



# Guide to the Markets®

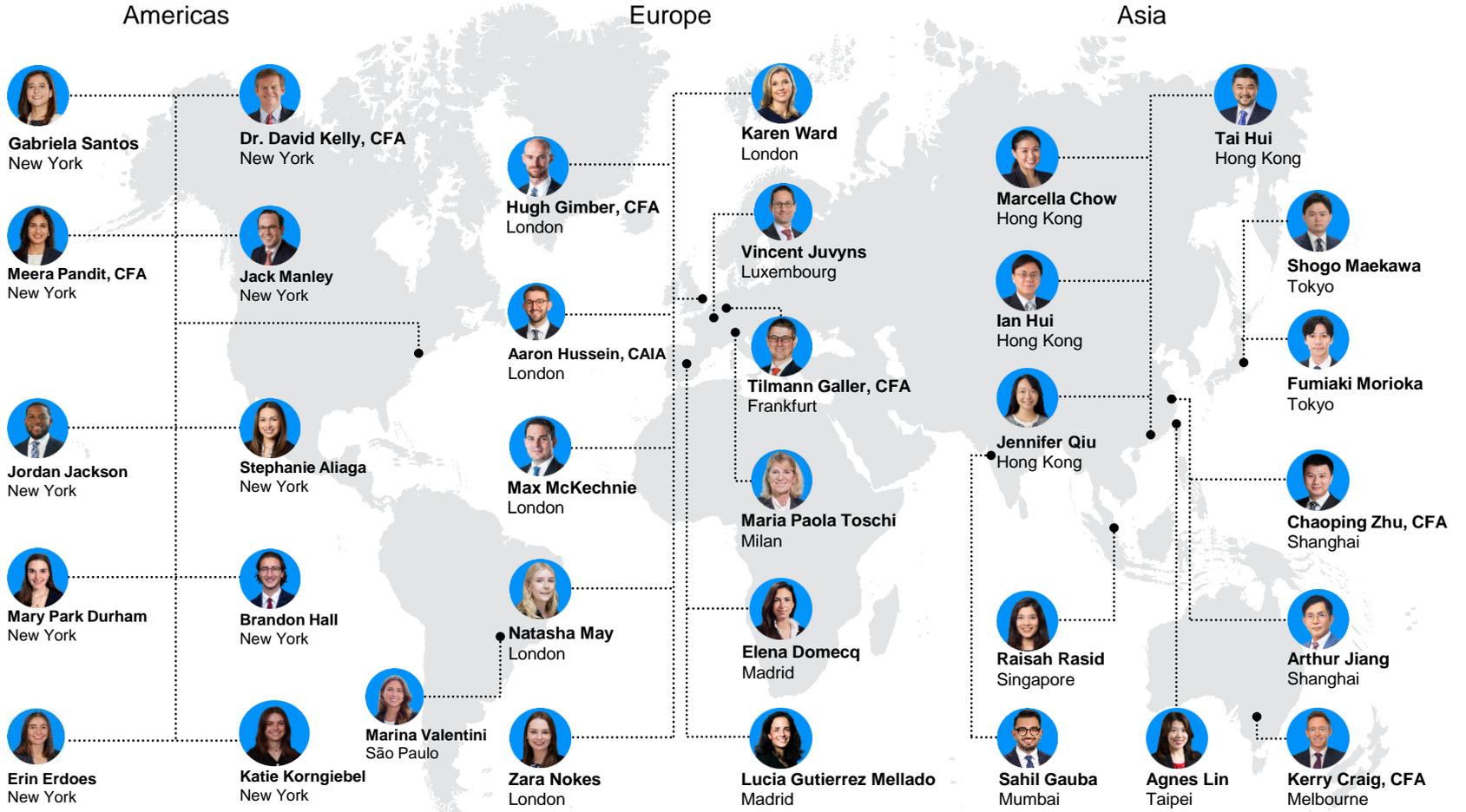


U.S. | 4Q 2024

As of September 30, 2024



# Global Market Insights Strategy Team





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# S&P 500 Index at inflection points

Equities

## S&P 500 Price Index



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.

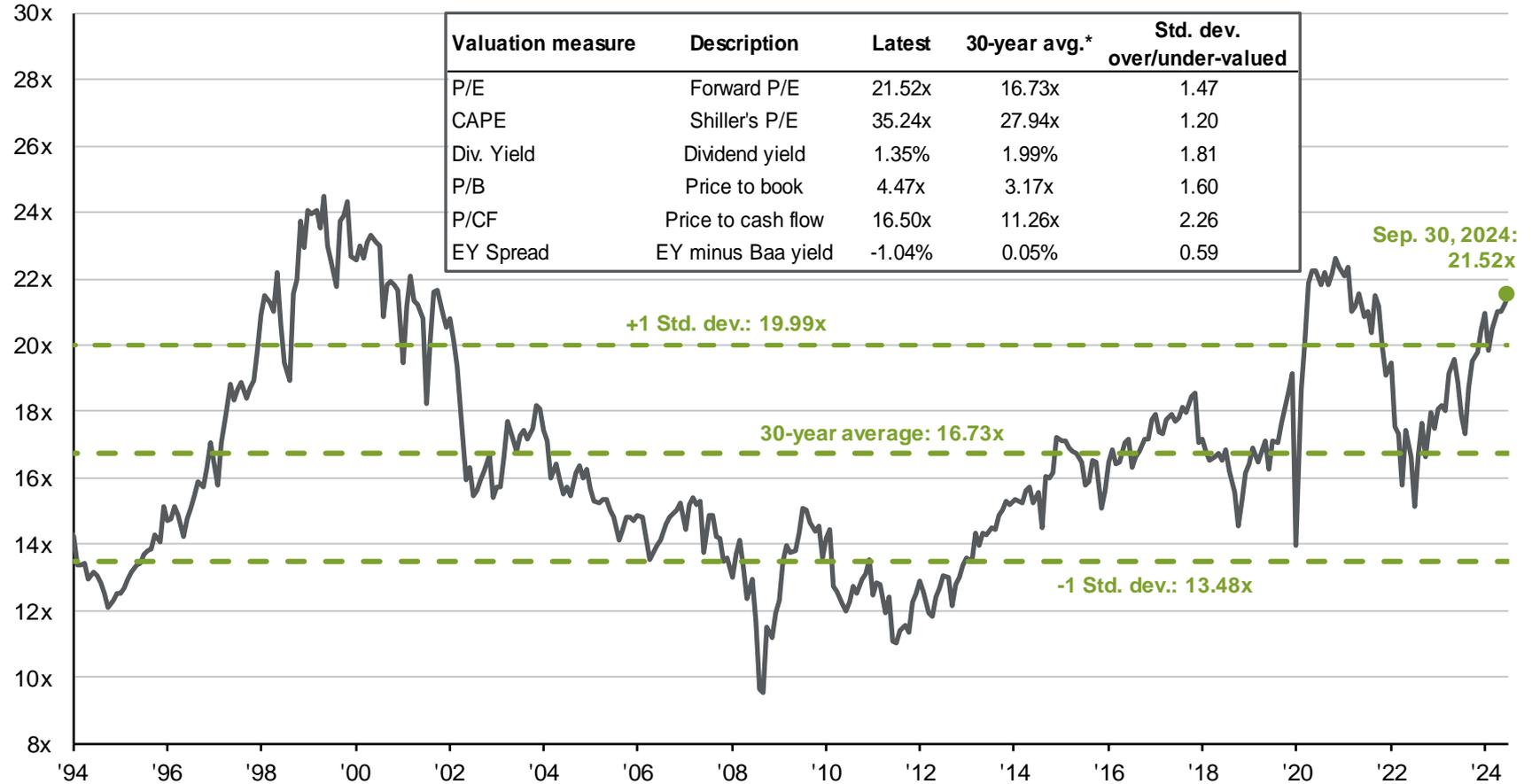
Guide to the Markets – U.S. Data are as of September 30, 2024.



# 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 March 1994 and by FactSet since January 2022. Average P/E and standard deviations are calculated using 30 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 30 years for each measure. \*Averages and standard deviations for dividend yield and P/CF are since November 1995 due to data availability. Guide to the Markets - U.S. Data are as of September 30, 2024.

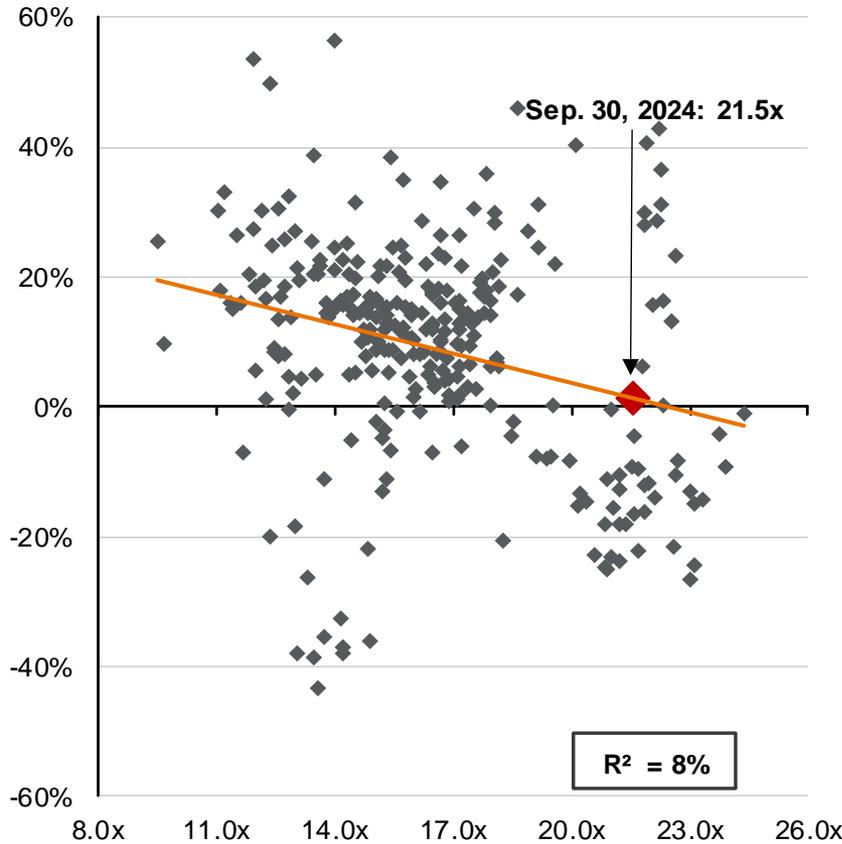


# P/E ratios and equity returns

Equities

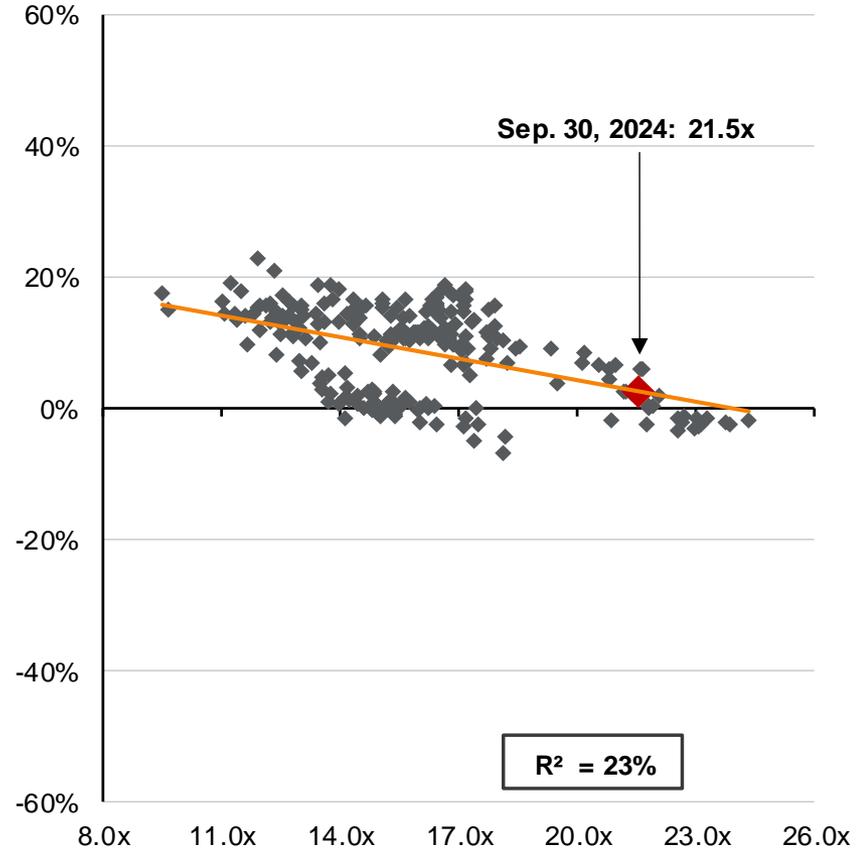
## Forward P/E and subsequent 1-yr. returns

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 9/30/1999.  $R^2$  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 May 1999 and by FactSet since January 2022. *Guide to the Markets – U.S.* Data are as of September 30, 2024.

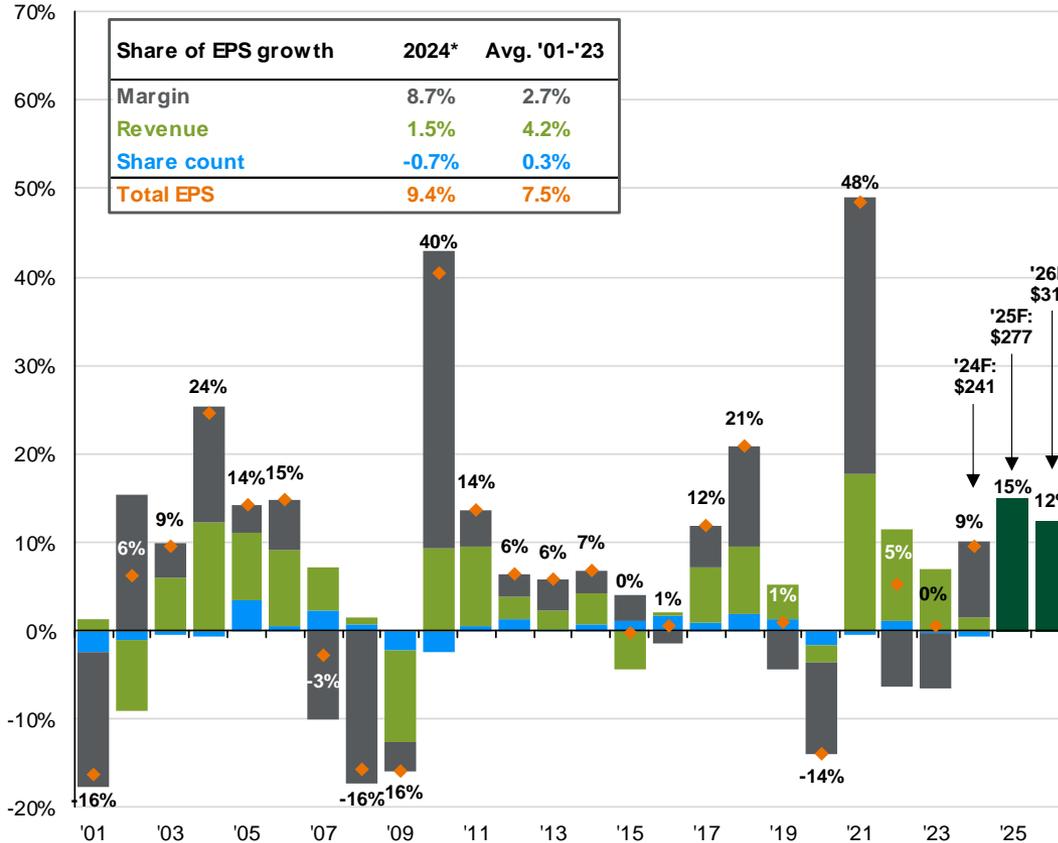


# Sources of earnings growth and profit margins

Equities

## S&P 500 year-over-year pro-forma EPS growth

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



## S&P 500 profit margins

Quarterly earnings/sales



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.  
 Historical EPS levels are based on annual pro-forma earnings per share. \*2024, 2025 and 2026 EPS growth are based on consensus analyst estimates for each calendar year. Past performance is not indicative of future returns.  
*Guide to the Markets – U.S.* Data are as of September 30, 2024.



# Earnings, buybacks and dividends by sector

GTM

U.S.

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Equities

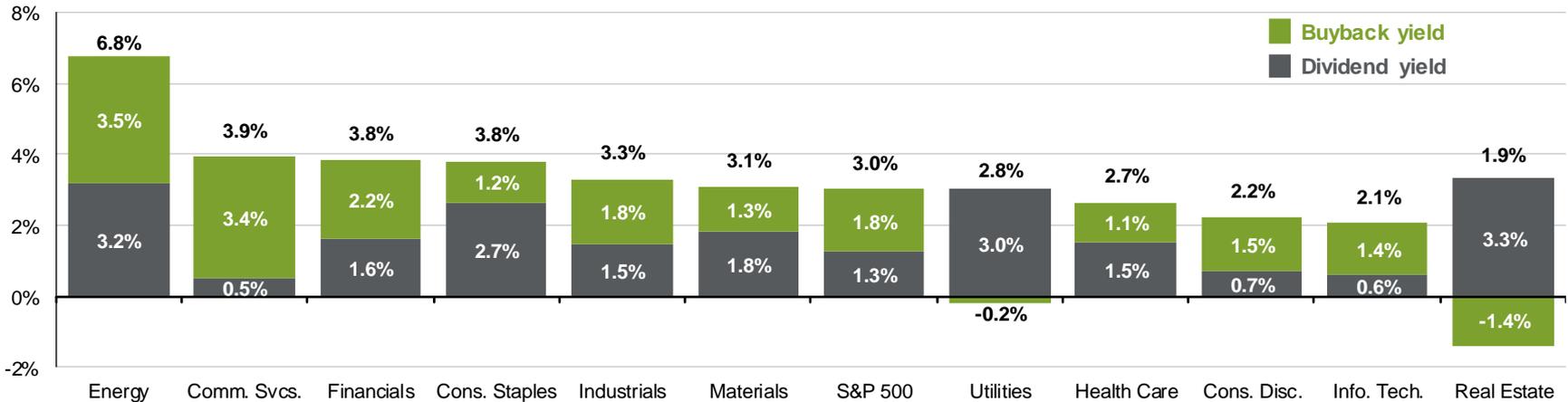
## S&P 500 sector pro-forma EPS growth

Year-over-year

	Weight*	2022				2023				2024			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3QF	4QF
Tech.	32%	14%	1%	-1%	-9%	-8%	4%	14%	23%	25%	20%	15%	16%
Financials	13%	-19%	-21%	-18%	-13%	-5%	-2%	12%	-21%	9%	17%	-1%	39%
Health Care	12%	15%	8%	0%	-4%	-15%	-27%	-18%	-15%	21%	19%	10%	22%
Cons. Disc.	10%	-29%	-16%	7%	-19%	38%	48%	38%	27%	21%	10%	-1%	13%
Comm. Services	9%	-1%	-21%	-23%	-26%	-14%	20%	44%	44%	42%	8%	12%	18%
Industrials	9%	38%	33%	20%	40%	24%	12%	9%	4%	2%	-3%	-1%	4%
Cons. Staples	6%	8%	2%	1%	1%	3%	8%	7%	6%	6%	4%	2%	4%
Energy	3%	282%	301%	140%	58%	19%	-49%	-34%	-23%	-24%	0%	-22%	-15%
Utilities	3%	27%	-4%	-8%	10%	-23%	-3%	10%	31%	28%	21%	4%	0%
Materials	2%	47%	17%	-12%	-18%	-20%	-24%	-16%	-21%	-21%	-8%	-2%	16%
Real Estate	2%	19%	6%	11%	8%	-1%	5%	-1%	3%	6%	0%	2%	3%
<b>S&amp;P 500</b>		<b>10%</b>	<b>7%</b>	<b>3%</b>	<b>-3%</b>	<b>-1%</b>	<b>-4%</b>	<b>6%</b>	<b>4%</b>	<b>6%</b>	<b>11%</b>	<b>3%</b>	<b>15%</b>

## Total shareholder yield by sector

Last 12-months dividends and buybacks minus issuance divided by market cap



Source: FactSet, J.P. Morgan Asset Management. Forecasts reflect analyst expectations. Heatmap shading applies a range of -20% (deep red), 0% (yellow) and +20% (deep green). \*\*% of S&P 500 market capitalization. Guide to the Markets – U.S. Data are as of September 30, 2024.

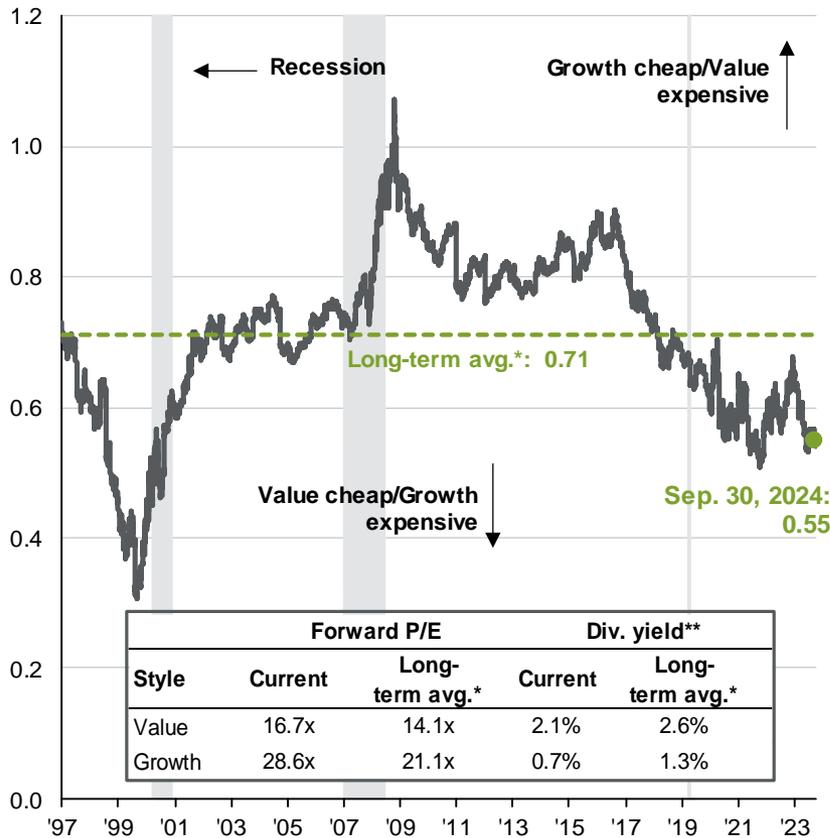


# Value vs. Growth: Valuations and interest rates

Equities

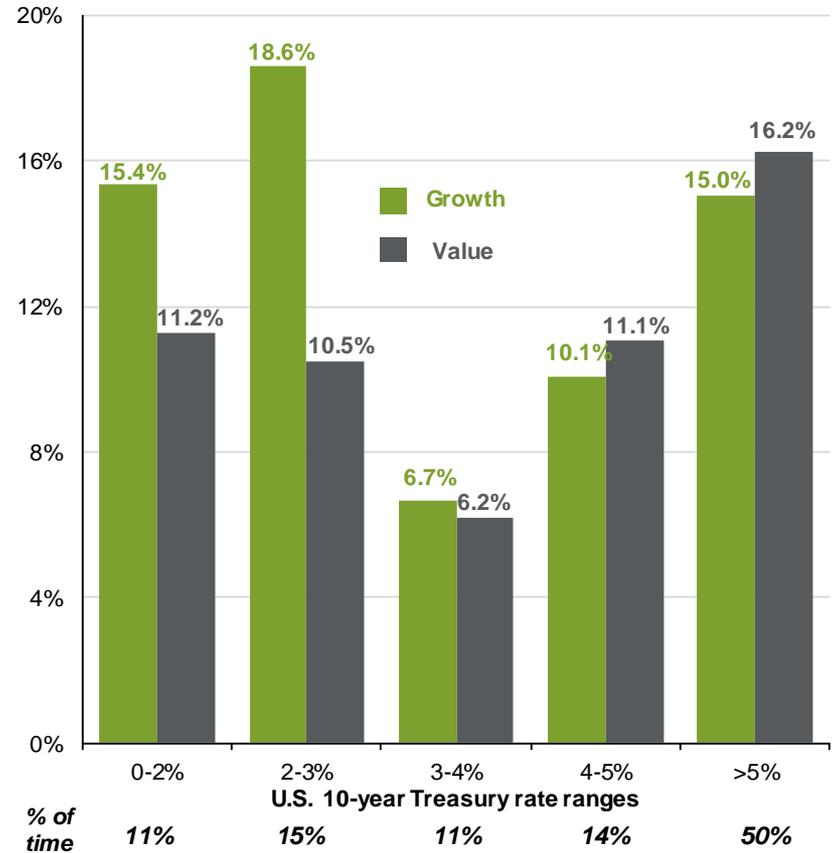
## Value vs. Growth relative valuations

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



## Value vs. Growth in different interest rate environments

Annualized total return by 10-year Treasury rate ranges, 1979 - present



Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management. Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. (Left) \*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) Returns are calculated by annualizing the average monthly performance during each interest rate range. Guide to the Markets – U.S. Data are as of September 30, 2024.

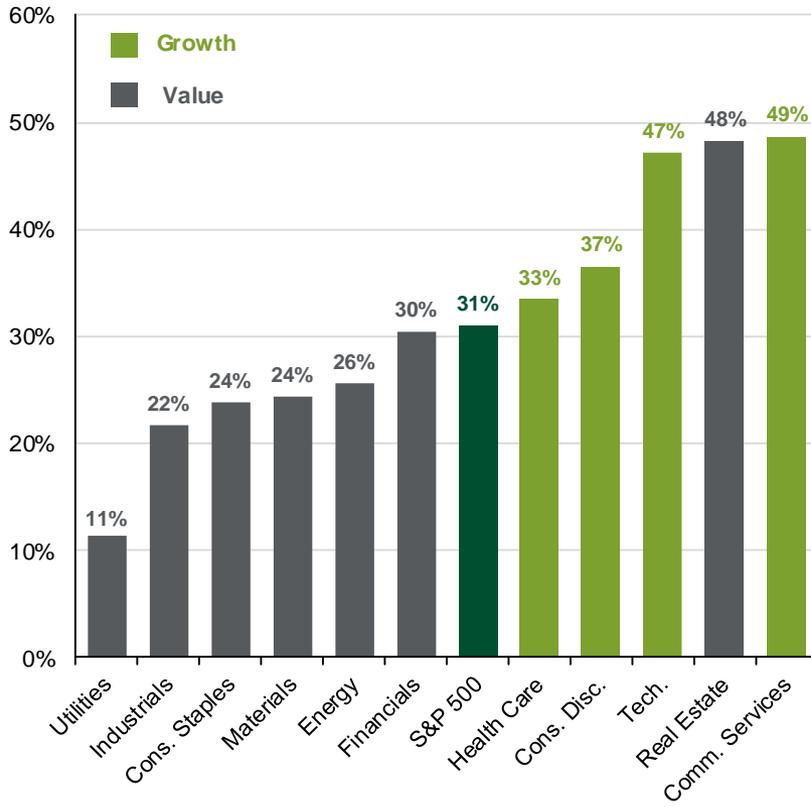


# Value vs. Growth: Cash, R&D and capex

Equities

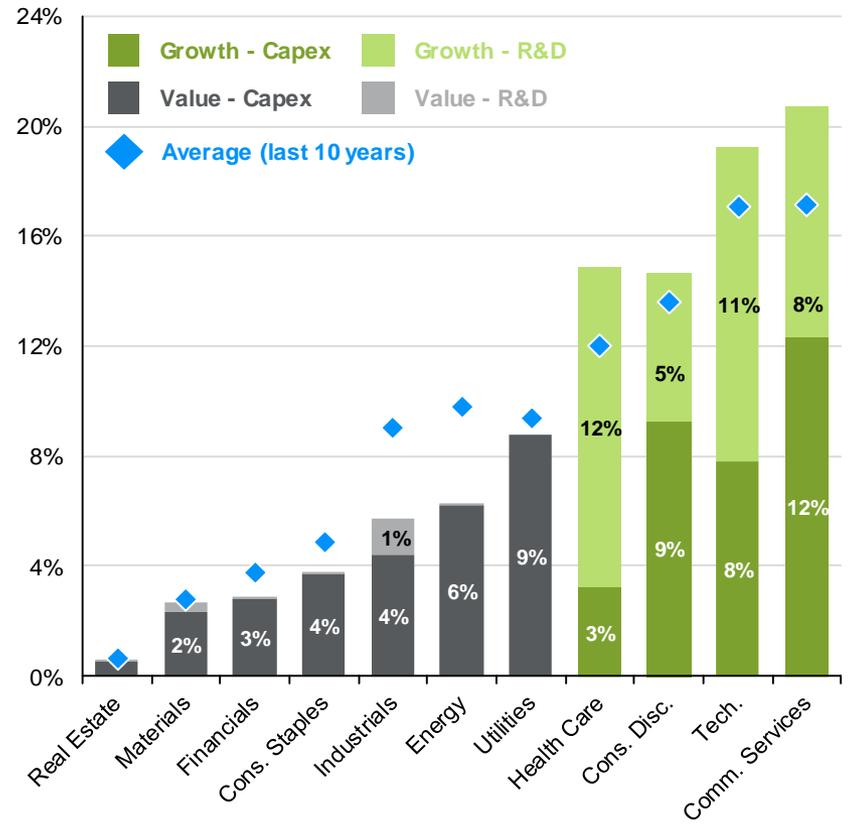
## Corporate cash as a % of current assets by sector

1Q24



## Research & development and capex by sector

Share of total S&P 500 R&D and capex by sector, current vs. average



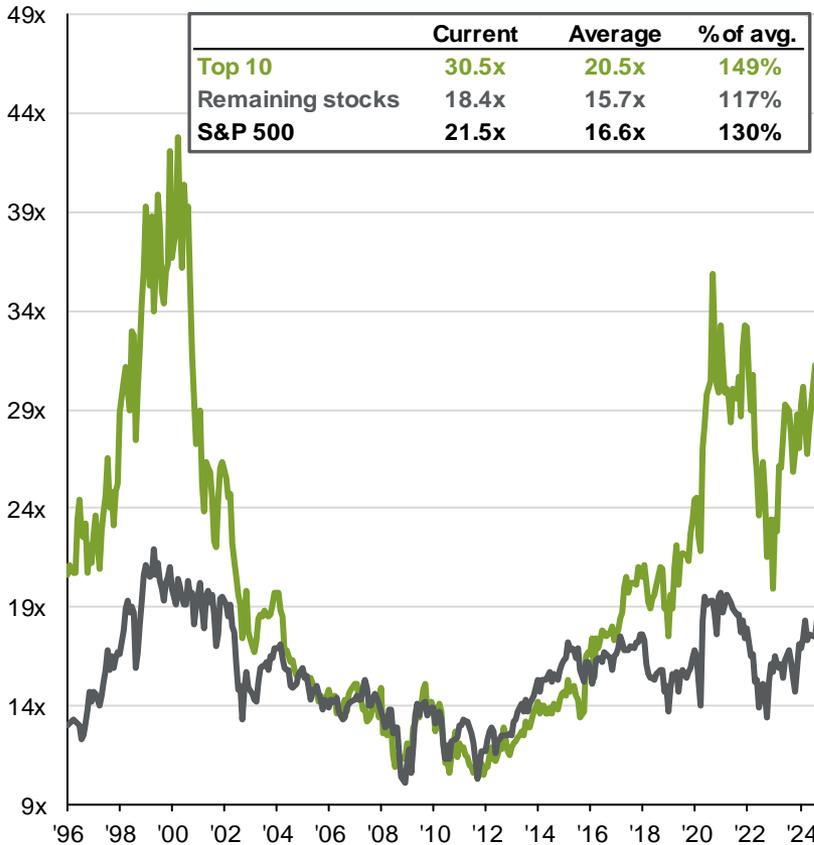
Source: Compustat, FactSet, J.P. Morgan Asset Management. (Left) Current assets are assets that can be converted into cash within a 12-month time frame. Current assets includes items such as cash and cash equivalents, marketable securities, accounts receivable, inventory and other short-term investments. (Right) Research and development (R&D) and capital expenditure (capex) data are through 6/30/2024. Guide to the Markets – U.S. Data are as of September 30, 2024.



# S&P 500: Index concentration and valuations

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

Next 12 months, 1996 - present



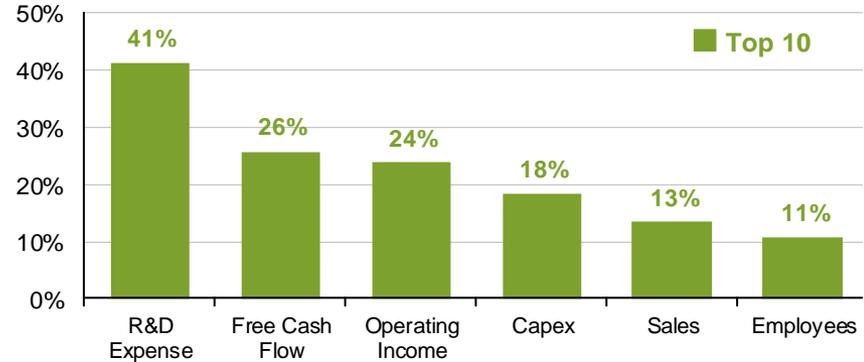
## Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



## Economic concentration in the S&P 500

% of S&P 500 metric, 2Q24



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 9/30/2024, the top 10 companies in the index were AAPL (7.1%), MSFT (6.5%), NVDA (6.1%), AMZN (3.6%), GOOGL/GOOG (3.6%), META (2.5%), BRK.B (1.7%), AVGO (1.7%), TSLA (1.5%) and LLY (1.4%). The remaining stocks represent the rest of the 492 companies in the S&P 500.

