



Guide to the Markets[®]

U.S. | 4Q 2023

As of September 30, 2023





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S&P 500 Index at inflection points

Equities

S&P 500 Price Index

Characteristic	3/24/2000	10/9/2007	2/19/2020	1/3/2022	9/30/2023
Index Level	1,527	1,565	3,386	4,797	4,288
P/E Ratio (fwd.)	25.2x	15.1x	19.2x	21.4x	17.8x
Dividend Yield	1.4%	1.9%	1.9%	1.3%	1.7%
10-yr. Treasury	6.2%	4.7%	1.6%	1.6%	4.6%



Source: Compustat, FactSet, Federal Reserve, Refinitiv Datastream, Standard & Poor's, J.P. Morgan Asset Management. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on IBES estimates and FactSet estimates since January 2022. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.

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S&P 500 valuation measures

Equities

S&P 500 Index: Forward P/E ratio



Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since October 1998 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are \$241. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets - U.S. Data are as of September 30, 2023.

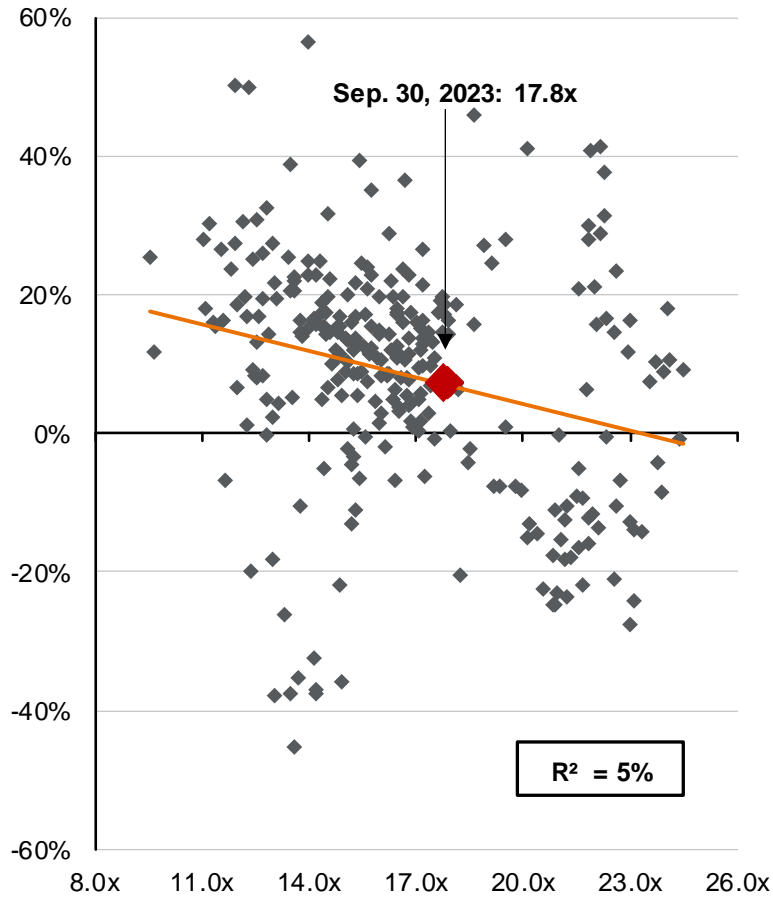


P/E ratios and equity returns

Equities

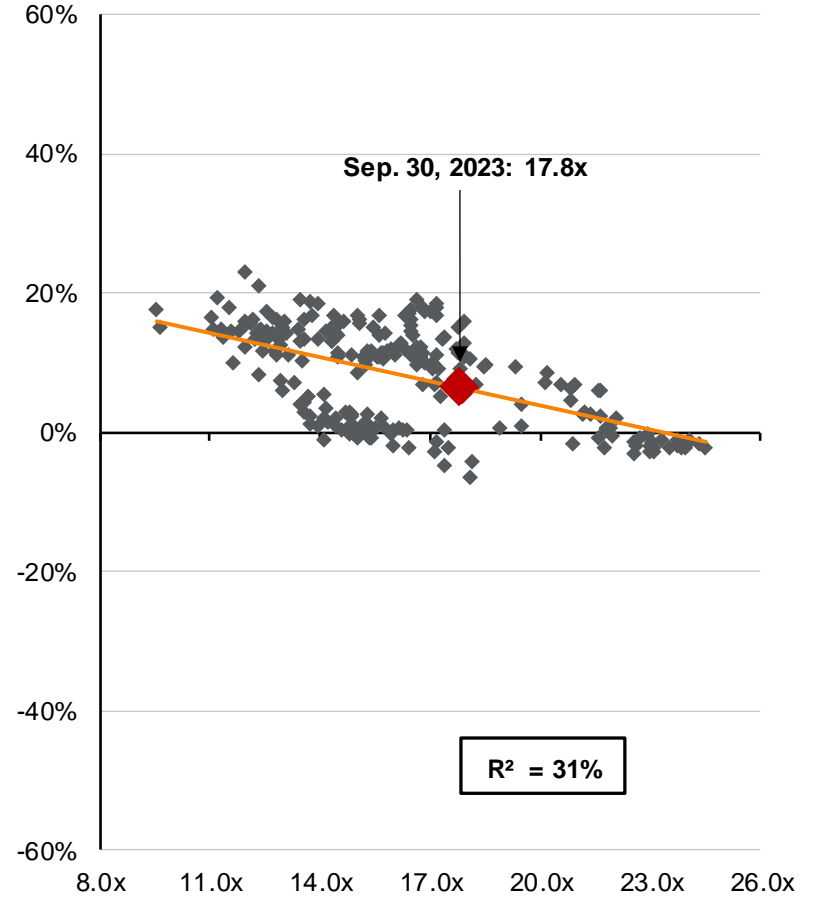
Forward P/E and subsequent 1-yr. returns

S&P 500 Total Return Index



Forward P/E and subsequent 5-yr. annualized returns

S&P 500 Total Return Index



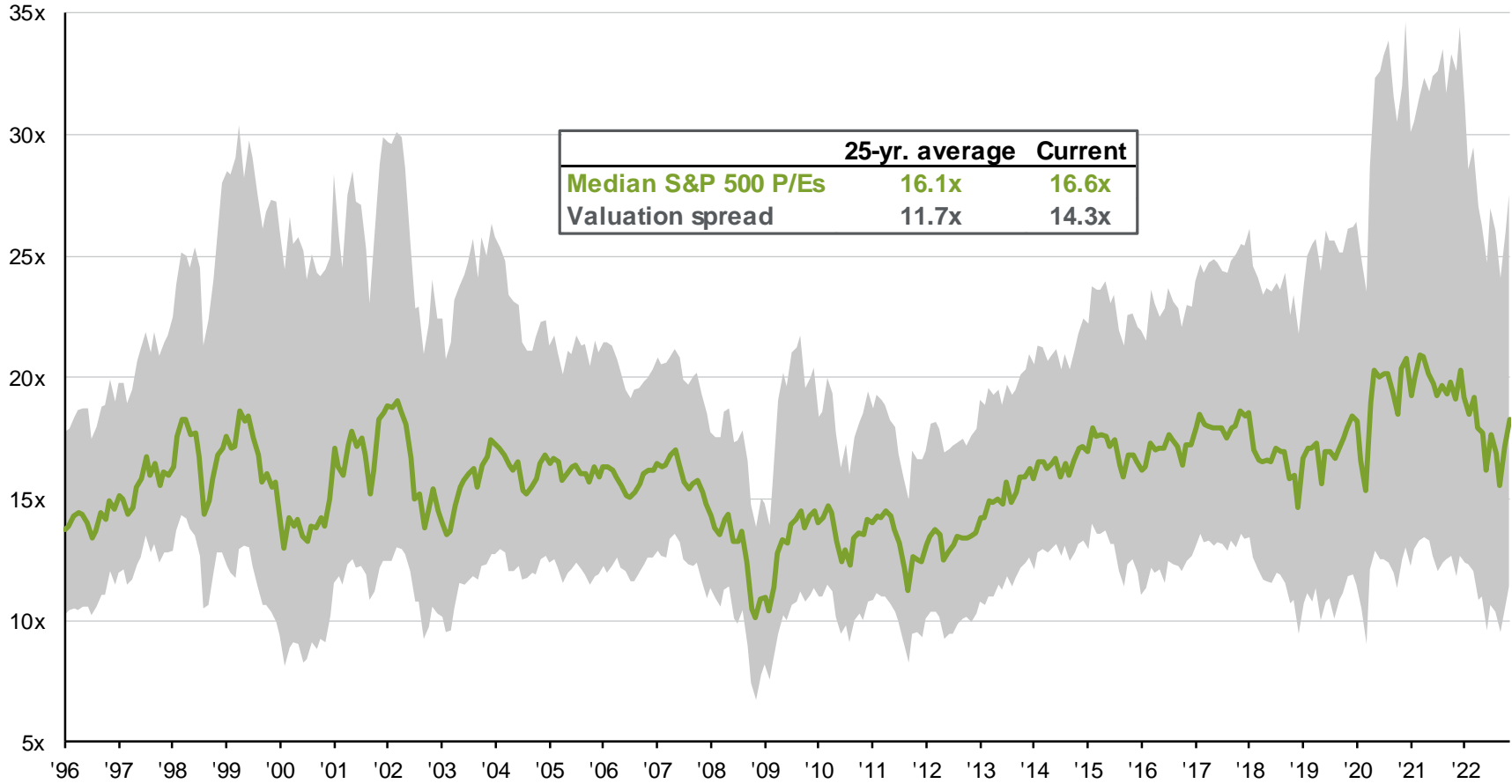
Source: FactSet, Refinitiv Datastream, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Returns are 12-month and 60-month annualized total returns, measured monthly, beginning 9/30/1998. R^2 represents the percent of total variation in total returns that can be explained by forward price-to-earnings ratios. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since February 1998 and by FactSet since January 2022. *Guide to the Markets - U.S.* Data are as of September 30, 2023.



S&P 500: Valuation dispersion

Equities

Valuation dispersion between the 20th and 80th percentile of S&P 500 stocks



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of September 30, 2023.

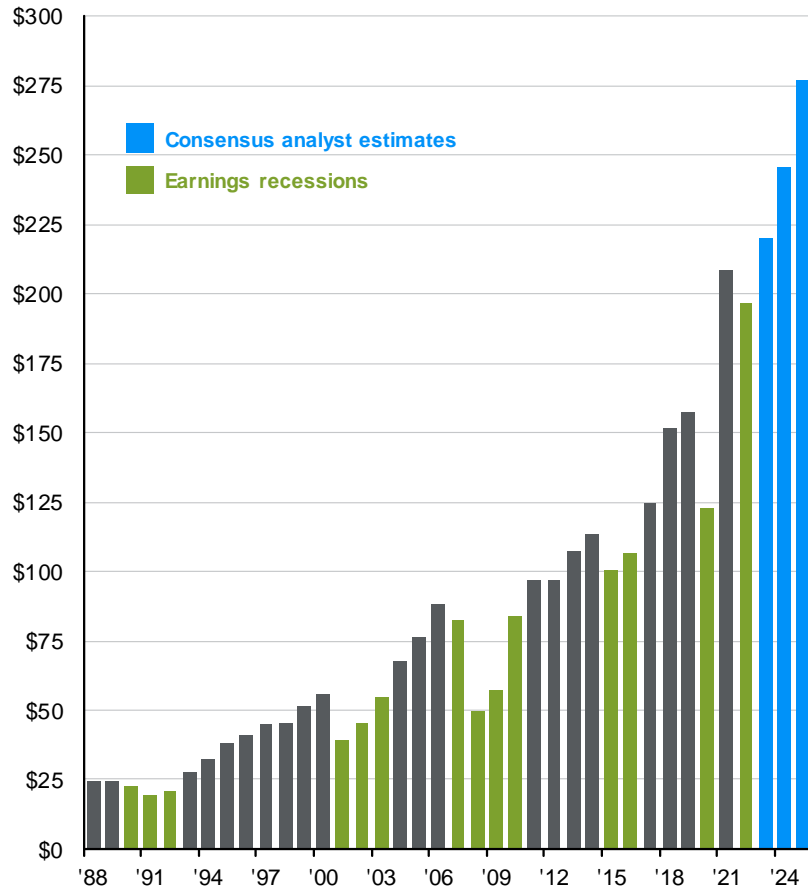


Corporate earnings and sources of earnings growth

Equities

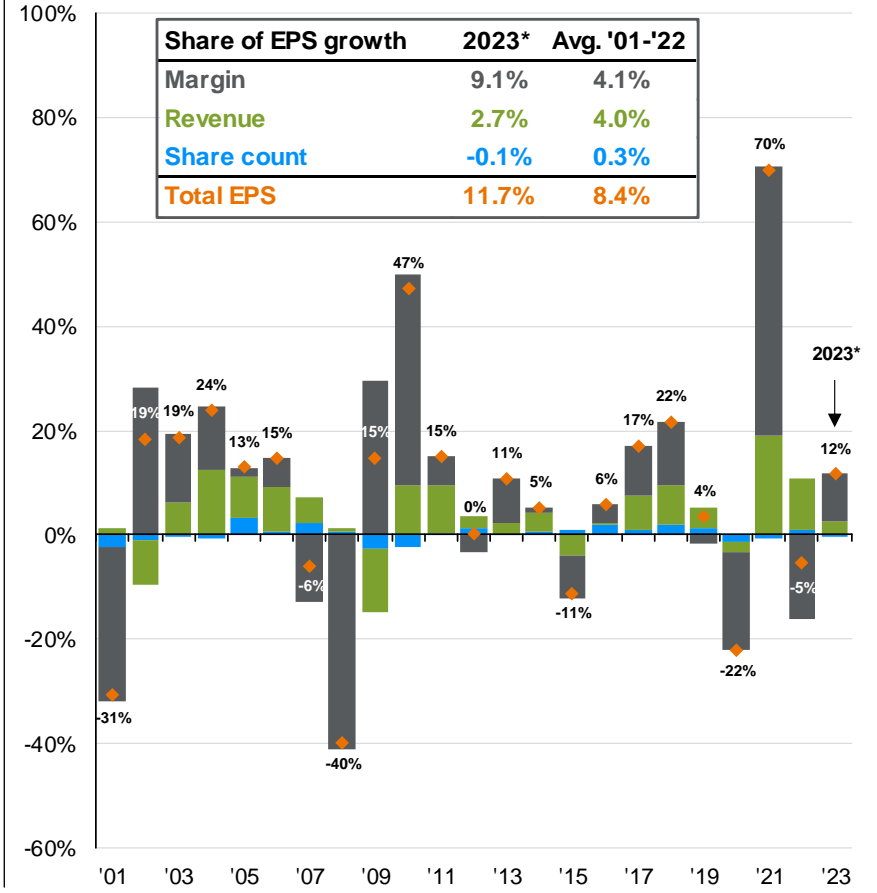
S&P 500 earnings per share

Index annual operating earnings, USD



S&P 500 year-over-year operating EPS growth

Annual growth broken into revenue, changes in profit margin & changes in share count



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management. Historical EPS levels are based on annual operating earnings per share. *2023 earnings estimates are based on estimates from Standard & Poor's and FactSet Market Aggregates. Percentages may not sum due to rounding. Past performance is not indicative of future returns. Guide to the Markets – U.S. Data are as of September 30, 2023.

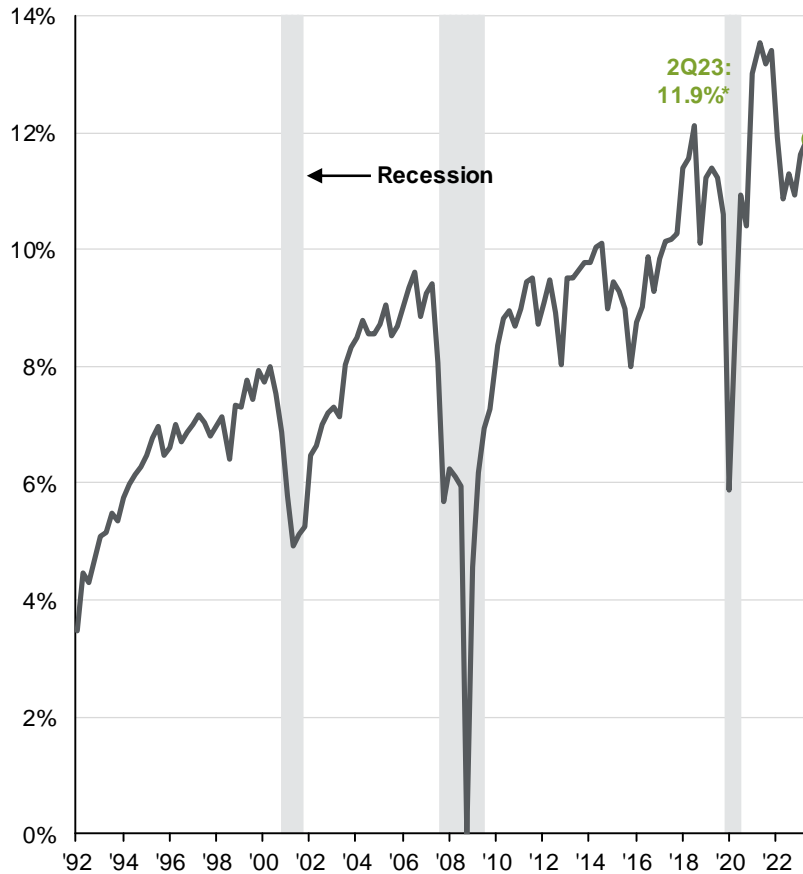


Profit margins

Equities

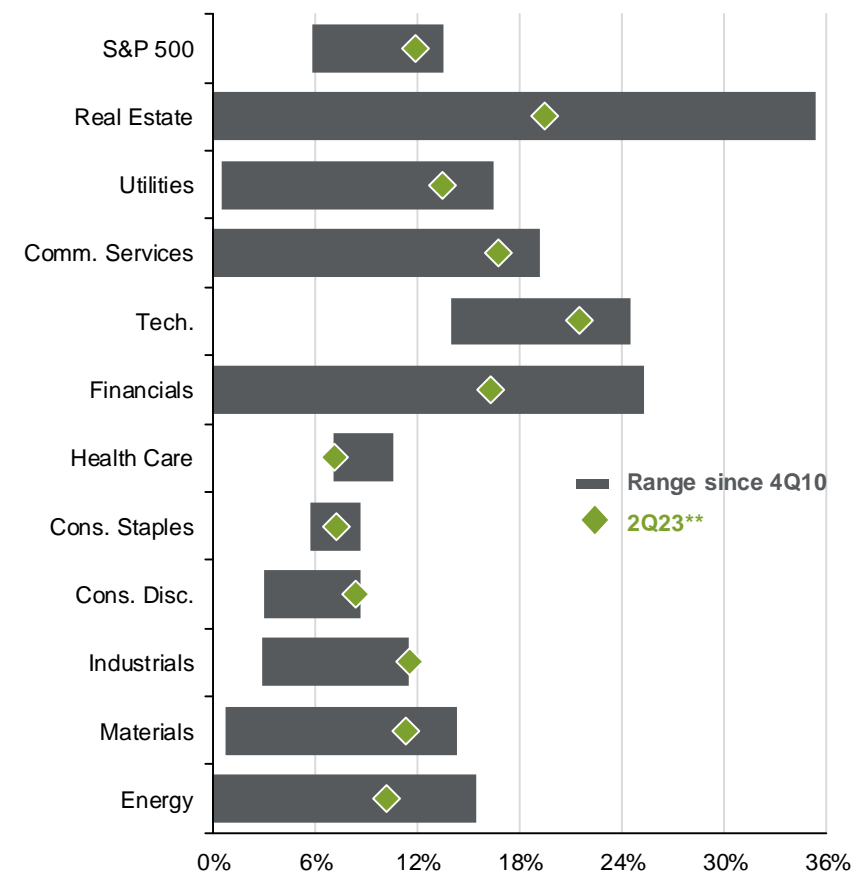
S&P 500 profit margins

Quarterly operating earnings/sales



S&P 500 operating margins by sector

Current operating margins versus historical range**



Source: Compustat, FactSet, NFIB, Standard & Poor's, J.P. Morgan Asset Management. Past performance is not indicative of future returns.
 *Current 2Q23 profit margin is a preliminary estimate. **Quarters with negative operating margins are not shown, with zero set as the lower bound for troughs.
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Value vs. Growth

Equities

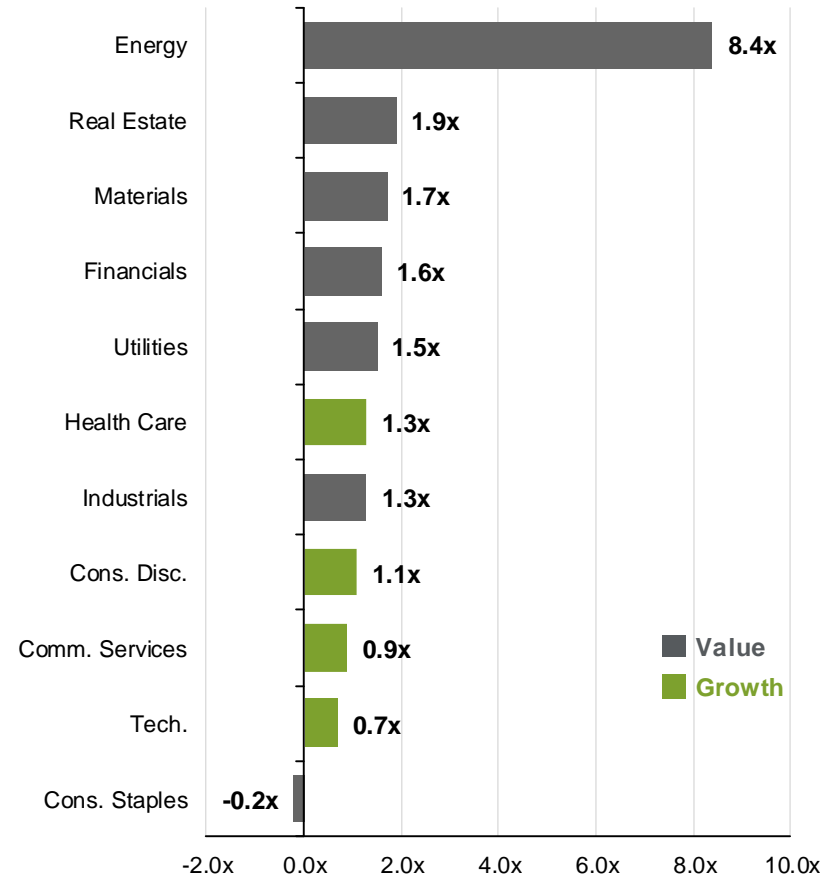
Value vs. Growth relative valuations

Rel. fwd. P/E ratio of Value vs. Growth, 1997 - present



S&P 500 operating leverage by sector

Impact on operating income from a 1% rise in revenues



Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.

(Left) Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. *Long-term averages are calculated monthly since December 1997. **Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price.

(Right) Operating leverage is a bottom-up calculation based on the 10-year compounded annual growth rate (CAGR) in EBIT divided by the 10-year CAGR in revenue at the constituent level within each sector. Sector level aggregates are computed using a weighted sum of each constituent's operating leverage. Weights are determined using market capitalization. Calculations use EBIT and revenue over the 10-year period from 2013 to 2022. The constituent level analysis accounts for outlier data points.

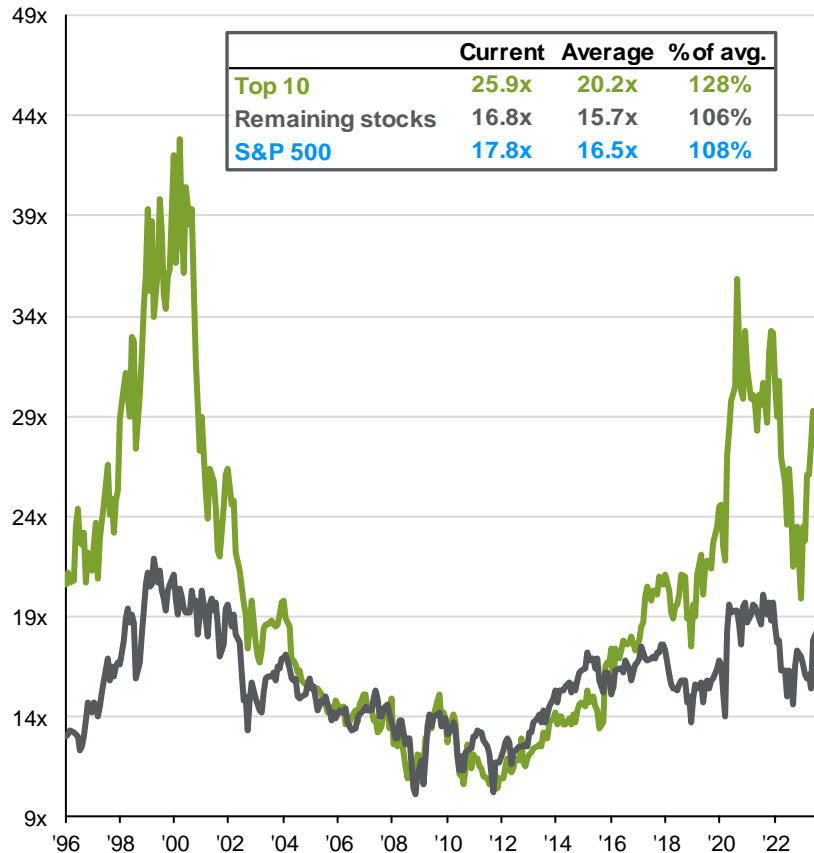
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S&P 500: Index concentration, valuations and earnings

P/E ratio of the top 10 and remaining stocks in the S&P 500

Next 12 months, 1996 - present



Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



Earnings contribution of the top 10 in the S&P 500

Based on last 12 months' earnings



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. As of 9/30/2023, the top 10 companies in the index were AAPL (7.0%), MSFT (6.5%), AMZN (3.2%), NVDA (3.0%), GOOGL (2.2%), TSLA (1.9%), META (1.9%), GOOG (1.9%), BRK.B (1.8%), XOM (1.3%) and UNH (1.3%). The remaining stocks represent the rest of the 494 companies in the S&P 500.

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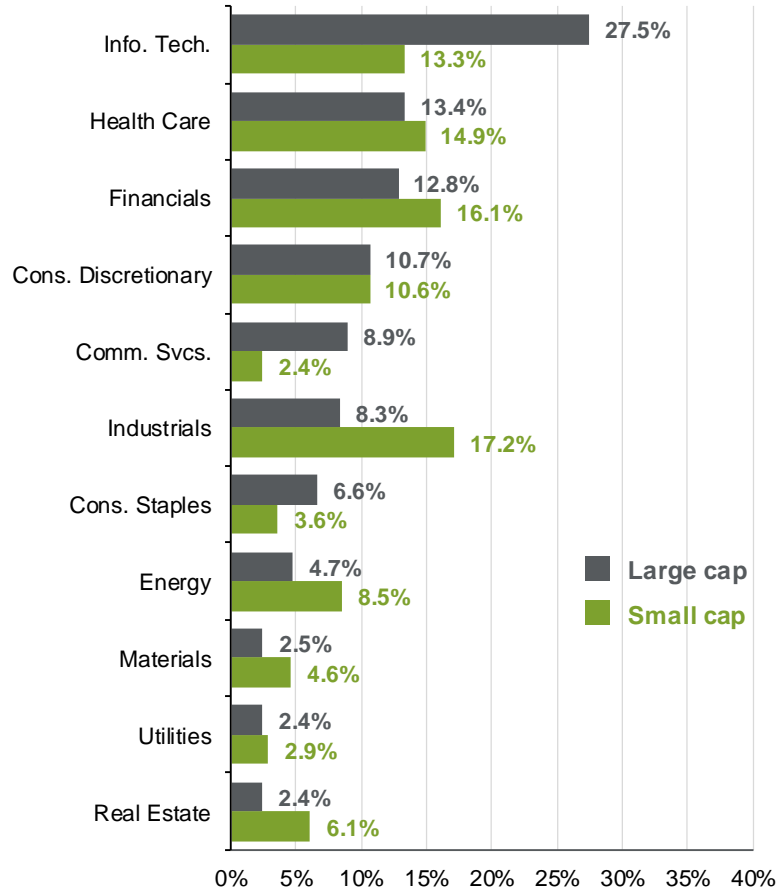


Small cap vs. large cap stocks

Equities

Sector composition

% of index market capitalization



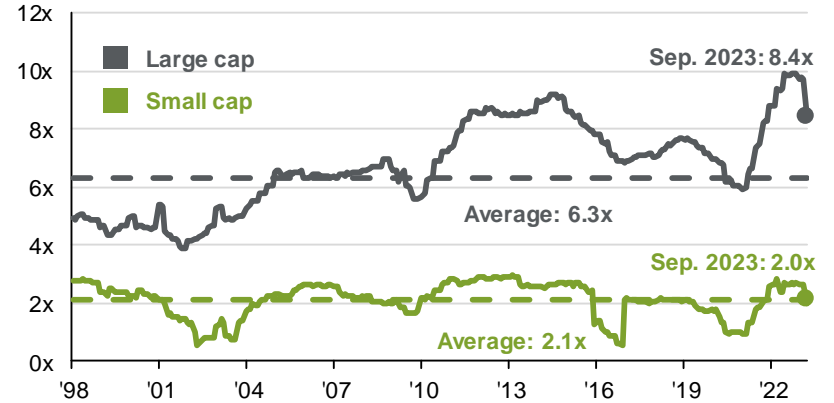
Percent of unprofitable companies in the Russell 2000

1Q98 – 2Q23, pro-forma EPS



Interest rate coverage ratio

EBIT/interest expense on debt, monthly, LTM, 1998-present



Source: Compustat, FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management. The S&P 500 is used for large cap and the Russell 2000 is used for small cap. Guide to the Markets – U.S. Data are as of September 30, 2023.



Returns and valuations by style

GTM

U.S.

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10-year annualized

	Value	Blend	Growth
Large	8.4%	11.8%	14.4%
Mid	7.9%	9.0%	9.9%
Small	6.2%	6.6%	6.7%

YTD

	Value	Blend	Growth
Large	1.8%	13.1%	25.0%
Mid	0.5%	3.9%	9.9%
Small	-0.5%	2.5%	5.2%

Since market peak (February 2020)

	Value	Blend	Growth
Large	19.6%	34.3%	43.2%
Mid	17.1%	18.8%	15.1%
Small	16.6%	10.6%	2.1%

Since market low (March 2020)

	Value	Blend	Growth
Large	93.5%	102.8%	109.0%
Mid	107.0%	98.9%	78.9%
Small	105.1%	86.5%	65.9%

Current P/E vs. 20-year avg. P/E

	Value	Blend	Growth
Large	13.7 / 13.7	17.8 / 15.6	24.4 / 18.8
Mid	13.3 / 14.5	15.2 / 16.4	23.7 / 20.5
Small	14.1 / 16.8	19.2 / 21.4	31.1 / 33.1

Current P/E as % of 20-year avg. P/E

	Value	Blend	Growth
Large	100.0%	114.6%	129.8%
Mid	91.8%	93.1%	115.8%
Small	84.0%	89.8%	93.8%

Source: FactSet, Refinitiv Datastream, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, including dividends reinvested for the stated period. Since market peak represents period from 2/19/2020 to 9/30/2023. Since market low represents period from 3/23/2020 to 9/30/2023. Returns are cumulative returns, not annualized. For all time periods, total return is based on Russell style indices except for the large blend category, which is based on the S&P 500 Index. Past performance is not indicative of future returns. The price-to-earnings is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM) and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Returns and valuations by sector

GTM

U.S.

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Equities

	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
S&P weight	4.7%	2.4%	12.8%	8.3%	10.7%	27.5%	8.9%	2.4%	13.4%	6.6%	2.4%	100.0%	Weight
Russell Growth weight	0.6%	0.7%	6.6%	6.0%	16.0%	42.1%	11.6%	0.9%	11.3%	4.3%	0.0%	100.0%	
Russell Value weight	9.1%	4.8%	20.6%	13.2%	5.0%	9.1%	5.0%	4.7%	15.3%	8.3%	4.9%	100.0%	
Russell 2000 weight	8.5%	4.6%	16.1%	17.1%	10.6%	13.3%	2.4%	6.1%	14.9%	3.6%	2.9%	100.0%	
QTD	12.2%	-4.8%	-1.1%	-5.2%	-4.8%	-5.6%	3.1%	-9.5%	-2.7%	-6.0%	-9.2%	-3.3%	Return
YTD	6.0%	2.6%	-1.6%	4.5%	26.7%	34.7%	40.4%	-8.1%	-4.1%	-4.8%	-14.4%	13.1%	
Since market peak (February 2020)	97.9%	40.4%	15.5%	28.7%	24.3%	67.1%	19.1%	-16.6%	31.8%	21.2%	-5.3%	34.3%	
Since market low (March 2020)	348.9%	119.7%	102.4%	120.7%	82.1%	142.7%	66.8%	34.6%	82.8%	59.6%	47.1%	102.8%	
Beta to S&P 500	1.3	1.1	1.1	1.1	1.2	1.1	1.0*	0.8	0.7	0.6	0.5	1.0	β
Correl. To Treas. Yields	-0.1	-0.4	-0.3	-0.4	-0.5	-0.7	-0.8	-0.5	-0.3	-0.3	-0.4	-0.6	ρ
Foreign % of sales	37.8	55.2	20.8	32.3	34.3	57.6	42.8	15.9	35.7	43.1	1.8	39.5	%
NTM earnings growth	-6.7%	-1.7%	5.9%	13.2%	18.0%	13.4%	18.6%	3.4%	5.2%	6.5%	7.8%	9.1%	EPS
20-yr. avg.	99.6%	14.9%	20.6%	14.1%	17.1%	12.9%	10.3%*	6.8%	7.9%	7.7%	4.6%	11.0%	
Forward P/E ratio	11.7x	17.0x	13.1x	17.3x	23.5x	24.3x	16.3x	14.9x	16.8x	18.4x	15.0x	17.8x	P/E
20-yr. avg.	13.6x	14.8x	12.5x	16.3x	19.4x	17.9x	18.7x*	16.9x	15.0x	17.4x	15.6x	15.6x	
Buyback yield	4.5%	1.6%	2.7%	2.0%	1.4%	1.7%	3.7%	-1.7%	1.3%	0.9%	-1.0%	1.9%	Bbk
20-yr. avg.	1.7%	1.0%	0.4%	2.3%	2.5%	3.0%	1.7%	-1.4%	2.0%	1.8%	-0.8%	1.8%	
Dividend yield	3.2%	2.2%	2.1%	1.9%	0.9%	0.9%	0.9%	4.3%	1.8%	2.9%	3.9%	1.7%	Div
20-yr. avg.	2.8%	2.4%	2.3%	2.2%	1.4%	1.2%	1.2%	3.8%	1.9%	2.8%	3.8%	2.1%	

Source: FactSet, Refinitiv Datastream, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period from 2/19/2020 to 9/30/2023. Since market low represents period from 3/23/2020 to 9/30/2023. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Next 12 months (NTM) earnings growth is the percent change in next 12-months earnings estimates compared to last 12-months earnings provided by brokers. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. Buyback yield is net of share issuance and is calculated as last 12-months net buybacks divided by market cap. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. *Communication Services (formerly Telecom) averages and beta are based on 5-years of backtested data by JPMAM. Past performance is not indicative of future returns.

