CELEBRATING

20

YEARS

Guide to the Markets®

U.S. | 1Q 2024
As of December 31, 2023

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Global Market Insights Strategy team

Americas

Gabriela Santos
New York

Dr. David Kelly, CFA
New York

Meera Pandit, CFA
New York

Jack Manley
New York

Jordan Jackson
New York

Stephanie Aliaga
New York

Nimish Vyas
New York

Mary Park Durham
New York

Brandon Hall
New York

Erin Erdoes
New York

Marina Valentini
São Paulo

Europe

Karen Ward
London

Hugh Gimber, CFA
London

Vincent Juvyns
Luxembourg

Aaron Hussein
London

Tilmann Galler, CFA
Frankfurt

Max McKechnie
London

Maria Paola Toschi
Milan

Natasha May
London

Elena Domecq
Madrid

Zara Nokes
London

Lucia Gutierrez Mellado
Madrid

Asia

Marcella Chow
Hong Kong

Tai Hui
Hong Kong

Ian Hui
Hong Kong

Shogo Maekawa
Tokyo

Adrian Tong
Hong Kong

Chaoping Zhu, CFA
Shanghai

Jennifer Qiu
Hong Kong

Arthur Jiang
Shanghai

Raisah Rasid
Singapore

Agnes Lin
Taipei

Kerry Craig, CFA
Melbourne

Sahil Gauba
Mumbai

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Page reference

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S&P 500 Index at inflection points

Equities

S&P 500 Price Index

Characteristic	3/24/2000	10/9/2007	2/19/2020	1/3/2022	12/31/2023
Index Level	1,527	1,565	3,386	4,797	4,770
P/E Ratio (fwd.)	25.2x	15.1x	19.2x	21.4x	19.5x
Dividend Yield	1.4%	1.9%	1.9%	1.3%	1.5%
10-yr. Treasury	6.2%	4.7%	1.6%	1.6%	3.9%

Dec. 31, 2023
P/E (fwd.) = 19.5x
4,770

Jan. 3, 2022
P/E (fwd.) = 21.4x
4,797

+114%

-25%

+33%

Feb. 19, 2020
P/E (fwd.) = 19.2x
3,386

Oct. 12, 2022
P/E (fwd.) = 15.7x
3,577

-34%

Mar. 24, 2000
P/E (fwd.) = 25.2x
1,527

Oct. 9, 2007
P/E (fwd.) = 15.1x
1,565

+401%

Mar. 23, 2020
P/E (fwd.) = 13.3x
2,237

+106%

-49%

+101%

-57%

Dec. 31, 1996
P/E (fwd.) = 15.9x
741

Oct. 9, 2002
P/E (fwd.) = 14.1x
777

Mar. 9, 2009
P/E (fwd.) = 10.4x
677

'96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22

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

S&P 500 Index: Forward P/E ratio

Valuation measure	Description	Latest	30-year avg.*	Std. dev. over/under-valued
P/E	Forward P/E	19.51x	16.59x	0.90
CAPE	Shiller's P/E	32.43x	27.55x	0.79
Div. Yield	Dividend yield	1.54%	2.00%	1.33
P/B	Price to book	3.97x	3.11x	1.10
P/CF	Price to cash flow	14.82x	11.13x	1.64
EY Spread	EY minus Baa yield	-0.33%	0.04%	0.20

Dec. 31, 2023: 19.51x

+1 Std. dev.: 19.83x

30-year average: 16.59x

-1 Std. dev.: 13.36x

Equities

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P/E ratios and equity returns

Equities

Forward P/E and subsequent 1-yr. returns
S&P 500 Total Return Index

Dec. 31, 2023: 19.5x

R² = 7%
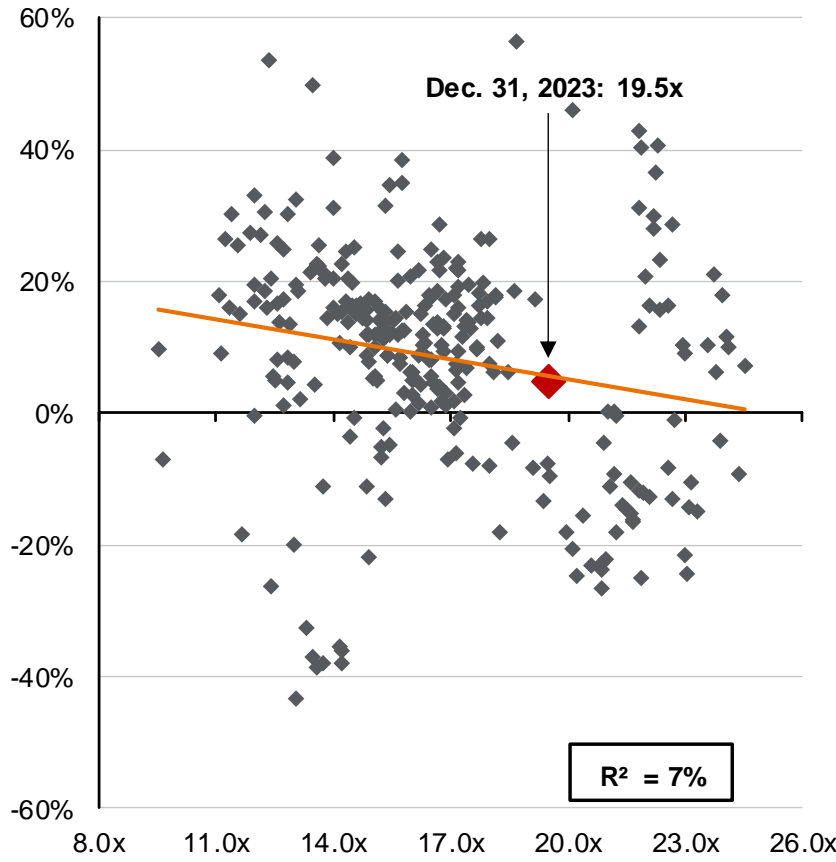
Forward P/E and subsequent 5-yr. annualized returns
S&P 500 Total Return Index

Dec. 31, 2023: 19.5x

R² = 31%
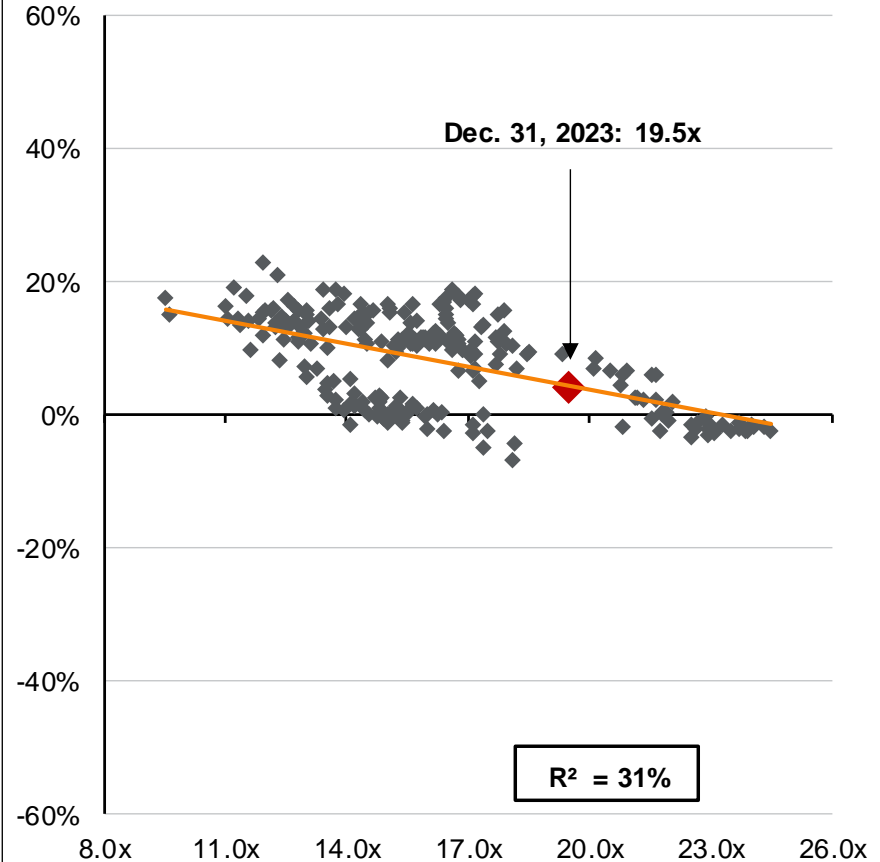
Source: FactSet, Refinitiv Datastream, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning 11/30/1998. R^2 represents the percent of total variation in total returns that can be explained by forward price-to-earnings ratios. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since February 1998 and by FactSet since January 2022.
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Sources of earnings growth and profit margins

S&P 500 year-over-year pro-forma EPS growth
Annual growth broken into changes in revenue, profit margin and share count

Share of EPS growth	2023	Avg. '01-'22
Margin	-2.4%	3.1%
Revenue	3.2%	4.1%
Share count	-0.3%	0.3%
Total EPS	0.4%	7.5%

'25F: $276
'24F: $245
'23: $220
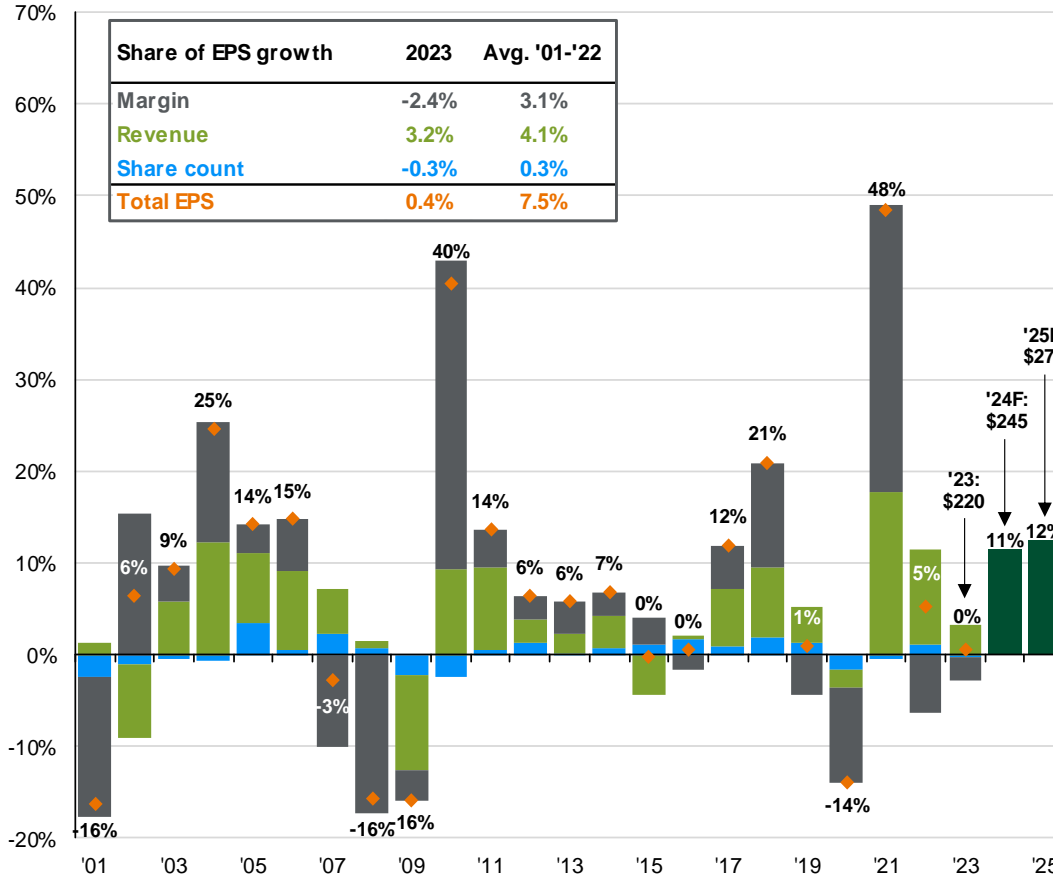
S&P 500 profit margins
Quarterly earnings/sales

