WEALTH ADVISORS

TRUST MATTERS.

November 2023

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.

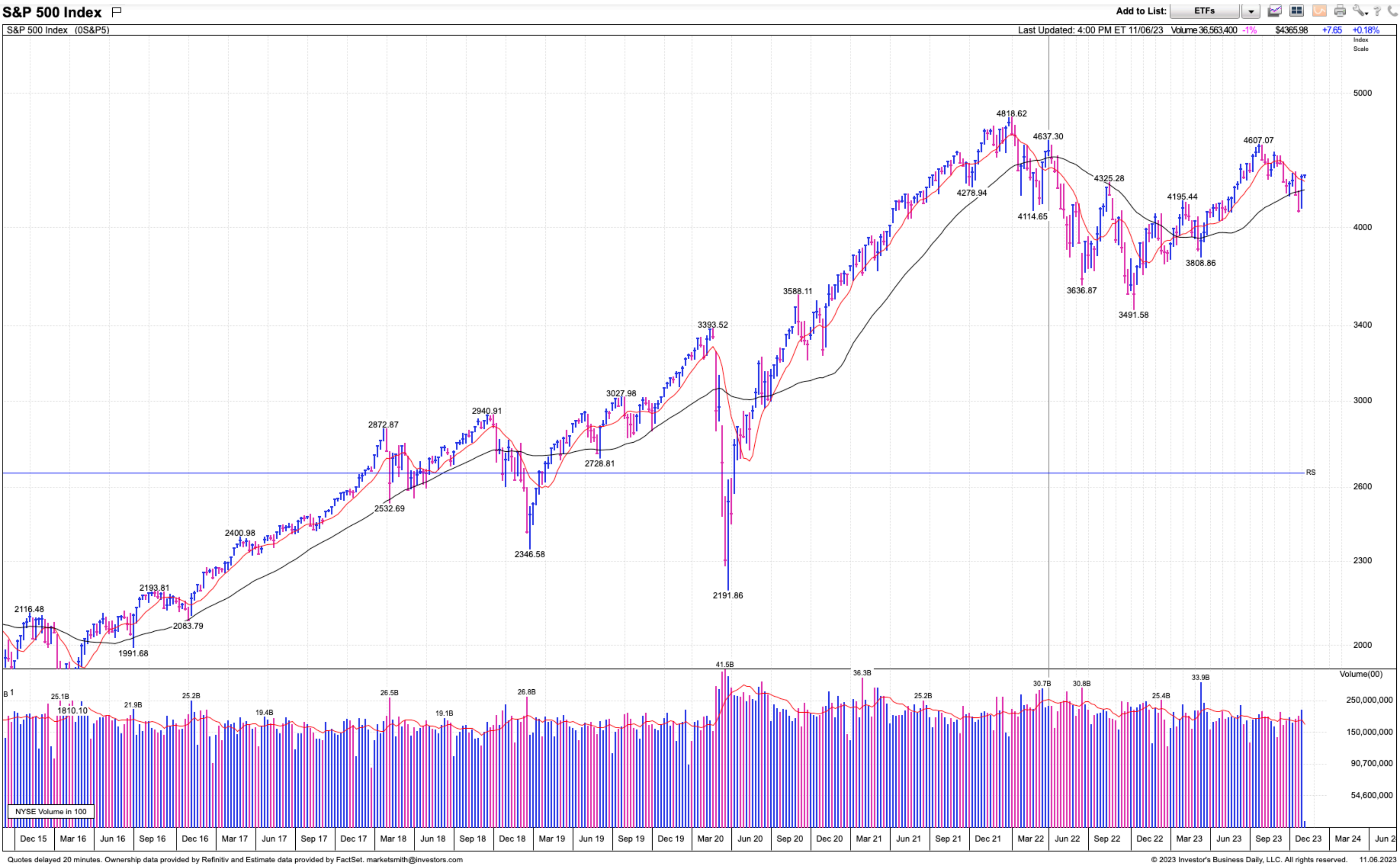
Foreign securities have additional risks, including exchange rate changes, political and economic upheaval, the relative lack of information about these companies, relatively low market liquidity and the potential lack of strict financial and accounting controls and standards.

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.

Stock market

S&P 500



Source: Standard & Poor's and MarketSmith, Inc. Data through November 6, 2023.

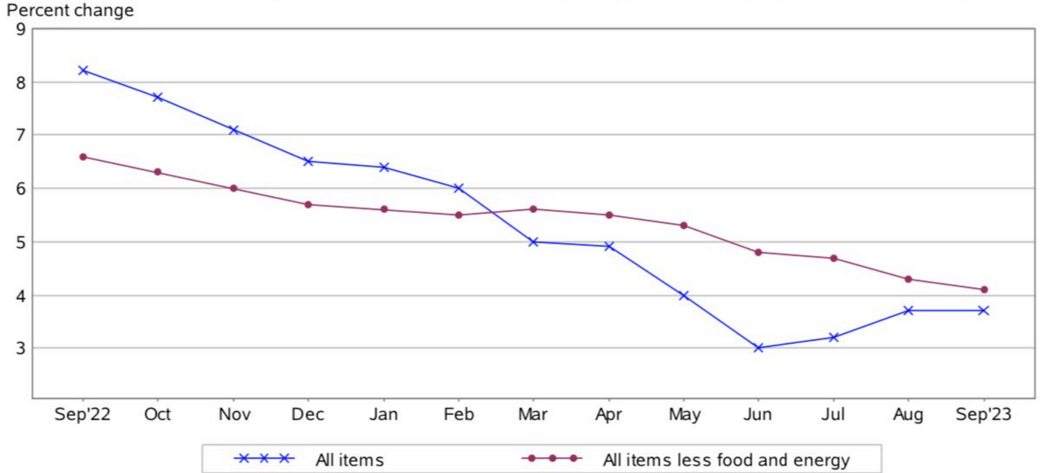
How to explain the stock market in 2023?

- Cooler inflation
- No recession
- Rising earnings
- Fed finished?

Inflation

CPI – headline and core

Chart 2. 12-month percent change in CPI for All Urban Consumers (CPI-U), not seasonally adjusted, Sep. 2022 - Sep. 2023



Core up +4.1% y/y in September.

Up +3.7% y/y in September.

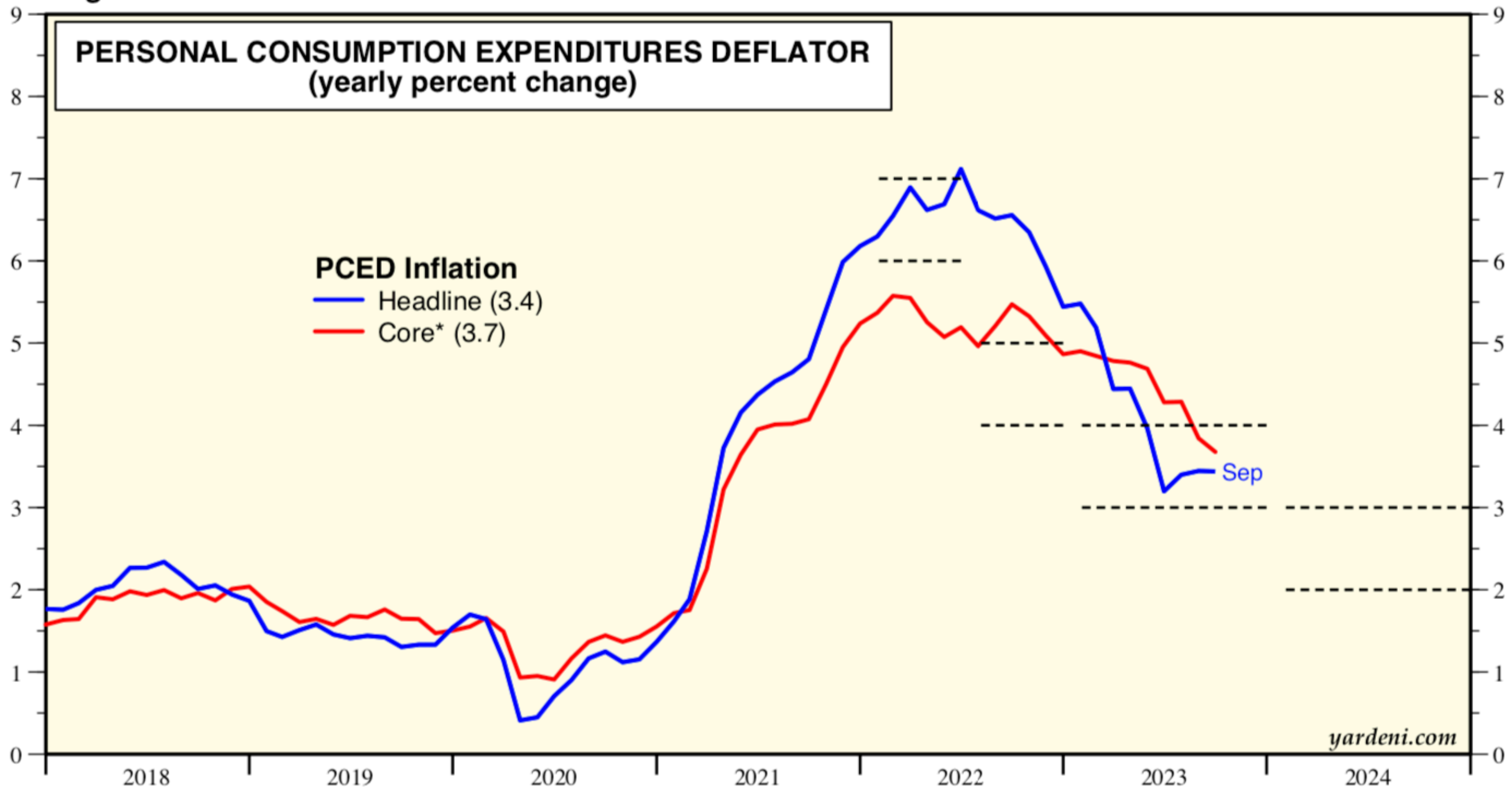
Table A. Percent changes in CPI for All Urban Consumers (CPI-U): U.S. city average

	Seasonally adjusted changes from preceding month							Un-adjusted 12-mos. ended Sep. 2023
	Mar. 2023	Apr. 2023	May 2023	Jun. 2023	Jul. 2023	Aug. 2023	Sep. 2023	
All items	0.1	0.4	0.1	0.2	0.2	0.6	0.4	3.7
Food	0.0	0.0	0.2	0.1	0.2	0.2	0.2	3.7
Food at home	-0.3	-0.2	0.1	0.0	0.3	0.2	0.1	2.4
Food away from home[1]	0.6	0.4	0.5	0.4	0.2	0.3	0.4	6.0
Energy	-3.5	0.6	-3.6	0.6	0.1	5.6	1.5	-0.5
Energy commodities	-4.6	2.7	-5.6	0.8	0.3	10.5	2.3	2.2
Gasoline (all types)	-4.6	3.0	-5.6	1.0	0.2	10.6	2.1	3.0
Fuel oil[1]	-4.0	-4.5	-7.7	-0.4	3.0	9.1	8.5	-5.1
Energy services	-2.3	-1.7	-1.4	0.4	-0.1	0.2	0.6	-3.3
Electricity	-0.7	-0.7	-1.0	0.9	-0.7	0.2	1.3	2.6
Utility (piped) gas service	-7.1	-4.9	-2.6	-1.7	2.0	0.1	-1.9	-19.9
All items less food and energy	0.4	0.4	0.4	0.2	0.2	0.3	0.3	4.1
Commodities less food and energy commodities	0.2	0.6	0.6	-0.1	-0.3	-0.1	-0.4	0.0
New vehicles	0.4	-0.2	-0.1	0.0	-0.1	0.3	0.3	2.5
Used cars and trucks	-0.9	4.4	4.4	-0.5	-1.3	-1.2	-2.5	-8.0
Apparel	0.3	0.3	0.3	0.3	0.0	0.2	-0.8	2.3
Medical care commodities[1]	0.6	0.5	0.6	0.2	0.5	0.6	-0.3	4.2
Services less energy services	0.4	0.4	0.4	0.3	0.4	0.4	0.6	5.7
Shelter	0.6	0.4	0.6	0.4	0.4	0.3	0.6	7.2
Transportation services	1.4	-0.2	0.8	0.1	0.3	2.0	0.7	9.1
Medical care services	-0.5	-0.1	-0.1	0.0	-0.4	0.1	0.3	-2.6

Source: BLS. Data through September 2023.

Ed Yardeni's inflation forecast

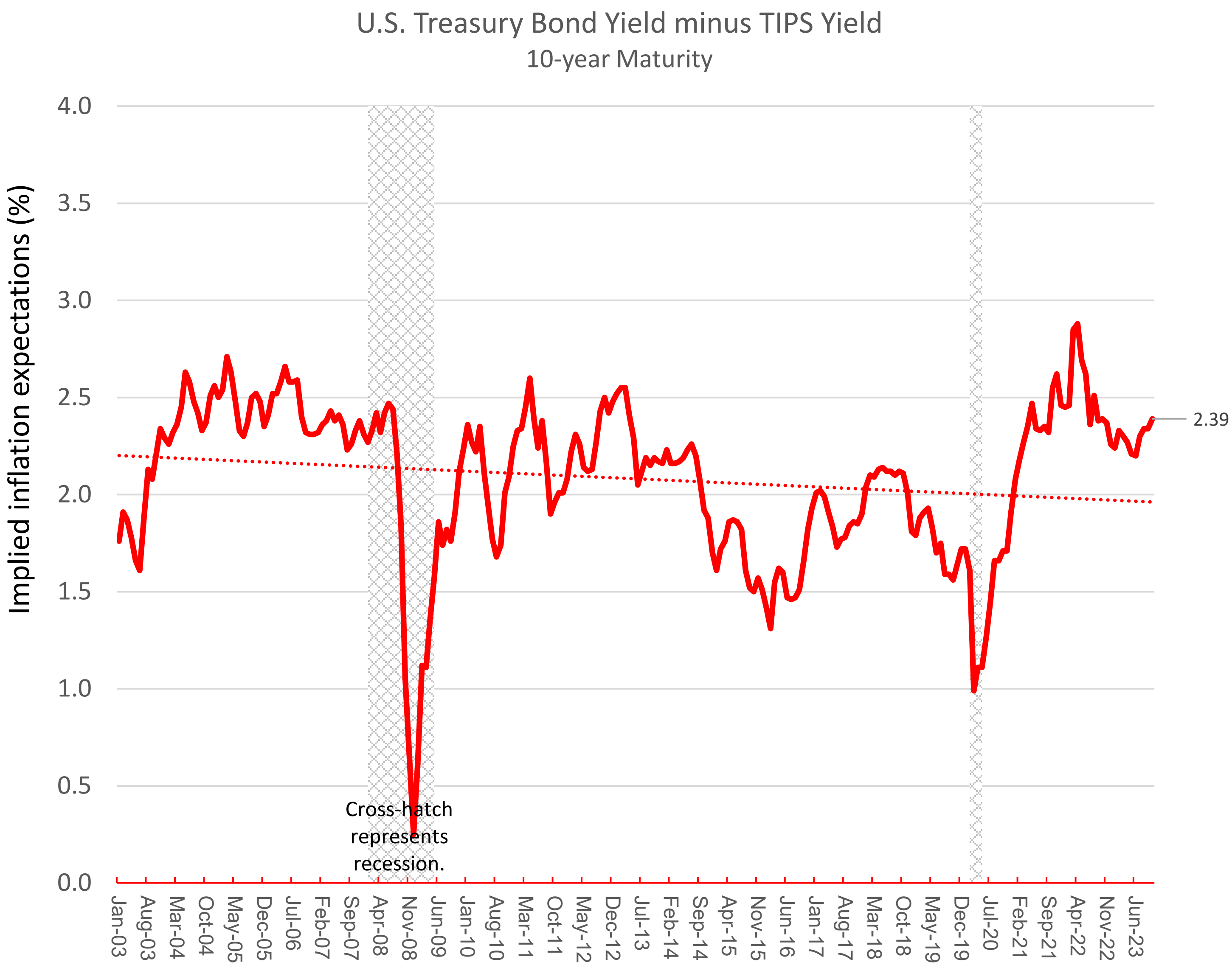
Figure 2.



* Excluding food & energy.
Note: Dashed ranges are YRI forecasts for both headline and core PCED inflation rates.
Source: Bureau of Economic Analysis.

Source: Yardeni Research, Inc., with permission, October 27, 2023.

Inflation expectations – well anchored



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.

Source: Federal Reserve. Data through October 2023.

No recession

THE WALL STREET JOURNAL.

The Improbably Strong Economy

A lot went right for the U.S. to avoid a recession
The economy is still generating jobs. A year ago, a lot of economists and Federal Reserve policy makers thought that it would be shedding them by now.

But the chances of the economy avoiding a recession seem stronger now than they did even a few months ago. A lot of that would be down to luck, but it would nonetheless be something worth celebrating.

Source: *The Wall Street Journal*, "The Improbably Strong Economy", by Justin Lahart, November 4-5, 2023.

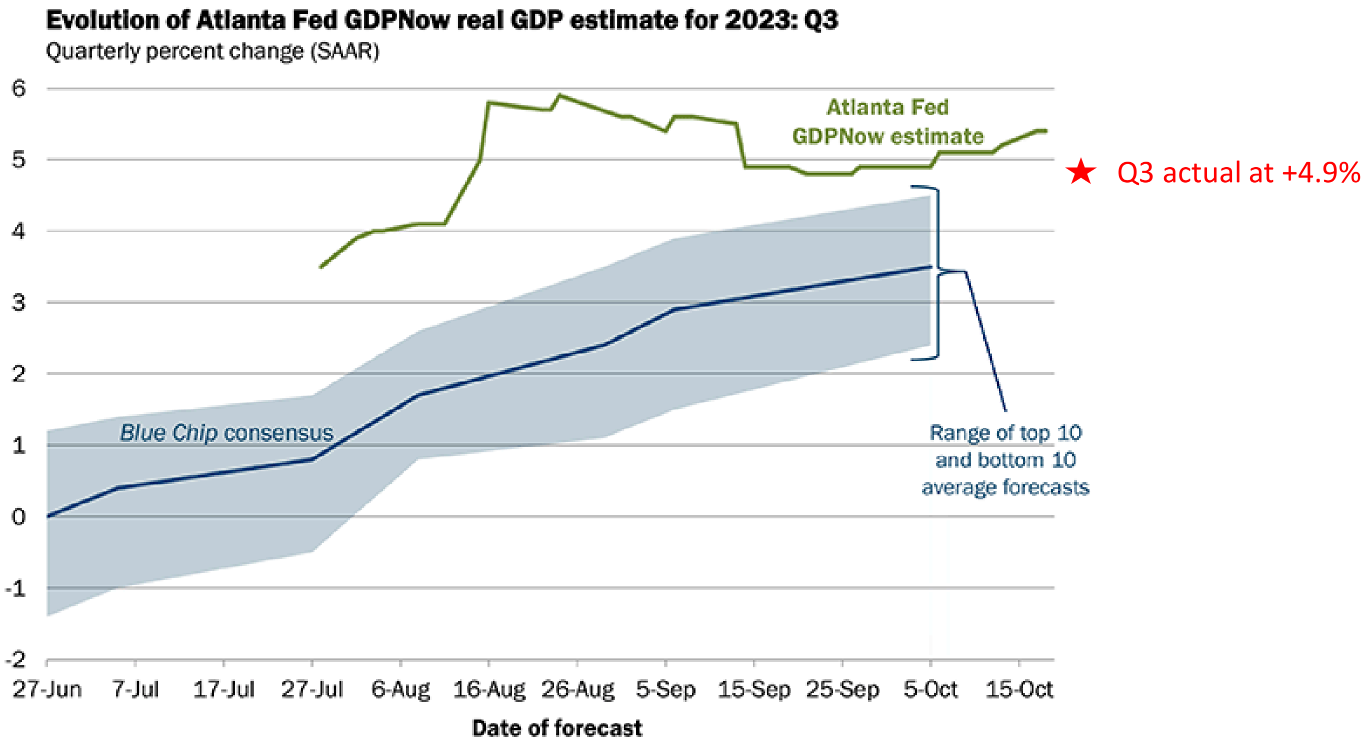
GDP forecast

Atlanta Fed's GDPNow forecast – 3rd quarter

Latest estimate: 5.4 percent -- October 18, 2023

The GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the third quarter of 2023 is **5.4 percent** on October 18, unchanged from October 17 after rounding. After this morning's housing starts report from the US Census Bureau, the nowcast of third-quarter real residential investment growth decreased from 5.5 percent to 4.8 percent.

The next GDPNow update is ***Wednesday, October 25****. Please see the "Release Dates" tab below for a list of upcoming releases.*

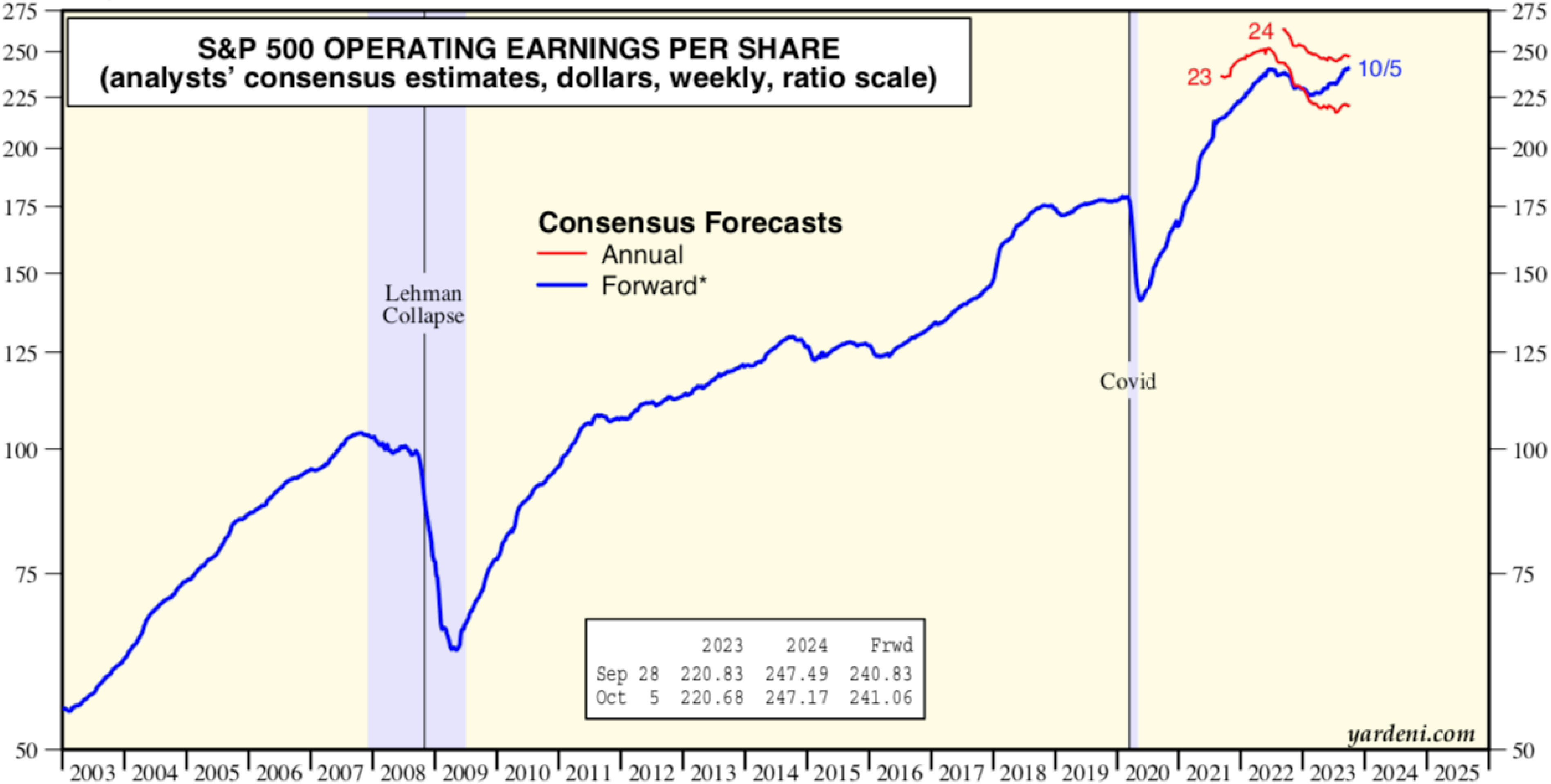


Sources: *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*
Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the *Blue Chip* survey.

Source: Federal Reserve Bank of Atlanta, October 18, 2023.

S&P forward earnings estimates moving higher

Figure 16.



* 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.

Source: Yardeni Research, Inc., with permission. October 12, 2023.

Diverging Data

Bad news

- LEI
- Inverted yield curve
- Weak Oct manufacturing PMI
- Weak housing starts
- Federal budget deficit

Good news

- Strong hiring data
- Strong Q3 GDP
- OK Oct services PMI
- Strong Sept car sales
- Strong Sept retail sales
- Consumers have cash – M2
- Wealth effect
- Strong corporate balance sheets
- Strong bank capital
- Inflation is moderating
- Fed finished?

