on the Economy and Policy,” an economic policy symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming

The Federal Open Market Committee's (FOMC) overarching focus right now is to bring inflation back down to our 2 percent goal.

While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring some pain to households and businesses.

At his September 21 press conference, Powell mentioned the words “pain” or “painful” seven times.

# Federal Reserve

## Central tendency forecast

For release at 2:00 p.m., EDT, September 21, 2022

**Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, September 2022**

Percent

Variable	Median <sup>1</sup>					Central Tendency <sup>2</sup>					Range <sup>3</sup>				
	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run
Change in real GDP	0.2	1.2	1.7	1.8	1.8	0.1–0.3	0.5–1.5	1.4–2.0	1.6–2.0	1.7–2.0	0.0–0.5	-0.3–1.9	1.0–2.6	1.4–2.4	1.6–2.2
June projection	1.7	1.7	1.9		1.8	1.5–1.9	1.3–2.0	1.5–2.0		1.8–2.0	1.0–2.0	0.8–2.5	1.0–2.2		1.6–2.2
Unemployment rate	3.8	4.4	4.4	4.3	4.0	3.8–3.9	4.1–4.5	4.0–4.6	4.0–4.5	3.8–4.3	3.7–4.0	3.7–5.0	3.7–4.7	3.7–4.6	3.5–4.5
June projection	3.7	3.9	4.1		4.0	3.6–3.8	3.8–4.1	3.9–4.1		3.5–4.2	3.2–4.0	3.2–4.5	3.2–4.3		3.5–4.3
PCE inflation	5.4	2.8	2.3	2.0	2.0	5.3–5.7	2.6–3.5	2.1–2.6	2.0–2.2	2.0	5.0–6.2	2.4–4.1	2.0–3.0	2.0–2.5	2.0
June projection	5.2	2.6	2.2		2.0	5.0–5.3	2.4–3.0	2.0–2.5		2.0	4.8–6.2	2.3–4.0	2.0–3.0		2.0
Core PCE inflation <sup>4</sup>	4.5	3.1	2.3	2.1		4.4–4.6	3.0–3.4	2.2–2.5	2.0–2.2		4.3–4.8	2.8–3.5	2.0–2.8	2.0–2.5	
June projection	4.3	2.7	2.3			4.2–4.5	2.5–3.2	2.1–2.5			4.1–5.0	2.5–3.5	2.0–2.8		
Memo: Projected appropriate policy path															
Federal funds rate	4.4	4.6	3.9	2.9	2.5	4.1–4.4	4.4–4.9	3.4–4.4	2.4–3.4	2.3–2.5	3.9–4.6	3.9–4.9	2.6–4.6	2.4–4.6	2.3–3.0
June projection	3.4	3.8	3.4		2.5	3.1–3.6	3.6–4.1	2.9–3.6		2.3–2.5	3.1–3.9	2.9–4.4	2.1–4.1		2.0–3.0

# Federal Reserve policy

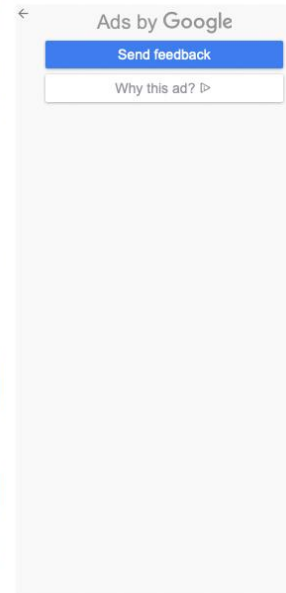
## Susan Collins ... soft landing is possible

### Transcript: WSJ Interview With Boston Fed President Susan Collins

Fed official says interest rate increases can now be 'deliberate and more measured'



Federal Reserve Bank of Boston President Susan Collins.  
PHOTO: FEDERAL RESERVE BANK OF BOSTON/VIA REUTERS



“We’re going to have to tighten further and then hold for some time. I am optimistic that there is a pathway that would not require a significant slowdown.

... But I do worry that the presumption by some that a recession is almost inevitable is not helpful because I truly do not see it that way.”