Guide to the Markets – U.S. Data are as of September 30, 2024.



# Magnificent 7 performance and earnings dynamics

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Equities

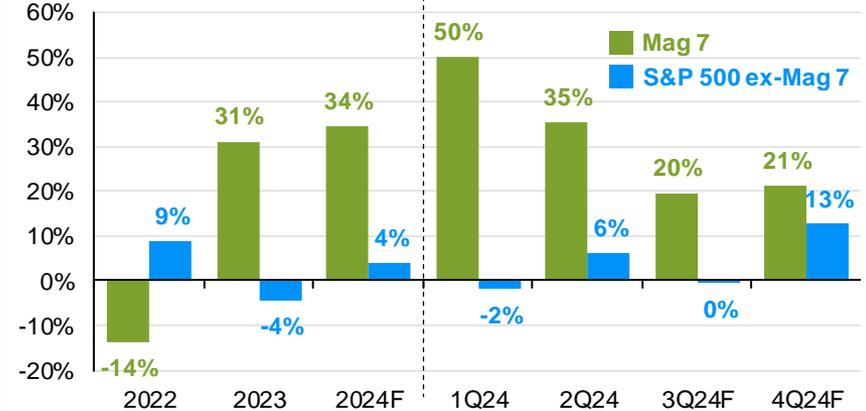
## Performance of “Magnificent 7” stocks in S&P 500\*

Indexed to 100 on 1/1/2021, price return



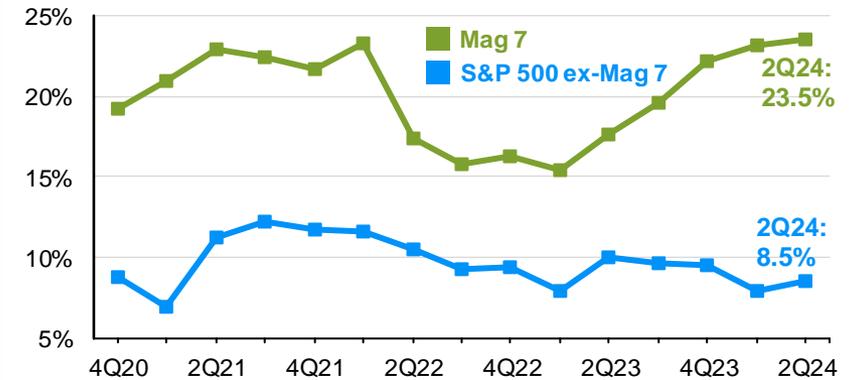
## Earnings growth

Pro-forma EPS, y/y



## Profit margins

Quarterly earnings/sales



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

\*Magnificent 7 includes AAPL, AMZN, GOOG, GOOGL, META, MSFT, NVDA and TSLA. Earnings estimates for 2024 are forecasts based on consensus analyst expectations. \*\*Share of returns represent how much each group contributed to the overall return. Numbers are always positive despite negative performance in 2022.

Guide to the Markets – U.S. Data are as of September 30, 2024.

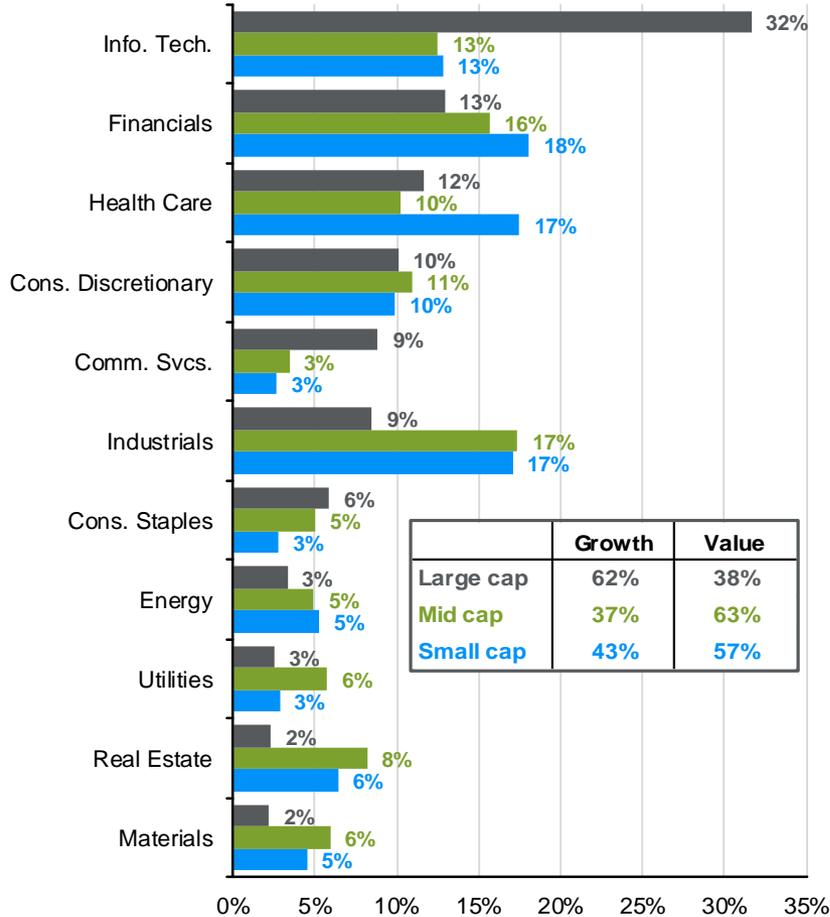


# Small caps, mid caps and large caps

Equities

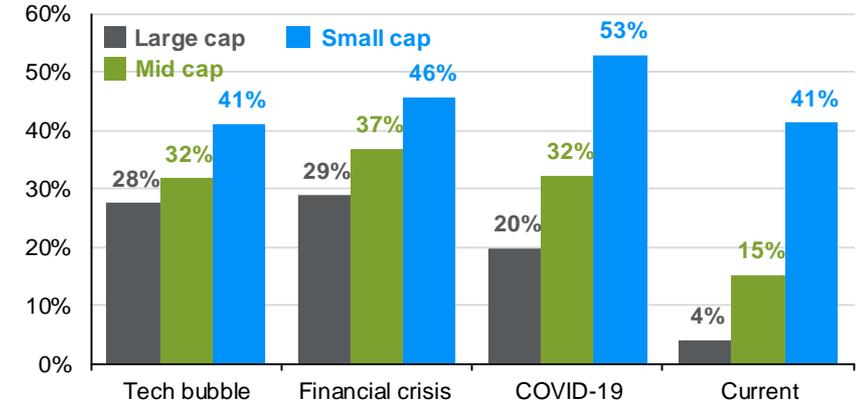
## Sector composition

% of index market capitalization



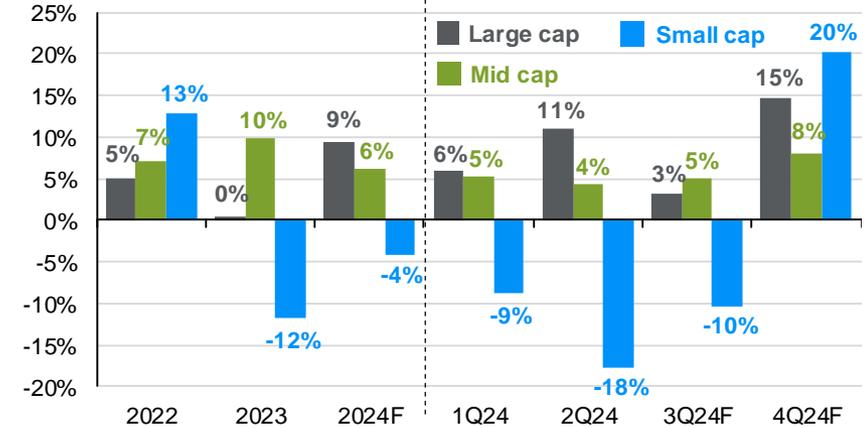
## Percent of unprofitable companies

Pro-forma EPS



## Earnings growth

Pro-forma EPS, y/y



Source: Compustat, FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.  
 The S&P 500 is used for large cap. The Russell Mid Cap is used for mid cap. The Russell 2000 is used for small cap. Data for the percent of unprofitable companies in each index are from the following quarters: Tech bubble = 4Q01, Financial crisis = 4Q08, COVID-19 = 1Q20 and Current = 2Q24.

Guide to the Markets – U.S. Data are as of September 30, 2024.



## Returns and valuations by style

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## 10-year annualized

	Value	Blend	Growth
Large	9.2%	13.4%	16.5%
Mid	8.9%	10.2%	11.3%
Small	8.2%	8.8%	8.9%

## YTD

	Value	Blend	Growth
Large	16.7%	22.1%	24.5%
Mid	15.1%	14.6%	12.9%
Small	9.2%	11.2%	13.2%

## Since market peak (January 2022)

	Value	Blend	Growth
Large	19.8%	25.4%	25.0%
Mid	14.1%	11.5%	5.2%
Small	5.7%	2.2%	-2.2%

## Since market low (October 2022)

	Value	Blend	Growth
Large	45.2%	66.1%	83.3%
Mid	42.1%	45.9%	51.9%
Small	33.0%	36.2%	38.8%

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

	Value	Blend	Growth
Large	16.7 / 13.8	21.5 / 15.7	28.5 / 19.2
Mid	15.9 / 14.5	17.6 / 16.4	27.2 / 20.7
Small	17.6 / 16.7	24.9 / 21.4	41.5 / 25.5

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

	Value	Blend	Growth
Large	121.2%	136.7%	148.9%
Mid	109.4%	107.3%	131.0%
Small	105.2%	116.0%	162.7%

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 1/3/2022 to 9/30/2024. Since market low represents period from 10/12/2022 to 9/30/2024. 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, 2024.



# Returns and valuations by sector

GTM U.S. 15

Equities

	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
<b>S&amp;P weight</b>	3.3%	2.3%	12.9%	8.5%	10.2%	31.7%	8.8%	2.3%	11.6%	5.9%	2.5%	100.0%	<b>Weight</b>
Russell Growth weight	0.4%	0.7%	6.4%	4.6%	14.3%	48.7%	12.8%	0.6%	7.8%	3.7%	0.2%	100.0%	
Russell Value weight	6.7%	4.7%	21.1%	14.7%	6.3%	9.1%	4.2%	4.9%	15.5%	8.0%	4.8%	100.0%	
Russell 2000 weight	5.3%	4.5%	17.9%	17.0%	10.1%	12.9%	2.7%	6.5%	17.4%	2.8%	2.8%	100.0%	
<b>QTD</b>	-2.3	9.7	10.7	11.5	7.8	1.6	1.7	17.0	6.1	9.0	19.4	5.9	<b>Return (%)</b>
<b>YTD</b>	7.5	14.8	21.5	19.6	14.2	29.6	27.8	14.8	13.7	18.6	30.1	21.6	
<b>Since market peak</b> (January 2022)	70.5	14.9	20.4	34.7	-0.3	45.4	19.0	-3.9	14.8	18.5	23.9	24.9	
<b>Since market low</b> (October 2022)	16.8	47.4	55.0	64.5	49.5	118.0	97.2	41.7	29.9	32.6	39.8	65.4	
<b>Beta to S&amp;P 500</b>	1.2	1.1	1.1	1.1	1.2	1.2	1.0	0.9	0.7	0.6	0.5	1.0	<b>β</b>
<b>Correl. to Treas. yields</b>	0.1	-0.5	-0.4	-0.4	-0.5	-0.5	-0.6	-0.8	-0.5	-0.4	-0.5	-0.6	<b>ρ</b>
<b>Foreign % of sales</b>	38.4	53.5	28.1	33.0	33.1	57.1	48.2	16.7	33.8	40.4	1.2	41.2	<b>%</b>
<b>NTM earnings growth</b>	3.5%	12.8%	10.4%	12.6%	13.0%	20.4%	17.1%	3.5%	17.3%	5.9%	8.9%	13.6%	<b>EPS</b>
<b>20-yr avg.</b>	100.3%	13.0%	20.5%	13.8%	16.7%	12.0%	11.6%	6.9%	7.9%	7.4%	4.7%	10.9%	
<b>Forward P/E ratio</b>	12.6x	20.9x	16.0x	22.4x	25.9x	28.9x	18.9x	18.8x	19.2x	21.5x	18.9x	21.5x	<b>P/E</b>
<b>20-yr avg.</b>	13.5x	15.1x	12.6x	16.4x	19.8x	18.1x	18.8x	17.1x	15.1x	17.6x	15.7x	15.7x	
<b>Buyback yield</b>	3.6%	1.3%	2.1%	1.7%	1.4%	1.2%	3.4%	-1.3%	1.1%	1.0%	-0.2%	1.6%	<b>Bbk</b>
<b>20-yr avg.</b>	1.8%	1.0%	0.5%	2.3%	2.5%	3.0%	1.8%	-1.4%	1.9%	1.8%	-0.7%	1.8%	
<b>Dividend yield</b>	3.5%	1.8%	1.7%	1.4%	0.7%	0.7%	1.0%	3.5%	1.6%	2.5%	3.0%	1.4%	<b>Div</b>
<b>20-yr avg.</b>	2.8%	2.3%	2.3%	2.2%	1.4%	1.2%	1.1%*	3.7%	1.9%	2.9%	3.8%	2.0%	

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 1/3/2022 to 9/30/2024. Since market low represents period from 10/12/2022 to 9/30/2024. 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 data. Past performance is not indicative of future returns.

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**J.P.Morgan**  
ASSET MANAGEMENT

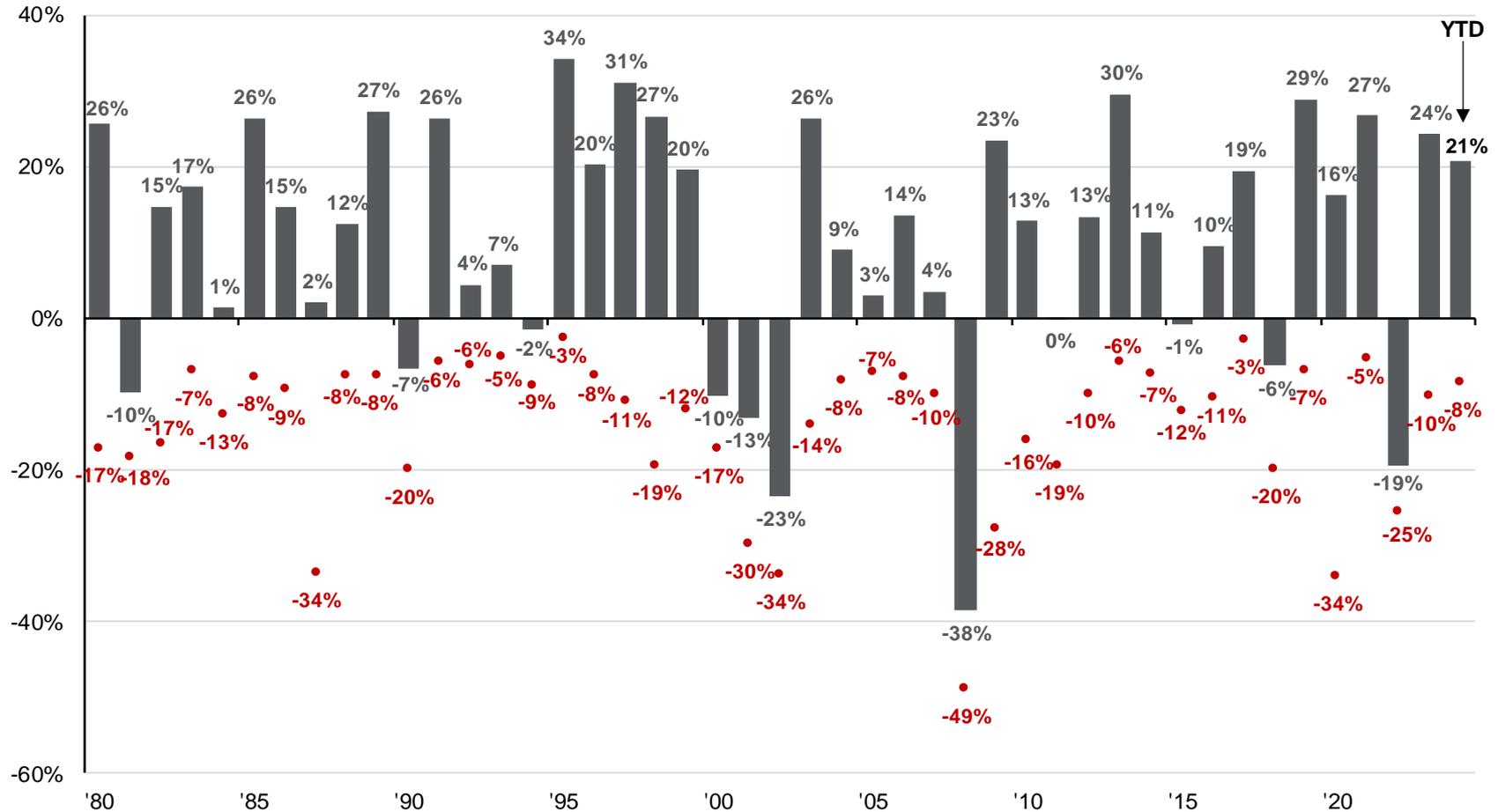


# Annual returns and intra-year declines

Equities

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

Despite average intra-year drops of 14.2%, annual returns were positive in 33 of 44 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 2023, over which time period the average annual return was 10.3%.

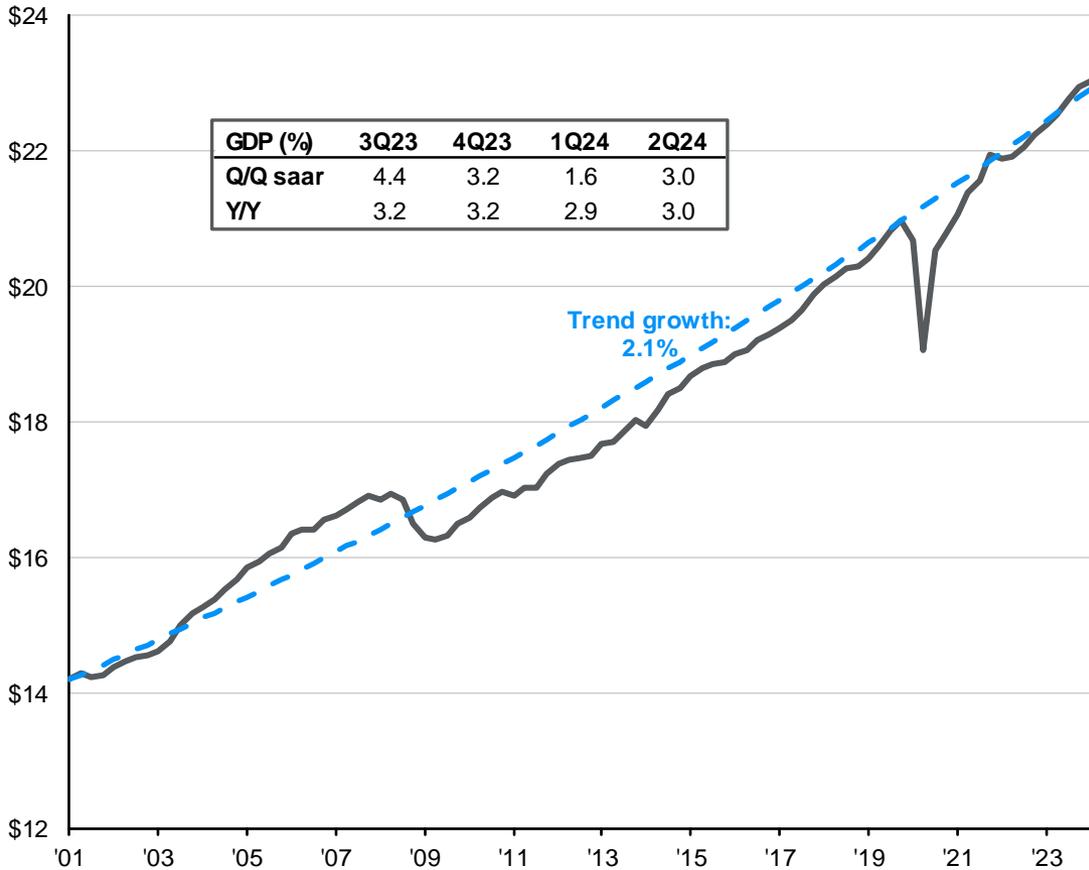
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# Economic growth and the composition of GDP

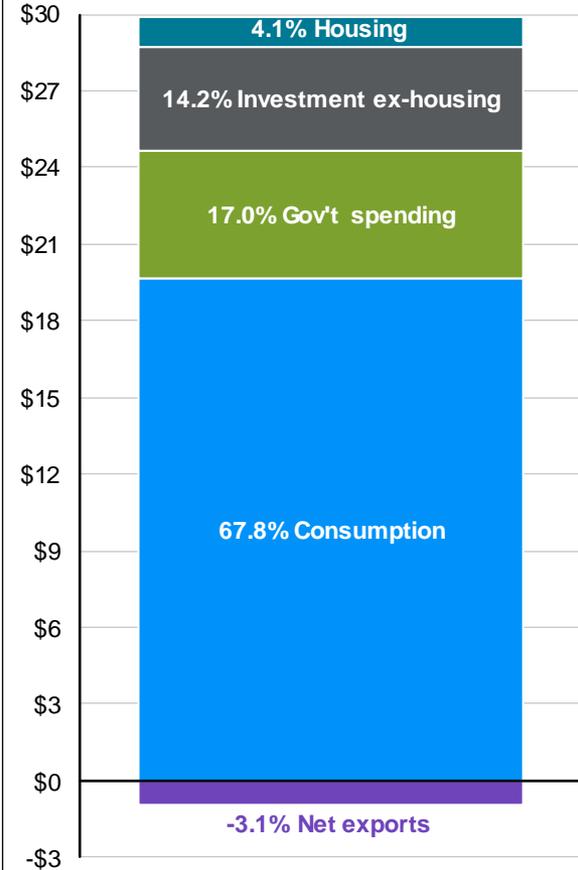
## Real GDP

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



## Components of GDP

2Q24 nominal GDP, USD trillions



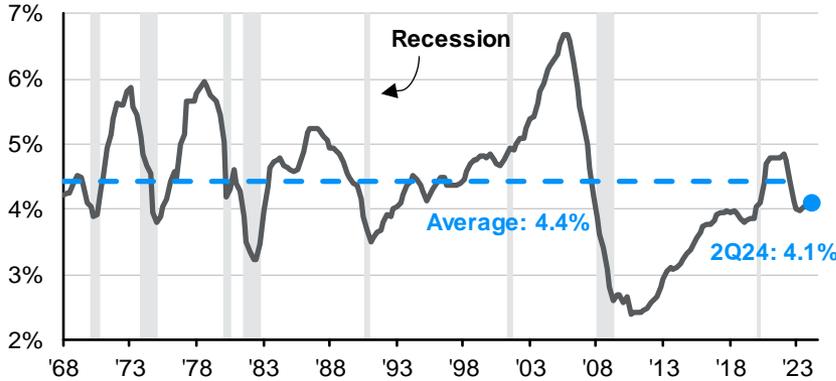
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19. *Guide to the Markets* – U.S. Data are as of September 30, 2024.



# Cyclical sectors

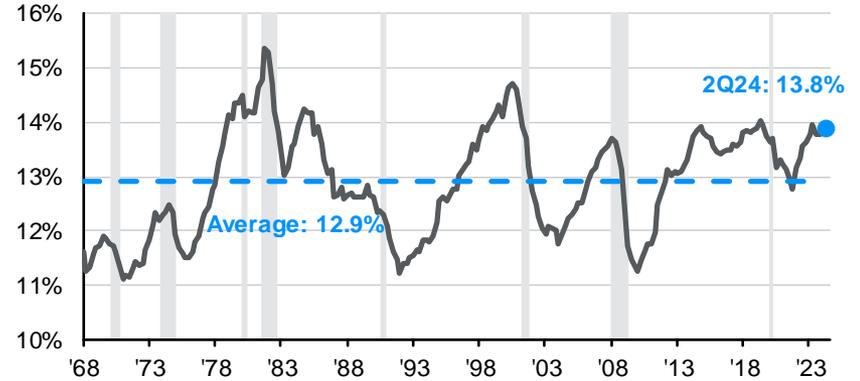
## Residential investment as a % of GDP

Quarterly, seasonally adjusted



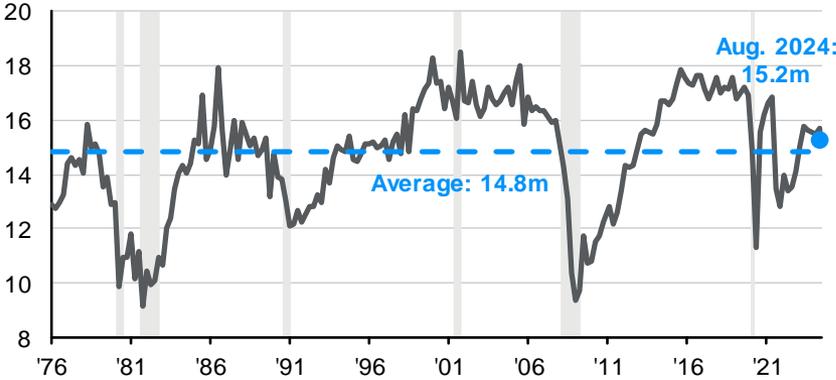
## Business fixed investment as a % of GDP

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, 2024.



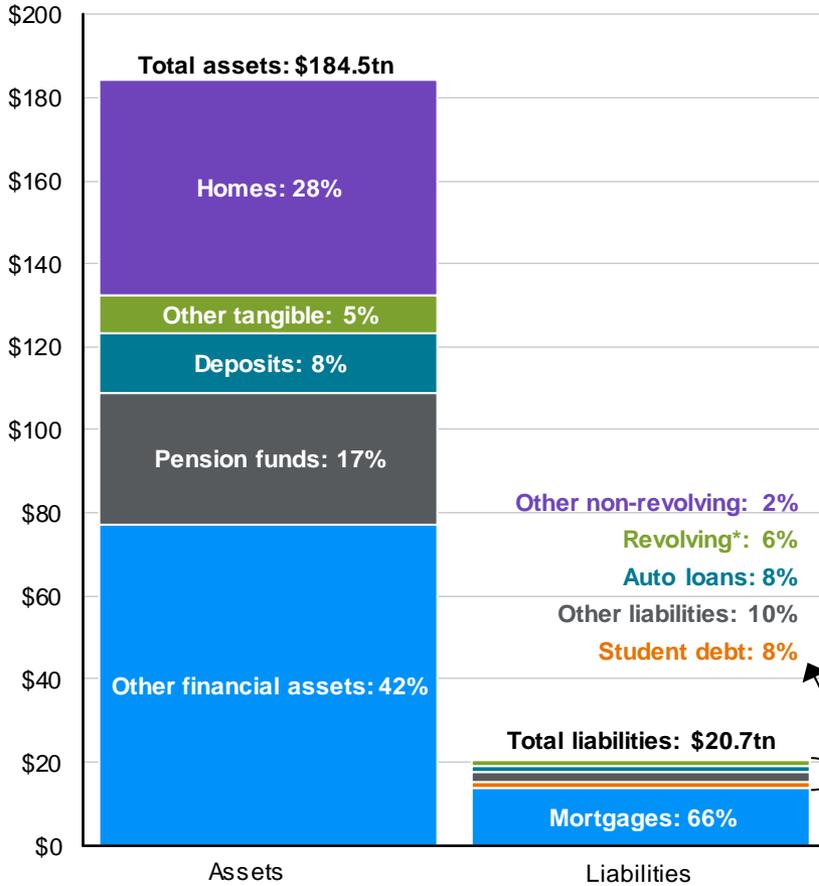


# Consumer finances

Economy

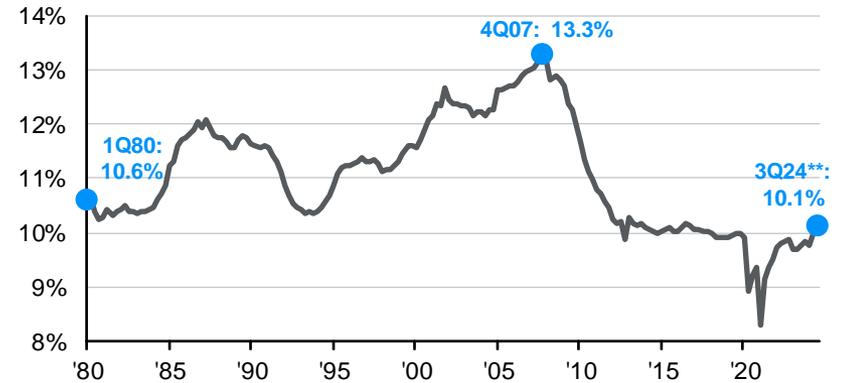
## Consumer balance sheet

2Q24, USD trillions, not seasonally adjusted



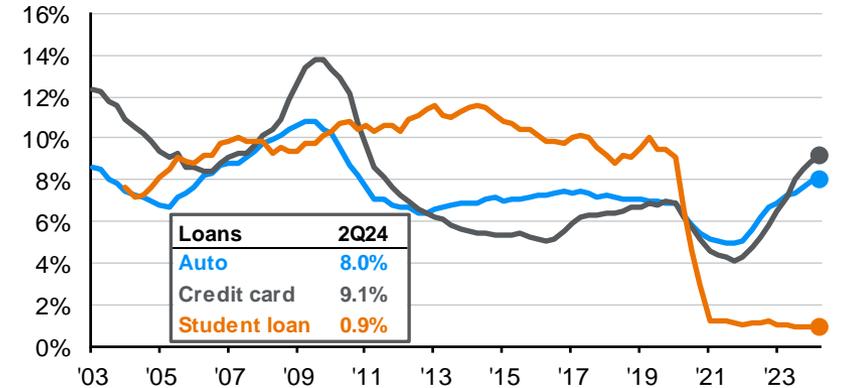
## Household debt service ratio

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. \*\*2Q24 and 3Q24 figures for debt service ratio are J.P. Morgan Asset Management estimates. Guide to the Markets - U.S. Data are as of September 30, 2024.