Bad news

- LEI
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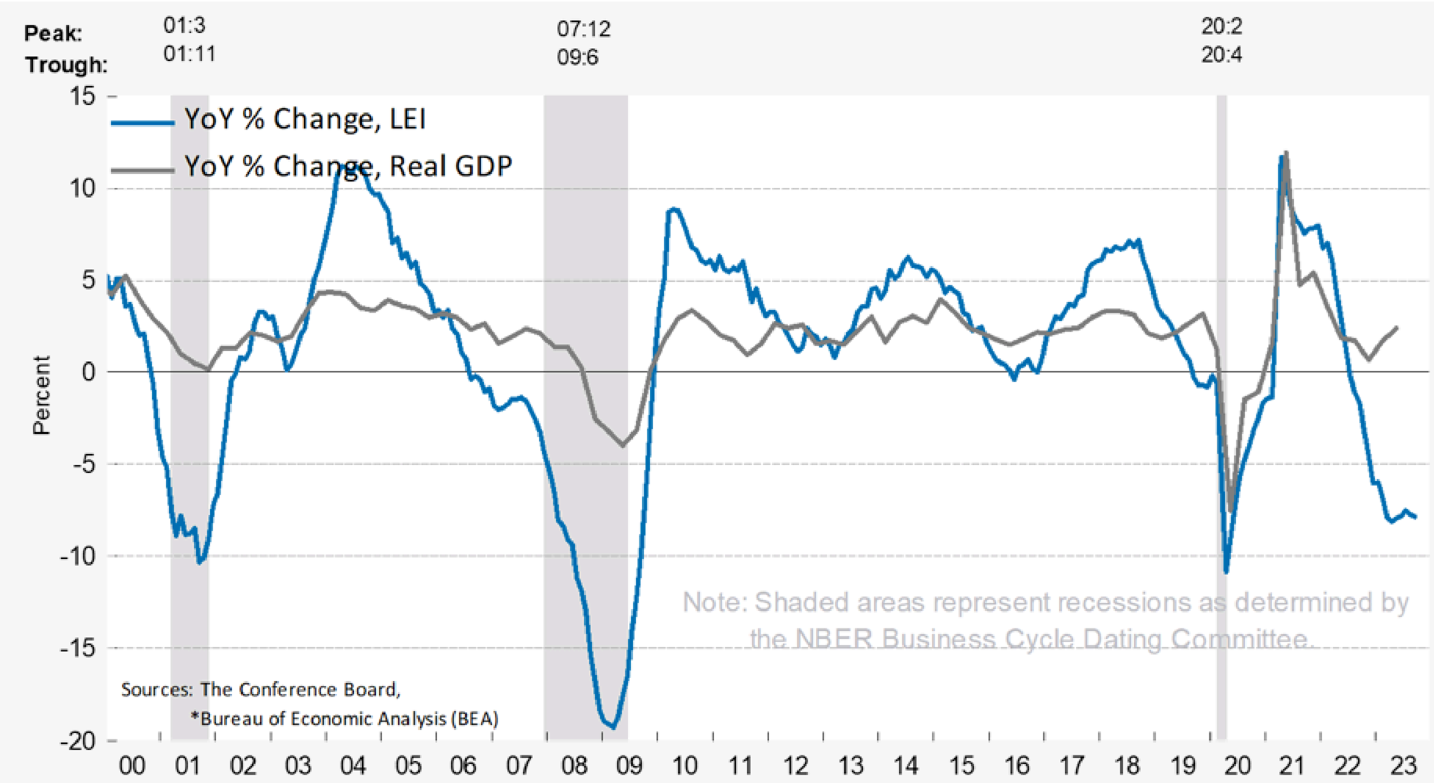
U.S. index of leading economic indicators – signaling recession



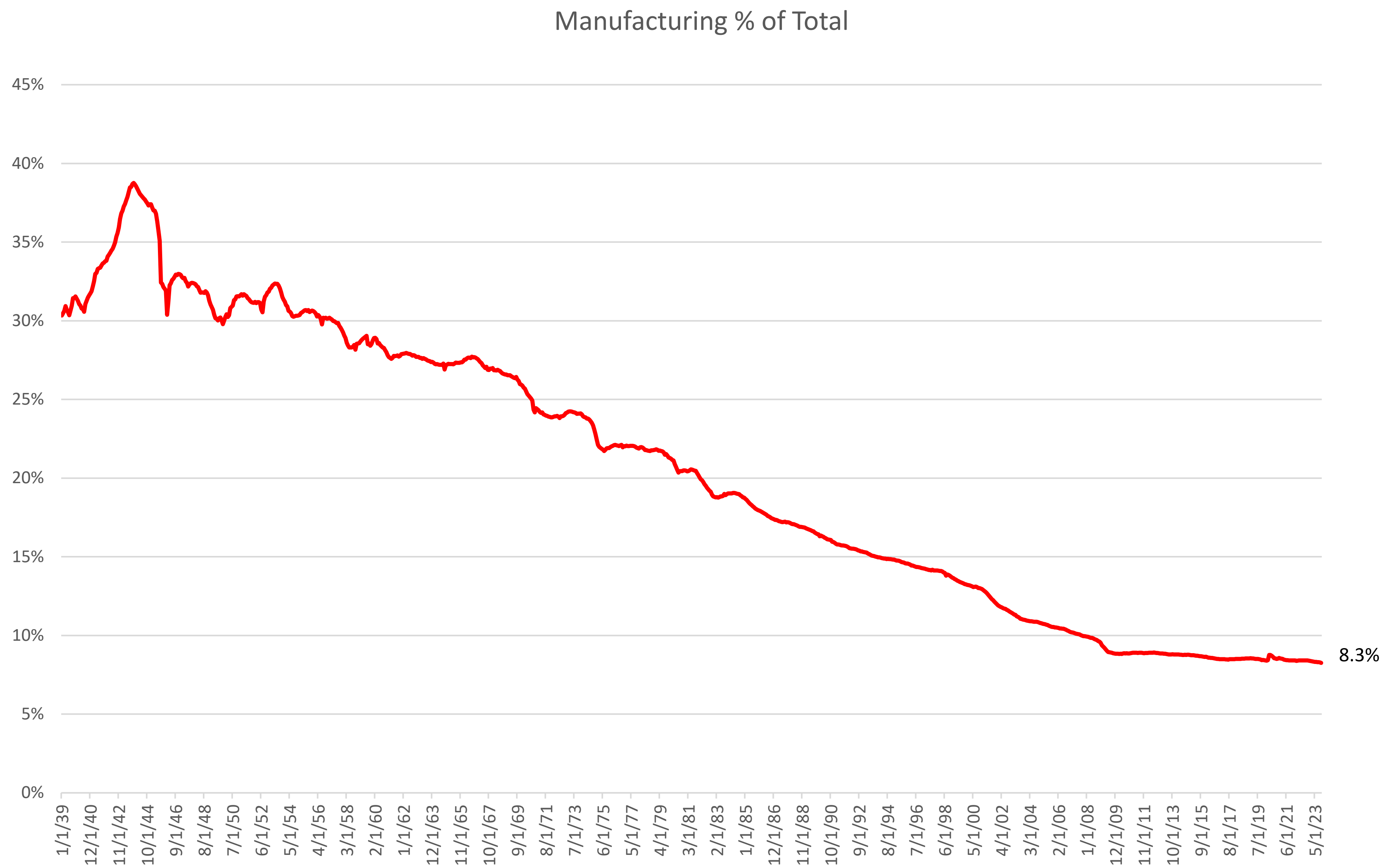
"So far, the US economy has shown considerable resilience despite pressures from rising interest rates and high inflation. Nonetheless, The Conference Board forecasts that this trend will not be sustained for much longer, and <u>a shallow recession is likely in the first half of 2024</u>."

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, <u>manufacturing</u>; 2) average weekly initial unemployment claims; 3) <u>manufacturers'</u> new orders – consumer goods and materials; 4) ISM index of new orders; 5) <u>manufacturers'</u> 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 19, 2023.

Economic data

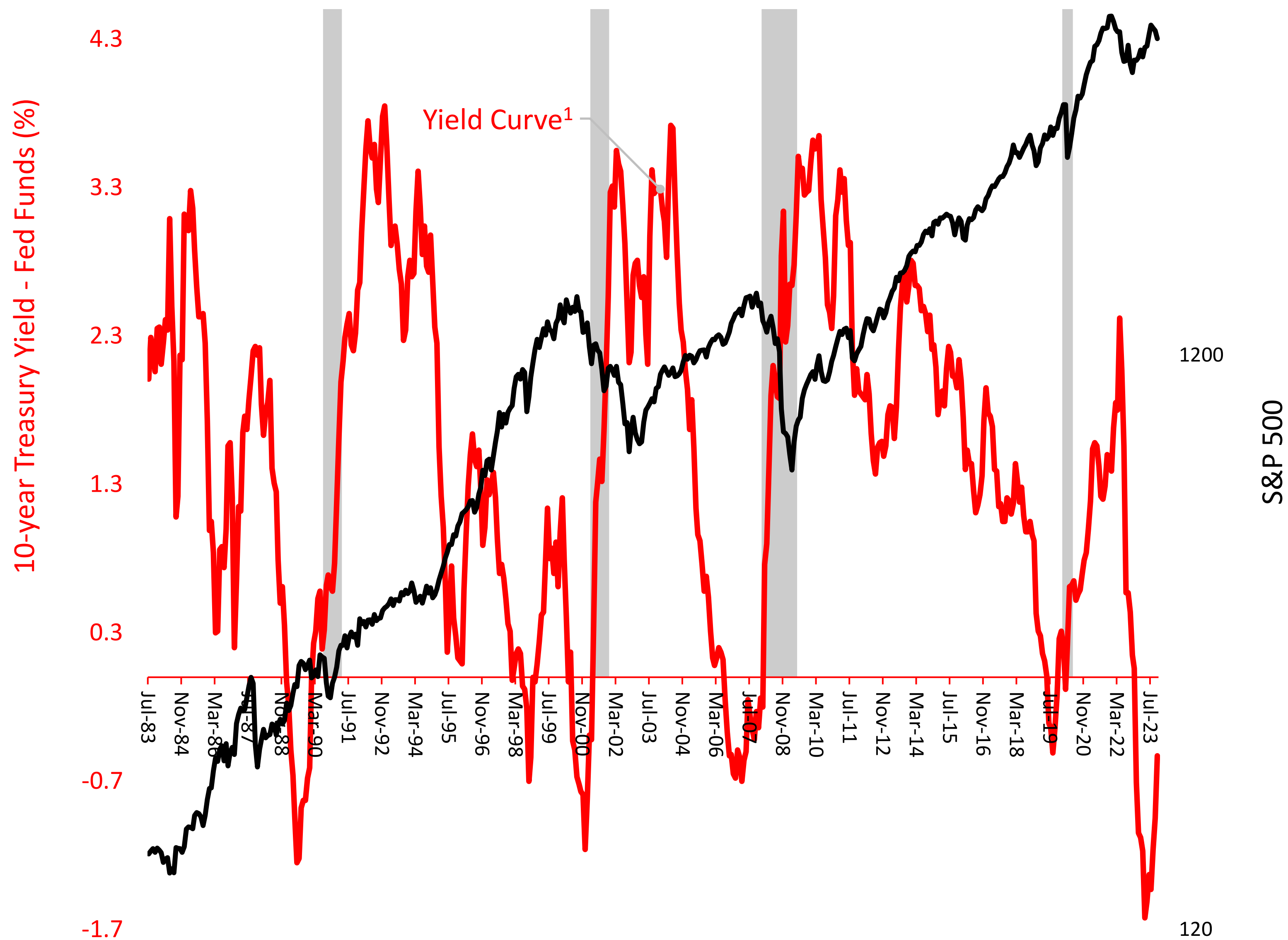
Manufacturing jobs % of total employment



Source: BLS. Data through October 2023.

Federal Reserve policy

Yield curve vs. the S&P 500



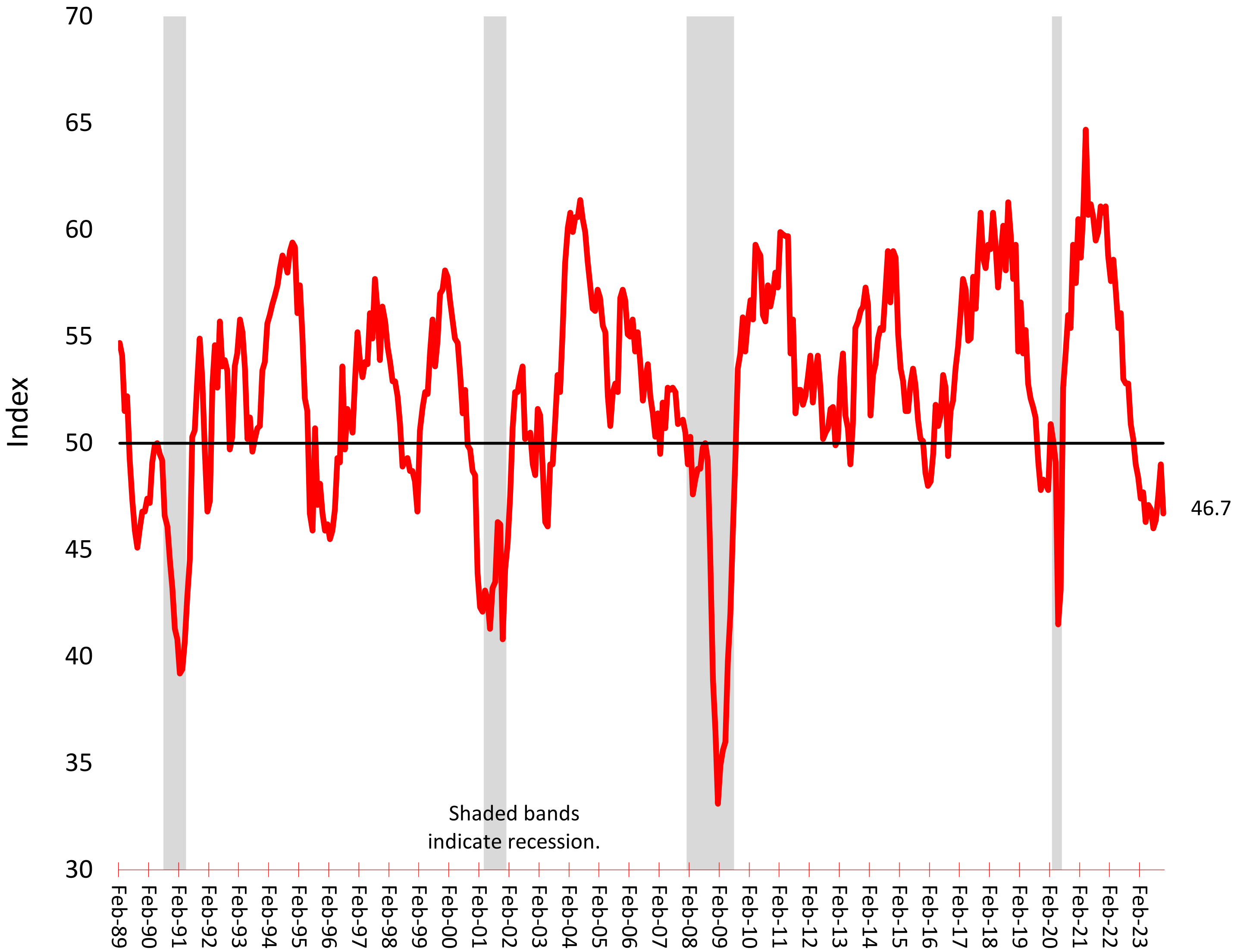
When the yield curve has inverted the economy has usually turned down into recession with a lag of a year or more.

Today, <u>the yield curve is inverted</u>.

Sources: NBER, Federal Reserve and Standard & Poor's. Data through October 2023.

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

ISM manufacturing PMI



October at 46.7.

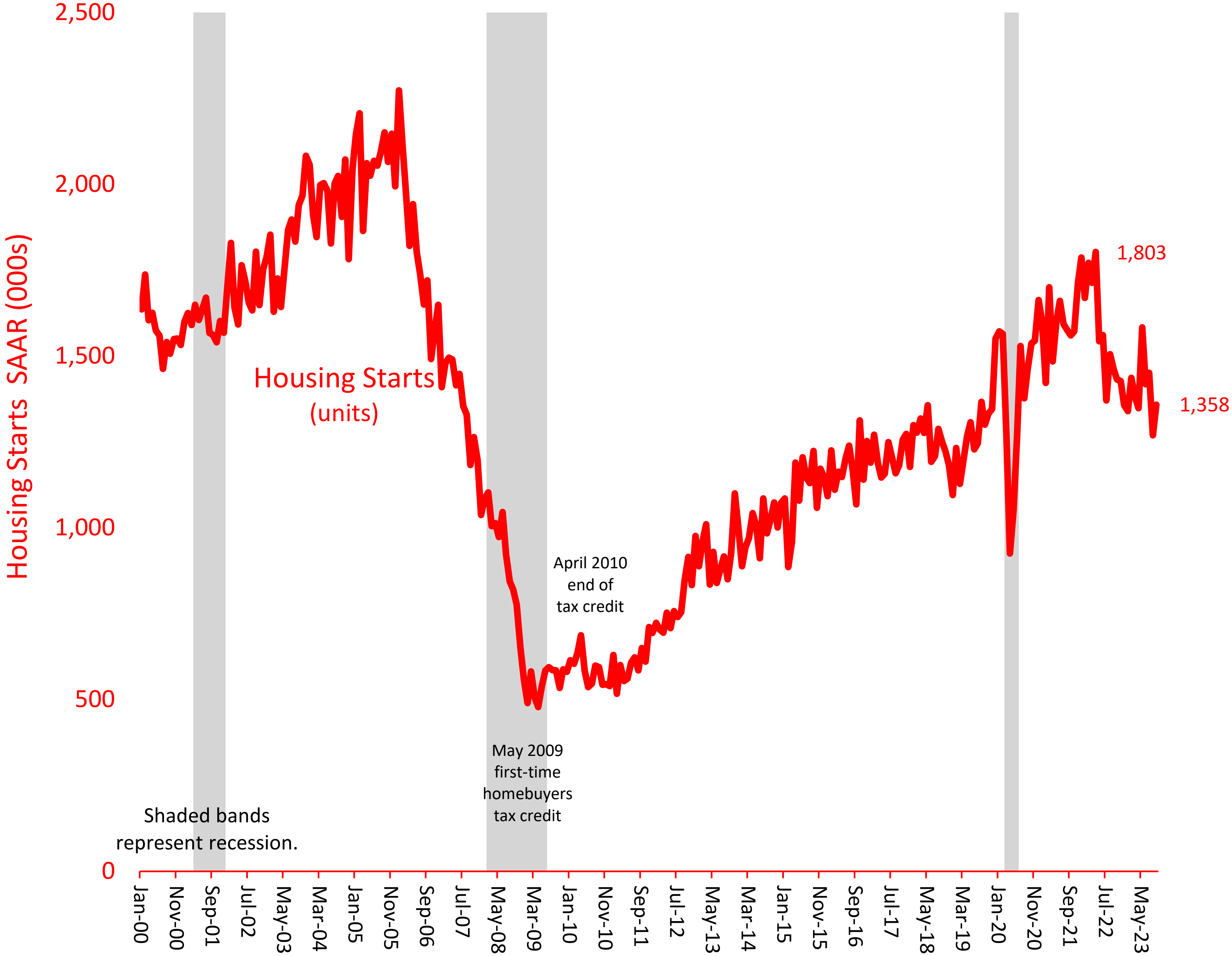
October new orders 45.5.

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 2023, Institute for Supply Management. Data through October 2023.
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."

Housing starts



1.358 million starts in September.

September permits at 1.473 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)." [1]

Sources: BEA and U.S. Census Bureau. Data through September 2023.

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

Good news

- Strong hiring data
- Strong Q3 GDP
- OK Oct services PMI
- Strong Sept car sales
- Strong Sept retail sales
- Consumers have cash – M2
- Wealth effect
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- Inflation is moderating
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Consumer spending

THE WALL STREET JOURNAL.

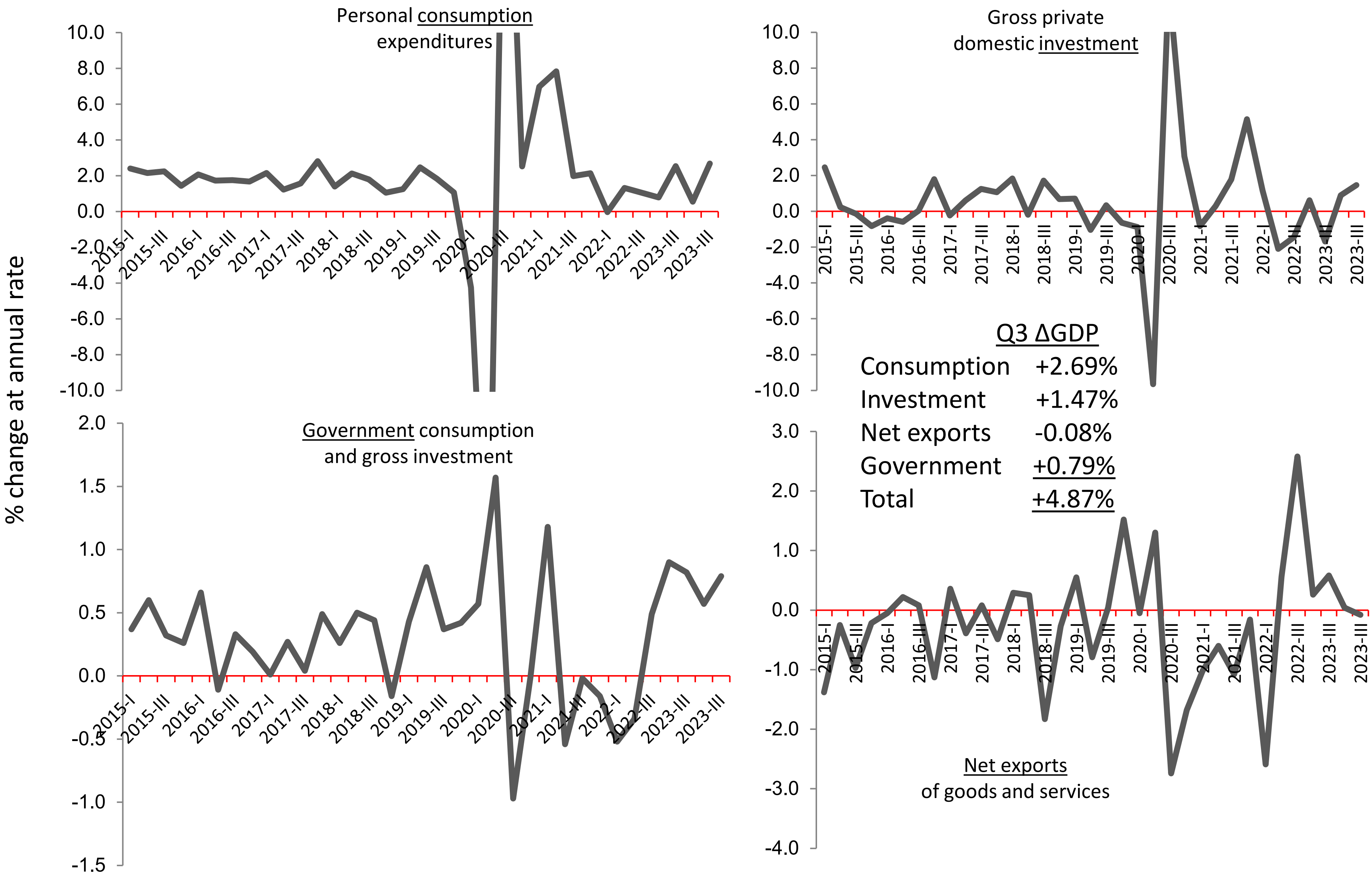
Strong Jobs Market, Savings, Home Values Keep Spending Robust

Americans' prolonged spending spree has confounded economists and resulted in a surging U.S. economy. What is keeping their feet off the brakes?

A strong labor market, resilient savings stockpiles and rising values of their homes have consumers feeling good and willing to spend. Despite complaints about high prices, they are taking their children to concerts, packing movie theaters, booking luxury vacations, buying cars and covering the costs of rent and dinners out.

Source: *The Wall Street Journal*, "Strong Jobs Market, Savings, Home Values Keep Spending Robust", by Rachel Wolfe and Amara Omeokwe, October 30, 2023.

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



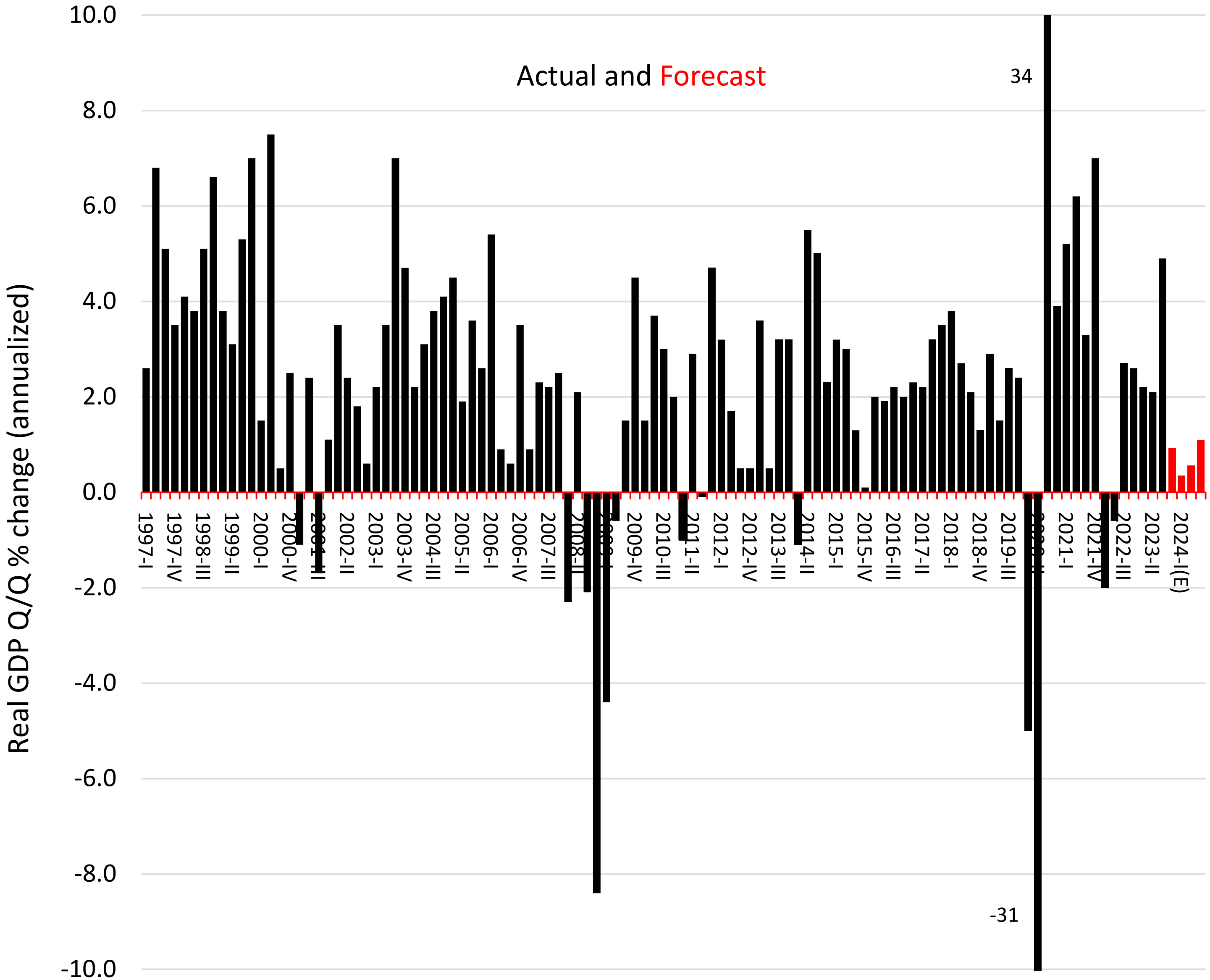
Q3 ΔGDP

Consumption	+2.69%
Investment	+1.47%
Net exports	-0.08%
Government	+0.79%
Total	+4.87%

Source: Bureau of Economic Analysis, quarterly data through September 2023.

Consensus GDP forecast

GDP

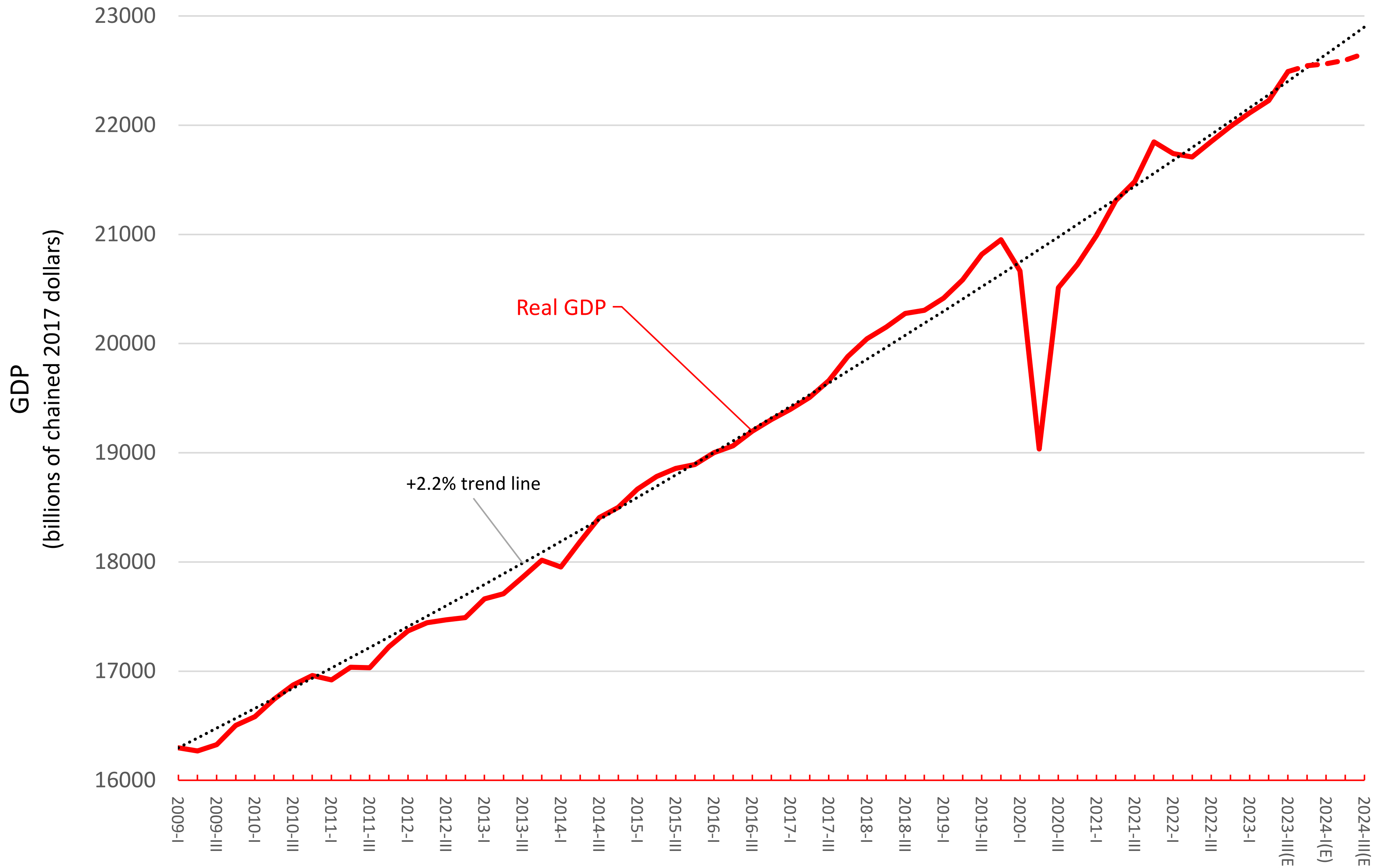


The 60 economists surveyed in October see a slowdown ahead, but no recession.

Sources: Bureau of Economic Analysis, actual quarterly data through September 2023. *The Wall Street Journal* survey released October 2023.