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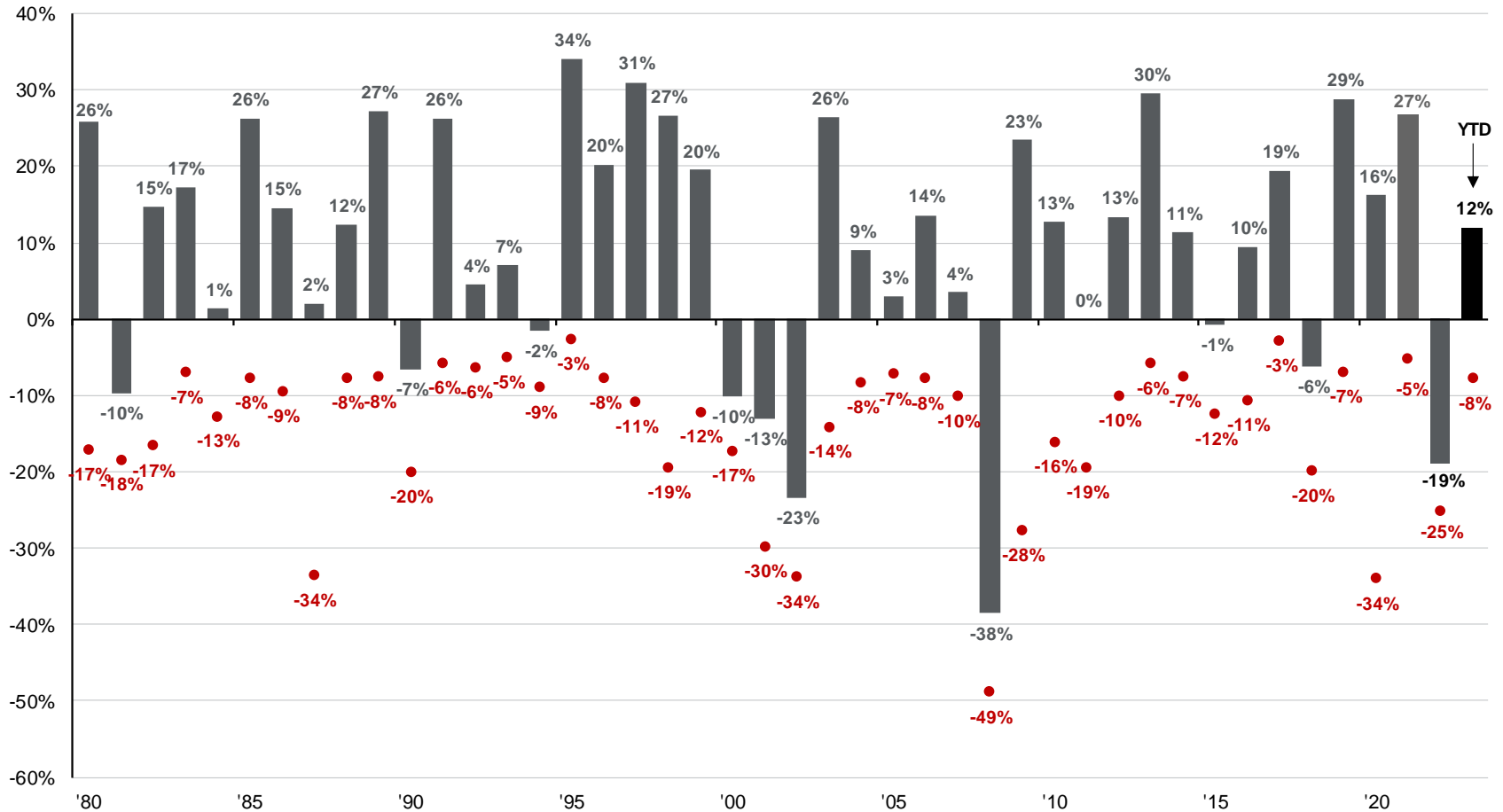


Annual returns and intra-year declines

Equities

S&P intra-year declines vs. calendar year returns

Despite average intra-year drops of 14.3%, annual returns were positive in 32 of 43 years



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2022, over which time period the average annual return was 8.7%.

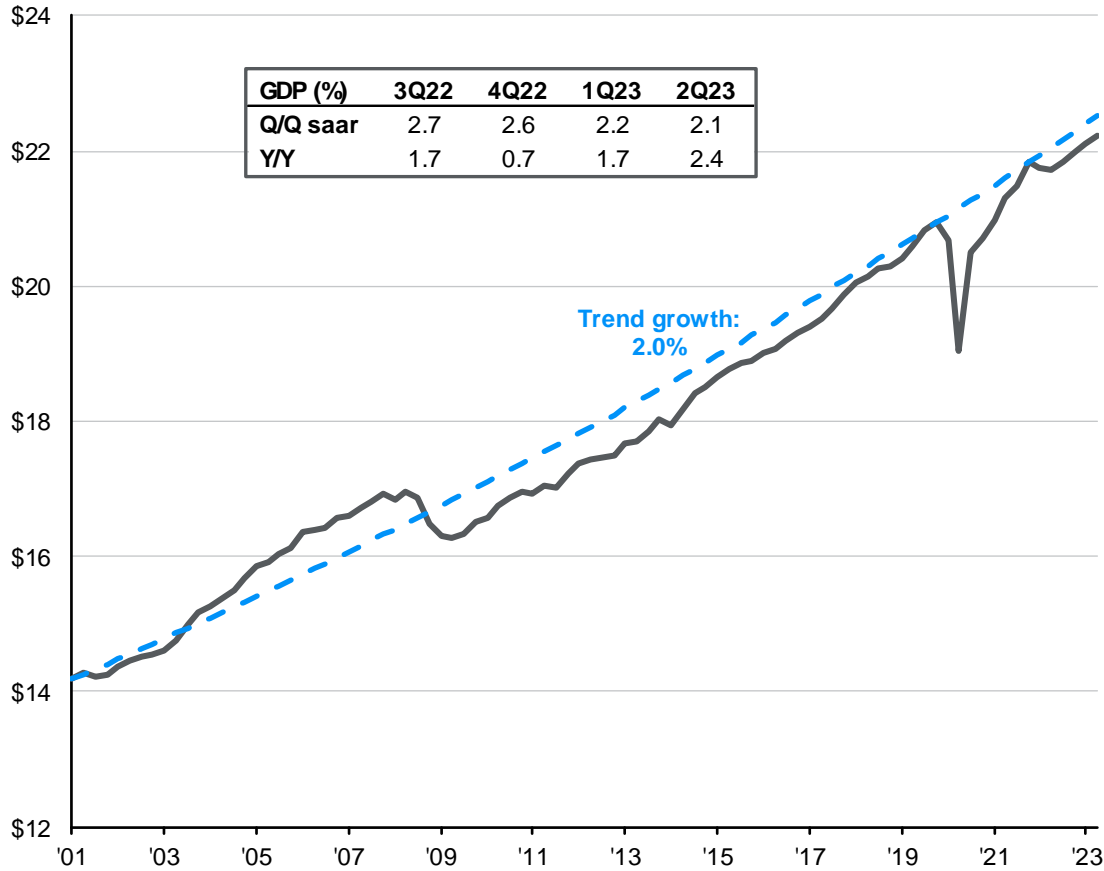
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Economic growth and the composition of GDP

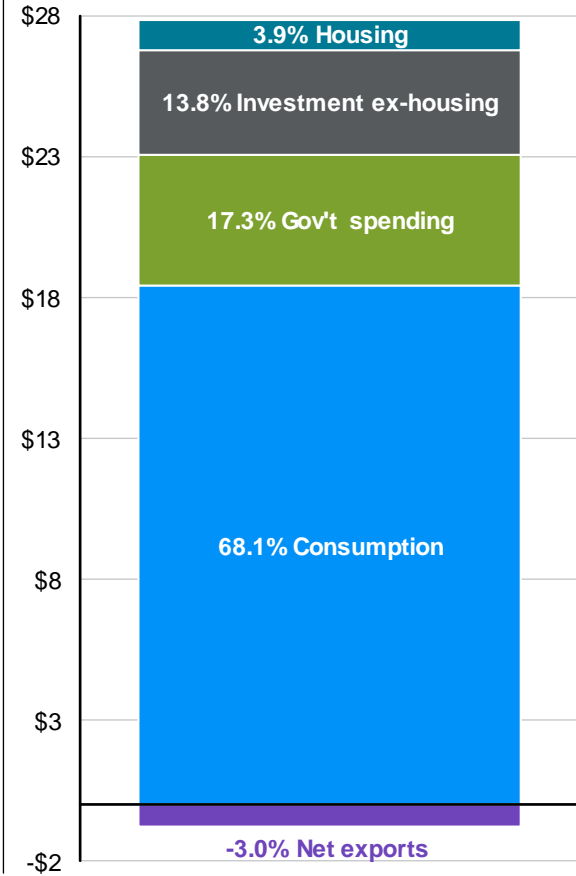
Real GDP

Trillions of chained (2017) dollars, seasonally adjusted at annual rates



Components of GDP

2Q23 nominal GDP, USD trillions



Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

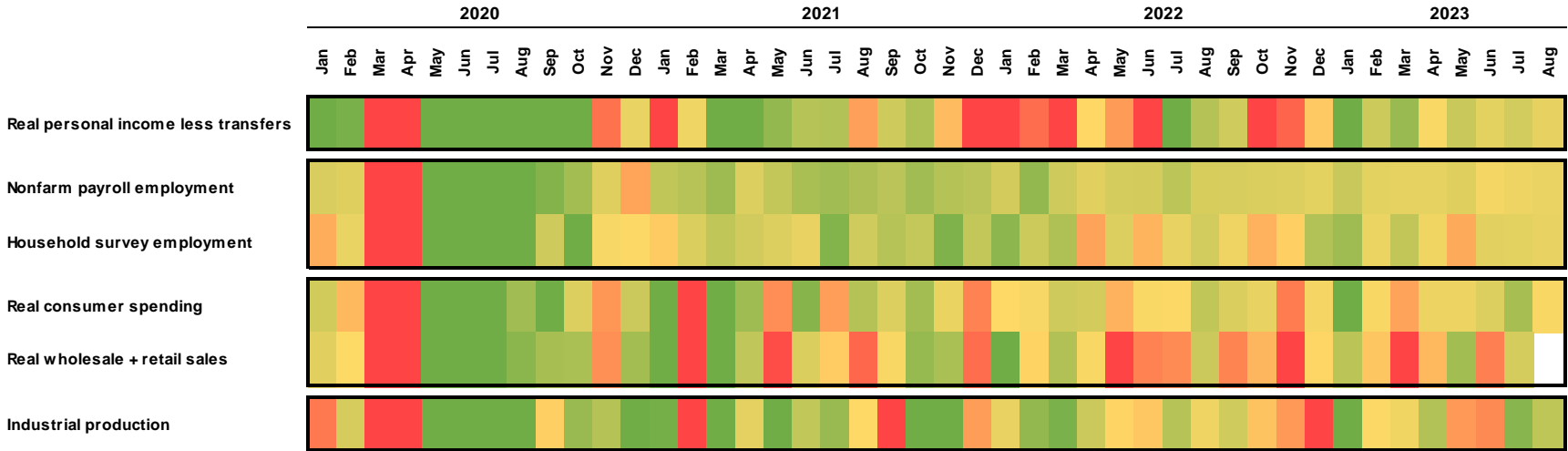


Recession determinants

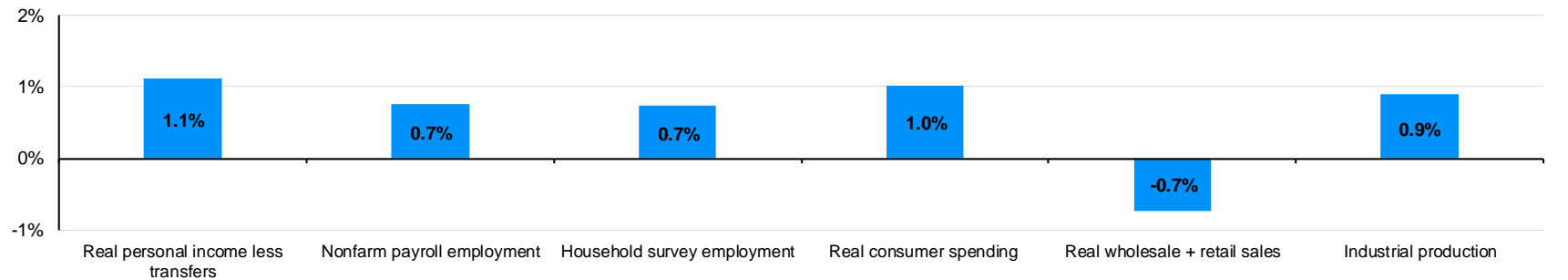
Economy

Variables used by the NBER in making recession determination*

% change month-over-month



% change, last six months



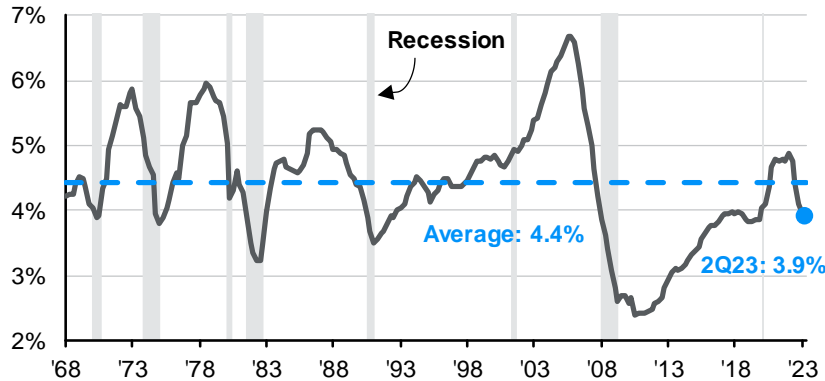
Source: BEA, BLS, Census Bureau, NBER, J.P. Morgan Asset Management. Heatmap shading reflects 10 years of data, with green and red reflecting a range of +/- 0.5 standard deviations from a baseline of 0% monthly growth. *The NBER's definition of a recession involves a significant decline in economic activity that is spread across the economy and lasts more than a few months. Specifically, they consider real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, wholesale-retail sales adjusted for price changes and industrial production. There is no fixed rule about which measures contribute to the process or how they are weighted, but the committee notes that "in recent decades, the two measures we have put the most weight on are real personal income less transfers and nonfarm payroll employment."
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Cyclical sectors

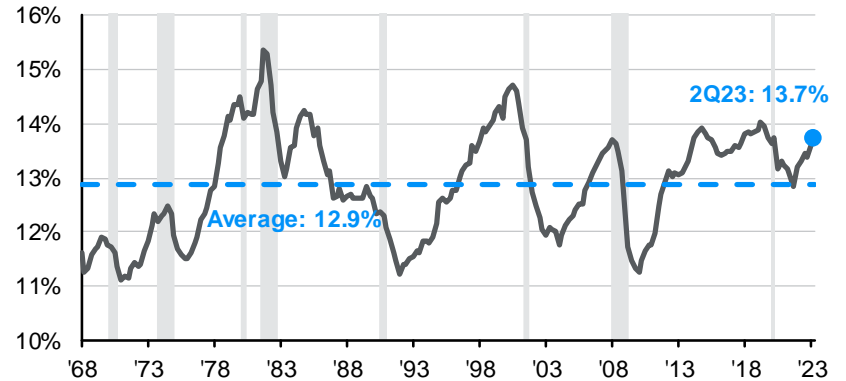
Residential investment as a % of GDP

Quarterly, seasonally adjusted



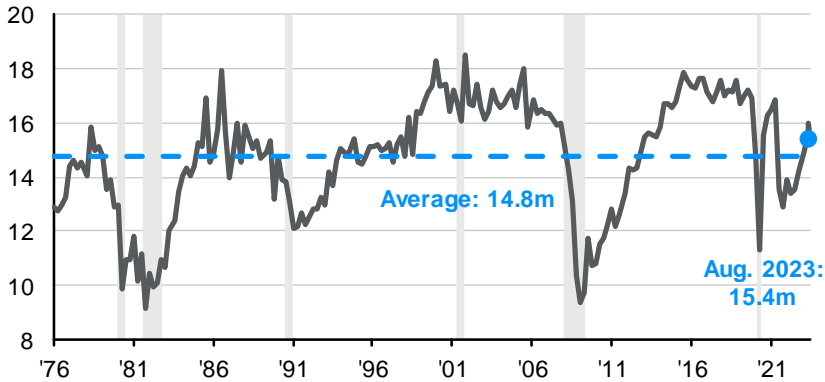
Business fixed investment as a % of GDP

Quarterly, seasonally adjusted



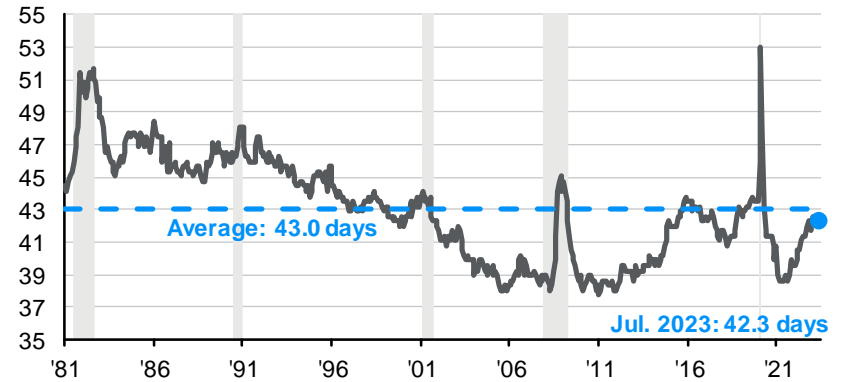
Light vehicle sales

Mil vehicles, seasonally adjusted ann. rate



Total business inventory/sales ratio

Days of sales, monthly, seasonally adjusted



Source: BEA, Census Bureau, FactSet, J.P. Morgan Asset Management. Data for light vehicle sales is quarterly apart from the latest monthly data point. Guide to the Markets – U.S. Data are as of September 30, 2023.

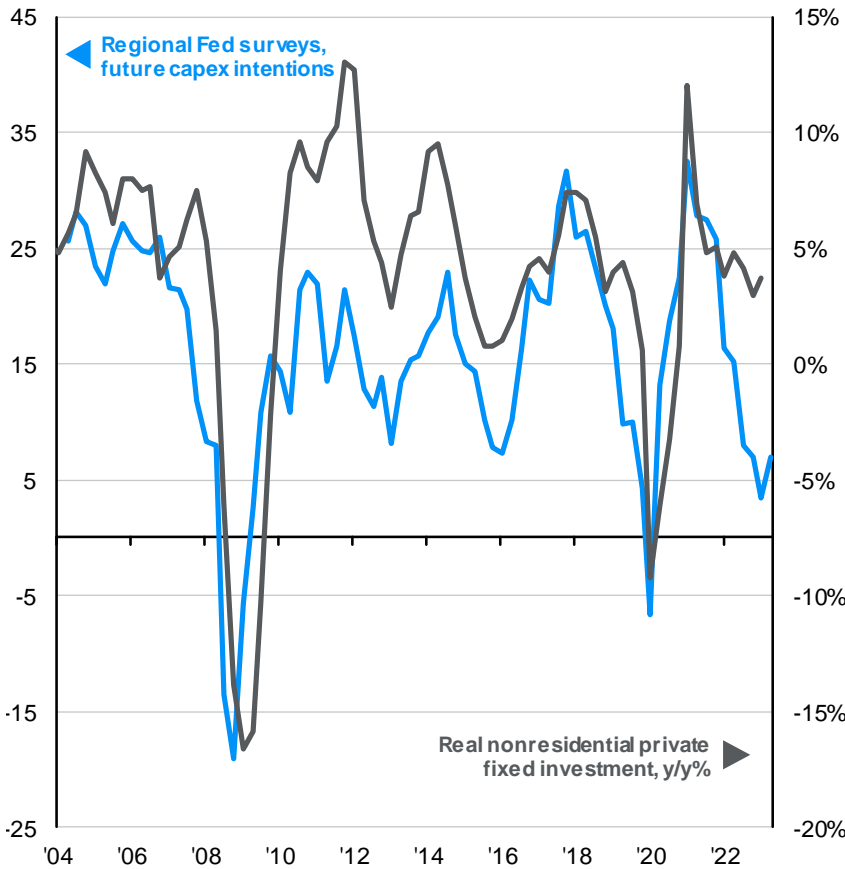


Capital spending

Economy

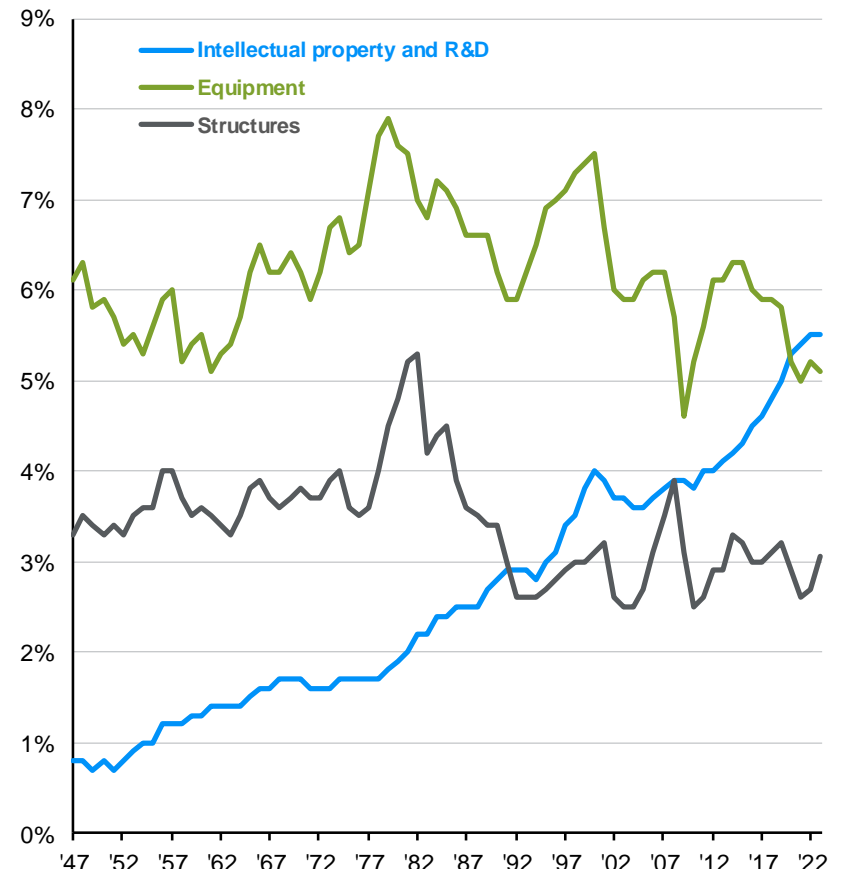
Capital spending intentions over the next 6 months

Average of regional Fed surveys*, diffusion index, quarterly, SA



Capital spending components

Share of capital spending as a percent of GDP, annual**



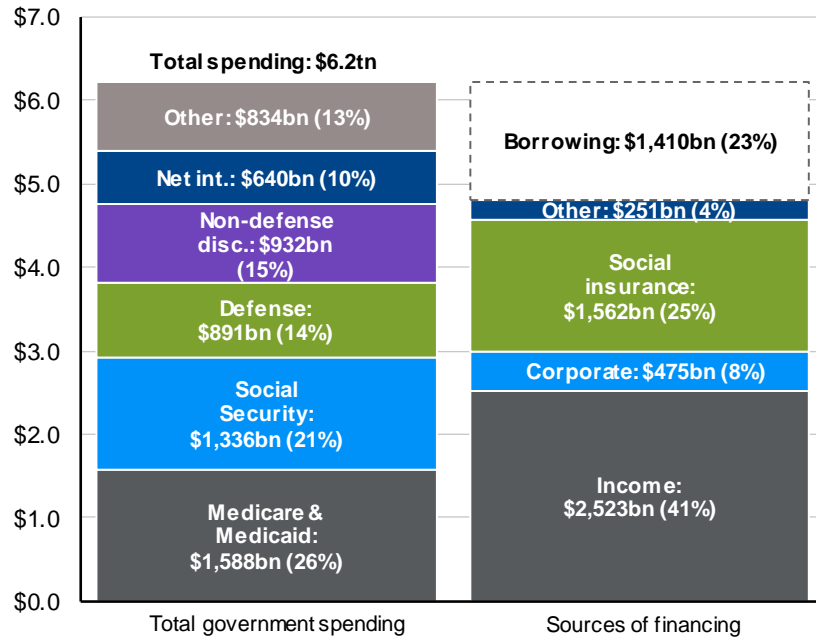
Source: BEA, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management. *Average includes the Chicago Fed, Philly Fed, Richmond Fed, Dallas Fed, Kansas City Fed and NY Fed manufacturing surveys of future capital expenditures. **Data for 2023 reflects year-to-date average.
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Federal finances

The 2023 federal budget

CBO Baseline forecast, USD trillions

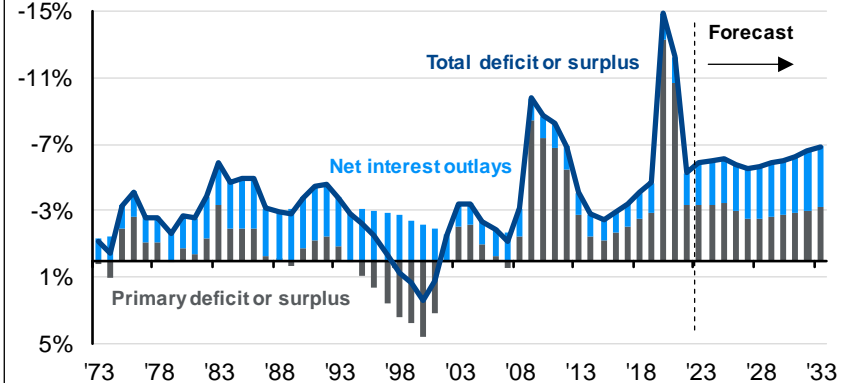


CBO's Baseline economic assumptions

	2023	'24-'25	'26-'27	'28-'33
Real GDP growth	0.9%	2.0%	2.4%	1.9%
10-year Treasury	4.0%	3.8%	3.8%	3.8%
Headline inflation (CPI)	3.3%	2.5%	2.1%	2.2%
Unemployment	4.1%	4.6%	4.5%	4.5%

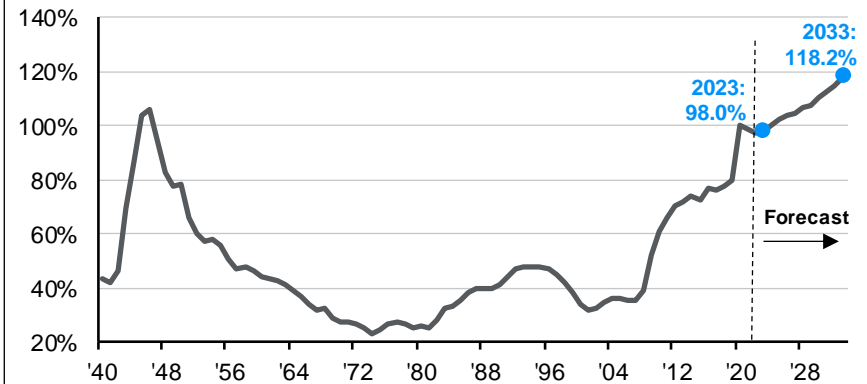
Federal deficit and net interest outlays

% of GDP, 1973-2033, CBO Baseline Forecast



Federal net debt (accumulated deficits)

% of GDP, 1940 – 2033, CBO Baseline Forecast, end of fiscal year



Source: CBO, J.P. Morgan Asset Management; (Top and bottom right) BEA, Treasury Department.

Estimates are based on the Congressional Budget Office (CBO) February 2023 The Budget and Economic Outlook, except for baseline economic assumptions, which are based on the July 2023 CBO Update to the Economic Outlook. Other spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Note: Years shown are fiscal years. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data are as of September 30, 2023.

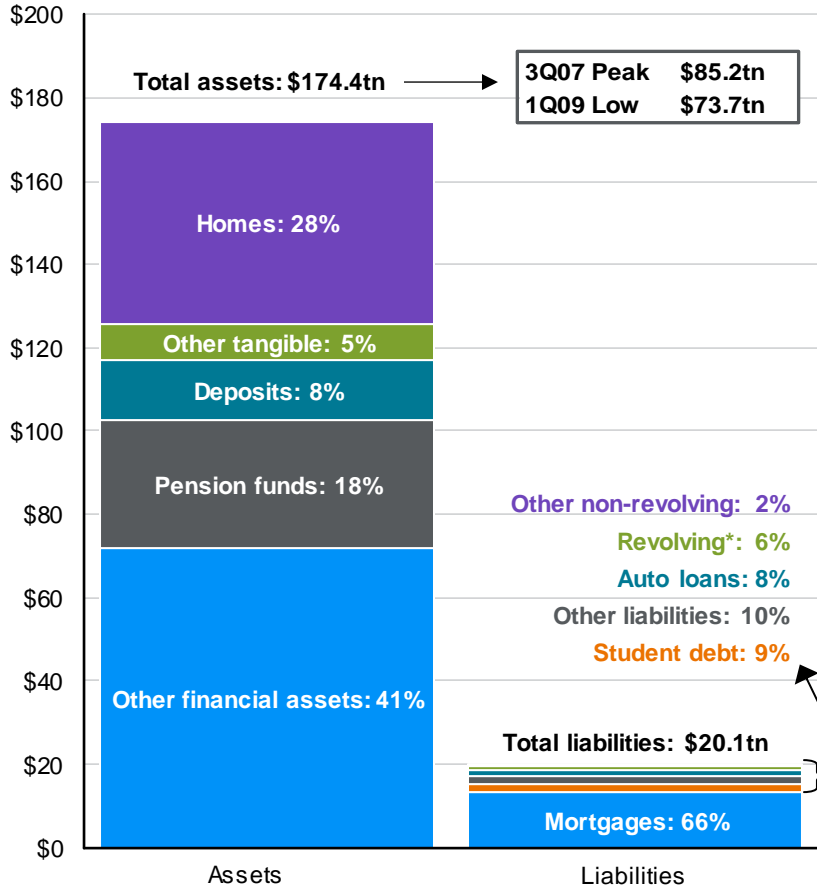


Consumer finances

Economy

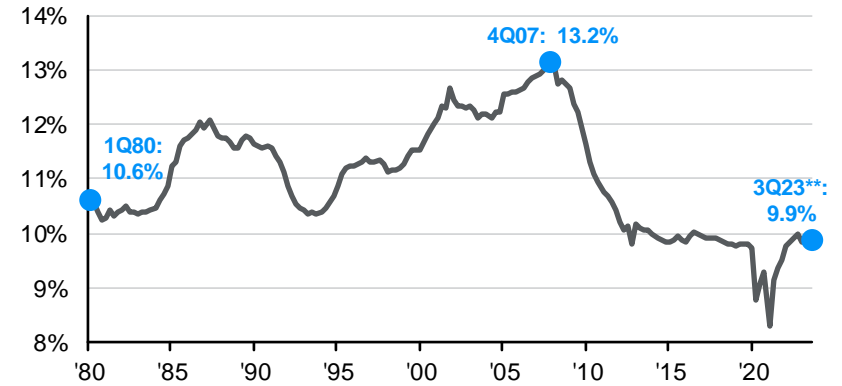
Consumer balance sheet

2Q23, USD trillions, not seasonally adjusted



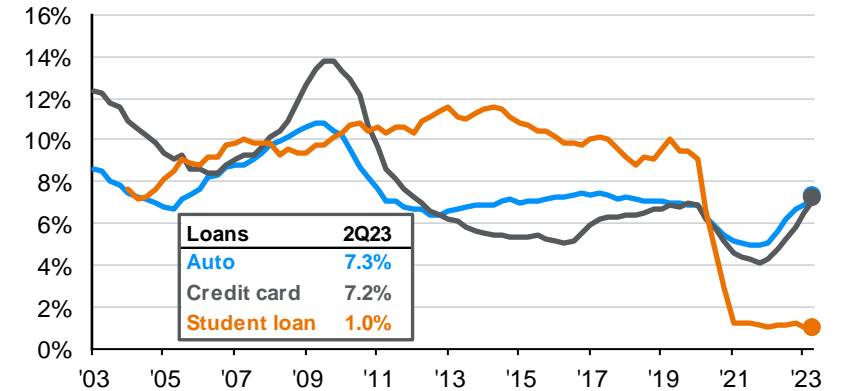
Household debt service ratio

Debt payments as % of disposable personal income, SA



Flows into early delinquencies

% of balance delinquent 30+ days



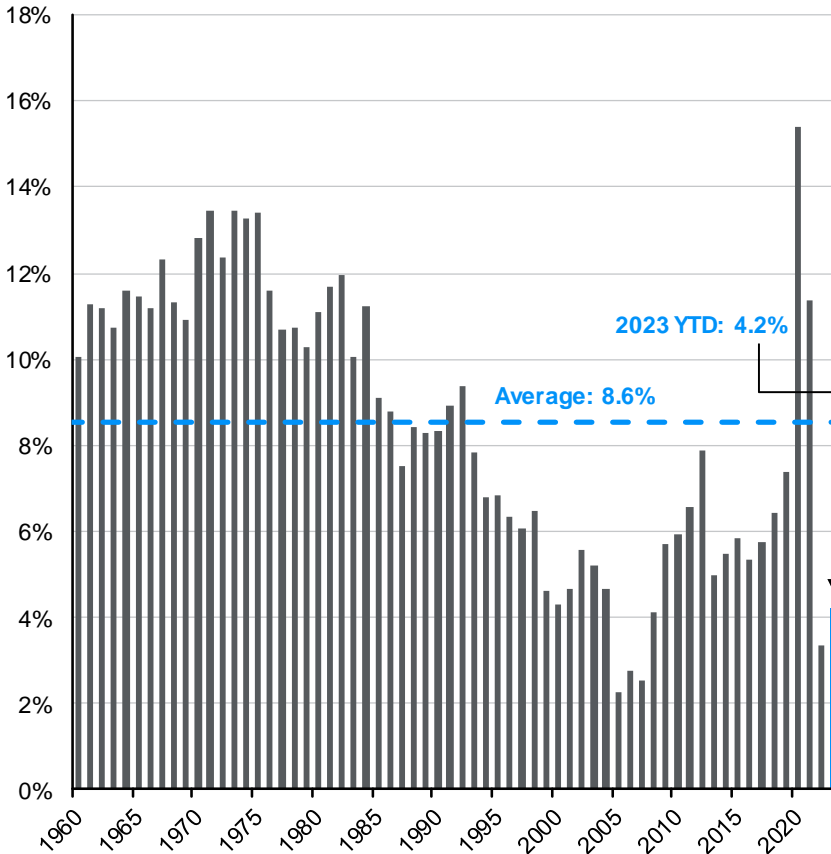
Source: FactSet, FRB, J.P. Morgan Asset Management; (Top and bottom right) BEA. Data include households and nonprofit organizations. SA – seasonally adjusted. *Revolving includes credit cards. Values may not sum to 100% due to rounding. **3Q23 figures for debt service ratio are J.P. Morgan Asset Management estimates. Guide to the Markets – U.S. Data are as of September 30, 2023.