Recession

4Q23: 11.7%*

Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Historical EPS levels are based on annual pro-forma earnings per share. 2023 EPS growth is based on actual results and consensus analyst expectations for 4Q23. 2024 and 2025 EPS growth are based on consensus analyst estimates for each calendar year. Past performance is not indicative of future returns.
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Equities

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

← **Recession**

Growth cheap/Value expensive ↑

Long-term avg.*: 0.71

Value cheap/Growth expensive ↓

Dec. 31, 2023: 0.56

	Forward P/E		Div. yield**	
Style	Current	Long-term avg.*	Current	Long-term avg.*
Value	14.9x	14.1x	2.4%	2.6%
Growth	26.5x	20.9x	0.8%	1.3%
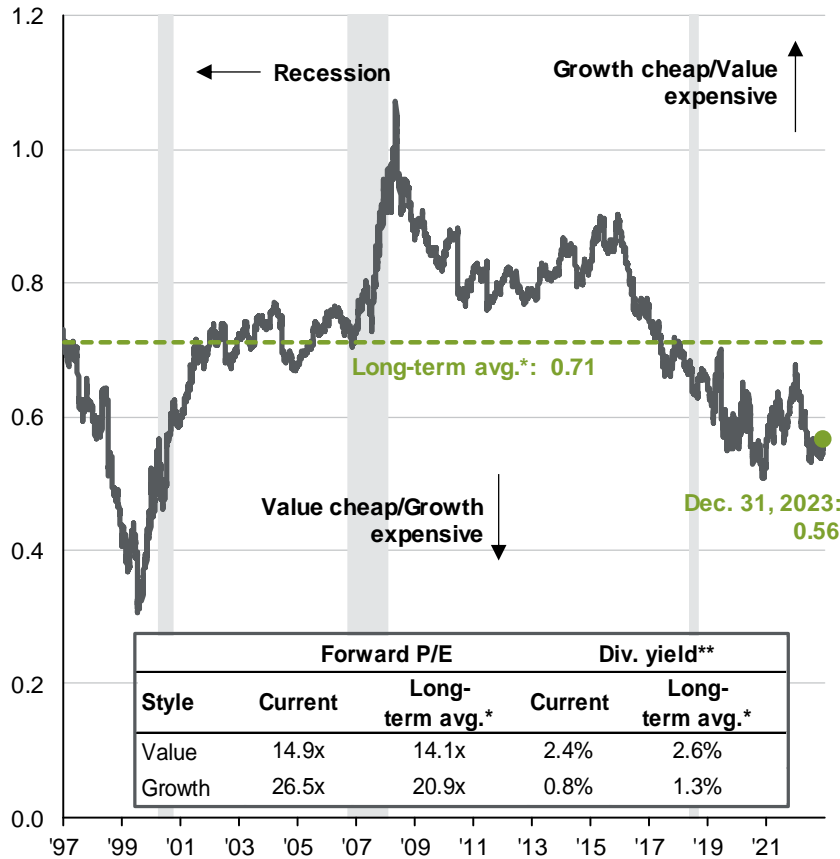
Value vs. Growth in different interest rate environments
Annualized total return by 10-year Treasury rate ranges, 1979 - present

■ **Growth**
■ **Value**

0-2%	Growth 15%, Value 11%
2-3%	Growth 19%, Value 10%
3-4%	Growth 6%, Value 6%
4-5%	Growth 8%, Value 10%
>5%	Growth 15%, Value 16%

U.S. 10-year Treasury rate ranges

| # of months | 59 | 80 | 59 | 98 | 273 |
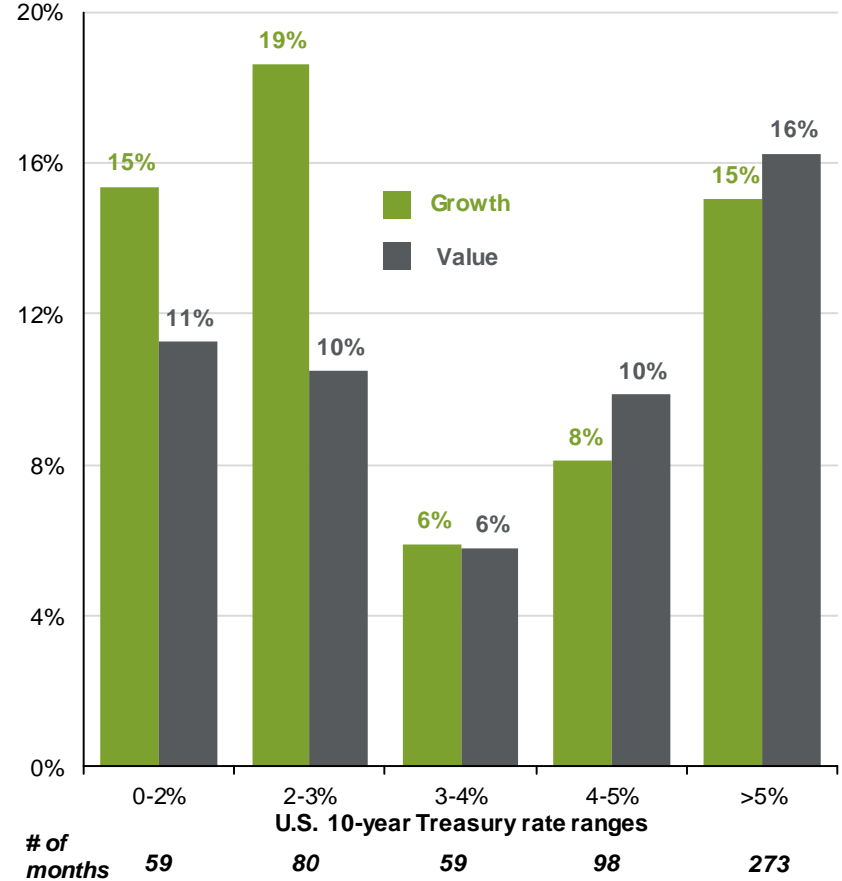
Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.
Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. (Left) *Long-term averages are calculated monthly since December 1997. **Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. (Right) Returns are calculated by annualizing the average monthly performance during each interest rate range.
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Value vs. Growth: Cash, R&D and capex

Equities

Corporate cash as a % of current assets by sector
Quarterly
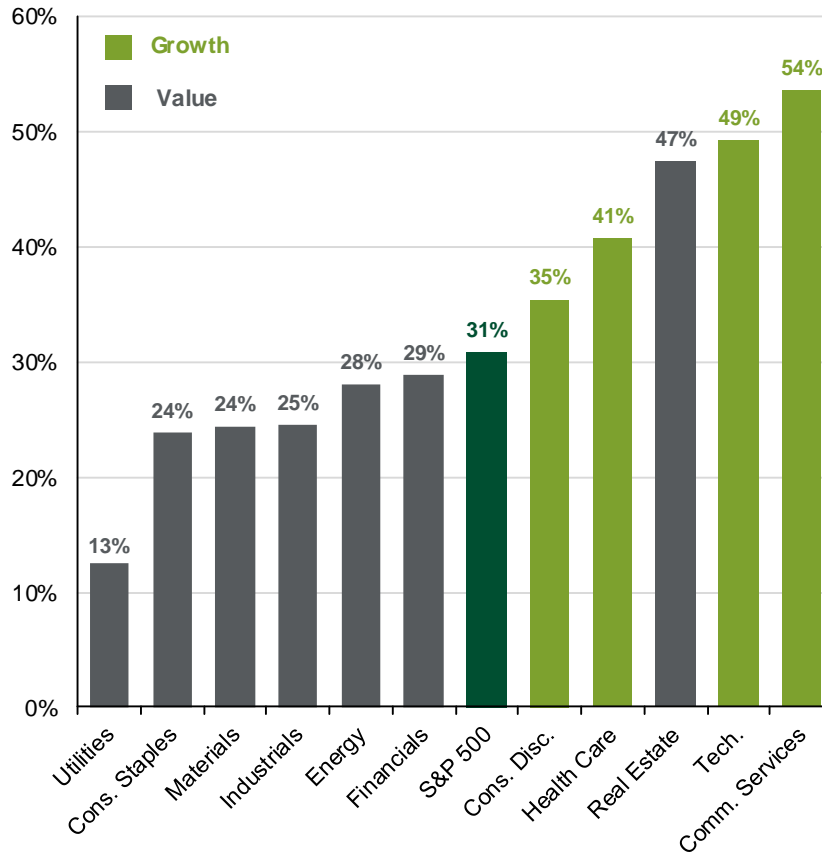
Research & development and capex by sector
Share of total S&P 500 R&D and capex by sector, current vs. average
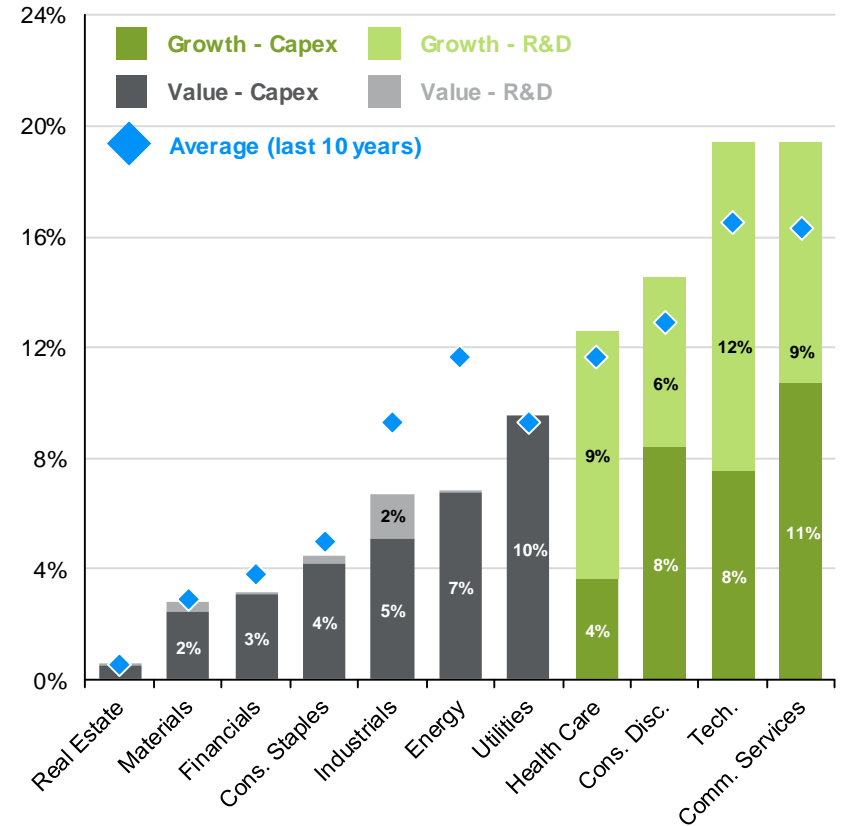
Source: Compustat, FactSet, J.P. Morgan Asset Management. (Left) Corporate cash and current assets data are based on the latest available quarterly data. Current assets are assets that can be converted into cash within a 12-month time frame. Current assets includes items such as cash and cash equivalents, marketable securities, accounts receivable, inventory and other short-term investments. (Right) Research and development (R&D) and capital expenditure (capex) data are year-to-date through 3Q23.
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S&P 500: Index concentration