GDP forecast

V-shaped recovery from Covid



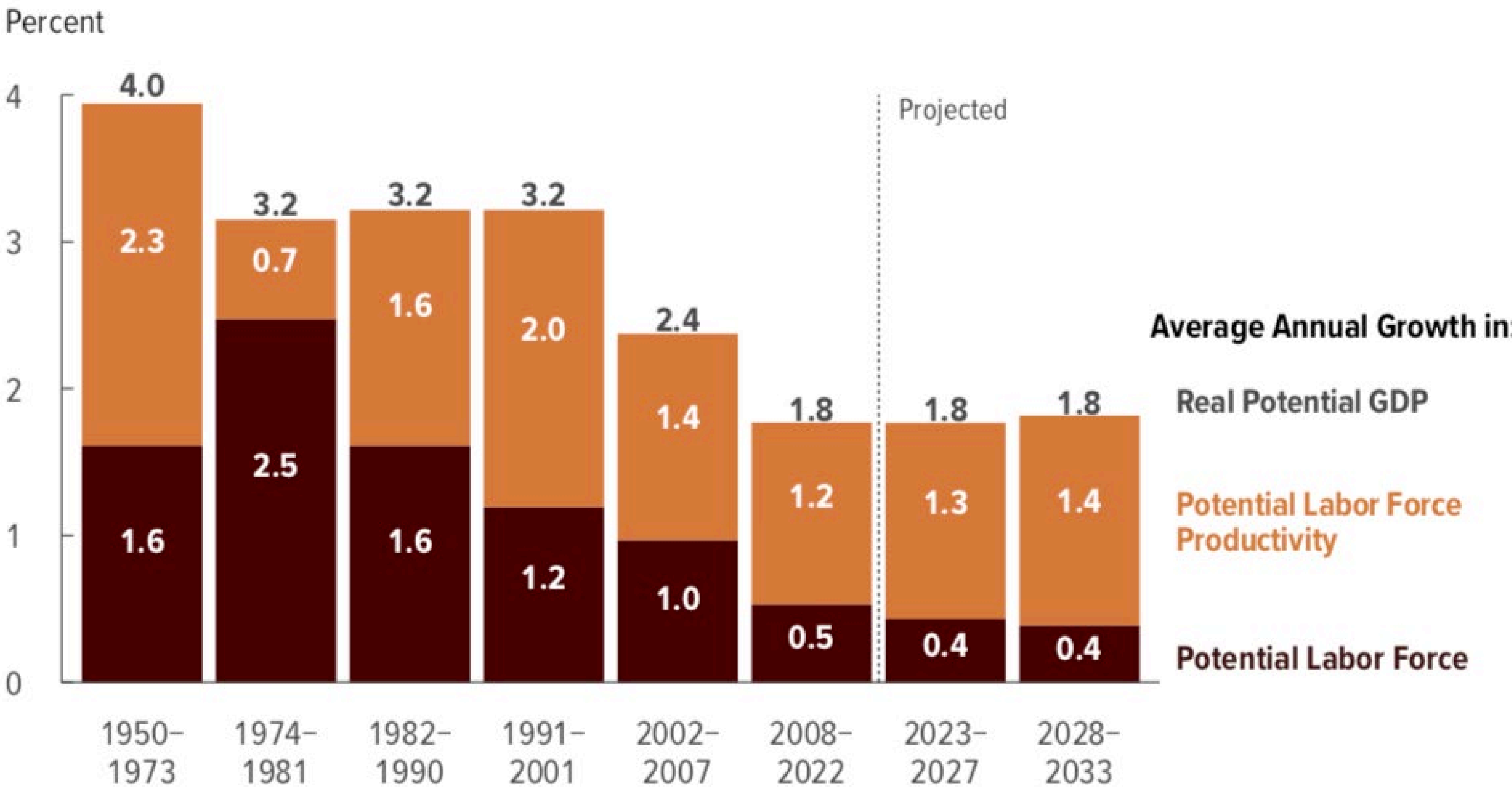
Sources: Bureau of Economic Analysis, actual quarterly data through September 2023. Dotted line represents the forecast from *The Wall Street Journal* survey released October 2023.

GDP growth potential = Δ productivity + Δ labor force

CBO's potential growth calculations

Figure 2-5.

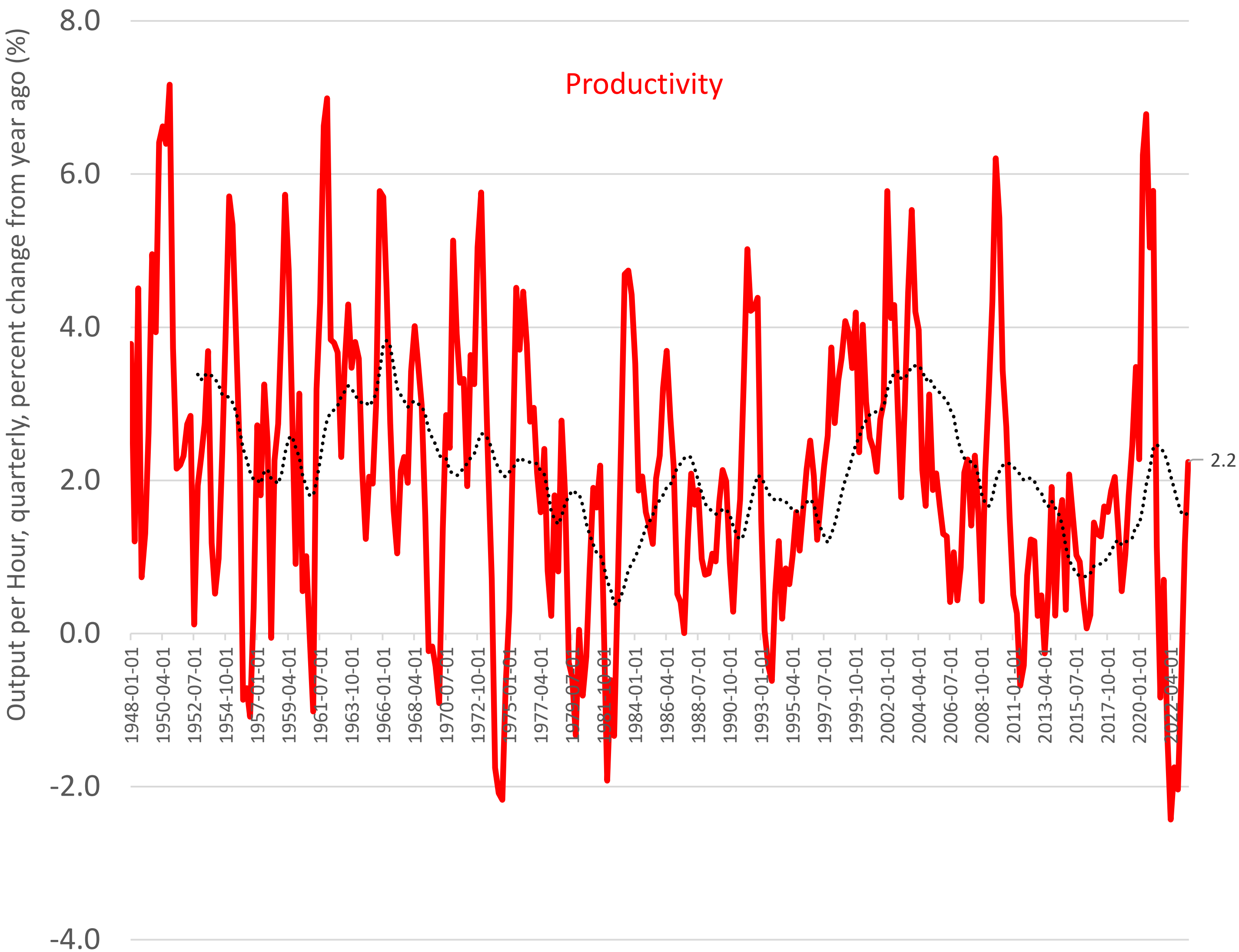
Composition of the Growth of Real Potential GDP



Source: Congressional Budget Office, *The Budget and Economic Outlook: 2023 to 2033,* released February 2023.

GDP growth potential = Δ productivity + Δ labor force

Productivity



Productivity gains partially offset wage gains.

Source: FRBSL, quarterly data through September 2023. Dotted line is the 5-year moving average.

Atlanta Fed's GDPNow forecast – 4th quarter

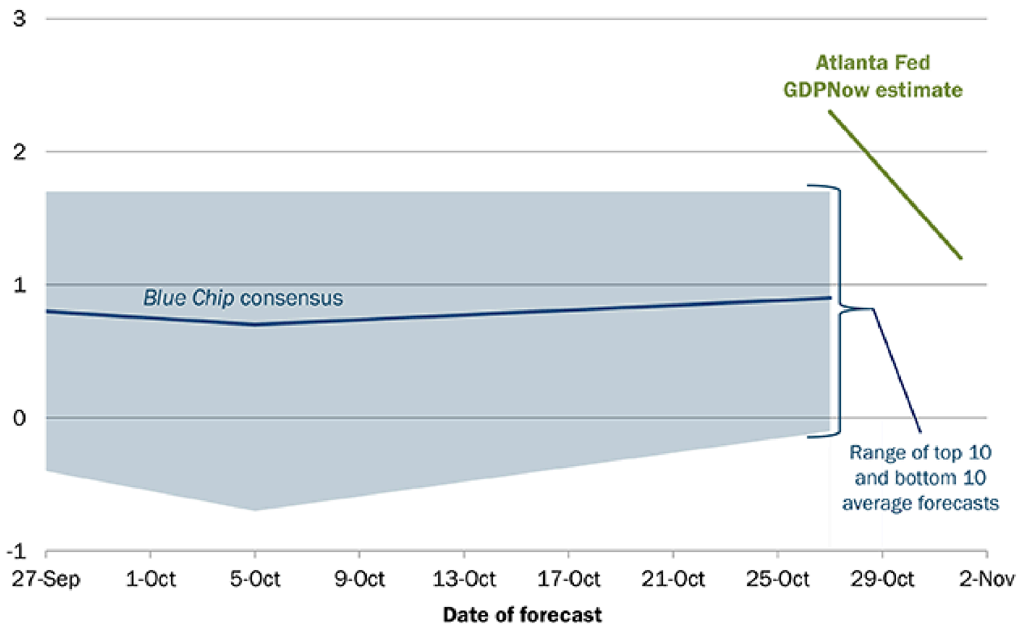
Latest estimate: 1.2 percent -- November 01, 2023

The GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the fourth quarter of 2023 is **1.2 percent** on November 1, down from 2.3 percent on October 27. After this morning's construction spending release from the US Census Bureau and the Manufacturing ISM Report On Business from the Institute for Supply Management, the nowcasts of fourth-quarter real personal consumption expenditures growth and fourth-quarter real gross private domestic investment growth decreased from 3.0 percent and -2.2 percent, respectively, to 1.5 percent and -2.8 percent, while the nowcast of the contribution of the change in real net exports to fourth-quarter real GDP growth increased from 0.11 percentage points to 0.22 percentage points.

*The next GDPNow update is **Tuesday, November 7**. Please see the "Release Dates" tab below for a list of upcoming releases.*

Evolution of Atlanta Fed GDPNow real GDP estimate for 2023: Q4

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.

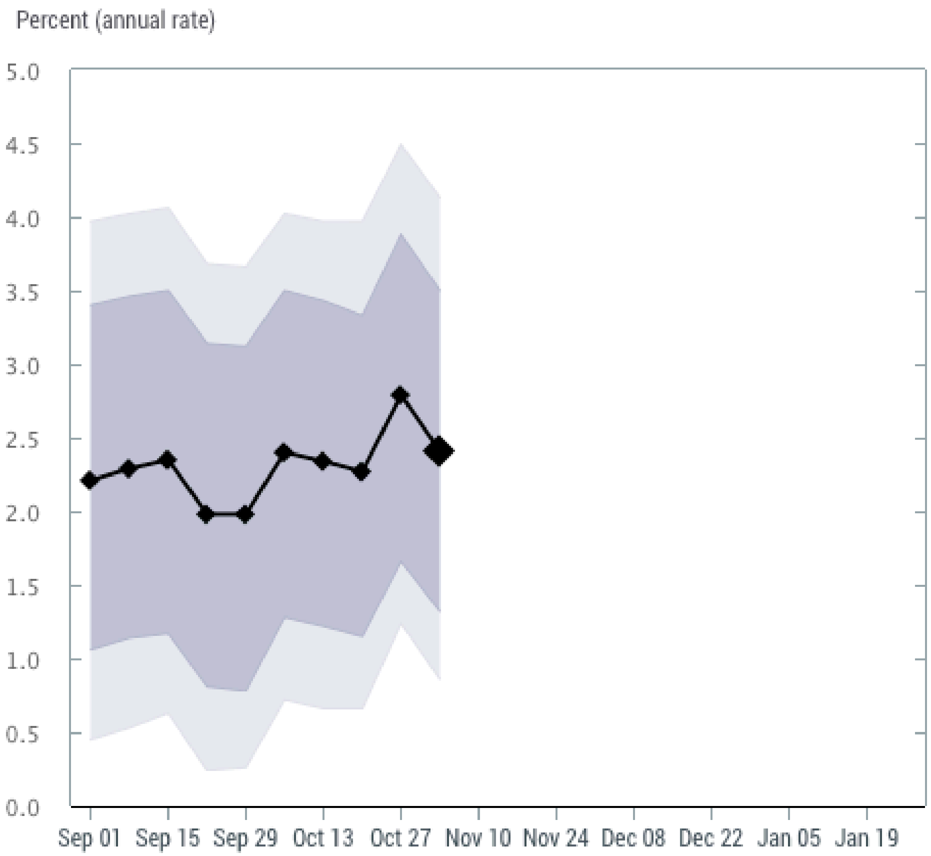
Source: Federal Reserve Bank of Atlanta, November 1, 2023.

GDP forecast

NY Fed’s Nowcast – 4th quarter

New York Fed Staff Nowcast

◆ The New York Fed Staff Nowcast ▫ 68% probability ▫ 50% probability ○ Advance GDP estimate □ Latest GDP estimate



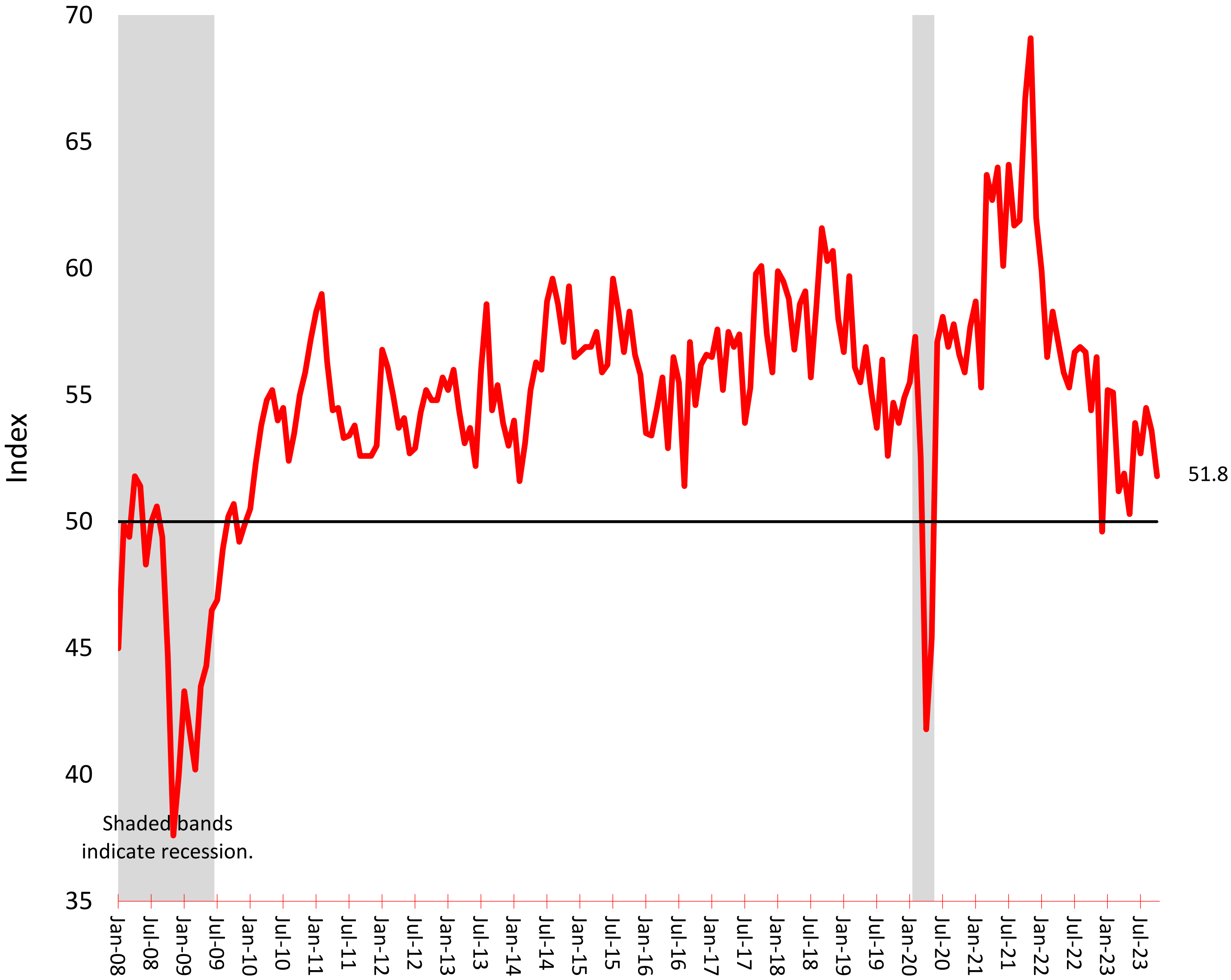
Expand

The New York Fed Staff Nowcast (Nov 03, 2023)

Release Date	Series	Value
Nov 03	◆Nowcast	2.41
	68% probability	0.86, 4.13
	50% probability	1.32, 3.5
Oct 27	◆Nowcast	2.79
	68% probability	1.24, 4.49
	50% probability	1.66, 3.88

Source: Federal Reserve Bank of New York, November 3, 2023.

ISM services PMI



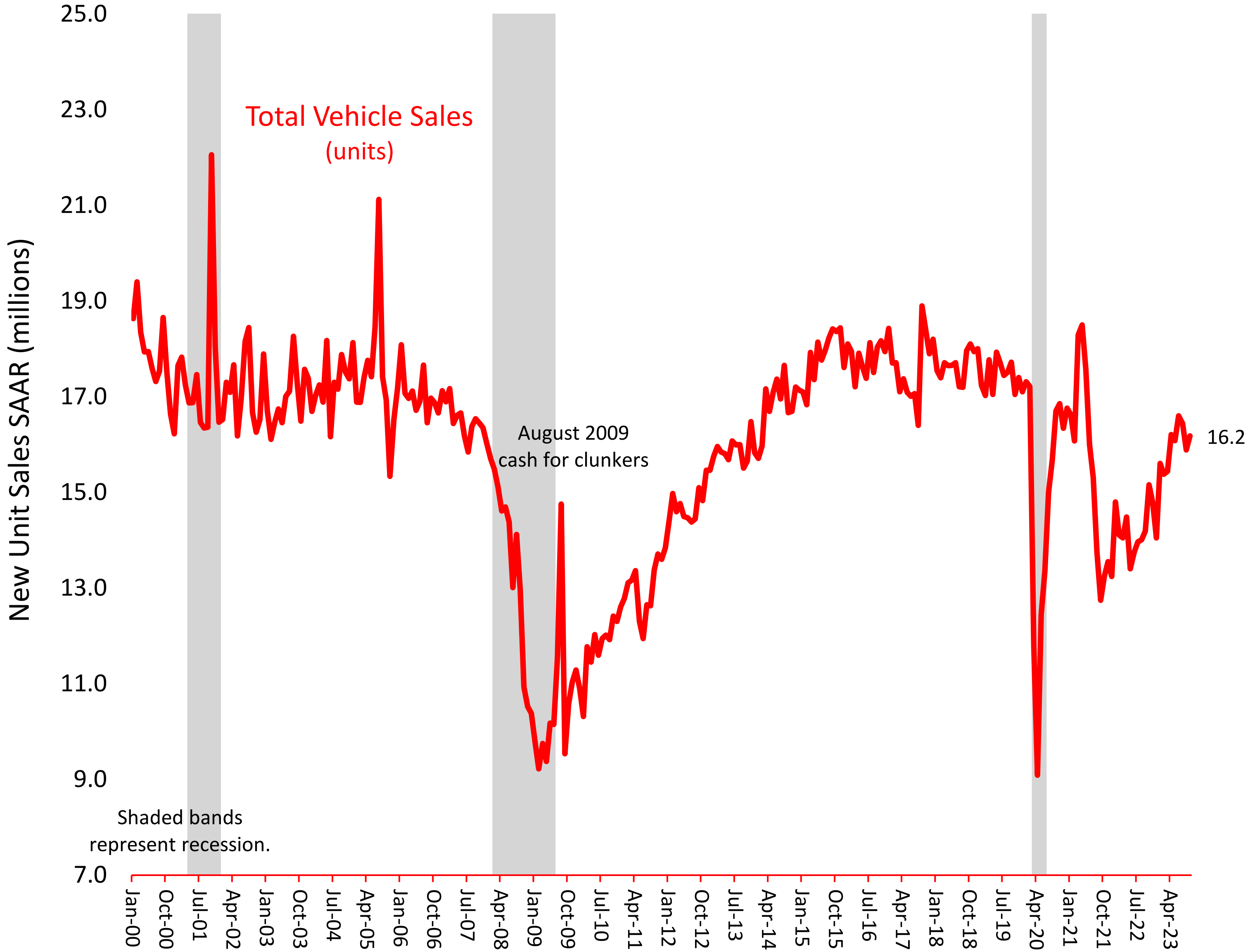
October at 51.8.

October new orders 55.5.

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

Source: Copyright 2023, Institute for Supply Management; data through October 2023. 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." [1]Value added as a percent of GDP.

Vehicle sales



Car sales holding up.

Sources: BEA. Data through September 2023.

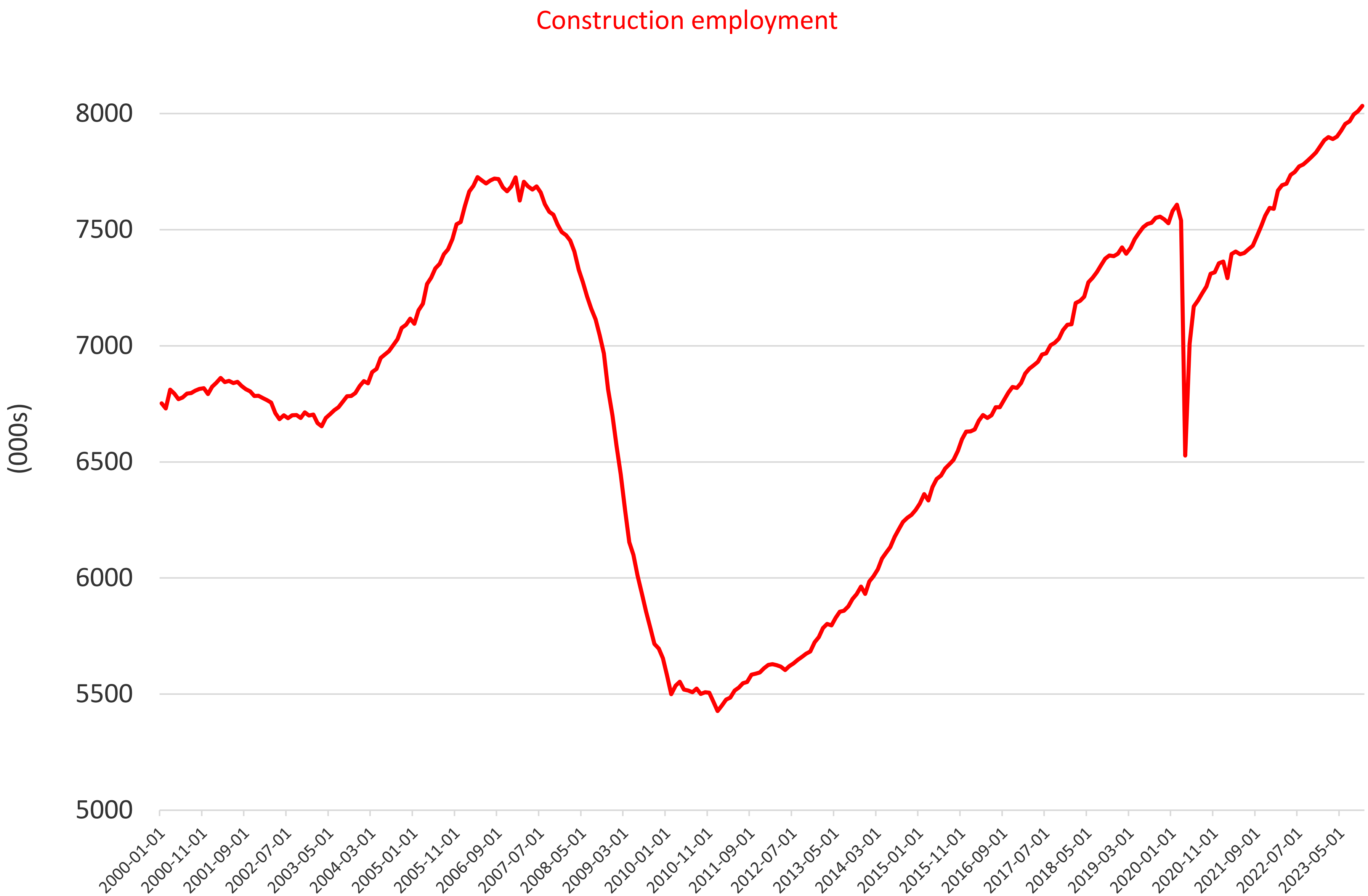
Construction boom

THE WALL STREET JOURNAL.

Excavator Sales Surge to Record on Heels of Boom in Construction

Source: *The Wall Street Journal.* “Excavator Sales Surge to Record on Heels of Boom in Construction”, by Bob Tita. June 9, 2023.

Construction employment – record high



Source: BLS. Data through October 2023.

Retail sales

THE WALL STREET JOURNAL.

The American Consumer Keeps Splurging

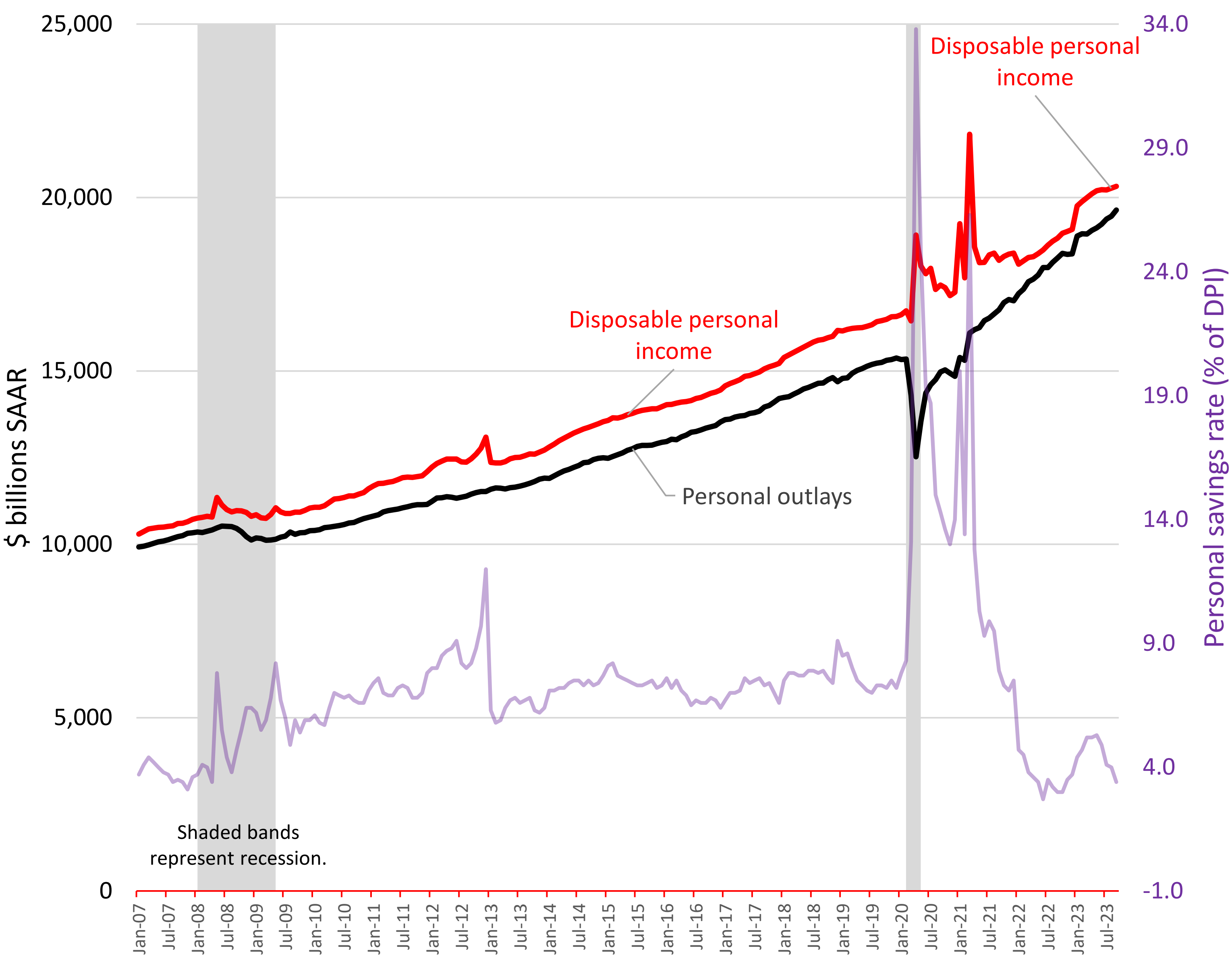
The strong display of consumer resilience persisted in the latest retail sales report which on Tuesday showed spending at stores, online and at restaurants rose a stronger-than-expected 0.7% in September from a month earlier.