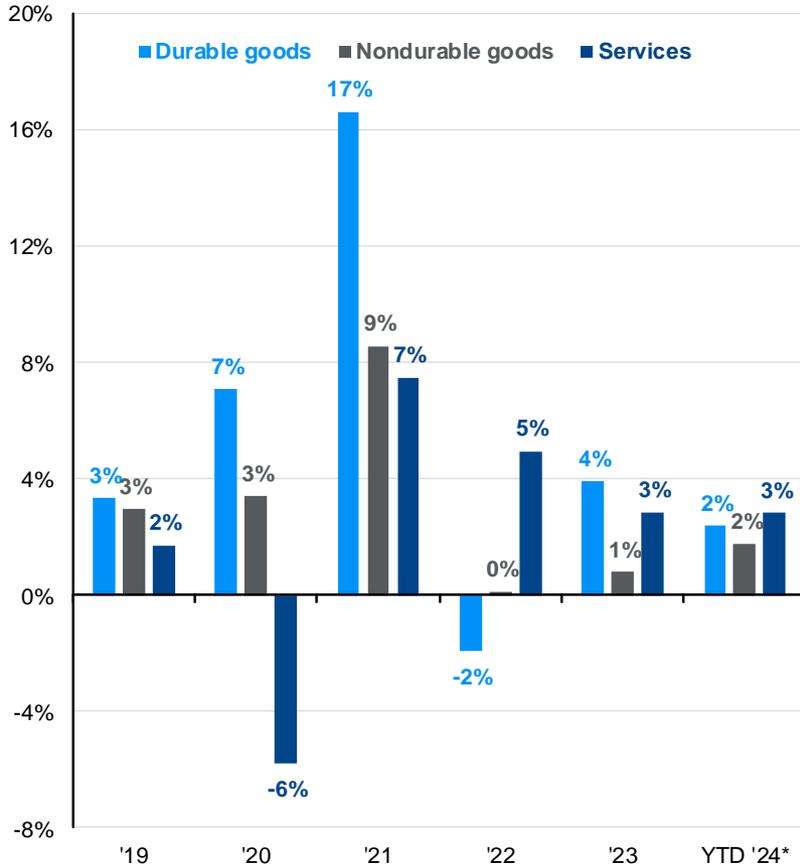


# Consumer spending and saving

Economy

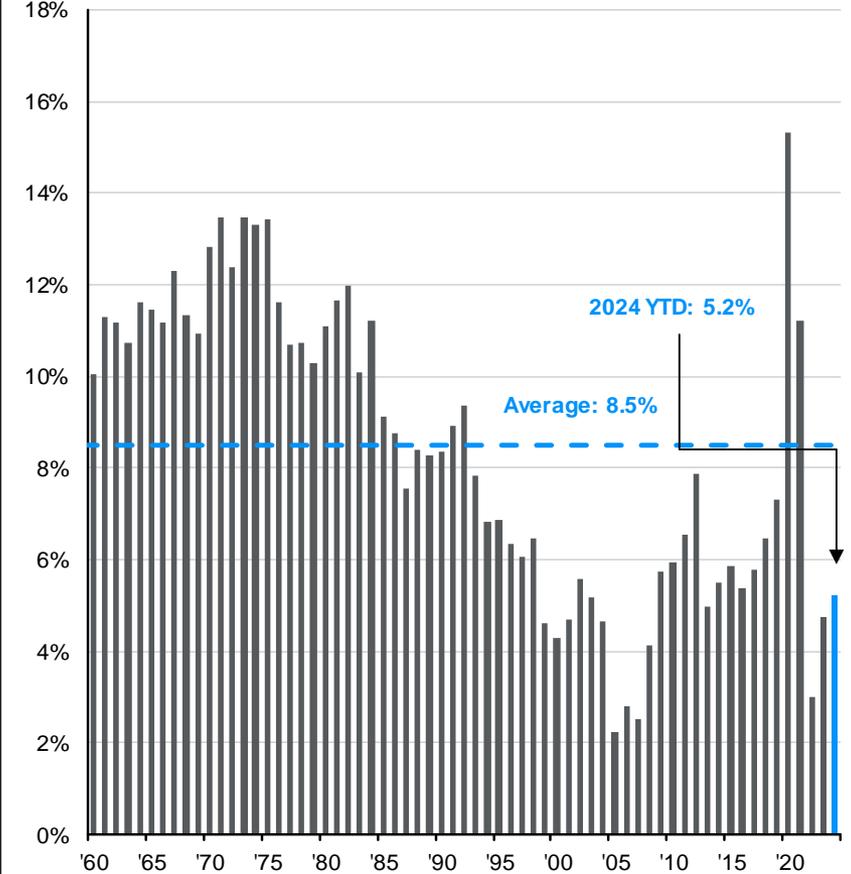
## Real consumer spending by expenditure category

Y/y % change, average level of spending



## Personal saving rate

Personal savings as a % of disposable personal income, annual



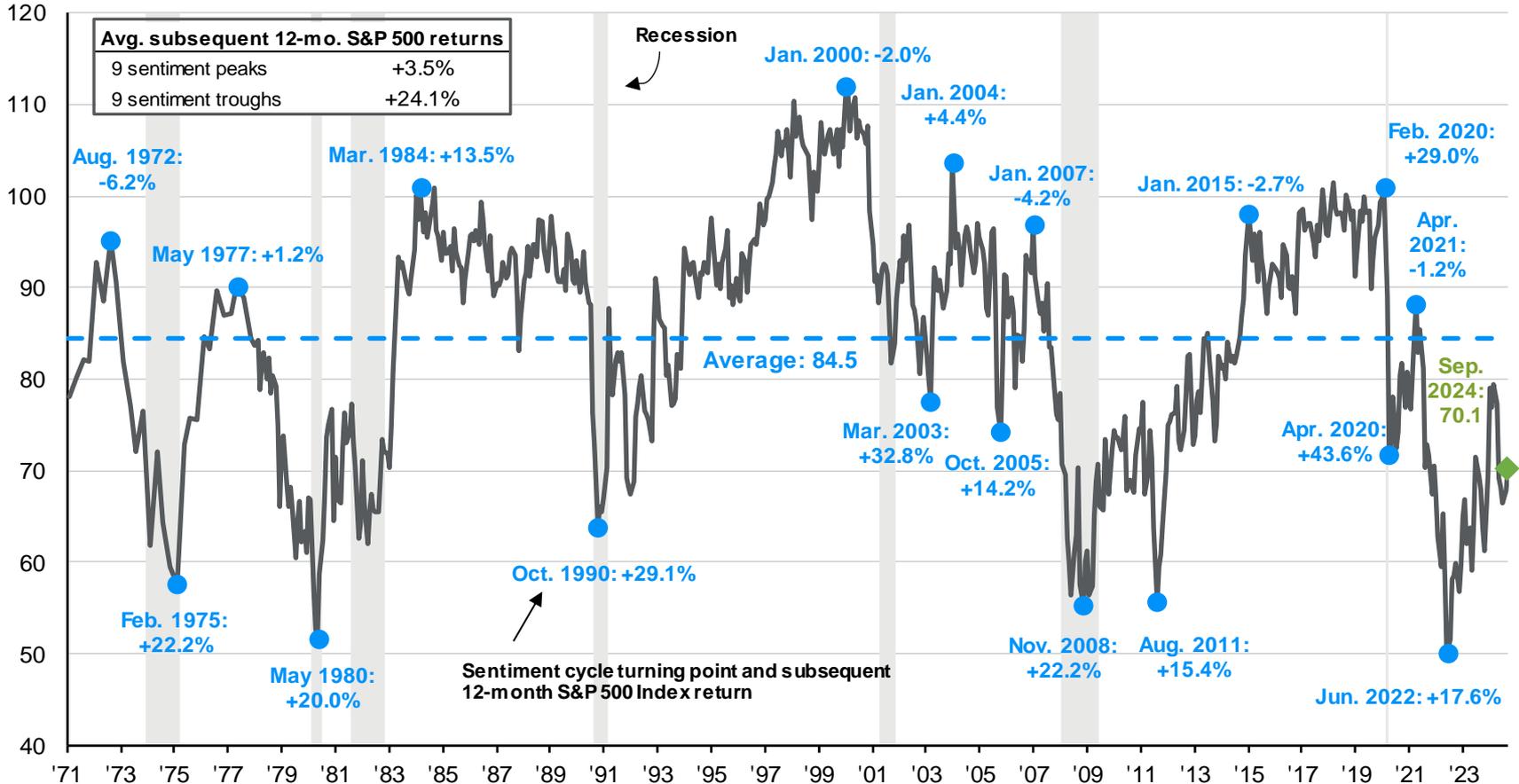
Source: BEA, Federal Reserve, J.P. Morgan Asset Management. \*YTD figure for 2024 reflects the year-over-year % change in the average level of spending during the first eight months of 2024 relative to the average level of spending during the first eight months of 2023. *Guide to the Markets – U.S.* Data are as of September 30, 2024.



# 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, 2024.

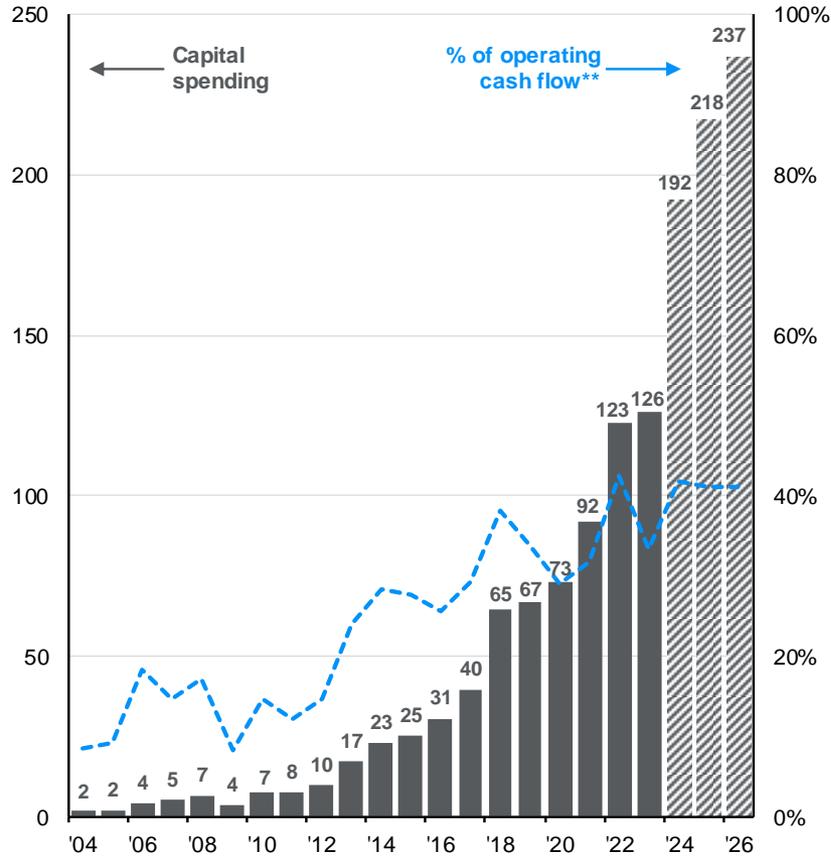


# Tech-driven capital spending

Economy

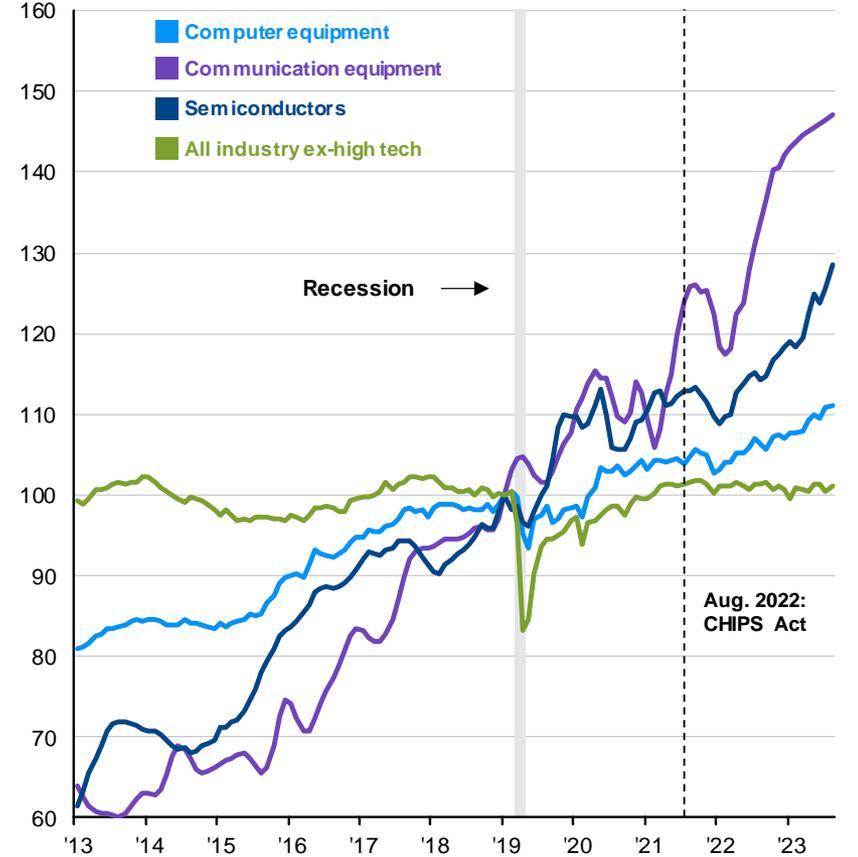
## Capex from the major AI hyperscalers\*

USD billions; Alphabet, Amazon (AWS), Meta, Microsoft, Oracle



## U.S. industrial production of high tech industries

Indexed to 100 in Jan. 2020



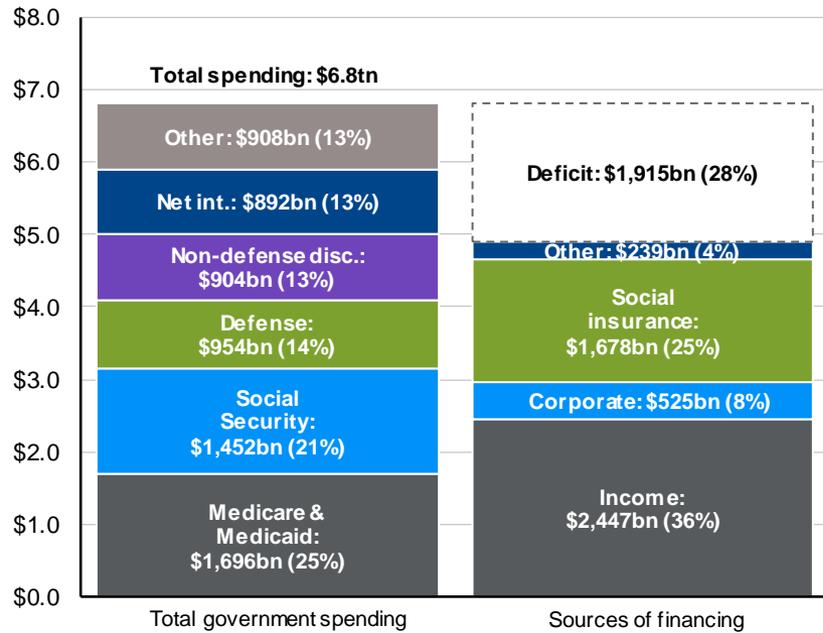
Source: J.P. Morgan Asset Management; (Left) Bloomberg; (Right) Federal Reserve Board. Data for 2024, 2025 and 2026 reflects consensus estimates. Capex shown is company total, except for Amazon, which reflects an estimate for AWS spend (2004 to 2012 are J.P. Morgan Asset Management estimates and 2012 to current are Bloomberg consensus estimates). \*Hyperscalers are the large cloud computing companies that own and operate data centers with horizontally linked servers that, along with cooling and data storage capabilities, enable them to house and operate AI workloads. \*\*Reflects cash flow before capital expenditures in contrast to free cash flow, which subtracts out capital expenditures. *Guide to the Markets – U.S.* Data are as of September 30, 2024.



# Federal finances

## The 2024 federal budget

USD trillions

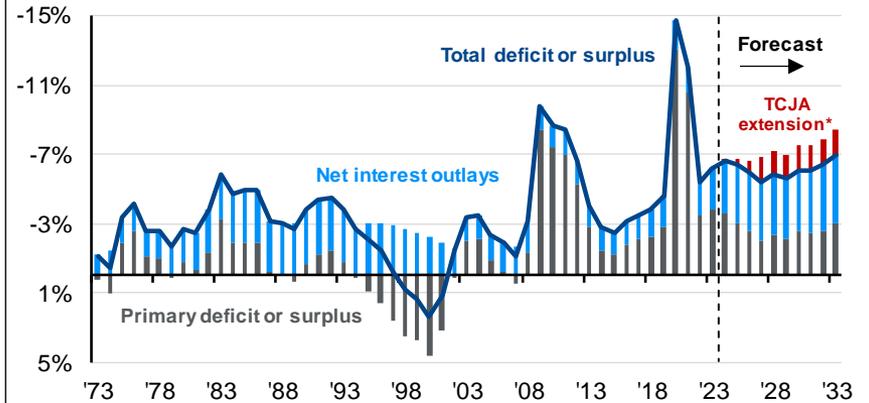


### CBO's Baseline economic assumptions

	2024	'25-'26	'27-'28	'29-'34
Real GDP growth	2.9%	2.0%	1.7%	1.8%
10-year Treasury	4.5%	4.0%	3.6%	4.0%
Headline inflation (CPI)	3.2%	2.4%	2.2%	2.2%
Unemployment	3.8%	4.0%	4.3%	4.5%

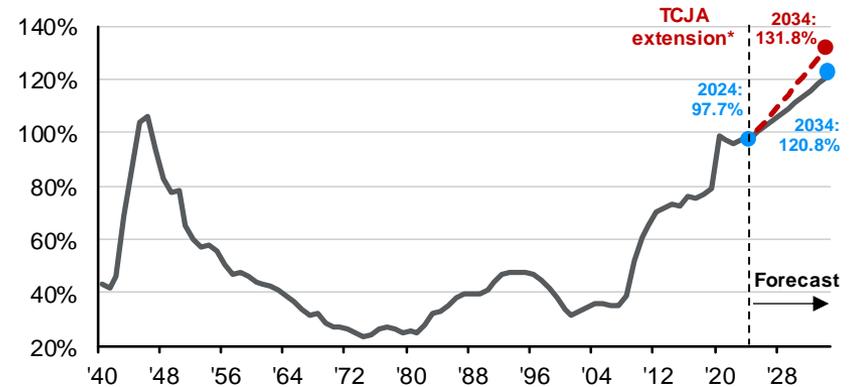
## Federal deficit and net interest outlays

% of GDP, 1973-2034, CBO Baseline Forecast



## Federal net debt (accumulated deficits)

% of GDP, 1940-2034, CBO Baseline Forecast, end of fiscal year



Source: CBO, J.P. Morgan Asset Management; (Left) Numbers may not sum to 100% due to rounding; (Top and bottom right) BEA, Treasury Department. Estimates are from the Congressional Budget Office (CBO) June 2024 An Update to the Budget Outlook: 2024 to 2034. "Other" spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Years shown are fiscal years. \*Adjusted by JPMAM to include estimates from the CBO May 2024 report "Budgetary Outcomes Under Alternative Assumptions About Spending and Revenues" on the extension of TCJA provisions. 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, 2024.

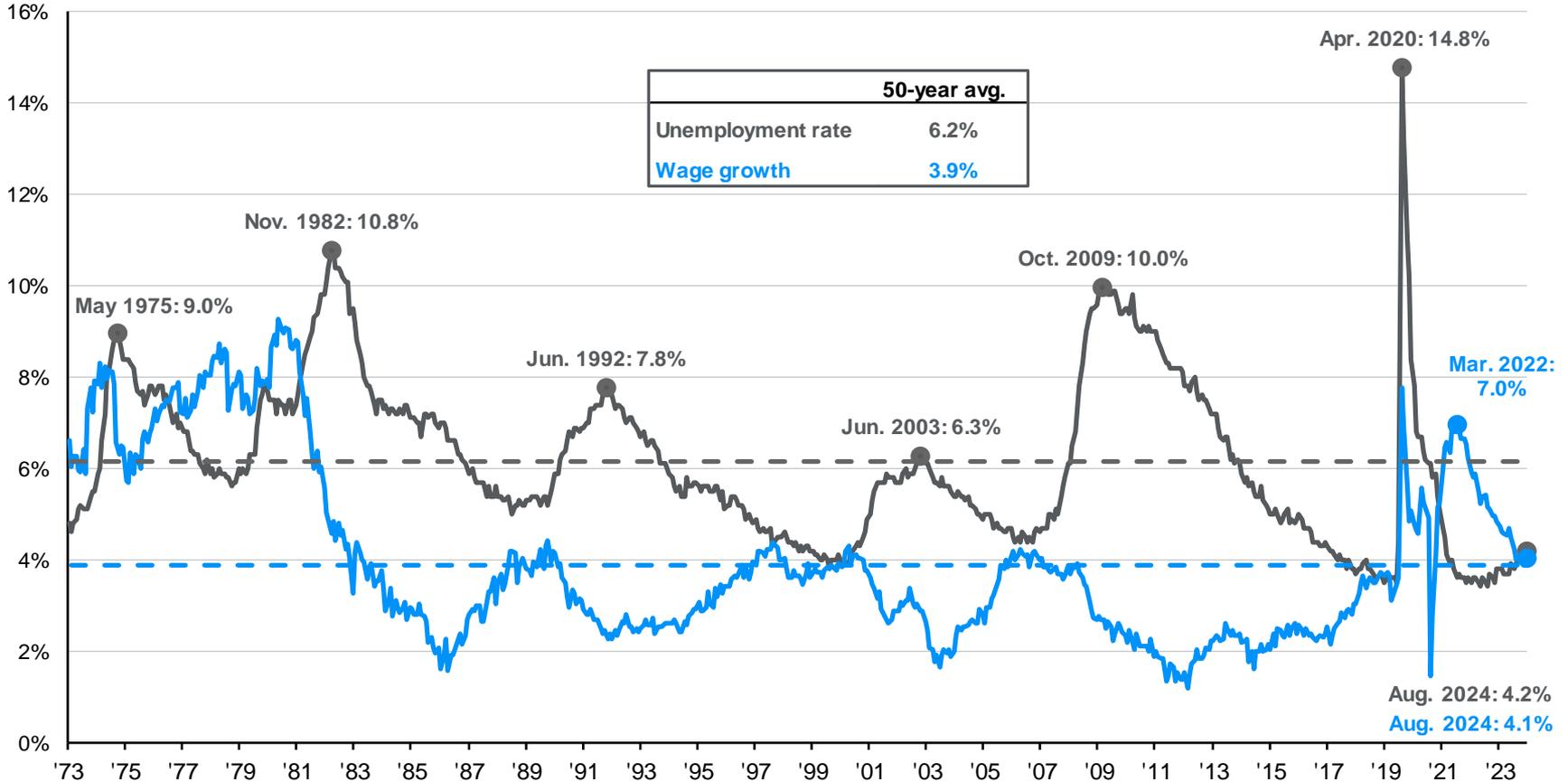


# Unemployment and wages

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, 2024.



# Labor demand

Economy

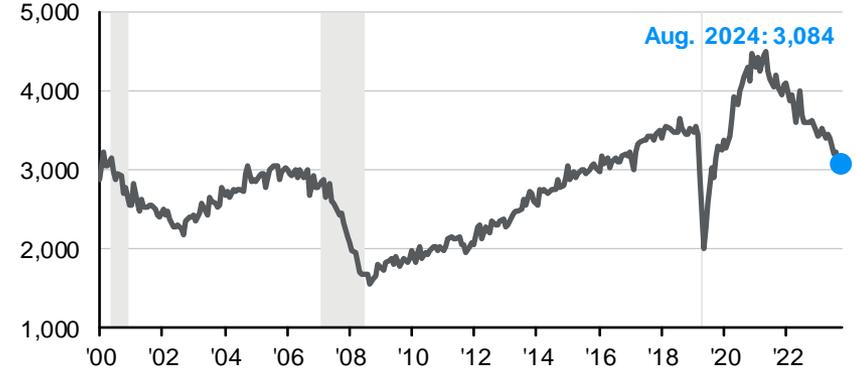
## JOLTS job openings\*

Total job openings, thousands, seasonally adjusted



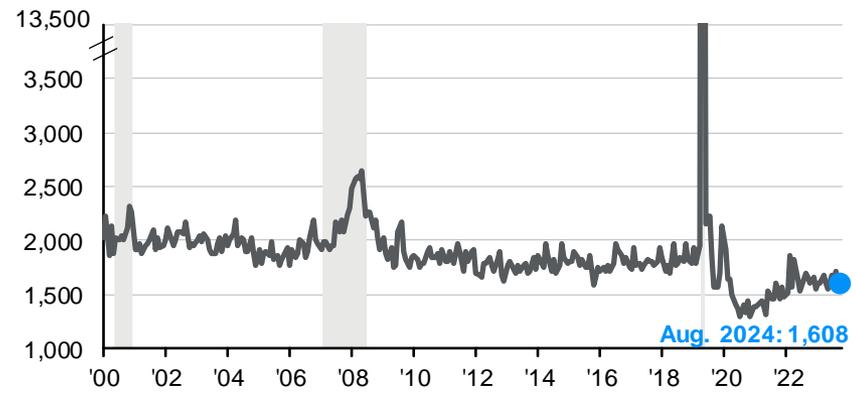
## JOLTS quits

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, 2024.

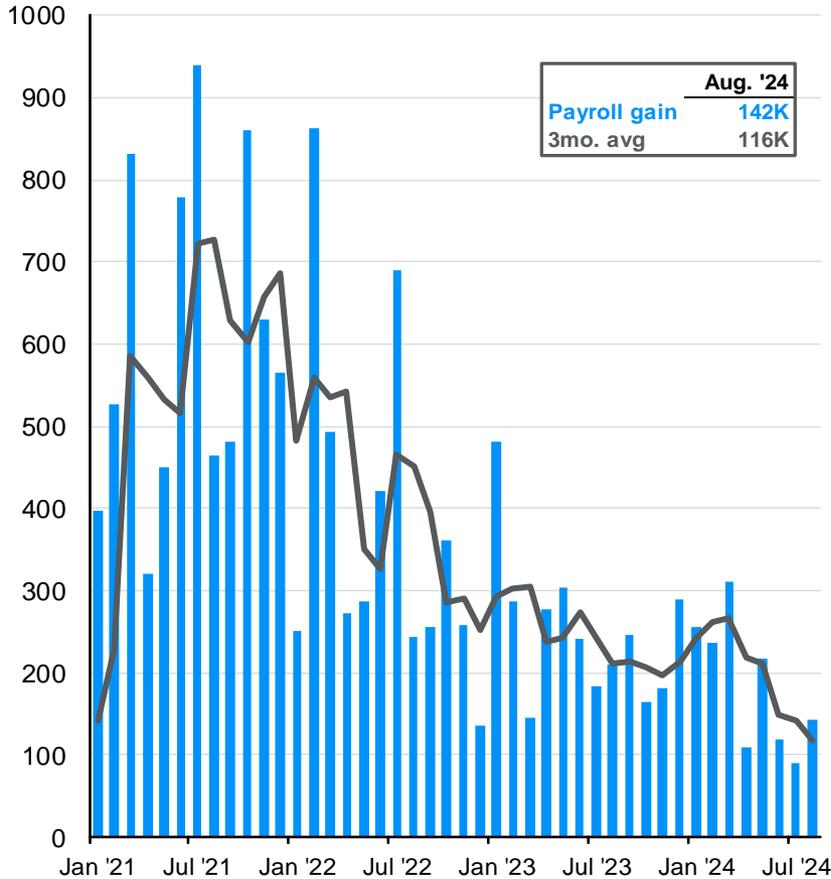


# Labor supply

Economy

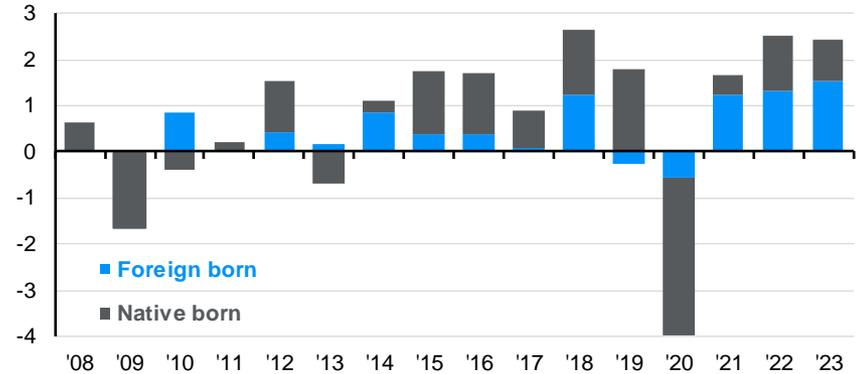
## Nonfarm payroll gains

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



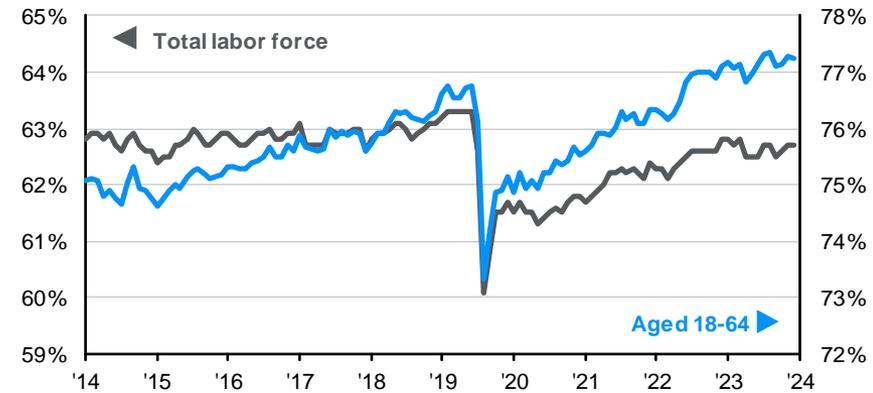
## Labor force growth, native and immigrant contribution

Year-over-year difference, end of year, aged 16+, millions



## Labor force participation

% of civilian noninstitutional population, SA



Source: BLS, FactSet, J.P. Morgan Asset Management.

Labor force data are sourced from the Current Population Survey, also known as the household survey, conducted by the BLS. This survey does not ask respondents about immigration status and may include undocumented workers, although it likely undercounts the undocumented population.

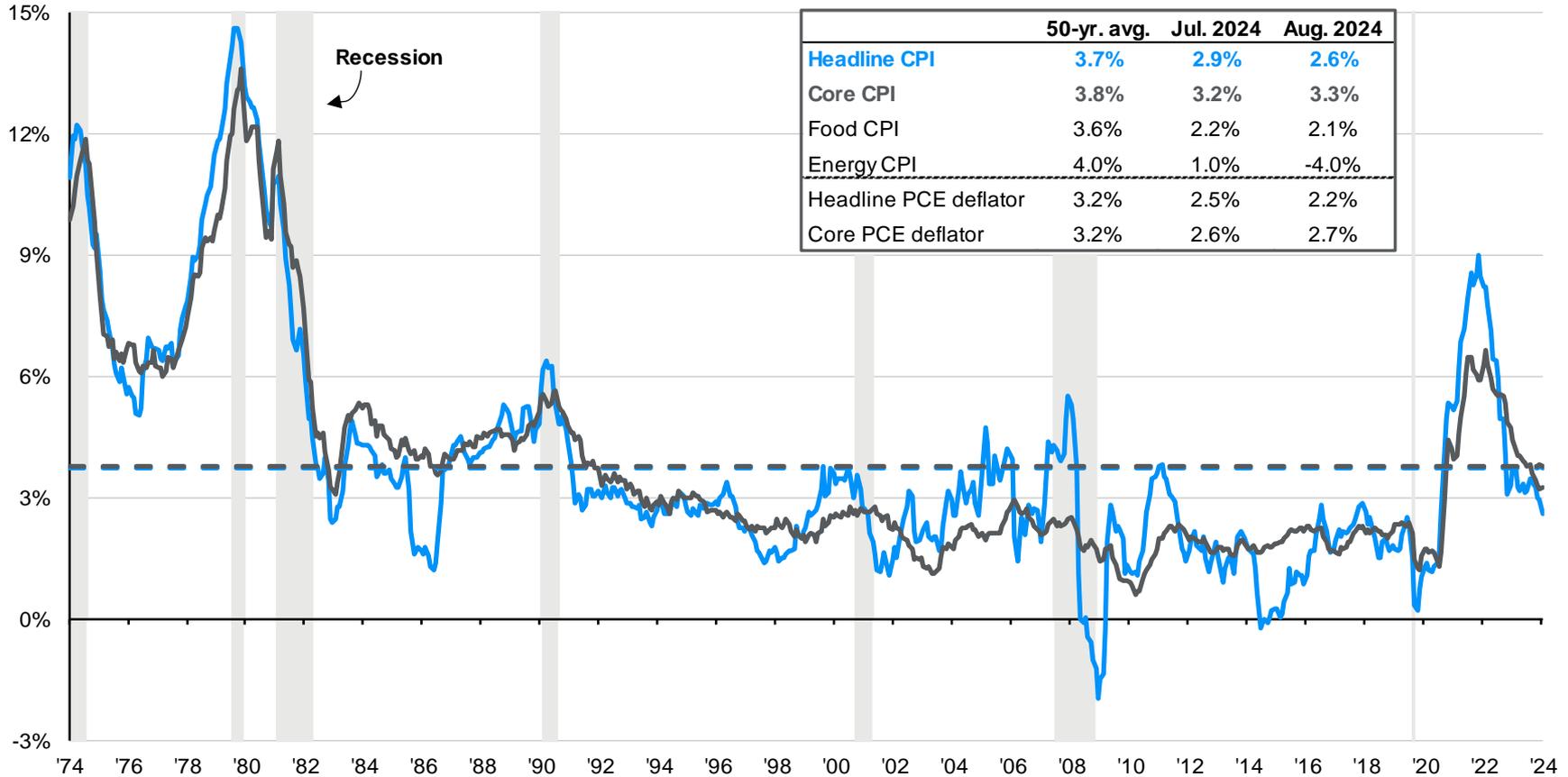
Guide to the Markets – U.S. Data are as of September 30, 2024.