By [Nick Timiraos](#)  
Nov. 4, 2022 5:24 pm ET

# Inflation

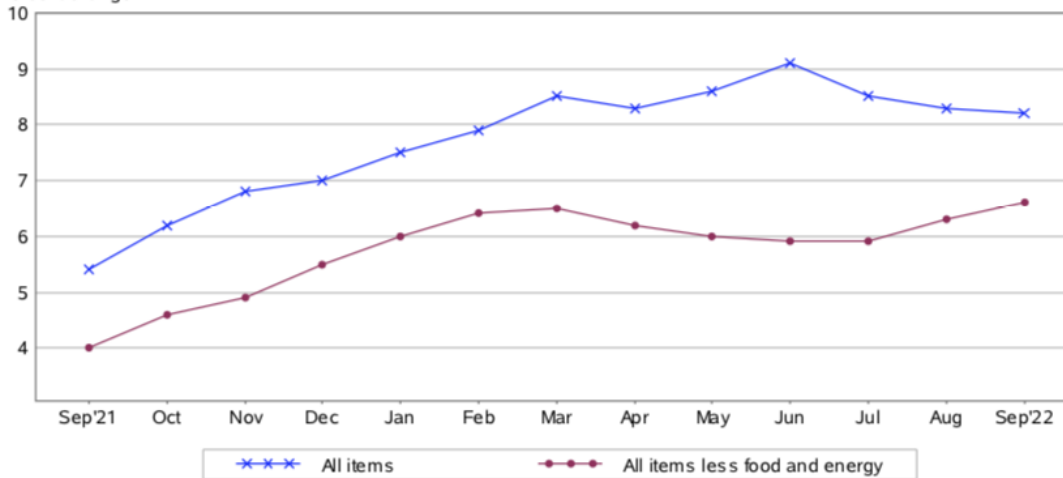
- headline PCED +6.2%, +5.1% core
- inflation breaking 10-year trend
- demand shock driving inflation
- M2 driving inflation
- inflation expectations (TIPS spread) falling
- productivity offsets rising employment costs

# Inflation

## CPI – headline and core

Chart 2. 12-month percent change in CPI for All Urban Consumers (CPI-U), not seasonally adjusted, Sep. 2021 - Sep. 2022

Percent change



Up +8.2% y/y in September.

Up +6.6% y/y in September.

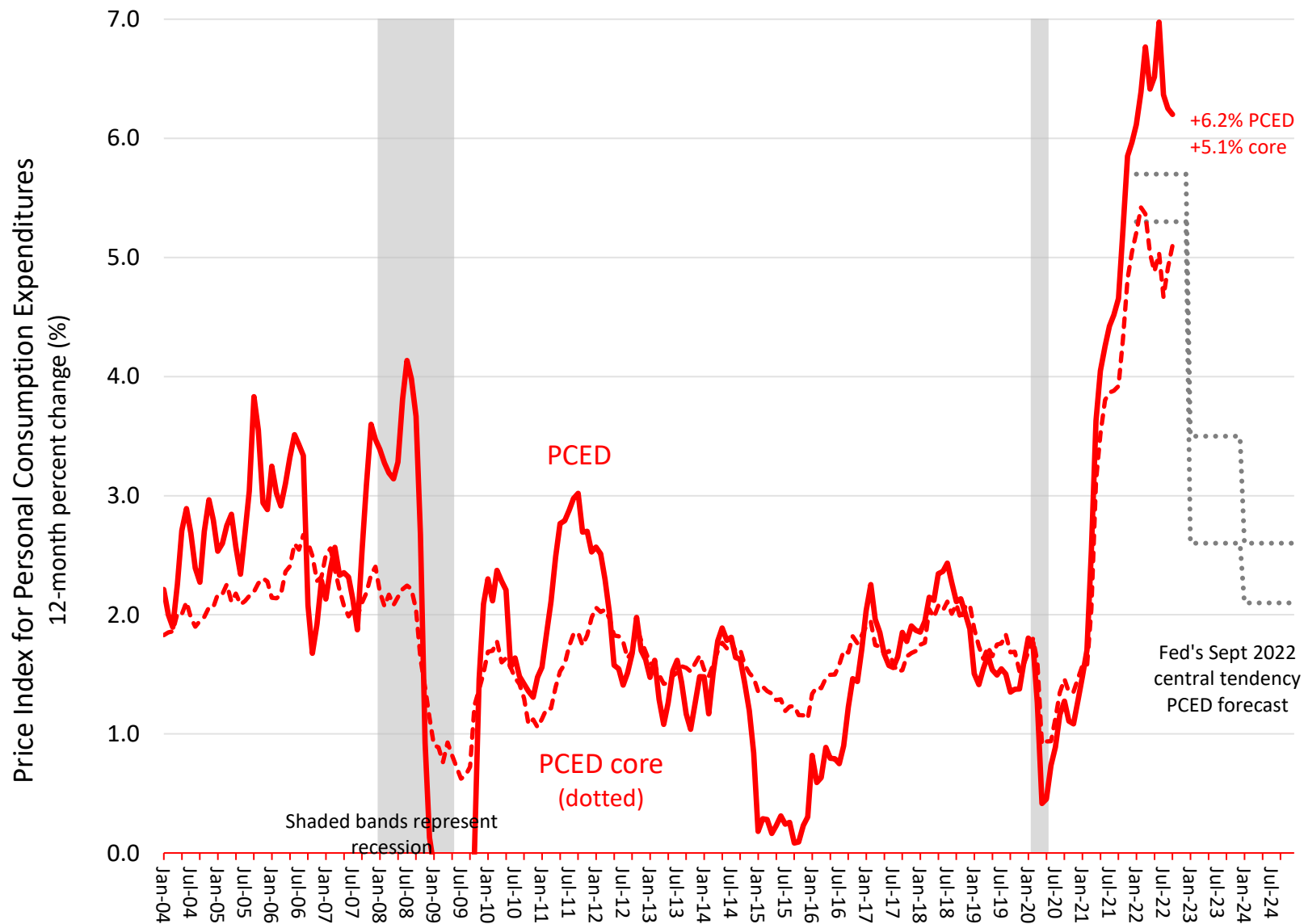
Table A. Percent changes in CPI for All Urban Consumers (CPI-U): U.S. city average