Consumers are still splashing out on a range of items and experiences, including on interest-rate sensitive cars and more expensive restaurant meals. American shoppers are the backbone of the U.S. economy. Their broad-based retail spending in September drove up some economists' estimates for third-quarter economic growth. Many economists think gross domestic product growth topped a 4% annual rate in July through September.

Source: *The Wall Street Journal.* "The American Consumer Keeps Splurging", by Sarah Chaney Cambon. October 17, 2023.

Consumer income

Disposable personal income, spending and saving



Source: Bureau of Economic Analysis, monthly data through September 2023.

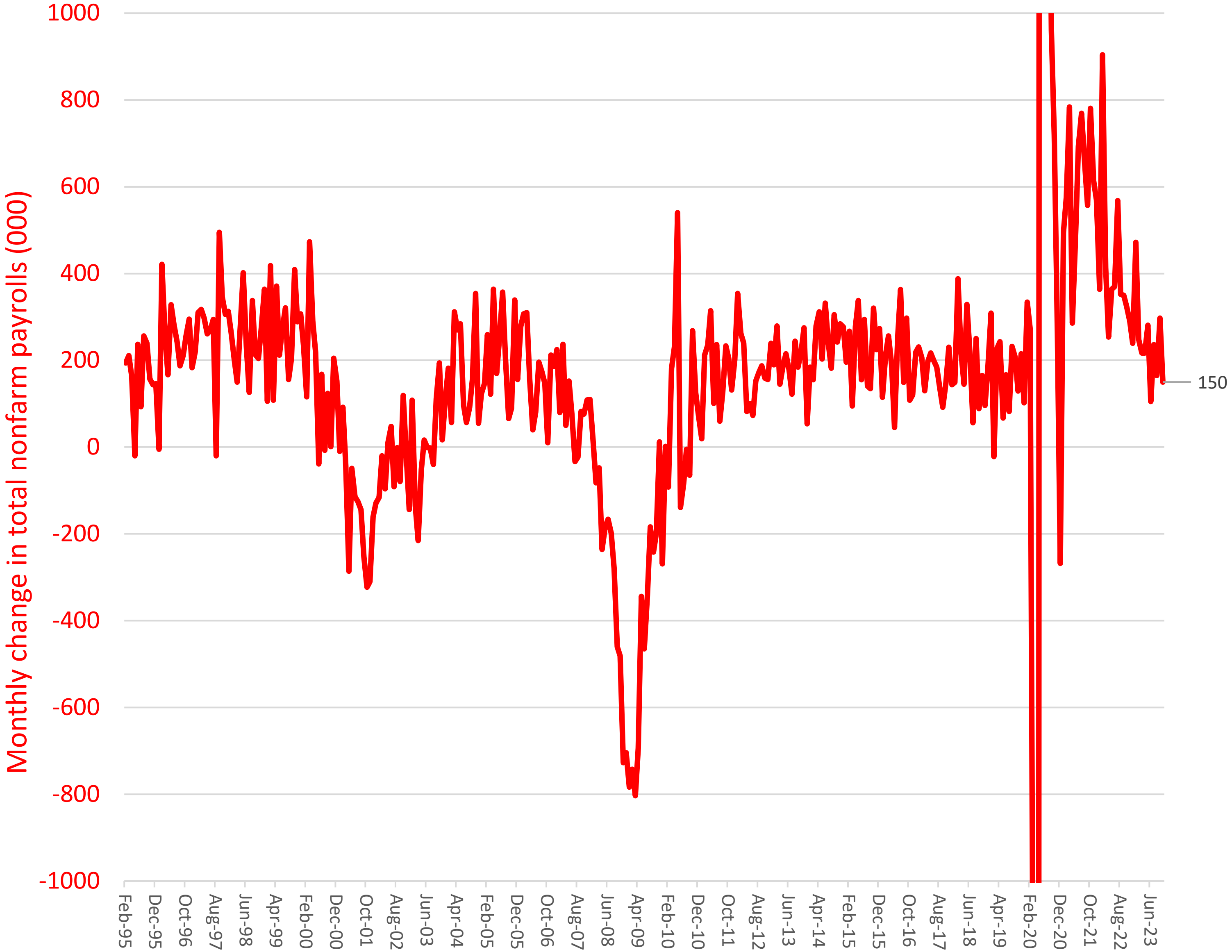
DPI up +7.9% y/y.

Personal outlays up +7.6% y/y.

The savings rate, at 3.4%, is below pre-Covid levels.

Economic data

Net new job formation — cooling

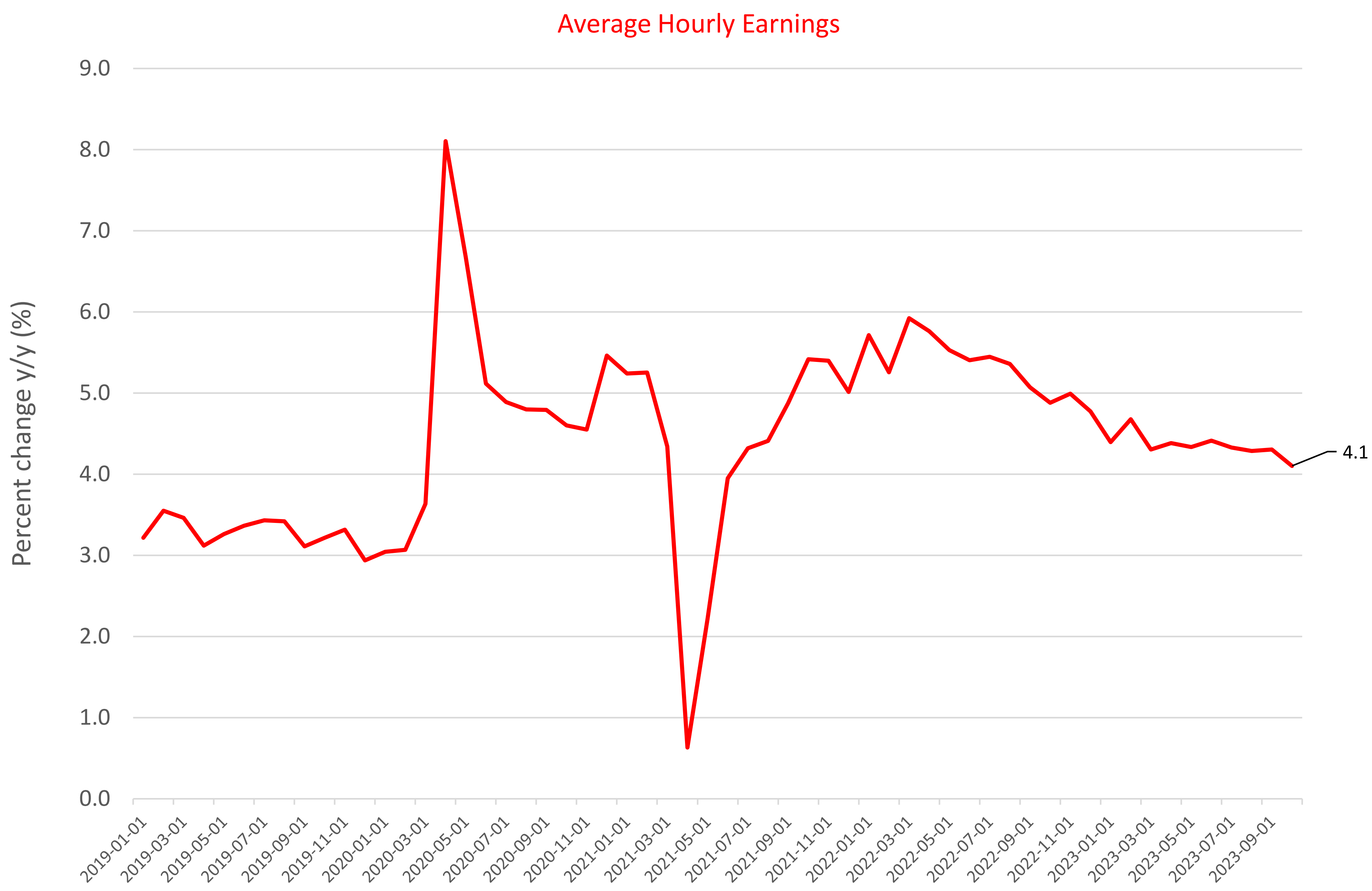


150,000 jobs gained in October on the establishment survey.

Source: Bureau of Labor Statistics. Data through October 2023.

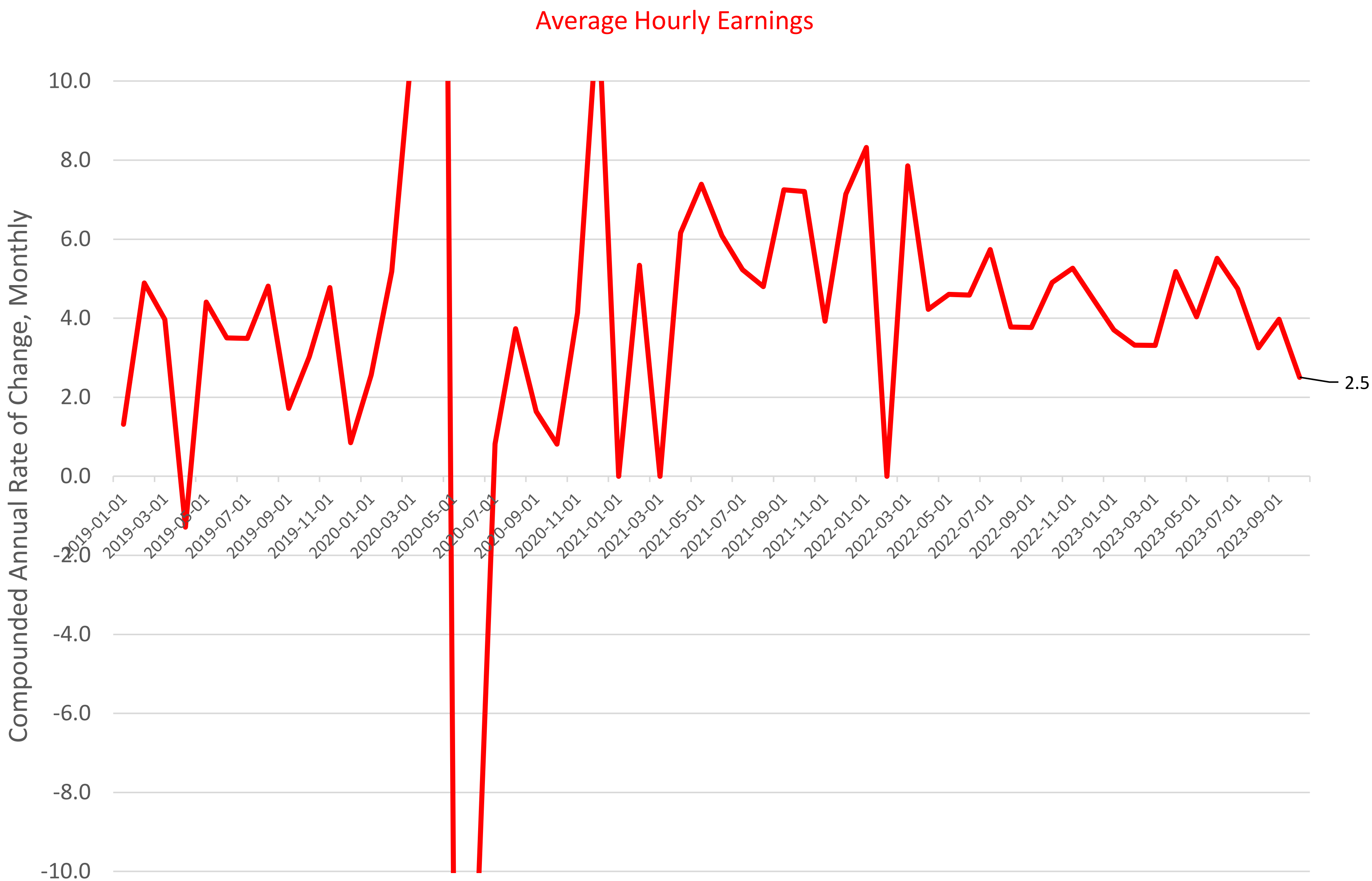
Economic data

Average hourly earnings – y/y rate of change



Source: Bureau of Labor Statistics. Data through October 2023.

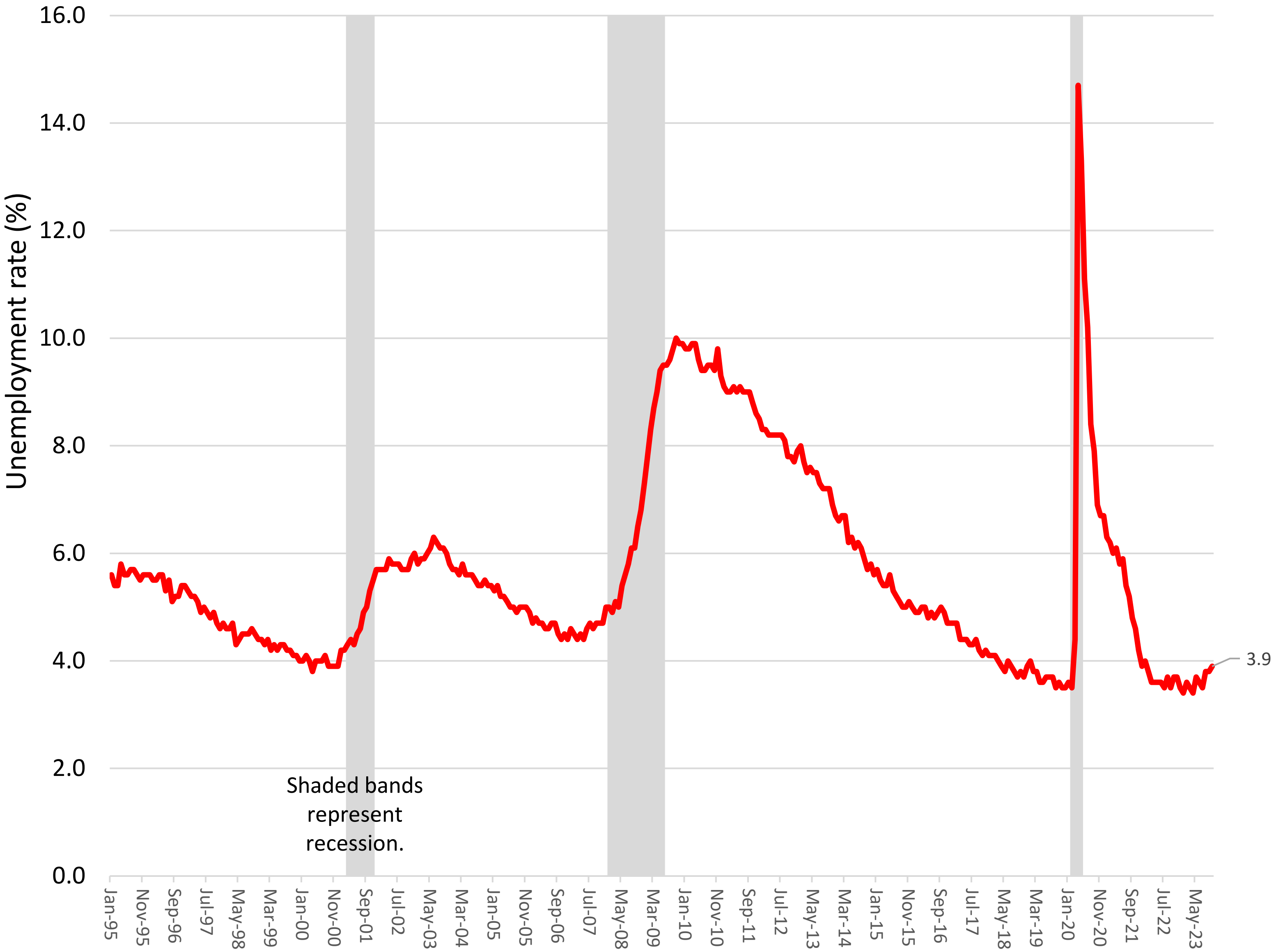
Average hourly earnings – monthly rate of change



Source: Bureau of Labor Statistics. Data through October 2023.

Economic data

Unemployment rate

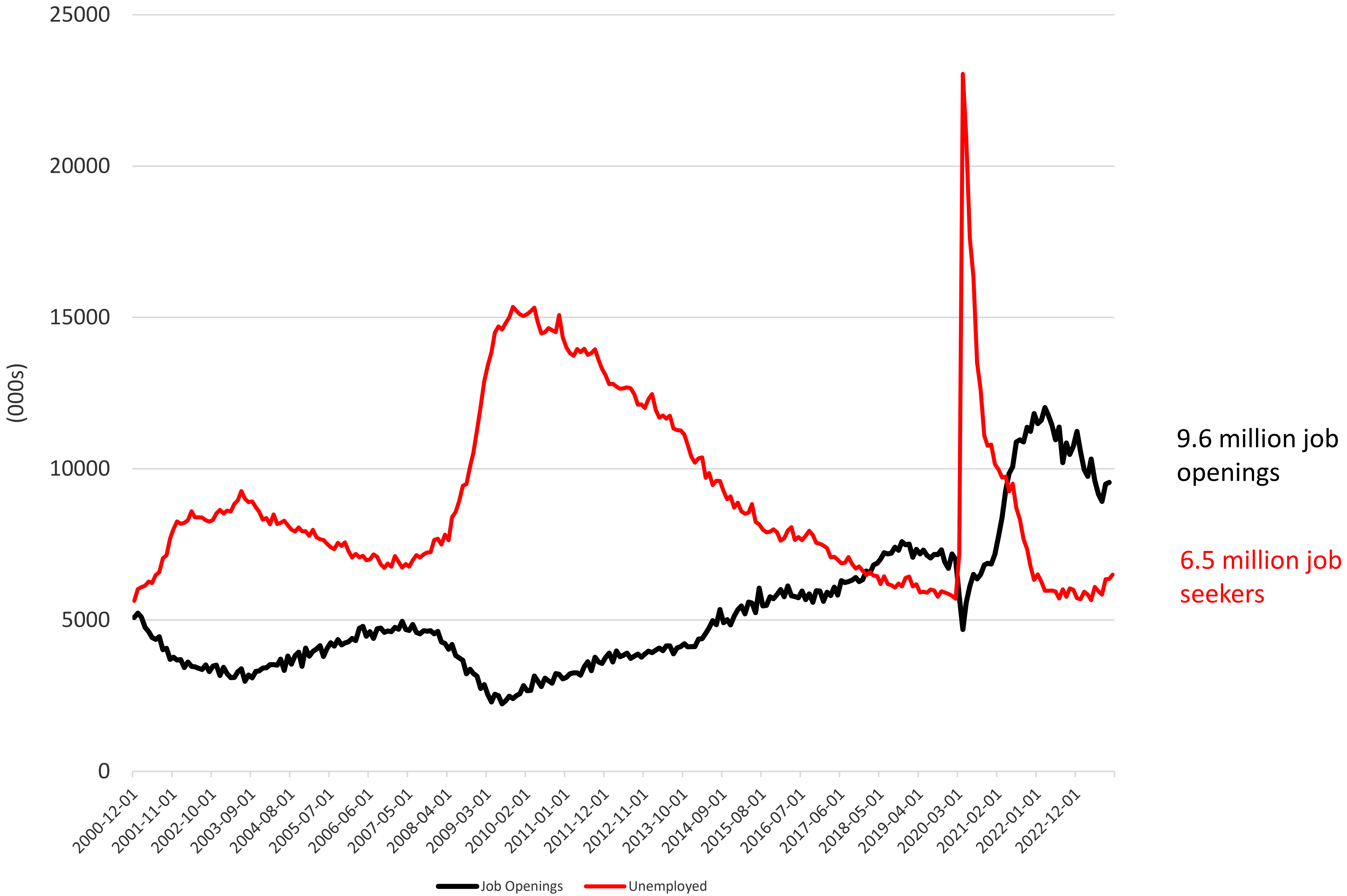


3.9% in October.

Source: Bureau of Labor Statistics. Data through October 2023.

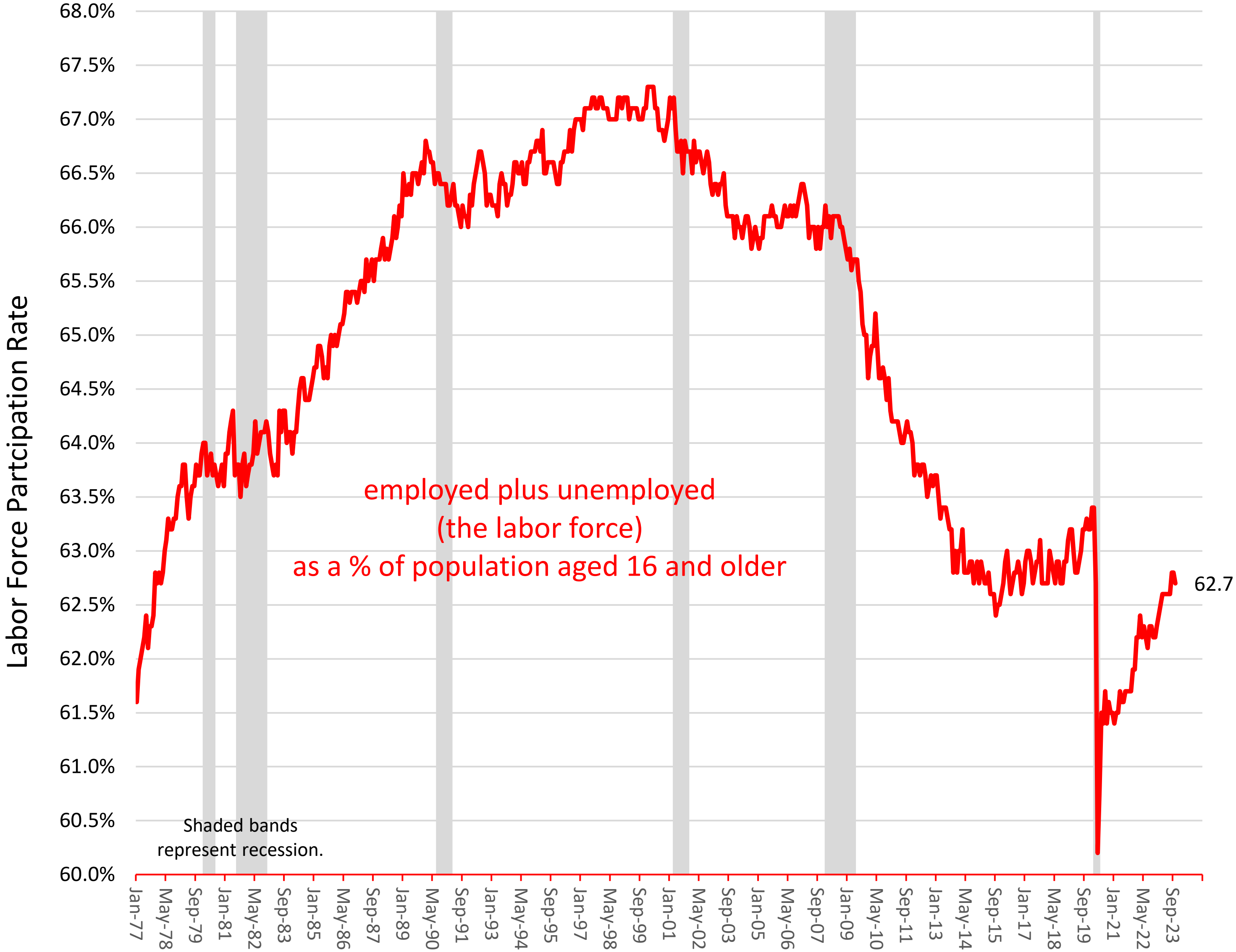
Economic data

"Excess demand" for labor – this time is different



Source: Bureau of Labor Statistics. Data through September 2023 for job openings, October 2023 for unemployed.

Labor force participation rate[1] – recovering from Covid



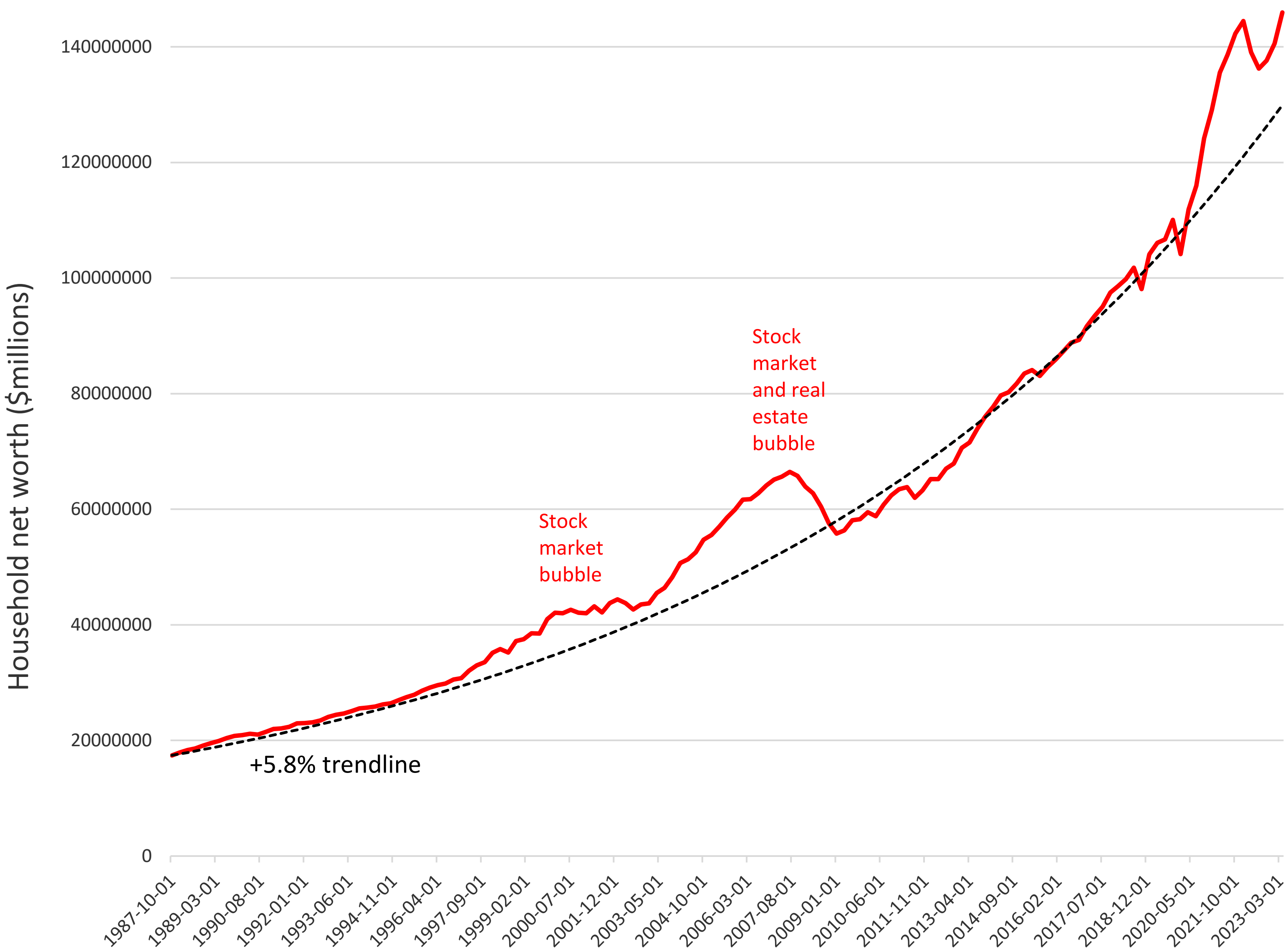
Americans were joining and staying in the labor force in increasing numbers … until Covid-19.

A reduction in immigration and a surge in retirements have subtracted from the labor force.

Source: BLS. Data through October 2023.

[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.

Household net worth – the wealth effect



Household net worth surged.