Consumer saving and borrowing

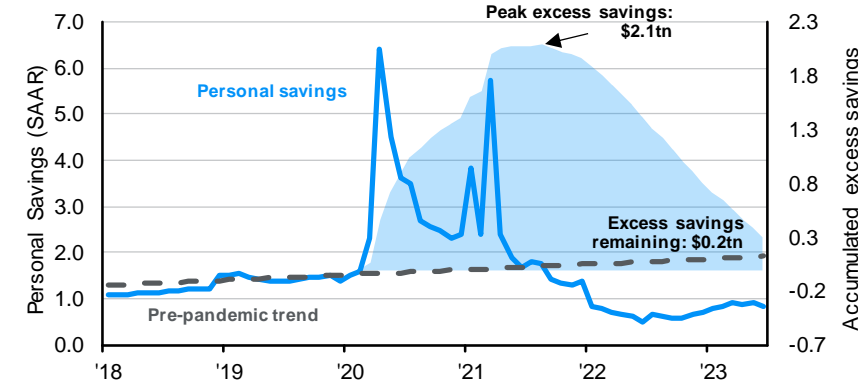
Personal saving rate

Personal savings as a % of disposable personal income, annual



Household excess savings

Trillions of USD



Revolving consumer credit outstanding

% of disposable income, SAAR



Source: BEA, Federal Reserve, J.P. Morgan Asset Management. From March 2020 to August 2021, consumers amassed a peak \$2.1 trillion in excess savings relative to the pre-pandemic trend. Since August 2021, consumers have drawn down on those excess savings, with the remaining reflected in the chart annotation.

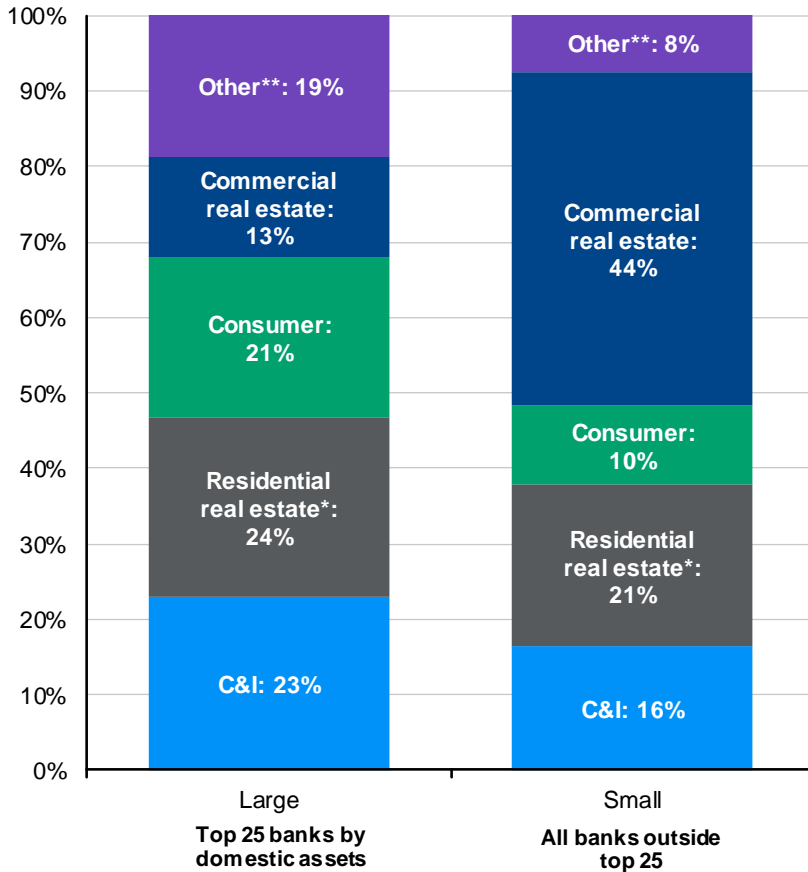
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Bank assets and liabilities

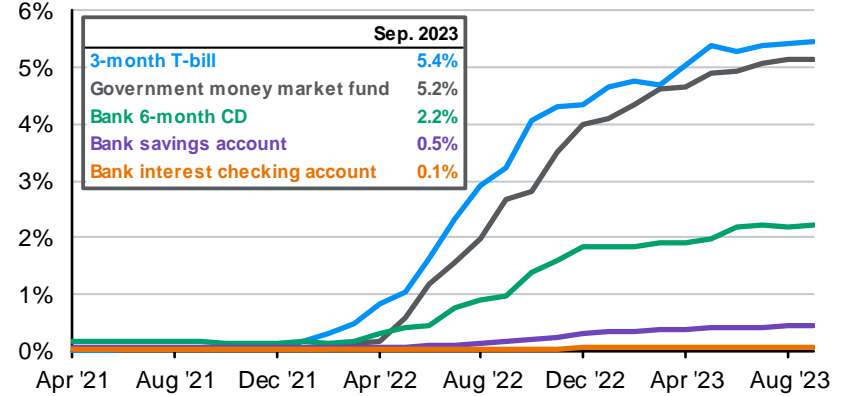
Asset exposure by bank size

% of total loans and leases, domestically chartered commercial banks



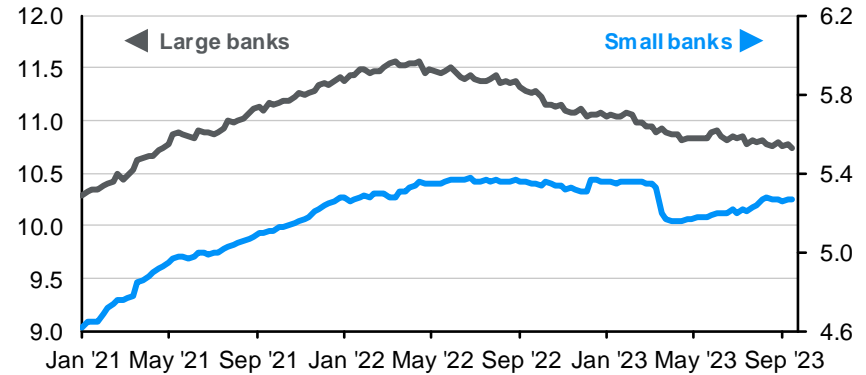
Important market interest rates

Monthly



Bank deposits by bank size

Trillions of USD



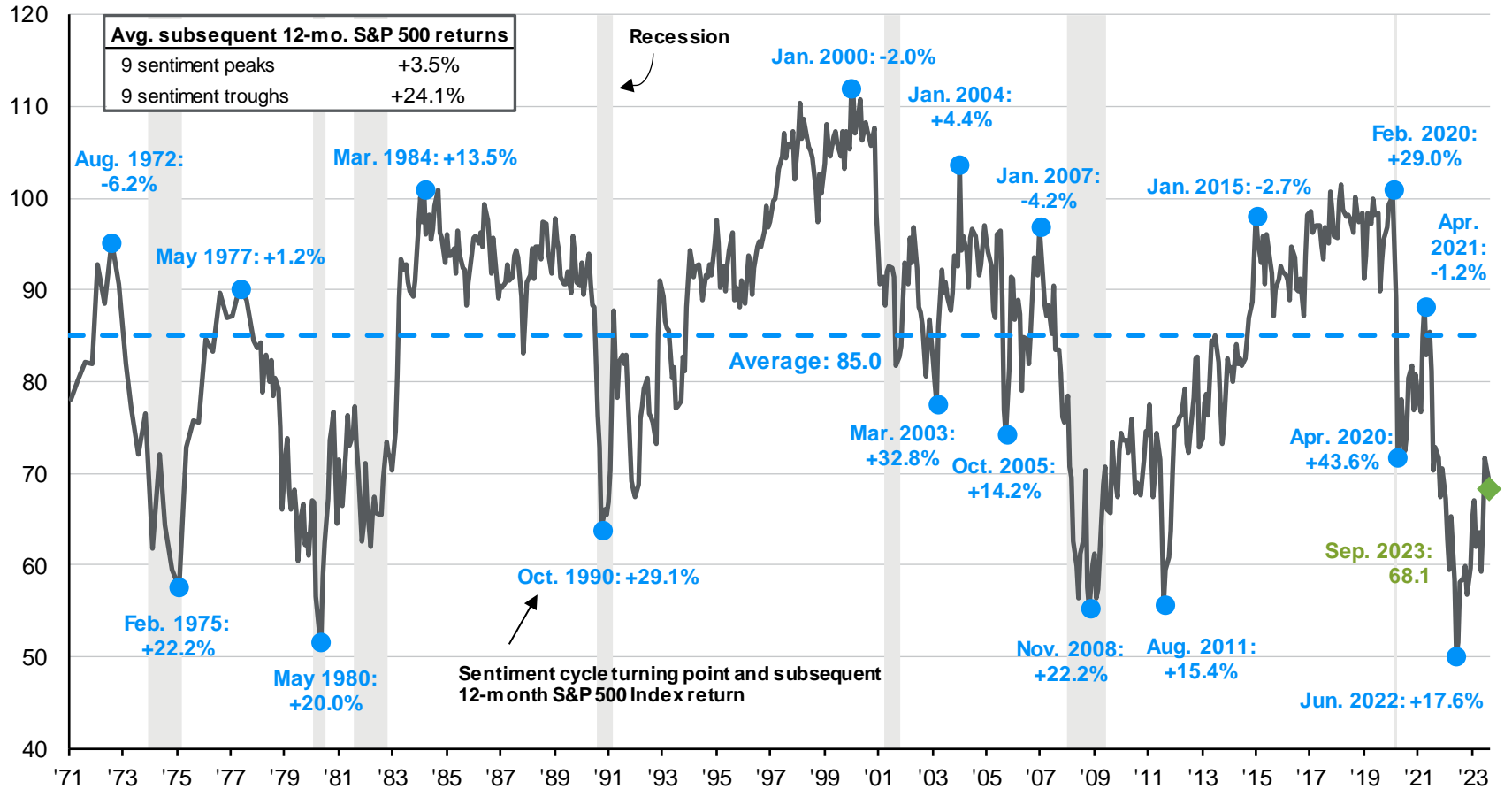
Source: Bankrate, Bloomberg, Crane Data, FDIC, Federal Reserve, J.P. Morgan Asset Management. Bank asset exposure is based on the monthly H.8 report by the Federal Reserve. Large banks are defined as the top 25 domestically chartered commercial banks ranked by domestic assets while small banks are defined as all other domestically chartered commercial banks. *Residential real estate includes residential real estate loans, revolving home equity loans and closed-end real estate loans. **Other includes loans for purchasing or carrying securities, loans to finance agricultural production, loans to foreign governments and foreign banks, obligations of states and political subdivisions, loans to nonbank depository institutions, unplanned overdrafts, loans not elsewhere classified and lease financing receivables. (Top right) Bank rates reflect FDIC national rates, which are defined as the average of rates paid by all insured depository institutions and credit unions for which data is available, weighted by each institution's share of domestic deposits. Guide to the Markets – U.S. Data are as of September 30, 2023.



Consumer confidence and the stock market

Economy

Consumer Sentiment Index and subsequent 12-month S&P 500 returns



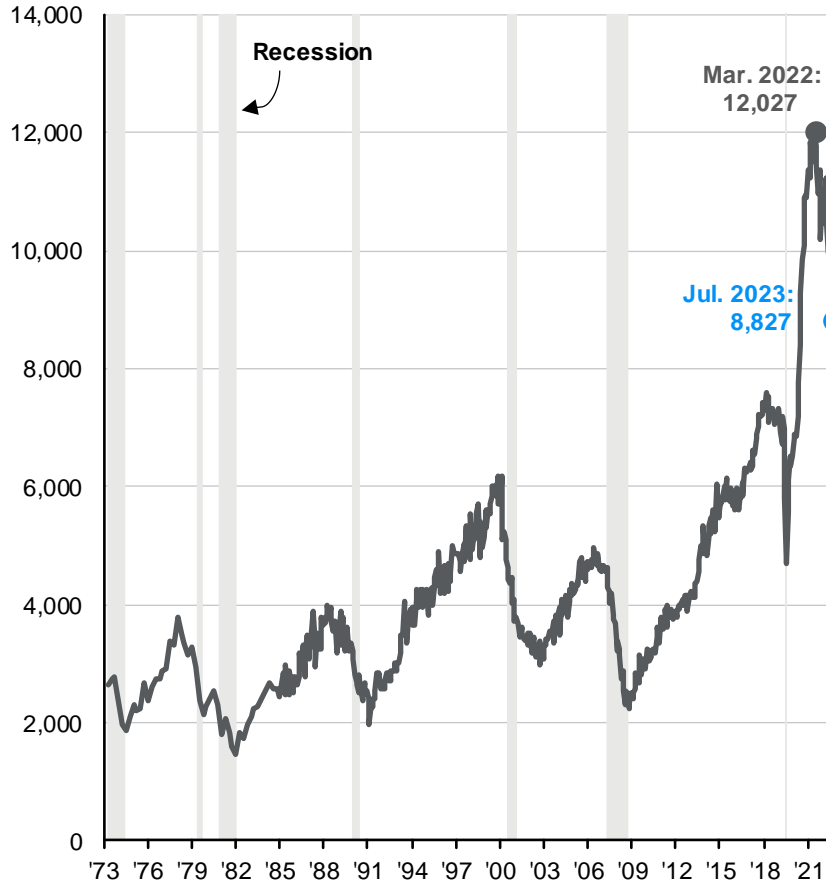
Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management.
 Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only starting from the end of the month and excluding dividends. Past performance is not a reliable indicator of current and future results.
 Guide to the Markets – U.S. Data are as of September 30, 2023.



Labor demand

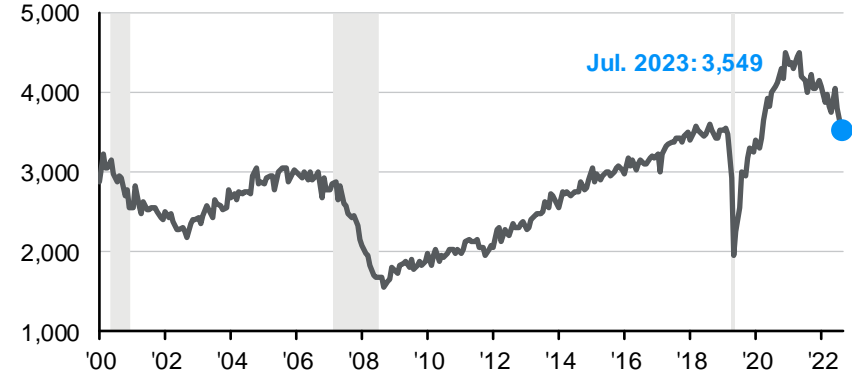
JOLTS job openings*

Total job openings, thousands, seasonally adjusted



JOLTS quits

Total nonfarm quits, thousands, seasonally adjusted



JOLTS layoffs

Total nonfarm layoffs, thousands, seasonally adjusted



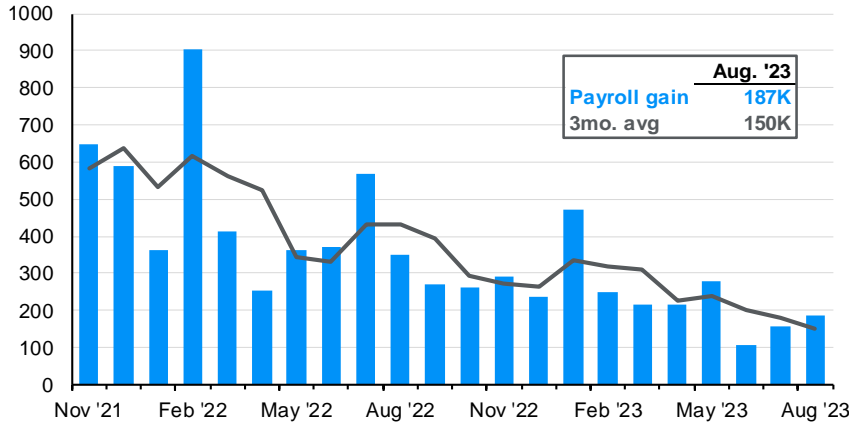
Source: U.S. Department of Labor, J.P. Morgan Asset Management. *JOLTS job openings from February 1974 to November 2000 are J.P. Morgan Asset Management estimates. Guide to the Markets – U.S. Data are as of September 30, 2023.



Labor market dashboard

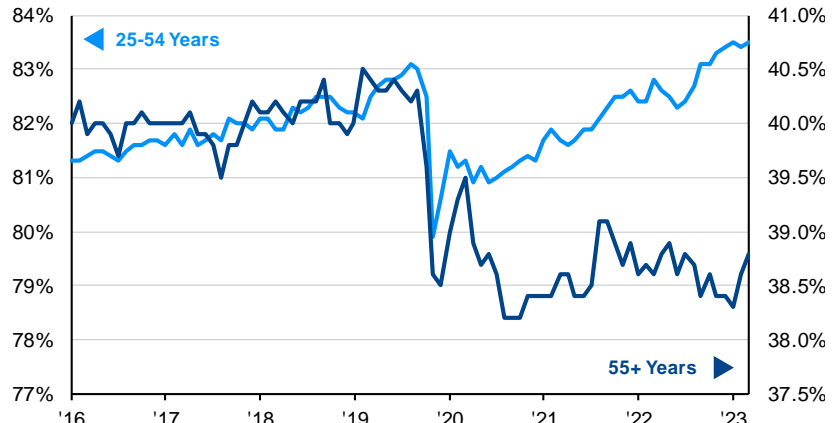
Nonfarm payroll gains

Month-over-month change and 3mo. rolling average, SA

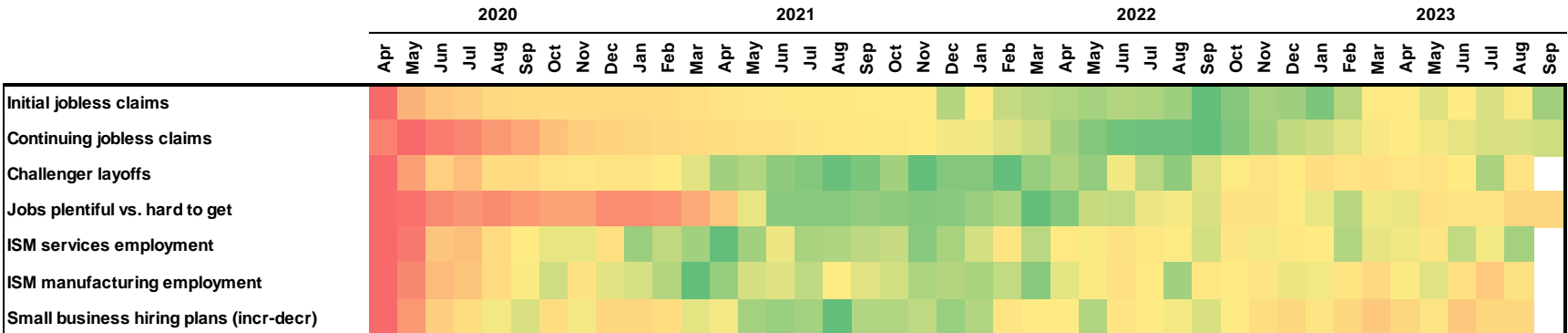


Labor force participation

% of civilian noninstitutional population, SA



Key labor market indicators



Source: BLS, Conference Board, FactSet, ISM, NFIB, J.P. Morgan Asset Management. Heatmap shading is relative to the time period shown. For jobless claims and layoffs, red reflects higher values and green reflects lower values. For ISM employment PMIs, shading is centered at a 50 level, with values above 50 indicating acceleration (shaded green) and below 50 indicating deceleration (shaded red) of employment. For jobs plentiful vs. hard to get and small business hiring plans, red reflects low survey values and green reflects high values.
 Guide to the Markets – U.S. Data are as of September 30, 2023.

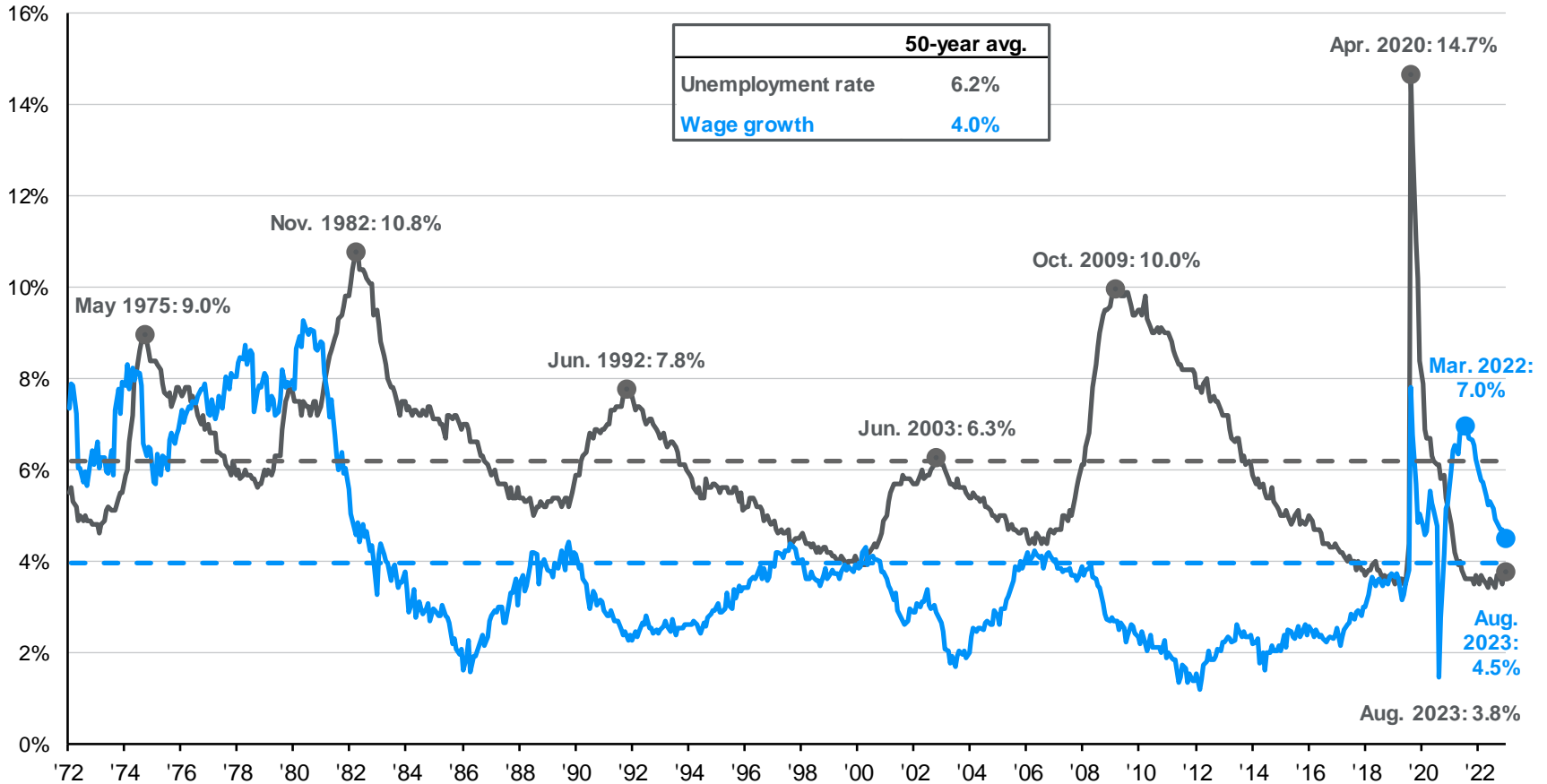


Unemployment and wages

Economy

Civilian unemployment rate and year-over-year wage growth

Private production and non-supervisory workers, seasonally adjusted, percent



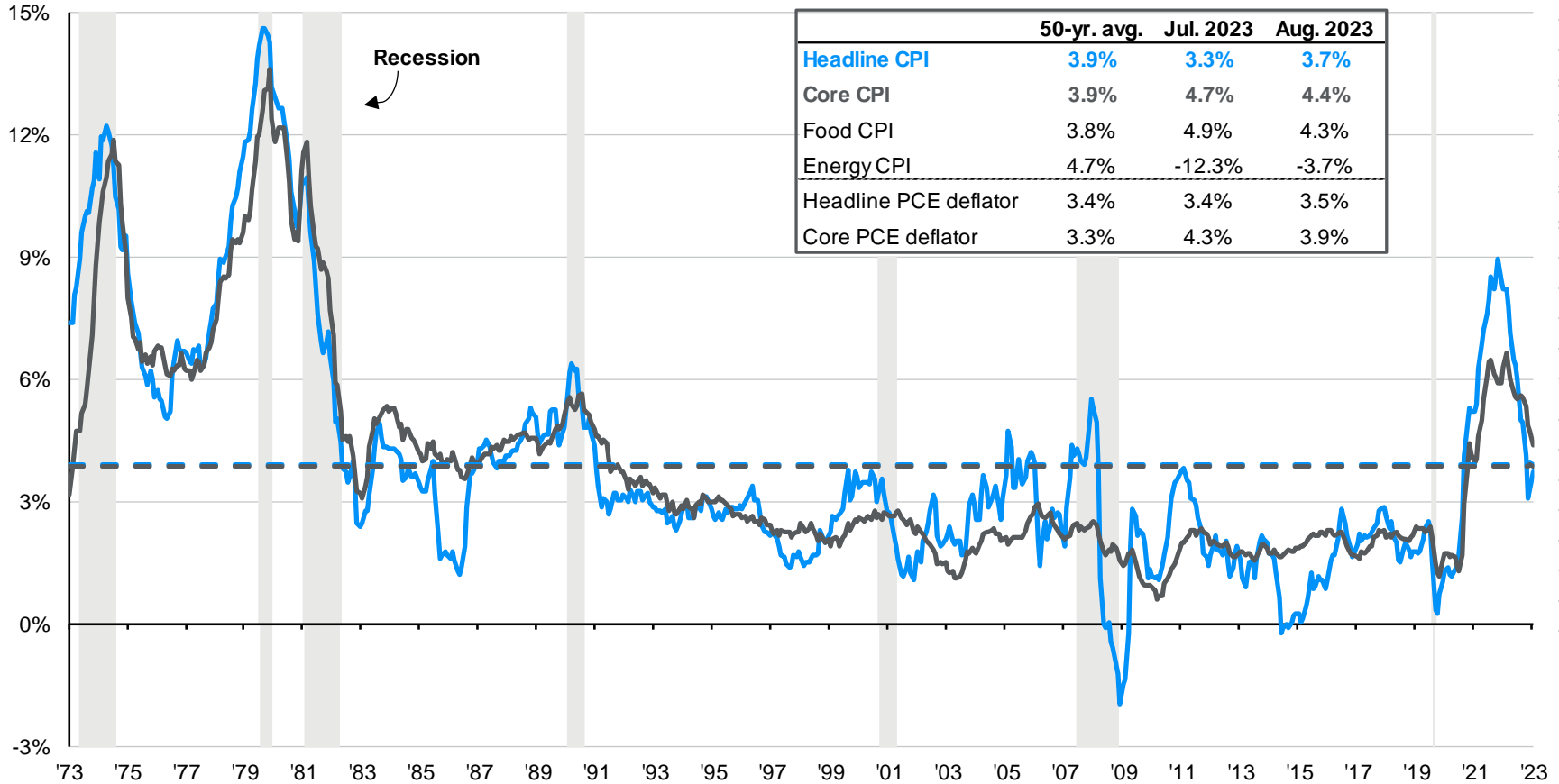
Source: BLS, FactSet, J.P. Morgan Asset Management. Private production and non-supervisory jobs represent just over 80% of total private nonfarm jobs.
Guide to the Markets – U.S. Data are as of September 30, 2023.



Inflation

CPI and core CPI

% change vs. prior year, seasonally adjusted



Source: BLS, FactSet, J.P. Morgan Asset Management. CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Inflation heatmap

GTM

U.S.

29

Economy

Consumer Price Index, components

m/m % change, seasonally adjusted

	Weight	2021					2022								2023										
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Headline CPI, y/y	100.0	5.4%	6.2%	6.9%	7.2%	7.6%	8.0%	8.5%	8.2%	8.5%	8.9%	8.4%	8.2%	8.2%	7.8%	7.1%	6.4%	6.3%	6.0%	5.0%	5.0%	4.1%	3.1%	3.3%	3.7%
Core CPI, y/y	79.6	4.0%	4.6%	5.0%	5.5%	6.1%	6.4%	6.5%	6.1%	6.0%	5.9%	5.9%	6.3%	6.6%	6.3%	6.0%	5.7%	5.5%	5.5%	5.6%	5.5%	5.3%	4.9%	4.7%	4.4%
Core svcs. ex-housing PCE, y/y*	-	4.4%	4.6%	5.1%	5.3%	5.1%	5.0%	5.0%	4.9%	4.8%	4.9%	4.5%	4.8%	5.0%	5.2%	5.1%	4.9%	5.2%	5.2%	4.9%	4.9%	4.7%	4.5%	4.8%	4.5%
Headline CPI, m/m	100.0	0.4%	0.9%	0.8%	0.8%	0.6%	0.7%	1.0%	0.4%	0.9%	1.2%	0.0%	0.2%	0.4%	0.5%	0.2%	0.1%	0.5%	0.4%	0.1%	0.4%	0.1%	0.2%	0.2%	0.6%
Core CPI, m/m	79.6	0.3%	0.7%	0.6%	0.7%	0.6%	0.5%	0.3%	0.5%	0.6%	0.6%	0.3%	0.6%	0.6%	0.3%	0.3%	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%	0.2%	0.2%	0.3%
Core svcs. ex-housing PCE, m/m*	-	0.2%	0.3%	0.5%	0.6%	0.2%	0.4%	0.6%	0.4%	0.3%	0.5%	0.1%	0.5%	0.5%	0.5%	0.4%	0.5%	0.5%	0.4%	0.3%	0.3%	0.2%	0.2%	0.5%	0.1%
Energy	7.0	1.5%	3.6%	2.6%	2.4%	0.8%	2.7%	8.2%	-1.0%	3.4%	6.9%	-4.7%	-3.9%	-1.7%	1.7%	-1.4%	-3.1%	2.0%	-0.6%	-3.5%	0.6%	-3.6%	0.6%	0.1%	5.6%
Gasoline	3.4	1.5%	4.1%	4.2%	3.8%	-0.3%	4.7%	13.2%	-3.1%	3.2%	10.3%	-8.1%	-8.4%	-4.2%	3.4%	-2.3%	-7.0%	2.4%	1.0%	-4.6%	3.0%	-5.6%	1.0%	0.2%	10.6%
Electricity	2.6	1.0%	1.6%	0.7%	0.9%	2.7%	-0.3%	1.7%	0.9%	1.3%	1.5%	1.5%	1.2%	0.8%	0.5%	0.5%	1.3%	0.5%	0.5%	-0.7%	-0.7%	-1.0%	0.9%	-0.7%	0.2%
Utility Gas	0.7	2.2%	6.7%	0.5%	0.1%	0.5%	2.0%	0.6%	2.5%	7.2%	7.5%	-3.8%	3.5%	2.2%	-3.7%	-3.4%	3.5%	6.7%	-8.0%	-7.1%	-4.9%	-2.6%	-1.7%	2.0%	0.1%
Food	13.4	0.9%	0.9%	0.8%	0.6%	0.8%	1.0%	0.9%	0.8%	1.1%	1.0%	1.1%	0.8%	0.8%	0.7%	0.6%	0.4%	0.5%	0.4%	0.0%	0.0%	0.2%	0.1%	0.2%	0.2%
Food at home	8.6	1.2%	1.0%	1.0%	0.6%	0.9%	1.3%	1.3%	0.9%	1.3%	1.0%	1.3%	0.8%	0.7%	0.5%	0.6%	0.5%	0.4%	0.3%	-0.3%	-0.2%	0.1%	0.0%	0.3%	0.2%
Food away from home	4.8	0.5%	0.8%	0.6%	0.6%	0.7%	0.4%	0.3%	0.6%	0.7%	0.9%	0.7%	0.9%	0.9%	0.5%	0.4%	0.6%	0.6%	0.6%	0.4%	0.5%	0.4%	0.2%	0.3%	
Core goods	21.3	0.3%	1.3%	1.1%	1.4%	0.9%	0.3%	-0.4%	0.1%	0.6%	0.6%	0.1%	0.4%	0.0%	-0.1%	-0.2%	-0.1%	0.1%	0.0%	0.2%	0.6%	0.6%	-0.1%	-0.3%	-0.1%
Apparel	2.5	-0.5%	1.0%	0.7%	0.9%	0.7%	0.6%	0.3%	-0.1%	0.4%	0.7%	-0.1%	0.3%	0.0%	-0.2%	0.1%	0.2%	0.8%	0.8%	0.3%	0.3%	0.3%	0.3%	0.0%	0.2%
New vehicles	4.3	1.3%	1.5%	1.6%	1.8%	0.3%	0.1%	0.1%	0.4%	0.6%	0.5%	0.5%	0.8%	0.7%	0.6%	0.5%	0.6%	0.2%	0.2%	0.4%	-0.2%	-0.1%	0.0%	-0.1%	0.3%
Used cars	2.8	-0.5%	3.1%	3.2%	3.9%	1.4%	-0.6%	-3.6%	-0.7%	1.9%	0.5%	-0.8%	-0.2%	-1.1%	-1.7%	-2.0%	-2.0%	-1.9%	-2.8%	-0.9%	4.4%	4.4%	-0.5%	-1.3%	-1.2%
Medical care commod	1.5	0.3%	0.6%	0.1%	0.0%	0.9%	0.3%	0.2%	0.1%	0.3%	0.4%	0.6%	0.2%	-0.1%	0.0%	0.2%	0.1%	1.1%	0.1%	0.6%	0.5%	0.6%	0.2%	0.5%	0.6%
Core services	58.3	0.2%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.6%	0.6%	0.6%	0.4%	0.6%	0.8%	0.5%	0.5%	0.6%	0.5%	0.6%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%
Shelter	34.7	0.4%	0.4%	0.5%	0.4%	0.3%	0.6%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%	0.7%	0.7%	0.6%	0.8%	0.7%	0.8%	0.6%	0.4%	0.6%	0.4%	0.4%	0.3%
Rent of primary res.	7.6	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.4%	0.6%	0.6%	0.8%	0.7%	0.7%	0.8%	0.7%	0.8%	0.8%	0.7%	0.8%	0.5%	0.6%	0.5%	0.5%	0.4%	0.5%
OER	25.5	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.7%	0.6%	0.7%	0.8%	0.6%	0.7%	0.8%	0.7%	0.7%	0.5%	0.5%	0.5%	0.4%	0.5%	0.4%
Medical care services	6.4	0.0%	0.6%	0.5%	0.5%	0.5%	0.1%	0.6%	0.5%	0.4%	0.7%	0.4%	0.7%	0.8%	-0.4%	-0.5%	0.3%	-0.7%	-0.7%	-0.5%	-0.1%	-0.1%	0.0%	-0.4%	0.1%
Transportation services	5.9	-0.9%	0.0%	1.2%	0.5%	0.7%	1.1%	2.1%	2.2%	1.6%	1.8%	-0.4%	1.0%	1.9%	0.6%	0.3%	0.6%	0.9%	1.1%	1.4%	-0.2%	0.8%	0.1%	0.3%	2.0%

Source: BLS, FactSet, J.P. Morgan Asset Management. Heatmap shading is relative to the two-year period shown. Component weights may not add to 100. OER refers to owners' equivalent rent. *Core services ex-housing is an approximation by J.P. Morgan Asset Management. It reflects the custom PCE index of services excluding energy and housing referenced in the U.S. Federal Reserve's Monetary Policy Report. Data for the custom PCE index is provided by the BEA and is distinct from the CPI data provided by the BLS. "Housing" is a PCE component that is measured separately from the CPI "shelter" component.