# 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, 2024.

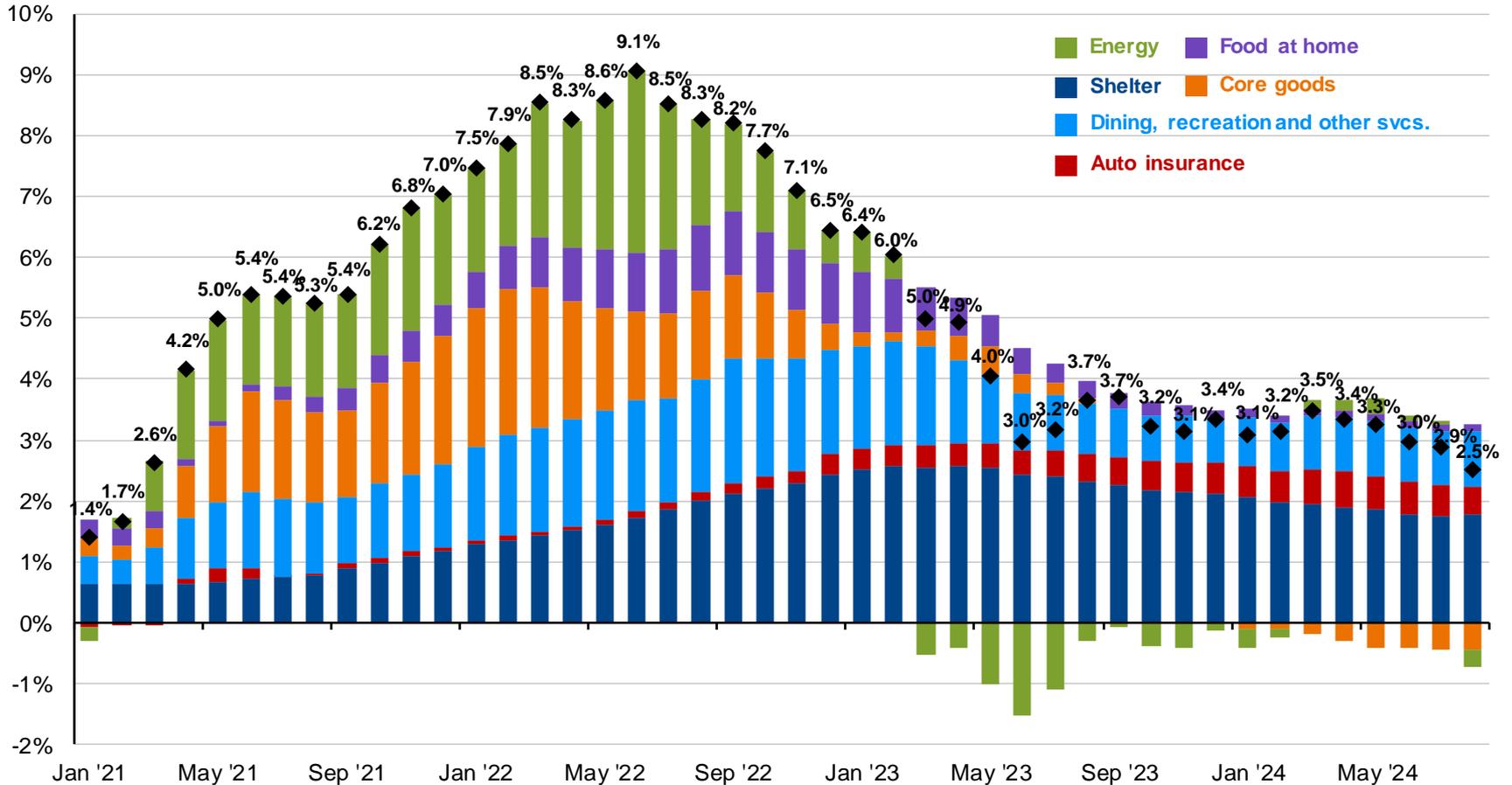


# Inflation components

Economy

## Contributors to headline CPI inflation

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



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. "Shelter" includes owners' equivalent rent, rent of primary residence and home insurance. "Food at home" includes alcoholic beverages. *Guide to the Markets - U.S.* Data are as of September 30, 2024.



# Oil markets

## Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	'19	'20	'21	'22	'23	'24*	'25*	'19-'25
U.S.	19.5	18.6	19.0	20.4	22.0	22.5	23.1	18.2%
OPEC	33.1	29.4	30.4	32.9	32.2	31.8	32.6	-1.6%
Russia	11.5	10.5	10.8	11.0	10.8	10.4	10.4	-9.2%
<b>Global</b>	<b>100.2</b>	<b>93.8</b>	<b>95.7</b>	<b>100.2</b>	<b>101.9</b>	<b>102.2</b>	<b>104.6</b>	<b>4.4%</b>

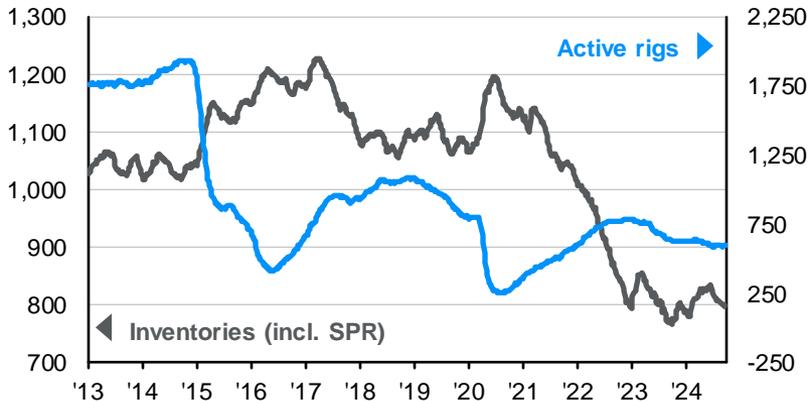
Consumption	'19	'20	'21	'22	'23	'24*	'25*	'19-'25
U.S.	20.5	18.2	19.9	20.0	20.3	20.3	20.6	0.5%
China	14.0	14.4	15.5	15.4	16.4	16.5	16.8	19.8%
India	4.9	4.5	4.7	5.1	5.3	5.6	5.8	18.7%
<b>Global</b>	<b>100.9</b>	<b>91.7</b>	<b>97.6</b>	<b>100.0</b>	<b>102.1</b>	<b>103.1</b>	<b>104.6</b>	<b>3.7%</b>

Inventory Change	'19	'20	'21	'22	'23	'24*	'25*	'19-'25
	-0.6	2.1	-1.8	0.2	-0.3	-0.9	0.0	

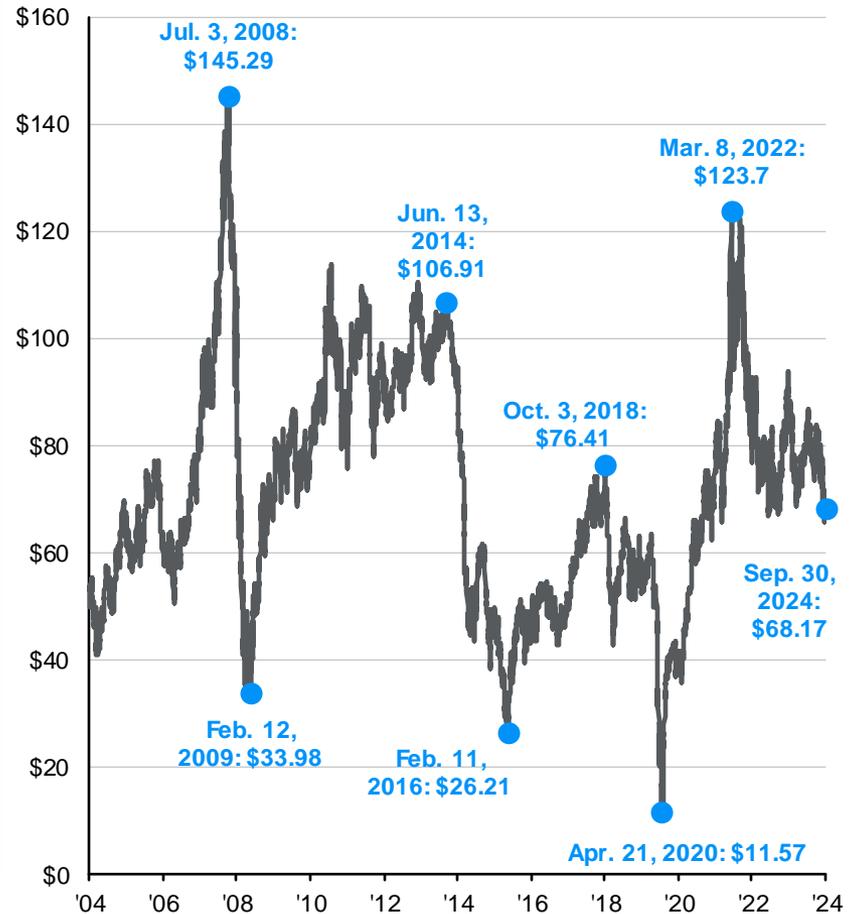
## U.S. crude oil inventories and rig count\*\*

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 2024 EIA Short-Term Energy Outlook and start in 2024. \*\*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.

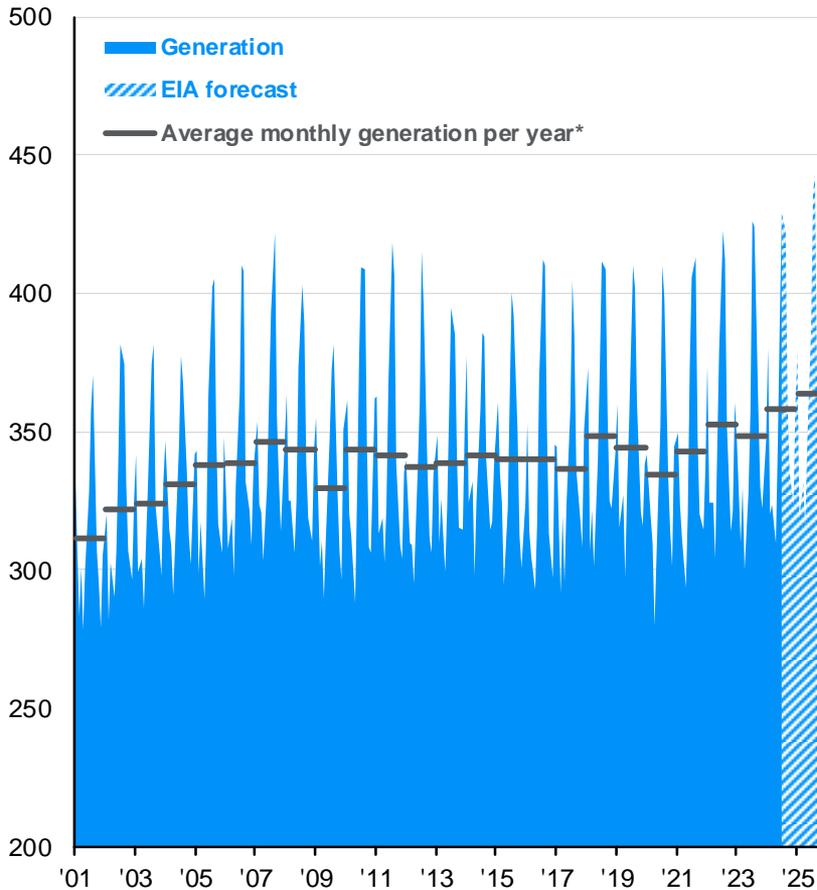
Guide to the Markets – U.S. Data are as of September 30, 2024.



# U.S. electricity production and consumption

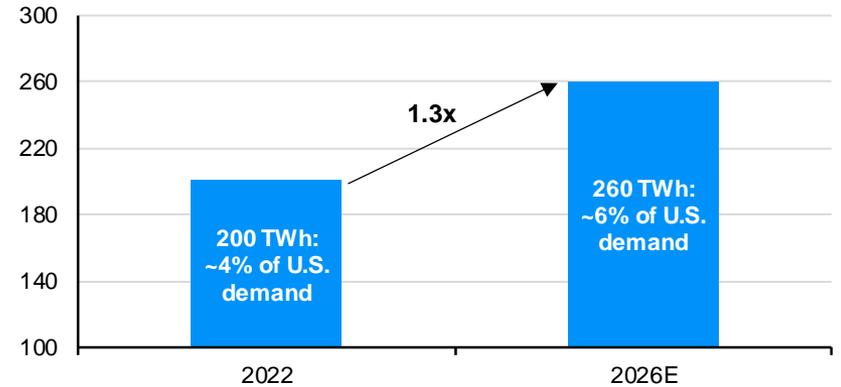
## U.S. electricity generation

Net generation, Terawatt-hour (TWh), monthly



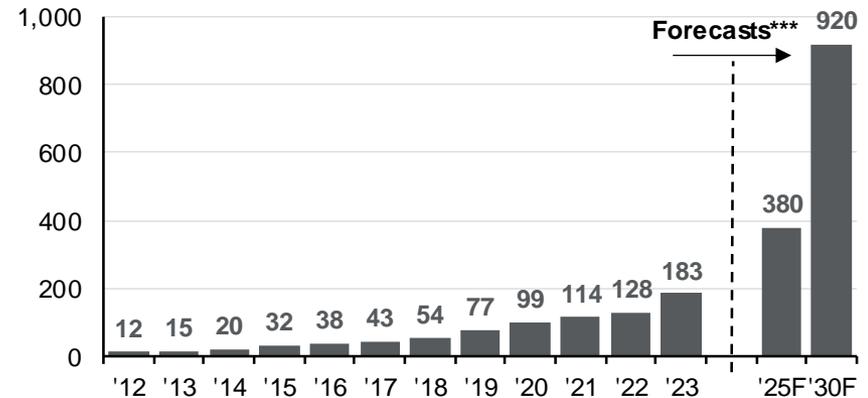
## U.S. electricity demand from data centers

Terawatt-hour (TWh), 2022-2026\*\*



## Number of electric vehicle charging points in the U.S.

Thousands



Source: J.P. Morgan Asset Management; (Left) EIA; (Top and bottom right) IEA.

\*Forecasts are from the September 2024 EIA Short-Term Energy Outlook. 2024 and 2025 averages include forecasted data. \*\*Estimates are from the IEA Electricity 2024 Analysis and forecast to 2026. \*\*\*Forecasts are from the International Energy Agency (IEA) – Global EV Outlook 2024 and are made assuming its "STEPS" outlook. The State Policies Scenario (STEPS) outlook from the IEA does not assume governments will meet announced policy goals and instead looks at what the IEA considers feasible given current progress.

Guide to the Markets – U.S. Data are as of September 30, 2024.

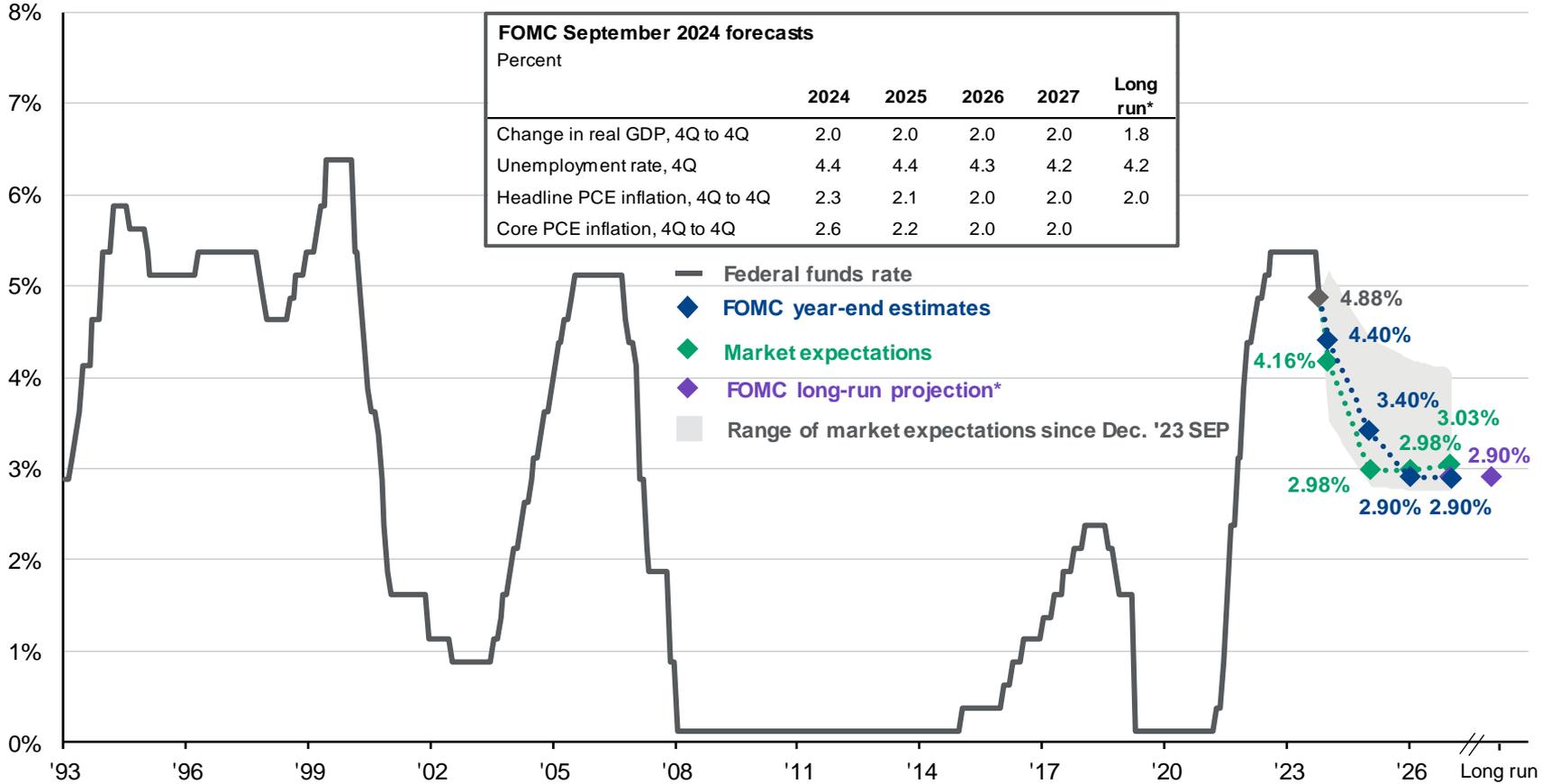


# The Fed and interest rates

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, 2024.

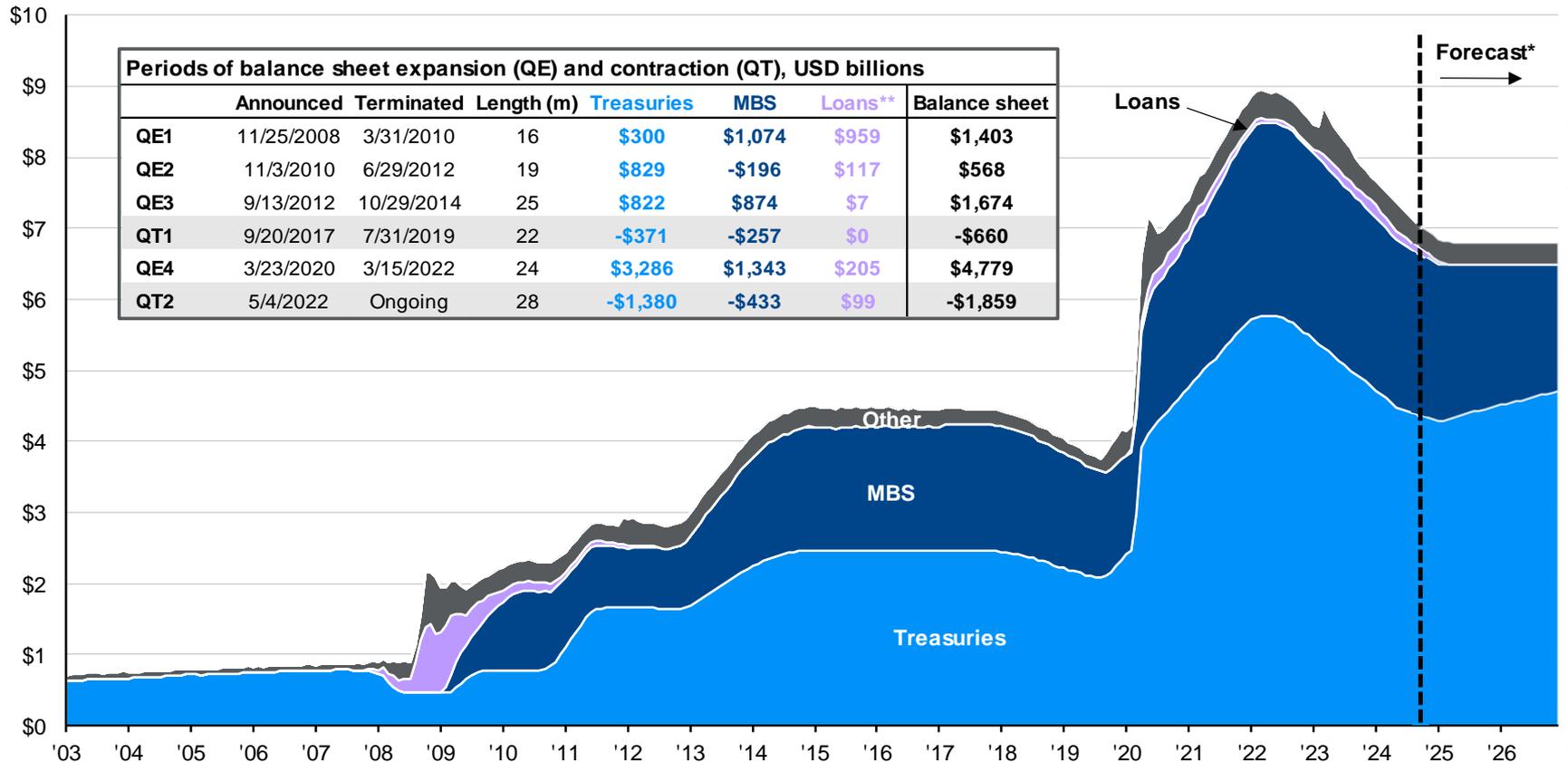


# The Federal Reserve balance sheet

Fixed Income

## The Federal Reserve balance sheet

USD trillions



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

Total Fed assets represents total assets on the Federal Reserve's balance sheet excluding eliminations from consolidation. \*The Federal Reserve began balance sheet run-off (quantitative tightening) in June 2022. Beginning in June 2024, the committee slowed the pace of QT to a cap of \$25bn for Treasuries and \$35bn for MBS. The forecast assumes this pace is maintained through January 2025. Thereafter, we assume the committee will conclude QT and purchase securities in the amount to keep the balance sheet level. We also assume the committee will allow MBS securities to continue to mature and reinvest maturing MBS and Treasuries into Treasury only securities to maintain a stable balance sheet. The forecast does not include the active selling of securities from the committee. \*\*Loans include liquidity and credit extended through facilities established as a result of a financial or systemic crisis. Loan amount in the table represents the peak facility usage on the Fed's balance sheet during the defined periods of quantitative easing, the minimum facility usage during periods of quantitative tightening and facility usage at the most recent month-end for the current period. Other includes primary, secondary and seasonal loans, other credit extensions, repurchase agreements, foreign currency reserves, liquidity swaps, gold and other assets. 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. Analysis is based on month-end data.

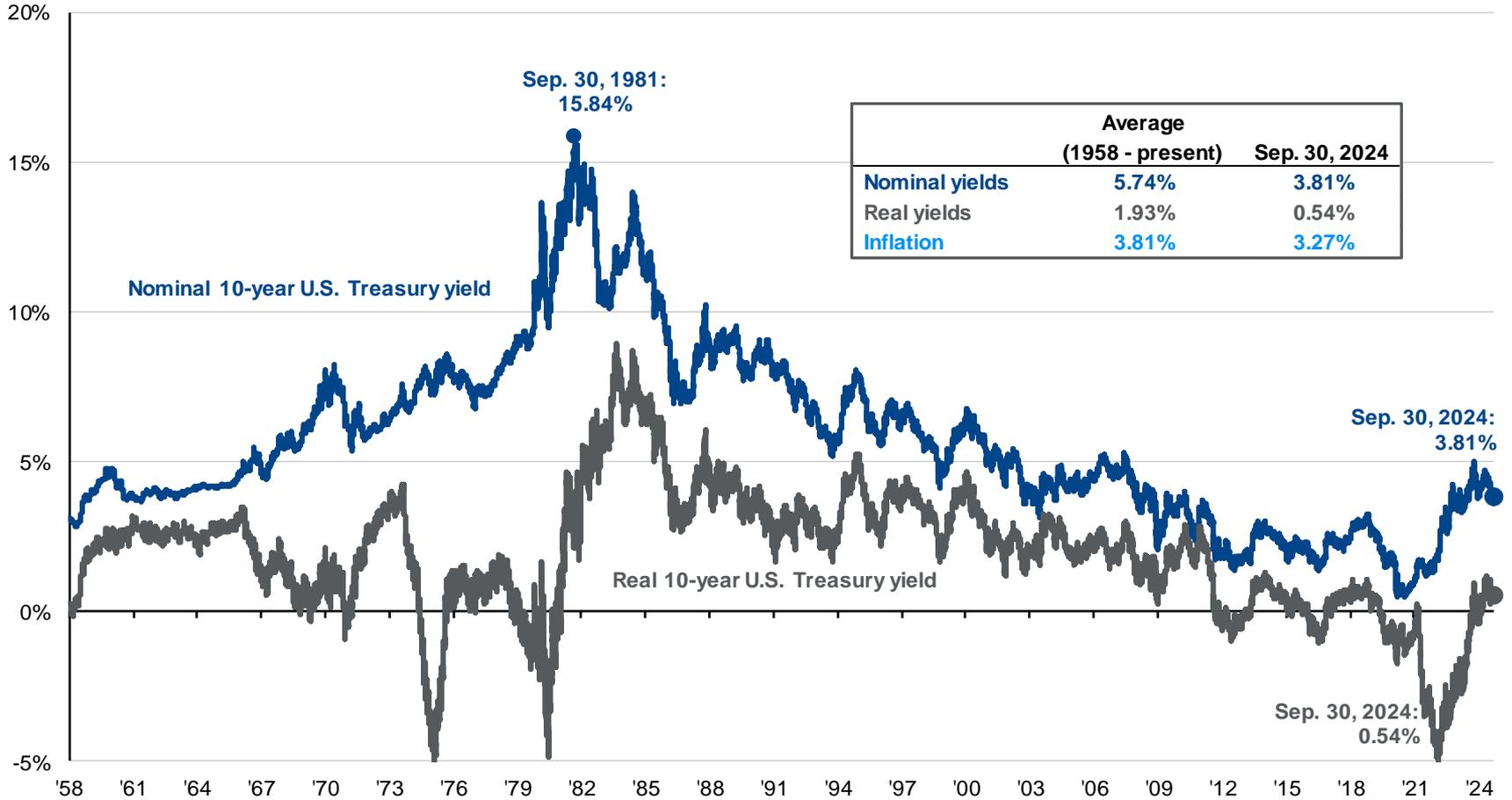
Guide to the Markets - U.S. Data are as of September 30, 2024.



# 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 are available. *Guide to the Markets – U.S.* Data are as of September 30, 2024.



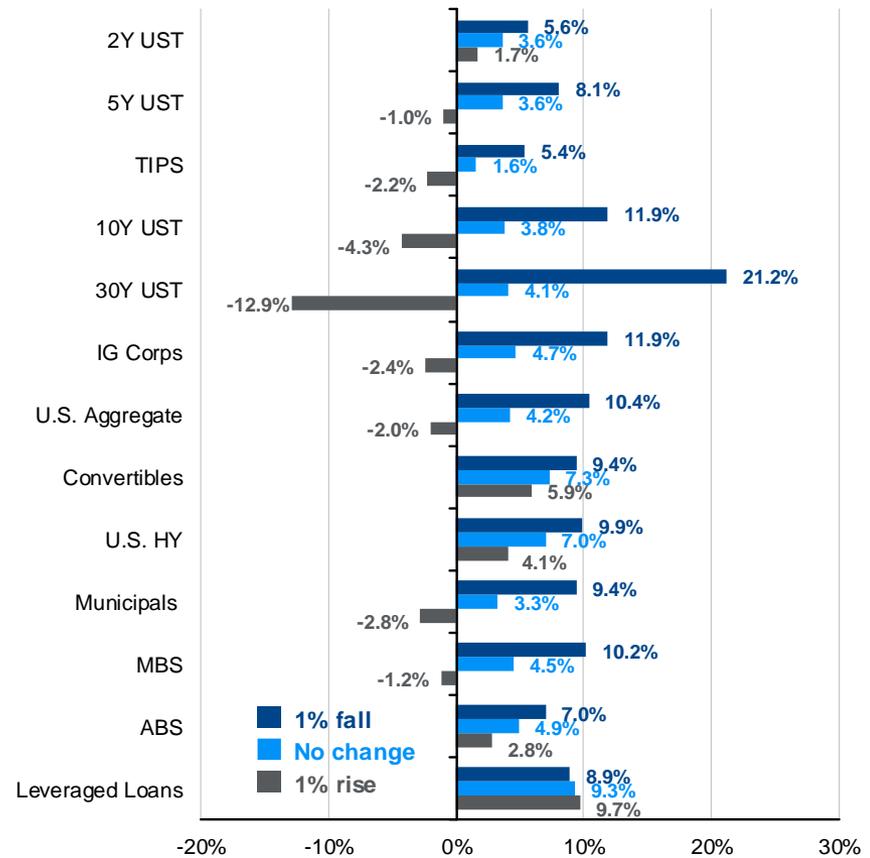
# Fixed income market dynamics

Fixed Income

U.S. Treasuries	Yield		Return			
	9/30/2024	12/31/2023	2024 YTD	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
<b>2-Year</b>	3.66%	4.23%	3.99%	2 years	0.75	0.00
<b>5-Year</b>	3.58%	3.84%	3.99%	5	0.94	-0.03
<b>TIPS</b>	1.56%	1.72%	4.85%	7.4	0.73	0.33
<b>10-Year</b>	3.81%	3.88%	3.65%	10	1.00	-0.08
<b>30-Year</b>	4.14%	4.03%	1.42%	30	0.93	-0.12
<b>Sector</b>						
<b>U.S. Aggregate</b>	4.23%	4.53%	4.45%	8.4	0.89	0.24
<b>IG Corps</b>	4.72%	5.06%	5.32%	10.9	0.68	0.46
<b>Convertibles</b>	7.28%	7.26%	8.11%	-	-0.06	0.86
<b>U.S. HY</b>	6.99%	7.59%	8.00%	4.8	0.06	0.78
<b>Municipals</b>	3.32%	3.22%	2.30%	13.6	0.71	0.25
<b>MBS</b>	4.53%	4.68%	4.50%	7.0	0.81	0.25
<b>ABS</b>	4.93%	5.65%	6.12%	2.4	0.38	0.23
<b>Leveraged Loans</b>	9.33%	10.59%	6.76%	4.6	-0.24	0.61

## Fixed income returns in different interest rate scenarios

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; IG 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. Yields shown for TIPS are real yields. Sector yields reflect yield-to-worst. Leveraged loan yields reflect the yield to 3Y takeout. Correlations are based on 15-years of monthly returns for all sectors. ABS returns prior to June 2012 are sourced from Bloomberg. Past performance is not indicative of future results.

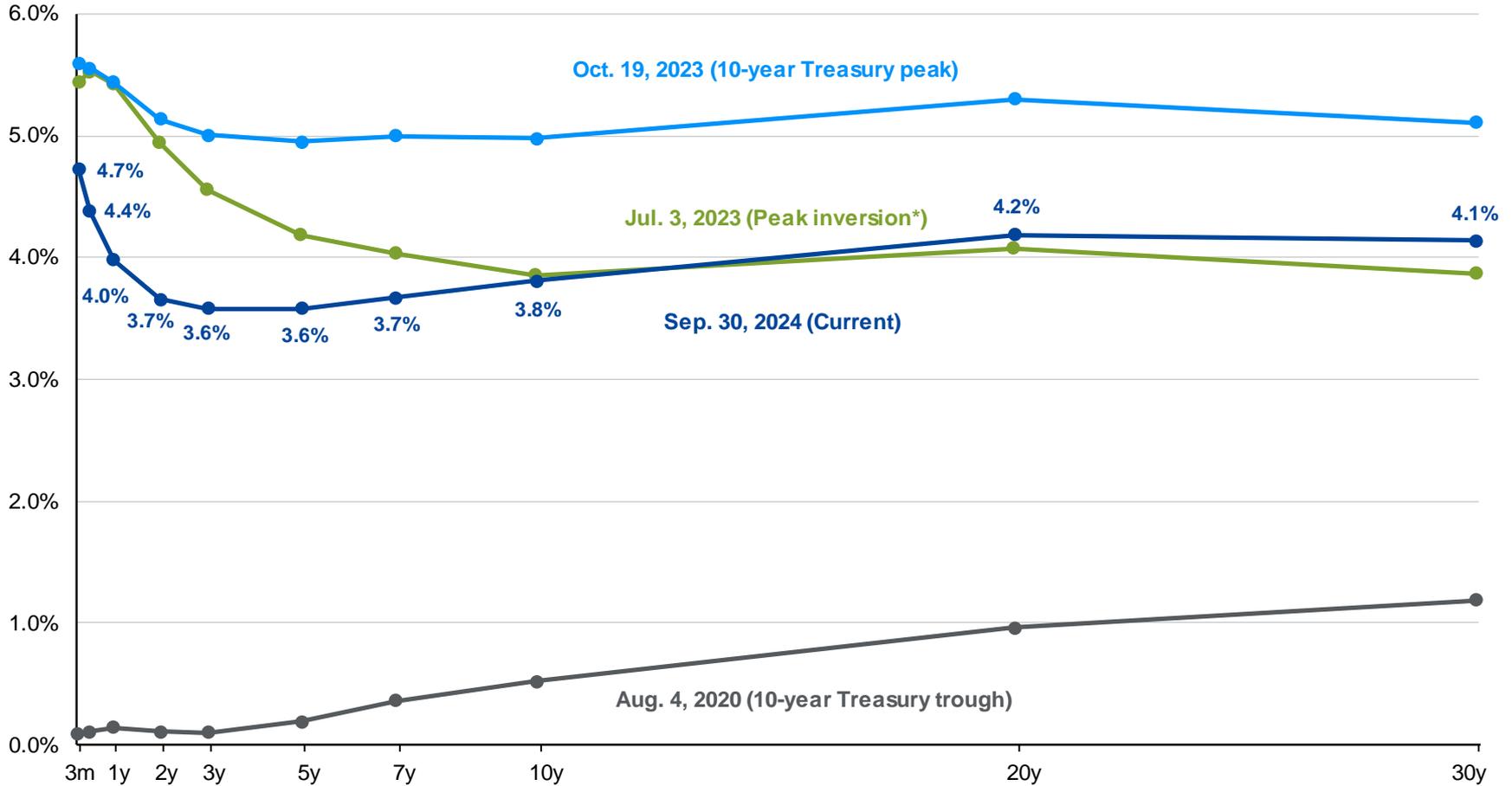
Guide to the Markets - U.S. Data are as of September 30, 2024.