Source: Federal Reserve, FRBSL. Quarterly data through June 2023, released September 8, 2023.

Consumer spending

THE WALL STREET JOURNAL.

The U.S. Economy's Secret Weapon: Seniors With Money to Spend

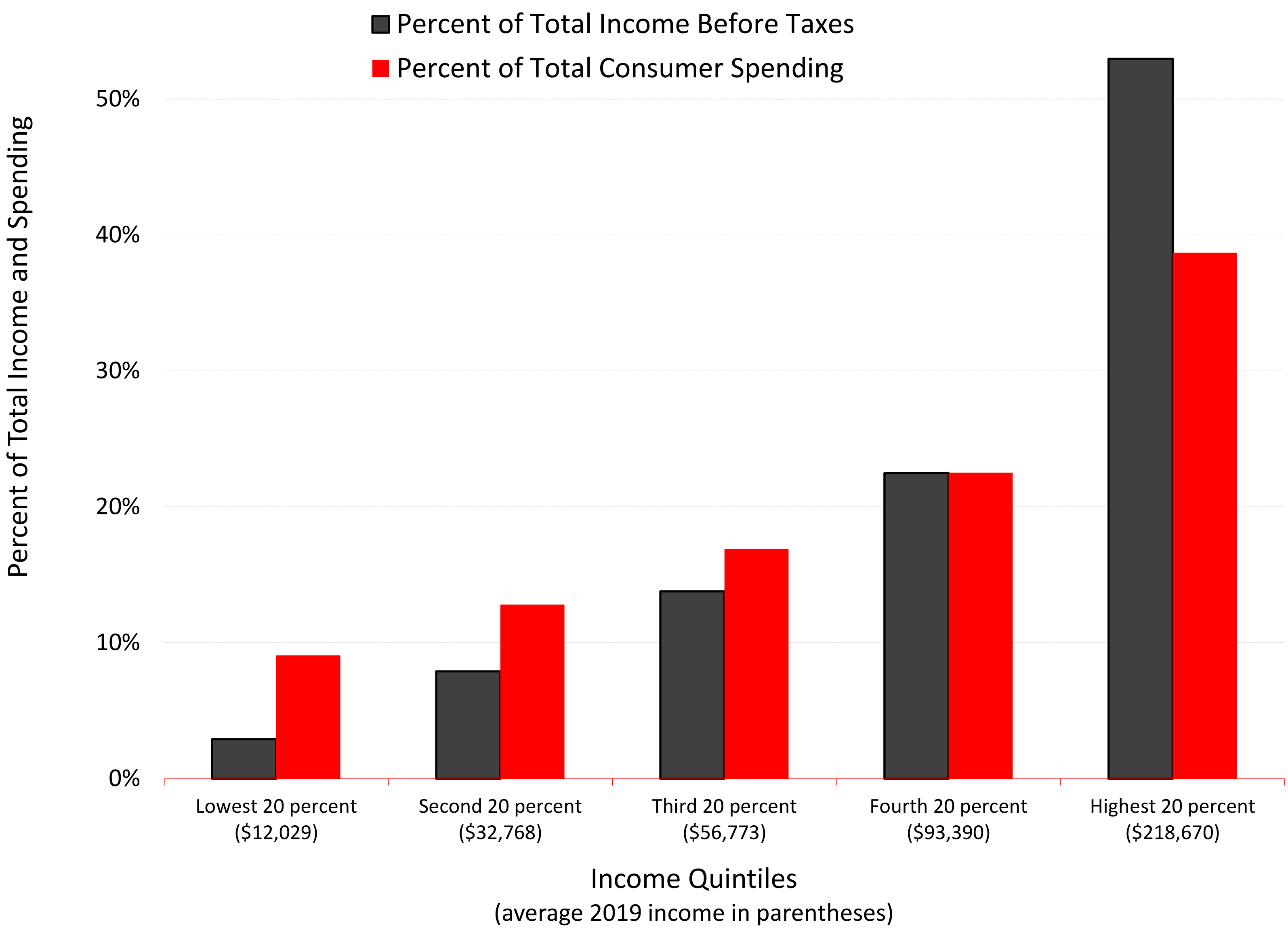
Why has consumer spending proven so resilient as the Federal Reserve has raised interest rates? An important and little-appreciated reason: Consumers are getting older. In August, 17.7% of the population was 65 or older, according to the Census Bureau, the highest on record going back to 1920 and up sharply from 13% in 2010. The elderly aren't just more numerous: Their finances are relatively healthy, and they have less need to borrow, such as to buy a house, and are less at risk of layoffs than other consumers.

This has made the elderly a spending force to be reckoned with. Americans aged 65 and up accounted for 22% of spending last year, the highest share since records began in 1972 and up from 15% in 2010, according to the Labor Department's survey of consumer expenditures released in September.

"These are the consumers that will matter over the coming year," said Susan Sterne, chief economist at Economic Analysis Associates.

Source: *The Wall Street Journal*, "The U.S. Economy's Secret Weapon: Seniors With Money to Spend", by Gwinn Guilford, October 8, 2023.

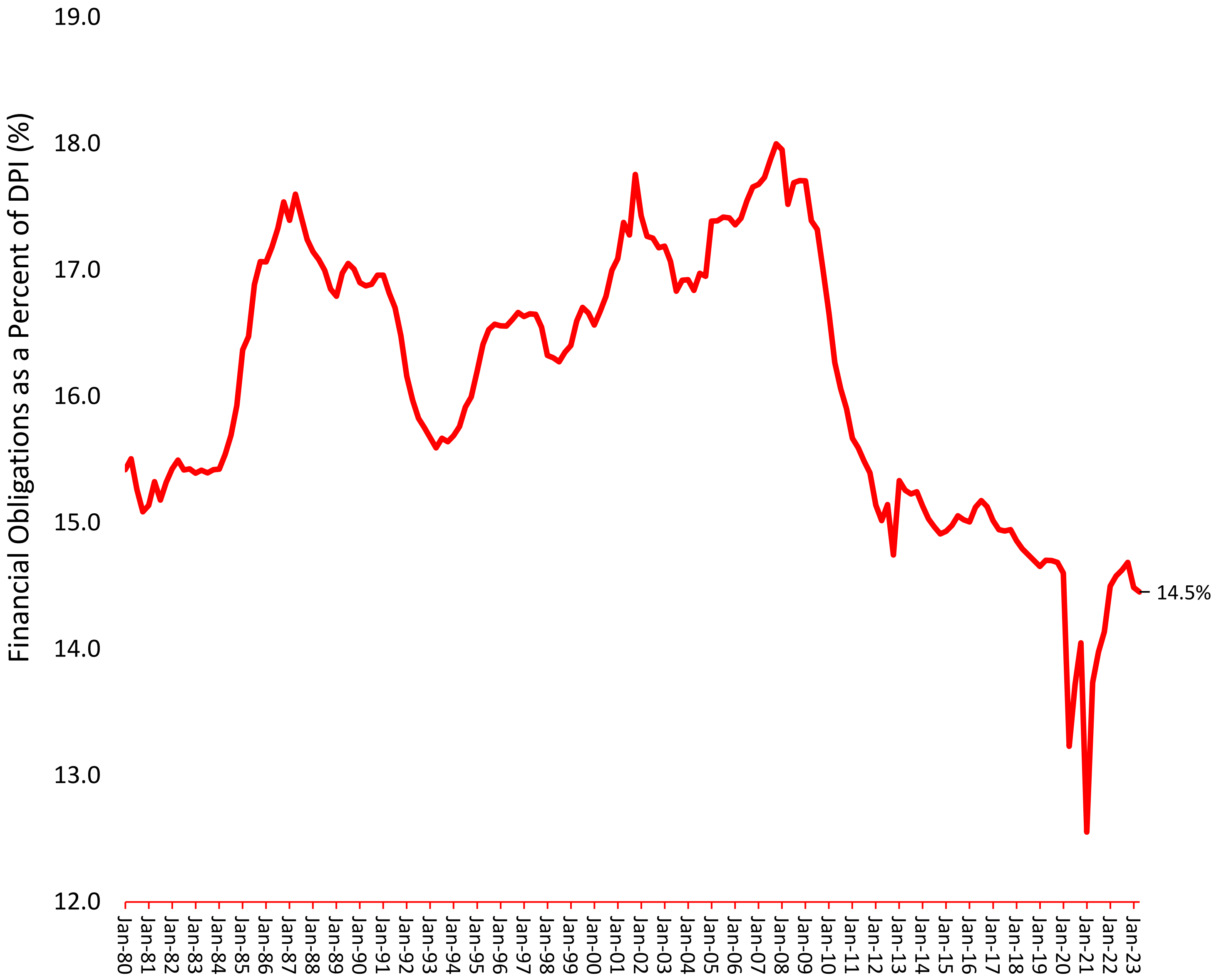
Distribution of consumer income and spending



Consumer spending is heavily skewed toward higher income consumers.

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

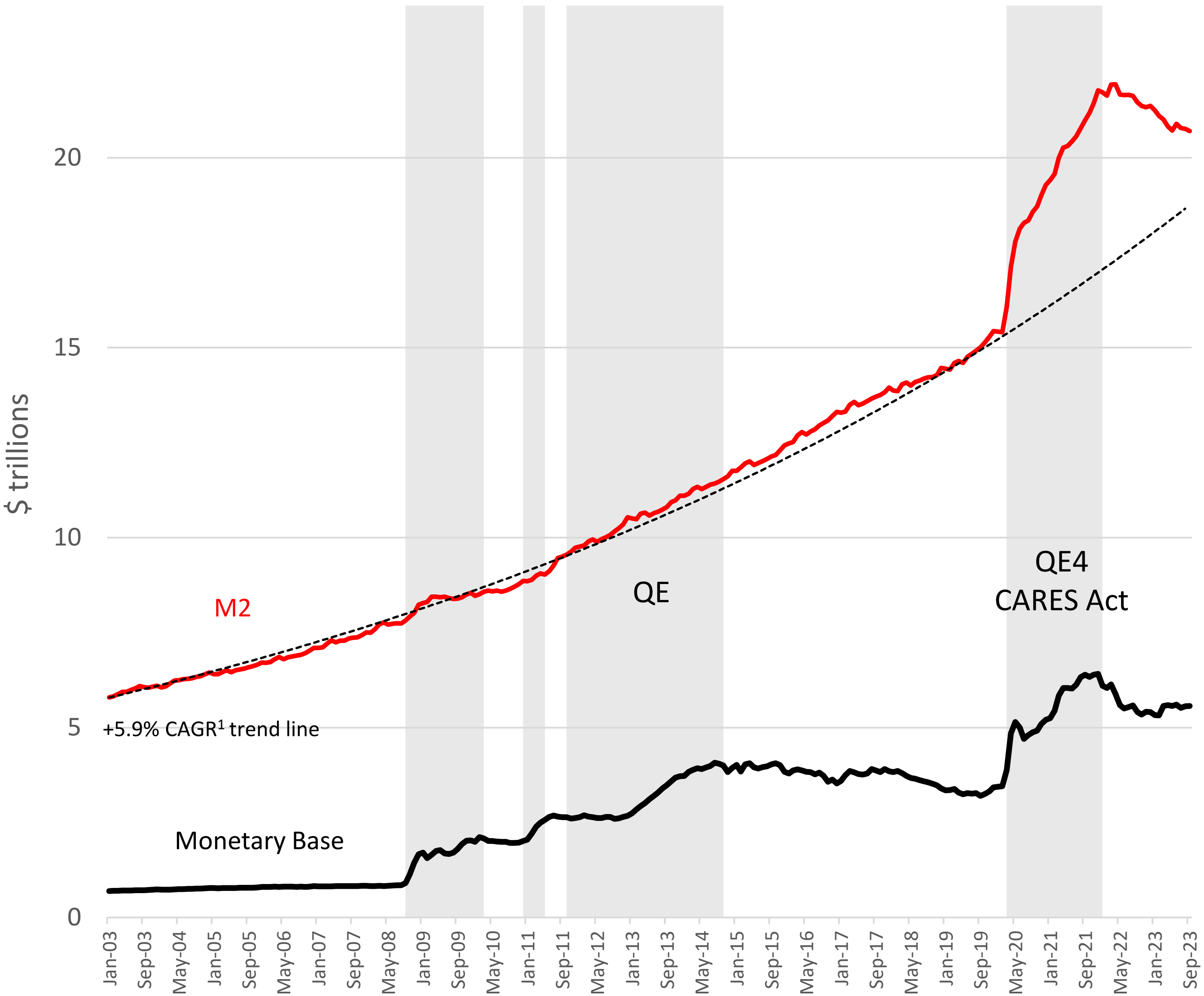
Financial obligations ratio



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 June 2023, updated September 22, 2023.

The monetary base and the money supply



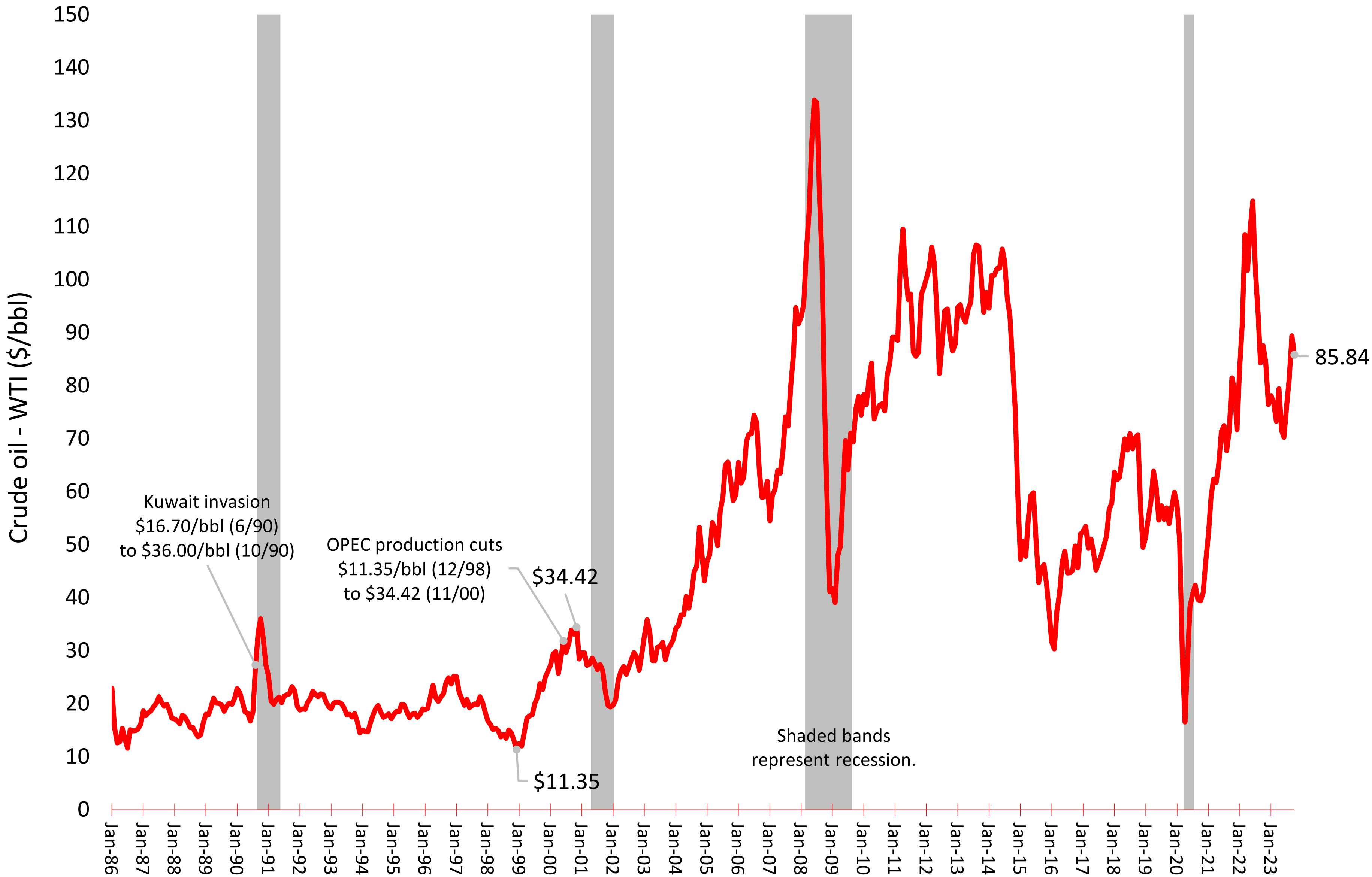
M2: currency held by the public plus checking, savings and money market accounts.

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 2023.
[1]CAGR = compound annual growth rate.

WTI spot crude oil prices



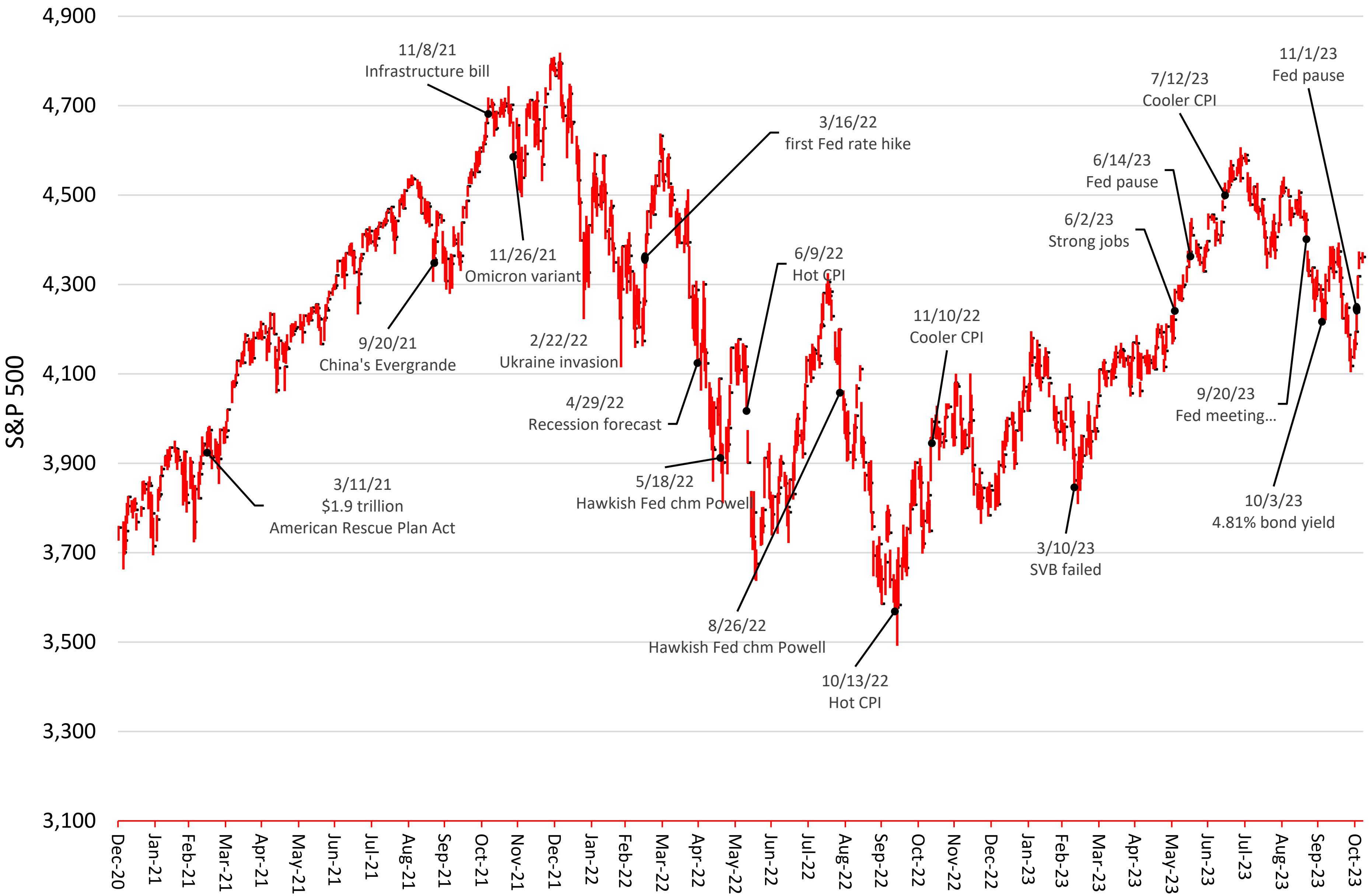
Source: U.S. Energy Information Agency. Data through October 2023.

Stock Market

- bull market
- equal weighted vs. cap weighted
- stocks vs. recessions
- “parabolic” is normal
- 2023/2024 earnings estimates
- P/E multiple

Stock market

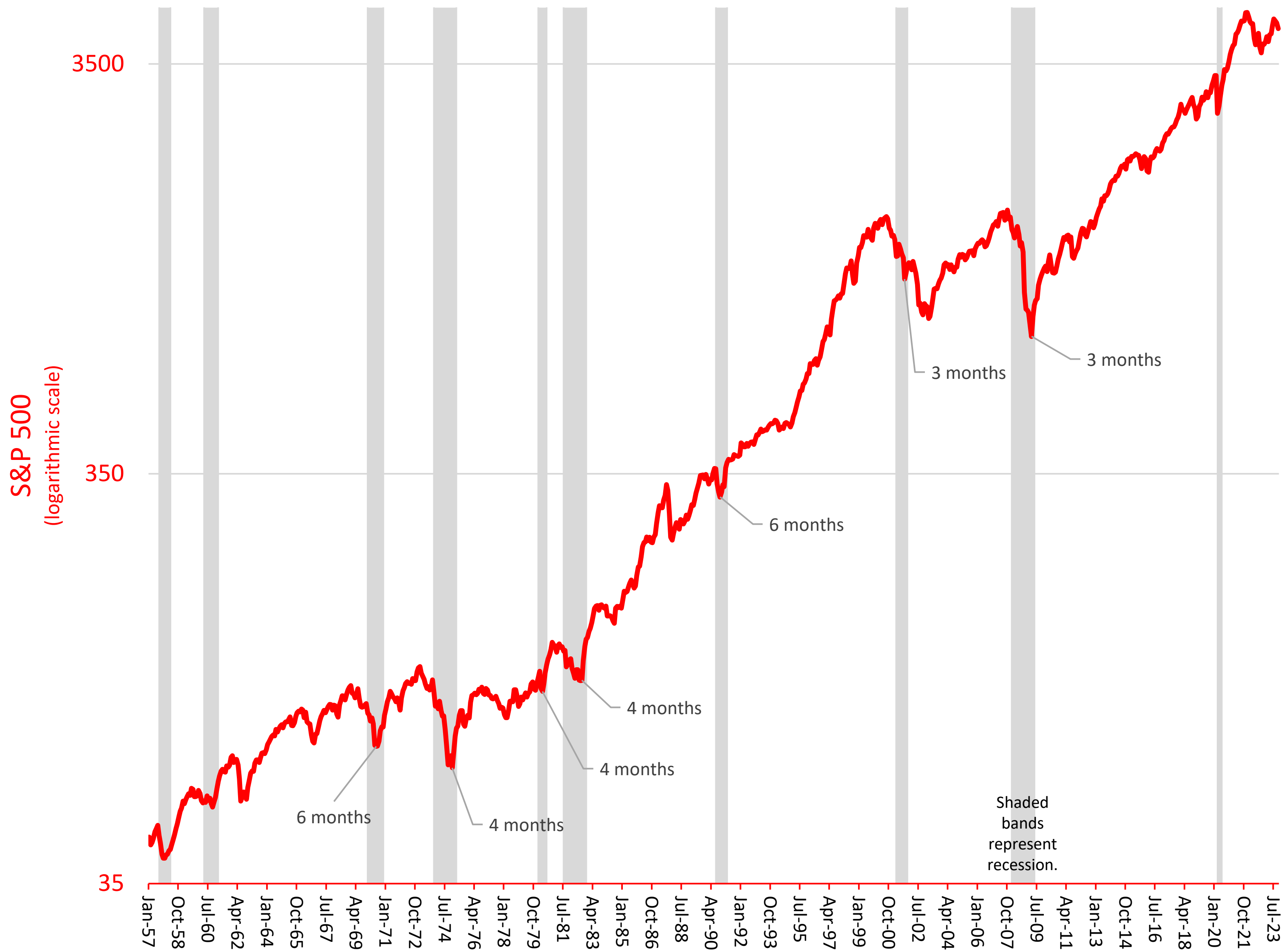
S&P 500



Source: Standard & Poor's. Data through November 6, 2023.

Stock market

S&P 500 vs. recessions



Big declines are associated with recessions.

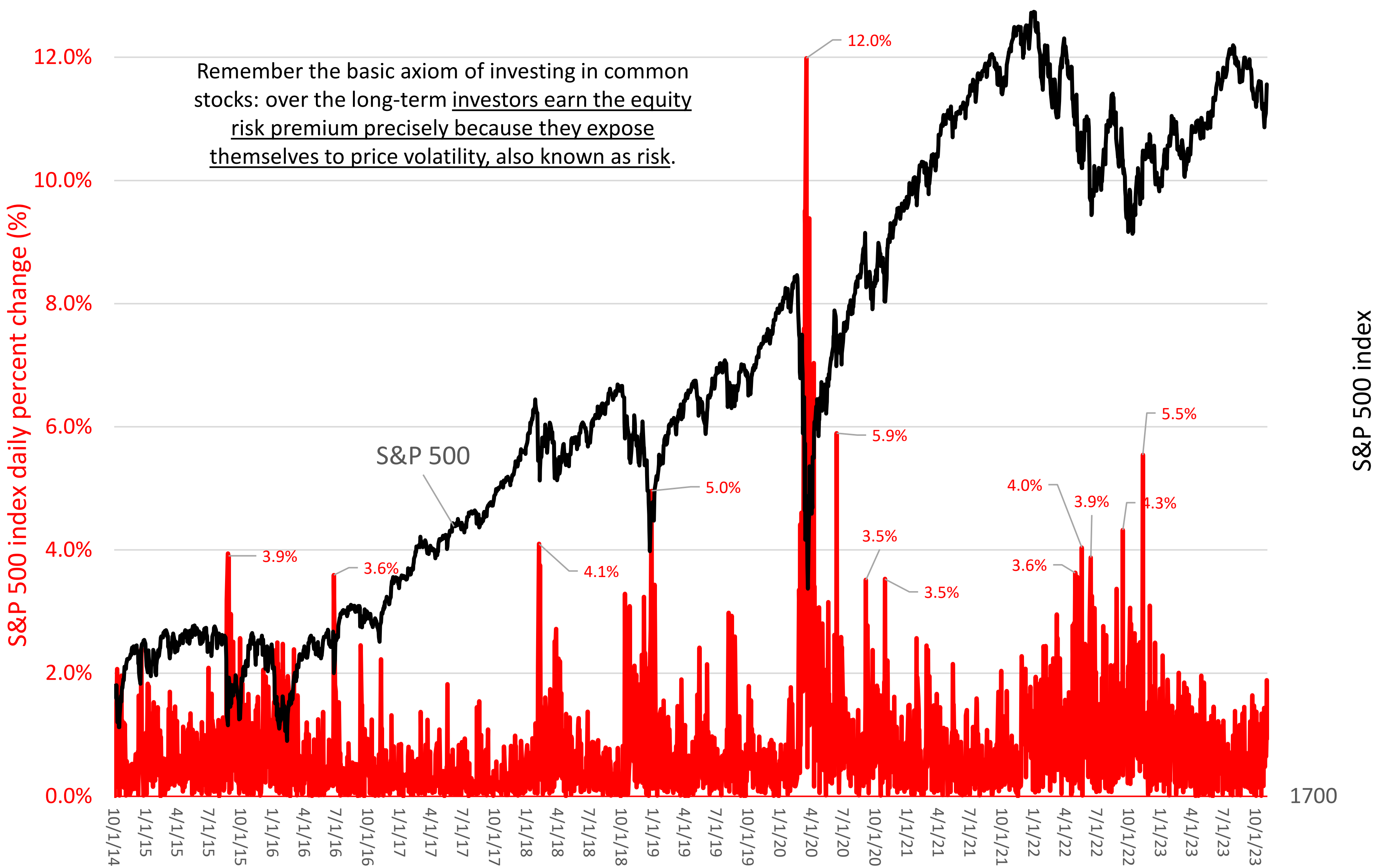
Stocks often bottom months before recession-end.

Source: Standard and Poor's Corporation, National Bureau of Economic Research. Data through October 2023.

S&P 500 and crises

Source: Standard and Poor's. Data through October 2023. [1] Compound annual growth rate.