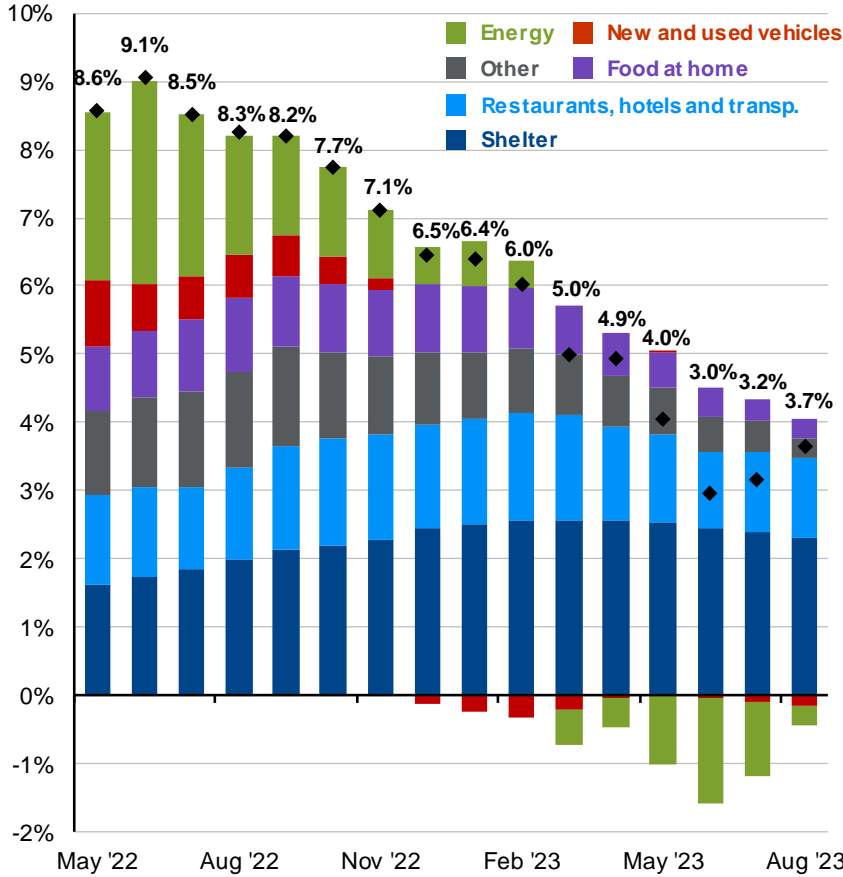
Guide to the Markets – U.S. Data are as of September 30, 2023.



Inflation components

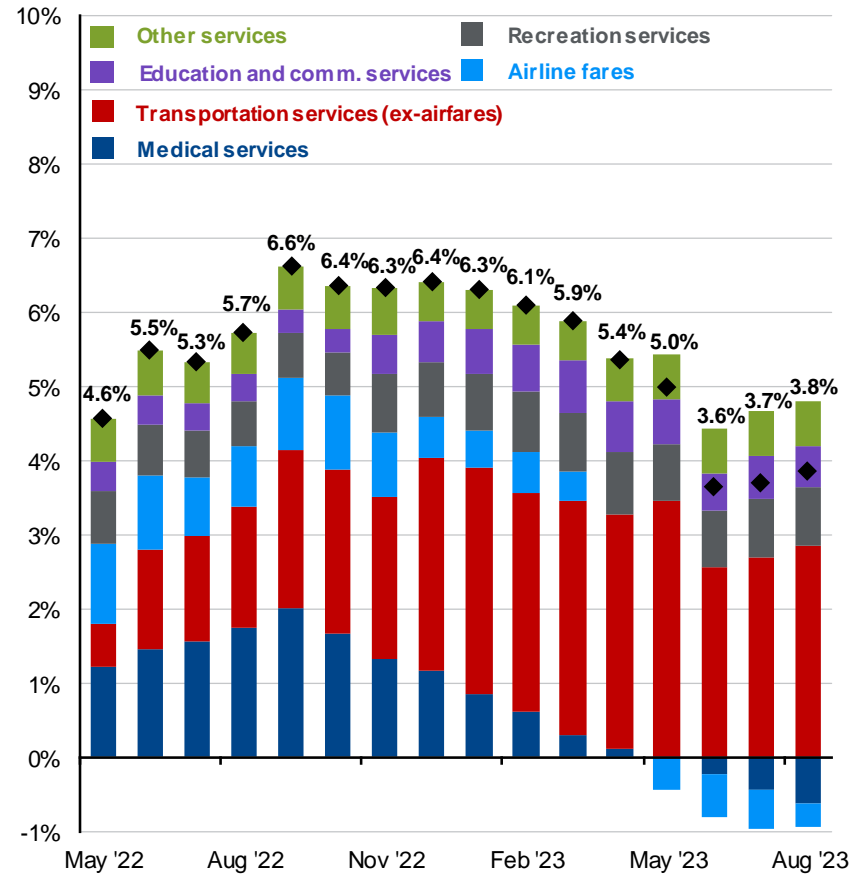
Contributors to headline CPI inflation

Contribution to y/y % change in CPI, non-seasonally adjusted



Contributors to core services ex-shelter CPI inflation*

Contribution to y/y % change in custom CPI index, non-seasonally adj.



Source: BLS, FactSet, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. *Core services ex-shelter CPI is a custom index using CPI components created by J.P. Morgan Asset Management. (Left) "Shelter" includes owners' equivalent rent and rent of primary residence; "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. (Right) "Transportation services" primarily includes leased cars and trucks, motor vehicle insurance and motor vehicle maintenance and repair. Airline fares are broken out from transportation services.
 Guide to the Markets – U.S. Data are as of September 30, 2023.



Dollar drivers

The U.S. dollar

U.S. Dollar Index



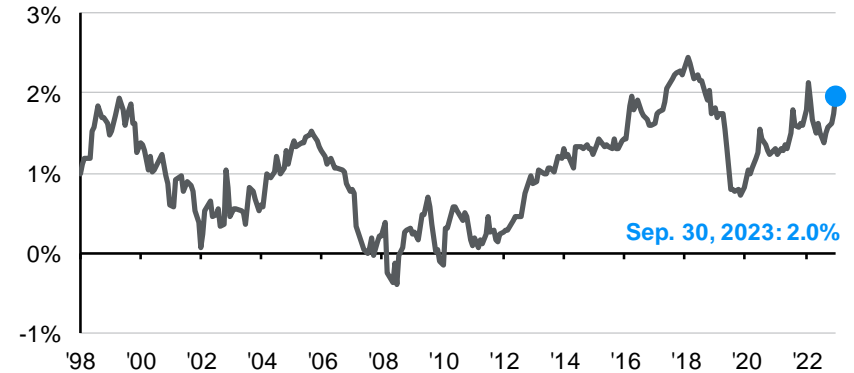
The U.S. trade balance

Current account balance, % of GDP



Developed markets interest rate differentials

Difference between U.S. and international 10-year yields*



Source: J.P. Morgan Asset Management; (Left) FactSet, ICE; (Top right) BEA, FactSet; (Bottom right) Tullett Prebon. Currencies in the DXY Index are: British pound, Canadian dollar, euro, Japanese yen, Swedish krona and Swiss franc. *Interest rate differential is the difference between the 10-year U.S. Treasury yield and a basket of the 10-year yields of each major trading partner (Australia, Canada, Eurozone, Japan, Sweden, Switzerland and UK). Weights in the basket are calculated using the 10-year average of total government bonds outstanding in each region.
 Guide to the Markets – U.S. Data are as of September 30, 2023.



Oil markets

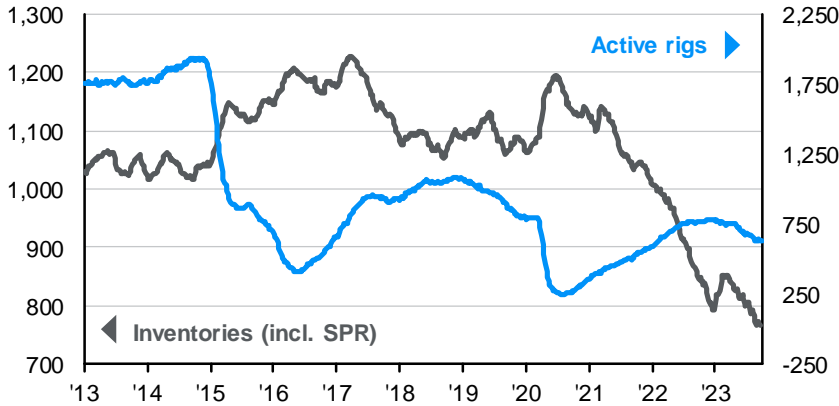
Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2019	2020	2021	2022	2023*	2024*	2019-2023
U.S.	19.5	18.6	19.0	20.3	21.6	22.2	10.8%
OPEC	34.6	30.7	31.7	34.2	33.3	33.8	-3.7%
Russia	11.5	10.5	10.8	10.9	10.6	10.6	-7.2%
Global	100.3	93.9	95.7	99.9	101.2	102.9	0.9%
Consumption							
U.S.	20.5	18.2	19.9	20.0	20.1	20.3	-1.9%
China	14.0	14.4	15.3	15.2	15.9	16.3	13.7%
India	4.9	4.5	4.7	5.0	5.3	5.6	8.1%
Global	100.9	91.6	97.1	99.2	101.0	102.3	0.1%
Inventory Change	2019	2020	2021	2022	2023*		
	-0.6	2.3	-1.4	0.8	0.2	0.5	

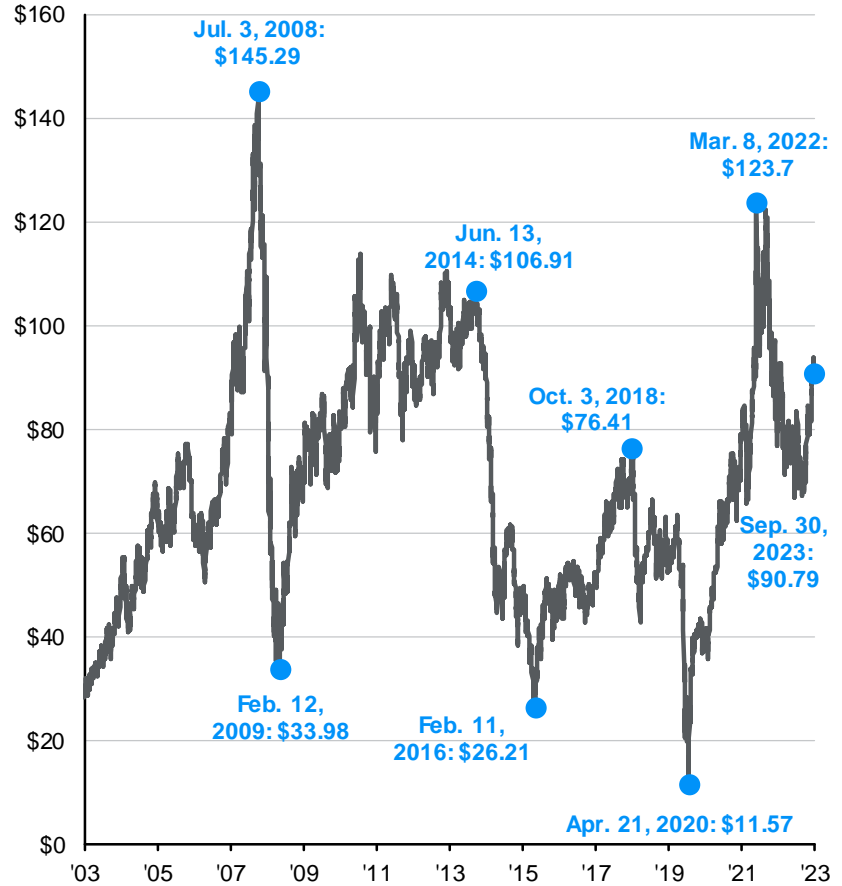
U.S. crude oil inventories and rig count**

Million barrels, number of active rigs



Price of oil

WTI crude, nominal prices, USD/barrel



Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.

*Forecasts are from the September 2023 EIA Short-Term Energy Outlook and start in 2023. **U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Liquid fuels include crude oil, natural gas, biodiesel and fuel ethanol. Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD. Guide to the Markets – U.S. Data are as of September 30, 2023.

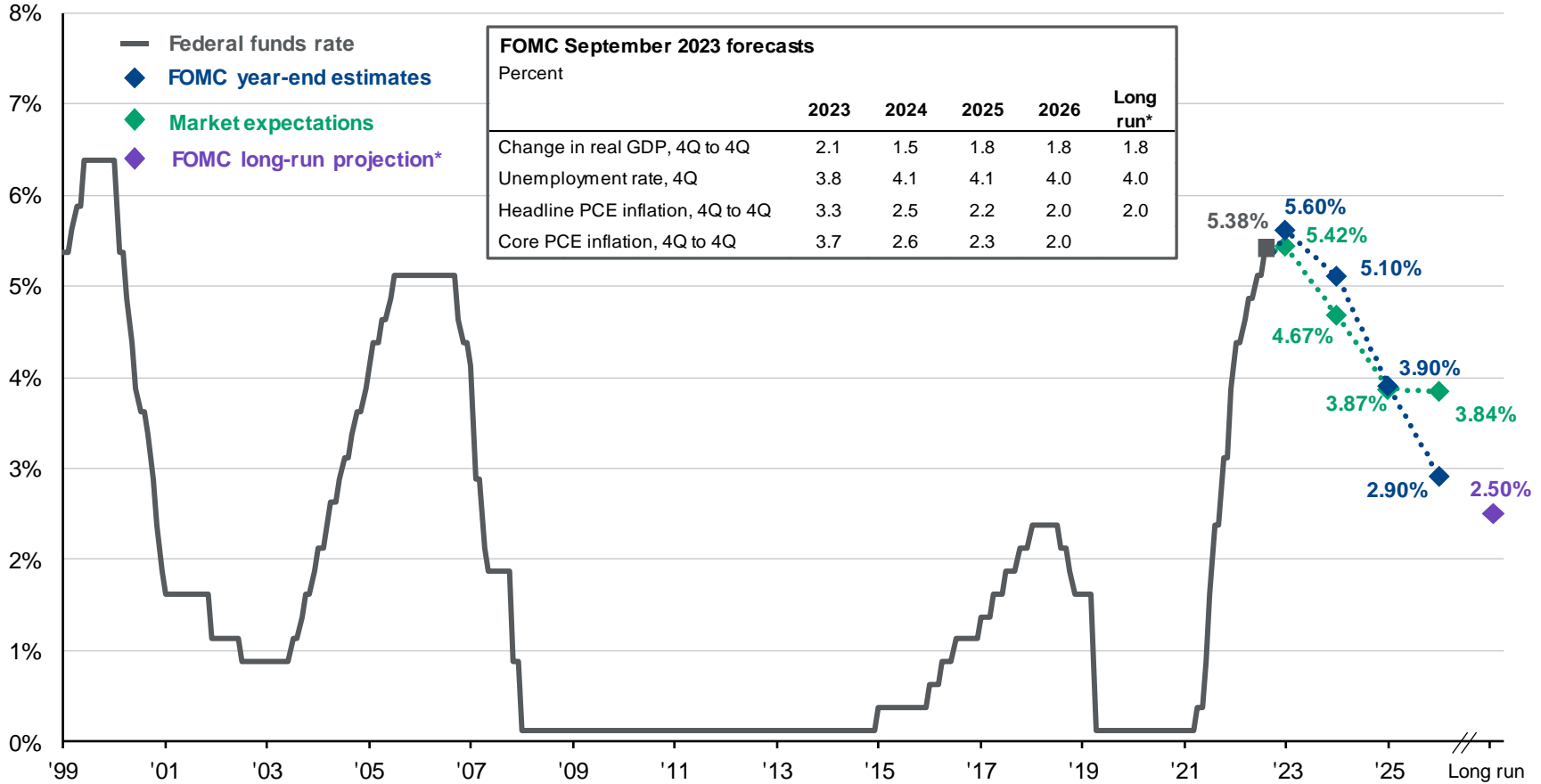


The Fed and interest rates

Fixed Income

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

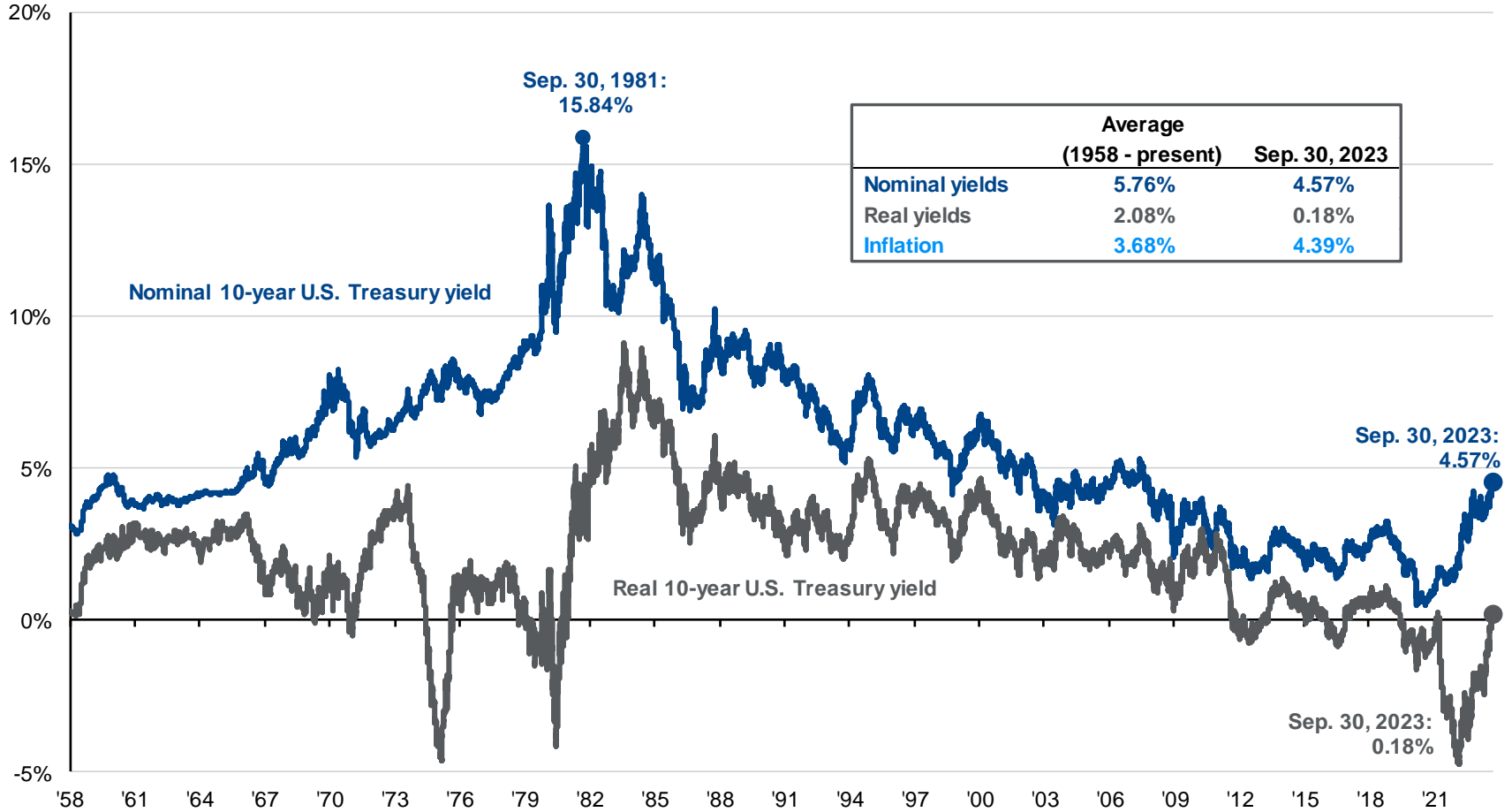
Market expectations are based off of USD Overnight Index Swaps. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Interest rates and inflation

Fixed Income

Nominal and real U.S. 10-year Treasury yields



Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management. Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month. For the current month, we use the prior month's core CPI figures until the latest data is available. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

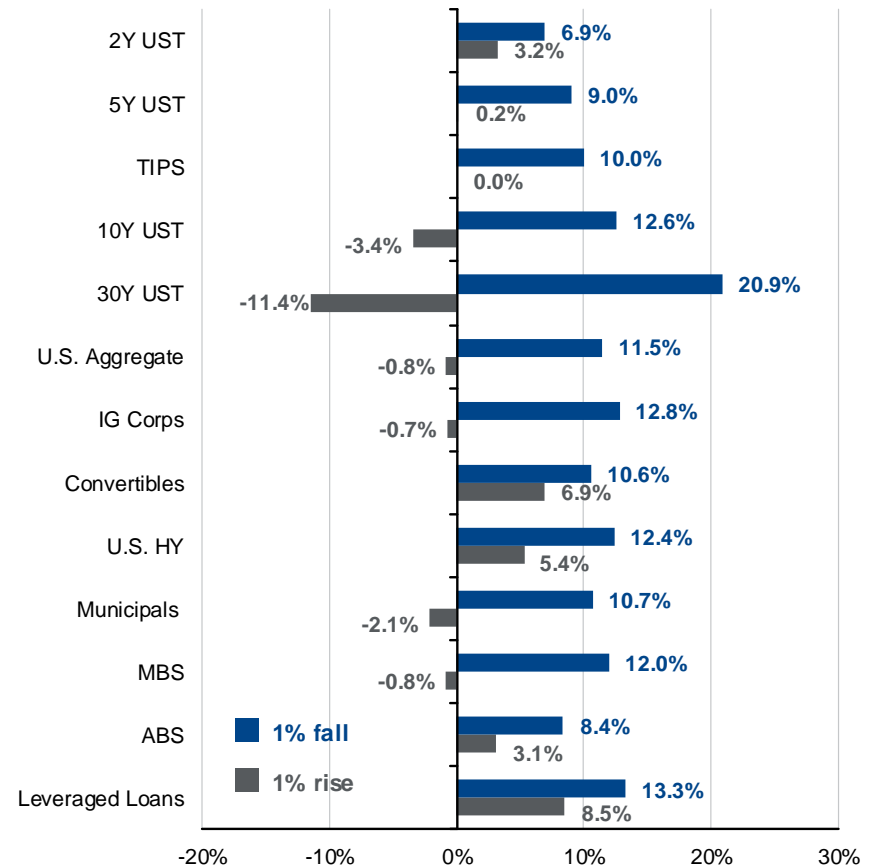


Fixed income market dynamics

U.S. Treasuries	Yield		Return			
	9/30/2023	12/31/2022	2023 YTD	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
2-Year	5.03%	4.41%	1.14%	2 years	0.74	-0.12
5-Year	4.60%	3.99%	-0.56%	5	0.93	-0.11
TIPS	5.02%	4.38%	-0.78%	7.1	0.62	0.37
10-Year	4.59%	3.88%	-3.43%	10	1.00	-0.12
30-Year	4.73%	3.97%	-9.68%	30	0.93	-0.15
Sector						
U.S. Aggregate	5.39%	4.68%	-1.21%	8.5	0.86	0.22
IG Corps	6.04%	5.42%	0.02%	10.6	0.58	0.46
Convertibles	8.37%	7.58%	6.48%	-	-0.13	0.87
U.S. HY	8.88%	8.96%	5.86%	5.0	-0.09	0.73
Municipals	4.32%	3.55%	-1.38%	13.0	0.57	0.20
MBS	5.57%	4.71%	-2.26%	8.4	0.78	0.17
ABS	6.36%	5.89%	4.03%	3.3	0.08	-0.02
Leveraged Loans	10.91%	11.41%	10.09%	2.4	-0.34	0.58

Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve



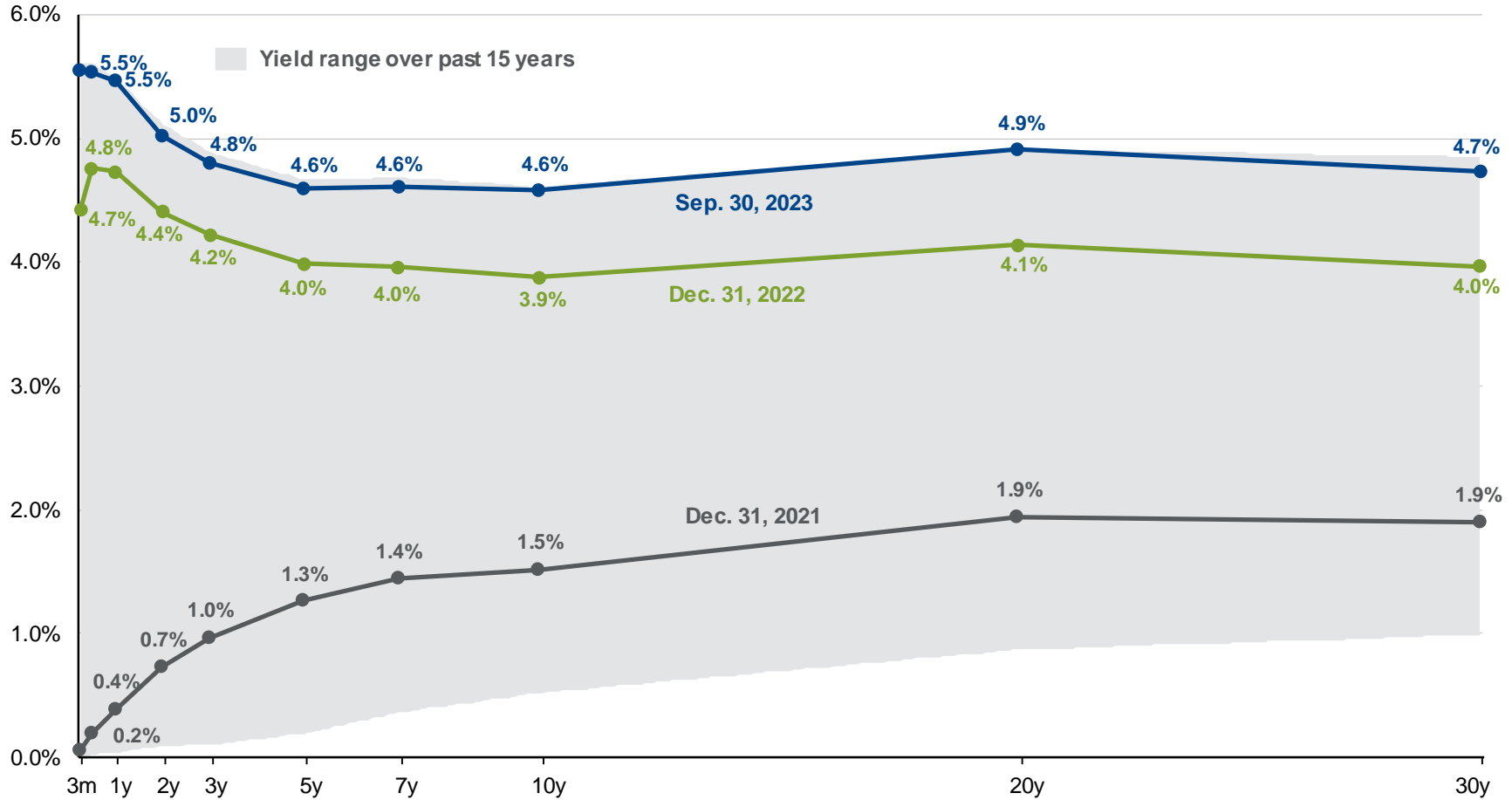
Source: Bloomberg, FactSet, Standard & Poor's, U.S. Treasury, J.P. Morgan Asset Management. Sectors shown above are provided by Bloomberg unless otherwise noted and are represented by – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; ABS: J.P. Morgan ABS Index; Corporates: U.S. Corporates; Municipals: Muni Bond; High Yield: Corporate High Yield; Leveraged Loans: J.P. Morgan Leveraged Loan Index; TIPS: Treasury Inflation-Protected Securities; Convertibles: U.S. Convertibles Composite. Convertibles yield is as of most recent month-end and is based on U.S. portion of Bloomberg Global Convertibles Index. Yield and return information based on bellwethers for Treasury securities. Sector yields reflect yield-to-worst. Convertibles yield is based on U.S. portion of Bloomberg Global Convertibles. Correlations are based on 15-years of monthly returns for all sectors. Past performance is not indicative of future results. Guide to the Markets – U.S. Data are as of September 30, 2023.



Yield curve

Fixed Income

U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of September 30, 2023.



High yield bonds

Fixed Income

Default rate and spread-to-worst

Percent



Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.

Long-run average is based on monthly historical data beginning in January 1990. Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. The default rate is an LTM figure (last 12 months) and tracks the % of defaults over the period. Recovery rates are based on the price of the defaulted bonds or loans 30 days post the default date. Default and recovery rates are as of most recent month-end. Spread-to-worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index.

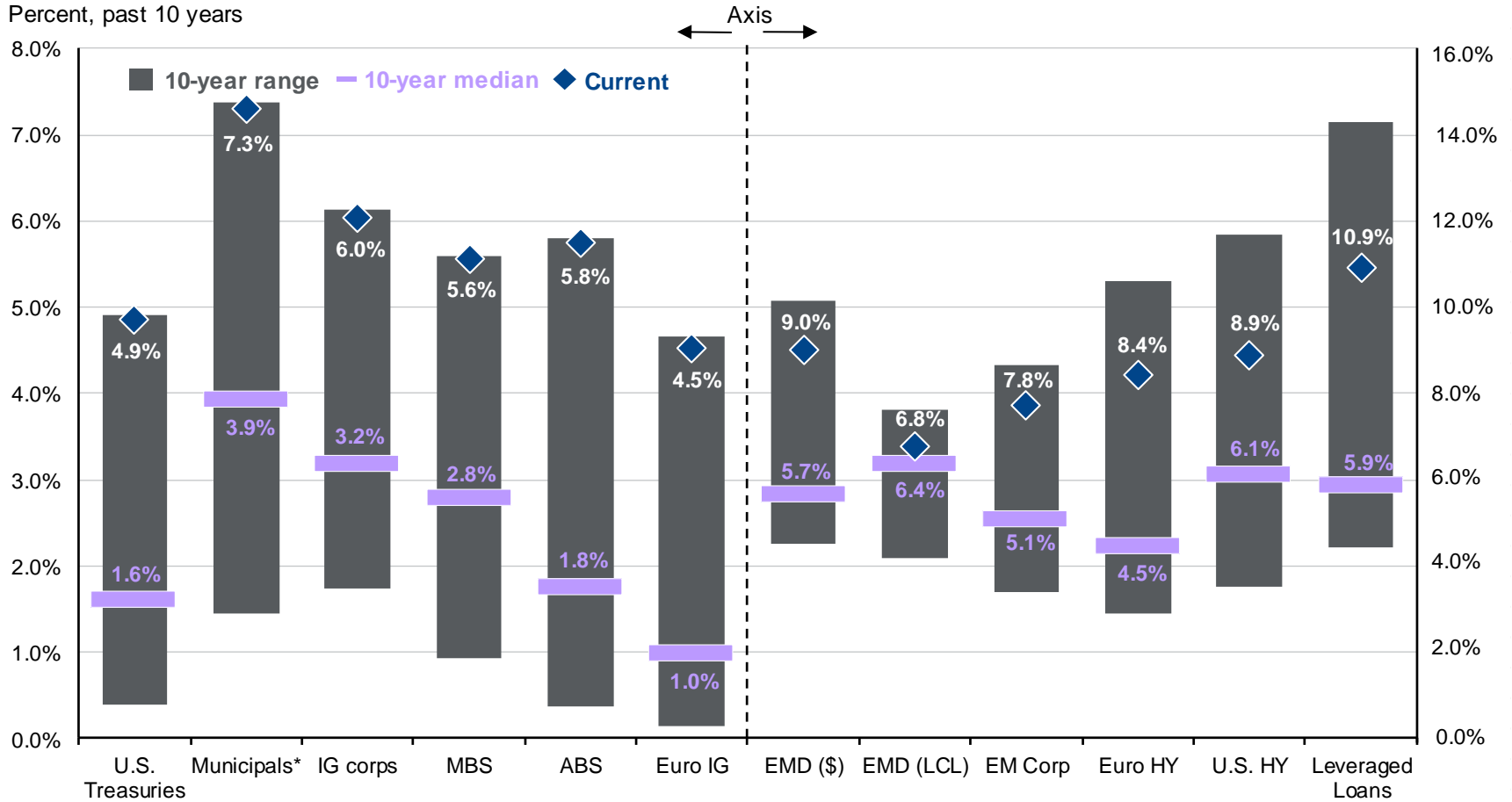
Guide to the Markets – U.S. Data are as of September 30, 2023.