# Yield curve

Fixed Income

## U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Analysis references data back to 2020. \*Peak inversion is measured by the spread between the yield on a 10-year Treasury and 2-year Treasury.  
 Guide to the Markets – U.S. Data are as of September 30, 2024.



# 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 a 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.

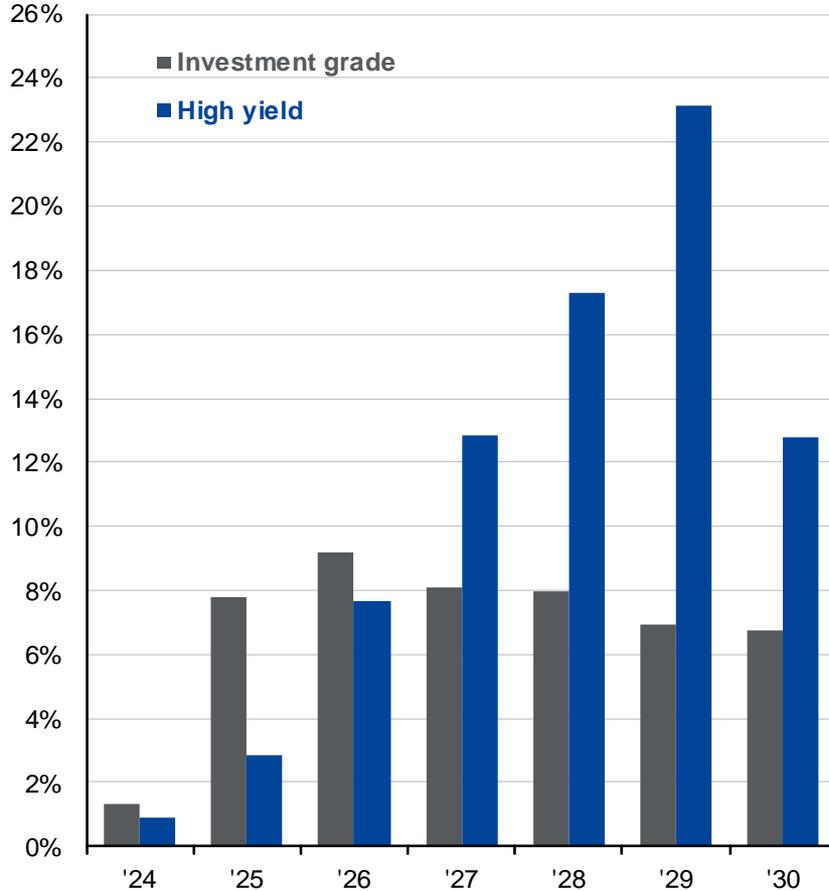
Guide to the Markets – U.S. Data are as of September 30, 2024.



# Credit maturity and default risks

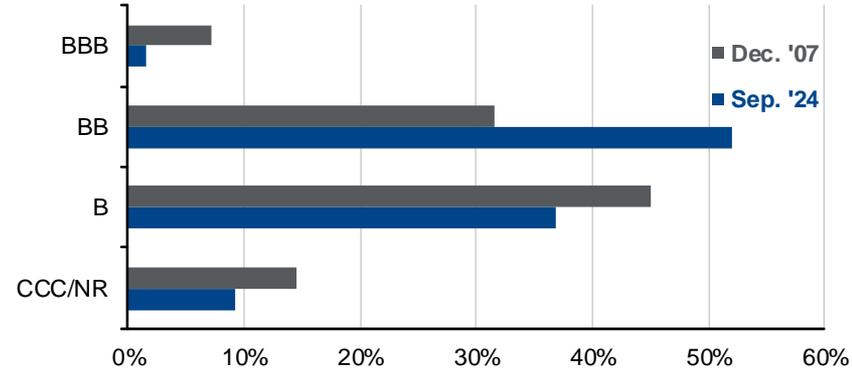
## U.S. credit maturity schedule

% of bond index maturing in each year



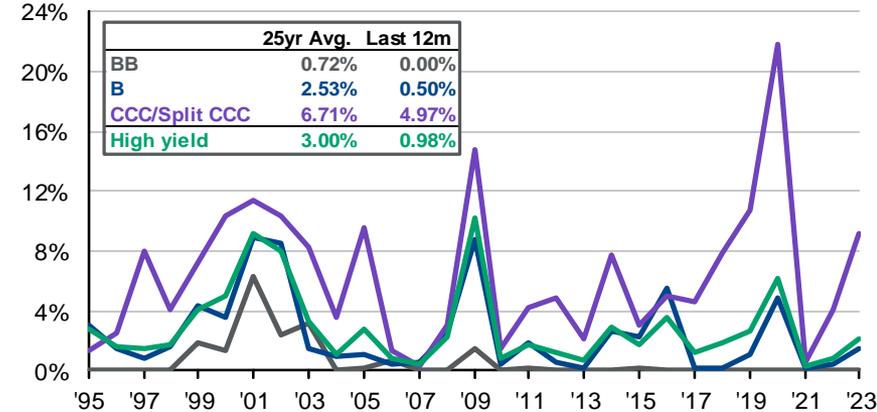
## Index weighting by credit rating

%, J.P. Morgan Domestic High Yield Index



## U.S. high yield default rates

By credit rating



Source: Bloomberg, J.P. Morgan Research, J.P. Morgan Asset Management.  
 U.S. Investment Grade: Bloomberg U.S. Corporate Bond Index, Bloomberg U.S. Corporate Bond 0-1 Year Index; U.S. High Yield: Bloomberg U.S. High Yield Bond Index, Bloomberg U.S. Corporate High Yield Bond 0-1 Year Index. The Bloomberg U.S. Corporate and High Yield Bond 0-1 Year Bond Indices are used to capture bonds that mature in less than one year and are not captured in the broader index due to maturity guidelines. Past performance is not a reliable indicator of current and future results. Last 12-month default rates are as of most recent month for which data are available. Default rates shown do not include distressed exchanges and are grouped by rating 12 months prior to default. Bond ratings include split ratings. "NR" stands for not rated.  
 Guide to the Markets – U.S. Data are as of September 30, 2024.

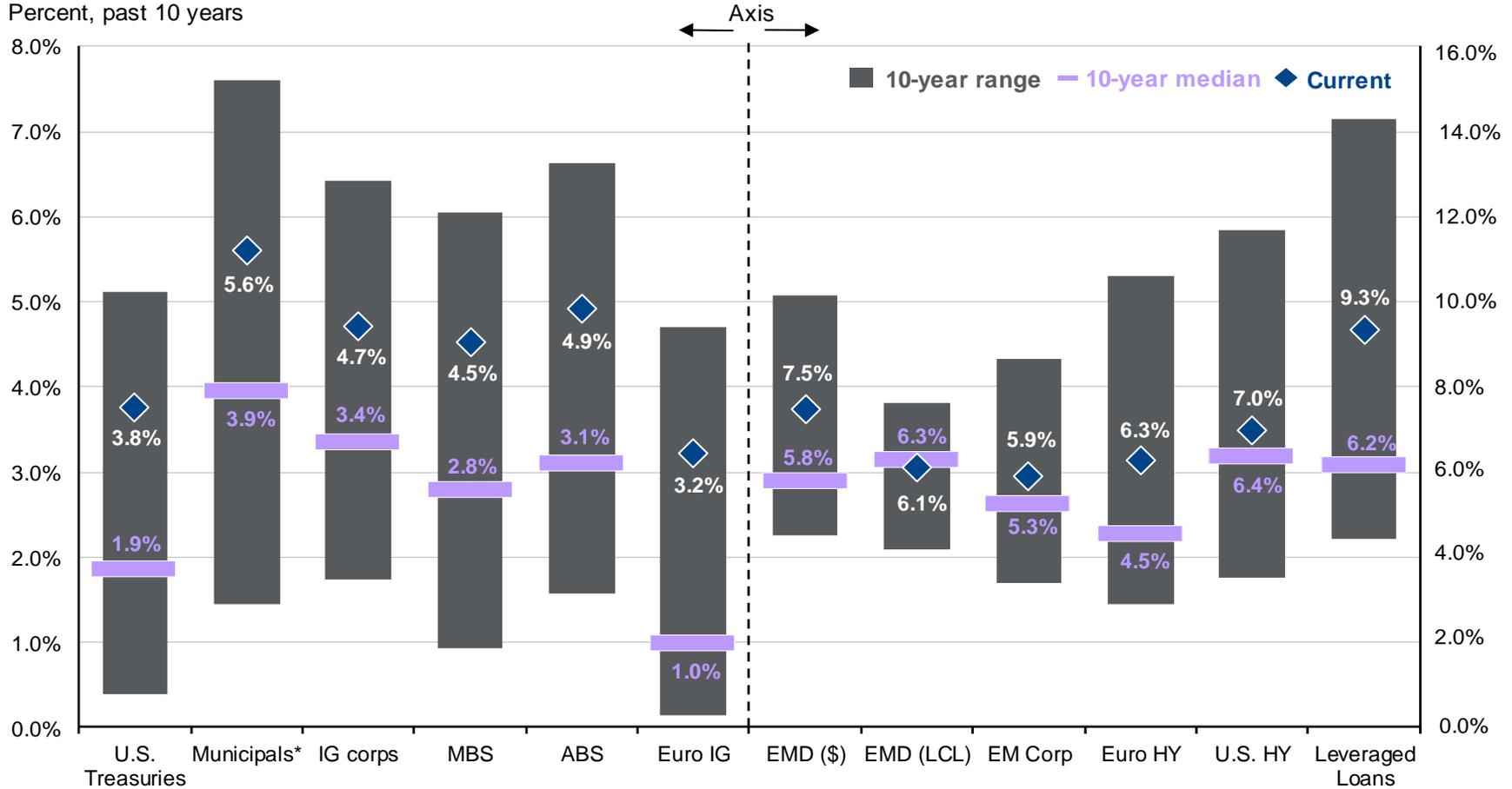


# Fixed income yields

Fixed Income

## Yield-to-worst across fixed income sectors

Percent, past 10 years



Source: Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management

Indices used are Bloomberg unless stated otherwise: ABS: J.P. Morgan ABS Index; 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 and considers factors like call provisions, prepayments and other features that may affect the bonds' cash flows. \*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, 2024.



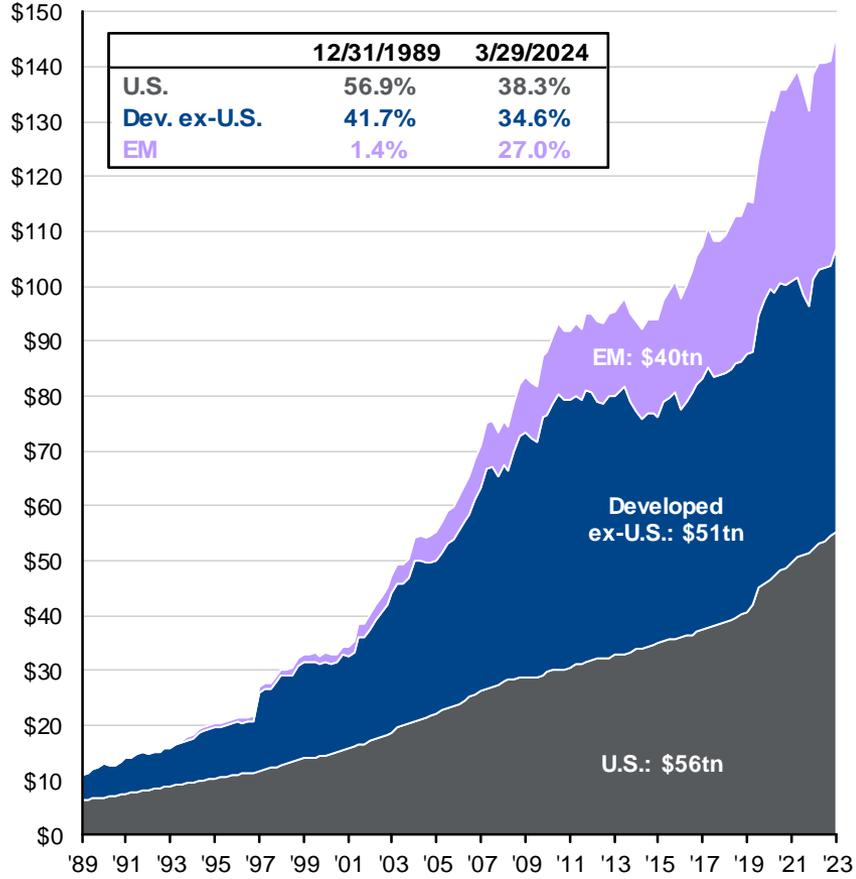
# Global fixed income

Fixed Income

Aggregates	Yield		2024 Return		Duration	Correlation to U.S. 10yr
	9/30/2024	12/31/2023	Local	USD		
<b>U.S.</b>	4.23%	4.53%	4.45%	4.45%	6.2 years	0.92
<b>Gbl. ex-U.S.</b>	2.74%	2.87%	-	3.07%	7.0	0.65
<b>Japan</b>	1.02%	0.76%	-1.38%	-2.80%	9.1	0.65
<b>Germany</b>	2.57%	2.73%	2.26%	3.32%	6.3	0.58
<b>UK</b>	4.23%	4.10%	0.00%	5.22%	8.1	0.56
<b>Italy</b>	3.07%	3.40%	4.74%	5.82%	6.2	0.45
<b>China</b>	2.05%	2.62%	5.03%	6.17%	6.1	0.55
<b>Sector</b>						
<b>Euro Corp.</b>	3.22%	3.56%	3.83%	4.90%	4.4 years	0.46
<b>Euro HY</b>	6.29%	7.35%	7.00%	8.10%	3.1	0.06
<b>EMD (USD)</b>	7.49%	7.84%	-	8.64%	6.1	0.38
<b>EMD (LCL)</b>	6.11%	6.19%	5.75%	4.95%	5.3	0.26
<b>EM Corp.</b>	5.92%	6.81%	-	8.50%	5.2	0.28

## Global bond market

USD trillions



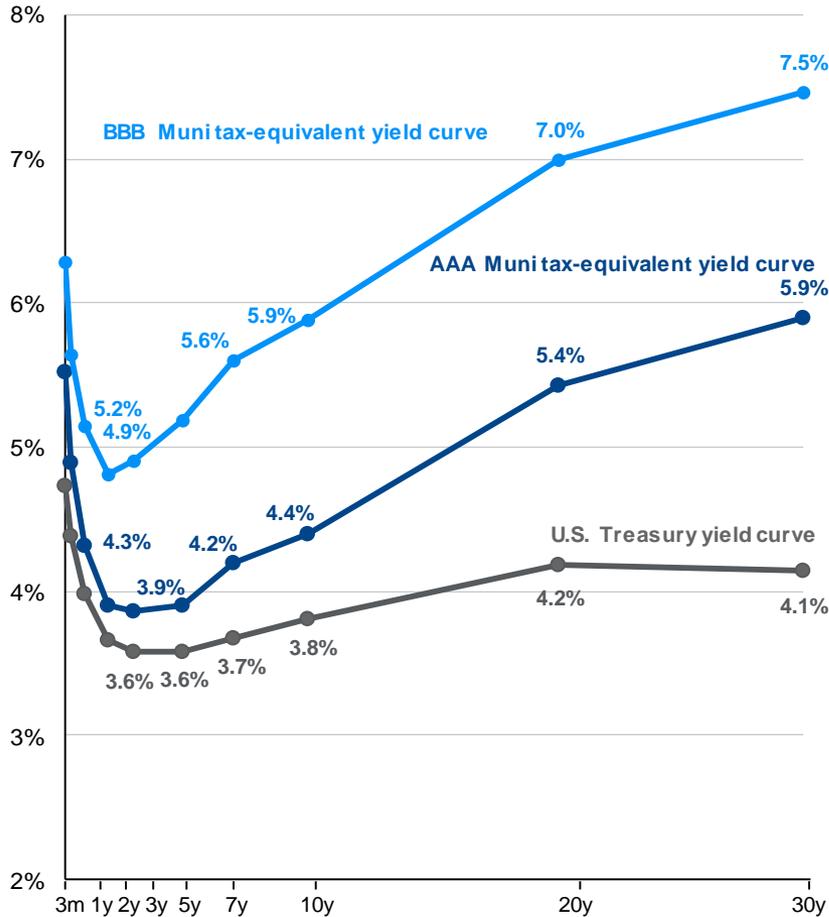
Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet; (Right) BIS.  
 Fixed income sectors shown above are provided by Bloomberg and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the 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. Countries included in the emerging market debt calculation are those represented in the J.P. Morgan EMB Index suite for which the BIS has data. 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, 2024.



# Municipal finance

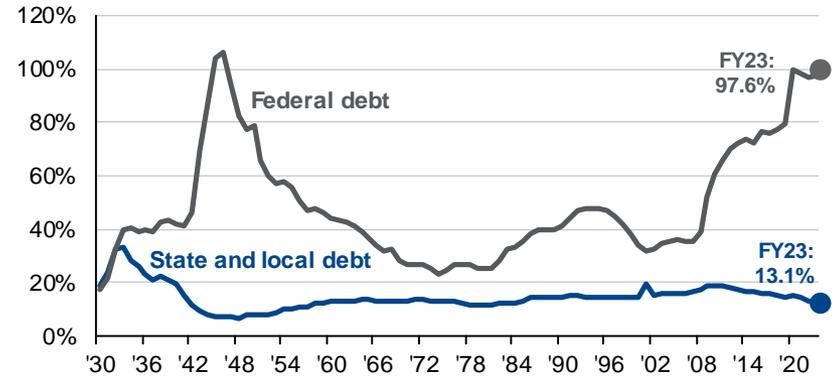
Fixed Income

## Muni tax-equivalent and Treasury yield curves



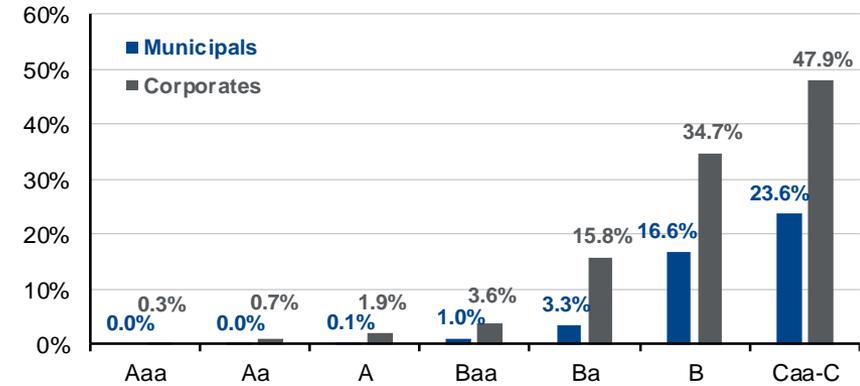
## State and local and federal net debt

% of GDP, 1930-2023, 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, 2024.

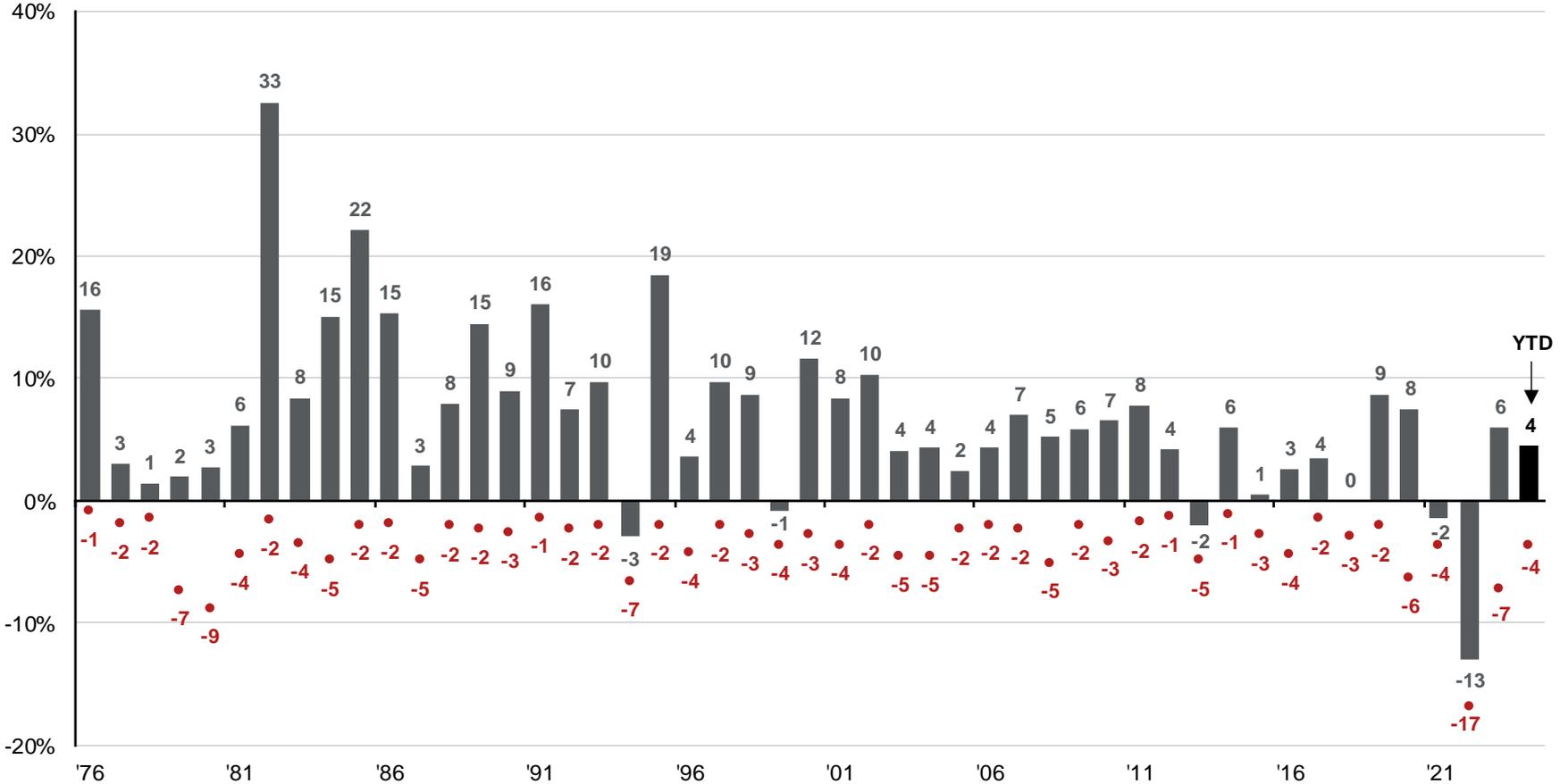


# Bloomberg U.S. Agg. annual returns and intra-year declines

Fixed Income

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

Despite average intra-year drops of 3.5%, annual returns were positive in 43 of 48 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 2023, 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, 2024.

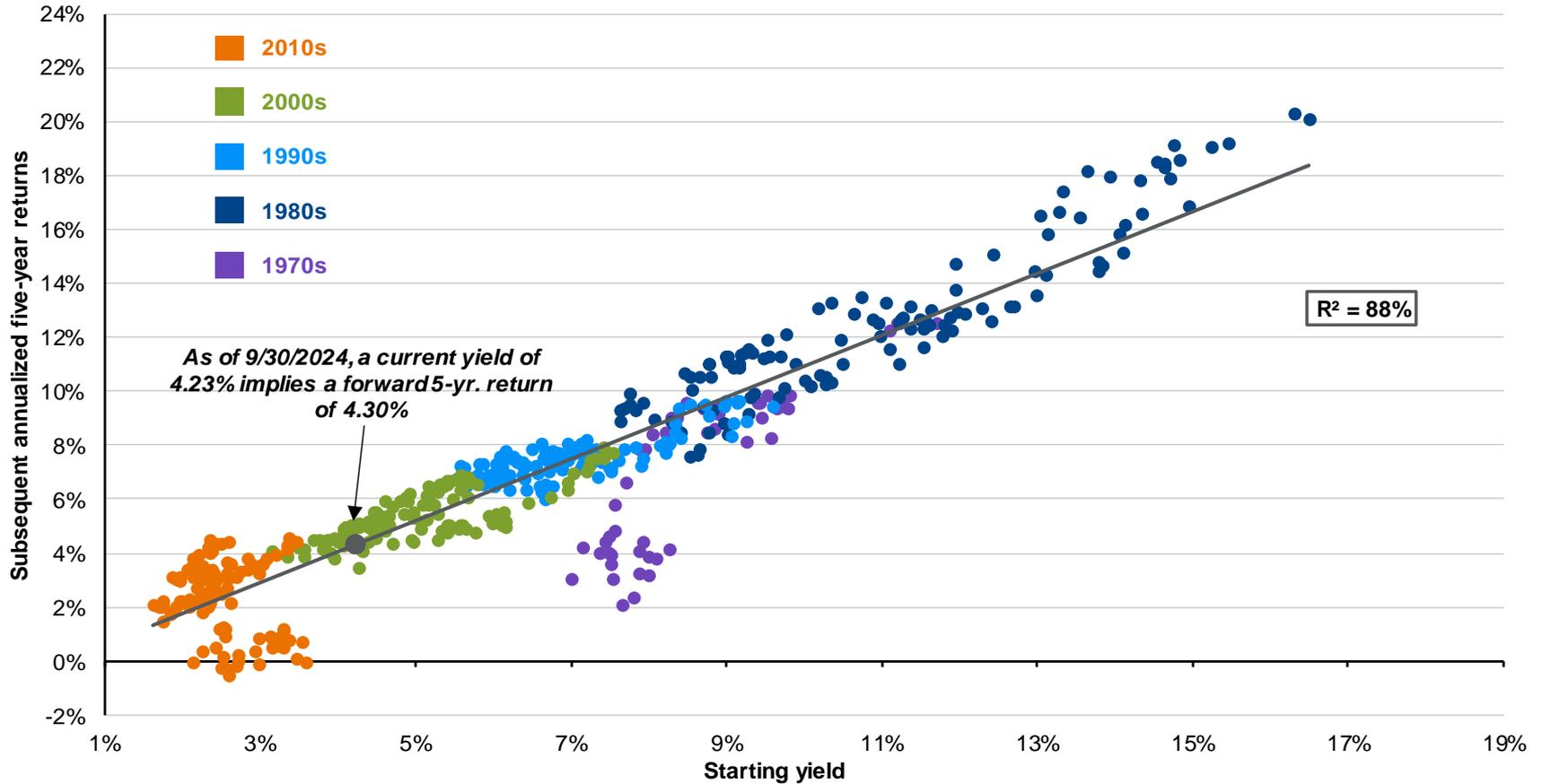


# Fixed income yields and forward returns

Fixed Income

## Yield-to-worst and subsequent 5-year annualized returns

Bloomberg U.S. Aggregate Total Return Index



Source: Bloomberg, FactSet, J.P. Morgan Asset Management. Returns are 60-month annualized total returns, measured monthly, beginning 1/31/1976. R<sup>2</sup> represents the percent of total variation in total returns that can be explained by yields at the start of each period. Guide to the Markets – U.S. Data are as of September 30, 2024.



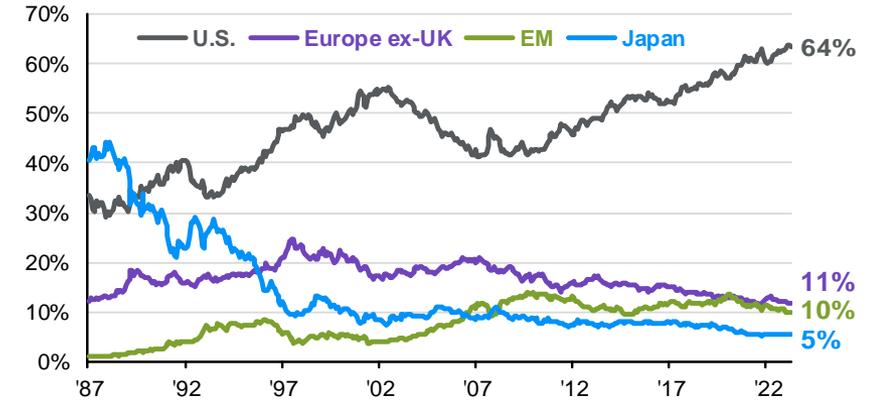
# Global equity markets

International

Returns	YTD 2024		2023		15-years	
	Local	USD	Local	USD	Ann.	Beta
<b>Regions</b>						
U.S. (S&P 500)	-	22.1	-	26.3	14.1	1.0
AC World ex-U.S.	14.7	14.7	14.7	16.2	6.0	1.0
EAFE	12.5	13.5	16.8	18.9	6.5	1.0
Europe ex-UK	12.1	12.8	17.3	22.7	6.9	1.1
Emerging markets	18.7	17.2	10.3	10.3	4.5	1.0
<b>Selected Countries</b>						
Japan	14.4	12.7	29.0	20.8	6.4	0.7
United Kingdom	9.7	15.4	7.7	14.1	5.8	1.0
France	5.1	6.2	18.1	22.3	6.7	1.2
Canada	17.4	14.6	13.3	16.4	6.4	1.1
Germany	16.5	17.7	19.8	24.0	6.2	1.3
China	28.8	29.6	-10.6	-11.0	3.7	0.9
Taiwan	34.7	30.6	31.1	31.3	12.3	1.0
India	26.7	25.8	22.0	21.3	8.2	0.9
Brazil	-1.5	-12.6	22.7	33.4	-0.3	1.3

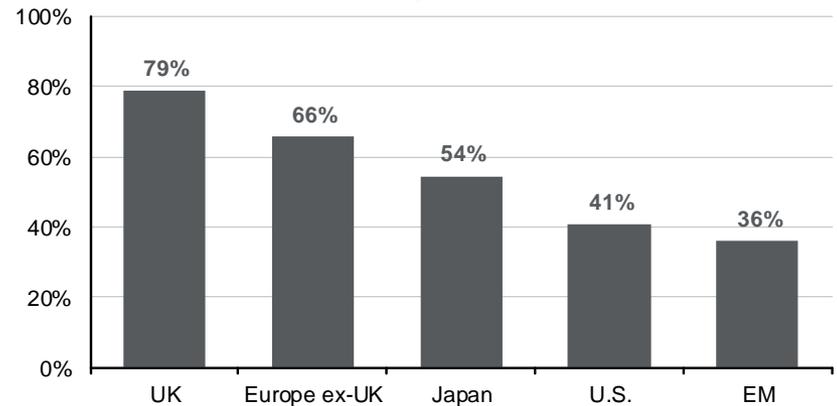
## Share of global market capitalization

% weight in the MSCI All Country World Index, USD, monthly



## Revenue exposure vs. country of listing

% of total revenue derived from foreign countries



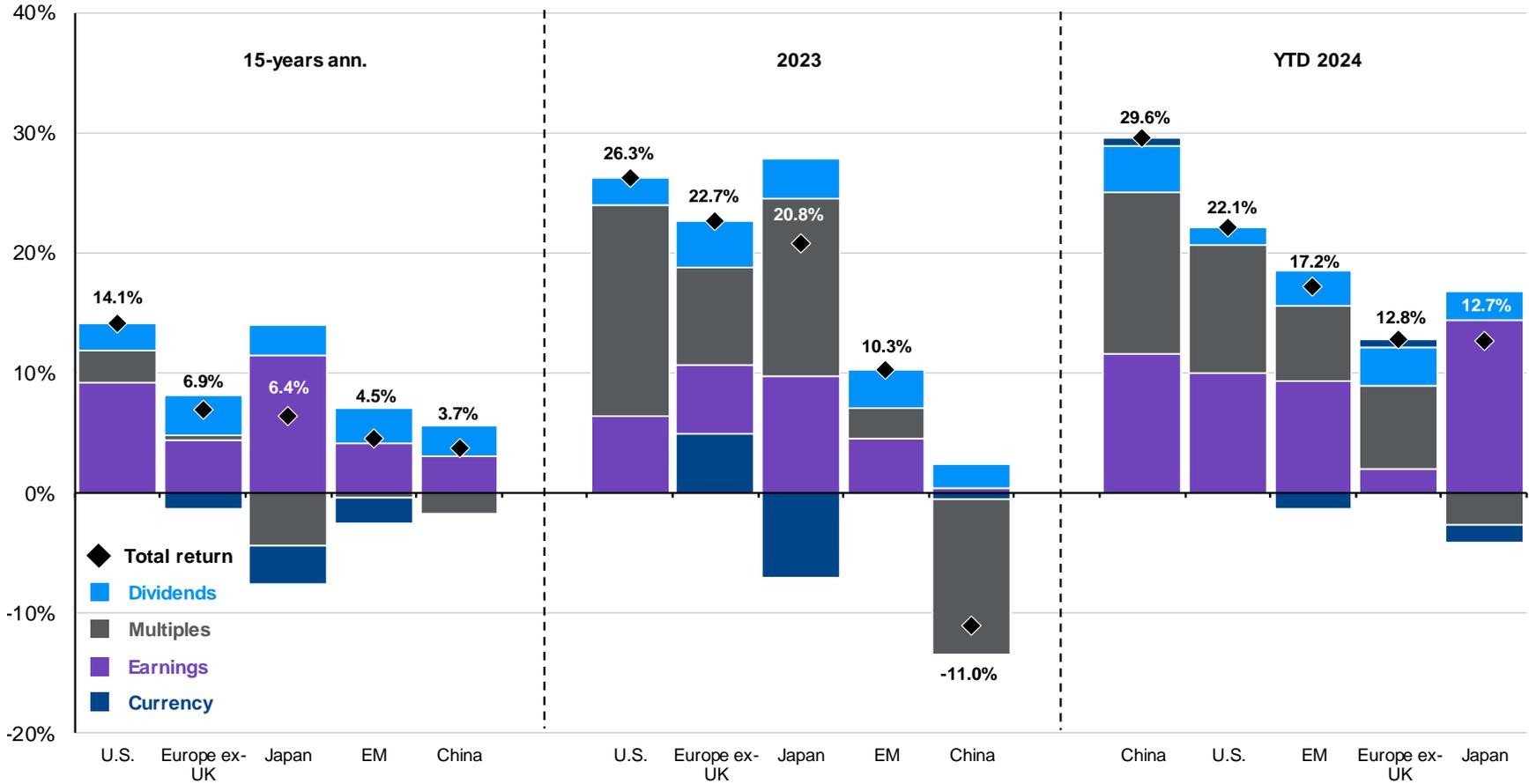
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. (Left) All return values are MSCI Total Return Index (Gross) data. 15-year history based on USD returns. 15-year return and beta figures are calculated using a rolling 12-month time period ending with the previous month-end. Beta 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 four. 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 data are as of the previous quarter-end. *Guide to the Markets - U.S.* Data are as of September 30, 2024.