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

Indexed to 100 on 1/1/2023, price return, top 10 held constant

	Current fwd. P/E	Valuation relative to S&P 500	Share of return
Top 10	**26.9x**	**138%**	**86%**
Remaining stocks	**17.1x**	**88%**	**14%**
S&P 500	**19.5x**	**-**	**100%**
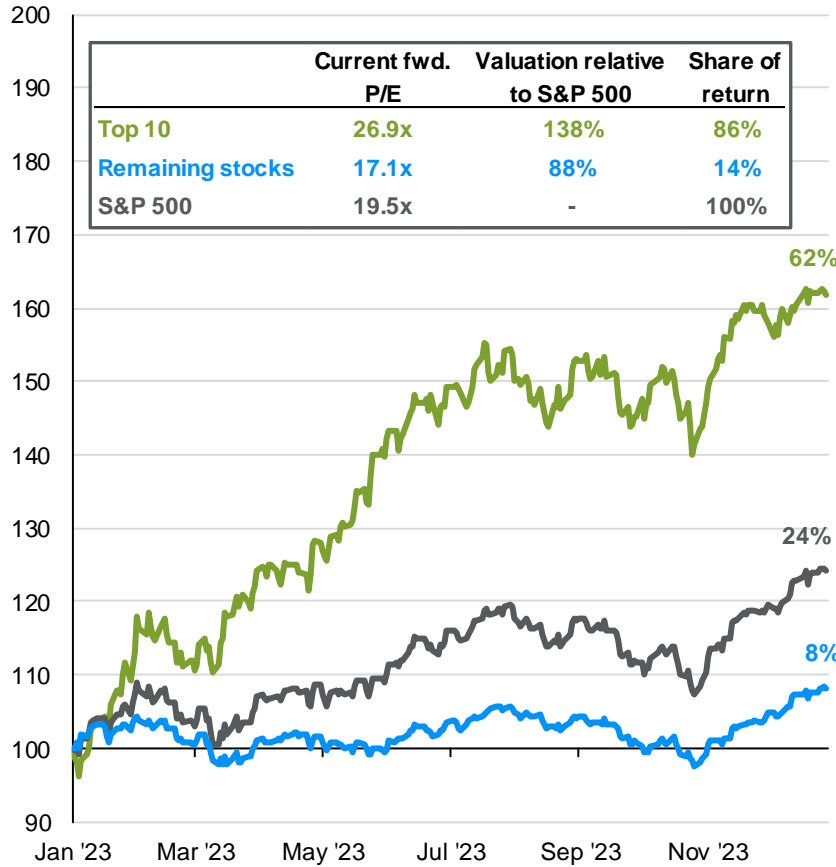
Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500

Dec. 31, 2023: 32.1%

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

Based on last 12 months' earnings

Dec. 31, 2023: 23.2%

Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.
(Left) The top 10 companies used for this analysis are held constant and represent the S&P 500's 10 largest index constituents at the start of 2023. The top 10 stocks are: AAPL, MSFT, AMZN, NVDA, GOOGL, BRK.B, GOOG, META, XOM, UNH, and TSLA. The remaining stocks represent the rest of the 494 companies in the S&P 500. (Right) The top 10 companies used for these two analyses are updated monthly and are based on the 10 largest index constituents at the beginning of each month. As of 12/31/2023, the top 10 companies in the index were AAPL (7.0%), MSFT (6.9%), AMZN (3.5%), NVDA (3.0%), GOOGL (2.1%), META (2.0%), GOOG (1.8%), TSLA (1.8%), BRK.B (1.6%), AVGO (1.2%) and JPM (1.2%).
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Small cap vs. large cap stocks

Equities

Sector composition
% of index market capitalization

Sector	Large cap	Small cap
Info. Tech.	29%	14%
Financials	13%	17%
Health Care	13%	15%
Cons. Discretionary	11%	11%
Industrials	9%	17%
Comm. Svcs.	9%	2%
Cons. Staples	6%	3%
Energy	4%	7%
Real Estate	3%	6%
Materials	2%	4%
Utilities	2%	3%
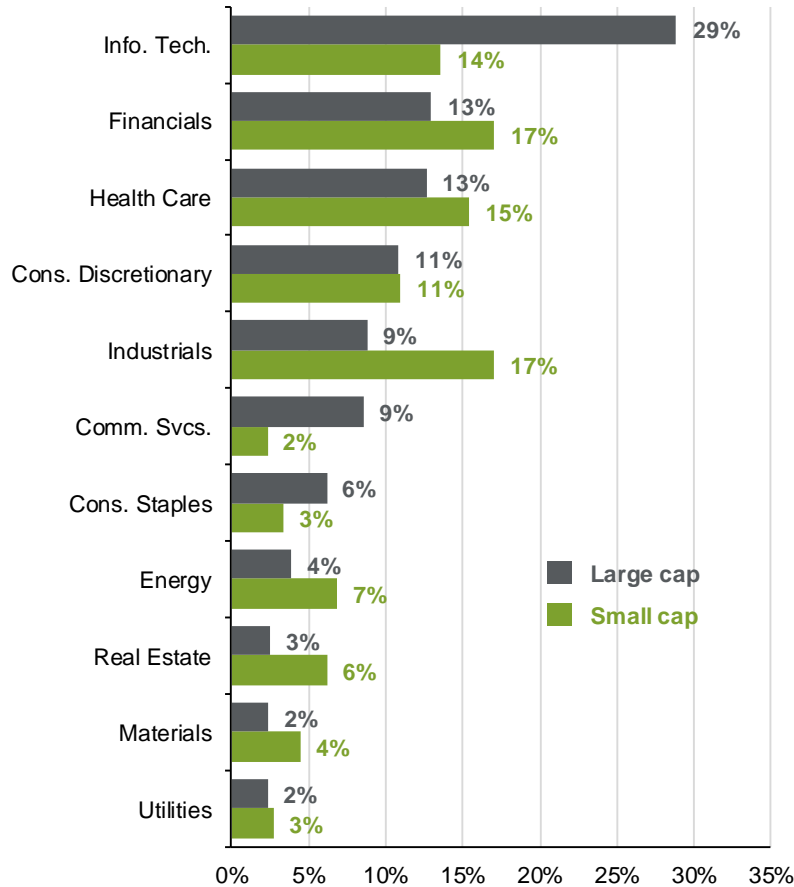
Percent of unprofitable companies in the Russell 2000
1Q98 – 3Q23

3Q23: 41%
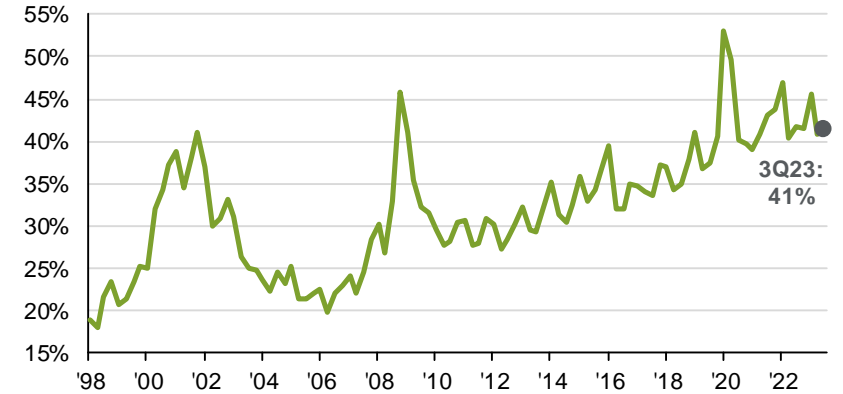
Outstanding debt by maturity year
Excl. financials, % of total debt outstanding, USD denominated debt

	Large cap	Small cap
Floating rate	6%	38%
2024-2030	44%	47%
After 2030	49%	14%
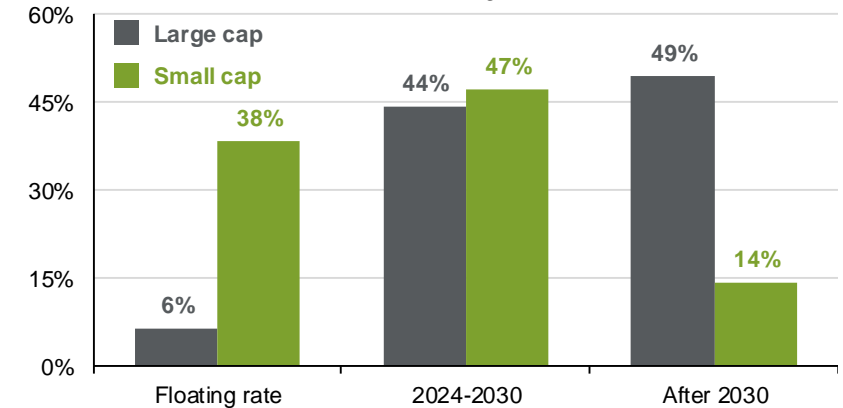
Source: Compustat, FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.
The S&P 500 is used for large cap and the Russell 2000 is used for small cap.
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Returns and valuations by style

Equities

10-year annualized

	Value	Blend	Growth
Large	8.4%	12.1%	14.9%
Mid	8.3%	9.5%	10.6%
Small	6.8%	7.2%	7.2%

2023

	Value	Blend	Growth
Large	11.5%	26.3%	42.7%
Mid	12.7%	17.2%	25.9%
Small	14.6%	16.9%	18.7%

Since market peak (February 2020)

	Value	Blend	Growth
Large	31.0%	50.0%	63.5%
Mid	31.3%	34.0%	31.8%
Small	34.4%	26.2%	15.1%

Since market low (March 2020)