	Seasonally adjusted changes from preceding month							Un-adjusted 12-mos. ended Sep. 2022
	Mar. 2022	Apr. 2022	May 2022	Jun. 2022	Jul. 2022	Aug. 2022	Sep. 2022	
All items.....	1.2	0.3	1.0	1.3	0.0	0.1	0.4	8.2
Food.....	1.0	0.9	1.2	1.0	1.1	0.8	0.8	11.2
Food at home.....	1.5	1.0	1.4	1.0	1.3	0.7	0.7	13.0
Food away from home <sup>1</sup> .....	0.3	0.6	0.7	0.9	0.7	0.9	0.9	8.5
Energy.....	11.0	-2.7	3.9	7.5	-4.6	-5.0	-2.1	19.8
Energy commodities.....	18.1	-5.4	4.5	10.4	-7.6	-10.1	-4.7	19.7
Gasoline (all types).....	18.3	-6.1	4.1	11.2	-7.7	-10.6	-4.9	18.2
Fuel oil <sup>1</sup> .....	22.3	2.7	16.9	-1.2	-11.0	-5.9	-2.7	58.1
Energy services.....	1.8	1.3	3.0	3.5	0.1	2.1	1.1	19.8
Electricity.....	2.2	0.7	1.3	1.7	1.6	1.5	0.4	15.5
Utility (piped) gas service.....	0.6	3.1	8.0	8.2	-3.6	3.5	2.9	33.1
All items less food and energy.....	0.3	0.6	0.6	0.7	0.3	0.6	0.6	6.6
Commodities less food and energy								
commodities.....	-0.4	0.2	0.7	0.8	0.2	0.5	0.0	6.6
New vehicles.....	0.2	1.1	1.0	0.7	0.6	0.8	0.7	9.4
Used cars and trucks.....	-3.8	-0.4	1.8	1.6	-0.4	-0.1	-1.1	7.2
Apparel.....	0.6	-0.8	0.7	0.8	-0.1	0.2	-0.3	5.5
Medical care commodities <sup>1</sup> .....	0.2	0.1	0.3	0.4	0.6	0.2	-0.1	3.7
Services less energy services.....	0.6	0.7	0.6	0.7	0.4	0.6	0.8	6.7
Shelter.....	0.5	0.5	0.6	0.6	0.5	0.7	0.7	6.6
Transportation services.....	2.0	3.1	1.3	2.1	-0.5	0.5	1.9	14.6
Medical care services.....	0.6	0.5	0.4	0.7	0.4	0.8	1.0	6.5

<sup>1</sup> Not seasonally adjusted.