S&P 500 volatility



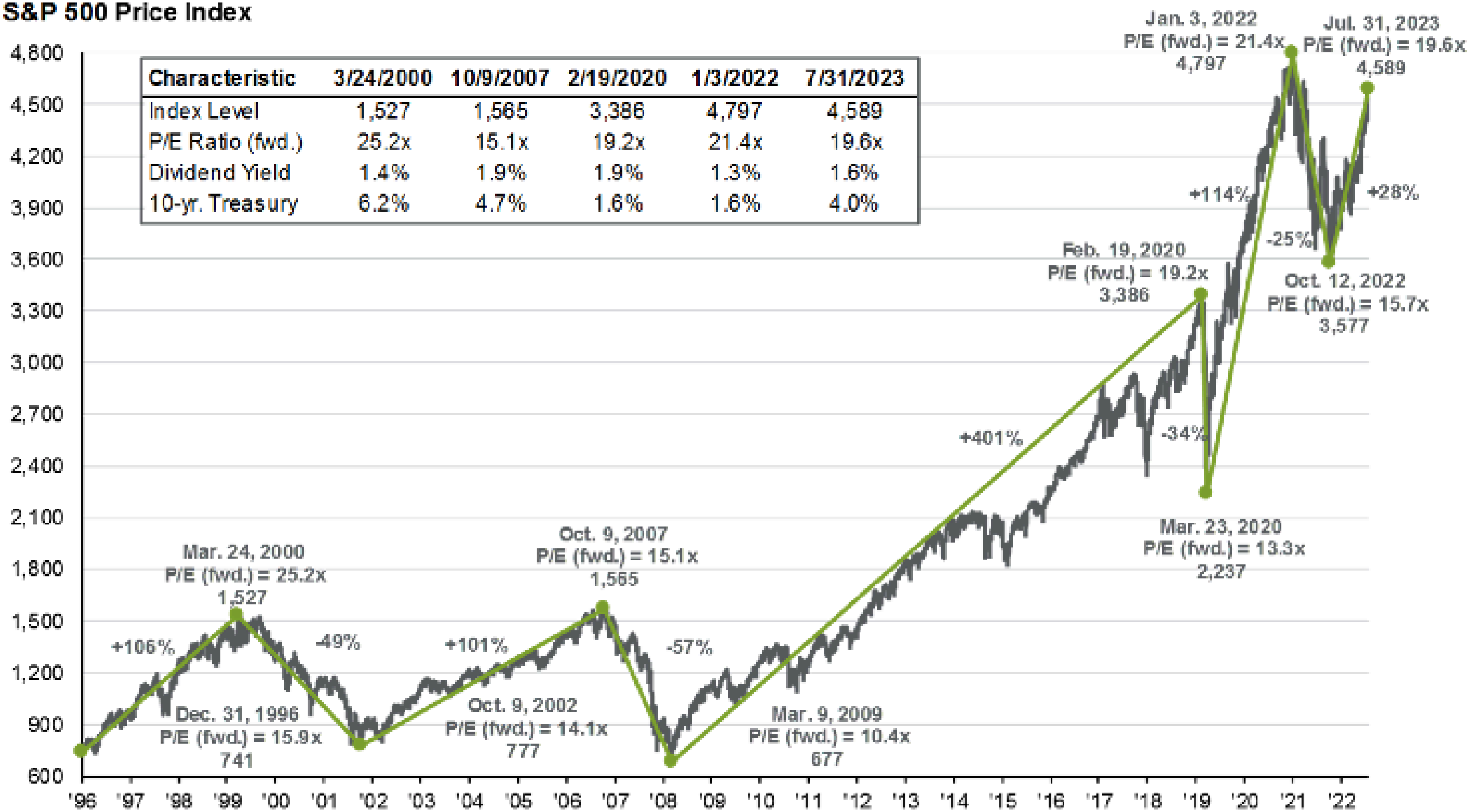
Source: Standard & Poor's, data through November 3, 2023.

Stock market

S&P 500

S&P 500 Price Index

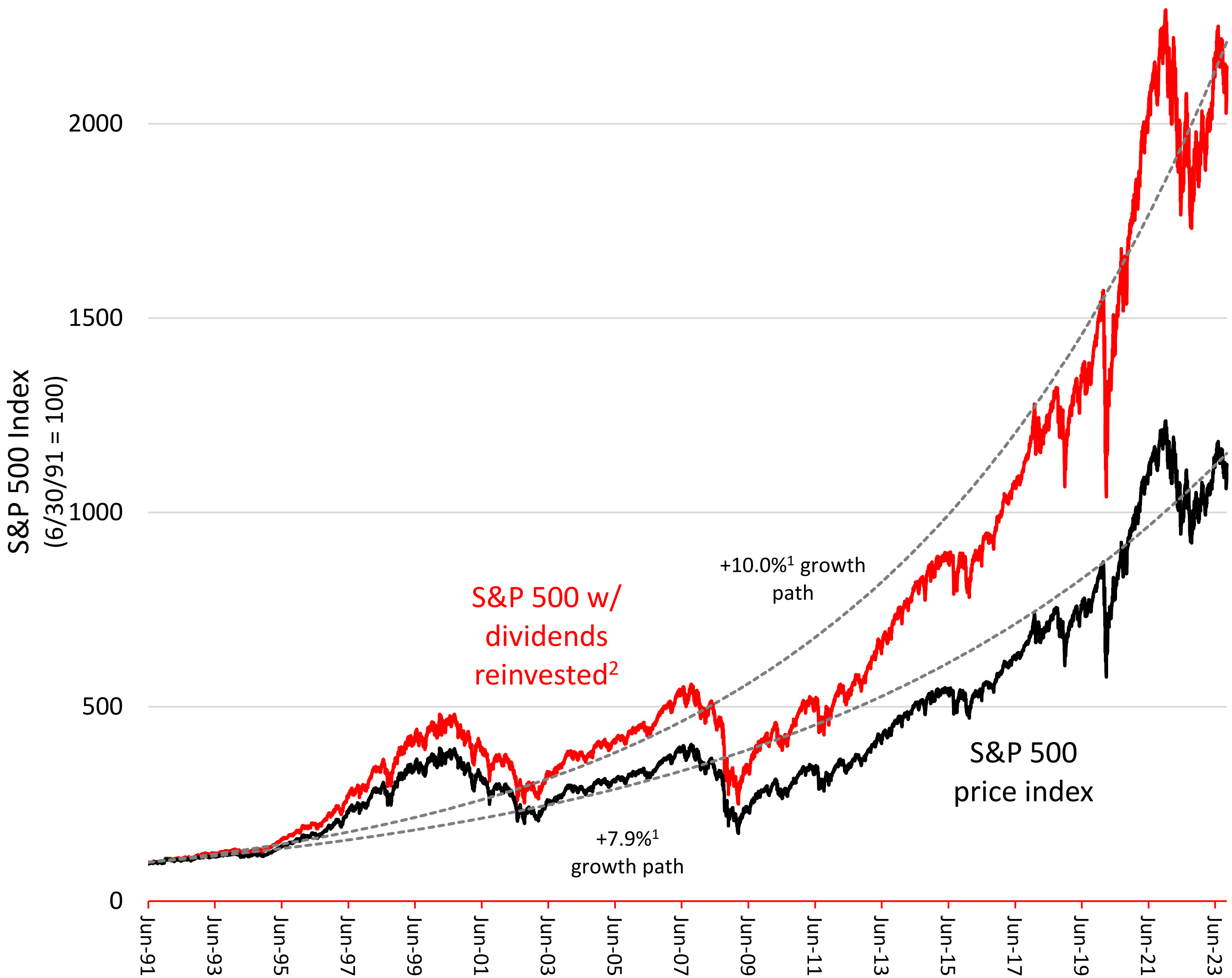
Characteristic	3/24/2000	10/9/2007	2/19/2020	1/3/2022	7/31/2023
Index Level	1,527	1,565	3,386	4,797	4,589
P/E Ratio (fwd.)	25.2x	15.1x	19.2x	21.4x	19.6x
Dividend Yield	1.4%	1.9%	1.9%	1.3%	1.6%
10-yr. Treasury	6.2%	4.7%	1.6%	1.6%	4.0%



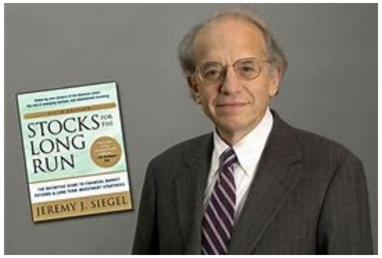
Source: J.P. Morgan's "Guide to the Markets" webpage, August 14, 2023.

Stock market arithmetic

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



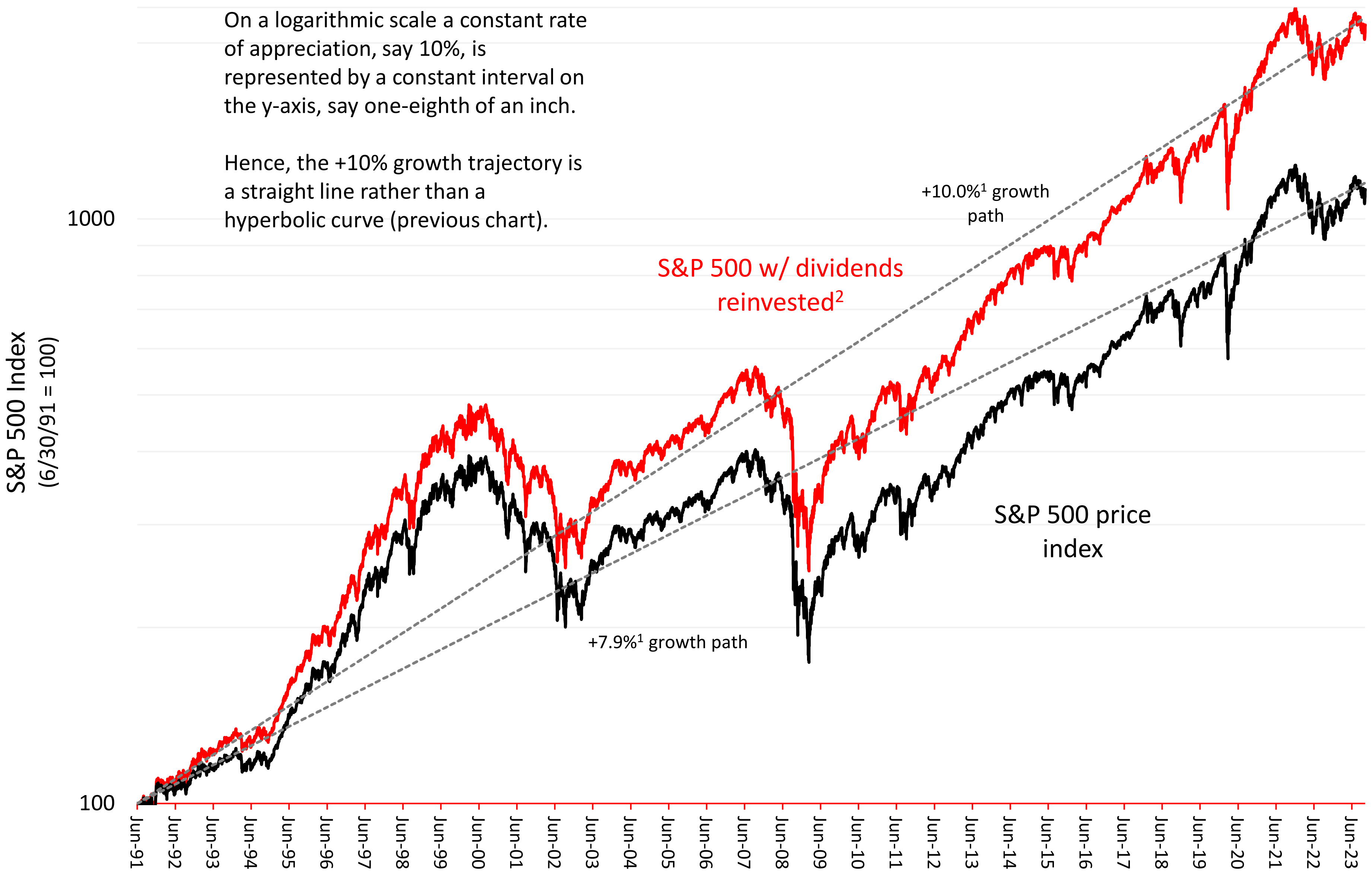
+10% per year S&P 500 total return over the last 30 years is in line with the stock market's long-term returns going back to 1926, or back even further to 1871.[3]



Source: Standard and Poor's. Data through November 6, 2023.[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

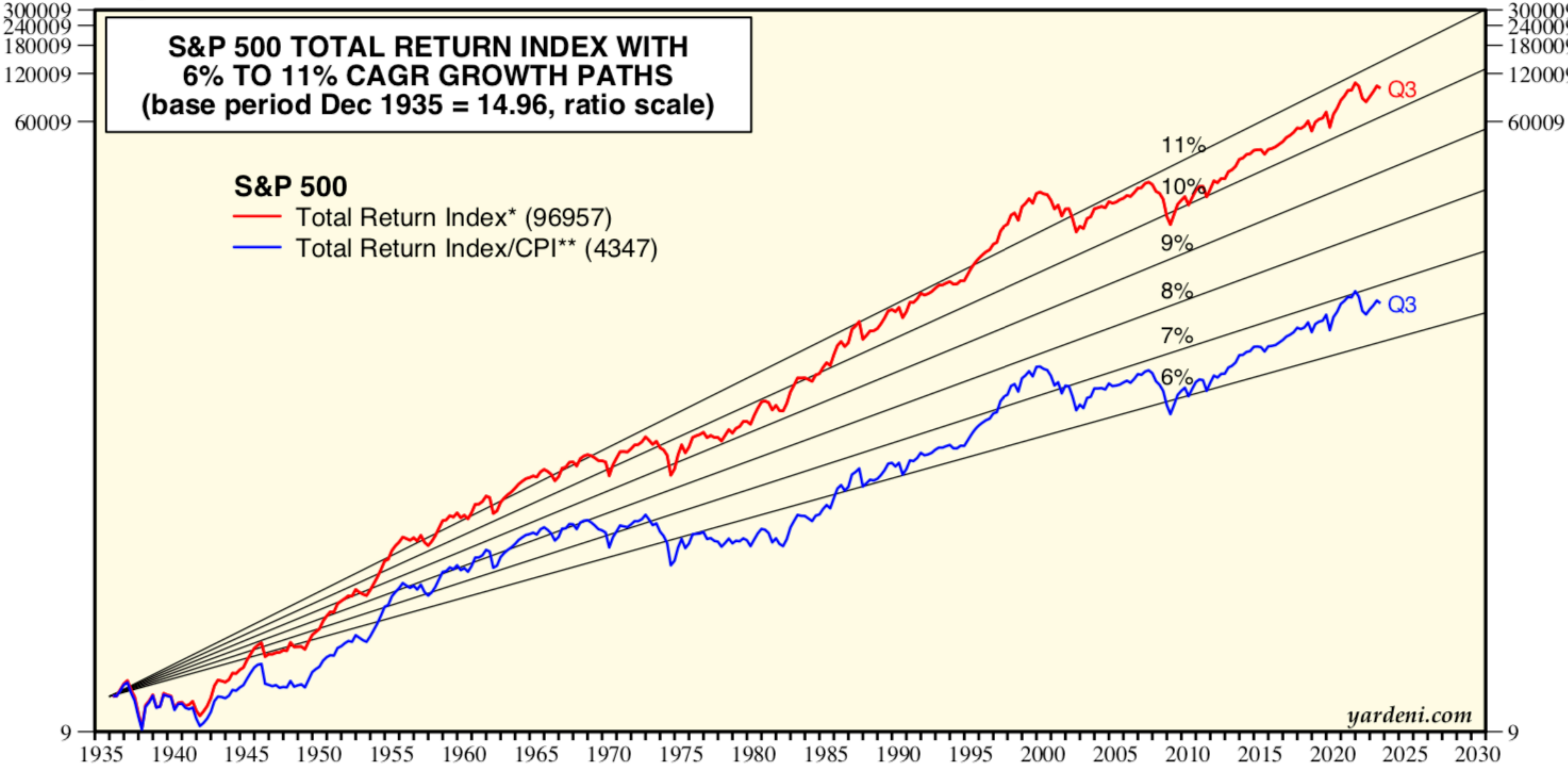
Total return = 7.9% earnings-driven price + 2.1% dividends reinvested



Source: Standard and Poor's. Data through November 6, 2023. [1] Compound annual growth rate. [2] S&P 500 total return index.

Total return and real total return

Figure 8.

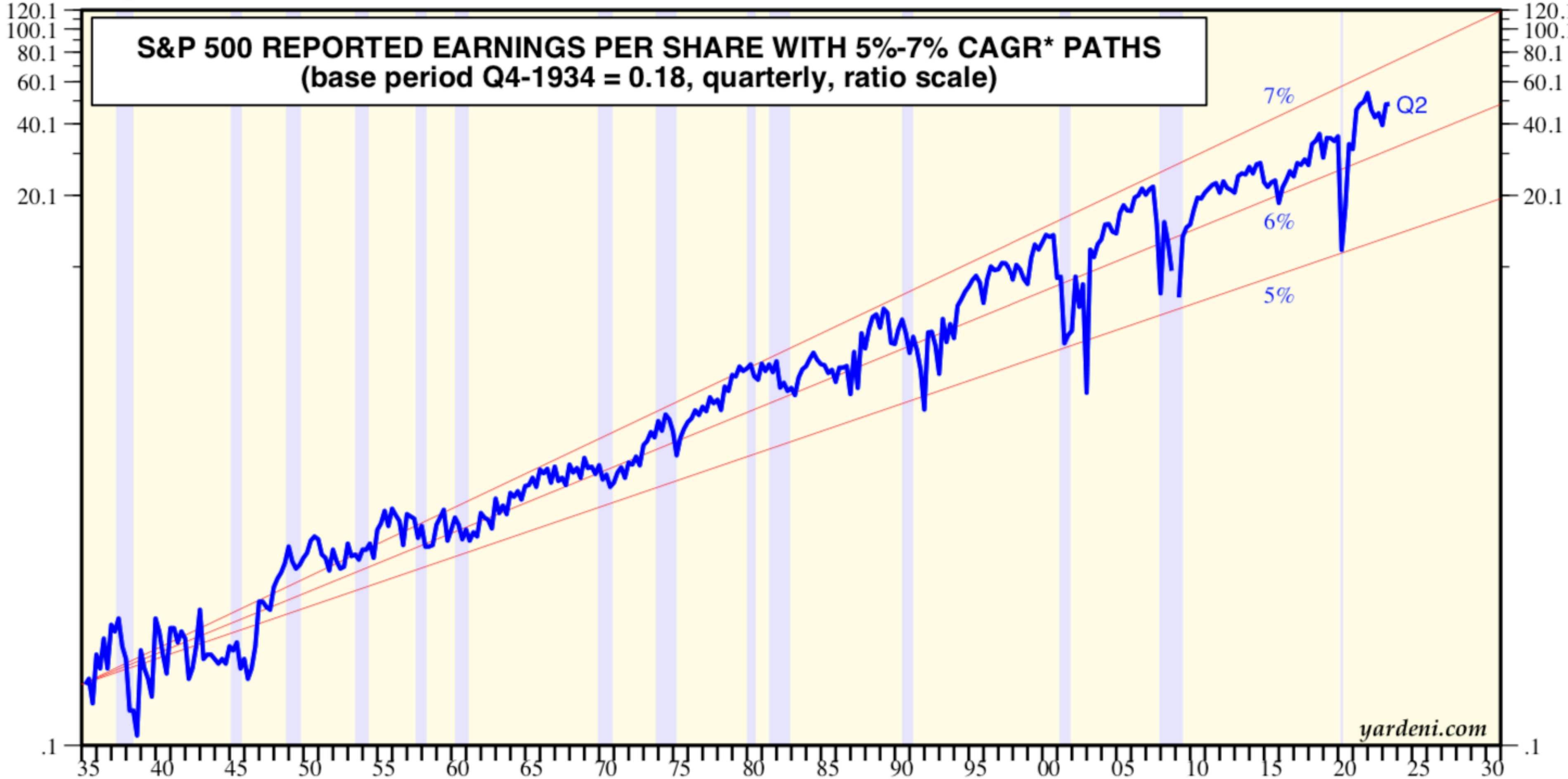


* Includes reinvested dividends.
** Using last month of quarter CPI. Compounded monthly using base value.
Source: Standard & Poor's.

Source: Yardeni Research, Inc., with permission.

85 years of S&P 500 earnings growth

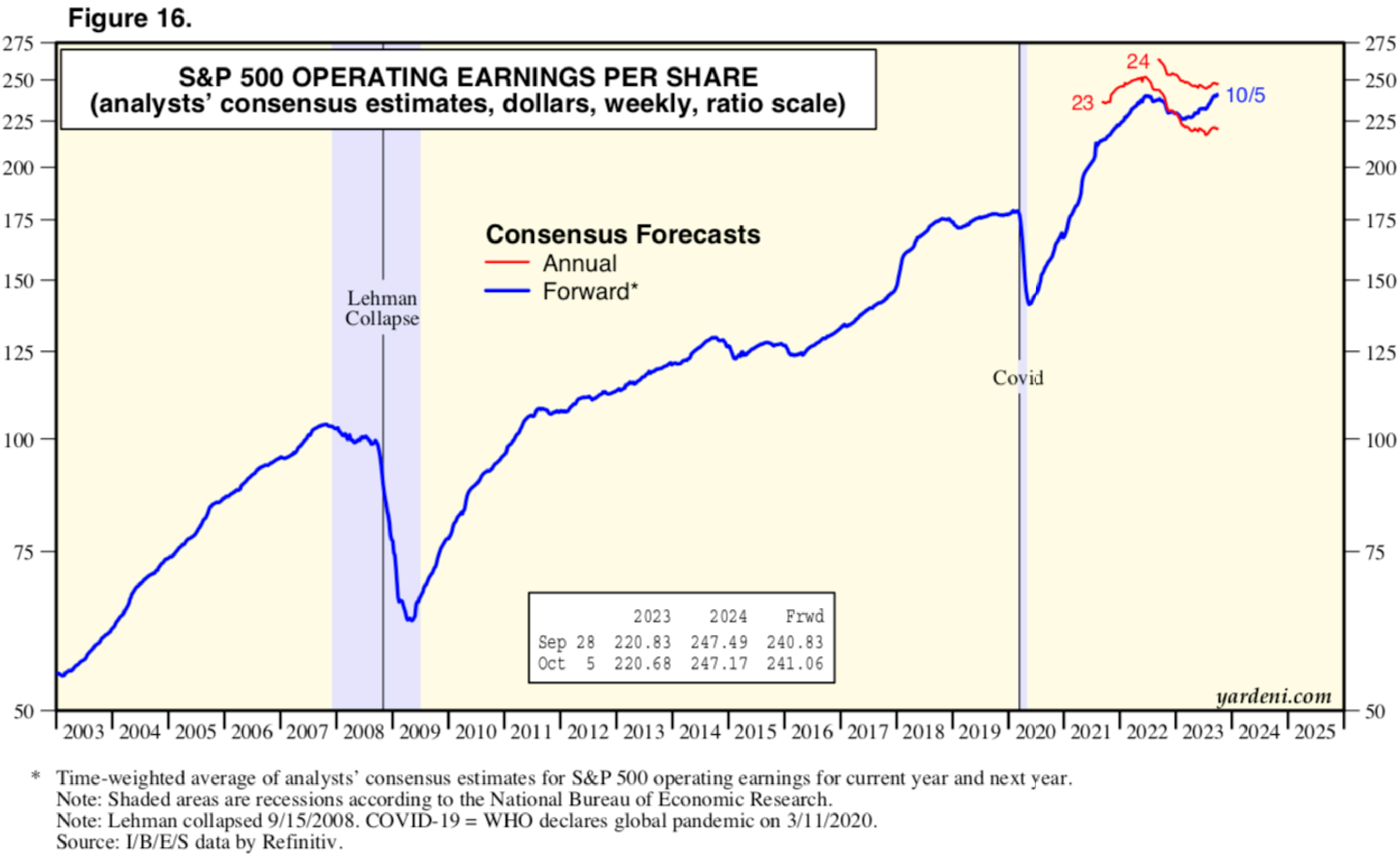
Figure 13.



* 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.

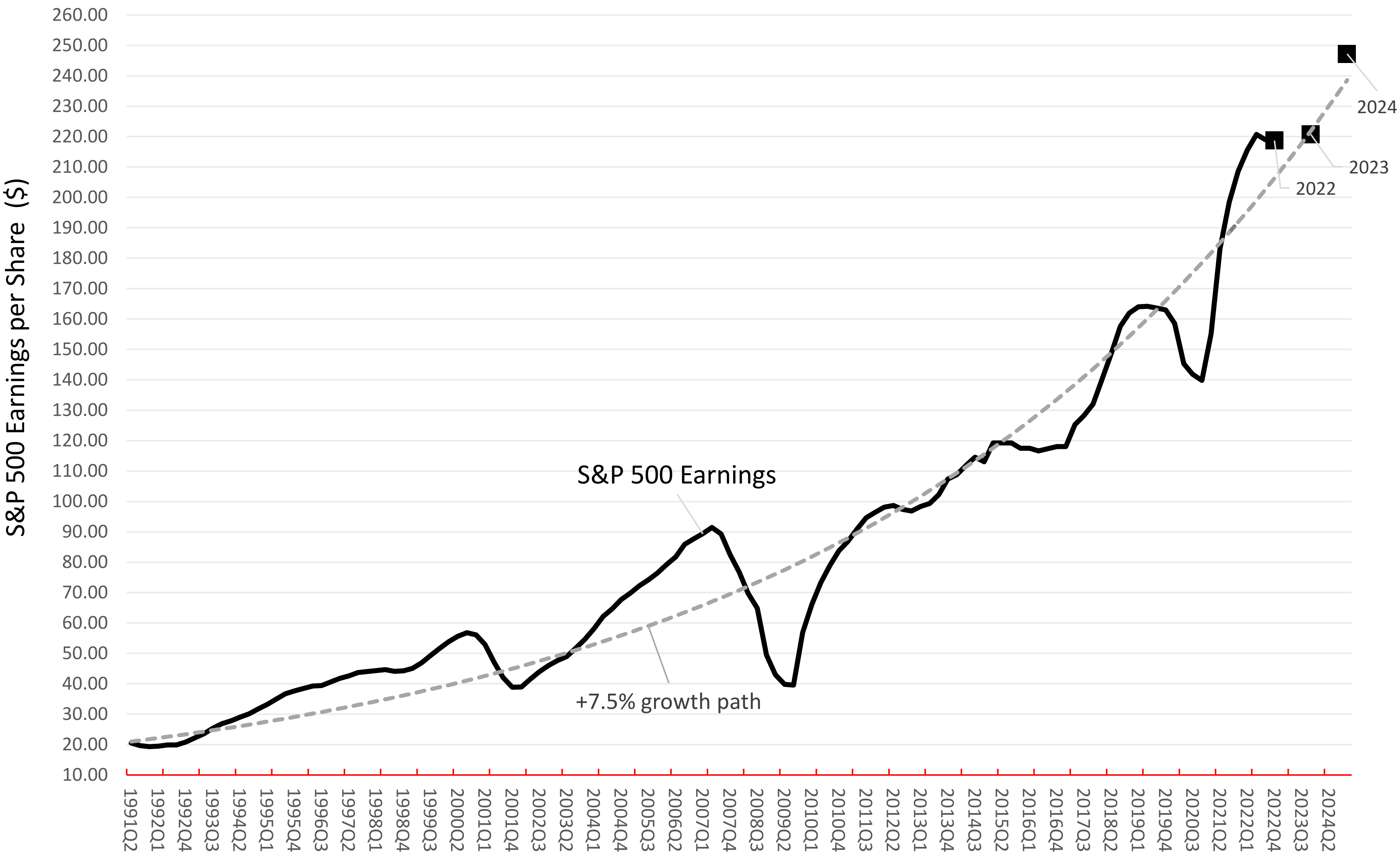
Source: Yardeni Research, Inc. with permission.