	Value	Blend	Growth
Large	111.8%	126.5%	138.6%
Mid	132.1%	124.4%	105.0%
Small	136.3%	112.6%	87.1%

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

	Value	Blend	Growth
Large	14.9 / 13.7	19.5 / 15.6	26.5 / 18.9
Mid	15.0 / 14.5	17.1 / 16.4	26.4 / 20.5
Small	16.3 / 16.7	21.9 / 21.3	34.5 / 26.6

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

	Value	Blend	Growth
Large	108.9%	125.2%	140.3%
Mid	103.4%	104.7%	128.6%
Small	97.4%	102.8%	129.7%

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 2/19/2020 to 12/31/2023. Since market low represents period from 3/23/2020 to 12/31/2023. Returns are cumulative returns, not annualized. For all time periods, total return is based on Russell style indices except for the large blend category, which is based on the S&P 500 Index. Past performance is not indicative of future returns. The price-to-earnings is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM) and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. *Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Equities

	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
S&P weight	3.9%	2.4%	13.0%	8.8%	10.9%	28.9%	8.6%	2.5%	12.6%	6.2%	2.3%	100.0%	**Weight**
Russell Growth weight	0.5%	0.7%	6.4%	5.9%	15.8%	43.5%	11.4%	0.9%	10.6%	4.1%	0.1%	100.0%	
Russell Value weight	7.8%	4.9%	21.8%	13.9%	5.2%	9.5%	4.7%	5.0%	14.6%	7.9%	4.8%	100.0%	
Russell 2000 weight	6.9%	4.5%	17.1%	17.0%	11.0%	13.6%	2.3%	6.2%	15.4%	3.4%	2.7%	100.0%	
4Q23	-6.9	9.7	14.0	13.1	12.4	17.2	11.0	18.8	6.4	5.5	8.6	11.7	**Return (%)**
2023	-1.3	12.5	12.1	18.1	42.4	57.8	55.8	12.3	2.1	0.5	-7.1	26.3	
Since market peak (February 2020)	84.1	54.0	31.7	45.5	39.8	95.8	32.1	11.3	40.2	28.0	2.8	50.0	
Since market low (March 2020)	317.8	141.0	130.7	149.5	104.8	184.3	85.0	78.6	94.5	68.4	59.7	126.5	
Beta to S&P 500	1.2	1.1	1.1	1.1	1.2	1.1	1.0*	0.8	0.7	0.6	0.5	1.0	**β**
Correl. to Treas. yields	-0.1	-0.5	-0.5	-0.5	-0.6	-0.7	-0.8	-0.6	-0.4	-0.4	-0.5	-0.7	**ρ**
Foreign % of sales	37.4	52.4	28.6	31.6	33.8	58.7	45.3	17.9	33.6	40.8	1.4	41.0	**%**
NTM earnings growth	2.1%	2.8%	7.1%	11.9%	11.7%	16.9%	15.8%	2.6%	17.7%	5.6%	8.1%	11.4%	**EPS**
20-yr avg.	100.2%	14.3%	20.6%	14.1%	17.0%	12.5%	11.1%*	6.9%	7.9%	7.7%	4.6%	11.0%	
Forward P/E ratio	10.8x	19.5x	14.6x	19.9x	25.4x	26.7x	17.3x	17.6x	17.9x	19.2x	15.8x	19.5x	**P/E**
20-yr avg.	13.6x	14.8x	12.5x	16.3x	19.5x	17.9x	18.6x*	17.0x	15.0x	17.4x	15.6x	15.6x	
Buyback yield	4.5%	1.6%	2.8%	2.5%	1.5%	1.5%	3.8%	-1.0%	1.3%	0.8%	-1.0%	2.2%	**Bbk**
20-yr avg.	1.7%	1.0%	0.4%	2.3%	2.5%	3.0%	1.7%	-1.4%	2.0%	1.8%	-0.8%	1.8%	
Dividend yield	3.5%	2.0%	1.9%	1.6%	0.8%	0.8%	0.8%	3.7%	1.7%	3.0%	3.7%	1.5%	**Div**
20-yr avg.	2.8%	2.4%	2.3%	2.2%	1.4%	1.2%	1.2%	3.8%	1.9%	2.8%	3.8%	2.1%	

Source: FactSet, Refinitiv Datastream, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period from 2/19/2020 to 12/31/2023. Since market low represents period from 3/23/2020 to 12/31/2023. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Next 12 months (NTM) earnings growth is the percent change in next 12-months earnings estimates compared to last 12-months earnings provided by brokers. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. Buyback yield is net of share issuance and is calculated as last 12-months net buybacks divided by market cap. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. *Communication Services (formerly Telecom) averages and beta are based on 5-years of backtested data by JPMAM. Past performance is not indicative of future returns.
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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
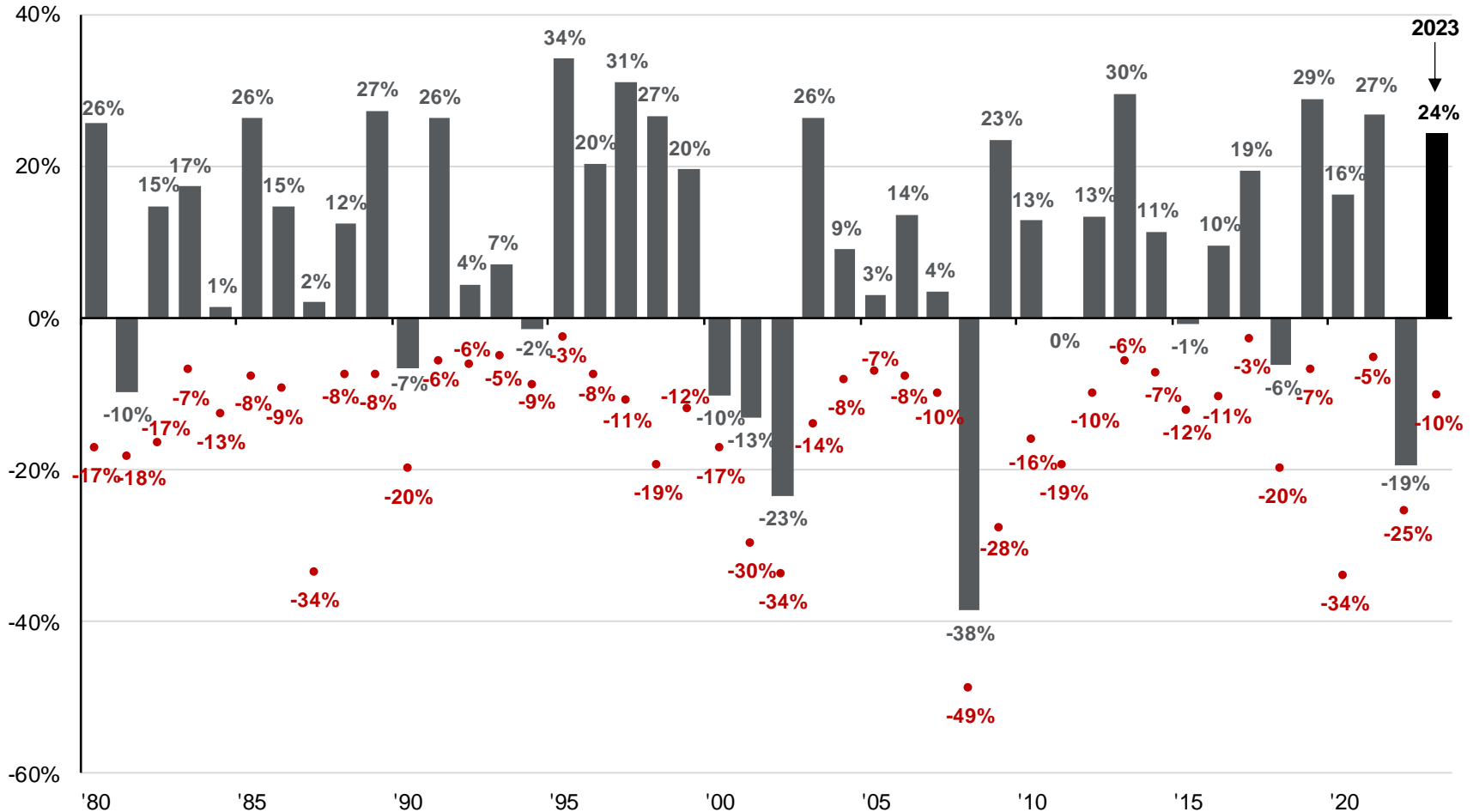
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2023, over which time period the average annual return was 9.0%.
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Equities

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Economic growth and the composition of GDP

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

GDP (%)	4Q22	1Q23	2Q23	3Q23
Q/Q saar	2.6	2.2	2.1	4.9
Y/Y	0.7	1.7	2.4	2.9
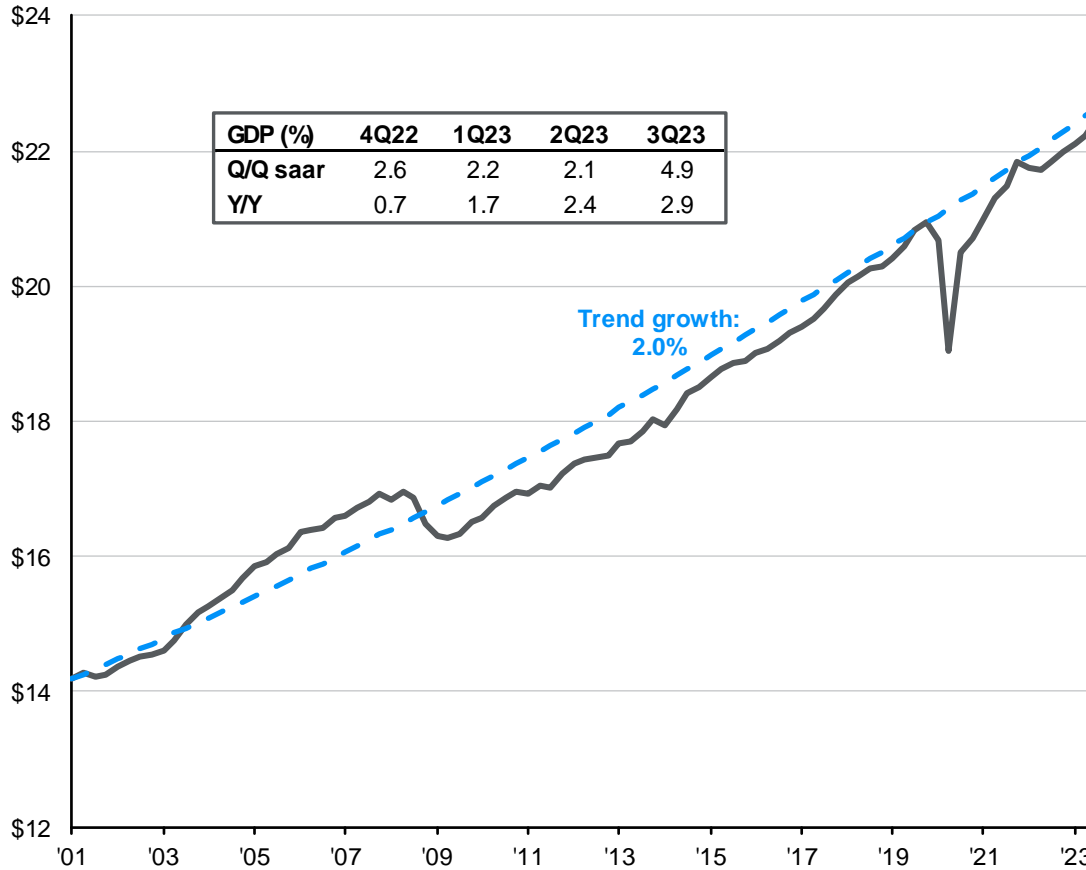
Trend growth:
2.0%