# Inflation

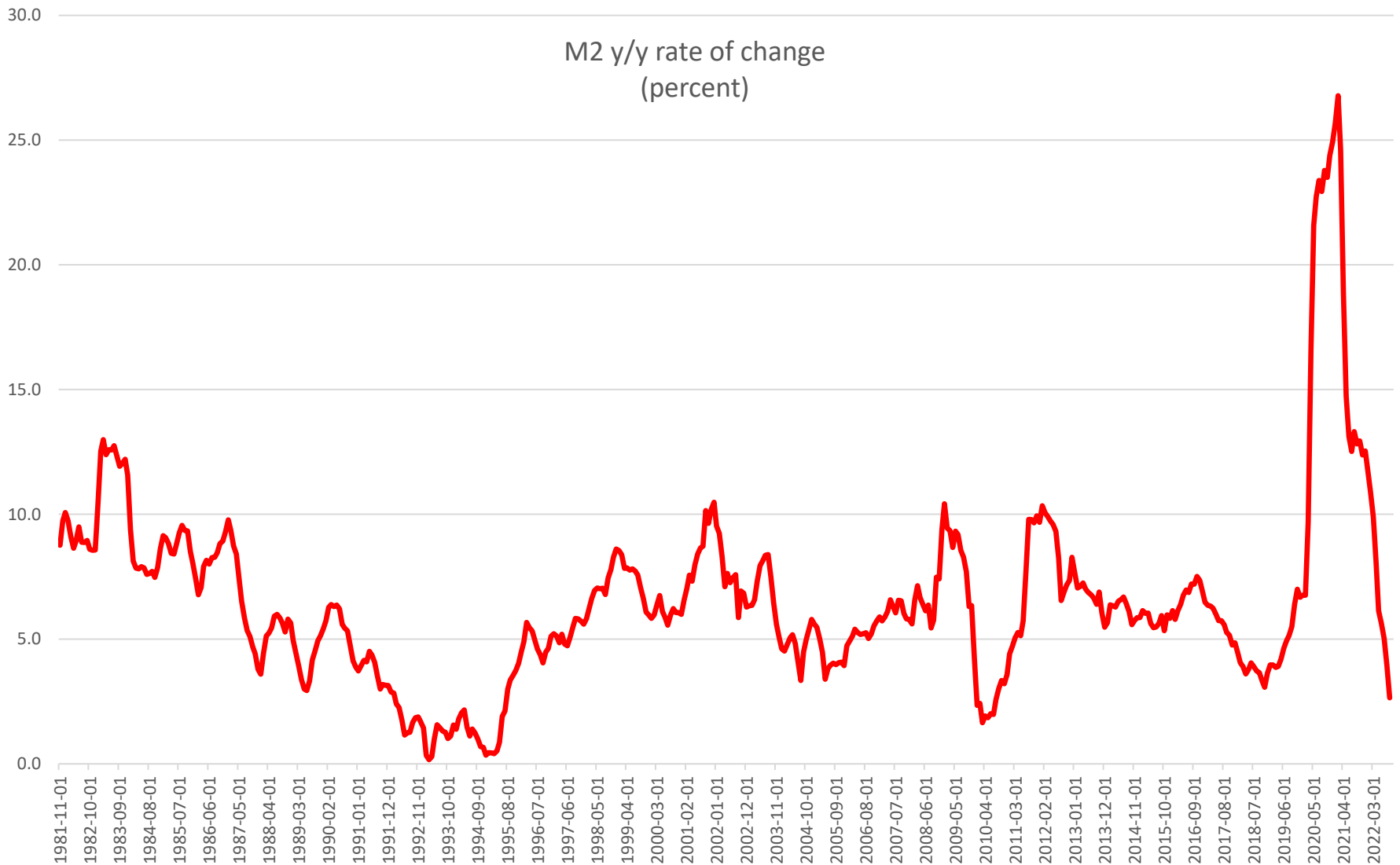
## PCED – headline and core



Inflation looks to have peaked, following the post-Covid surge.

# Federal Reserve policy

## The money supply – y/y rate of change



Source: Federal Reserve Bank of St. Louis. Data through September 2022.

## THE WALL STREET JOURNAL.

# Why Inflation Is on the Way Down

Yet the relationship between money-supply growth, as measured by M2 and subsequent inflation has been statistically near-perfect in the pandemic era, with a 13-month lag. Year-over-year M2 growth began to accelerate during the pandemic recession in April 2020, and core inflation started to accelerate 13 months later, in May 2021. M2 growth peaked at a history making, off-the-charts 27% in February 2021, and core CPI peaked 13 months later, in March 2022. Both M2 growth and core CPI have been falling every month since their respective peaks.

Experience is proving, 40 years after Friedman taught Volcker, that inflation is still a monetary phenomenon.

If the relationship with inflation continues, core inflation will be at only 2.3% in 13 months, in June 2023.