Fixed income valuations

Yield-to-worst across fixed income sectors

Percent, past 10 years



Fixed Income

Source: Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management. Indices used are Bloomberg except for emerging market debt and leveraged loans: EMD (USD): J.P. Morgan EMIGLOBAL Diversified Index; EMD (LCL): J.P. Morgan GBI-EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Leveraged Loans: JPM Leveraged Loan Index; Euro IG: Bloomberg Euro Aggregate Corporate Index; Euro HY: Bloomberg Pan-European High Yield Index. Yield-to-worst is the lowest possible yield that can be received on a bond apart from the company defaulting. *All sectors shown are yield-to-worst except for Municipals, which is based on the tax-equivalent yield-to-worst assuming a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8%. *Guide to the Markets - U.S.* Data are as of September 30, 2023.

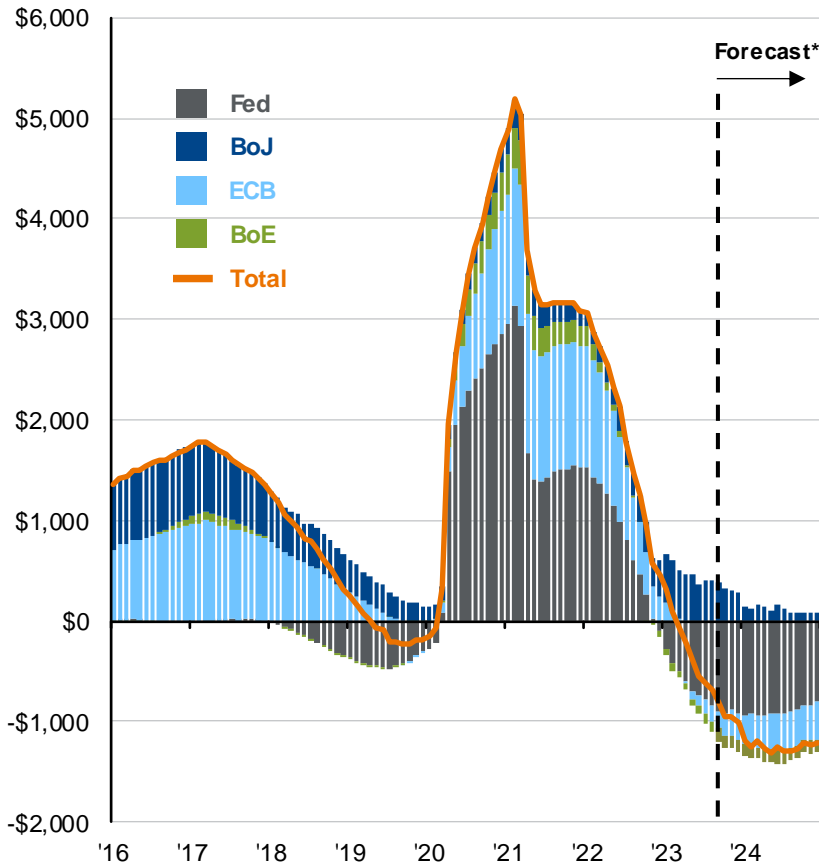


Developed market monetary policy

Fixed Income

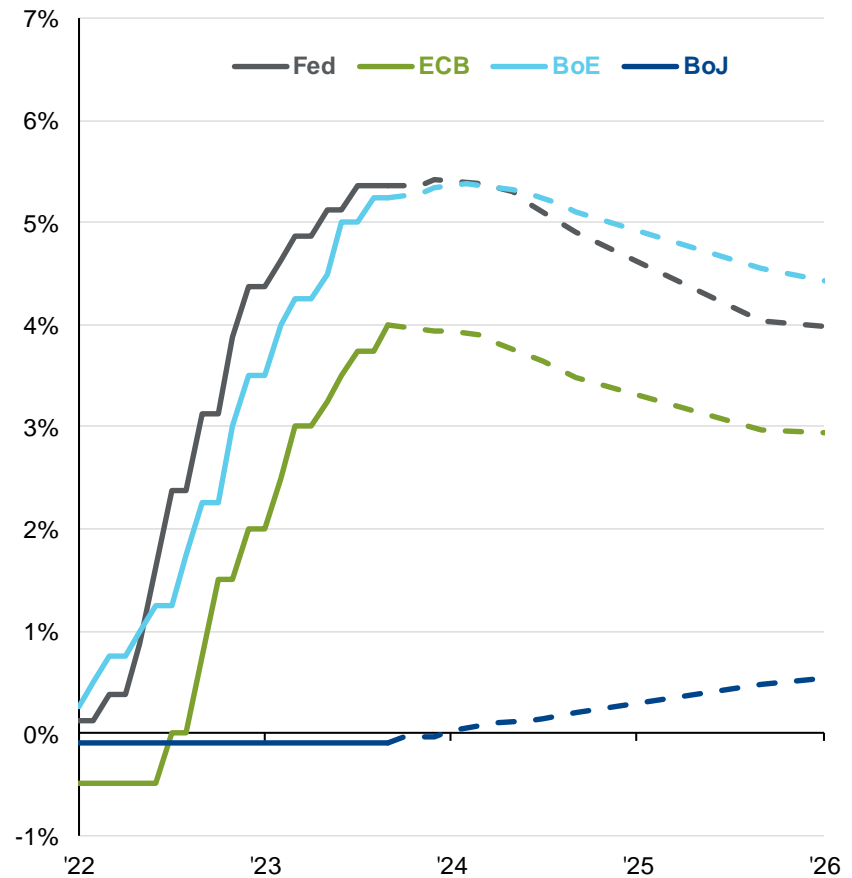
Developed market central bank bond purchases

USD billions, 12-month rolling flow



Historical policy rates and forward curves

Target policy rates and market implied forward rates



Source: BIS, Bloomberg, FactSet, J.P. Morgan Asset Management; (Left) Bank of England (BoE), Bank of Japan (BoJ), European Central Bank (ECB), Federal Reserve System (Fed), J.P. Morgan Global Economic Research. *DM bond purchase forecasts are internal assumptions based on government bond purchases as outlined in the most recent monetary policy announcements from the BoE, BoJ, ECB and Federal Reserve through December 2024. Implied policy rates are sourced from Bloomberg and are derived from monthly Overnight Index Swaps around central bank policy meeting dates. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and are not a reliable indicator of future performance. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data as of September 30, 2023.



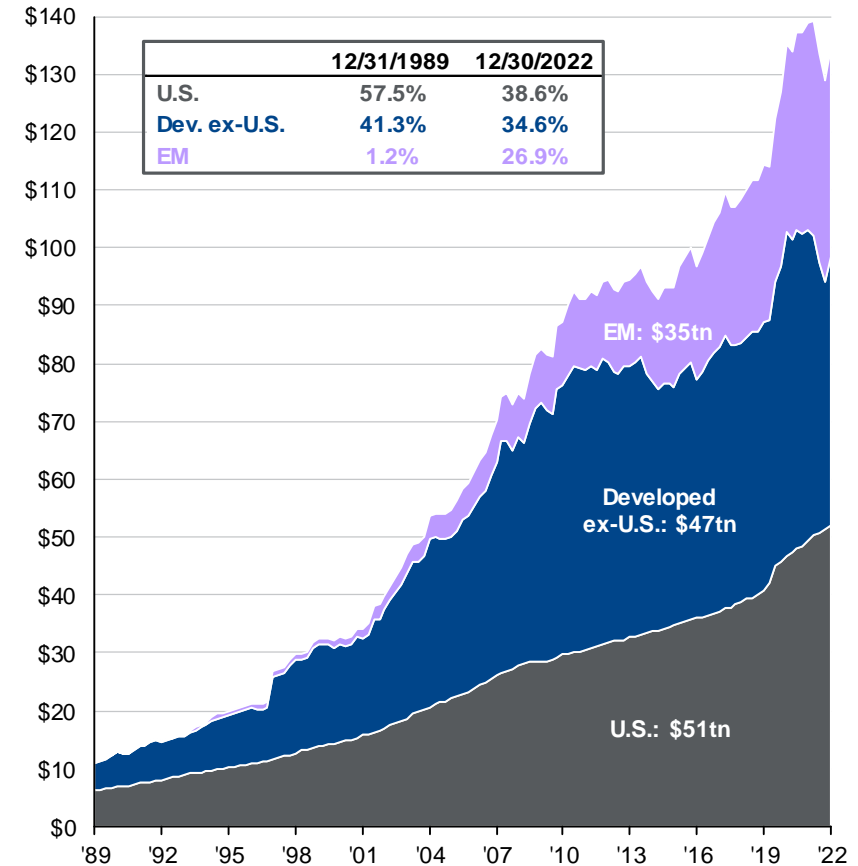
Global fixed income

Fixed Income

Aggregates	Yield		2023 Return		Duration	Correlation to U.S. 10yr
	9/30/2023	12/31/2022	Local	USD		
U.S.	5.39%	4.68%	-1.21%	-1.21%	6.2 years	0.91
Gbl. ex-U.S.	3.47%	3.13%	-	-2.84%	6.8	0.59
Japan	0.89%	0.75%	0.19%	-11.41%	9.2	0.63
Germany	3.58%	3.22%	0.23%	-0.57%	6.0	0.51
UK	4.99%	4.29%	-2.96%	-1.53%	7.8	0.50
Italy	4.41%	4.10%	1.91%	1.10%	5.9	0.38
China	2.80%	2.94%	3.45%	-1.54%	5.9	0.54
Sector						
Euro Corp.	4.52%	4.32%	2.53%	1.71%	4.3 years	0.42
Euro HY	8.43%	8.32%	6.76%	5.91%	3.0	0.01
EMD (USD)	9.03%	8.55%	-	1.76%	5.8	-0.02
EMD (LCL)	6.76%	6.86%	5.02%	4.28%	4.9	-0.09
EM Corp.	7.75%	7.28%	-	3.38%	4.8	-0.04

Global bond market

USD trillions



Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet; (Right) BIS.

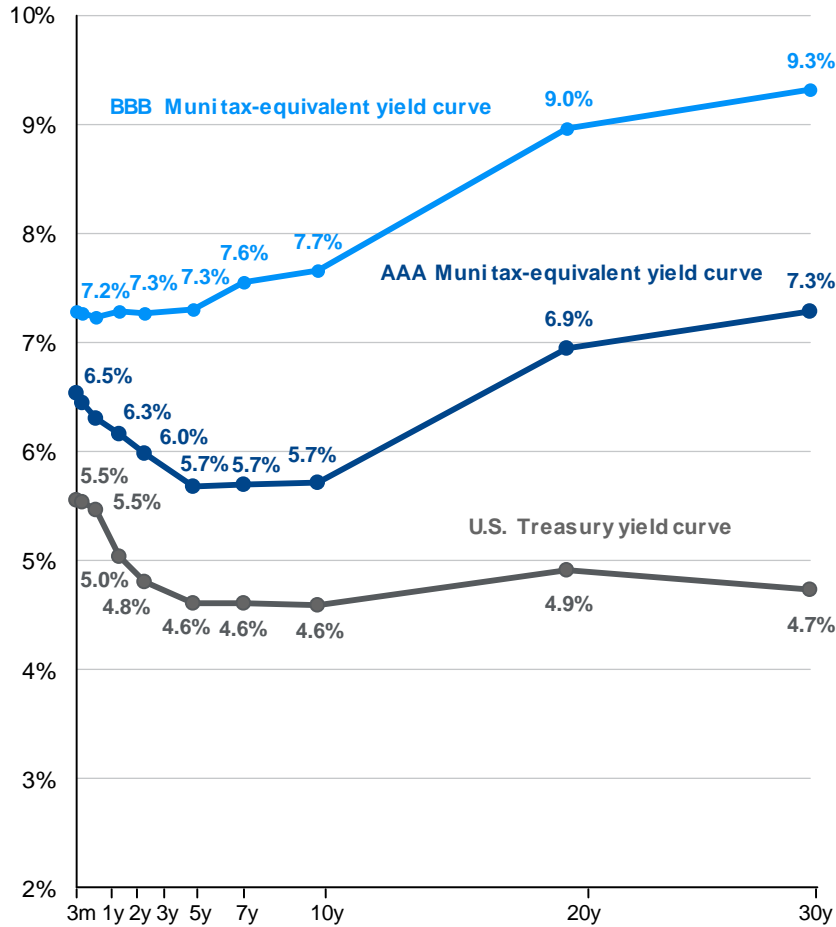
Fixed income sectors shown above are provided by Bloomberg and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the J.P. Morgan GBI EM Global Diversified Index (LCL) and the J.P. Morgan CEMBI Broad Diversified Index (Corp). European Corporates are represented by the Bloomberg Euro Aggregate Corporate Index and the Bloomberg Pan-European High Yield Index. Sector yields reflect yield-to-worst. Correlations are based on 10-years of monthly returns for all sectors. Past performance is not indicative of future results. Global bond market regional breakdown may not sum to 100% due to rounding. Guide to the Markets – U.S. Data are as of September 30, 2023.



Municipal finance

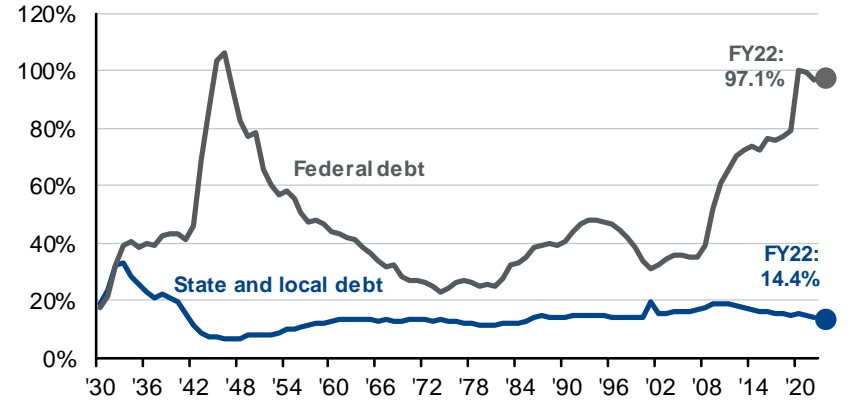
Fixed Income

Muni tax-equivalent and Treasury yield curves



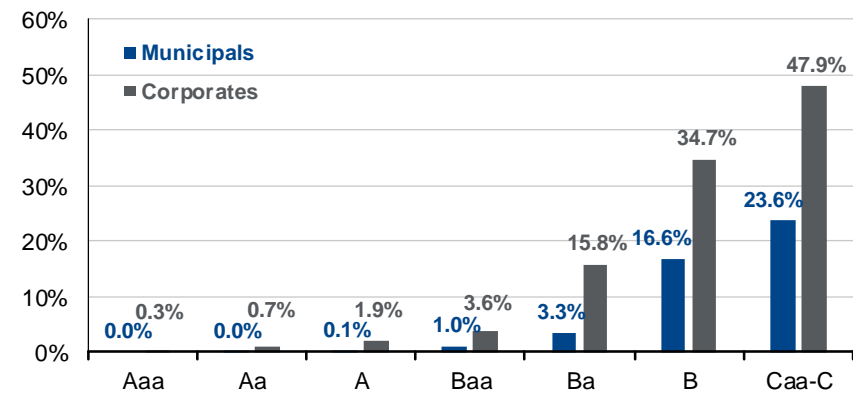
State and local and federal net debt

% of GDP, 1930-2022, end of fiscal year



Muni and corporate default rates

% of issuers defaulting within 10 years, 1970-2022



Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet, Federal Reserve, S&P Global; (Top right) Census Bureau, Congressional Budget Office (CBO); (Bottom right) Moody's U.S. Public Finance: U.S. municipal bond defaults and recoveries, 1970 to 2022. Municipal tax-equivalent yields are calculated based on municipal bond curves for each credit rating according to S&P Global and assume a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8% for a total tax rate of 40.8%. State and local debt are based on the Census Bureau's Annual Survey of State and Local Government Finances. Municipal and corporate default rates are the average cumulative default rate over a 10-year horizon as calculated by Moody's using data from issuances through 2013. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

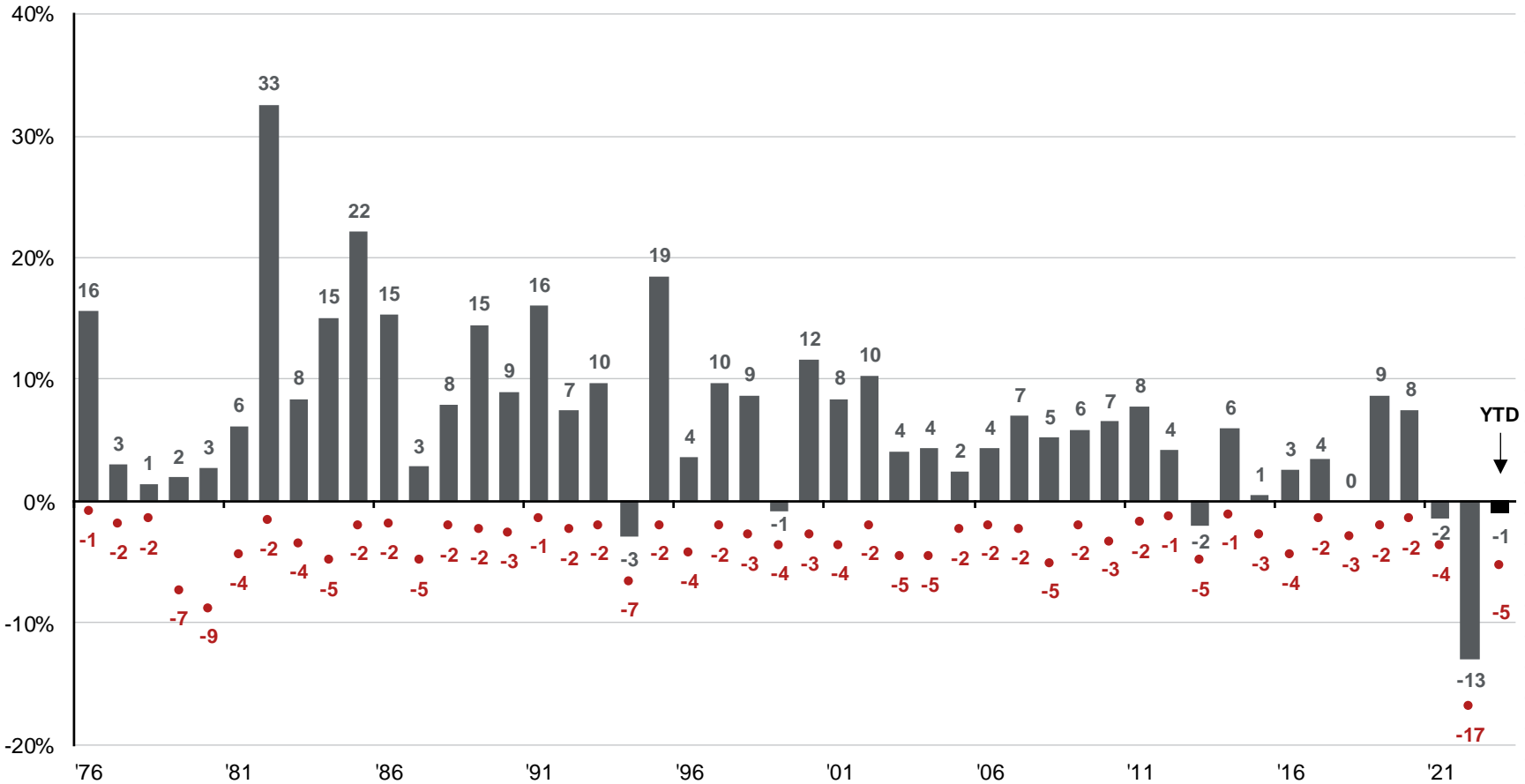


Bloomberg U.S. Agg. annual returns and intra-year declines

Fixed Income

Bloomberg U.S. Aggregate intra-year declines vs. calendar year returns

Despite average intra-year drops of 3.3%, annual returns positive in 42 of 47 years



Source: Bloomberg, FactSet, J.P. Morgan Asset Management.
 Returns are based on total return. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1976 to 2022, over which time period the average annual return was 6.6%. Returns from 1976 to 1989 are calculated on a monthly basis; daily data are used afterward.
 Guide to the Markets – U.S. Data are as of September 30, 2023.

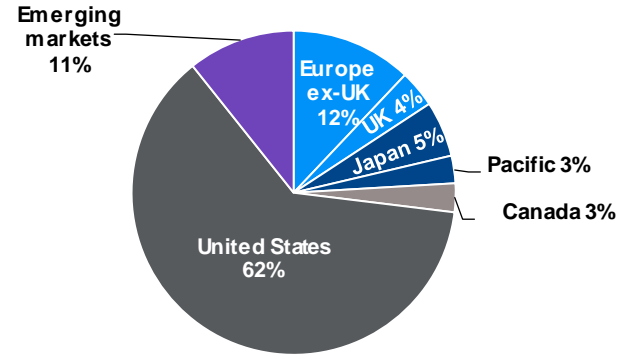


Global equity markets

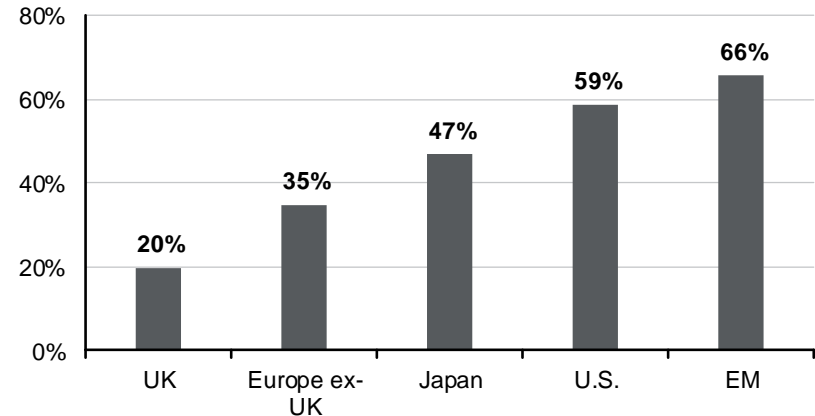
International

Returns	2023		2022		15-years	
	Local	USD	Local	USD	Ann.	Beta
Regions						
U.S. (S&P 500)	-	13.1	-	-18.1	11.3	0.9
AC World ex-U.S.	8.7	5.8	-9.2	-15.6	4.8	1.0
EAFE	11.2	7.6	-6.5	-14.0	5.2	1.0
Europe ex-UK	10.0	9.2	-12.2	-17.3	5.5	1.2
Emerging markets	4.4	2.2	-15.2	-19.7	4.1	1.1
Selected Countries						
Japan	26.2	11.6	-4.1	-16.3	4.9	0.7
United Kingdom	5.2	6.8	7.2	-4.8	4.3	1.0
France	11.7	10.8	-6.9	-12.7	5.8	1.2
Canada	4.2	4.5	-5.8	-12.2	4.7	1.1
Germany	10.6	9.7	-16.5	-21.6	4.1	1.3
China	-6.1	-7.1	-20.6	-21.8	4.2	1.0
Taiwan	17.4	11.8	-21.3	-29.1	10.9	1.0
India	8.7	8.3	3.0	-7.5	7.7	1.1
Brazil	7.1	13.0	8.6	14.6	1.1	1.4

Weights in MSCI All Country World Index
% global market capitalization, float adjusted



Revenue exposure vs. country of listing
% of total revenue from home countries



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. (Left) All return values are MSCI Total Return Index (Gross) data. 15-year history based on USD returns. 15-year return and beta figures are calculated using a rolling 12-month time period ending with the previously completed month. Beta is for monthly returns relative to the MSCI All Country World Index. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. Chart is for illustrative purposes only. Please see disclosure page for index definitions. Past performance is not a reliable indicator of current and future results. (Bottom right) Revenue exposure vs. country of listing is as of 9/30/2023.

Guide to the Markets – U.S. Data are as of September 30, 2023.

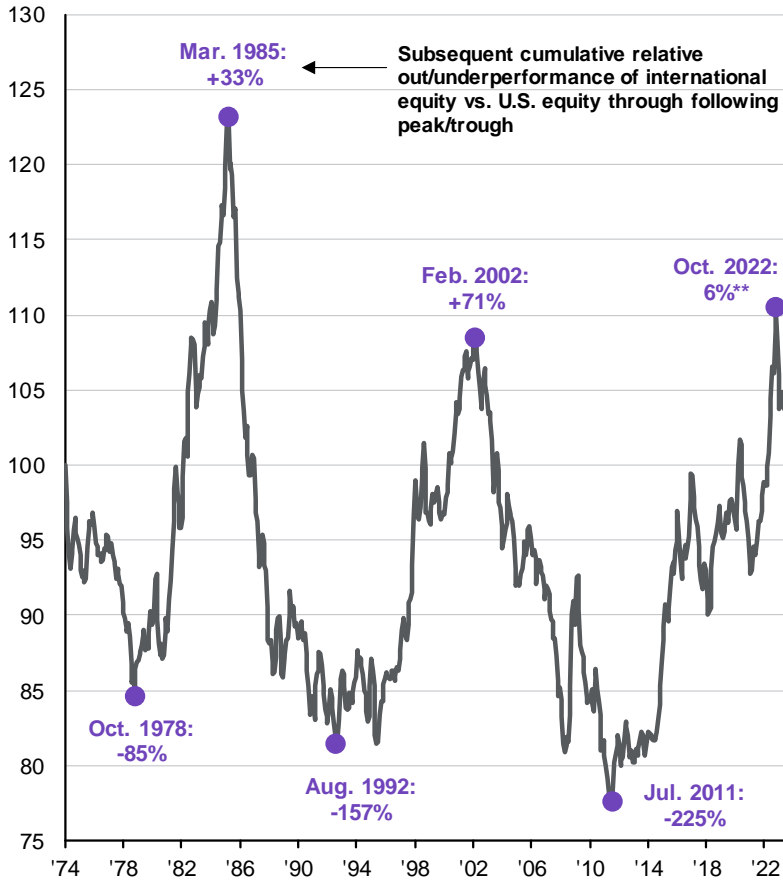


Currency and international equity returns

International

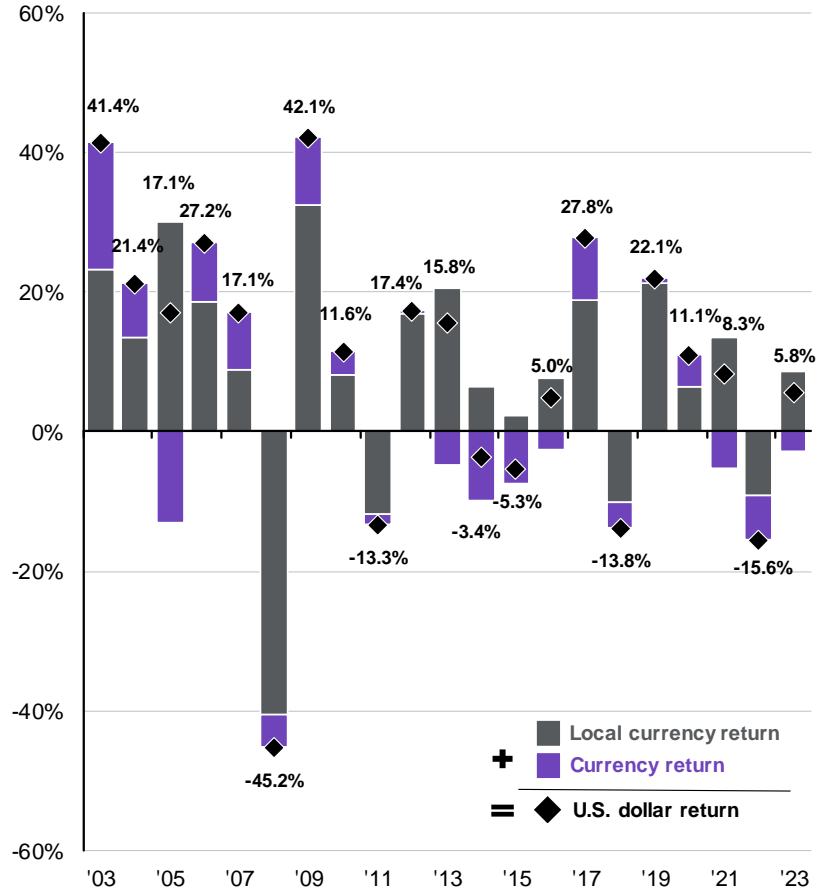
U.S. dollar and relative international equity returns

Real broad effective exchange rate, MSCI World ex-U.S. vs. S&P 500*



Currency impact on international returns

MSCI All Country World ex-U.S. Index, total return



Source: FactSet, MSCI, J.P. Morgan Asset Management; (Left) J.P. Morgan Global Economic Research, Standard and Poor's. *U.S. dollar is the J.P. Morgan Global Economic Research real broad effective exchange rate (CPI) indexed to 100 in 1974. Relative international equity returns are cumulative, total returns in U.S. dollars and are calculated as MSCI World ex-U.S. minus S&P 500 for each period of U.S. dollar peak/trough. **Data since Oct. 2022 represents the relative outperformance to the latest month-end. Past performance is not a reliable indicator of current and future results.

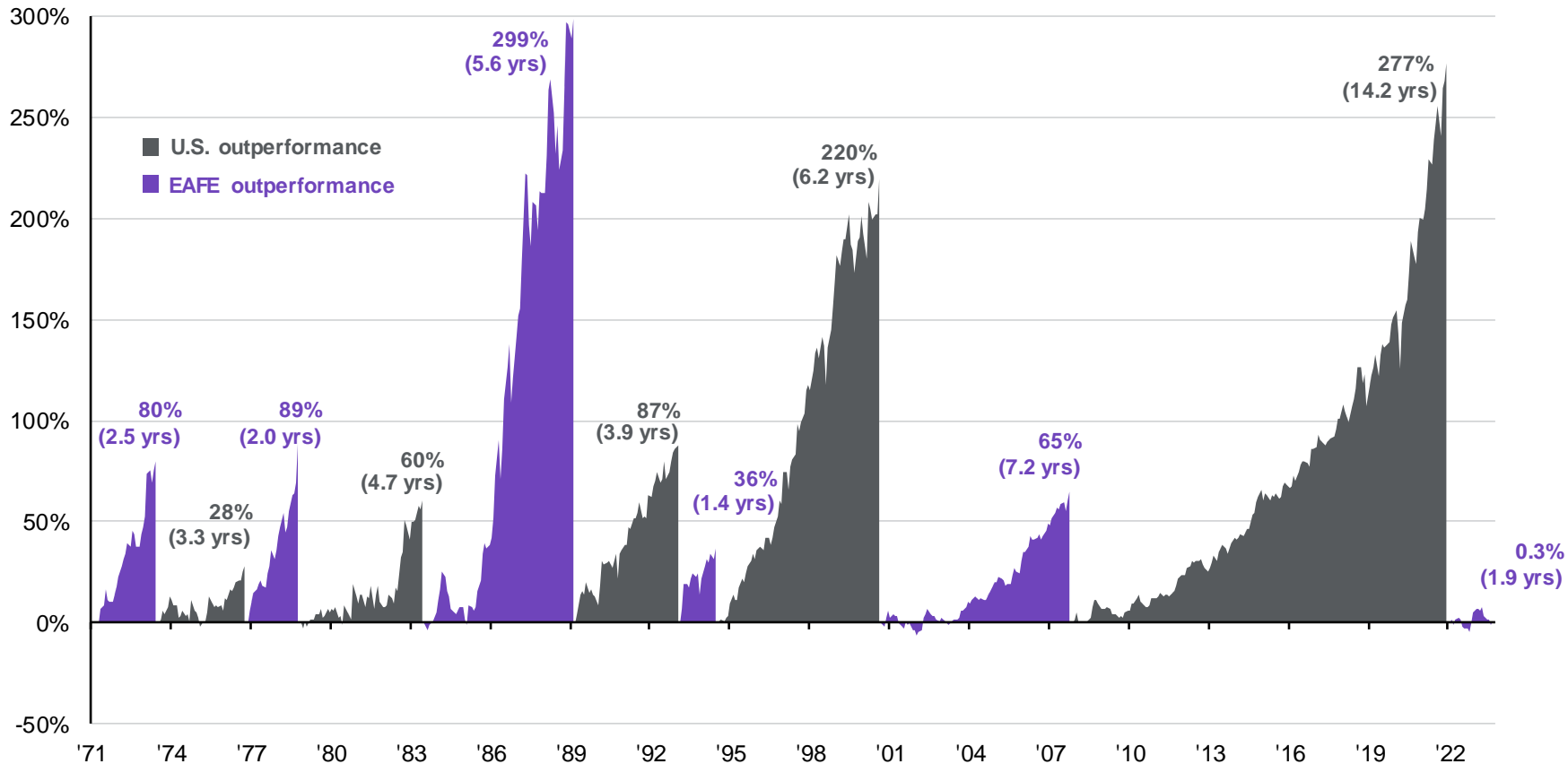
Guide to the Markets – U.S. Data are as of September 30, 2023.



Cycles of U.S. equity outperformance

MSCI EAFE and MSCI USA relative performance

U.S. dollar, total return, cumulative outperformance



International

Source: FactSet, MSCI, J.P. Morgan Asset Management.
 Regime change determined when cumulative outperformance peaks and is not reached again in the subsequent 12-month period.
 Guide to the Markets – U.S. Data are as of September 30, 2023.