Components of GDP
3Q23 nominal GDP, USD trillions

3.9% Housing

13.9% Investment ex-housing

17.4% Gov't spending

67.7% Consumption

-2.8% Net exports
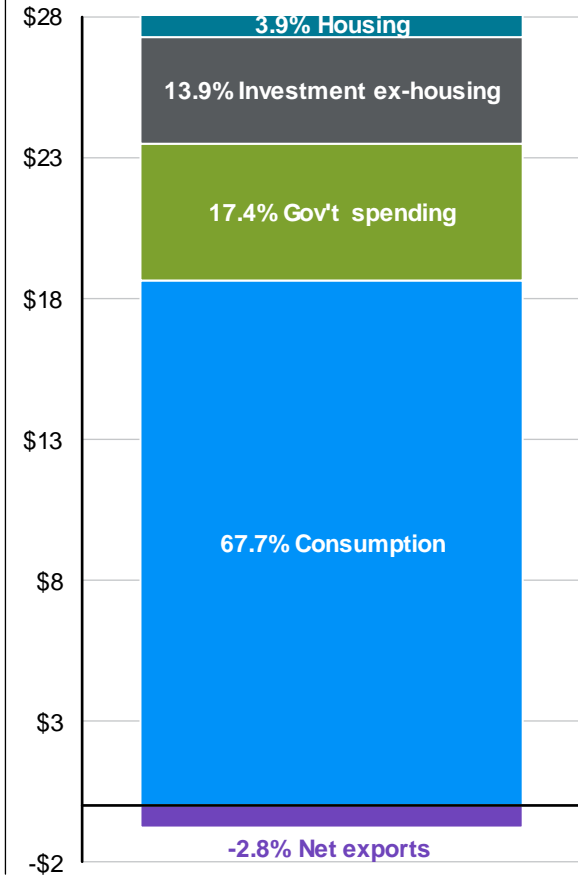
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19.
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Economy

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Contributors to real GDP growth
q/q % change, annualized rate

Economy

Legend:
- Gov't spending
- Net exports
- Chg. in private inventories
- Bus. fixed investment
- Residential
- Consumption

Values shown on line: 5.2%, 6.2%, 3.3%, 7.0%, -2.0%, -0.6%, 2.7%, 2.6%, 2.2%, 2.1%, 4.9%

Quarters: 1Q21, 2Q21, 3Q21, 4Q21, 1Q22, 2Q22, 3Q22, 4Q22, 1Q23, 2Q23, 3Q23

Source: BEA, FactSet, J.P. Morgan Asset Management.
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Recession determinants

Variables used by the NBER in making recession determination*

% change month-over-month

% change, last six months

Real personal income less transfers	Nonfarm payroll employment	Household survey employment	Real consumer spending	Real wholesale + retail sales	Industrial production
1.5%	0.7%	0.8%	1.4%	2.1%	-0.3%

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

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Economy

Residential investment as a % of GDP
Quarterly, seasonally adjusted

Recession

Average: 4.4%

3Q23: 3.9%
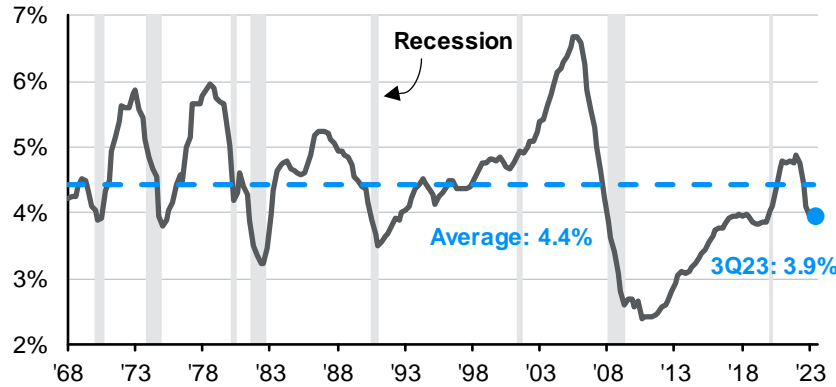
Business fixed investment as a % of GDP
Quarterly, seasonally adjusted

3Q23: 13.5%

Average: 12.9%
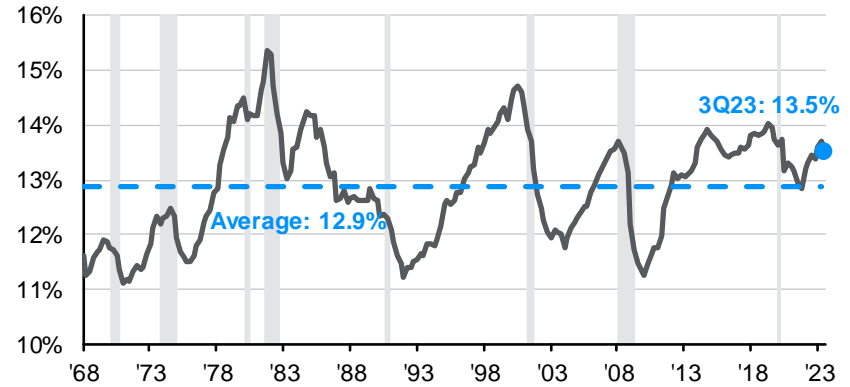
Light vehicle sales
Mil vehicles, seasonally adjusted ann. rate

Average: 14.8m

Nov. 2023:
15.3m
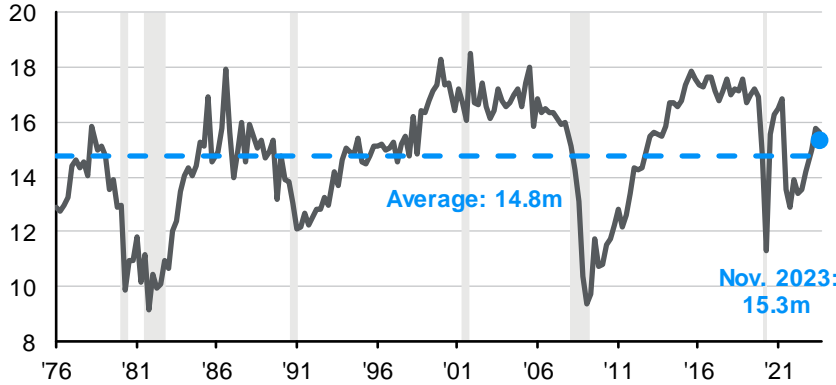
Total business inventory/sales ratio
Days of sales, monthly, seasonally adjusted

Average: 43.0 days

Oct. 2023: 41.7 days
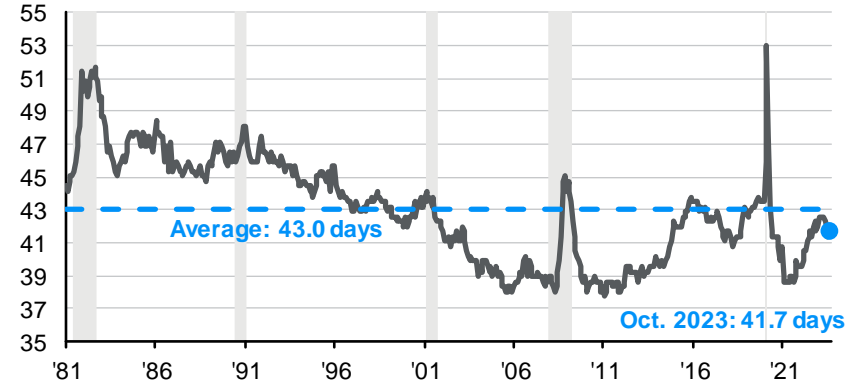
Source: BEA, Census Bureau, FactSet, J.P. Morgan Asset Management. Data for light vehicle sales is quarterly apart from the latest monthly data point.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Long-term drivers of economic growth

Economy

Growth in working-age population
Percent increase in civilian non-institutional population ages 16-64

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

Drivers of GDP growth
Average year-over-year % change
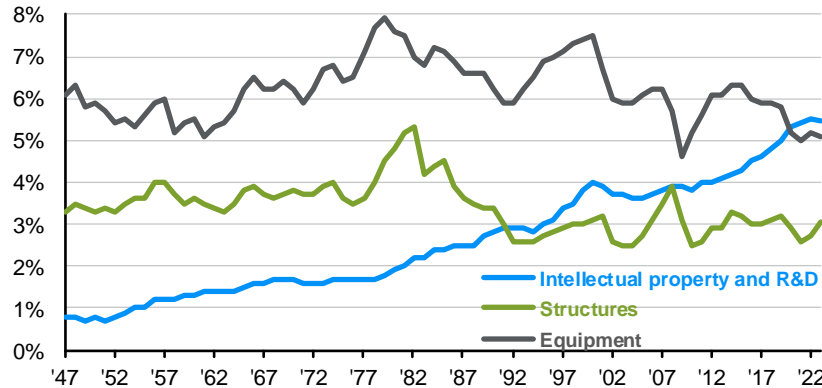
Source: J.P. Morgan Asset Management; (Top left) Census Bureau, DOD, DOJ; (Top left and right) BLS; (Right and bottom left) BEA.
GDP drivers are calculated as the average annualized growth in the 10 years ending in the fourth quarter of each decade. *The latest period reflects 4Q19 to 3Q23. Future working-age population is based on Census Bureau projections released in November 2023, controlled for military enrollment, growth in institutionalized population and demographic trends. DOD Troop Readiness reports used to estimate percent of population enlisted. Numbers may not sum due to rounding. 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 December 31, 2023.