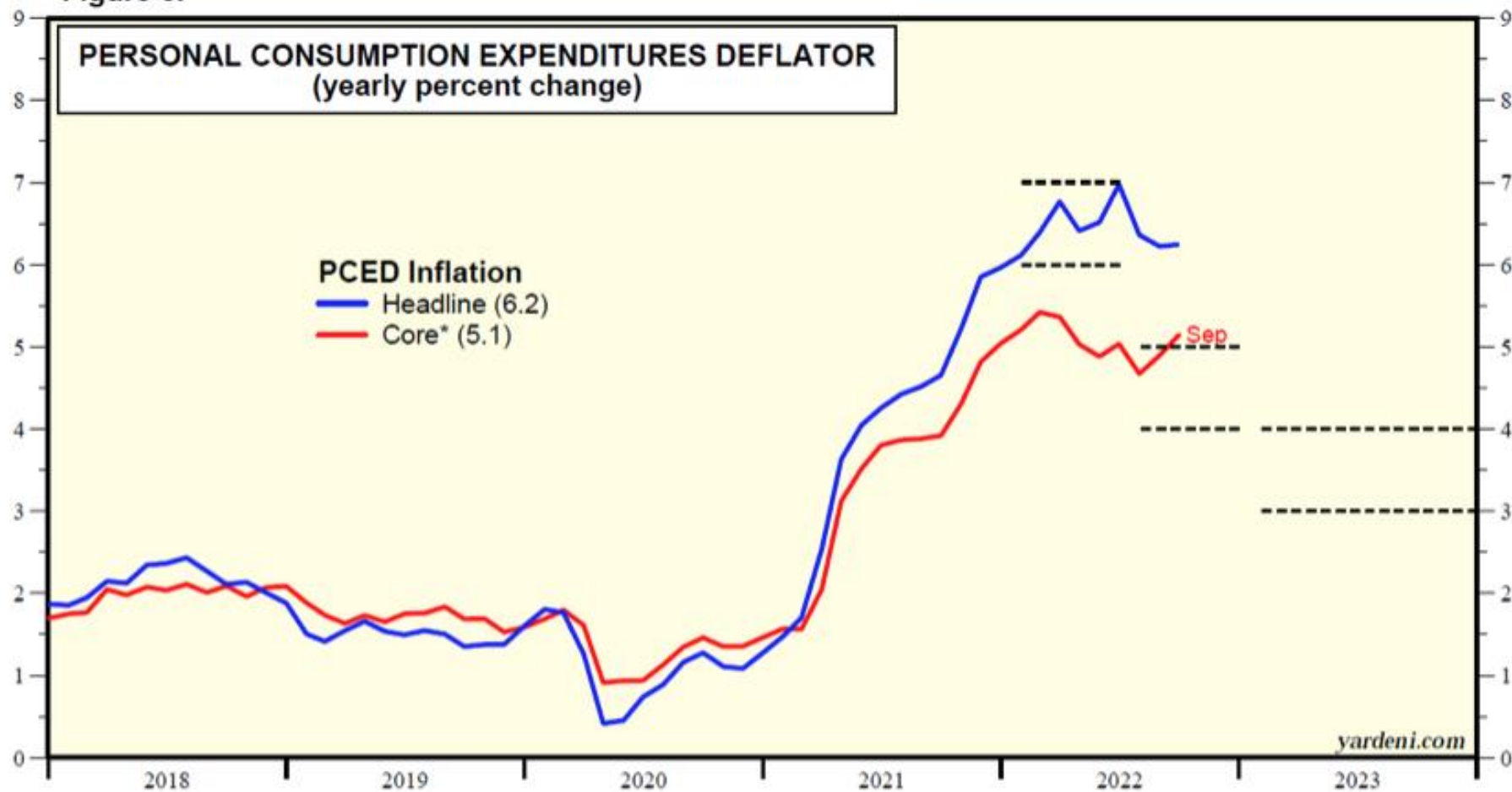
# Economy

## Demand shock driving inflation



Sources: Bureau of Economic Analysis, quarterly data through September 2022.

Figure 6.



\* Excluding food & energy.

Note: Dashed ranges are YRI forecasts for headline PCED inflation rate.

Source: Bureau of Economic Analysis.

## THE WALL STREET JOURNAL.

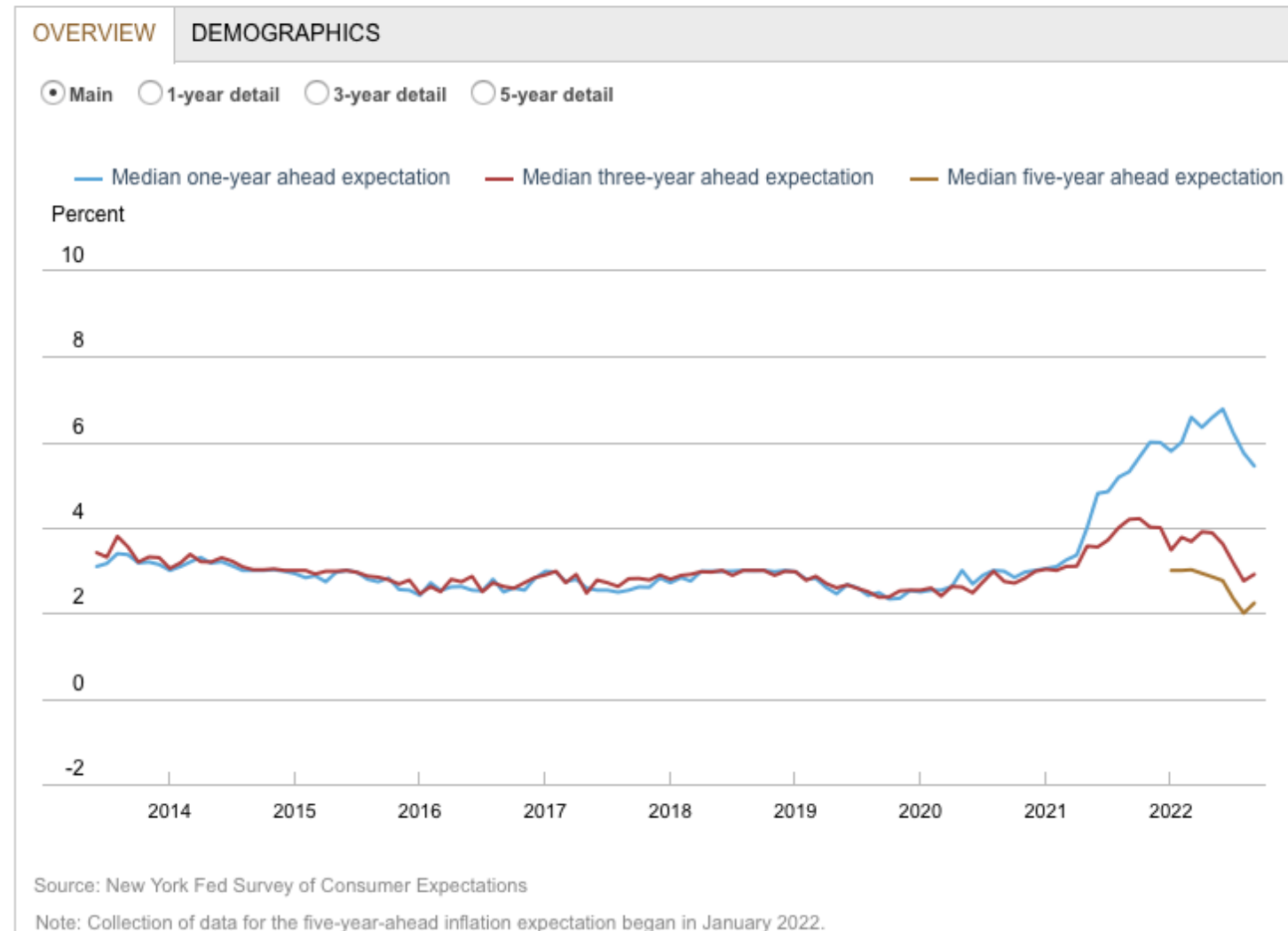
JPMorgan Chase's decomposition of the CPI leads it to project headline inflation falling from 8.2% this past September to 3.2% next September. UBS, using a similar exercise, sees it hitting 2% by December of next year. Inflation-linked bonds and derivatives have reached a similar conclusion, projecting headline inflation of 2.9% a year from now, according to Intercontinental Exchange.