S&P forward earnings estimates moving higher



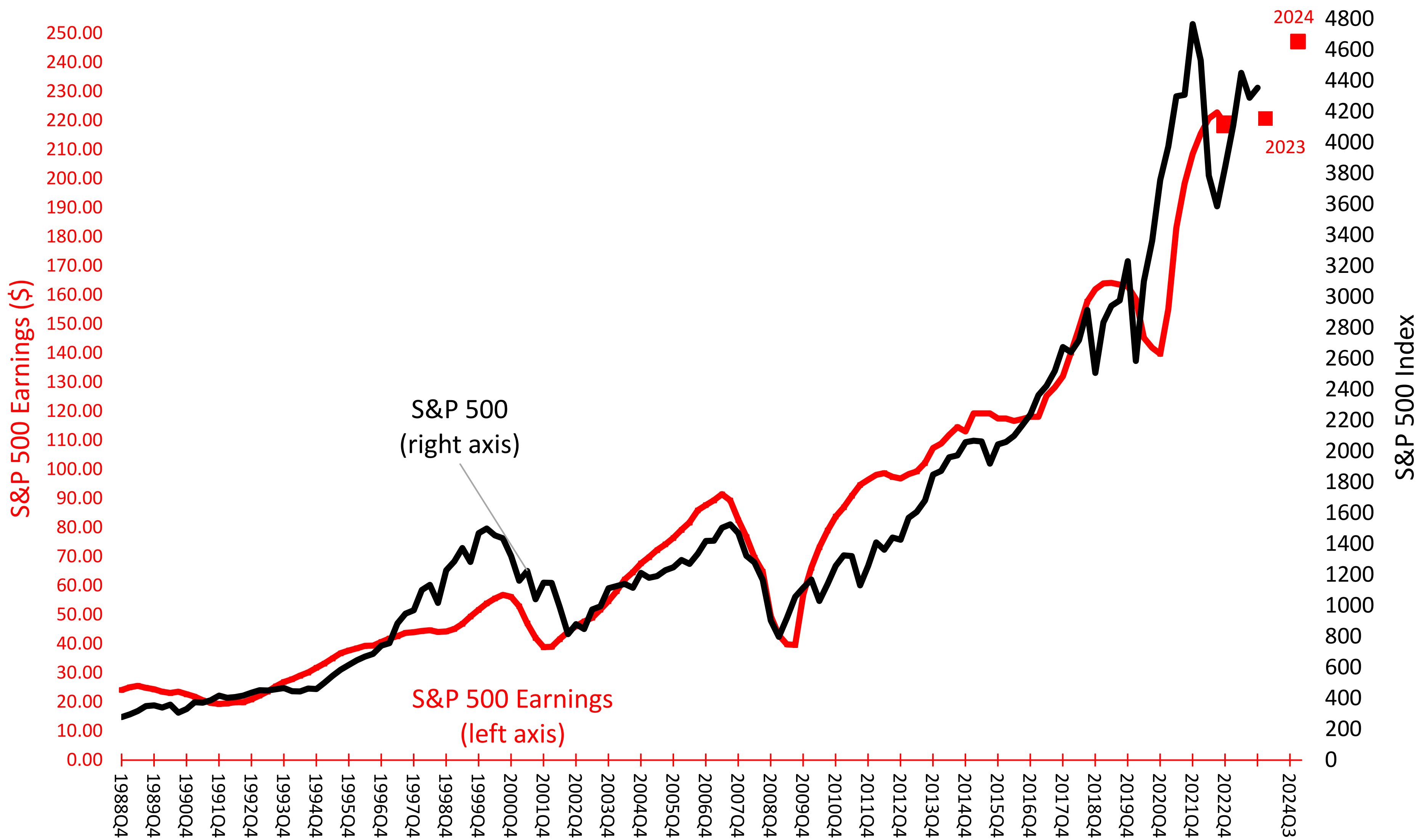
Source: Yardeni Research, Inc., with permission. October 12, 2023.

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



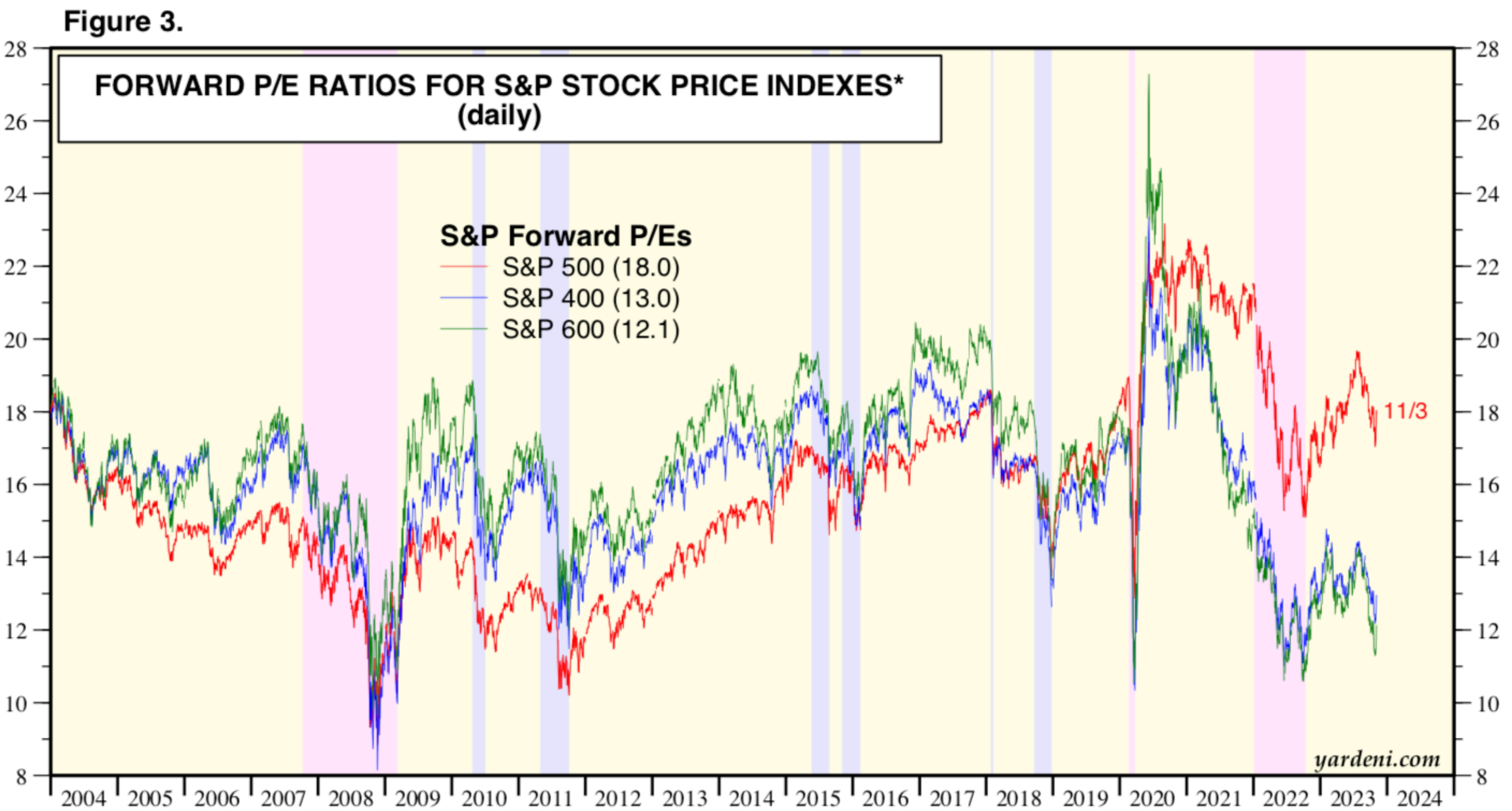
2023 (estimated) and 2024 (estimated) bottom-up S&P 500 operating earnings per share as of October 12, 2023: for 2023(e), $220.68; for 2024(e), $247.17.
Sources: Yardeni Research, Inc. and Thomson Reuters I/B/E/S for actual and estimated operating earnings from 2015. Standard and Poor's for actual operating earnings data through 2014.

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



2023 (estimated) and 2024 (estimated) bottom-up S&P 500 operating earnings per share as of October 12, 2023: for 2023(e), $220.68; for 2024(e), $247.17.
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 October 12, 2023.

S&P 500 index forward P/E ratio



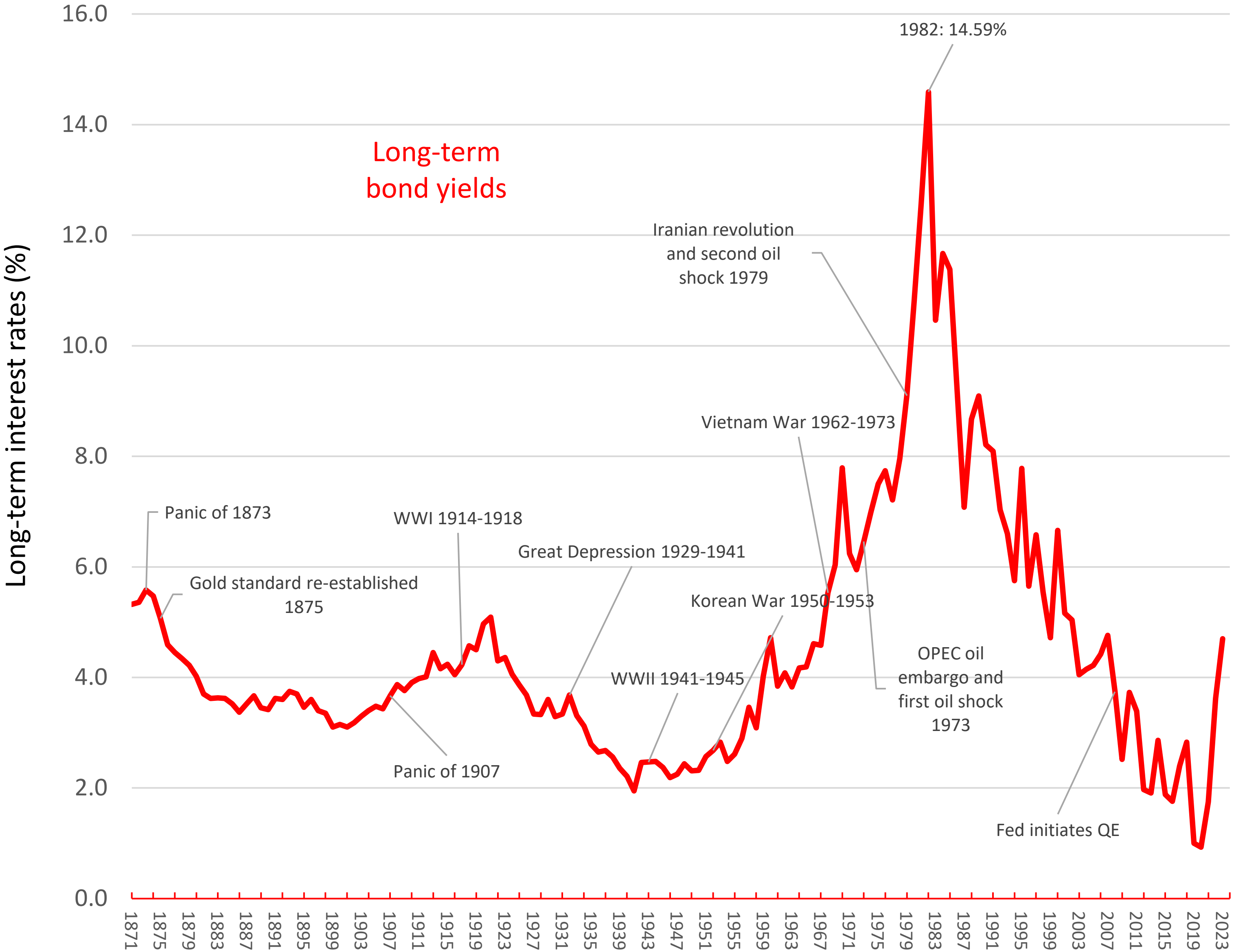
* Daily stock price index divided by 52-week forward consensus expected operating earnings per share.
Note: Shaded red areas are S&P 500 bear market declines of 20% or more. Blue shaded areas are correction declines of 10% to less than 20%.
Yellow areas are bull markets.
Source: Standard & Poor's and I/B/E/S data by Refinitiv.

Source: Yardeni Research, Inc., with permission, November 5, 2023.

Bond Yields

- Normal yields by historic comparison

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 12, 2023.

Return to normal

THE WALL STREET JOURNAL.

Welcome Back, Bond Market

What do you know: The U.S. has a bond market again. That's the underlying significance of the recent rise in yields for longer-term Treasurys, especially the all-important 10-year note, which is triggering a freakout in much of the financial press. This isn't to make light of this major economic event and its risks for the economy. But 15 or so years of unprecedented low interest rates and central-bank market distortions are making it impossible for some commentators to recognize "normal" when it arrives.

… a modestly positive inflation-adjusted long-term interest rate— which is what the U.S. finally has—is no great threat to prosperity. More normal yields will discipline markets in ways that could boost growth over time.

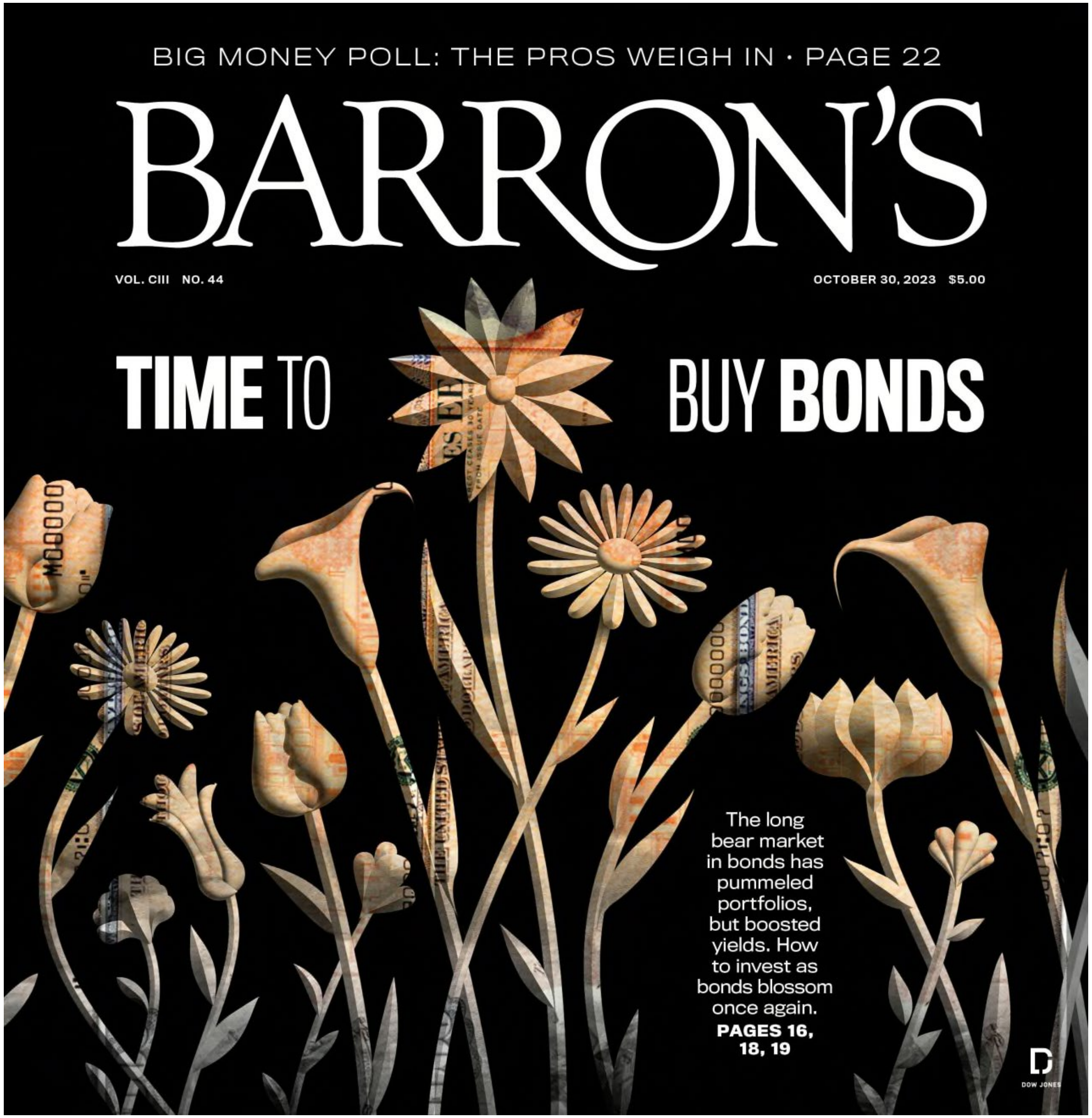
Source: *The Wall Street Journal.* "Welcome Back, Bond Market", Review & Outlook. October 6, 2023.

U.S. Treasury bond yields

Why have bond yields surged recently?

1. Too much supply of Treasuries.
2. Higher for longer short-term interest rates.
3. Stronger-than-expected economic growth.
4. Reduced demand for Treasuries…QT.

"Time to Buy Bonds"



Source: *Barron's*, cover story, October 30, 2023.

U.S. Treasury bond yields

BARRON'S

Rarely in American history has it been this bad for bonds—and rarely has it been such an opportune time to buy.

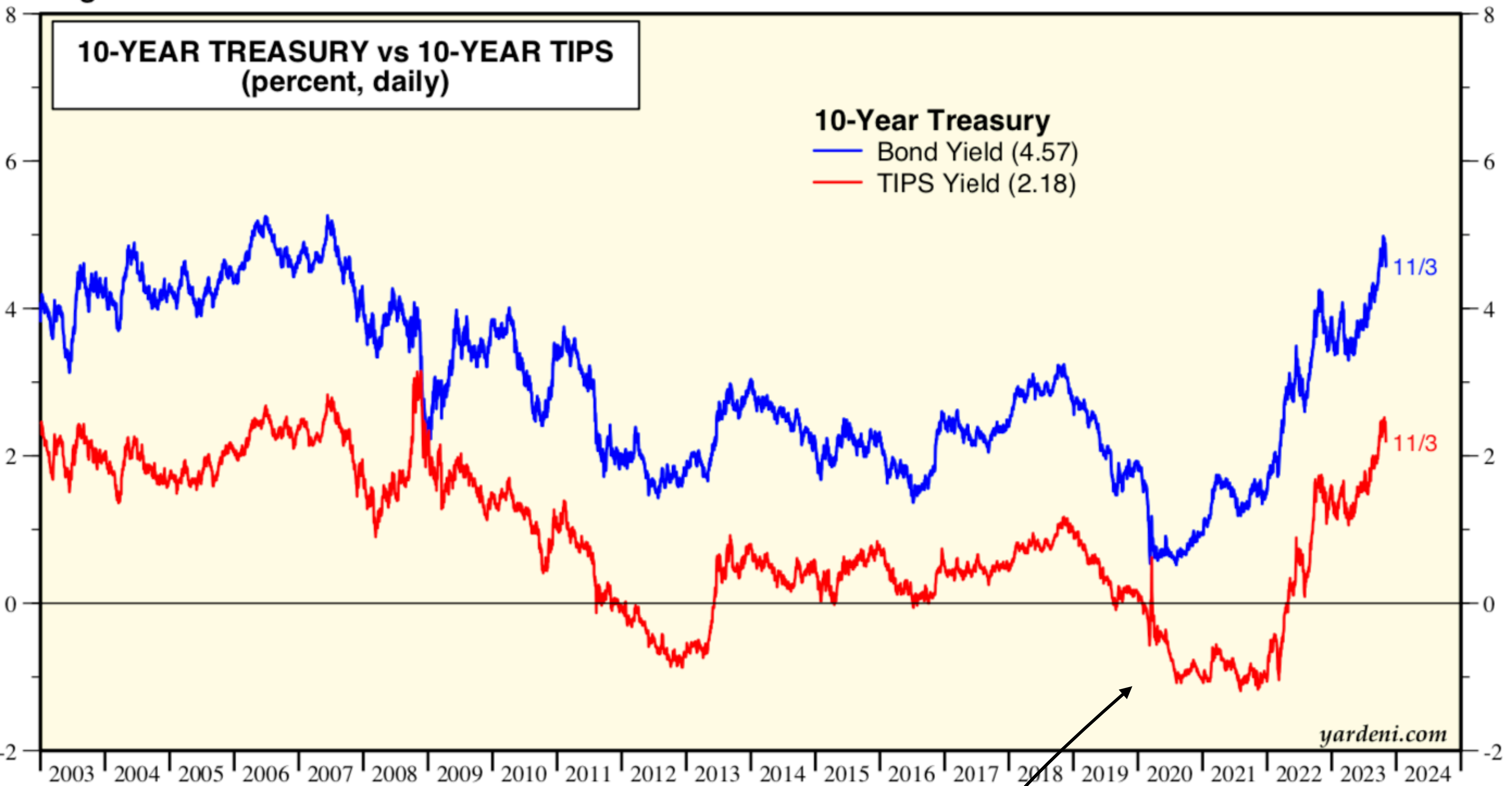
Treasury inflation-protected securities , or TIPS, maturing in both five and 10 years are pricing in inflation of 2.5%, implying that expectations are well anchored. At those levels, Treasuries are generating yields of 2.5% after inflation, the first time 'real yields' have been meaningfully positive in over a decade.

"The real rate is so attractive that you don't need to venture very far out on the curve and your yield will work for you," says Rick Rieder, chief investment officer of global fixed income at BlackRock.

Source: *Barron's*, "After the Fall: It's Time to Buy Bonds", October 30, 2023.

U.S. Treasury bond and TIPS yields

Figure 5.



Source: Federal Reserve Board.

Negative real returns didn't make sense.

Source: Yardeni Research, Inc., with permission. November 5, 2023.

Federal Reserve

- Paused rate hikes
- Inverted the yield curve
- Special liquidity facility
- Raised growth forecast

Central tendency forecast – one more hike?

For release at 2:00 p.m., EDT, September 20, 2023

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, September 2023

Percent

Variable	Median[1]					Central Tendency[2]					Range[3]				
	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run
Change in real GDP	2.1	1.5	1.8	1.8	1.8	1.9–2.2	1.2–1.8	1.6–2.0	1.7–2.0	1.7–2.0	1.8–2.6	0.4–2.5	1.4–2.5	1.6–2.5	1.6–2.5
June projection	1.0	1.1	1.8		1.8	0.7–1.2	0.9–1.5	1.6–2.0		1.7–2.0	0.5–2.0	0.5–2.2	1.5–2.2		1.6–2.5
Unemployment rate	3.8	4.1	4.1	4.0	4.0	3.7–3.9	3.9–4.4	3.9–4.3	3.8–4.3	3.8–4.3	3.7–4.0	3.7–4.5	3.7–4.7	3.7–4.5	3.5–4.3
June projection	4.1	4.5	4.5		4.0	4.0–4.3	4.3–4.6	4.3–4.6		3.8–4.3	3.9–4.5	4.0–5.0	3.8–4.9		3.5–4.4
PCE inflation	3.3	2.5	2.2	2.0	2.0	3.2–3.4	2.3–2.7	2.0–2.3	2.0–2.2	2.0	3.1–3.8	2.1–3.5	2.0–2.9	2.0–2.7	2.0
June projection	3.2	2.5	2.1		2.0	3.0–3.5	2.3–2.8	2.0–2.4		2.0	2.9–4.1	2.1–3.5	2.0–3.0		2.0
Core PCE inflation[4]	3.7	2.6	2.3	2.0		3.6–3.9	2.5–2.8	2.0–2.4	2.0–2.3		3.5–4.2	2.3–3.6	2.0–3.0	2.0–2.9	
June projection	3.9	2.6	2.2			3.7–4.2	2.5–3.1	2.0–2.4			3.6–4.5	2.2–3.6	2.0–3.0		
Memo: Projected appropriate policy path															
Federal funds rate	5.6	5.1	3.9	2.9	2.5	5.4–5.6	4.6–5.4	3.4–4.9	2.5–4.1	2.5–3.3	5.4–5.6	4.4–6.1	2.6–5.6	2.4–4.9	2.4–3.8
June projection	5.6	4.6	3.4		2.5	5.4–5.6	4.4–5.1	2.9–4.1		2.5–2.8	5.1–6.1	3.6–5.9	2.4–5.6		2.4–3.6

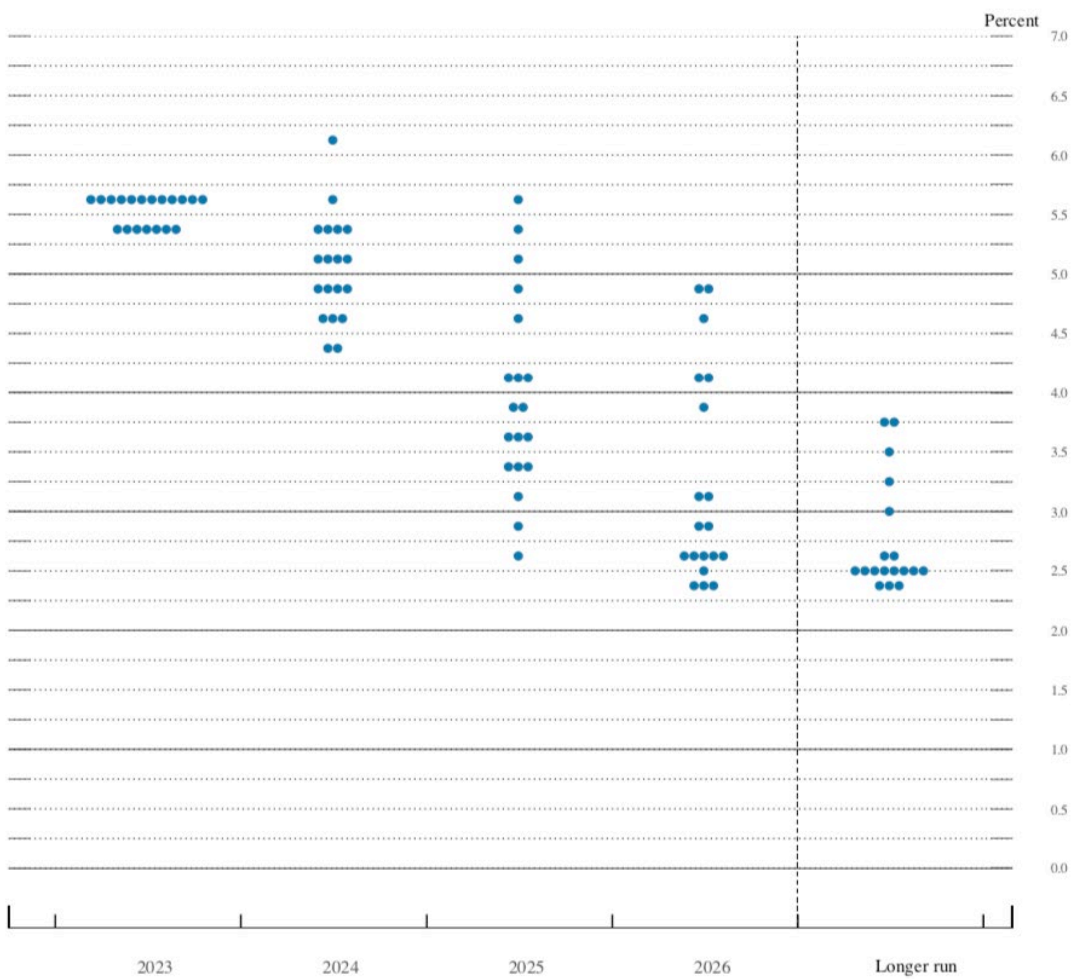
Source: Federal Reserve, September 20, 2023.

Federal Reserve

Dot plot – one more hike?

For release at 2:00 p.m., EDT, September 20, 2023

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



Source: Federal Reserve, September 20, 2023.

Powell's October 19th speech

THE WALL STREET JOURNAL.

Fed Chair Signals Rate-Hike Pause To Stay

Federal Reserve Chair Jerome Powell suggested the runup in long-term Treasury yields could allow the central bank to suspend a historic run of interest- rate increases as long as progress on inflation continues.

That is in part because the swift rise in long-term rates over the past month could slow the economy, effectively substituting for another Fed rate increase if higher borrowing costs are sustained.

"We have to let this play out and watch it, but for now, it is clearly a tightening in financial conditions," Powell said. The whole point of raising interest rates is to "affect financial conditions, and higher bond rates are producing tighter financial conditions right now."

Source: *The Wall Street Journal.* "Fed Chair Signals Rate-Hike Pause To Stay", by Nick Timiraos. October 20, 2023.

Fed's November 1st statement

November 01, 2023

Federal Reserve issues FOMC statement

For release at 2:00 p.m. EDT

Recent indicators suggest that economic activity expanded at a strong pace in the third quarter. Job gains have moderated since earlier in the year but remain strong, and the unemployment rate has remained low. Inflation remains elevated.

The U.S. banking system is sound and resilient. Tighter financial and credit conditions for households and businesses are likely to weigh on economic activity, hiring, and inflation. The extent of these effects remains uncertain. The Committee remains highly attentive to inflation risks.