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Federal finances

The 2023 federal budget
USD trillions

Total spending: $6.1tn

Other: $950bn (15%)
Net int.: $659bn (11%)
Non-defense disc.: $917bn (15%)
Defense: $805bn (13%)
Social Security: $1,348bn (22%)
Medicare & Medicaid: $1,455bn (24%)

Total government spending

Borrowing: $1,695bn (28%)
Other: $229bn (4%)
Social insurance: $1,614bn (26%)
Corporate: $420bn (7%)
Income: $2,176bn (35%)

Sources of financing
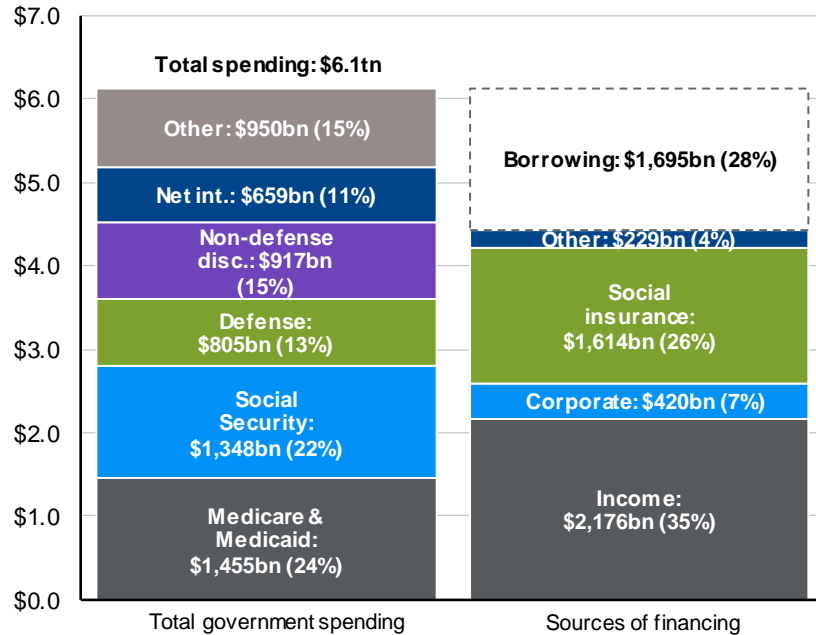
CBO's Baseline economic assumptions

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

Federal deficit and net interest outlays
% of GDP, 1973-2033, Adj. CBO Baseline Forecast*

Forecast

Total deficit or surplus

Net interest outlays

Primary deficit or surplus
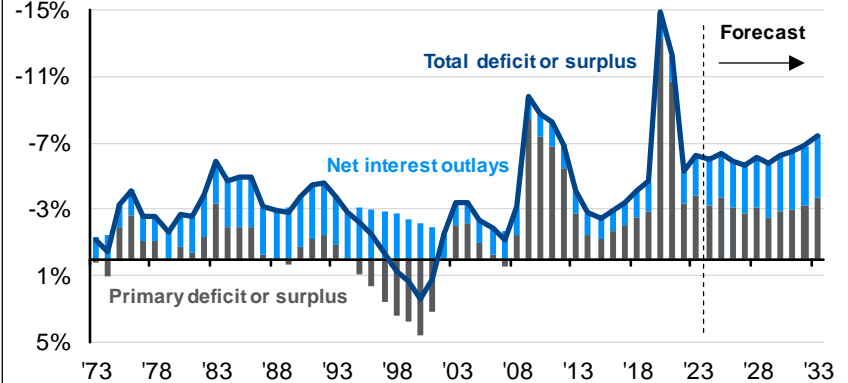
Federal net debt (accumulated deficits)
% of GDP, 1940 – 2033, Adj. CBO Baseline Forecast*, end of fiscal year

2033: 120.9%
2023: 97.6%
Forecast
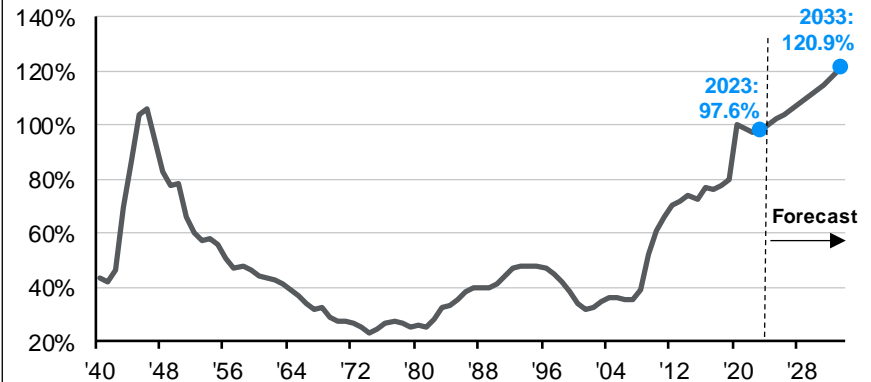
Source: CBO, J.P. Morgan Asset Management; (Top and bottom right) BEA, Treasury Department.
*Estimates are based on the Congressional Budget Office (CBO) May 2023 An Update to the Budget Outlook: 2023 to 2033, adjusted by JPMAM for FY 2023 forecast errors. Other spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Note: Years shown are fiscal years. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.
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Economy

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Economy

Consumer balance sheet
3Q23, USD trillions, not seasonally adjusted

Total assets: $171.3tn

Homes: 29%

Other tangible: 5%

Deposits: 8%

Pension funds: 17%

Other non-revolving: 2%
Revolving*: 6%
Auto loans: 8%
Other liabilities: 10%
Student debt: 9%

Other financial assets: 41%

Total liabilities: $20.3tn

Mortgages: 66%

Assets | Liabilities
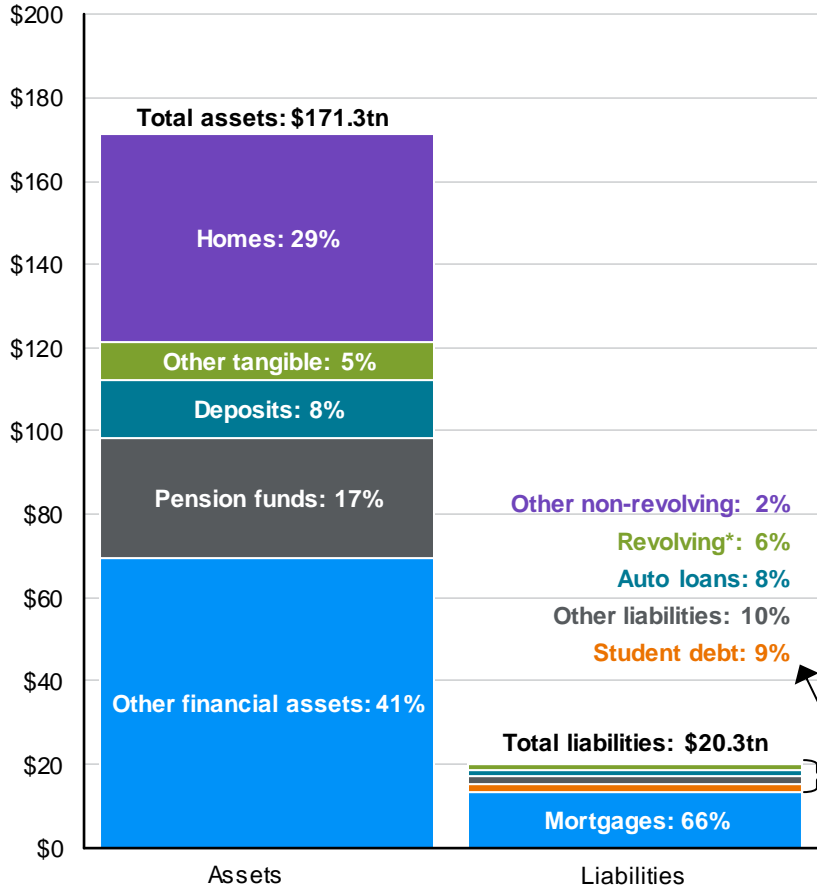
Household debt service ratio
Debt payments as % of disposable personal income, SA

4Q07: 13.3%
1Q80: 10.6%
4Q23**: 9.9%
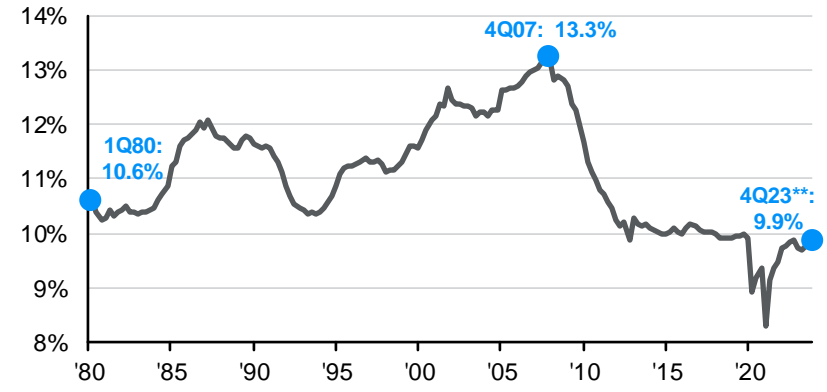
Flows into early delinquencies
% of balance delinquent 30+ days

Loans	3Q23
Auto	7.4%
Credit card	8.0%
Student loan	0.9%

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Economy

Personal saving rate
Personal savings as a % of disposable personal income, annual

2023 YTD: 4.6%

Average: 8.6%
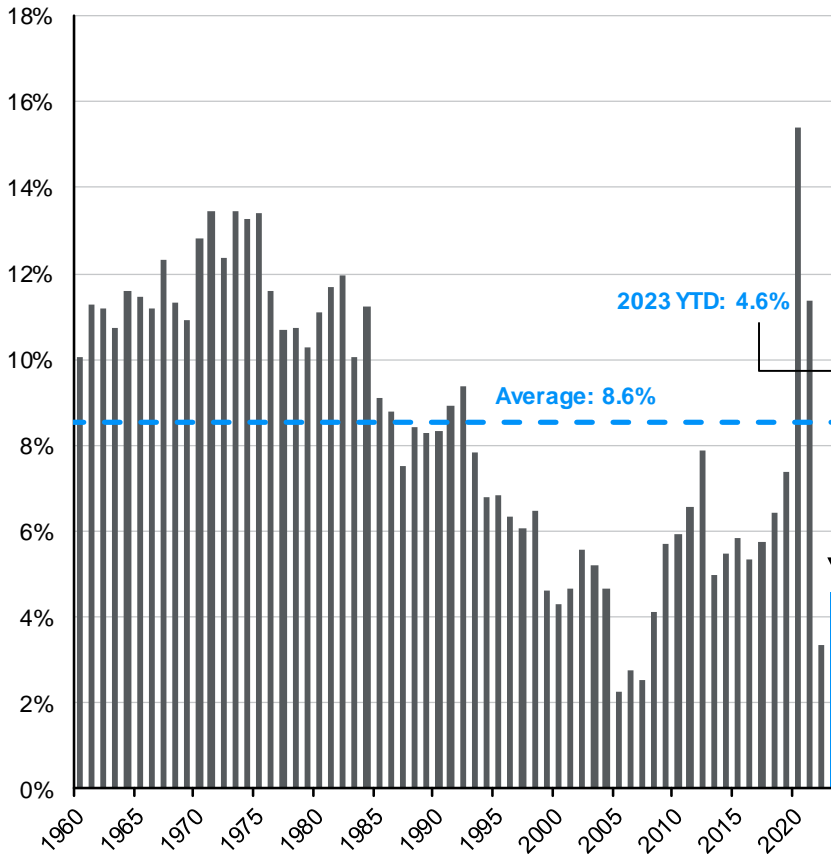
Household excess savings
Trillions of USD