# Inflation

## Inflation expectations

### Inflation expectations

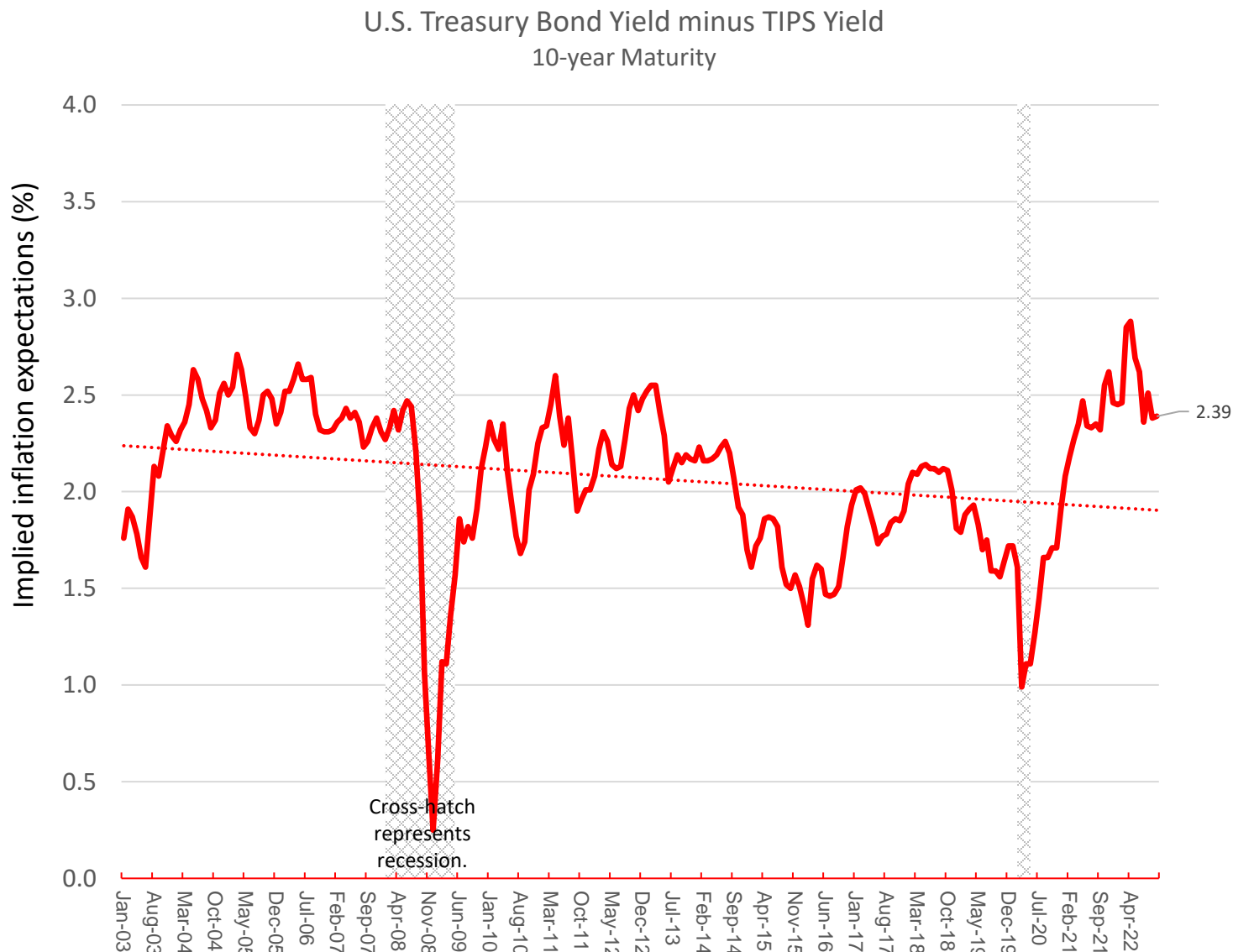
Median one-, three-, and five-year ahead expected inflation rate