# Global equity return composition

## Sources of global equity returns\*

Total return, USD



International

Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.  
 15-years ann. is a rolling 15-year period ending with the previous month-end. All return values are MSCI Gross Index data, except the U.S., which is the S&P 500. \*Multiple expansion is based on the forward P/E ratio, and EPS growth outlook is based on NTMA earnings estimates. Chart is for illustrative purposes only. Past performance is not indicative of future results.  
 Guide to the Markets – U.S. Data are as of September 30, 2024.



# U.S. dollar cycles

International

## U.S. dollar and interest rate differentials



Source: Bank of Canada, Bank of England, ECB – European Central Bank, FactSet, Federal Reserve Economic Data (FRED), Ministry of Finance of Japan, Riksbank – Central Bank of Sweden. J.P. Morgan Asset Management. The dollar index (DXY Index) is a nominal trade-weighted index of major trading partners' currencies. The currencies of the U.S.'s major trading partners include the British pound, Canadian dollar, euro, Japanese yen, Swedish krona and Swiss franc. The international developed aggregate yield is calculated using the following weights (DXY index weightings): Eurozone – 57.6%, Japan – 13.6%, UK – 11.9%, Canada – 9.1%, Sweden – 4.2%, and Switzerland – 3.6%. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of September 30, 2024.

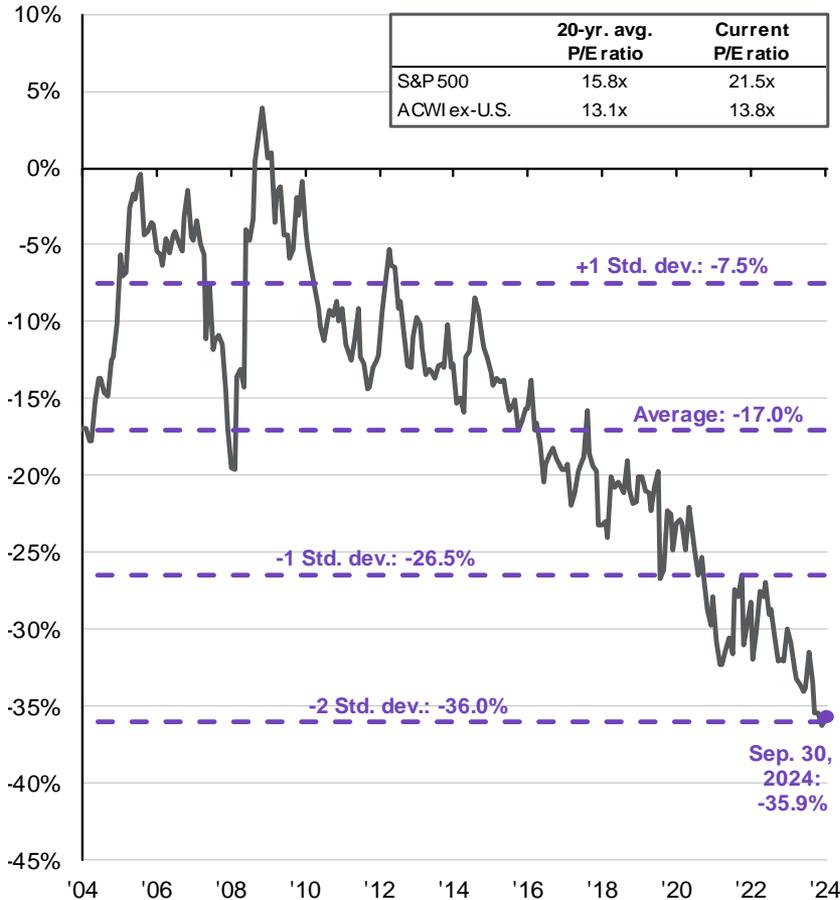


# International valuations and dividend yields

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, 2024.

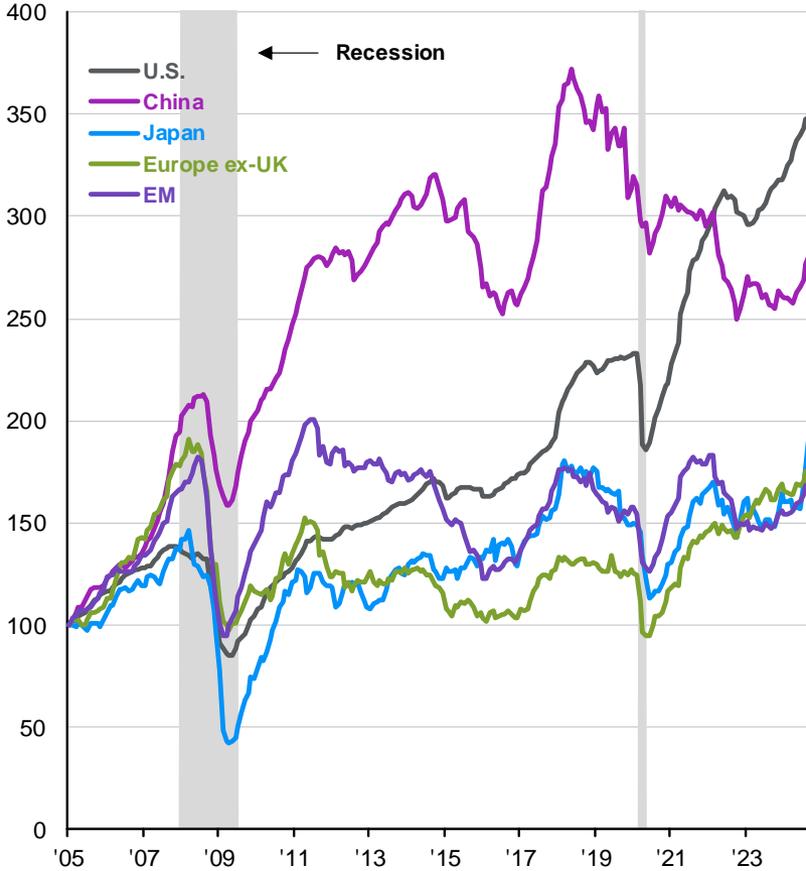


# Global equity earnings and valuations

International

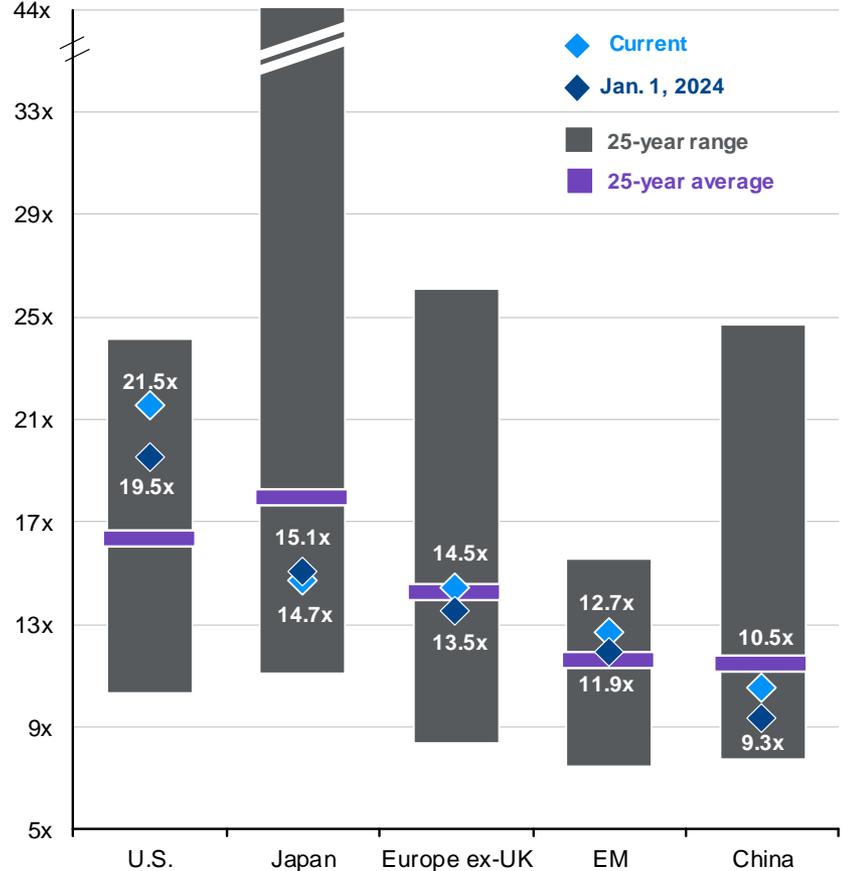
## Global earnings estimates

Jan. 2005 = 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. (Left) Next 12 months consensus estimates are based on pro-forma earnings and are in U.S. dollars. (Right) The purple bars for EM and China show 20-year averages due to a lack of available data. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – U.S.* Data are as of September 30, 2024.

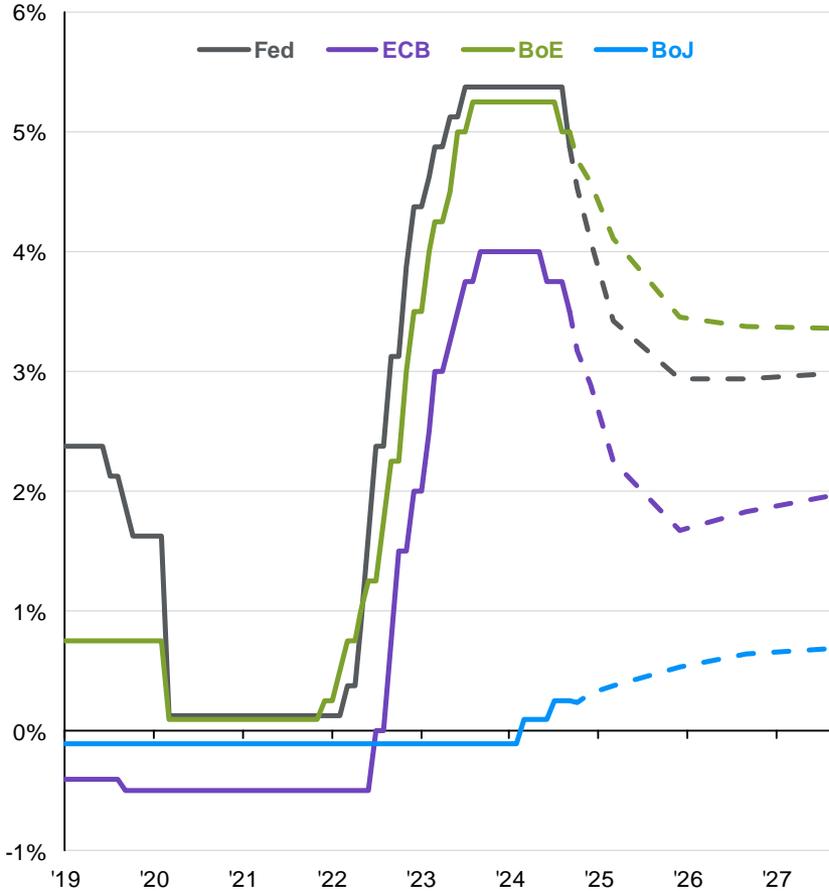


# Interest rates and international developed markets

International

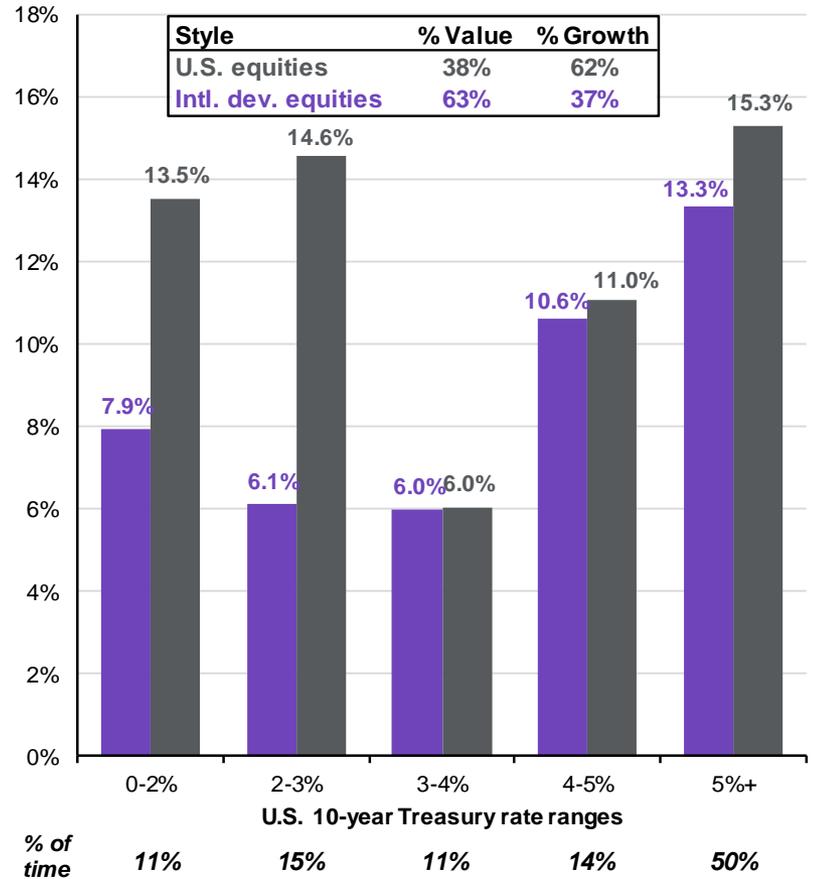
### Historical policy rates and forward curves

Target policy rates and market implied forward rates



### Equity performance in different interest rate environments

Annualized total return by 10-year Treasury rate ranges, USD, 1979 - present



Source: J.P. Morgan Asset Management. (Left) Bank of England (BoE), Bank of Japan (BoJ), BIS, Bloomberg, European Central Bank (ECB), Federal Reserve System (Fed), J.P. Morgan Global Economic Research. Implied policy rates are sourced from Bloomberg and are derived from Overnight Index Swaps. 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. (Right) FactSet, MSCI, Standard & Poor's. U.S. = S&P 500 Index, Intl. dev. = MSCI EAFE Index. Growth includes Communication Services, Health Care, Information Technology and Consumer Discretionary. Value includes Financials, Industrials, Materials, Real Estate, Utilities, Energy and Consumer Staples. Guide to the Markets – U.S. Data are as of September 30, 2024.

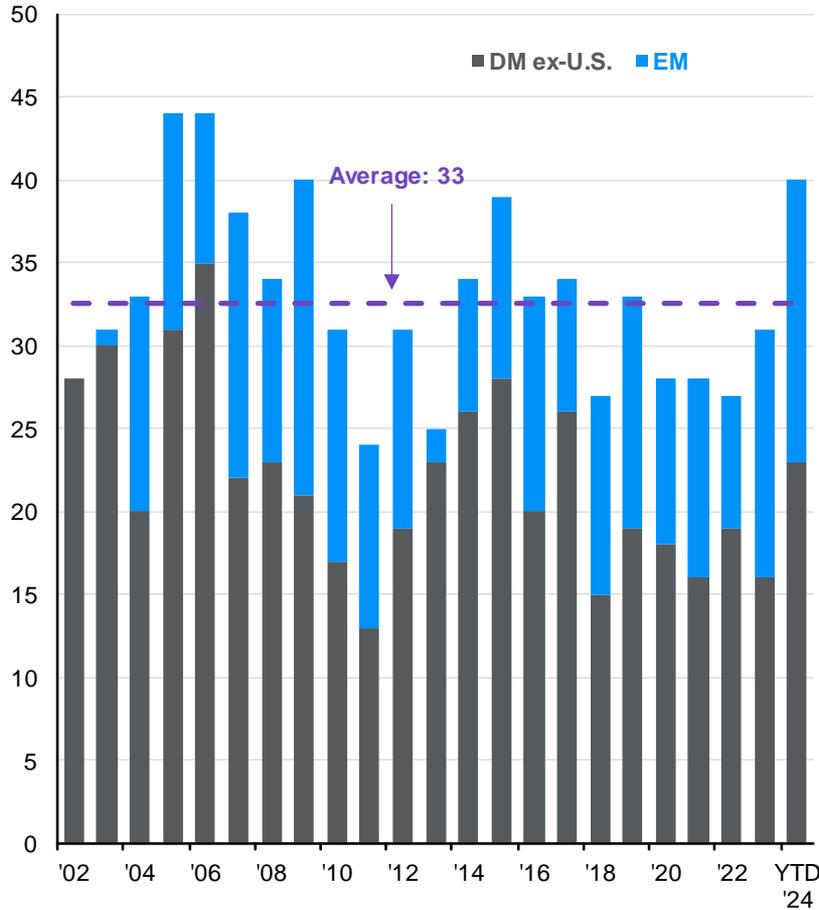


# Global market performance and concentration

International

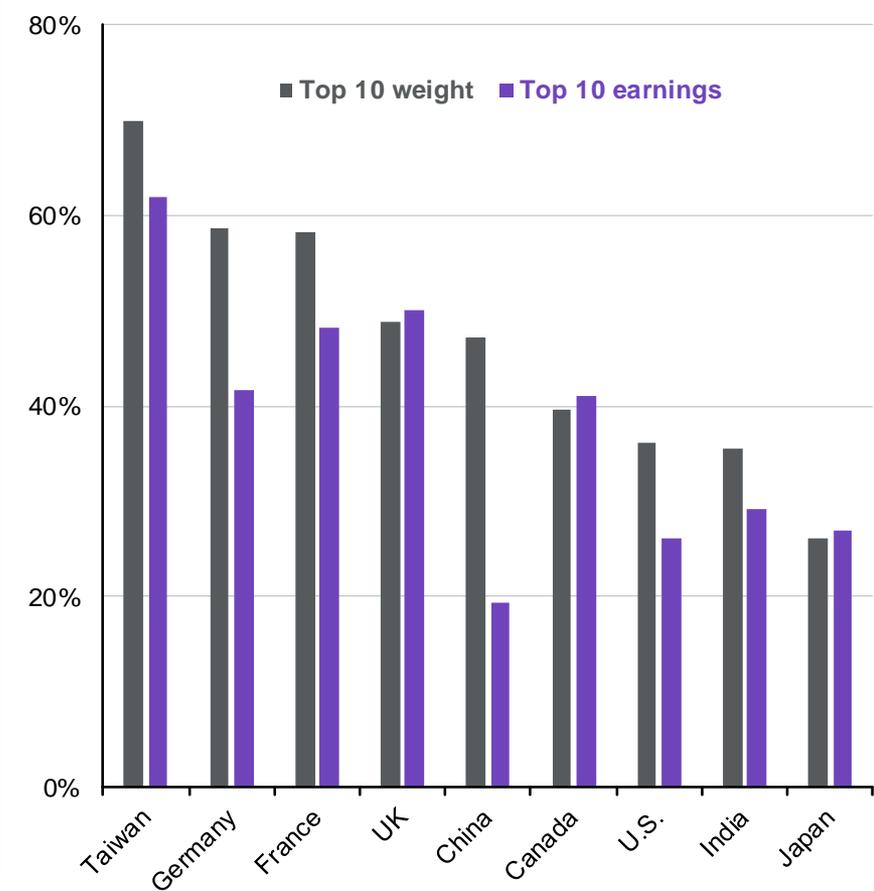
## Top 50 performing companies globally

# of companies listed internationally, MSCI All Country World Index



## Weight of market cap and earnings for top 10 stocks

% of market capitalization, as of latest month-end, LTM earnings



Source: FactSet, MSCI, J.P. Morgan Asset Management. (Left) Graph was made by ranking all the companies in the MSCI All Country World Index by performance on a yearly basis and determining the top 50 performers using their total return in USD. Companies are listed in no particular order. Excluded companies whose market capitalization does not make up at least 0.01% of the MSCI All Country World Index in the year listed. (Right) Standard & Poor's. Uses last 12-month earnings. Different share classes for the same company are grouped together. *Guide to the Markets* – U.S. Data are as of September 30, 2024.

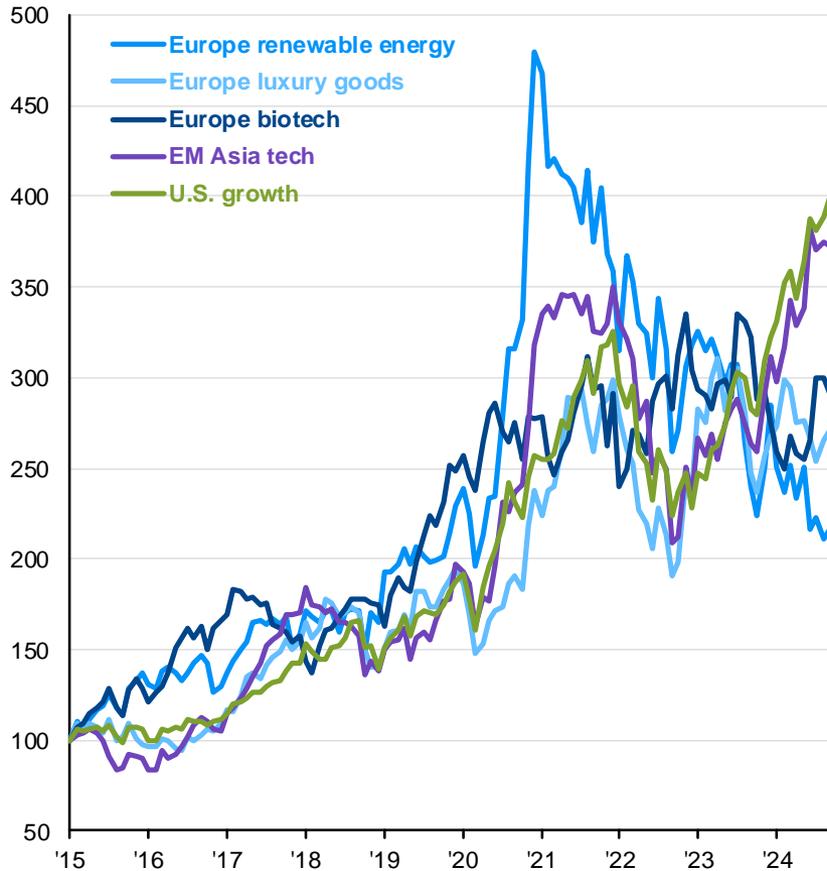


# International market secular themes and trends

International

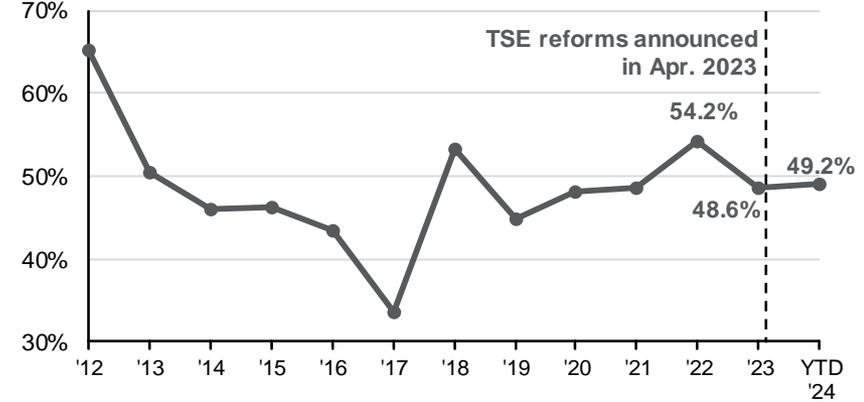
## International growth sectors vs. U.S. growth

Jan. 2015 = 100, total return, U.S. dollars



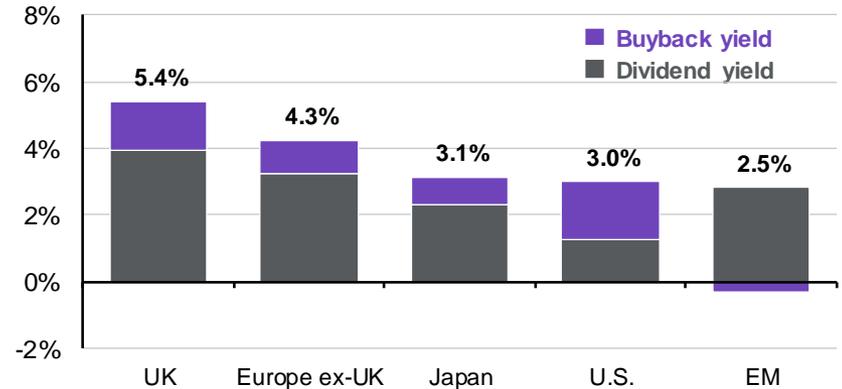
## Japan: Price-to-book ratio

Percent of companies with P/B ratios less than 1x, TOPIX Index



## Global: Buyback and dividend yields

Previous quarter-end\*

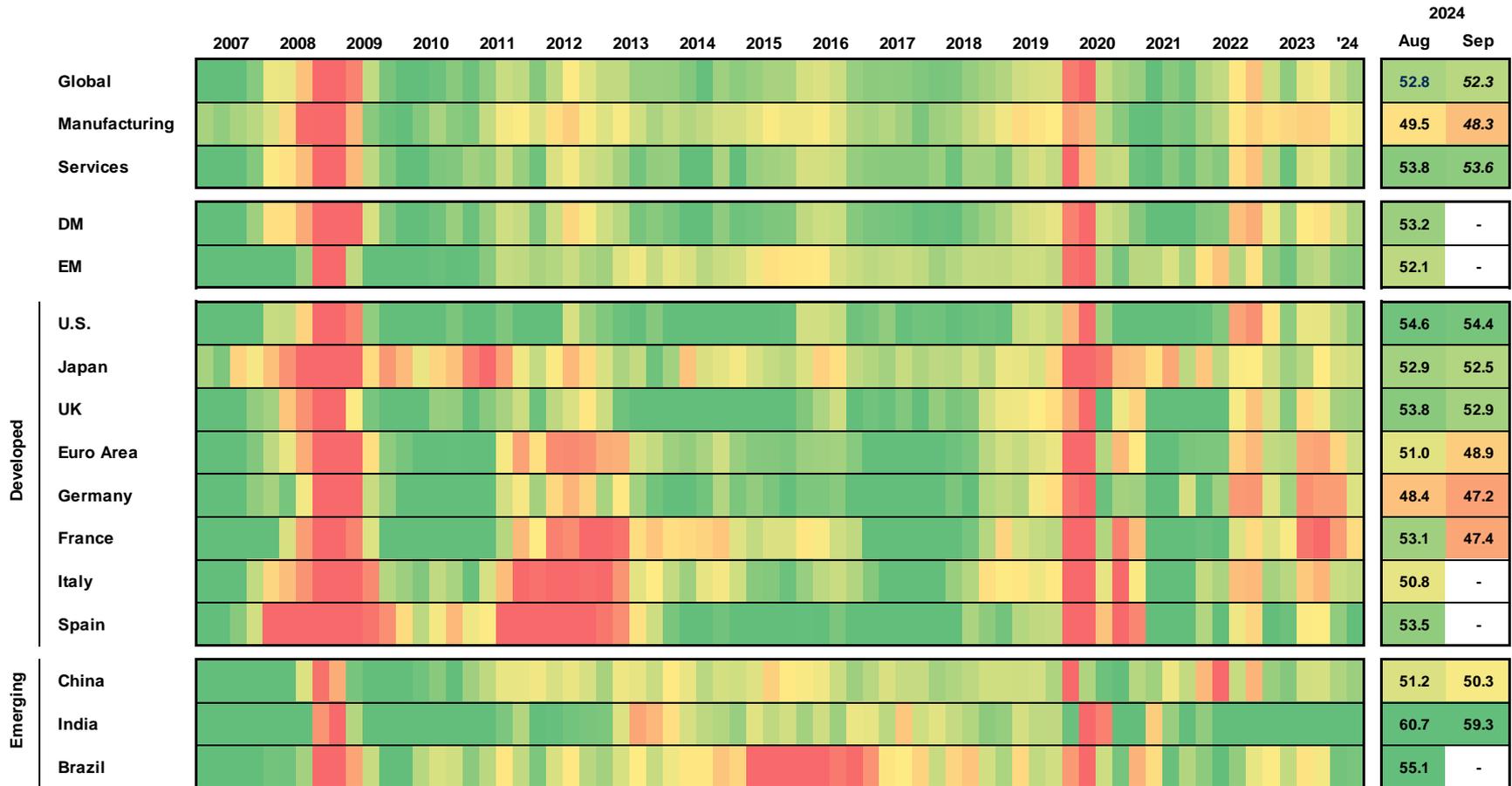


Source: MSCI, J.P. Morgan Asset Management. (Left) Bloomberg, Russell, Societe Generale. EM Asia tech: MSCI EM Asia Information Technology Index, European Luxury Goods: MSCI Europe Textiles Apparel and Luxury Goods Index, U.S. Growth: Russell 1000 Growth Index, European renewables: Societe Generale European Renewable Energy Index, Europe biotech: MSCI Europe Biotechnology Index. (Top right) Bloomberg, TOPIX. TSE stands for Tokyo Stock Exchange. The Tokyo Stock Exchange announced in April 2023 that listed companies that trade below book value must outline a plan to maximize shareholder value and comply with shareholder, liquidity and outside director reforms or face delisting. (Bottom right) \*Total yield for S&P 500 is as of the latest available. Bloomberg, FTSE, LSEG Datastream, Standard & Poor's. U.S.: S&P 500, Europe ex-UK: MSCI Europe ex-UK, UK: FTSE 100, EM: MSCI EM, Japan: TOPIX. Net buyback yield adjusts for share issuance. Past performance is not a reliable indicator of current and future results. Guide to the Markets – U.S. Data are as of September 30, 2024.



# Global economic activity momentum

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



International

Developed

Emerging

Source: J.P. Morgan Economic Research, Standard & Poor's, J.P. Morgan Asset Management. Italicized figures are estimates by J.P. Morgan Asset Management. The Composite PMI includes both manufacturing and services sub-indices. 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, 2024.