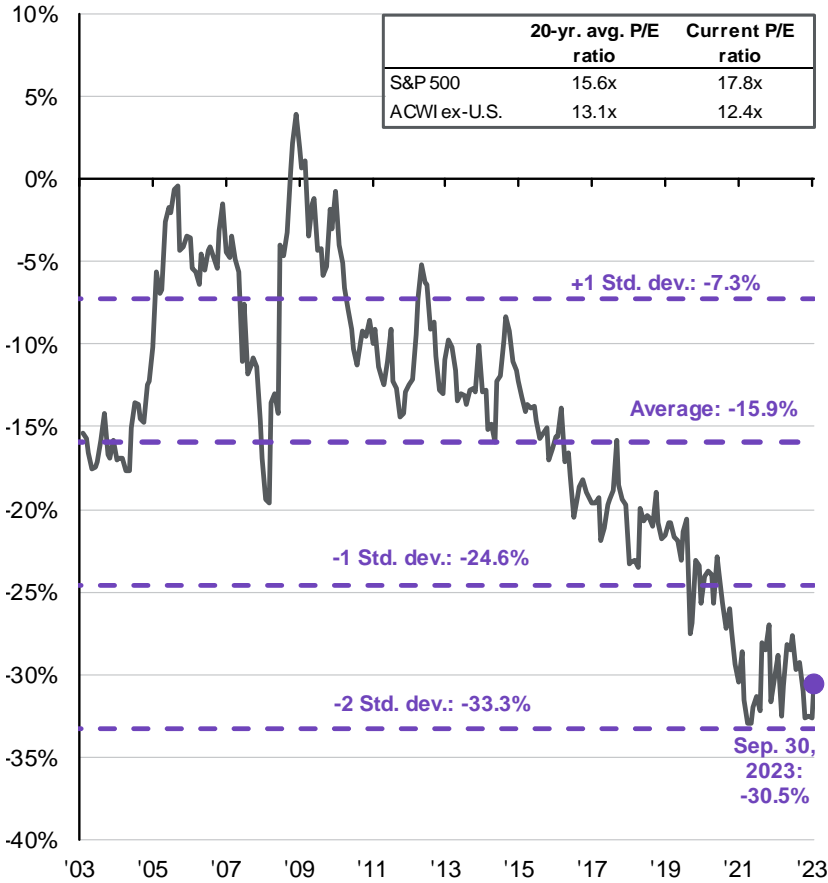


International valuations and dividend yields

International

International: Price-to-earnings discount vs. U.S.

MSCI All Country World ex-U.S. vs. S&P 500, next 12 months



International: Difference in dividend yields vs. U.S.

MSCI All Country World ex-U.S. minus S&P 500, next 12 months



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of September 30, 2023.

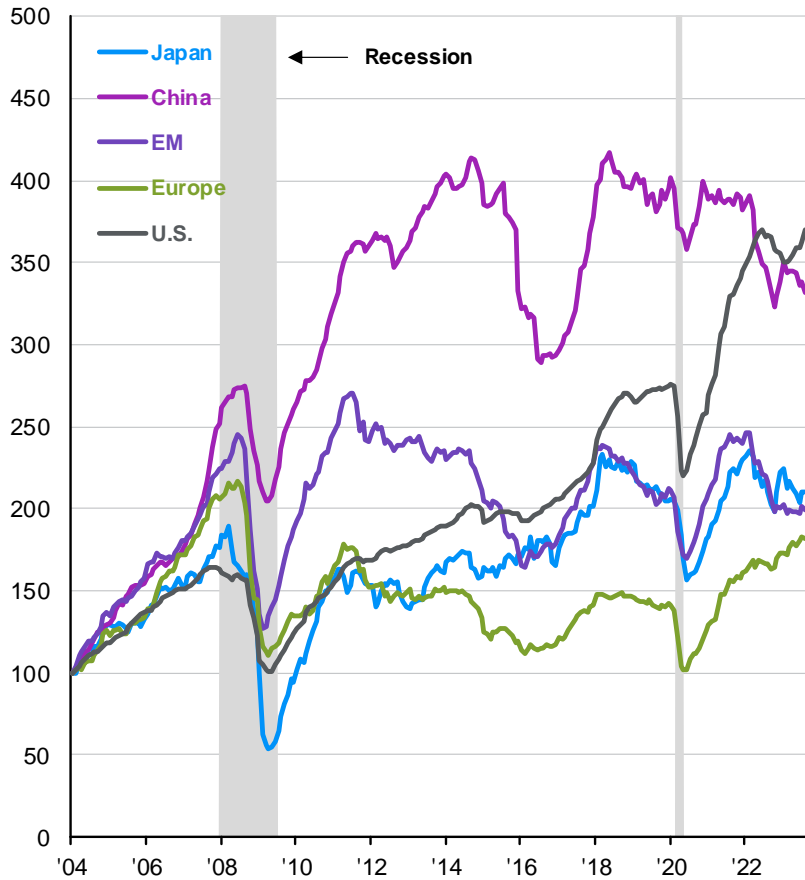


International equity earnings and valuations

International

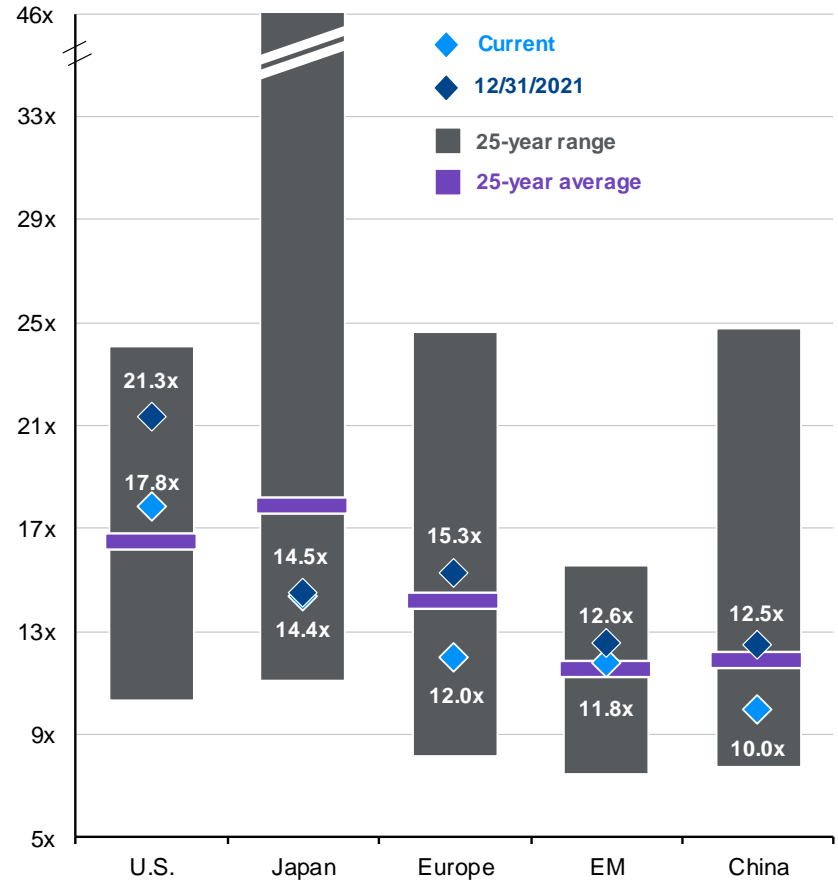
Global earnings estimates

Jan. 2004 = 100, next 12 months consensus estimates, U.S. dollars



Global valuations

Current and 25-year next 12 months price-to-earnings ratio

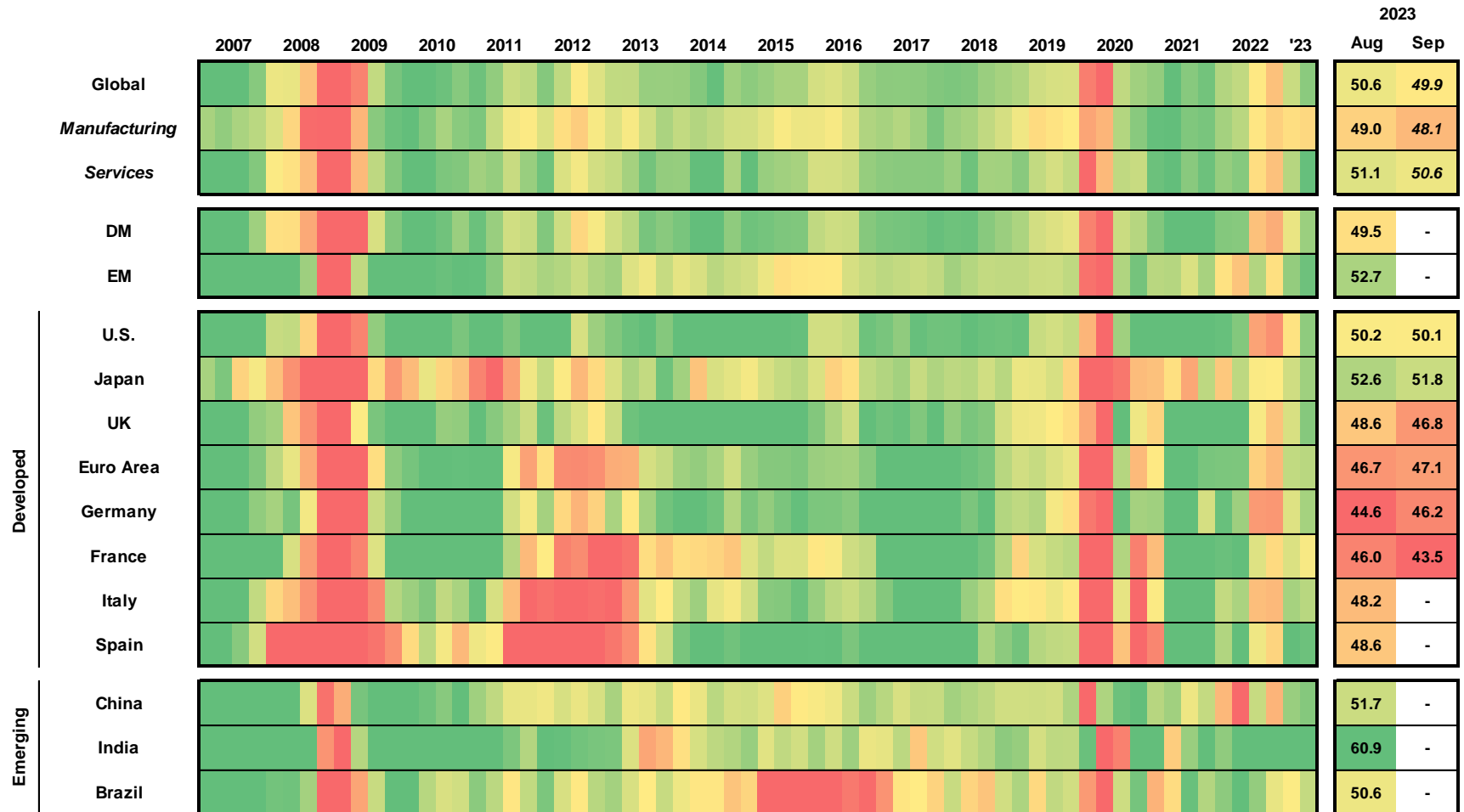


Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Next 12 months consensus estimates are based on pro-forma earnings and are in U.S. dollars. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively make up almost half of the overall index). Past performance is not a reliable indicator of current and future results. (Right) The purple lines for EM and China show 20-year averages due to a lack of available data. *Guide to the Markets* – U.S. Data are as of September 30, 2023.



Global economic activity momentum

Global Composite (manufacturing & services combined) Purchasing Managers' Index, quarterly



International

Developed

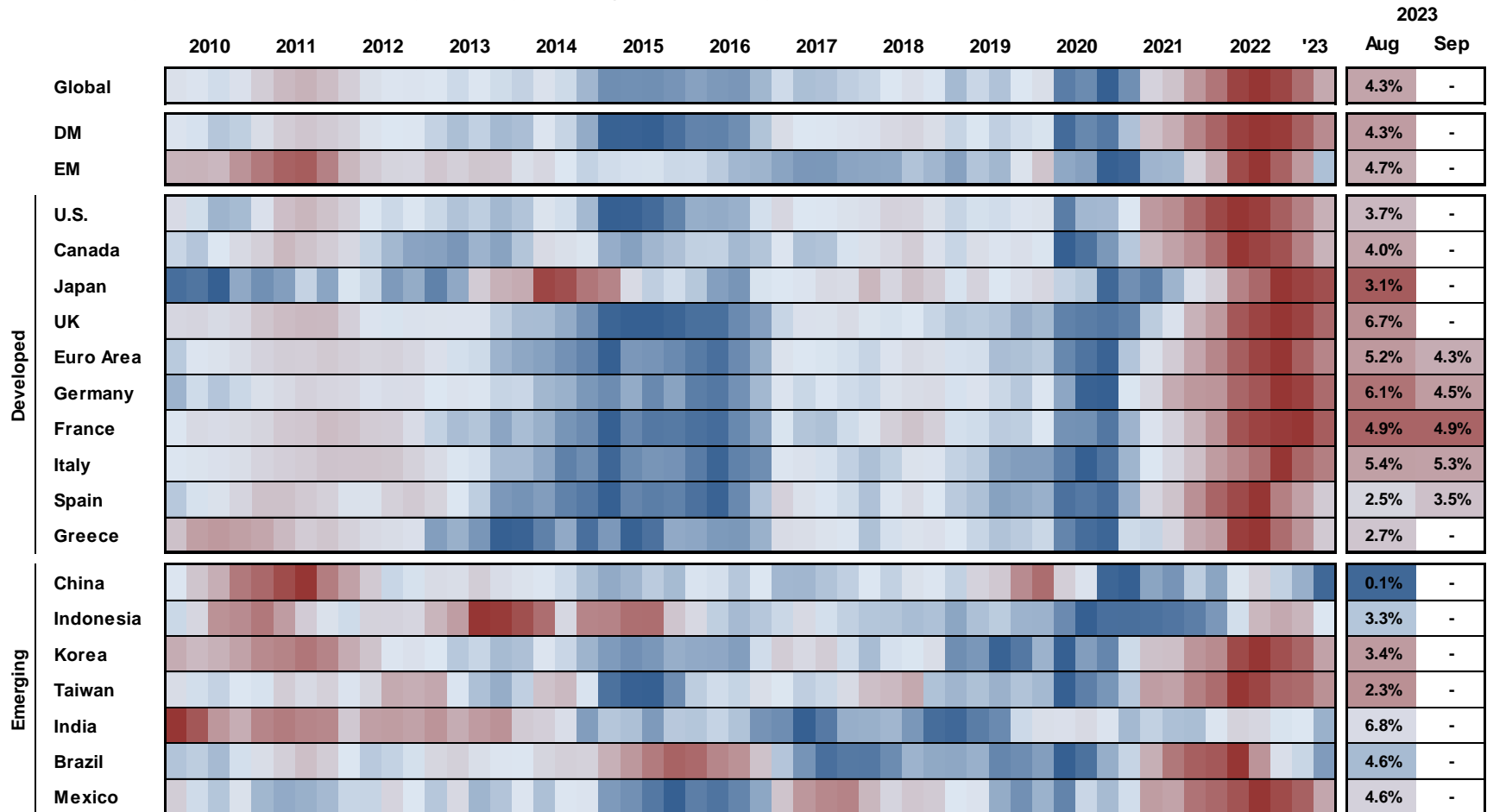
Emerging

Source: Standard & Poor's, J.P. Morgan Economic Research, J.P. Morgan Asset Management. The Composite PMI includes both manufacturing and services sub-indices. The global, services and manufacturing figures for September are estimates by J.P. Morgan Asset Management. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, except for the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in for 2007-2009. Data for Japan are back-tested and filled in for the first two quarters of 2007. DM and EM represent developed markets and emerging markets, respectively. Guide to the Markets – U.S. Data are as of September 30, 2023.



Global inflation

Year-over-year headline inflation by country and region, quarterly



International

Source: Bank of Mexico, Central Bank of Brazil, DGBAS, Eurostat, FactSet, Federal Reserve, IBGE, India Ministry of Statistics & Programme Implementation, Japan Ministry of Internal Affairs & Communications, J.P. Morgan Economic Research, Korean National Statistical Office, National Bureau of Statistics China, Statistics Canada, Statistics Indonesia, UK Office for National Statistics (ONS), J.P. Morgan Asset Management. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Colors determined by percentiles of inflation values over the time period shown. Deep blue = lowest value, light blue = median, deep red = highest value. DM and EM represent developed markets and emerging markets, respectively. *Guide to the Markets* – U.S. Data are as of September 30, 2023.

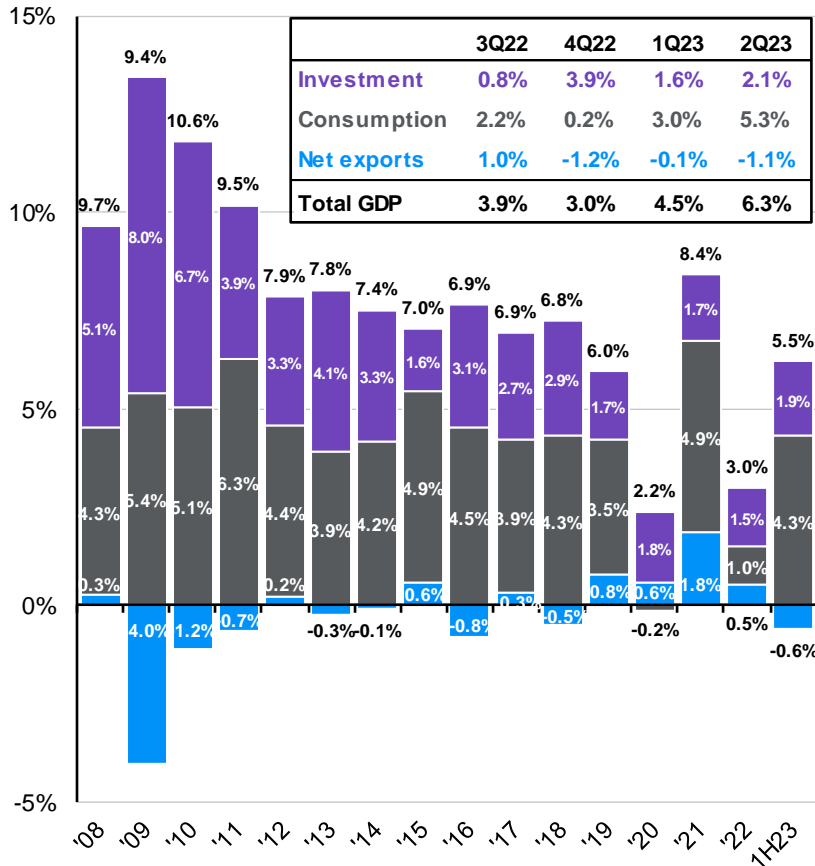


China: Economy

International

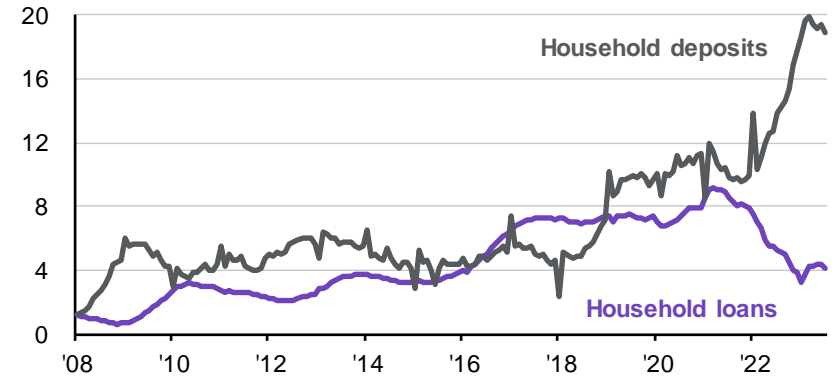
China real GDP contribution

Year-over-year % change, contribution by component



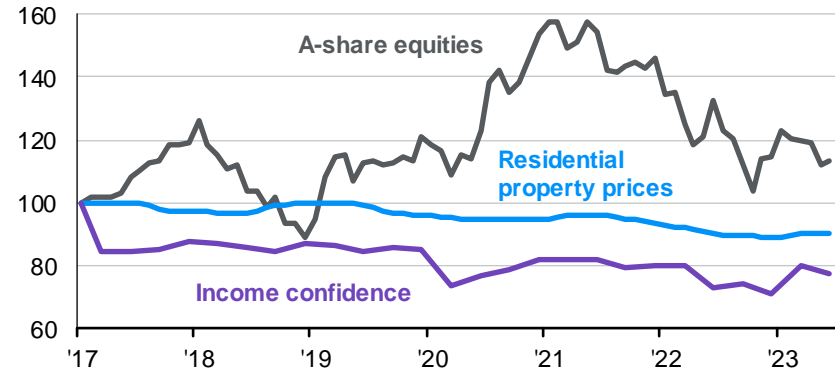
Household deposits and loans

CNY trillion, rolling 12 months



Consumer income and wealth effect

Jan. 2017 = 100



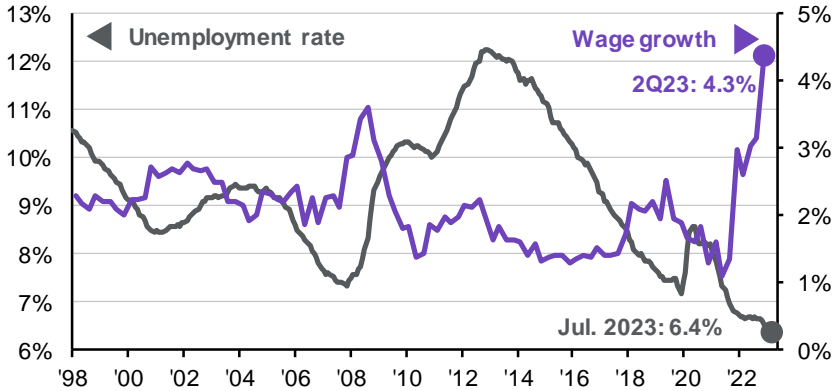
Source: J.P. Morgan Asset Management. (Left) CEIC. (Top right) People's Bank of China, Wind. (Bottom right) CEIC, National Bureau Statistics of China, People's Bank of China. "A-share equities" are represented by the CSI 300 Index. "Residential property prices" are represented by an index that tracks secondary market residential property prices. "Income confidence" is represented by a diffusion index reflecting respondents' confidence in future income. The two right graphs come from our [Guide to China](#). [Guide to the Markets - U.S.](#) Data are as of September 30, 2023.



Eurozone: Economy

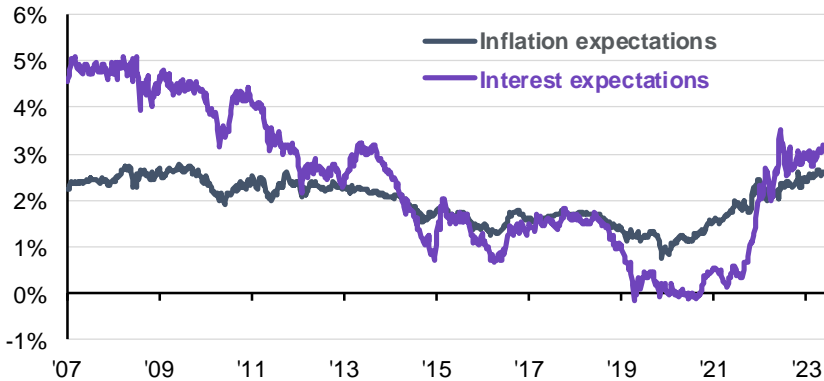
Eurozone unemployment rate and wage growth

Year-over-year



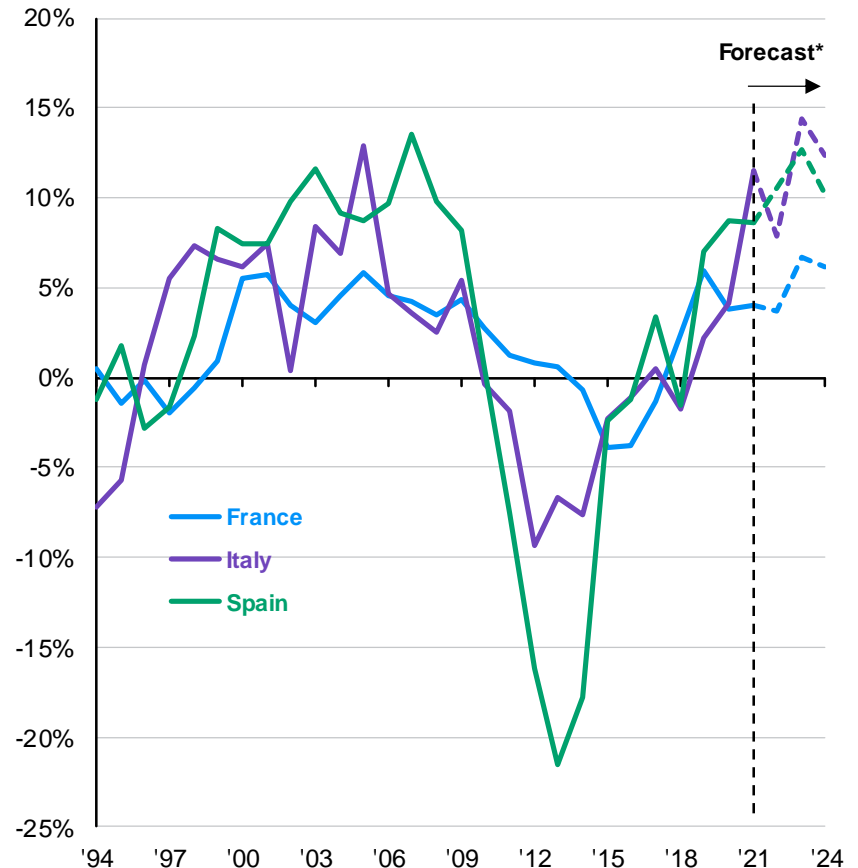
Eurozone interest rate and inflation expectations

5y5y swaps



Government capital spending

Year-over-year change, 3-year moving average



International

Source: J.P. Morgan Asset Management. (Top left) ECB, European Commission, FactSet. Wage growth is based on negotiated wages. (Bottom left) Bloomberg. These series represent measures of expected inflation and interest rates (on average) over the five-year period that begins five years from today. (Right) Organization for Economic Co-operation and Development (OECD). *Forecast comes from the OECD. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

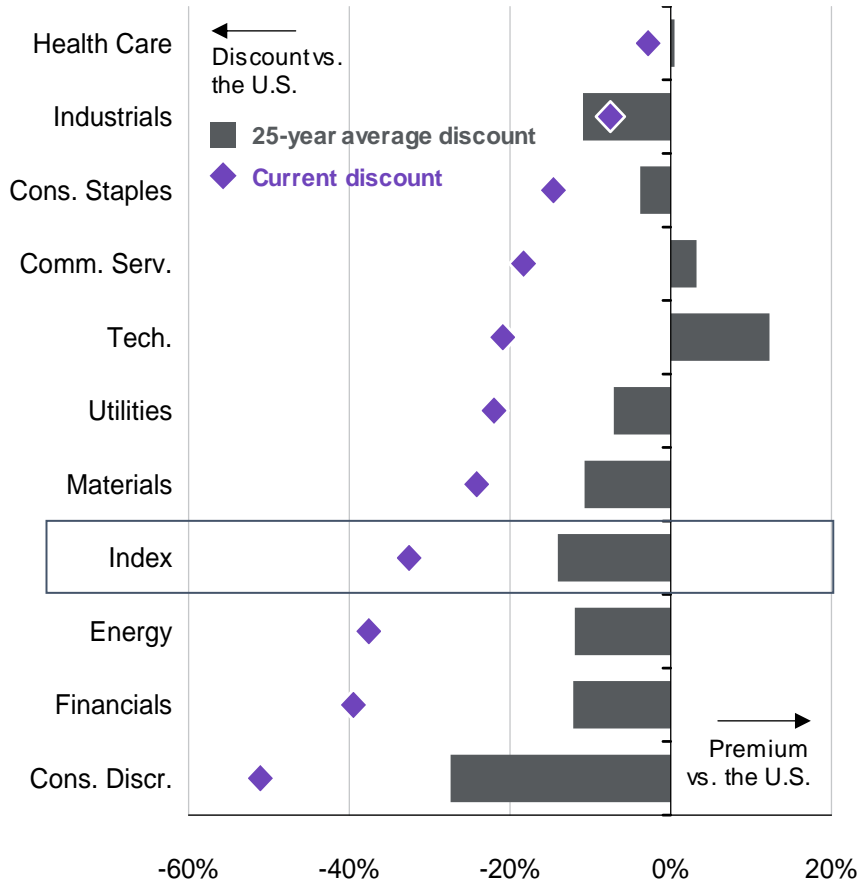


Europe: Markets

International

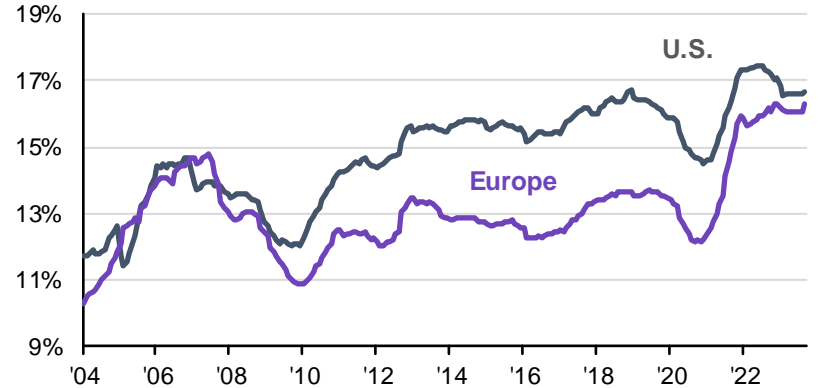
Europe relative valuation vs. the U.S. by sector

Forward P/E ratio, premium or discount vs. the U.S.



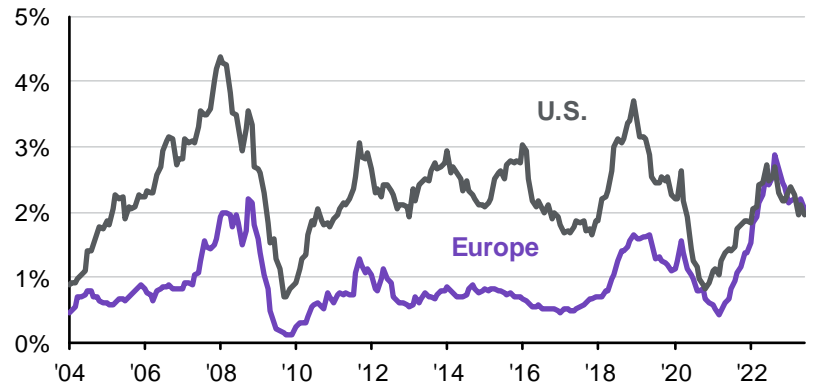
Operating margins

12-month trailing earnings relative to sales



Buyback yields

Net buybacks divided by market capitalization



Source: J.P. Morgan Asset Management. (Left) FactSet, MSCI. Europe: MSCI Europe Index, U.S.: S&P 500 Index. Chart shows the current percentage discount of the index or sector 12-month forward P/E ratio versus the equivalent S&P 500 sector, and the 25-year average. (Top right) FactSet, MSCI. U.S.: S&P 500 Index, Europe: MSCI Europe Index. (Bottom right) Bernstein. Buyback yields are the value of total stock buyback announcements over the previous 12 months as a percentage of regional index market cap. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of September 30, 2023.