Consumers expect substantially moderating inflation.

# Inflation

## Inflation expectations

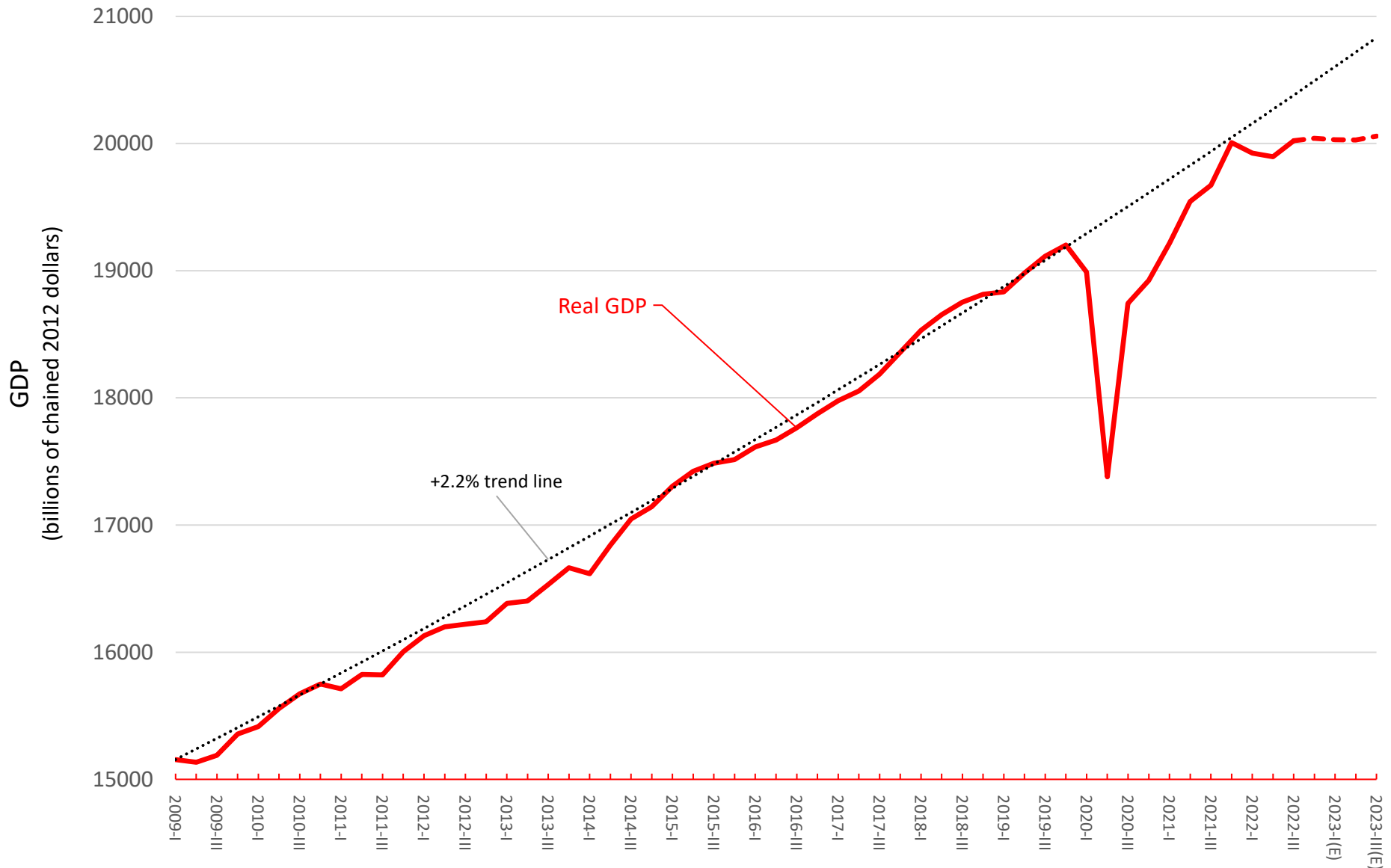


The difference between the nominal 10-year Treasury bond yield and the TIPS yield gives the market's opinion for a 10-year inflation forecast.