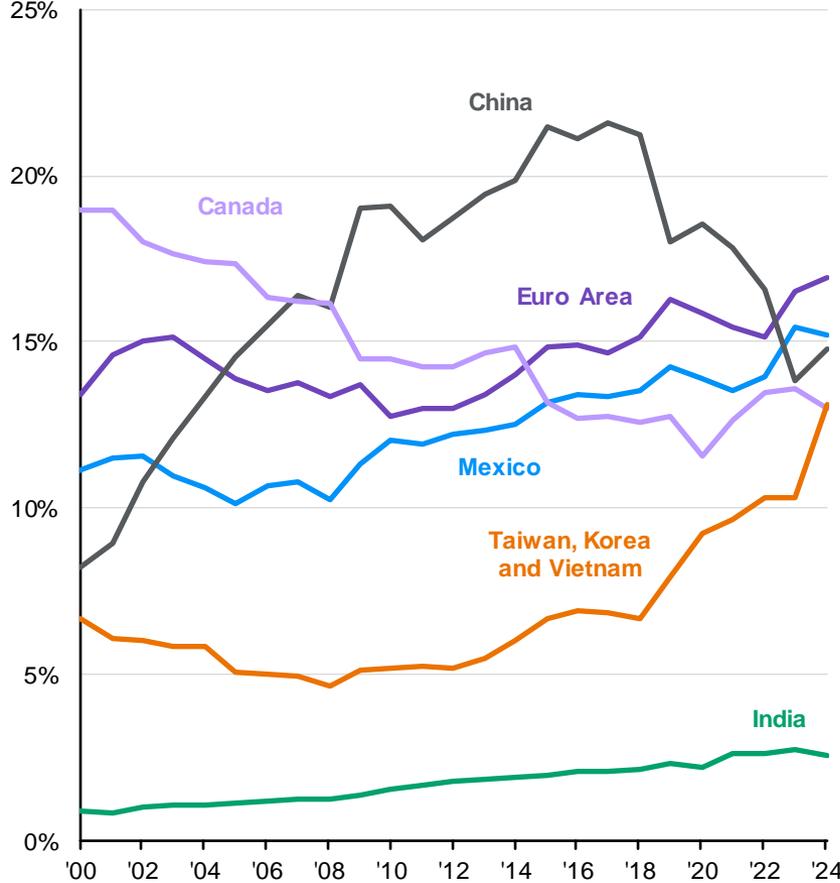


# Global trade patterns and bottlenecks monitor

International

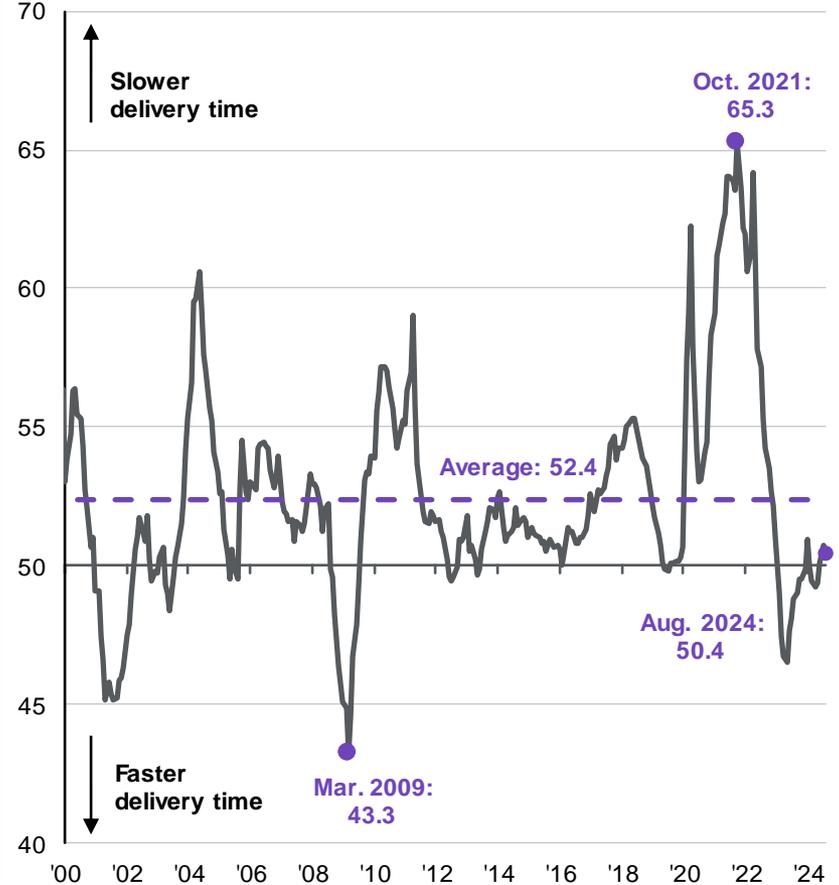
## U.S. goods imports by country

% of total U.S. goods imports, annual and YTD 2024



## Global PMI suppliers' delivery times index\*

Figure shown is 100 - Global PMI suppliers' delivery times index



Source: J.P. Morgan Asset Management. (Left) FactSet, U.S. Census Bureau. (Right) J.P. Morgan Economic Research, S&P Global. \*Participants in Standard & Poor's PMI business surveys, conducted in 44 countries, are asked: "Are your suppliers' delivery times slower, faster or unchanged on average than one month ago?". Index includes the manufacturing and construction sectors. PMI score reflected above is 100 - PMI report by Standard & Poor's. A reading of 50 = no change, <50 = faster delivery time, >50 = slower delivery time. Guide to the Markets - U.S. Data are as of September 30, 2024.



# Correlations and volatility

Alternatives

	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currency.	EMD	Comdty.	REITs	Hedge funds	Private equity	Gold	Ann. Volatility
U.S. Large Cap	1.00	0.89	0.80	0.32	0.86	0.42	-0.47	0.76	0.40	0.78	0.82	0.76	0.24	16%
EAFE		1.00	0.90	0.33	0.86	0.48	-0.62	0.81	0.42	0.67	0.79	0.77	0.31	16%
EME			1.00	0.31	0.83	0.41	-0.69	0.80	0.46	0.55	0.75	0.76	0.40	18%
Bonds				1.00	0.41	0.88	-0.42	0.68	-0.30	0.50	-0.04	0.16	0.60	5%
Corp. HY					1.00	0.48	-0.52	0.88	0.45	0.70	0.76	0.72	0.34	9%
Munis						1.00	-0.46	0.74	-0.26	0.61	0.09	0.28	0.46	5%
Currencies							1.00	-0.62	-0.35	-0.31	-0.28	-0.56	-0.61	5%
EMD								1.00	0.18	0.67	0.54	0.59	0.52	8%
Commodities									1.00	0.25	0.64	0.59	0.19	17%
REITs										1.00	0.56	0.63	0.24	17%
Hedge funds											1.00	0.74	0.09	5%
Private equity												1.00	0.10	7%
Gold													1.00	13%

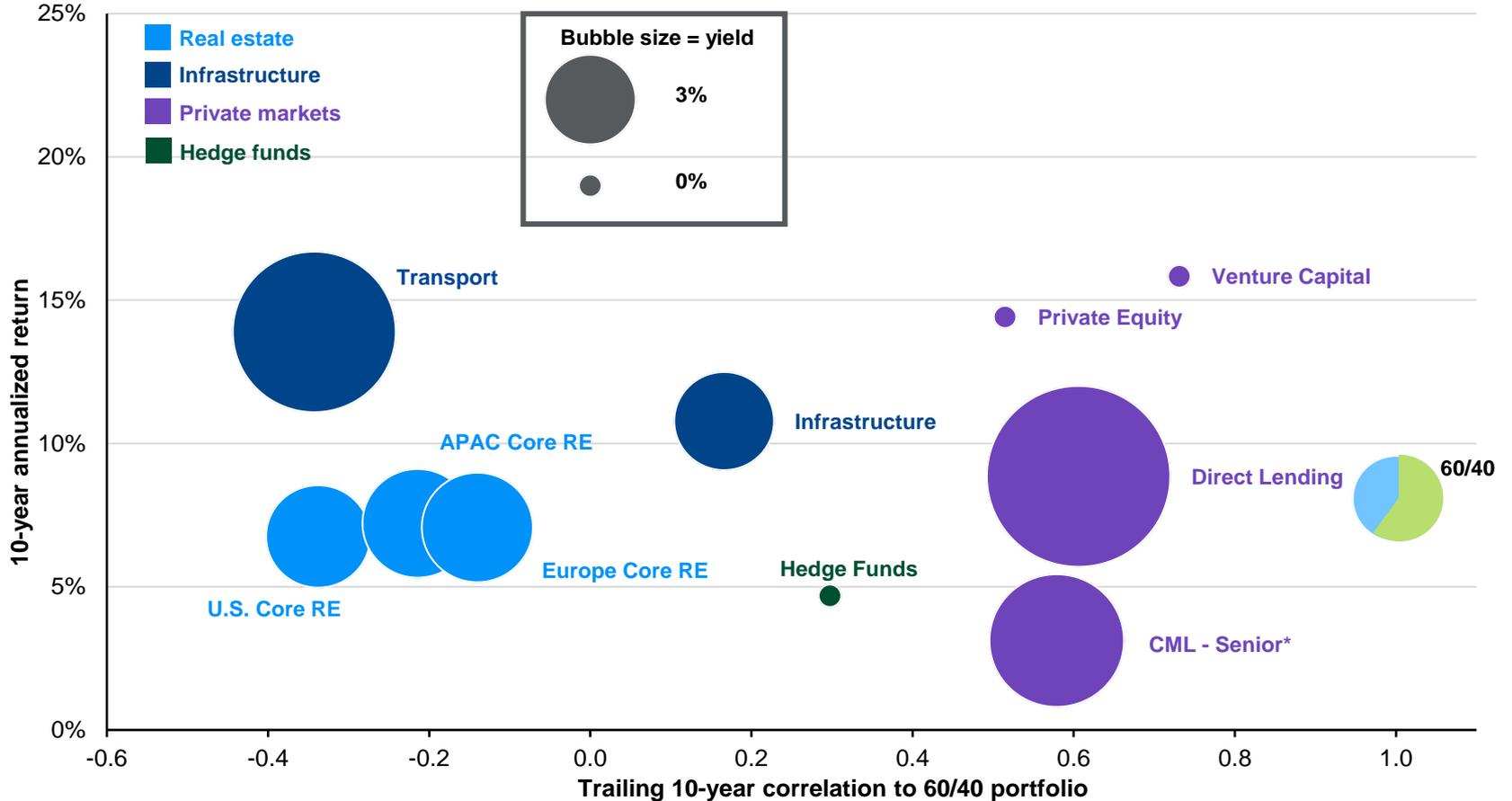
Source: Bloomberg, Burgiss, Credit Suisse/Tremont, FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Indices used – Large Cap: S&P 500 Index; Currencies: Federal Reserve Trade-Weighted Dollar; EAFE: MSCI EAFE; EME: MSCI Emerging Markets; Bonds: Bloomberg Aggregate; Corp HY: Bloomberg Corporate High Yield; EMD: Bloomberg Emerging Market; Comdty.: 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 9/30/2014 to 6/30/2024, except for Private equity, which is based on the period from 6/30/2014 to 3/31/2024. This chart is for illustrative purposes only. Guide to the Markets – U.S. Data are as of September 30, 2024.



# Alternatives: Correlations, returns and yields

## Correlations, returns and yields

10-year correlations and 10-year annualized total returns, 2Q14 – 1Q24



Alternatives

Source: Burgiss, Cliffwater, FactSet, Gilberto-Levy, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. Correlations are based on quarterly returns over the past 10 years from 2Q14-1Q24. A 60/40 portfolio is comprised of 60% stocks and 40% bonds. Stocks are represented by the S&P 500 Total Return Index. Bonds are represented by the Bloomberg U.S. Aggregate Total Return Index. 10-year annualized returns are calculated from 2Q14-1Q24. Indices and data used for alternative asset class returns and yields are as described on pages 12, 13, and 17 of the *Guide to Alternatives*. Yields are based on latest available data as described on page 10 of the *Guide to Alternatives*. \*CML is commercial mortgage loans.

This slide comes from our [Guide to Alternatives](#).

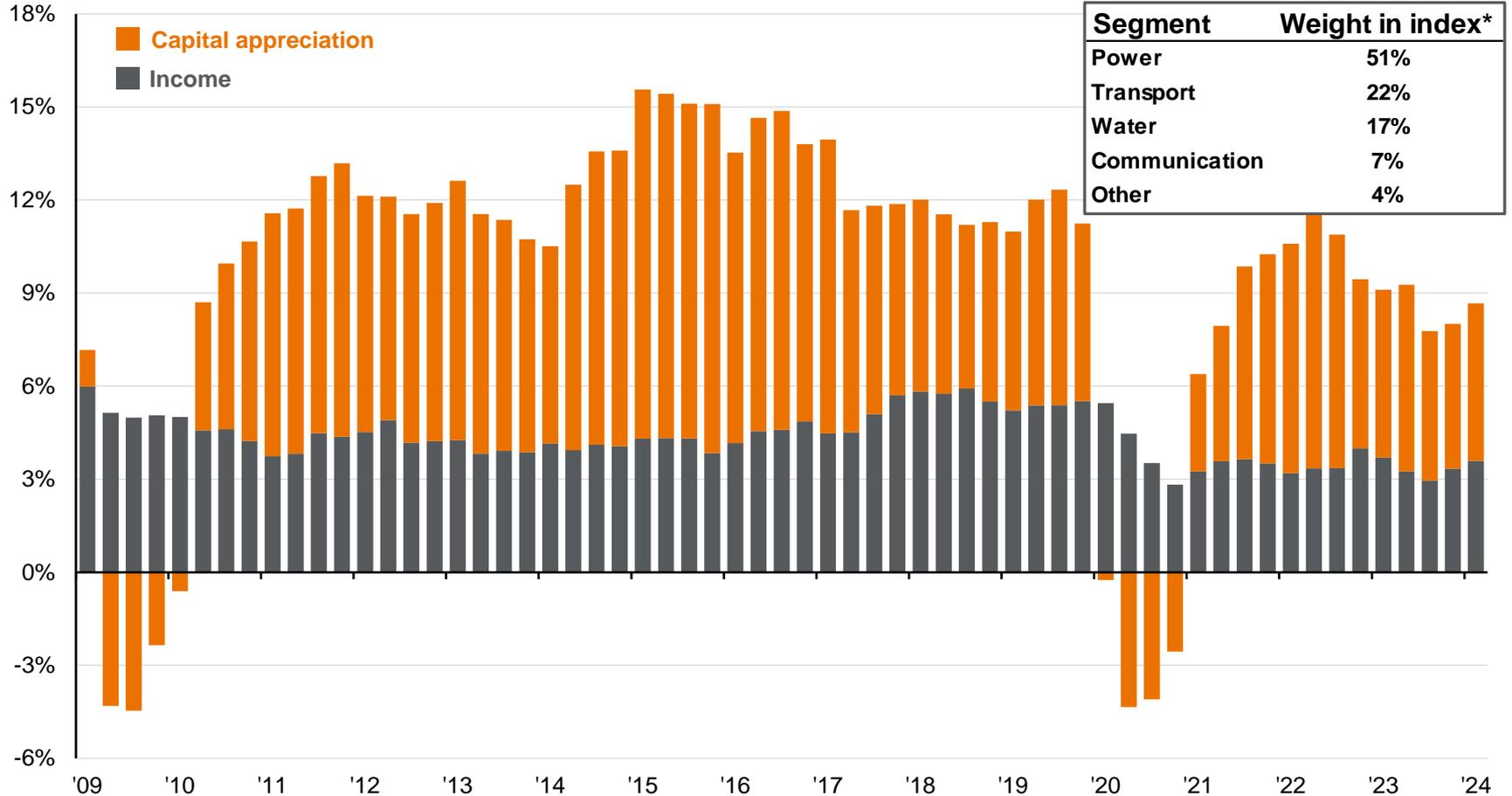
*Guide to the Markets – U.S.* Data are as of September 30, 2024.



# Sources of global infrastructure returns

## Global core infrastructure returns

1Q09-1Q24, 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 appreciation. \*Weights are based on enterprise value. 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.

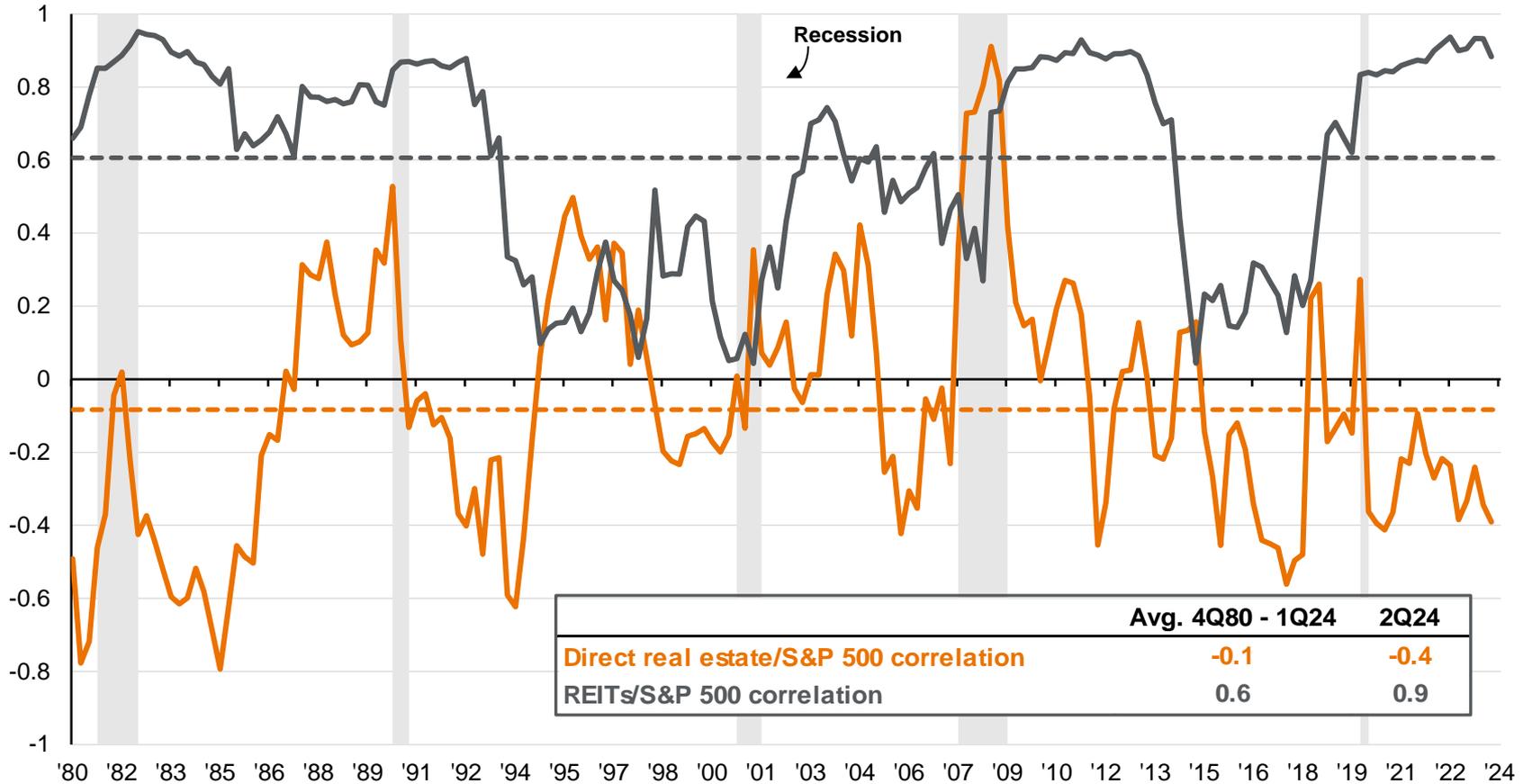
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Guide to the Markets – U.S. Data are as of September 30, 2024.



# U.S. REITs and direct real estate

## U.S. REITs, direct real estate and equities 12-quarter rolling correlations, total return



Alternatives

Source: NAREIT, NCREIF, Standard & Poor's, FactSet, J.P. Morgan Asset Management.  
 Real estate investment trusts (REITs). Indices do not include fees or operating expenses and are not available for actual investment. Past performance is not necessarily a reliable indicator for current and future performance.  
 This slide comes from our [Guide to Alternatives](#).  
 Guide to the Markets – U.S. Data are as of September 30, 2024.



# U.S. public vs. private equity

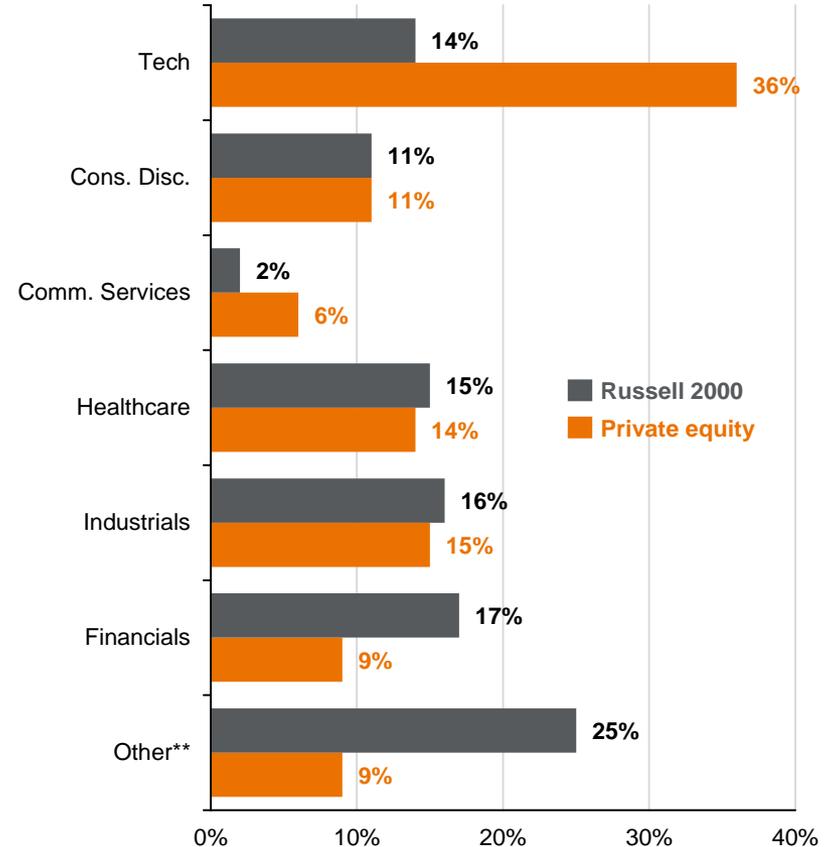
## Number of listed U.S. companies\* and market cap.

Number, S&P 500 market capitalization in USD trillions



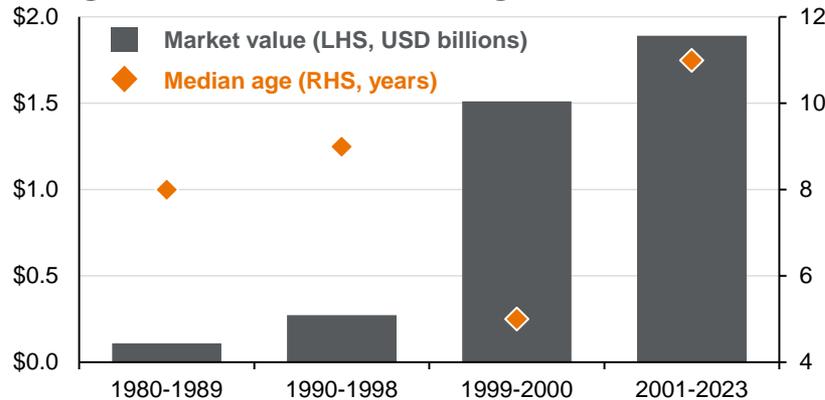
## Private equity vs. small cap sector weights

2023



Alternatives

## Average market value and median age at IPO



Sources: Cambridge Associates, Jay Ritter, University of Florida, Russell, World Federation of Exchanges, J.P. Morgan Asset Management.  
 (Top left) \*Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. (Bottom left) Average market value is calculated by dividing the total market value at first closing price by the total number of IPOs for each period. The sample is IPOs with an offer price of at least \$5, 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). (Right) \*\*Other includes real estate, utilities and energy. Percentages may not sum due to rounding. Sector weights are as of December 31, 2023.

This slide comes from our [Guide to Alternatives](#).

Guide to the Markets – U.S. Data are as of September 30, 2024.

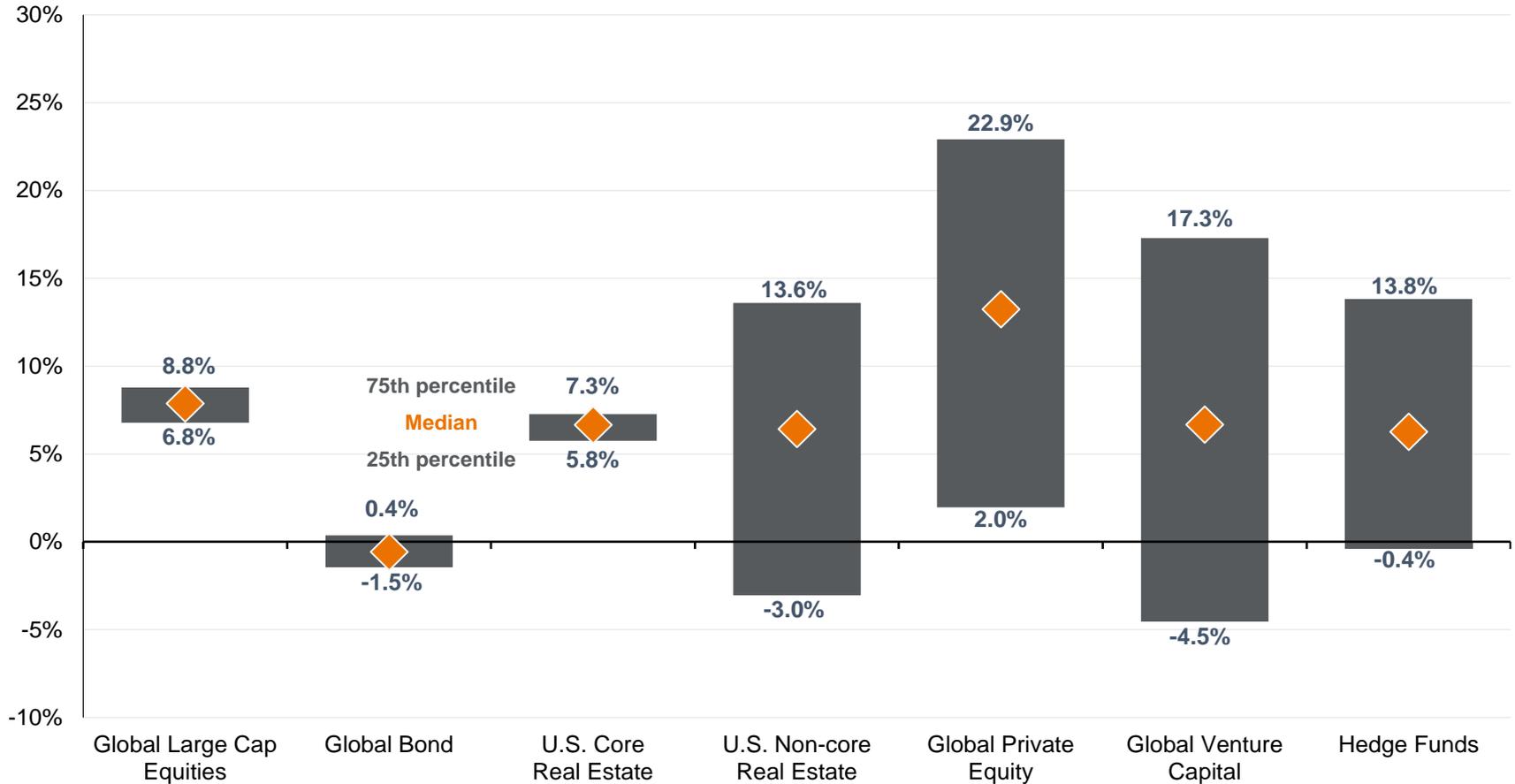


# Alternatives and manager selection

Alternatives

## Public and private manager dispersion

Based on returns from 2Q14 – 2Q24\*



Source: Burgiss, NCREIF, Morningstar, PivotalPath, J.P. Morgan Asset Management.

Global large cap equities and global bond are based on the world large stock and world bond categories, respectively. \*Manager dispersion is based on annual returns over a 10-year period ending 2Q 2024 for Hedge Funds, U.S. Core Real Estate, U.S. Fund Global Equities and U.S. Fund Global Bonds. Non-core Real Estate, Global Private Equity and Global Venture Capital are represented by the 10-year horizon internal rate of return (IRR) ending 1Q 2024. U.S. Fund Global Equities and Bonds are comprised of U.S.-domiciled mutual funds and ETFs.

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Guide to the Markets – U.S. Data are as of September 30, 2024.



# Asset class returns

GTM U.S. 60

2009-2023		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD
Large Cap	Small Cap	EM Equity	REITs	REITs	REITs	Small Cap	REITs	REITs	Small Cap	EM Equity	Cash	Large Cap	Small Cap	REITs	Comdty.	Large Cap	Large Cap
14.0%	21.9%	79.0%	27.9%	8.3%	19.7%	38.8%	28.0%	2.8%	21.3%	37.8%	1.8%	31.5%	20.0%	41.3%	16.1%	26.3%	22.1%
Small Cap	REITs	High Yield	Small Cap	Fixed Income	High Yield	Large Cap	Large Cap	Large Cap	High Yield	DM Equity	Fixed Income	REITs	EM Equity	Large Cap	Cash	DM Equity	EM Equity
11.3%	21.2%	59.4%	26.9%	7.8%	19.6%	32.4%	13.7%	1.4%	14.3%	25.6%	0.0%	28.7%	18.7%	28.7%	1.5%	18.9%	17.2%
REITs	EM Equity	DM Equity	EM Equity	High Yield	EM Equity	DM Equity	Fixed Income	Fixed Income	Large Cap	Large Cap	REITs	Small Cap	Large Cap	Comdty.	High Yield	Small Cap	REITs
10.9%	20.3%	32.5%	19.2%	3.1%	18.6%	23.3%	6.0%	0.5%	12.0%	21.8%	-4.0%	25.5%	18.4%	27.1%	-12.7%	16.9%	14.2%
High Yield	DM Equity	REITs	Comdty.	Large Cap	DM Equity	Asset Alloc.	Asset Alloc.	Cash	Comdty.	Small Cap	High Yield	DM Equity	Asset Alloc.	Small Cap	Fixed Income	Asset Alloc.	DM Equity
8.6%	18.4%	28.0%	16.8%	2.1%	17.9%	14.9%	5.2%	0.0%	11.8%	14.6%	-4.1%	22.7%	10.6%	14.8%	-13.0%	14.1%	13.5%
Asset Alloc.	Comdty.	Small Cap	Large Cap	Cash	Small Cap	High Yield	Small Cap	DM Equity	EM Equity	Asset Alloc.	Large Cap	Asset Alloc.	DM Equity	Asset Alloc.	Asset Alloc.	High Yield	Asset Alloc.
8.1%	16.6%	27.2%	15.1%	0.1%	16.3%	7.3%	4.9%	-0.4%	11.6%	14.6%	-4.4%	19.5%	8.3%	13.5%	-13.9%	14.0%	12.3%
DM Equity	Large Cap	Large Cap	High Yield	Asset Alloc.	Large Cap	REITs	Cash	Asset Alloc.	REITs	High Yield	Asset Alloc.	EM Equity	Fixed Income	DM Equity	DM Equity	REITs	Small Cap
7.4%	16.1%	26.5%	14.8%	-0.7%	16.0%	2.9%	0.0%	-2.0%	8.6%	10.4%	-5.8%	18.9%	7.5%	11.8%	-14.0%	11.4%	11.2%
EM Equity	High Yield	Asset Alloc.	Asset Alloc.	Small Cap	Asset Alloc.	Cash	High Yield	High Yield	Asset Alloc.	REITs	Small Cap	High Yield	High Yield	High Yield	Large Cap	EM Equity	High Yield
6.9%	11.5%	25.0%	13.3%	-4.2%	12.2%	0.0%	0.0%	-2.7%	8.3%	8.7%	-11.0%	12.6%	7.0%	1.0%	-18.1%	10.3%	9.6%
Fixed Income	Asset Alloc.	Comdty.	DM Equity	DM Equity	Fixed Income	Fixed Income	EM Equity	Small Cap	Fixed Income	Fixed Income	Comdty.	Fixed Income	Cash	Cash	EM Equity	Fixed Income	Comdty.
2.7%	11.5%	18.9%	8.2%	-11.7%	4.2%	-2.0%	-1.8%	-4.4%	2.6%	3.5%	-11.2%	8.7%	0.5%	0.0%	-19.7%	5.5%	5.9%
Cash	Fixed Income	Fixed Income	Fixed Income	Comdty.	Cash	EM Equity	DM Equity	EM Equity	DM Equity	Comdty.	DM Equity	Comdty.	Comdty.	Fixed Income	Small Cap	Cash	Fixed Income
0.8%	4.5%	5.9%	6.5%	-13.3%	0.1%	-2.3%	-4.5%	-14.6%	1.5%	1.7%	-13.4%	7.7%	-3.1%	-1.5%	-20.4%	5.1%	4.4%
Comdty.	Cash	Cash	Cash	EM Equity	Comdty.	Comdty.	Comdty.	Comdty.	Cash	Cash	EM Equity	Cash	REITs	EM Equity	REITs	Comdty.	Cash
-0.2%	0.7%	0.1%	0.1%	-18.2%	-1.1%	-9.5%	-17.0%	-24.7%	0.3%	0.8%	-14.2%	2.2%	-5.1%	-2.2%	-24.9%	-7.9%	4.1%

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 12/31/2008 to 12/31/2023. 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, 2024.