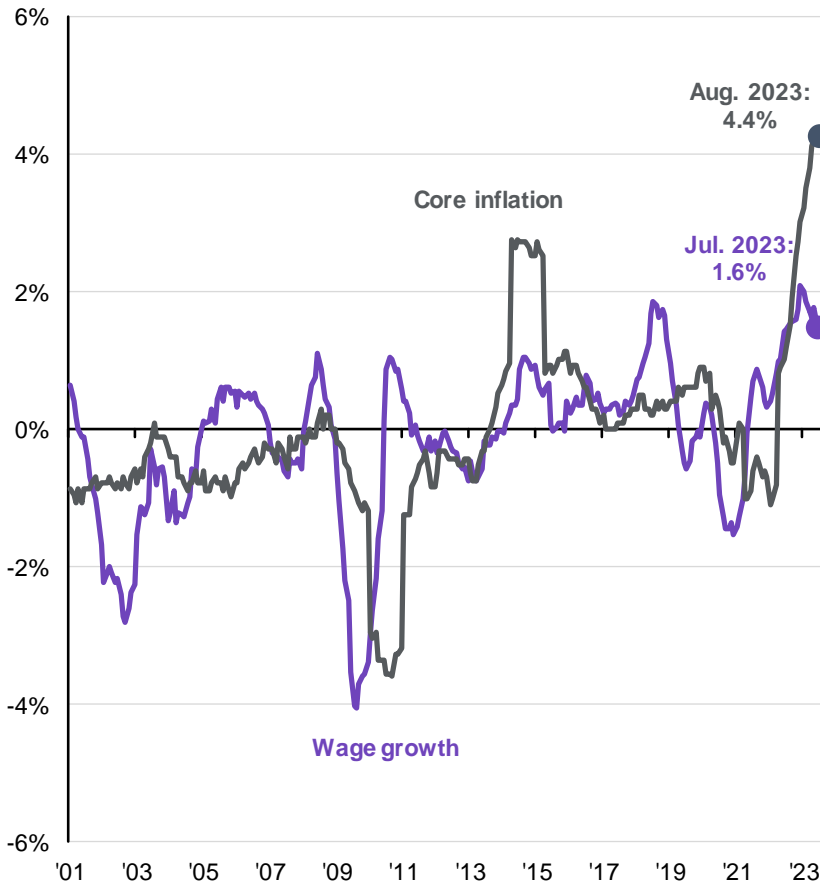


Japan: Economy and markets

International

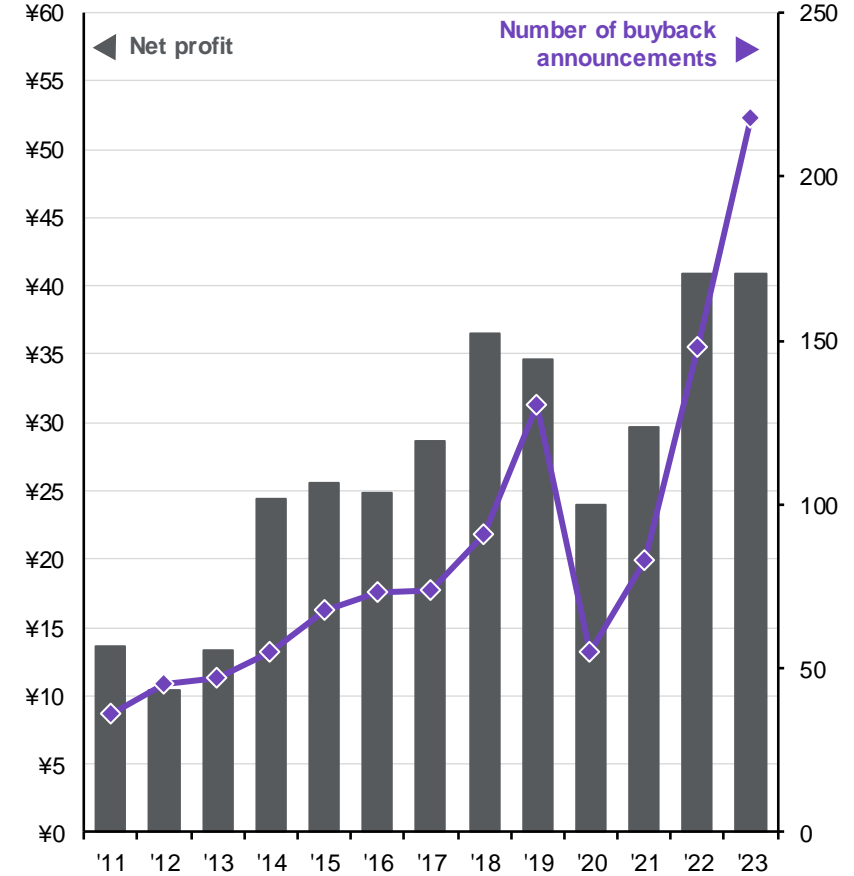
Core inflation and wage growth

Year-over-year, seasonally adjusted



Equities' net profit and buybacks

TOPIX index, JPY trillion, number of share buyback announcements



Source: J.P. Morgan Asset Management. (Left) FactSet, Japan Ministry of Internal Affairs and Communication. Core inflation includes all items except fresh food and energy. Wage growth is shown as a 6-month rolling average. (Right) Bank of America Global Research, QUICK. Based on TOPIX companies with fiscal year ending in May. Share buybacks aggregated from April 1 to May 18 for each year. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

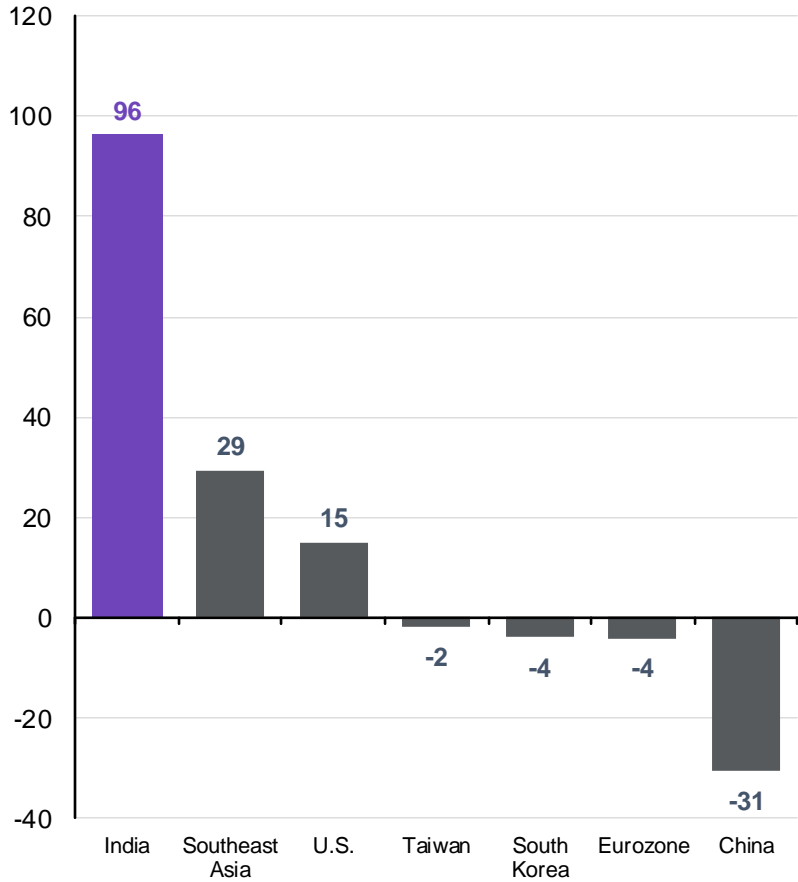


India: Economy

International

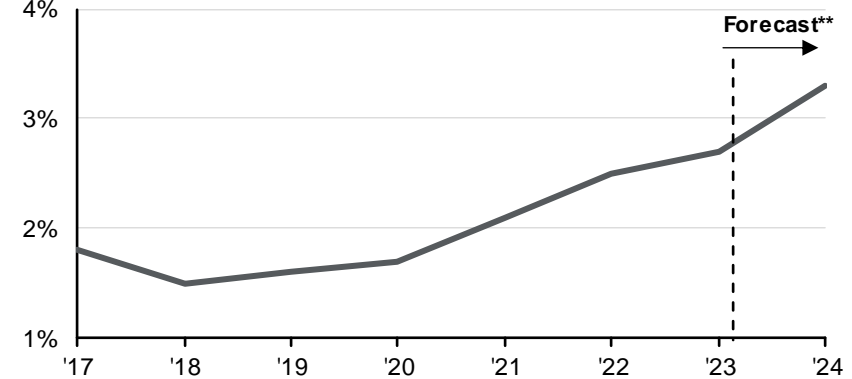
Working age population growth

Estimated change between 2022 and 2032*, millions of people

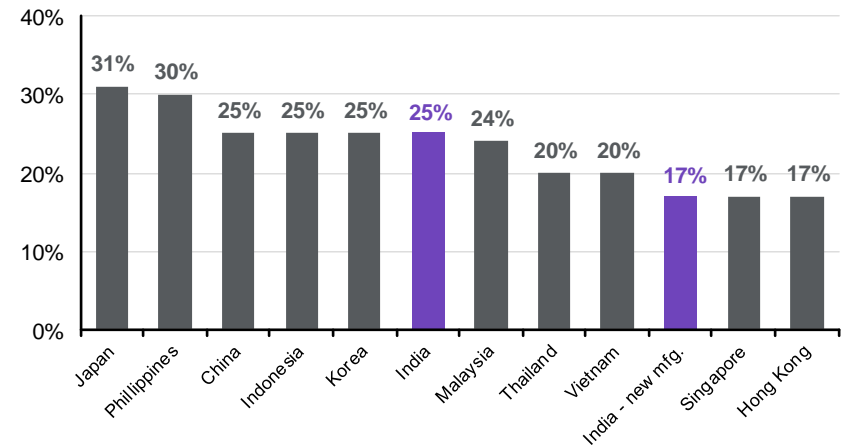


Indian government capital spending

% of GDP, current prices, budget per fiscal year



Corporate taxes in Asia



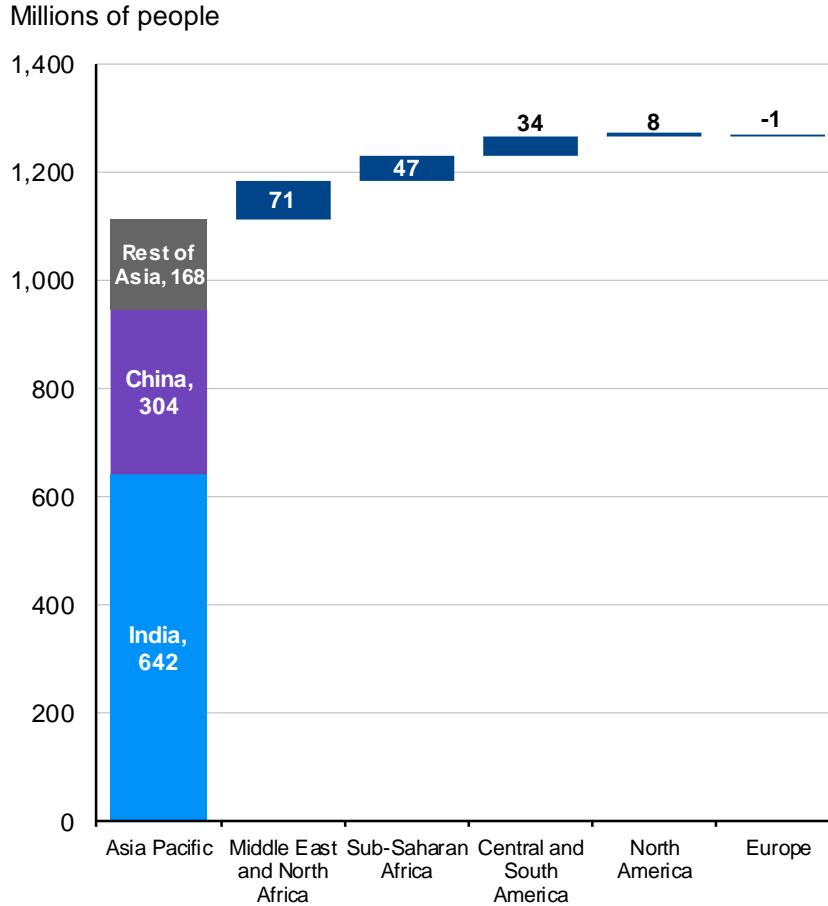
Source: J.P. Morgan Asset Management. (Left) FactSet, Oxford Economics. *Estimates are provided by Oxford Economics. Working age population is defined as those aged 15-64. Southeast Asian countries include Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. (Top right) Ministry of Finance. **Forecasts are by the Ministry of Finance for FY 2023 and FY 2024. (Bottom right) CLSA, OECD. Guide to the Markets – U.S. Data are as of September 30, 2023.



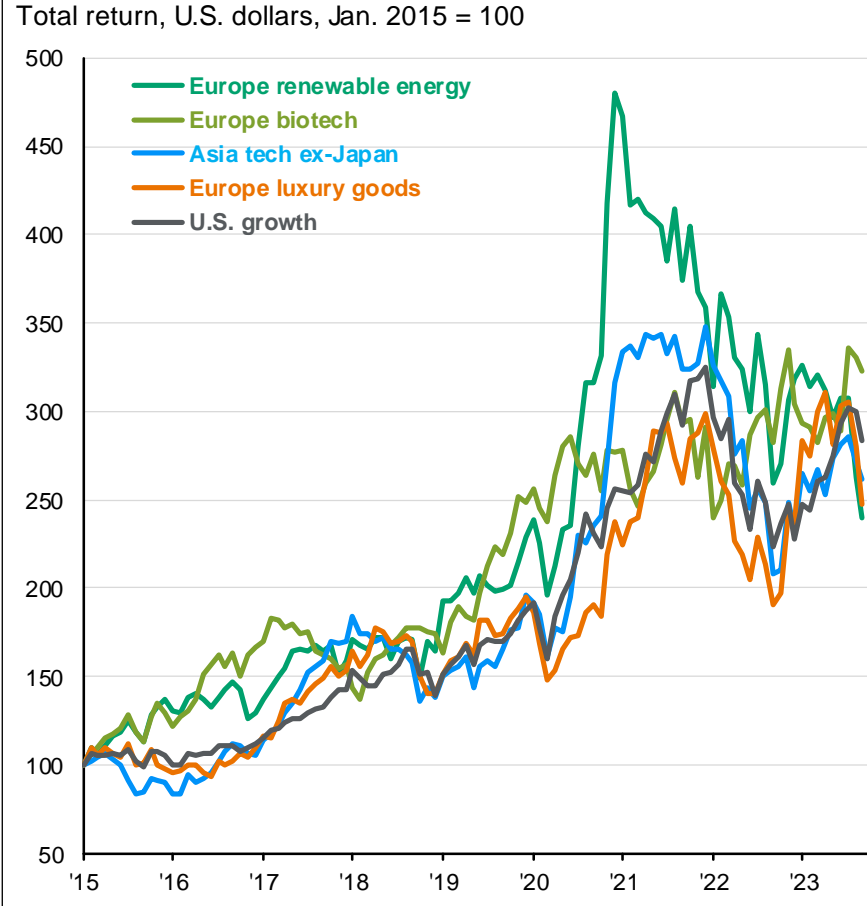
Secular international trends

International

Regional contribution to middle class growth: 2023 to 2030



International growth sectors vs. U.S. growth



Source: J.P. Morgan Asset Management. (Left) Brookings Institution. Estimates for regional contribution are from Kharas, Homi. The Unprecedented Expansion of the Global Middle Class, An Update. Brookings Institution, 2017. Middle class is defined as households with per capita incomes between USD 11 and USD 110 per person per day in 2011 PPP terms. (Right) Bloomberg, FactSet, MSCI, Russell, Societe Generale. Asia ex-Japan Tech: MSCI AC Asia ex-Japan Information Technology, European Luxury Goods: MSCI Europe Textiles, Apparel and Luxury Goods, U.S. Growth: Russell 1000 Growth, European Renewable Energy: Societe Generale European Renewable Energy, Europe Biotech: MSCI Europe Biotechnology. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data are as of September 30, 2023.



Correlations and volatility

Alternatives

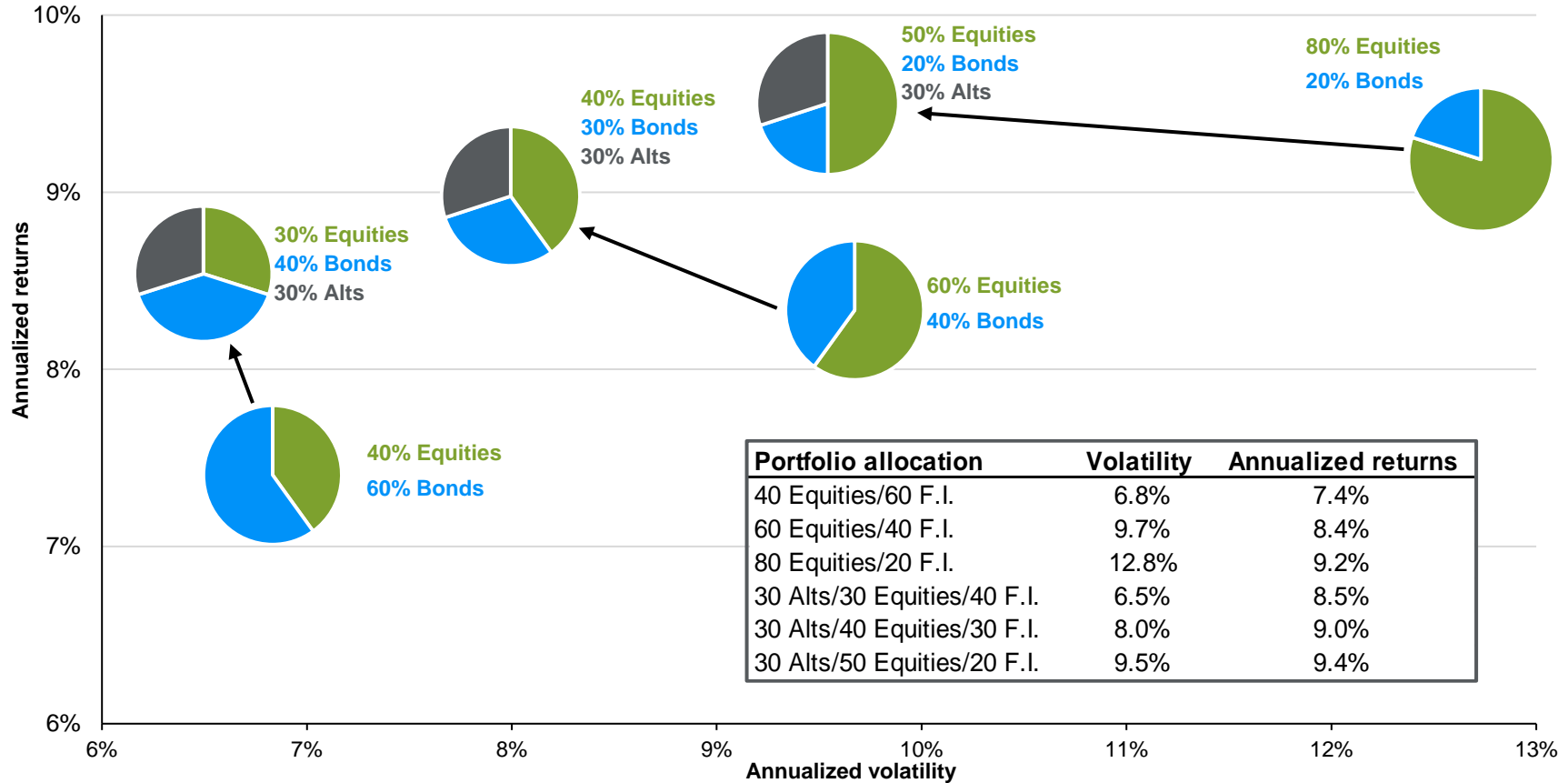
	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currency.	EMD	Cmdty.	REITs	Hedge funds	Private equity	Gold	Ann. Volatility
U.S. Large Cap	1.00	0.88	0.80	0.29	0.86	0.38	-0.46	0.74	0.40	0.77	0.83	0.80	0.14	15%
EAFE		1.00	0.90	0.29	0.85	0.44	-0.63	0.78	0.44	0.62	0.80	0.78	0.26	15%
EME			1.00	0.29	0.83	0.41	-0.70	0.80	0.46	0.53	0.76	0.76	0.37	18%
Bonds				1.00	0.37	0.86	-0.36	0.65	-0.26	0.44	-0.04	0.12	0.58	4%
Corp. HY					1.00	0.44	-0.50	0.87	0.49	0.67	0.79	0.74	0.28	8%
Munis						1.00	-0.39	0.73	-0.21	0.57	0.09	0.25	0.45	4%
Currencies							1.00	-0.60	-0.39	-0.23	-0.31	-0.55	-0.62	6%
EMD								1.00	0.22	0.64	0.56	0.60	0.47	8%
Commodities									1.00	0.31	0.63	0.59	0.22	17%
REITs										1.00	0.58	0.61	0.20	16%
Hedge funds											1.00	0.80	-0.01	5%
Private equity												1.00	0.08	8%
Gold													1.00	15%

Source: Bloomberg, Burgiss, Credit Suisse/Tremont, FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Indices used – Large Cap: S&P 500 Index; Currencies: Federal Reserve Trade-Weighted Dollar; EAFE: MSCI EAFE; EME: MSCI Emerging Markets; Bonds: Bloomberg Aggregate; Corp HY: Bloomberg Corporate High Yield; EMD: Bloomberg Emerging Market; Cmdty.: Bloomberg Commodity Index; REITs: NAREIT All Equity Index; Hedge funds: CS/Tremont Hedge Fund Index; Private equity: Time weighted returns from Burgiss; Gold: Gold continuous contract (\$/oz). Private equity data are reported on a one- to two-quarter lag. All correlation coefficients and annualized volatility are calculated based on quarterly total return data for period from 9/30/2013 to 9/30/2023, except for Private equity, which is based on the period from 3/31/2013 to 3/31/2023. This chart is for illustrative purposes only. Guide to the Markets – U.S. Data are as of September 30, 2023.



Portfolio diversification

Alternatives and portfolio risk/return Annualized volatility and returns, 1989 – 1Q23



Alternatives

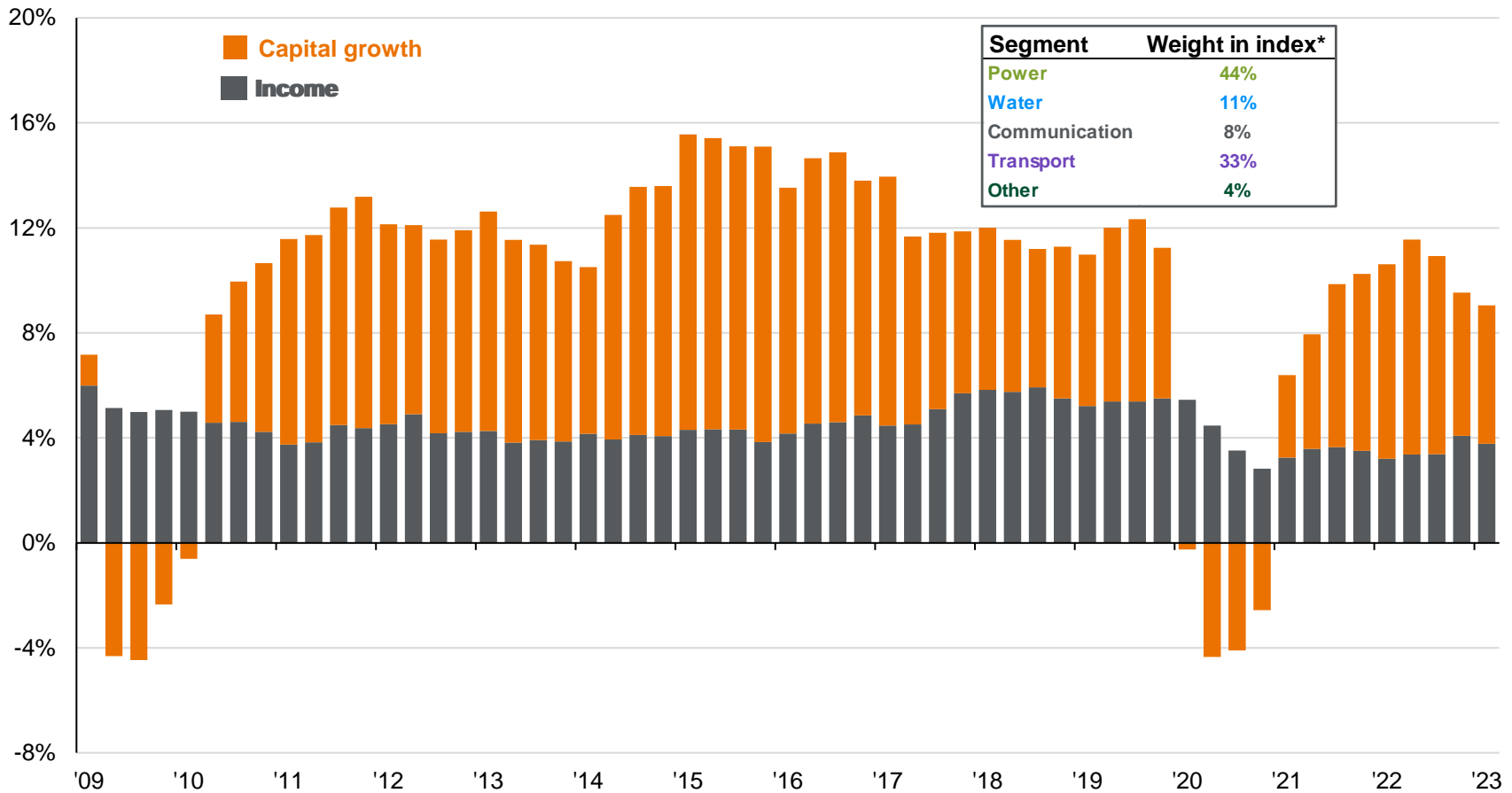
Source: Bloomberg, Burgiss, FactSet, HRFI, NCREIF, Standard & Poor's, J.P. Morgan Asset Management. Alts include hedge funds, real estate and private equity, with each receiving an equal weight. Portfolios are rebalanced at the start of the year. This slide comes from our [Guide to Alternatives](#).
Guide to the Markets – U.S. Data are as of September 30, 2023.



Sources of global infrastructure returns

Global core infrastructure returns

Rolling 4-quarter returns from income and capital appreciation



Alternatives

Source: MSCI, J.P. Morgan Asset Management.

Infrastructure returns represented by the MSCI Global Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital growth. The chart shows the full index history, beginning in 1Q09, and ending in 1Q23. Past performance is not indicative of future results. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss. *Weights are based on enterprise value. This slide comes from our [Guide to Alternatives](#).

Guide to the Markets – U.S. Data are as of September 30, 2023.

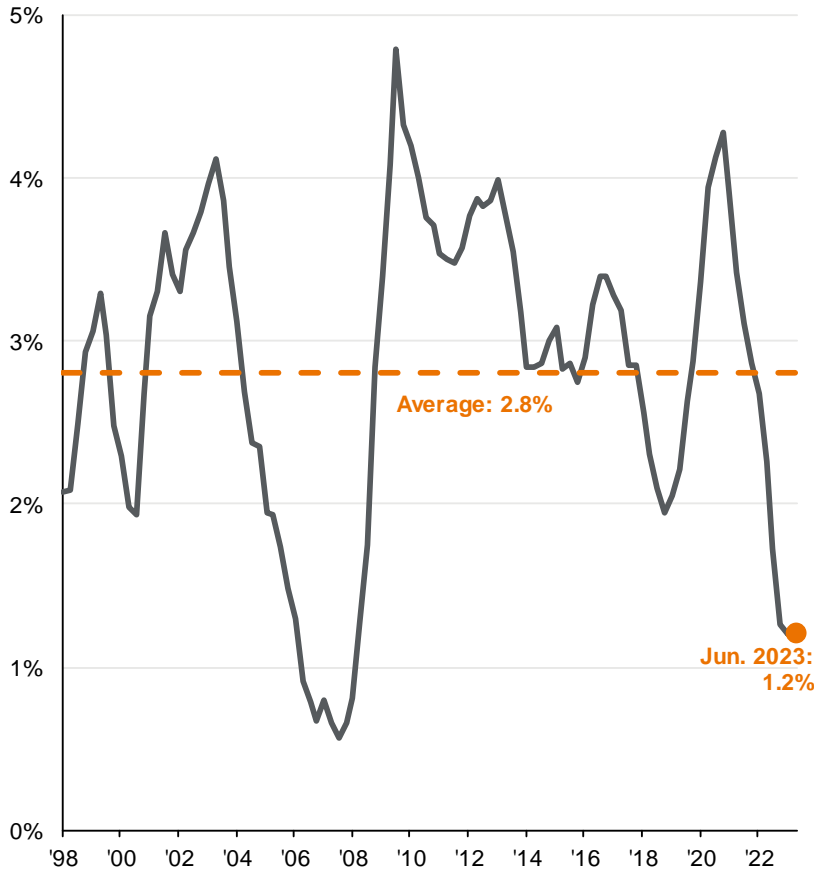


U.S. real estate dynamics

Alternatives

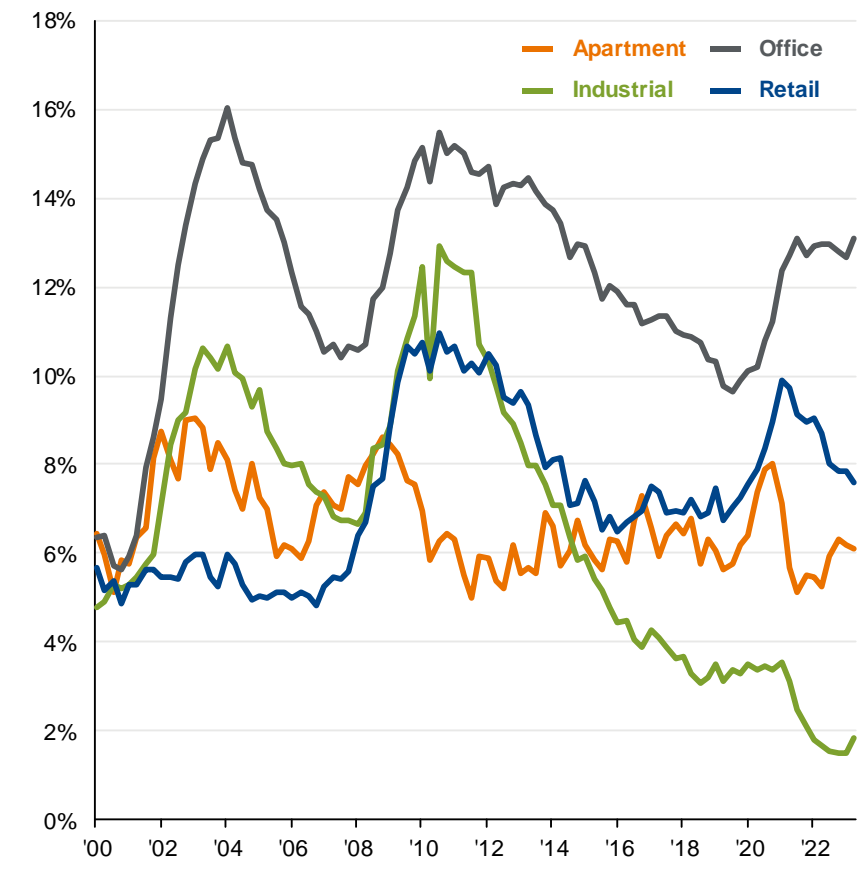
U.S. real estate cap rate spreads

Transaction based, spread to 10y UST, 4-quarter rolling average



U.S. vacancy rates by property type

Percent



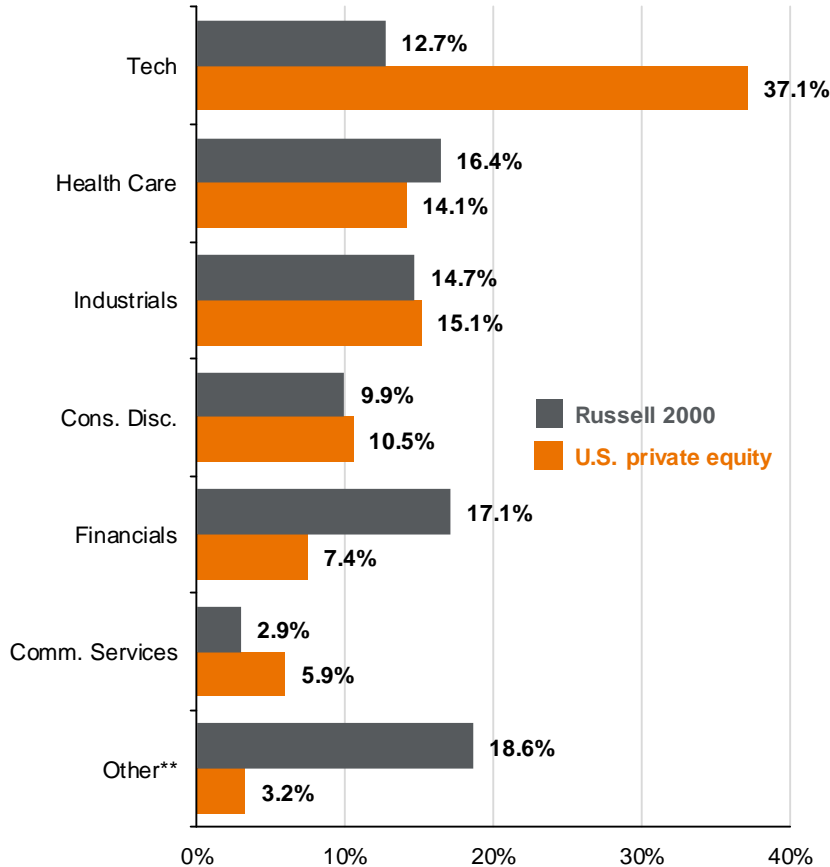
Source: NAREIT, NCREIF, Statista, J.P. Morgan Asset Management.
 The cap rate, which is computed as the net operating income over sales price, is the rate of return on a real estate investment property. Vacancy rate data is as of 6/30/2023. This slide comes from our [Guide to Alternatives](#).
 Guide to the Markets – U.S. Data are as of September 30, 2023.