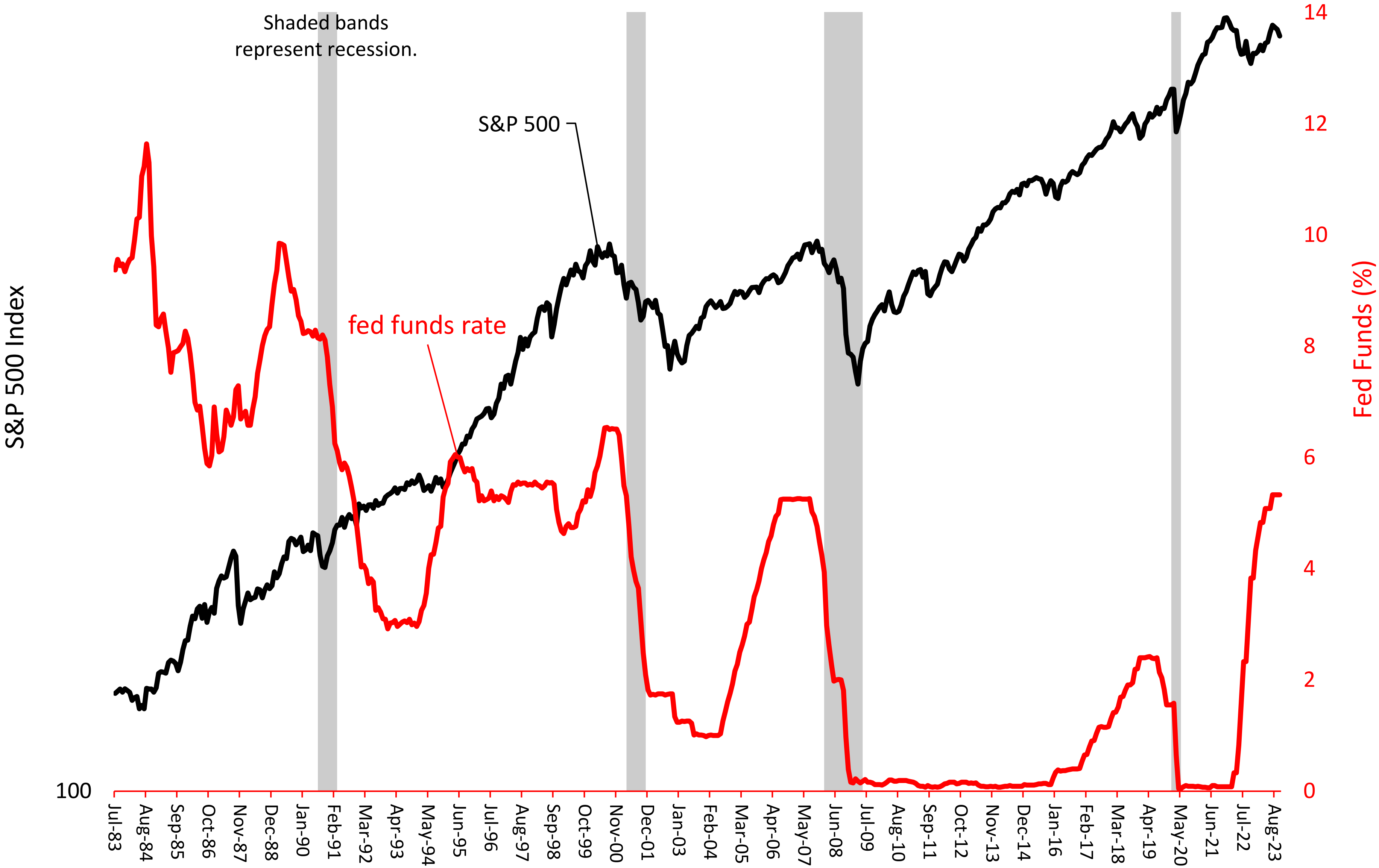
The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. The Committee will continue to assess additional information and its implications for monetary policy. In determining the extent of additional policy firming that may be appropriate to return inflation to 2 percent over time, the Committee will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in its previously announced plans. The Committee is strongly committed to returning inflation to its 2 percent objective.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

Voting for the monetary policy action were Jerome H. Powell, Chair; John C. Williams, Vice Chair; Michael S. Barr; Michelle W. Bowman; Lisa D. Cook; Austan D. Goolsbee; Patrick Harker; Philip N. Jefferson; Neel Kashkari; Adriana D. Kugler; Lorie K. Logan; and Christopher J. Waller.

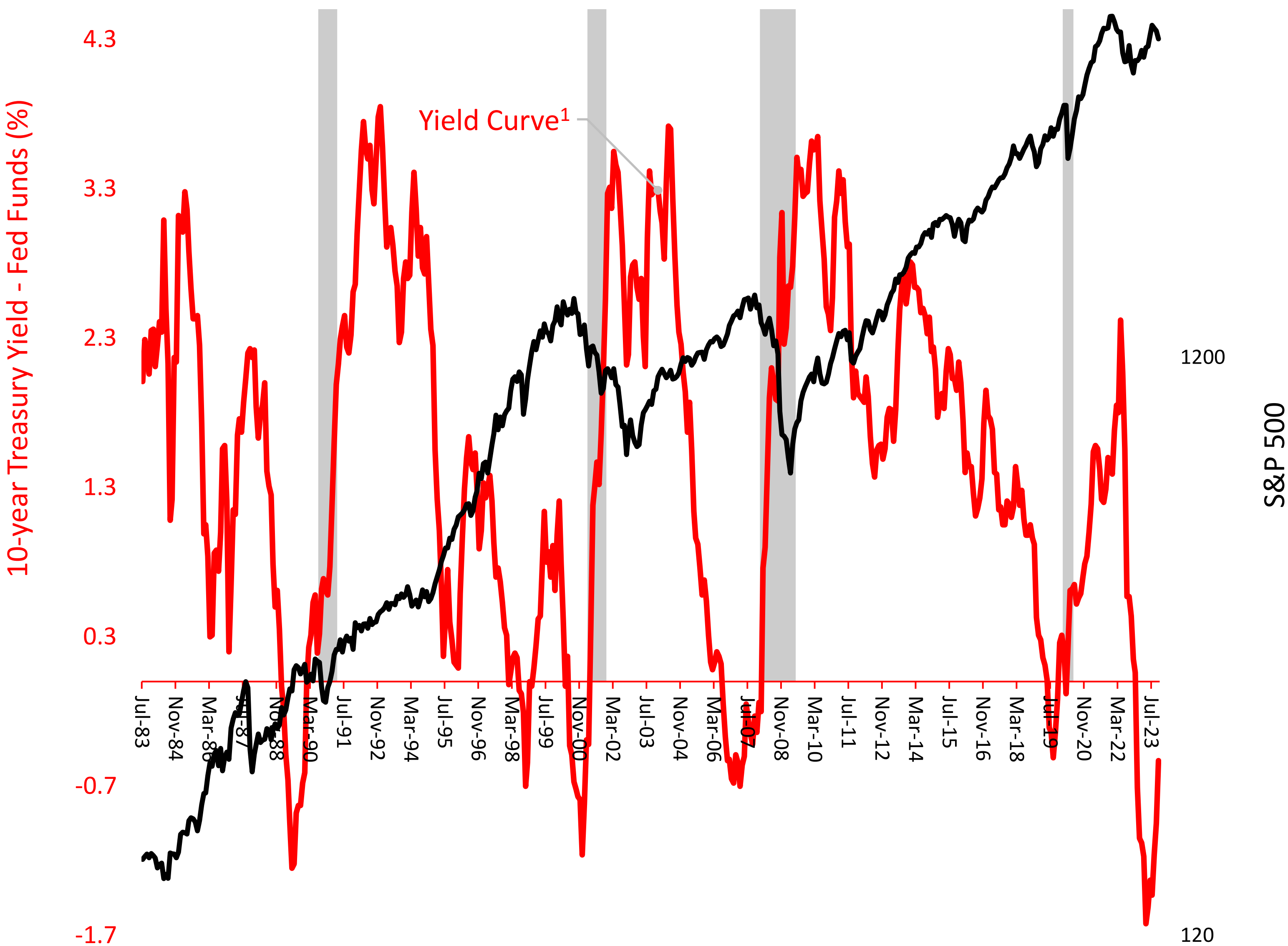
For media inquiries, please email media@frb.gov or call 202-452-2955.

S&P 500 vs. fed funds rate



Sources: Federal Reserve, Standard & Poor's. Data through October 2023.

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.

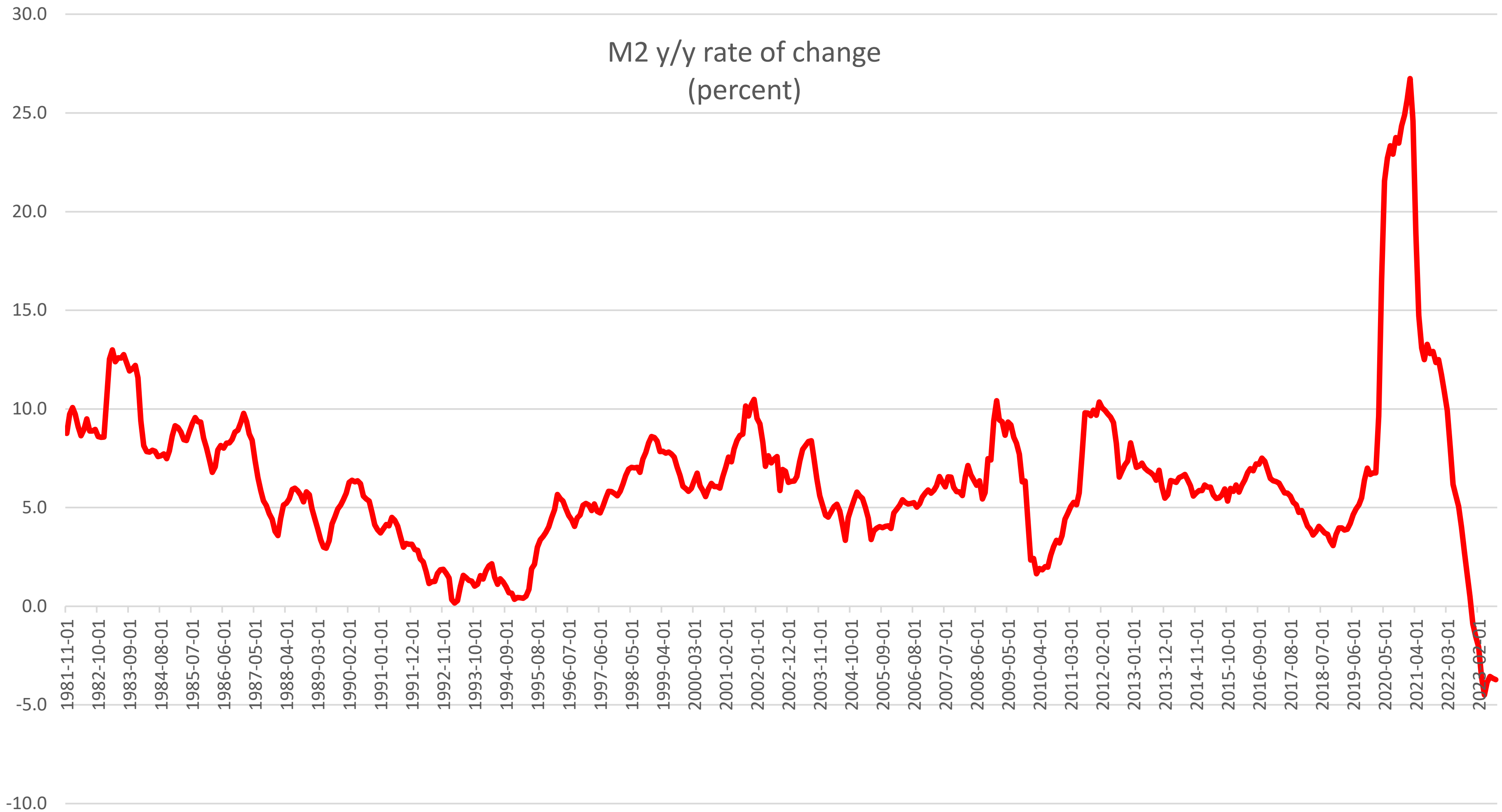
Today, <u>the yield curve is inverted</u>.

Sources: NBER, Federal Reserve and Standard & Poor's. Data through October 2023.
[1]The interest rate on the 10-year Treasury bond (long term) minus the fed funds rate (short term).

Inflation

- Year-over-year headline PCED +3.4%, +3.7% core
- M2 driving (dis)inflation?
- Inflation expectations (TIPS spread) falling

The money supply – y/y rate of change



Source: Federal Reserve Bank of St. Louis. Data through August 2023.

M2 vs. inflation

THE WALL STREET JOURNAL.

Get Ready for Deflation

The record increase in the money supply caused by $6 trillion in pandemic relief payments in 2020 and 2021 unleashed the present inflation.

The aggressive tightening regime the Fed has undertaken, including an unprecedented four back-to-back 75-basis-point rate increases, deserves little credit for the recent decrease in inflation. The drop has been caused primarily by the sharp slowing in money-supply growth resulting from the end of federal pandemic stimulus payments.

Slowing money growth now is interacting with higher rates, and the result is contraction. M2 has shrunk 4.63% in the past year. This is the only contraction in U.S. history, so there is a lot we can't predict here, but it would be extraordinary if such a contraction didn't result in deflation, just as the large money-supply increase two years ago resulted in inflation.

Source: *The Wall Street Journal*, May 24, 2023. Opinion section. Author: Donald L. Luskin.

Active vs. passive

THE WALL STREET JOURNAL.

Stock-Picking Funds Trailed Market Again

Over the long run, S&P Dow Jones Indices found that most U.S. equity funds, regardless of category, fail to beat the relevant stock index. Of the U.S. large-cap funds that were in business 20 years ago, 6% are both still operating and have beaten the S&P 500 over that time, according to the report.

Source: *The Wall Street Journal*, March 12, 2021.

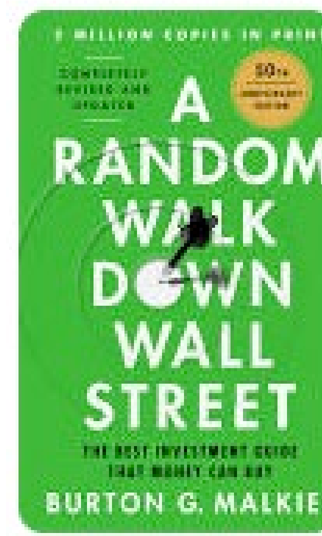
Active vs. passive

BARRON'S

***Barron's:* Do you still think your hypothetical chimpanzee is better than the experts?**

Burton Malkiel: I believe more strongly in my hypothesis today than I did 50 years ago.
… year after year two-thirds of the active managers are outperformed by a simple index fund. And the one-third that win in one year aren't the same as the one-third that win in the next year.
When you compound the returns over 10 years, or 20 years, these Spiva[1] reports show that 90% of the active managers are outperformed by a simple index fund. The same results hold in international markets and the bond market.
I'm not saying that no one can outperform. But when you try to go active, you are much more likely to be in the 90% of the distribution where you underperform, rather than the 10% where you outperform.

Burton G. Malkiel
Princeton professor and author



Source: *Barron's*, "50 Years On, He Still Favors Index Funds", February 13, 2023.
[1] S&P indices versus active management.

Active vs. passive

BARRON'S

Squeaking By

Despite Warren Buffett's stock-picking prowess, Berkshire stock has only managed to keep up with the S&P 500.

	1-Yr Return	5-Yr Return	10-Yr Return	20-Yr Return
Berkshire	0.6%	11.0%	12.0%	10.3%
S&P 500	0.5	11.1	12.2	10.1

Note: Five-, 10-, and 20-year returns are annualized

Source: Bloomberg

Source: *Barron's*, "It's Time to Bet on Buffet's Stock Again", May 1, 2023.

Factor funds

Factor ETFs Promise Outsize Returns. They're Not Delivering, Research Finds.

Most of the groupings also have higher volatility than the S&P 500

BY DEREK HORSTMEYER

FACTOR ETFS arrived in the past decade as another way to invest in particular subclasses of stocks and receive risk-adjusted, benchmark-beating performance over the long run. As it turns out, they appear to lack the X factor.

These exchange-traded funds aim to isolate an equity factor or trait that is believed to generate higher risk-adjusted returns—such as value or low volatility. Examining six categories of factor ETFs, however, my research assistants John Walton and Ben Korhnak and I find no evidence that over the past 10 years any of them have outperformed. And for half of the groups, volatility exceeded that of the S&P 500.

To study this issue, we pulled all factor ETFs issued in the U.S. and dollar-denominated issues, and separated them by their respective factor categories: size, minimum volatility, momentum, multifactor, international and quality. We then investigated the past 10 years of data and calculated the median return and volatility within each factor grouping.

Fear Factor

So-called factor funds have largely lagged behind the S&P 500 in returns, and half have been more volatile than the stock index

	MEDIAN MONTHLY RETURN (PERCENT)	VOLATILITY ANNUALIZED (PERCENT)	CORRELATION WITH THE S&P 500
S&P 500	**1.778%**	**14.856%**	**1.000**
Quality Factor	1.345	14.729	0.989
Size Factor	1.178	16.382	0.926
Momentum Factor	1.611	14.922	0.942
Minimum Volatility Factor	1.067	11.658	0.913
International Factor	1.193	13.459	0.894
Multifactor	1.350	14.917	0.968

*The table presents results for six categories of equity factor ETFs over the past 10 years. The S&P 500 returns and performance are also included for comparison.
Source: Derek Horstmeyer, George Mason University

ALEX NABAUM

The findings

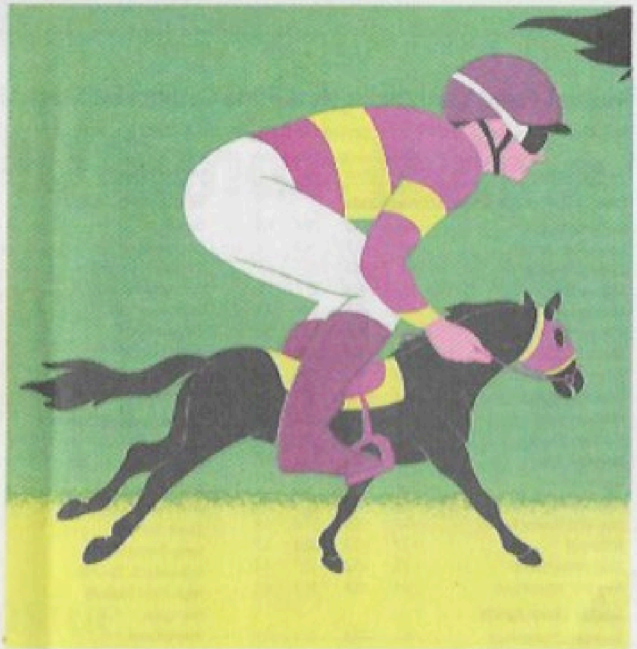
Although the theory is that these factors will generate superior performance over the long run, not one of the factor ETF groupings did so over the past decade. The S&P 500's median monthly return over the past 10 years was 1.78%, and the closest a factor group's return came to that was momentum with 1.61%.

A second finding: Some of the factor groupings had higher volatility than the S&P 500. Take the size-factor ETF grouping, which had a median monthly return of 1.18% and volatility of 16.38% a year. The median monthly return for the S&P 500 was more than half a point higher and with volatility of only 14.86% a year.

On an unadjusted basis, the factor ETF with the worst performance was minimum-volatility, coming in at a monthly median return of 1.07%. However, it did live up to its name and deliver on low volatility, coming in with the lowest volatility of all groupings—11.66% volatility a year over the 10-year period.

Debunking diversification

Of course, there may be other reasons to consider factor ETFs aside from their risk-adjusted performance metrics. It may, for instance, provide diversification to



your portfolio.

To study this aspect of these ETFs, we examined the correlation each ETF with the S&P 500 over the past 10 years. Again, we don't find significant correlation benefits in any of the subgroupings. And that means that by adding any factor ETFs to your equity portfolio, it won't reduce your risk, or volatility, by any meaningful amount.

The factor ETF with the lowest correlation was the international-factor ETF and even this came in with a 0.89 correlation (where a correlation of one means perfect movement with the S&P 500). For context, the average bond ETF came in with a 0.30 correlation with the S&P 500 over the same period—offering much more diversification benefits to any portfolio.

The evidence over the past 10 years is pretty bleak for factor ETFs. Not one grouping managed to beat the S&P 500 and they don't offer too much in terms of diversification benefits. With numerous S&P 500 ETFs offering expense ratios under 0.05 percentage point a year and tax-efficient structures, these still seem a better bet than exotic factor ETF offerings.

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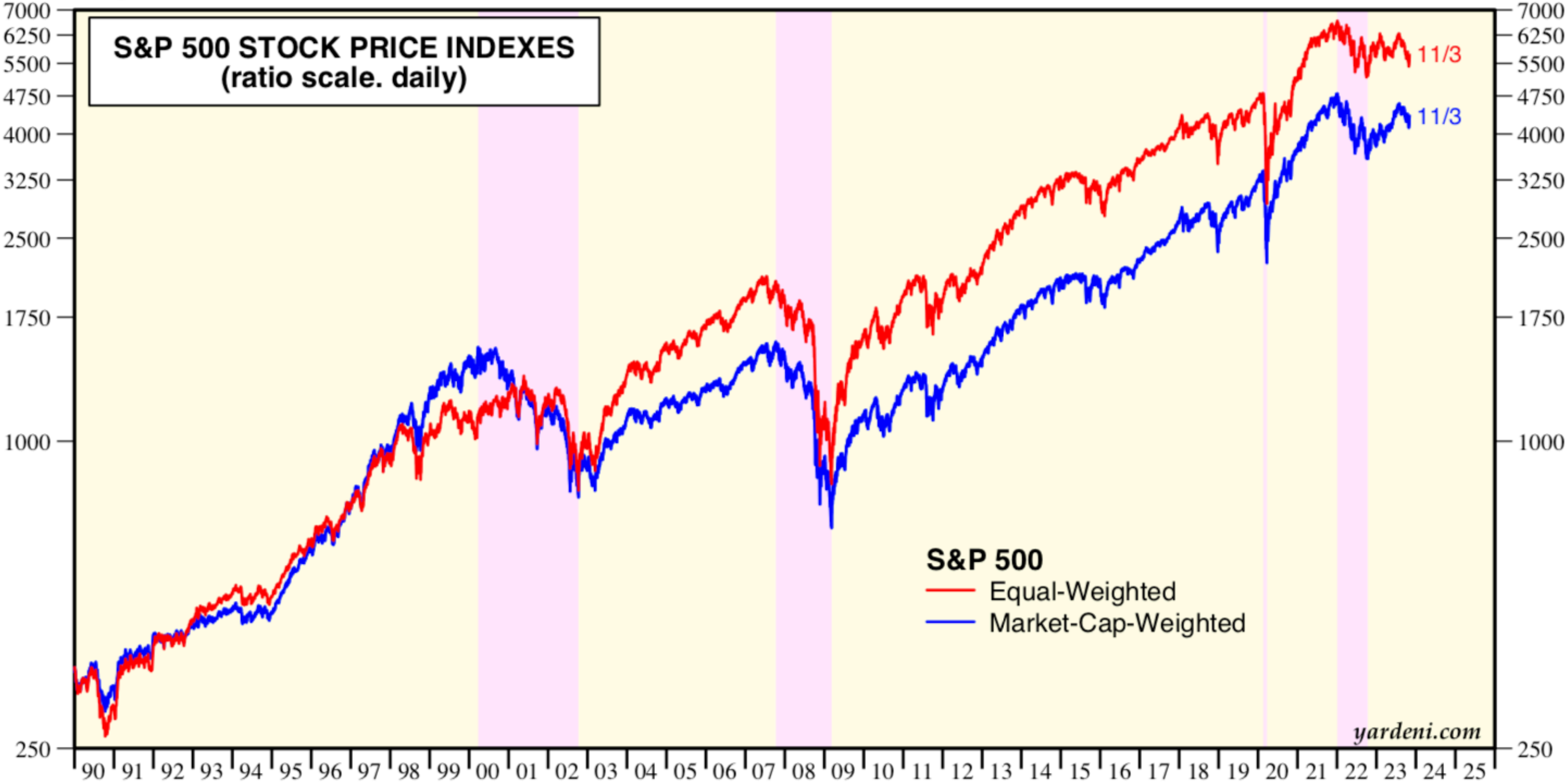
Source: *The Wall Street Journal*, "Factor ETFs Promise Outsize Returns. They're Not Delivering, Research Finds." by Derek Horstmeyer, October 9, 2023.

S&P 500 vs. S&P 500 equal-weighted

Figure 20.



Note: Shaded red areas are S&P 500 bear market declines of 20% or more. Yellow areas are bull markets.
Source: Haver Analytics and Standard & Poor's.

Source: Yardeni Research, Inc., with permission. November 5, 2023.

Behavioral economics

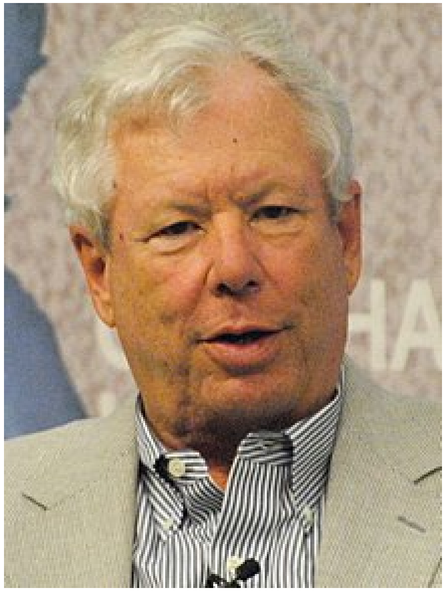
BARRON'S

***Barron's:* What investment opportunities should investors look for after the pandemic?**

Richard Thaler: It's not knowable. That's exactly the sort of thing we pride ourselves in not doing – trying to forecast what the world is going to look like six months from now or a year from now. For individual investors, the best strategy is benign neglect. Create a sensible long-term portfolio, and then ignore it.

***Barron's:* What elements of behavioral economics do you find particularly relevant now?**

Richard Thaler: … Well, one of the interesting things we observed in the past six months is a big increase in retail investing at the level of individual securities.. My opinion is, for individual investors to be doing that is a fool's errand. The world has conspired to make them overconfident now because the market's been going up pretty steadily, and it has been going up fast in the segment of the market that retail investors have been most attracted to. So, it's very easy to think that you've figured this stuff out. If you think you've figured it out right now, think again.



Richard H. Thaler
Nobel prize winner for behavioral economics

Source: *Barron's*, December 7, 2020.

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*.

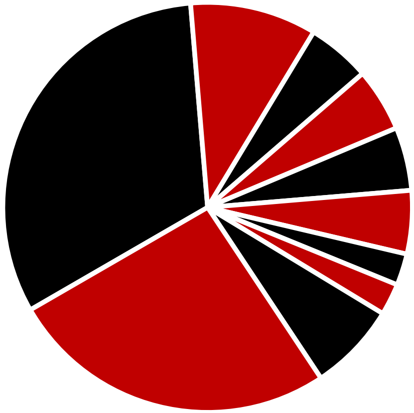
Thirty-eight years later, he shared a Nobel Prize with Merton Miller and William Sharpe for what has become a broad theory for portfolio selection.

<u>Modern Portfolio Theory</u>

Diversify

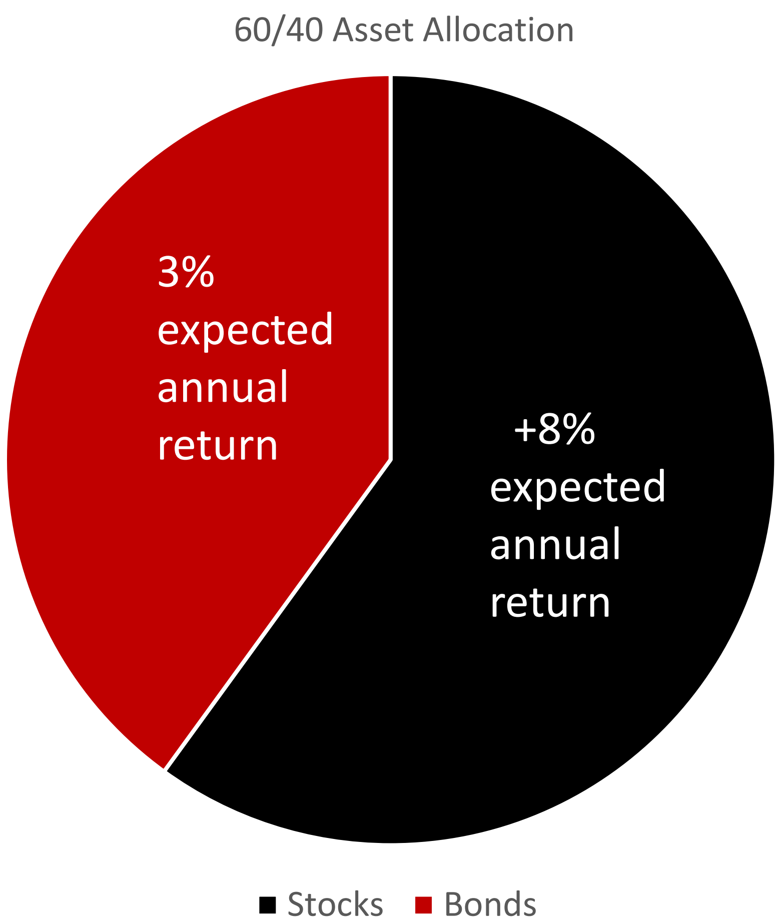
Optimize

Rebalance



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

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

Important Information

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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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