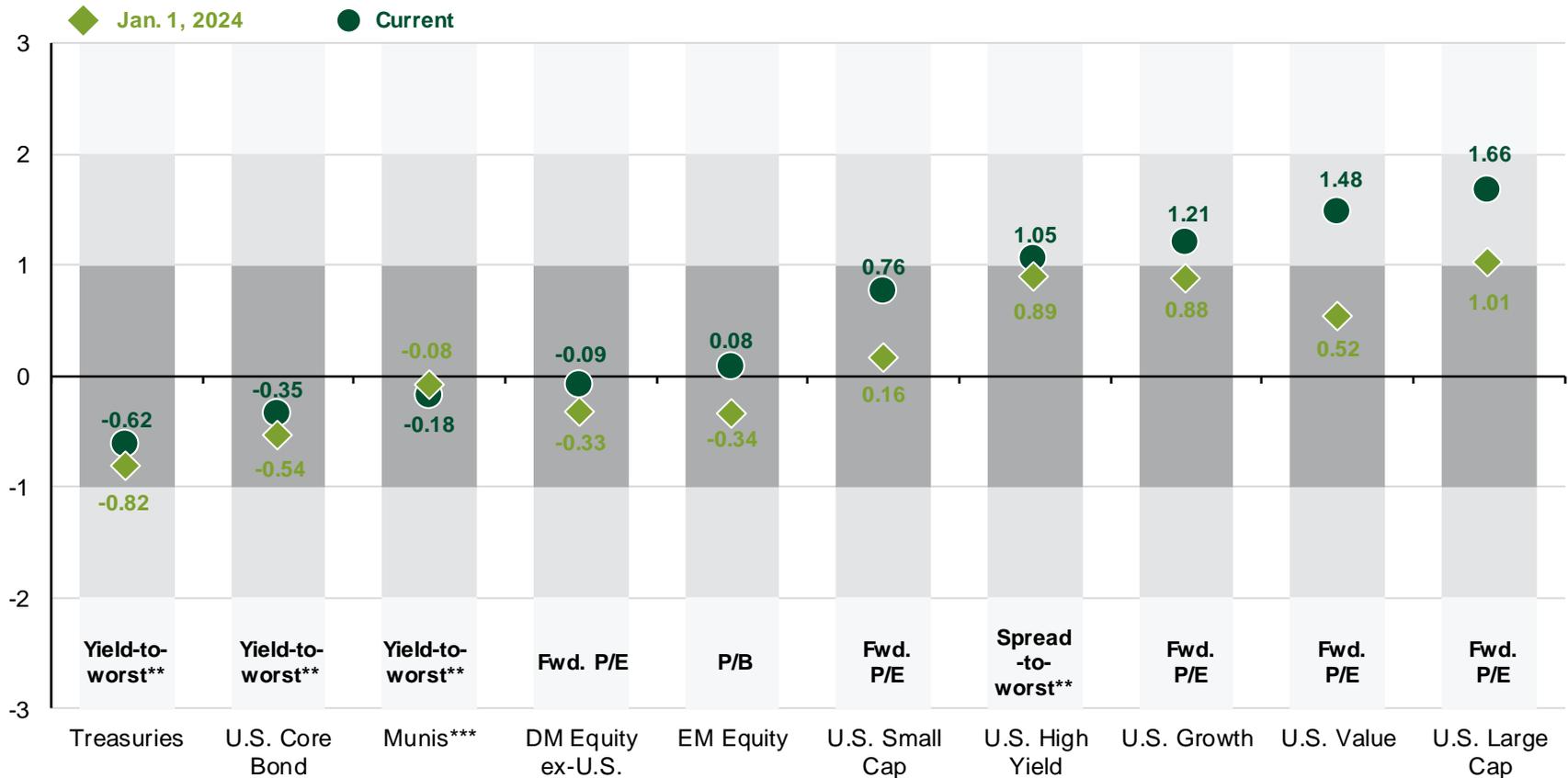
**J.P.Morgan**  
ASSET MANAGEMENT



# 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%.

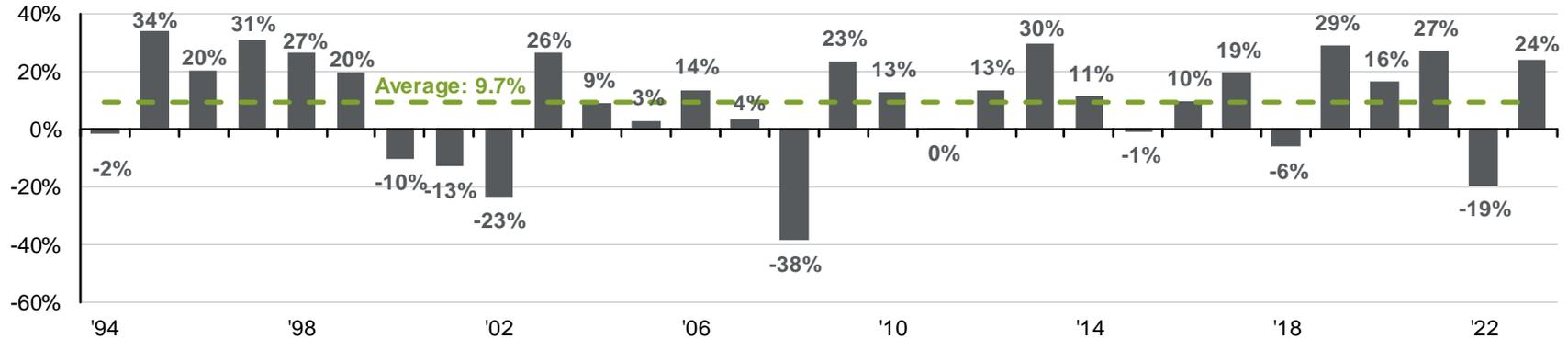
Guide to the Markets – U.S. Data are as of September 30, 2024.



# Single-stock volatility and equity market returns

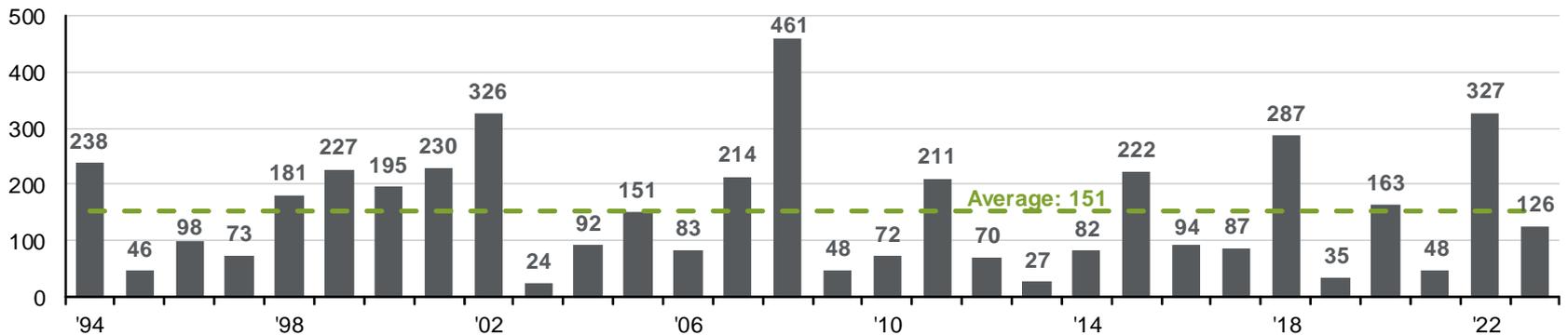
## S&P 500 calendar year price returns

1994-2023



## Number of S&P 500 stocks that ended the year down 5% or more

1994-2023



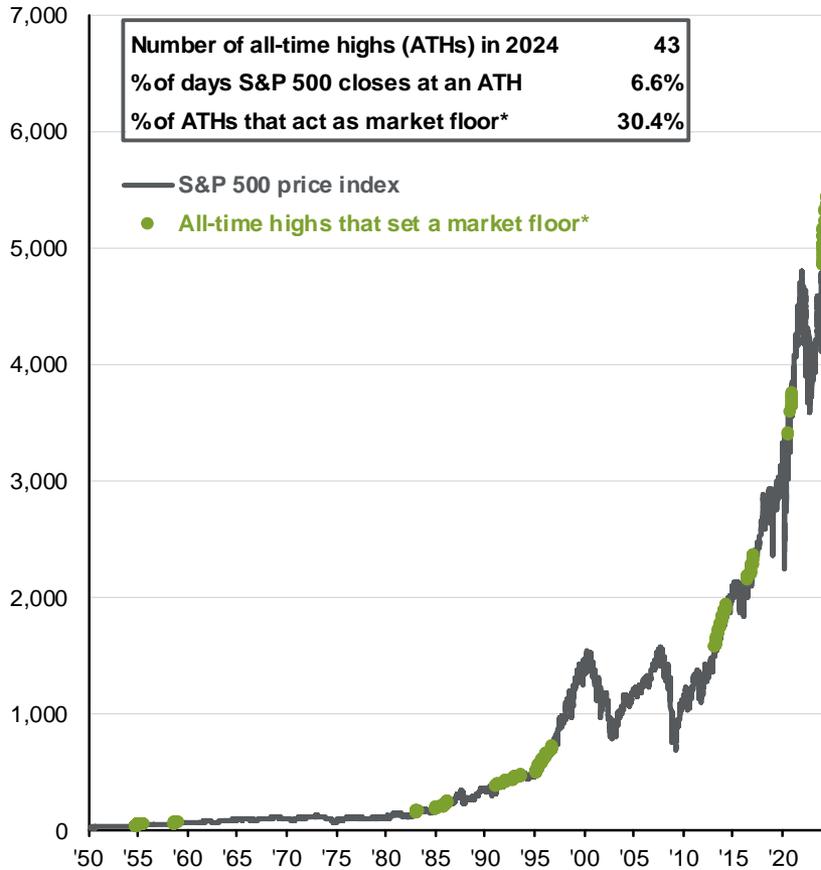
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. Returns are based on price index only and do not include dividends. Returns shown are calendar year returns from 1994 to 2023, over which time the average annual return was 9.7%. Guide to the Markets – U.S. Data are as of September 30, 2024.



# Investing at all-time highs

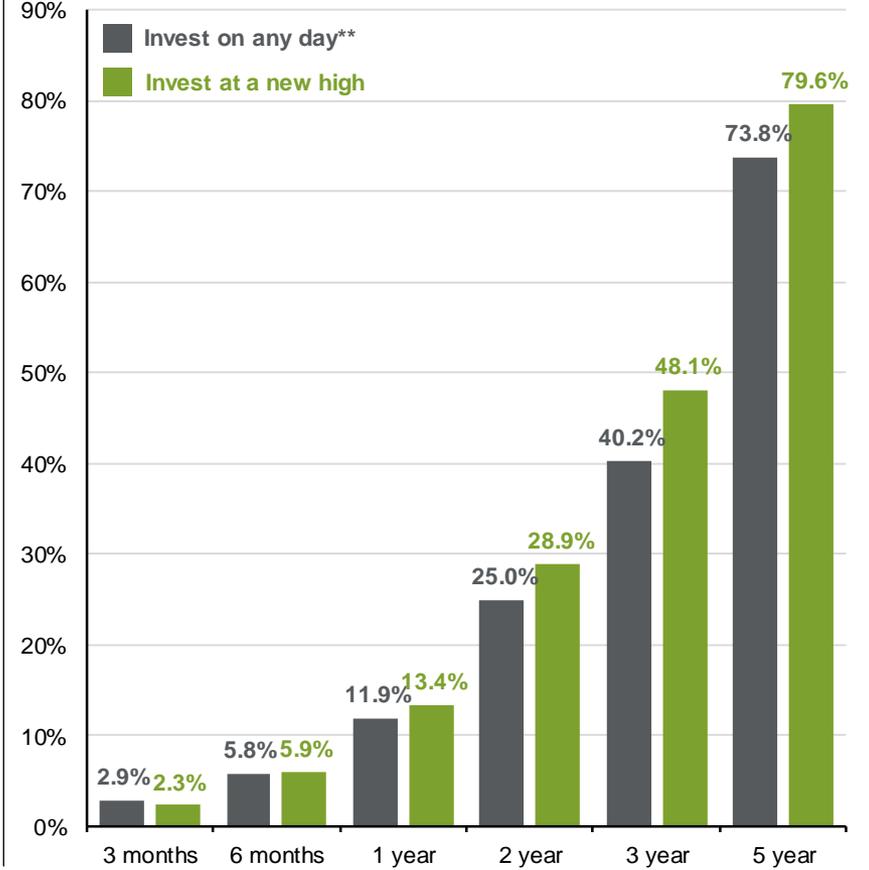
## All-time highs and market floors

S&P 500 price index, daily, 1950 - today



## Average cumulative S&P 500 total returns

Jan. 1, 1988 - Dec. 31, 2023



Investing Principles

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

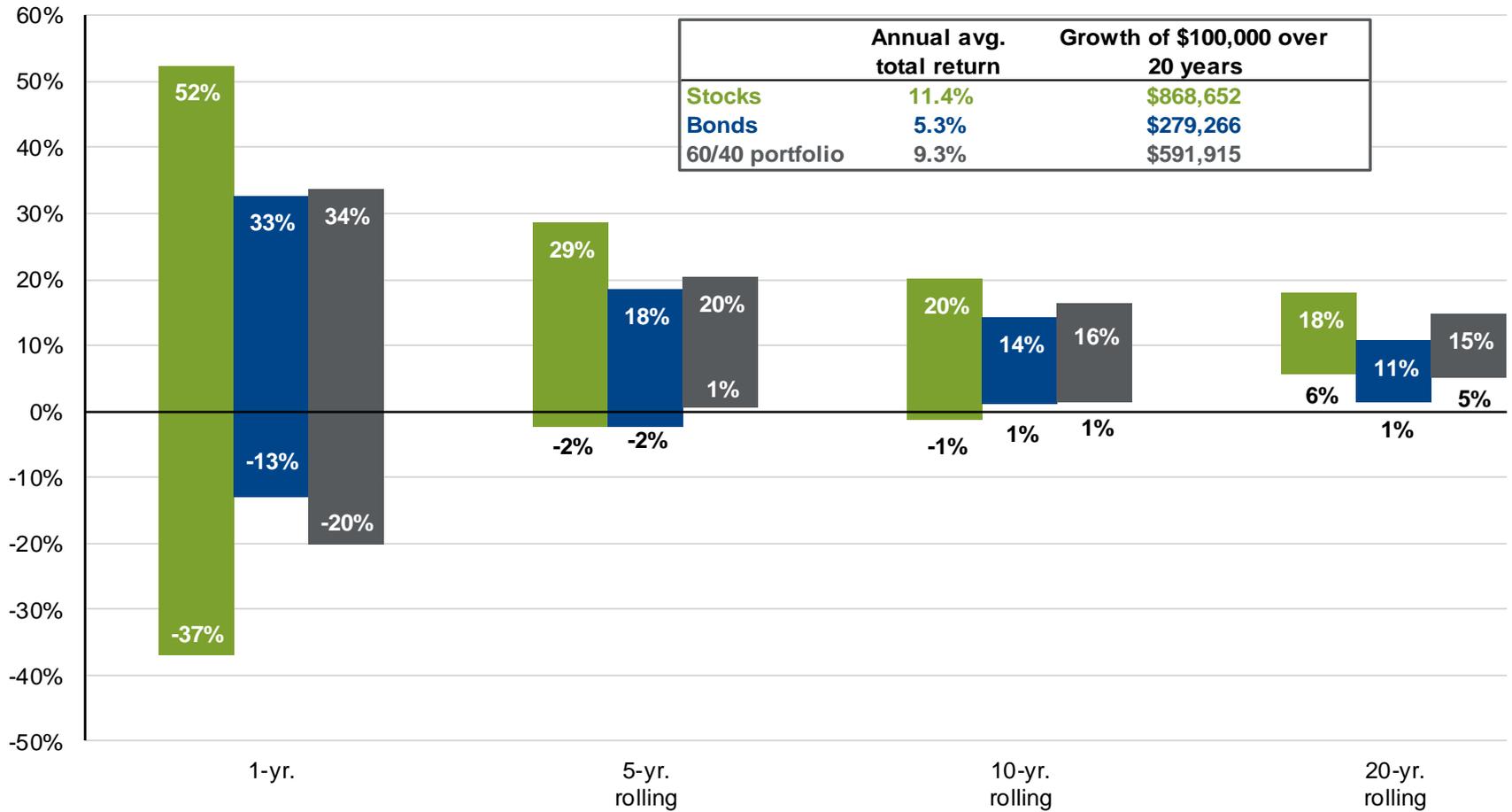
(Left) \*Market floor is defined as an all-time high from which the market never fell more than 5%. (Right) \*\*"Invest on any day" represents average of forward returns for the entire time period whereas "Invest at a new high" represents average of rolling forward returns calculated from each new S&P 500 high for the subsequent 3-months, 6-months, 1-year, 2-year and 3-year intervals, with data starting 1/1/1988 through 12/31/2023. Guide to the Markets – U.S. Data are as of September 30, 2024.



# Time, diversification and the volatility of returns

## Range of stock, bond and blended total returns

Annual total returns, 1950-2023



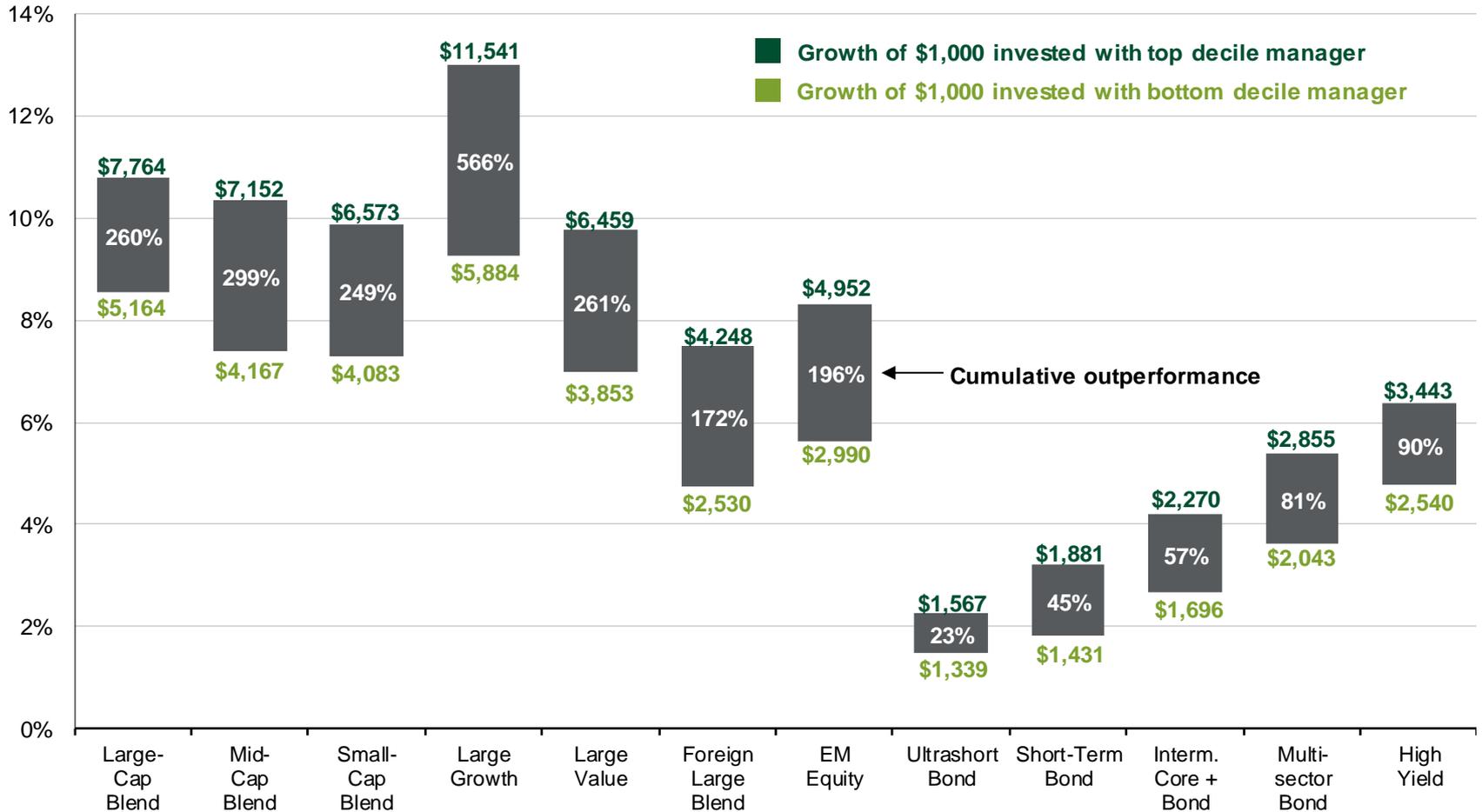
Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, Standard & Poor's, Strategas/Ibbotson, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1950 to 2023. Stocks represent the S&P 500 Shiller Composite for periods prior to 1936 and the S&P 500 thereafter. Bonds represent Strategas/Ibbotson for periods prior to 1976 and the Bloomberg Aggregate thereafter. Growth of \$100,000 is based on annual average total returns from 1950 to 2023. *Guide to the Markets – U.S.* Data are as of September 30, 2024.



# 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 10<sup>th</sup> and 90<sup>th</sup> percentile over a 20-year period for each Morningstar category, including mutual funds and ETFs. Returns are updated monthly and reflect data through 8/31/2024. 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.

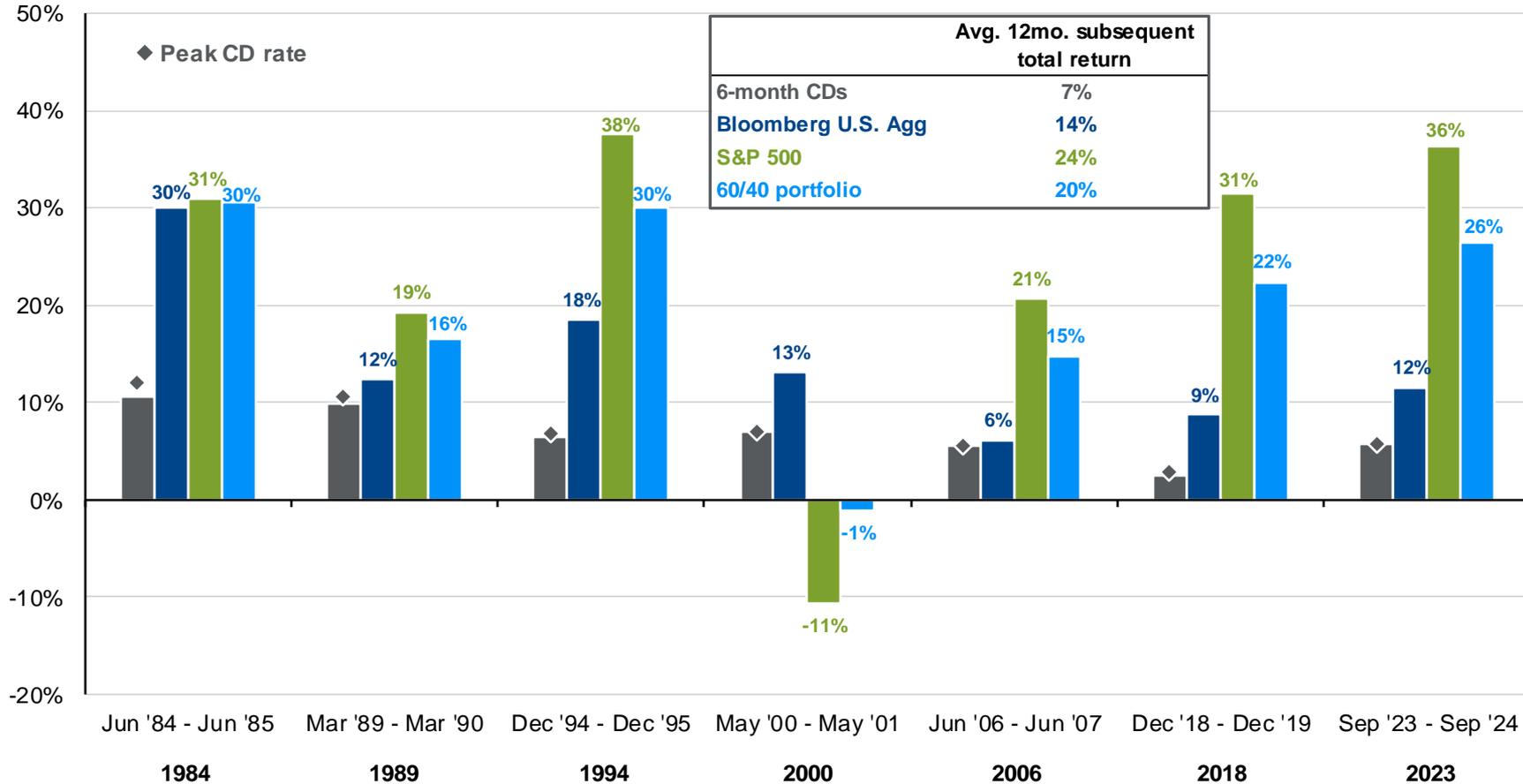
Guide to the Markets – U.S. Data are as of September 30, 2024.



# 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



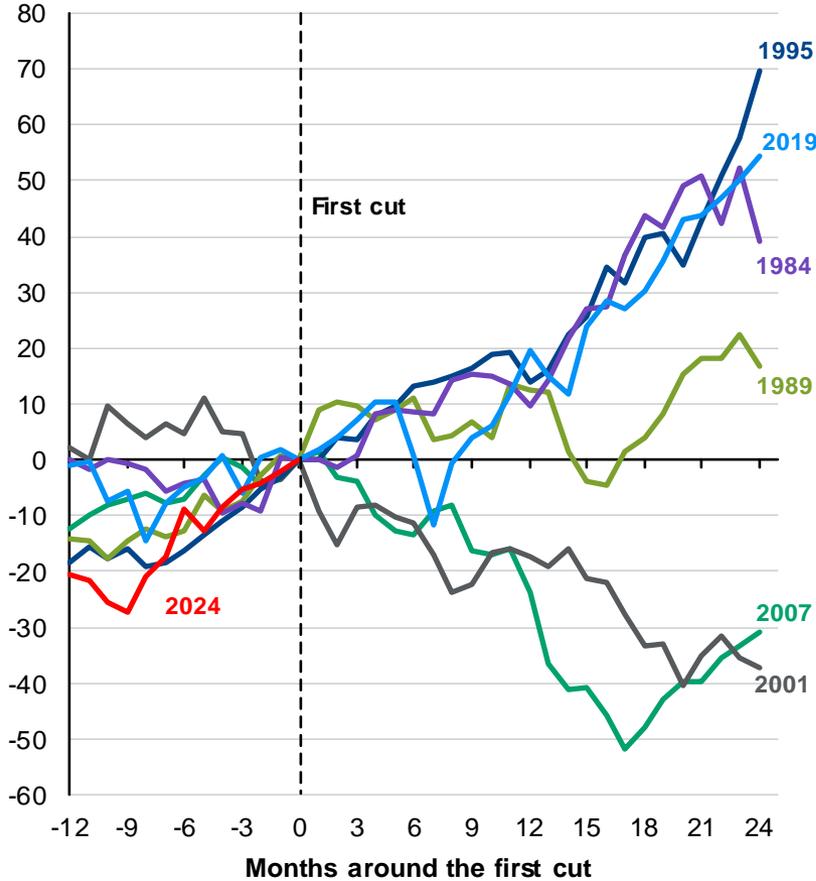
Source: Bloomberg, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management. The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. The analysis references the month in which the month-end 6-month CD rate peaked 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, 2024.



# Market returns around the start of Fed cutting cycles

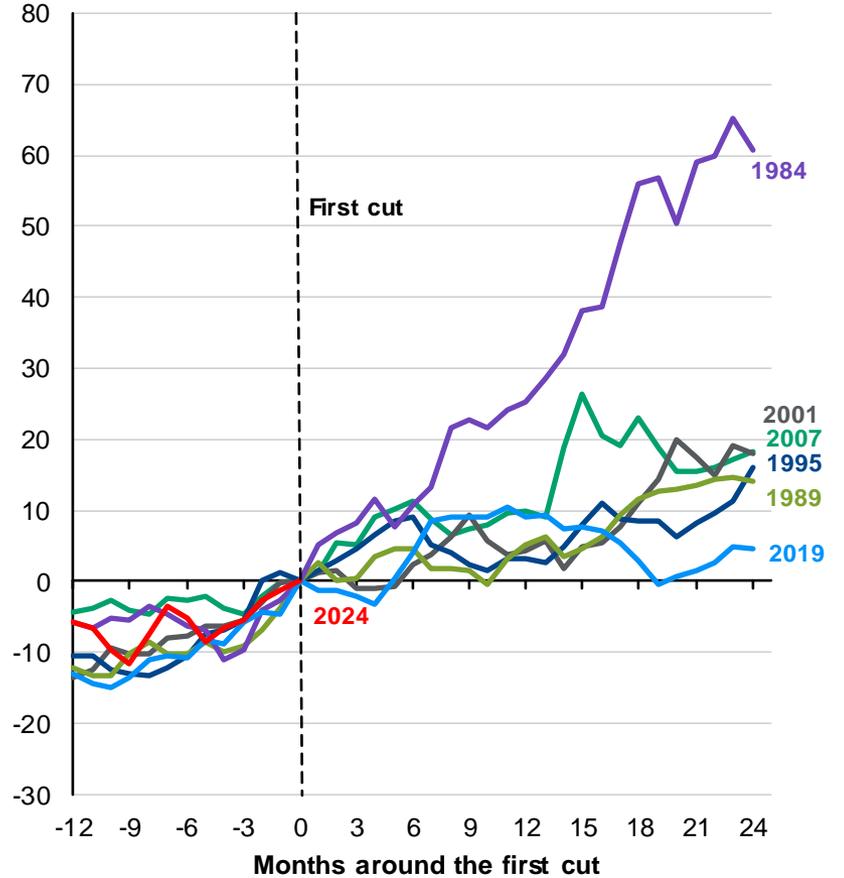
## S&P 500 returns around the start of Fed cutting cycles

%, price return, indexed to zero at the first cut



## U.S. 10-yr returns around the start of Fed cutting cycles

%, total return, indexed to zero at the first cut

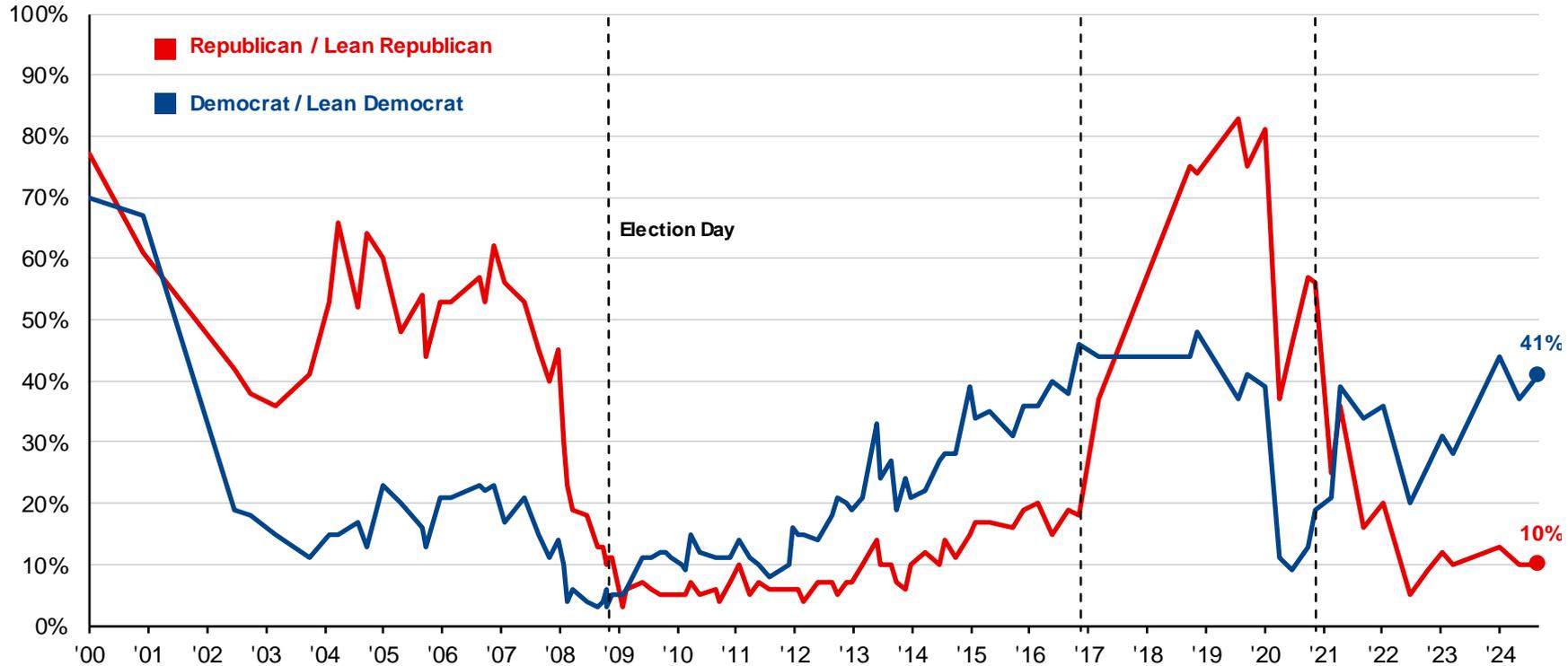


Source: FactSet, Federal Reserve, LSEG Datastream, S&P Global, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results. Excludes 1998 episode due to the short length of the cutting cycle and economic context for the cuts. Guide to the Markets – U.S. Data are as of September 30, 2024.



# Consumer confidence by political affiliation

### Percentage of Republicans and Democrats who rate national economic conditions as excellent or good



Administration	Bush	Obama	Trump	Biden
Dates in office	Jan '01 – Jan '09	Jan '09 – Jan '17	Jan '17 – Jan '21	Jan '21 – Today
S&P 500 return	-4.5%	16.3%	16.0%	13.2%
Real GDP growth	1.9%	2.2%	1.8%	3.1%

Investing Principles

Source: Pew Research Center, J.P. Morgan Asset Management. The survey was last conducted in September 2024, "In Tied Presidential Race, Harris and Trump Have Contrasting Strengths, Weaknesses." Pew Research Center asks the question: "Thinking about the nation's economy, How would you rate economic conditions in this country today... as excellent, good, only fair, or poor?". S&P 500 returns are average annualized total returns between presidential inauguration dates and are updated monthly. Real GDP growth are average annualized GDP growth rates. *Guide to the Markets – U.S.* Data are as of September 30, 2024.



# J.P. Morgan Asset Management – Index definitions

GTM

U.S.

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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

GTM

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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, 2024 or most recently available.

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