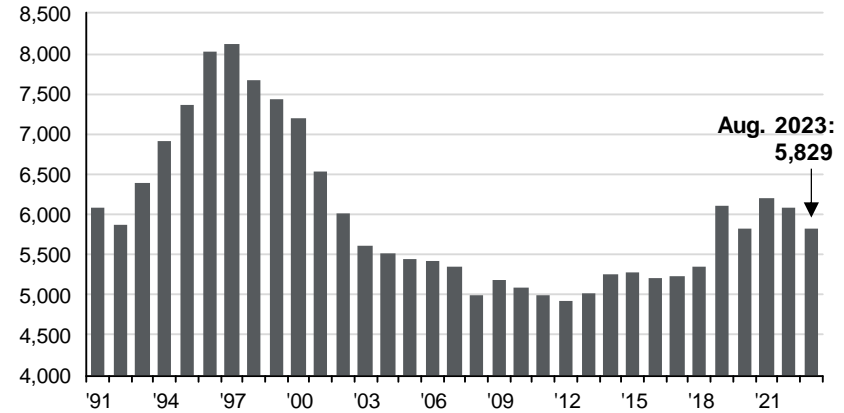
Private equity

Alternatives

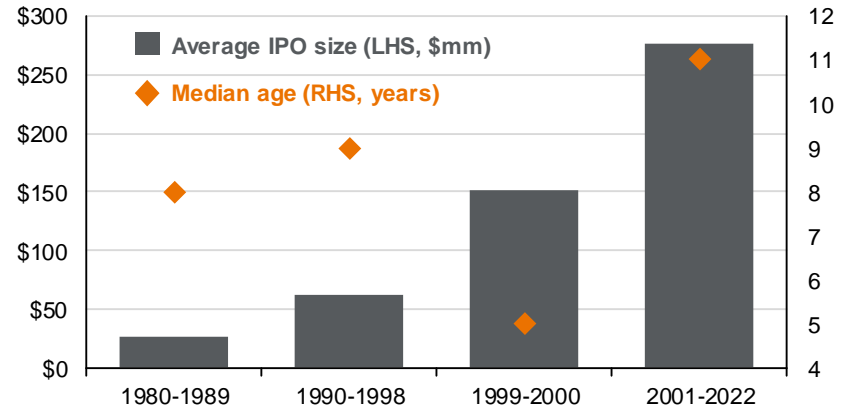
Private vs. public equity sector weights



Number of U.S. listed companies*



Average size and median age at IPO



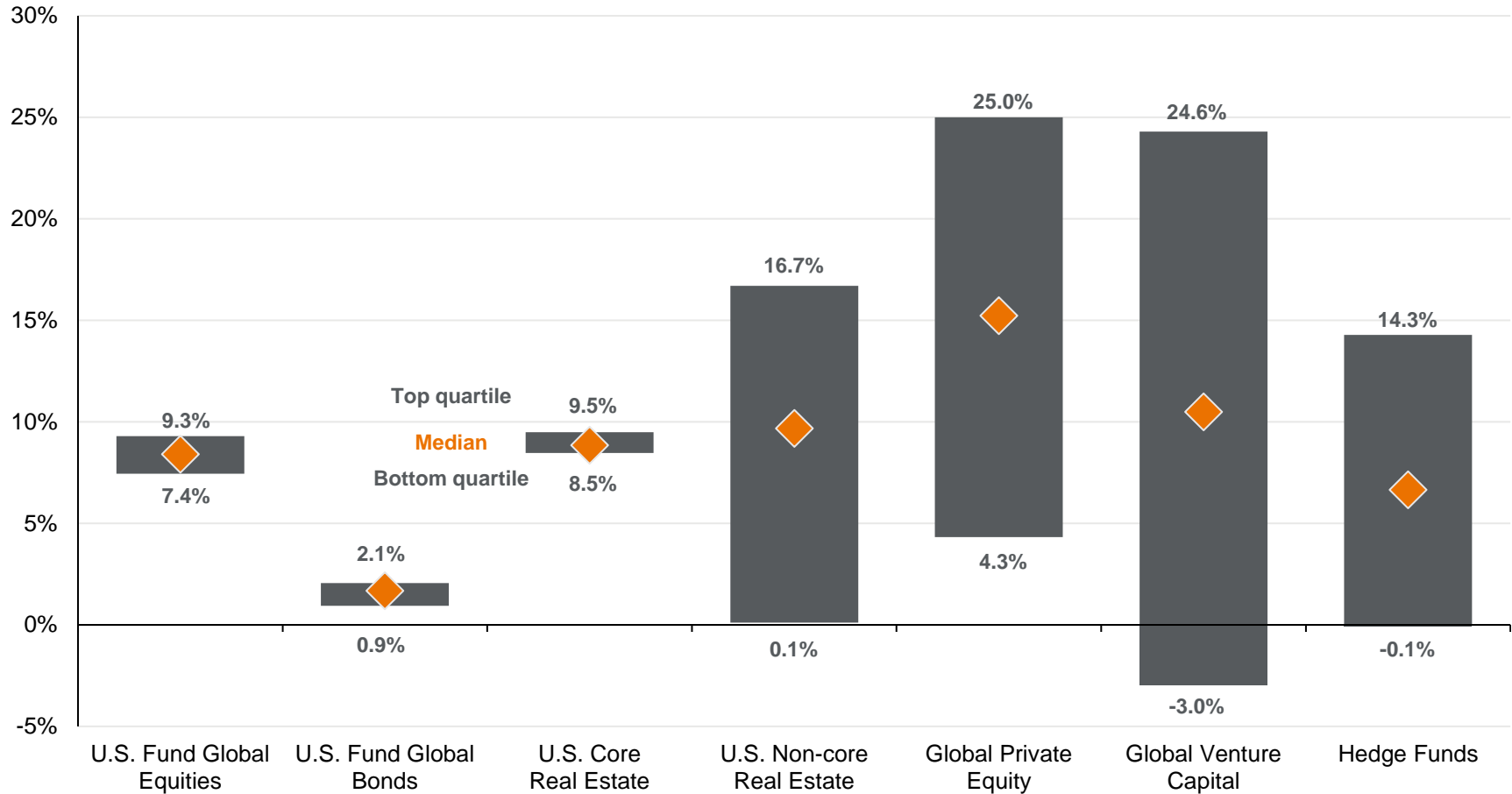
Source: Cambridge Associates, Jay Ritter, Russell, University of Florida, World Federation of Exchanges, J.P. Morgan Asset Management. The sample is IPOs with an offer price of at least \$5.00, excluding ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S&Ls and stocks not listed on CRSP (CRSP includes Amex, NYSE and NASDAQ stocks). Average IPO size is defined as the aggregate IPO proceeds during the period shown, divided by the number of IPOs. *Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. **Other includes real estate, utilities and energy. Percentages may not sum due to rounding. Sector weights are as of 6/30/2022. This slide comes from our [Guide to Alternatives](#). *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Alternatives and manager selection

Public and private manager dispersion

Based on returns over a 10-year window*



Alternatives

Source: Burgiss, Morningstar, NCREIF, PivotalPath, J.P. Morgan Asset Management. Global equities (large cap) and global bonds dispersion are based on the world large stock and world bond categories, respectively. *Manager dispersion is based on the annual returns for U.S. Fund Global Equities, U.S. Fund Global Bonds, Hedge Funds and U.S. Core Real Estate over a 10-year period ending 2Q23. Non-core Real Estate, Global Private Equity and Global Venture Capital are represented by the 10-year horizon internal rate of return (IRR) ending 1Q23. U.S. Fund Global Equities and Bonds are comprised of U.S.-domiciled mutual funds and ETFs. This slide comes from our [Guide to Alternatives](#).

Guide to the Markets – U.S. Data are as of September 30, 2023.



Asset class returns

2008 - 2022		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD
Ann. 8.8%	Vol. RBTs 23.4%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	RBTs 28.0%	RBTs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	REITs 41.3%	Comdty. 16.1%	Large Cap 13.1%
Small Cap 7.2%	Small Cap 23.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Large Cap 28.7%	Cash 1.5%	DM Equity 7.6%
REITs 6.6%	EM Equity 23.0%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	Comdty. 27.1%	High Yield -12.7%	High Yield 5.0%
Asset Alloc. 6.1%	Comdty. 20.2%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	Small Cap 14.8%	Fixed Income -13.0%	Asset Alloc. 4.5%
High Yield 5.4%	DM Equity 20.0%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	Asset Alloc. 13.5%	Asset Alloc. -13.9%	Cash 3.7%
Fixed Income 2.7%	Large Cap 17.7%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	DM Equity 11.8%	DM Equity -14.0%	Small Cap 2.5%
DM Equity 2.3%	High Yield 13.0%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	High Yield 1.0%	Large Cap -18.1%	EM Equity 2.2%
EM Equity 1.0%	Asset Alloc. 12.4%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	Cash 0.0%	EM Equity -19.7%	Fixed Income -1.2%
Cash 0.6%	Fixed Income 4.2%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Fixed Income -1.5%	Small Cap -20.4%	Comdty. -3.4%
Comdty. -2.6%	Cash 0.4%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	EM Equity -2.2%	REITs -24.9%	REITs -5.6%

Investing Principles

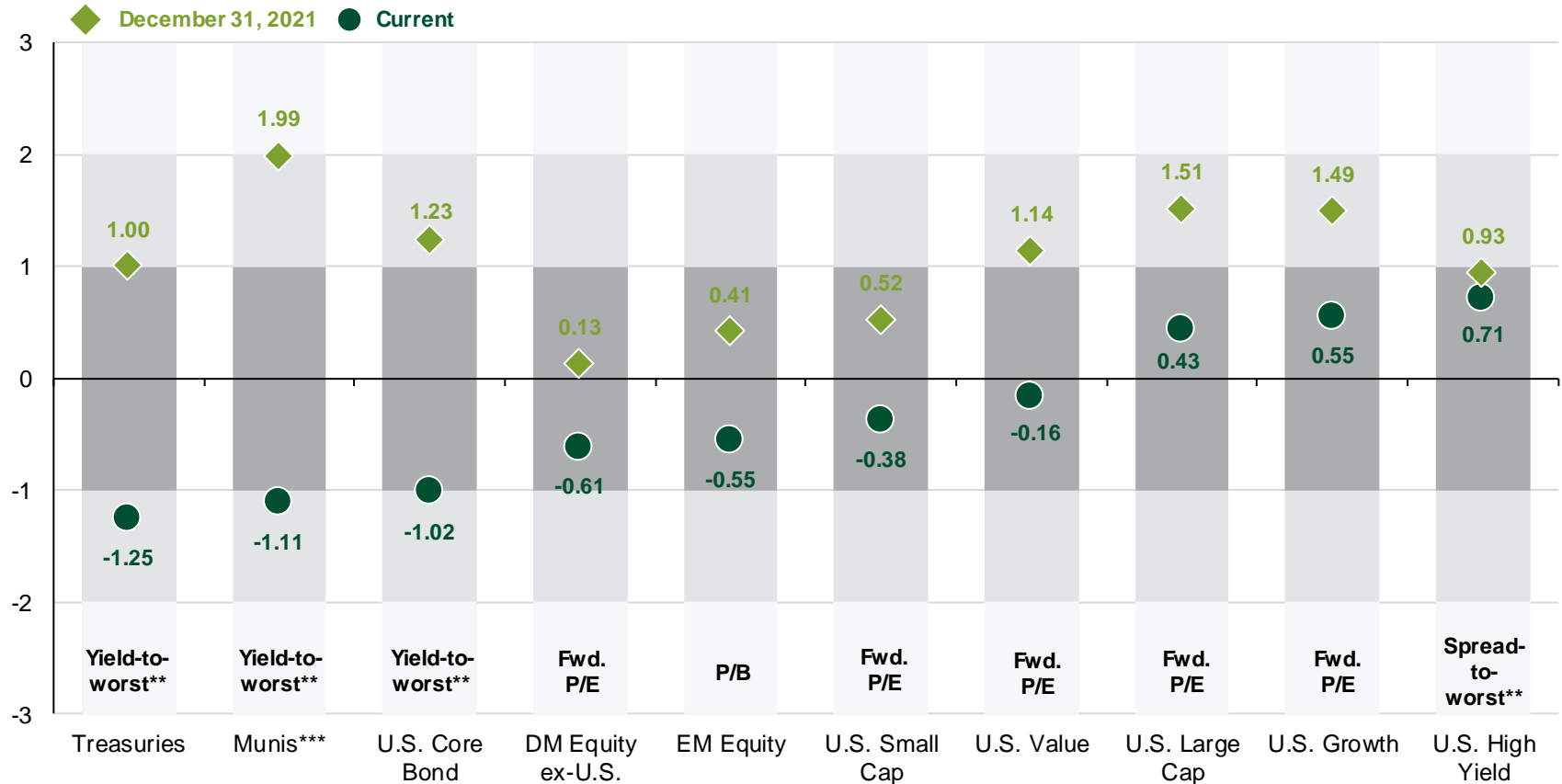
Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
 Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg US Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg US Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period from 12/31/2007 to 12/31/2022. Please see disclosure page at end for index definitions. All data represents total return for stated period. The "Asset Allocation" portfolio is for illustrative purposes only. Past performance is not indicative of future returns.
 Guide to the Markets - U.S. Data are as of September 30, 2023.



Valuations monitor

Asset class valuations

Z-scores based on 25-year average valuation measures*



Investing Principles

Source: Bloomberg, BLS, CME, FactSet, MSCI, Russell, Standard & Poor's, J.P. Morgan Asset Management.
 U.S. Large Cap: S&P 500, U.S. Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, U.S. Value: Russell 1000 Value, U.S. Growth: Russell 1000 Growth, U.S. High Yield: J.P. Morgan Domestic High Yield Index, U.S. Core Bond: Bloomberg US Aggregate, Treasuries: Bloomberg U.S. Aggregate Government – Treasury, Munis: Bloomberg Municipal Bond. *Averages for U.S. High Yield and U.S. Small Cap are since January 1999 and November 1998, respectively, due to limited data availability. **Yield-to-worst and spread-to-worst are inversely related to fixed income prices. ***Munis yield-to-worst is based on the tax-equivalent yield-to-worst assuming a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8%.

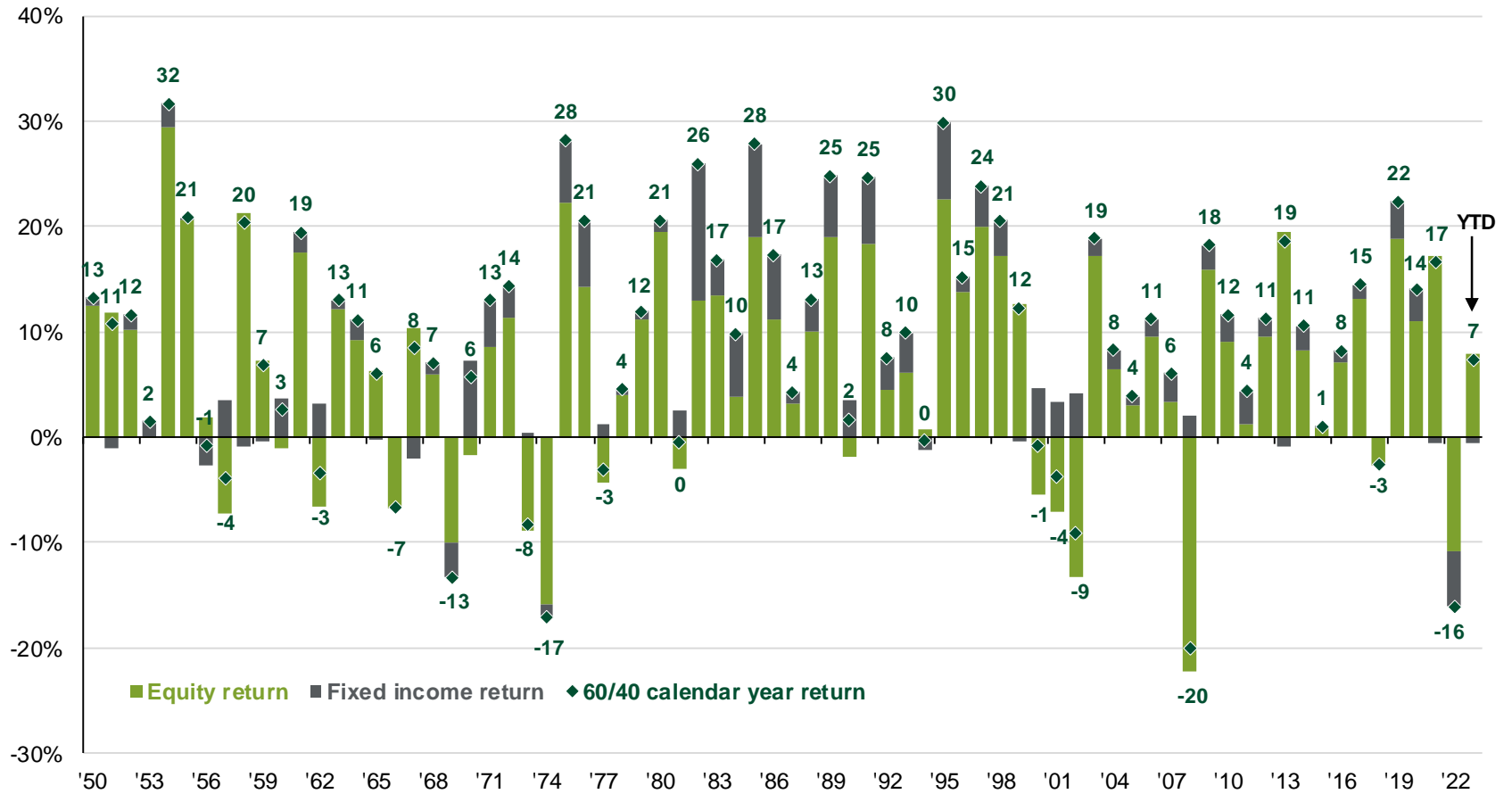
Guide to the Markets – U.S. Data are as of September 30, 2023.



60/40 annual returns

60/40 annual return decomposition

Total returns, 1950 – present



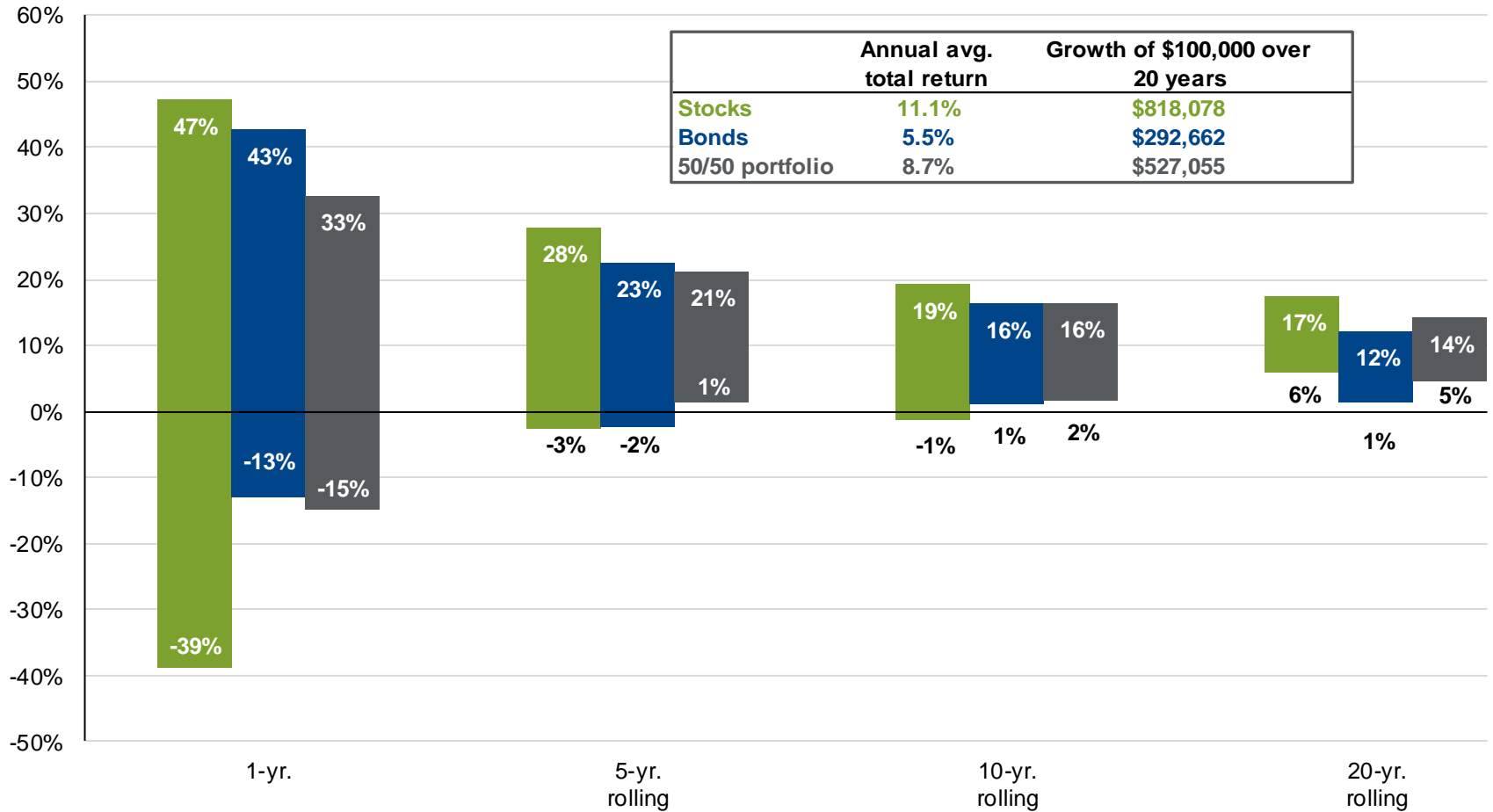
Source: Bloomberg, FactSet, Ibbotson/Strategas, Robert Shiller, Standard & Poor's, Yale University, J.P. Morgan Asset Management. The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. S&P 500 returns from 1950 to 1970 are estimated using the Shiller S&P Composite. U.S. fixed income total returns from 1950 to 1975 are estimated using data from Strategas/Ibbotson. The portfolio is rebalanced annually. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Time, diversification and the volatility of returns

Range of stock, bond and blended total returns

Annual total returns, 1950-2022



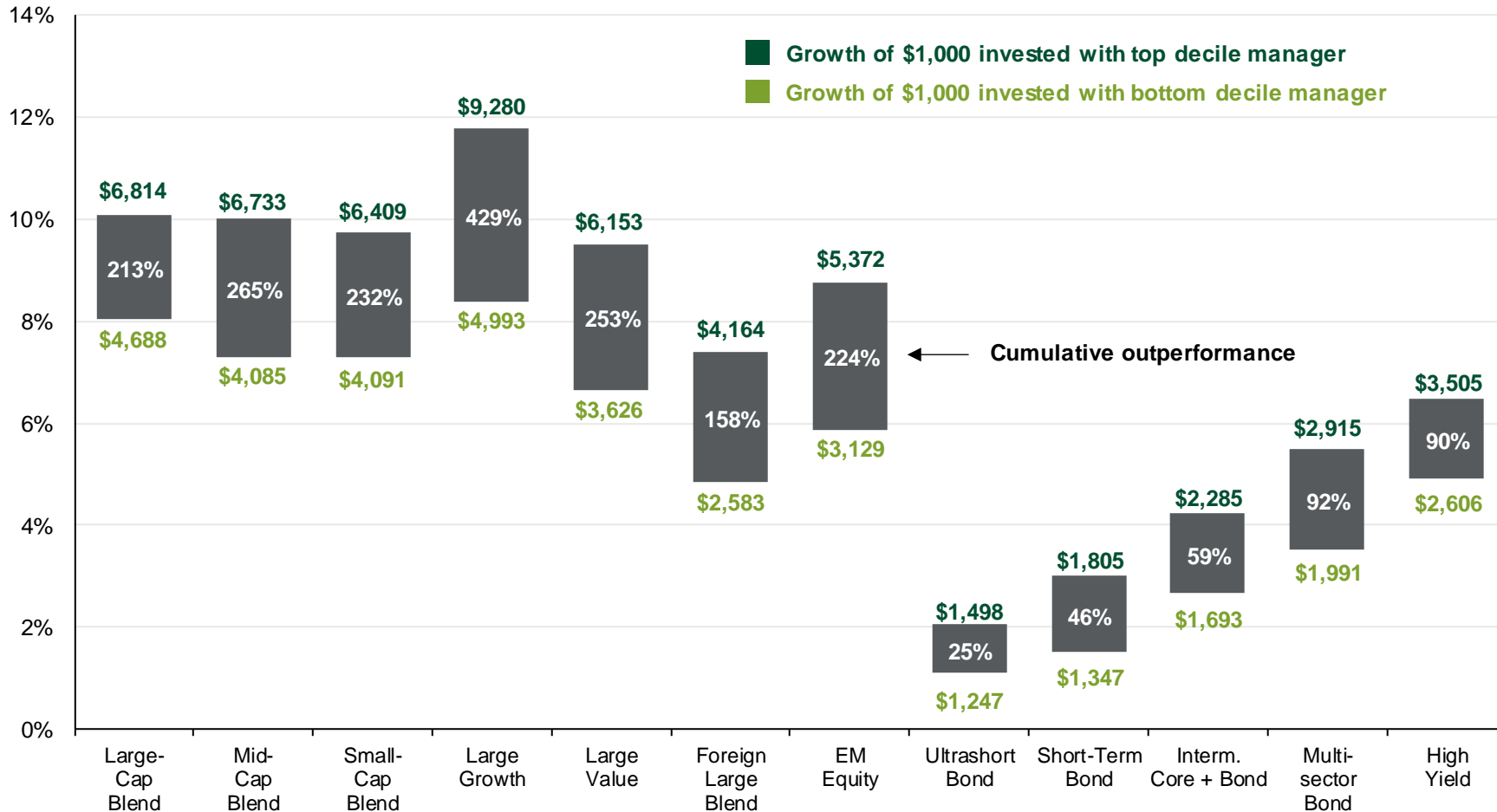
Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1950 to 2021. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Aggregate thereafter. Growth of \$100,000 is based on annual average total returns from 1950 to 2022. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



Manager dispersion

20-year manager return dispersion and growth of capital

By asset type, annualized total returns, growth of \$1,000 invested 20 years ago*



Investing Principles

Source: Morningstar, J.P. Morgan Asset Management.

*Represents average annual portfolio return dispersion between the 10th and 90th percentile over a 20-year period for each Morningstar Category, including mutual funds and ETFs. Returns are updated monthly and reflect data through 8/31/2023. This information is for illustrative purposes only, does not reflect actual investment results, is not a guarantee of future results and is not a recommendation.

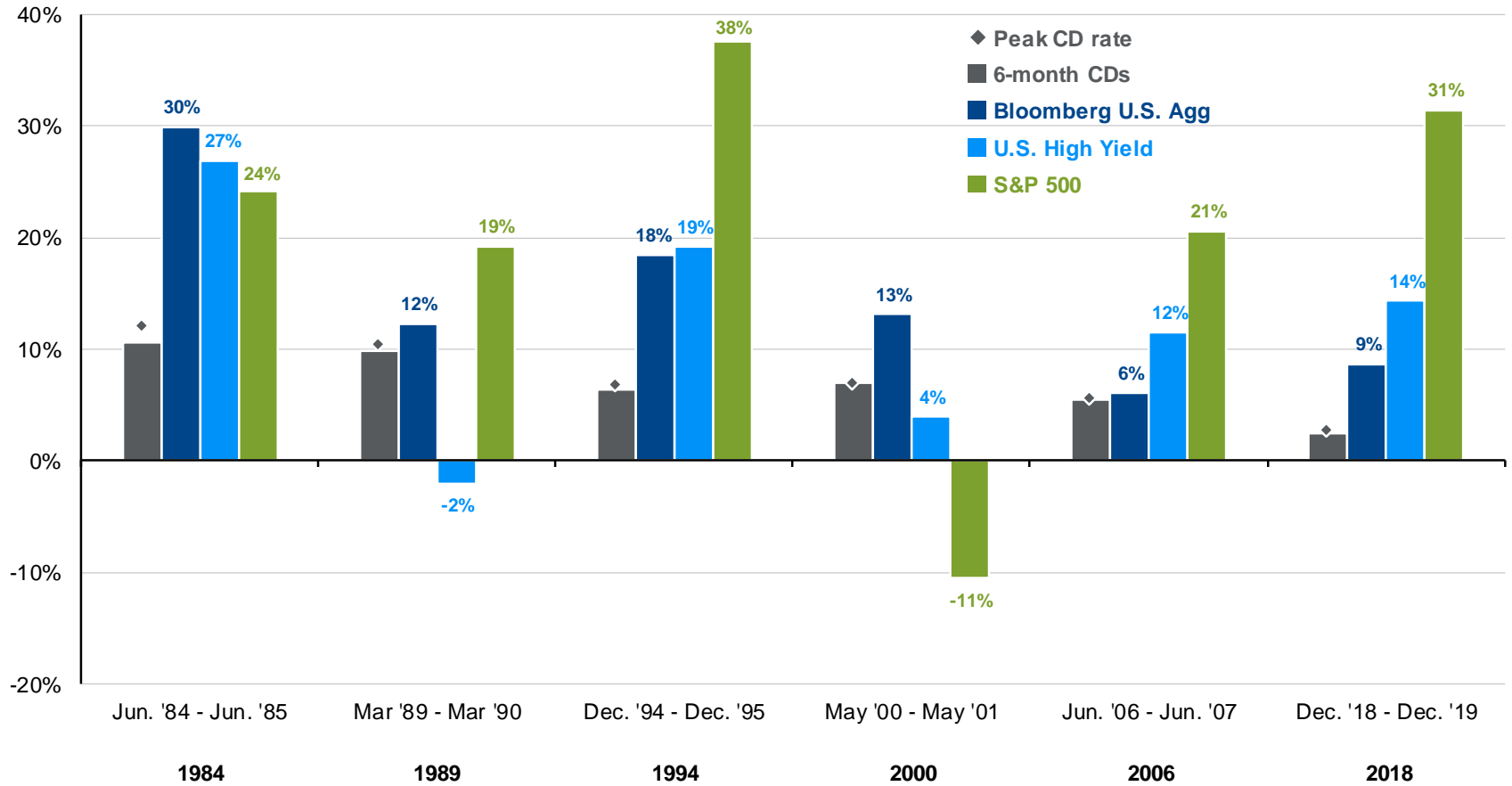
Guide to the Markets – U.S. Data are as of September 30, 2023.



CD rates and other investment opportunities

Investment opportunities outside of CDs

Peak 6-month certificate of deposit (CD) rate during previous rate hiking cycles and subsequent 12-month total returns

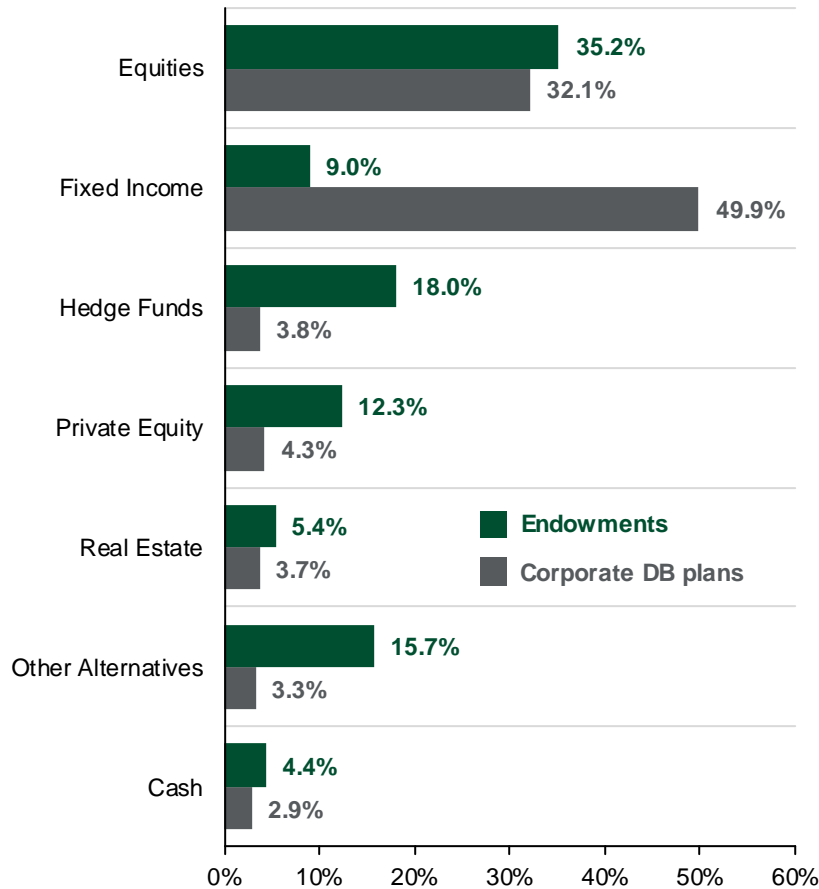


Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, J.P. Morgan Asset Management. U.S. High Yield: Bloomberg U.S. Corporate High Yield Index. The S&P 500 total return figure from the 1984 period was calculated using data from Robert Shiller. The analysis references the month in which the month-end 6-month CD rate peaked during previous rate hiking cycles. CD rate data prior to 2013 are sourced from the Federal Reserve, whereas data from 2013 to 2023 are sourced from Bloomberg. CD subsequent 12-month return calculation assumes reinvestment at the prevailing 6-month rate when the initial CD matures. *Guide to the Markets – U.S.* Data are as of September 30, 2023.

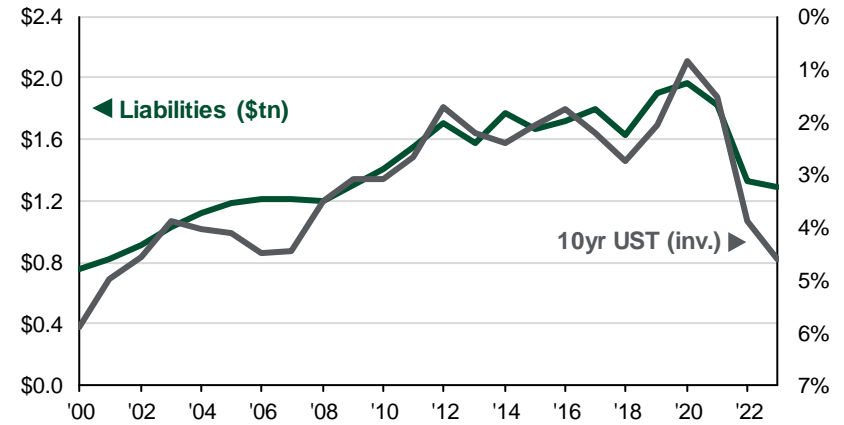


Institutional investor behavior

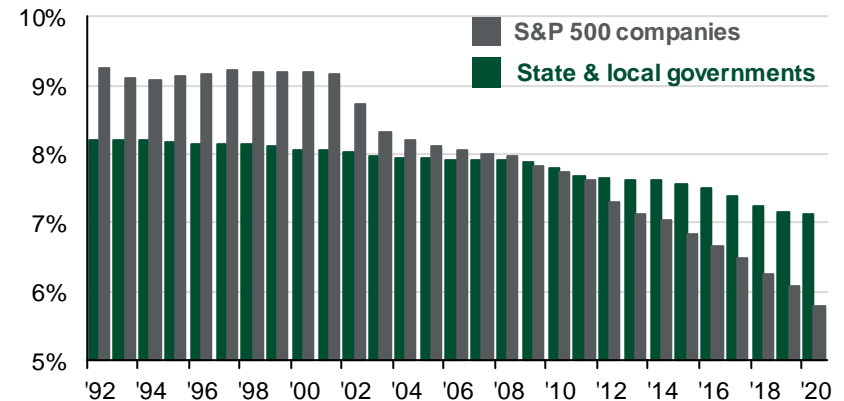
Asset allocation: Corporate DB plans vs. endowments



Corporate pension liabilities and 10-year UST yield



Pension return assumptions



Source: J.P. Morgan Asset Management; (Left) NACUBO (National Association of College and University Business Officers), Towers Watson; (Top right) Milliman Pension Funding Index; (Bottom right) Census for Governments, Compustat, FactSet, S&P 500 corporate 10-Ks. Endowment asset allocation is as of 2019. Corporate DB plan asset allocation as of 2018. Endowments represents dollar-weighted average data of 749 colleges and universities. Corporate DB plans represents aggregate asset as of 12/31/2020 for Fortune 1000 pension plans. Pension return assumptions based on all available and reported data from S&P 500 Index companies and are as of 12/31/2019. State and local pension return assumptions are weighted by plan size. Pension assets, liabilities and funded status based on Milliman 100 companies reporting pension data as of September 2023. All information is shown for illustrative purposes only. *Guide to the Markets – U.S.* Data are as of September 30, 2023.



J.P. Morgan Asset Management – Index definitions

GTM

U.S.

69

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index**® measures the performance of the 1,000 largest companies in the Russell 3000.

The **Russell 1000 Growth Index**® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 1000 Value Index**® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 2000 Index**® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index**® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 2000 Value Index**® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 3000 Index**® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index**® measures the performance of the 800 smallest companies in the Russell 1000 Index.

The **Russell Midcap Growth Index**® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index**® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

The **Bloomberg 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Municipal Index**: consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB-/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.



J.P. Morgan Asset Management – Definitions

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Other asset classes:

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex-U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index -Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of **equity securities** may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.



J.P. Morgan Asset Management – Risks & disclosures

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Unless otherwise stated, all data are as of September 30, 2023 or most recently available.

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