It had been trending lower for 15 years but has moved higher post-Covid.

# GDP forecast

## V-shaped recovery from Covid, followed by slowing growth

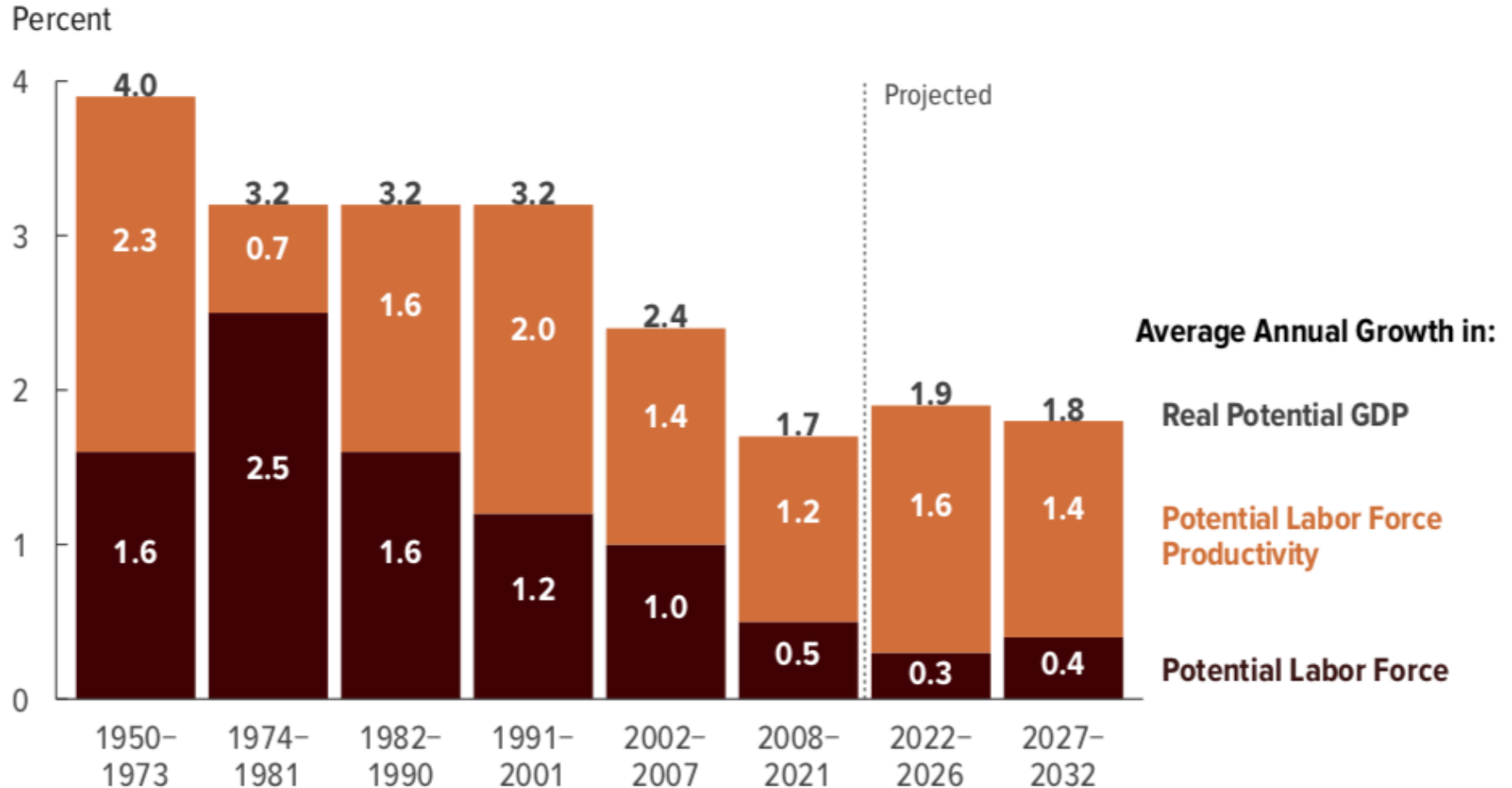


Sources: Bureau of Economic Analysis, actual quarterly data through September 2022. *The Wall Street Journal* survey released October 2022.

GDP growth potential =  $\Delta$  productivity +  $\Delta$  labor force  
CBO's potential growth calculations

Figure 2-6.

## Composition of the Growth of Real Potential GDP



# 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.

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