Peak excess savings: $2.3tn

Personal savings

Excess savings remaining: $1.0tn
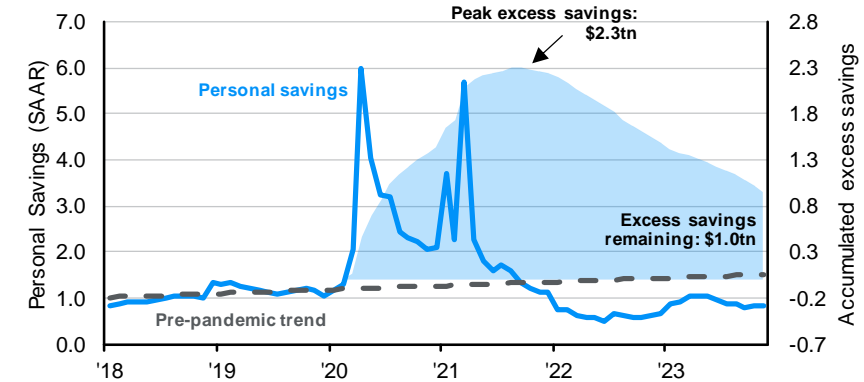
Pre-pandemic trend

Revolving consumer credit outstanding
% of disposable income, SAAR

Oct. 2023: 6.3%
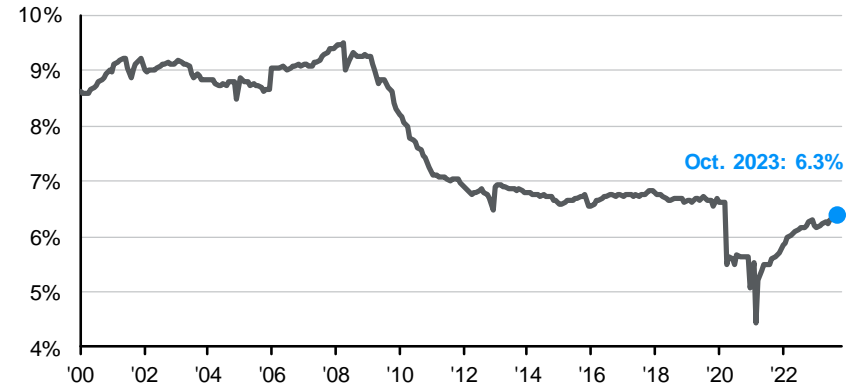
Source: BEA, Federal Reserve, J.P. Morgan Asset Management. From March 2020 to August 2021, consumers amassed a peak $2.3 trillion in excess savings relative to the pre-pandemic trend. Since August 2021, consumers have drawn down on those excess savings, with the remaining reflected in the chart annotation.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Economy

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

Avg. subsequent 12-mo. S&P 500 returns	
9 sentiment peaks	+3.5%
9 sentiment troughs	+24.1%

Recession

Jan. 2000: -2.0%

Jan. 2004: +4.4%

Aug. 1972: -6%

Mar. 1984: +13.5%

Feb. 2020: +29.0%

May 1977: +1.2%

Jan. 2007: -4.2%

Jan. 2015: -2.7%

Apr. 2021: -1.2%

Average: 85.0

Mar. 2003: +32.8%

Oct. 2005: +14.2%

Apr. 2020: +43.6%

Dec. 2023: 69.7

Feb. 1975: +22%

Oct. 1990: +29.1%

Nov. 2008: +22.2%

Aug. 2011: +15.4%

May 1980: +20.0%

Sentiment cycle turning point and subsequent 12-month S&P 500 Index return

Jun. 2022: +17.6%
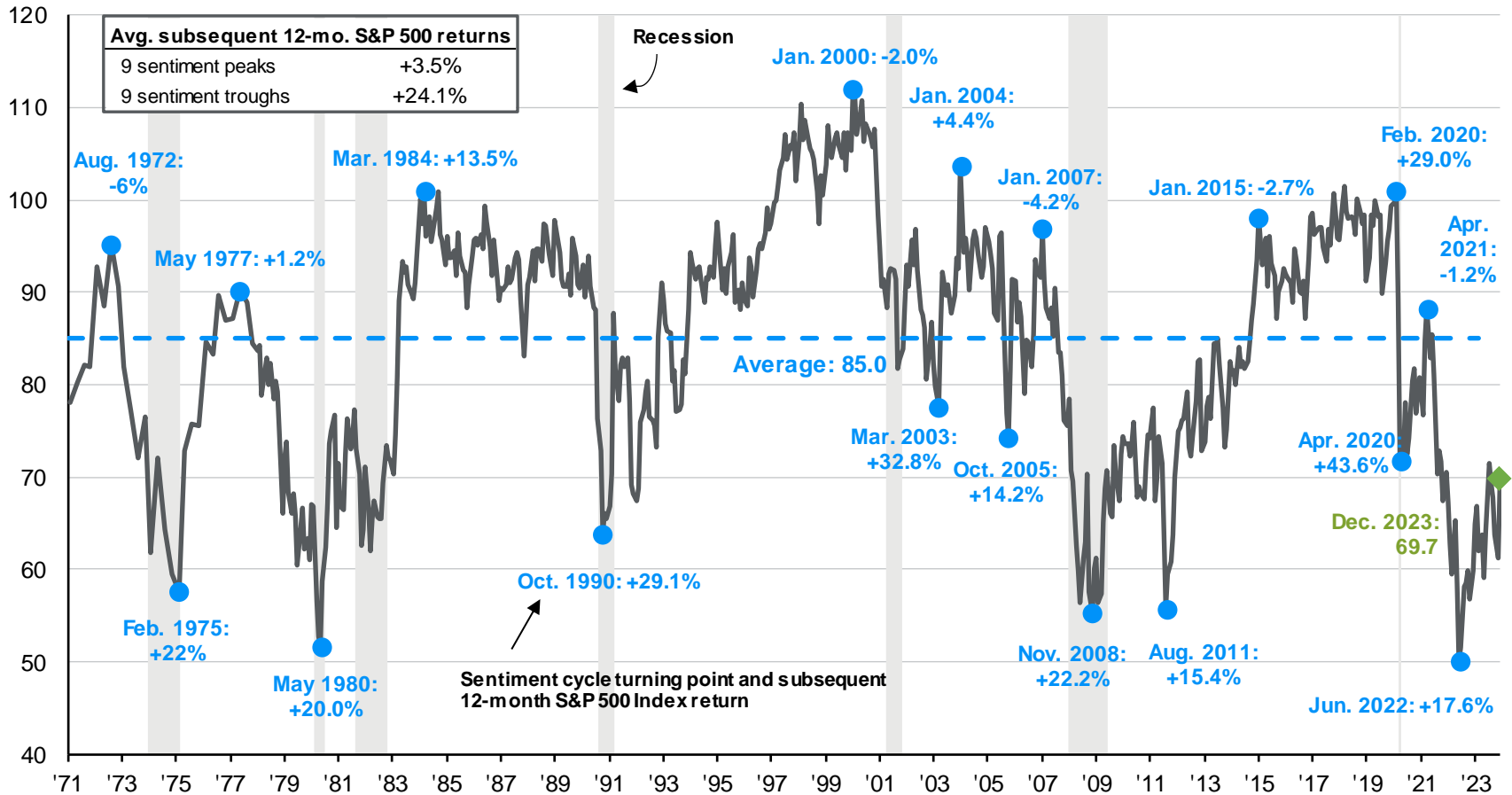
Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management.
Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only starting from the end of the month and excluding dividends. Past performance is not a reliable indicator of current and future results.
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Civilian unemployment rate and year-over-year wage growth
Private production and non-supervisory workers, seasonally adjusted, percent

	50-year avg.
Unemployment rate	6.2%
Wage growth	3.9%

Apr. 2020: 14.7%

Nov. 1982: 10.8%

Oct. 2009: 10.0%

May 1975: 9.0%

Jun. 1992: 7.8%

Jun. 2003: 6.3%

Mar. 2022: 7.0%

Nov. 2023: 4.3%
Nov. 2023: 3.7%
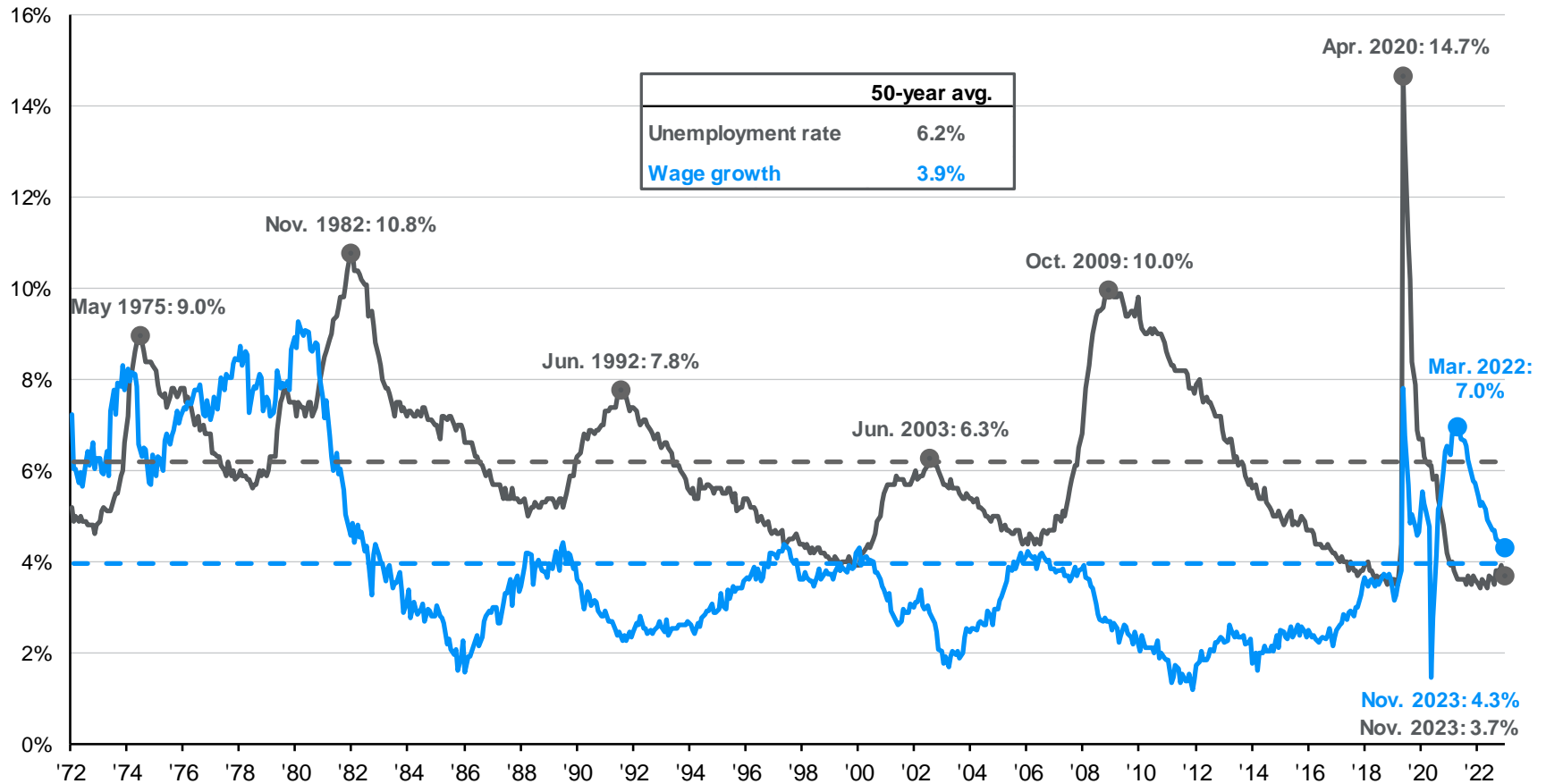
Source: BLS, FactSet, J.P. Morgan Asset Management. Private production and non-supervisory jobs represent just over 80% of total private nonfarm jobs.
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Economy

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Labor demand

JOLTS job openings*
Total job openings, thousands, seasonally adjusted

Recession

Mar. 2022: 12,027

Oct. 2023: 8,733

JOLTS quits
Total nonfarm quits, thousands, seasonally adjusted

Oct. 2023: 3,628
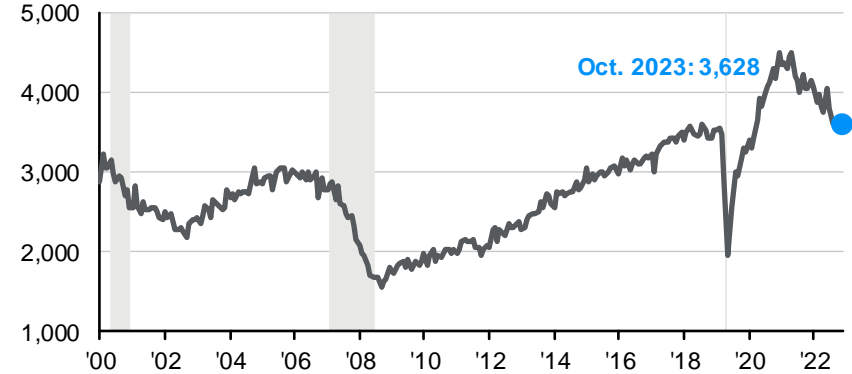
JOLTS layoffs
Total nonfarm layoffs, thousands, seasonally adjusted

Oct. 2023: 1,642

Economy
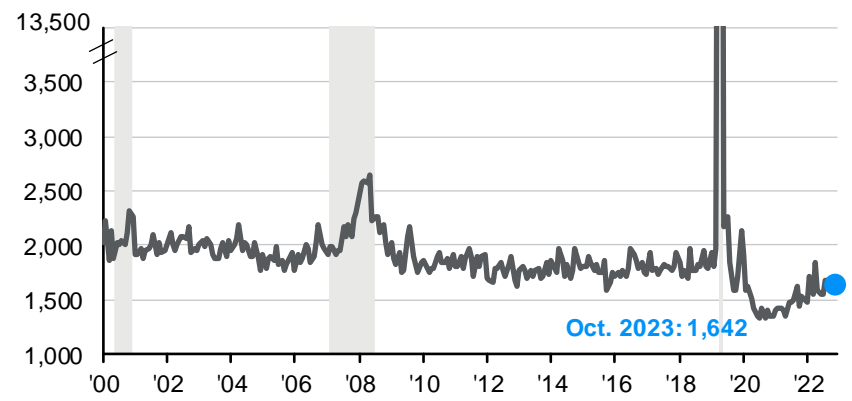
Source: U.S. Department of Labor, J.P. Morgan Asset Management. *JOLTS job openings from February 1974 to November 2000 are J.P. Morgan Asset Management estimates.
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Labor market dashboard

Economy

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

	Nov. '23
Payroll gain	199K
3mo. avg	204K
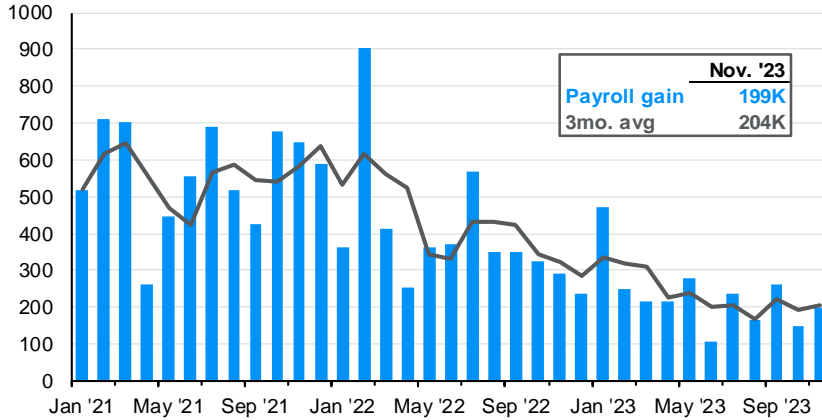
Labor force participation
% of civilian noninstitutional population, SA

25-54 Years

55+ Years

Key labor market indicators

	2020							2021												2022												2023						
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Initial jobless claims																																										
Continuing jobless claims																																										
Challenger layoffs																																										
Jobs plentiful vs. hard to get																																										
ISM services employment																																										
ISM manufacturing employment																																										
Small business hiring plans (incr-decr)																																										

Source: BLS, Conference Board, FactSet, ISM, NFIB, J.P. Morgan Asset Management. Heatmap shading is relative to the time period shown. For jobless claims and layoffs, red reflects higher values and green reflects lower values. For ISM employment PMIs, shading is centered at a 50 level, with values above 50 indicating acceleration (shaded green) and below 50 indicating deceleration (shaded red) of employment. For jobs plentiful vs. hard to get and small business hiring plans, red reflects low survey values and green reflects high values.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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CPI and core CPI
% change vs. prior year, seasonally adjusted

	50-yr. avg.	Oct. 2023	Nov. 2023
Headline CPI	**3.9%**	**3.2%**	**3.1%**
Core CPI	**3.9%**	**4.0%**	**4.0%**
Food CPI	3.8%	3.3%	3.0%
Energy CPI	4.5%	-4.5%	-5.4%
Headline PCE deflator	3.4%	2.9%	2.6%
Core PCE deflator	3.3%	3.4%	3.2%

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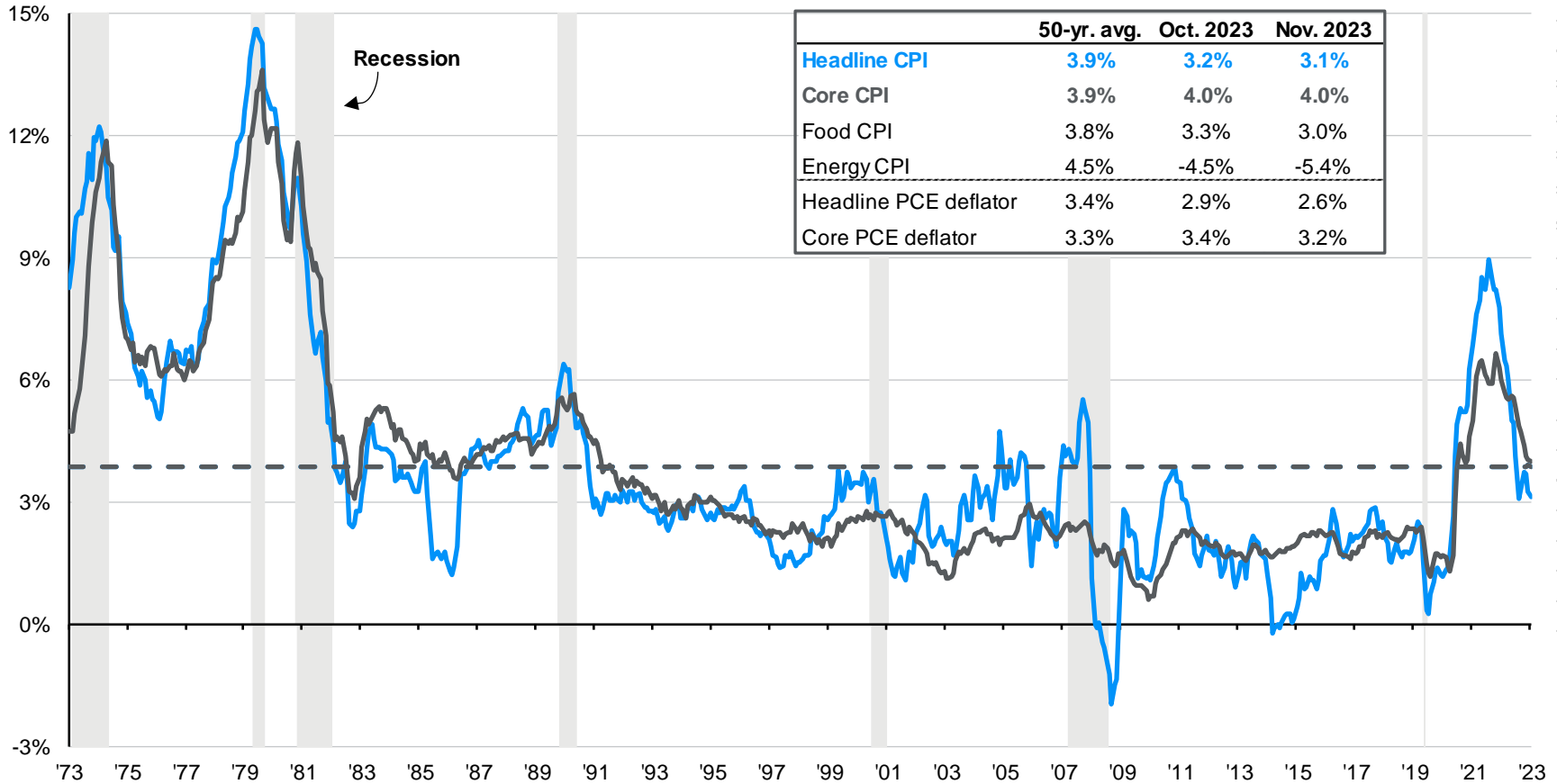
Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead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

Economy

Contributors to headline CPI inflation

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

Legend:
- **Energy** (green)
- **New and used vehicles** (red)
- **Other** (gray)
- **Food at home** (purple)
- **Restaurants, hotels and transp.** (light blue)
- **Shelter** (dark blue)

Data labels: 8.6%, 9.1%, 8.5%, 8.3%, 8.2%, 7.7%, 7.1%, 6.5%, 6.4%, 6.0%, 5.0%, 4.9%, 4.0%, 3.0%, 3.2%, 3.7%, 3.7%, 3.2%, 3.1%

X-axis: May '22 Jul '22 Sep '22 Nov '22 Jan '23 Mar '23 May '23 Jul '23 Sep '23 Nov '23
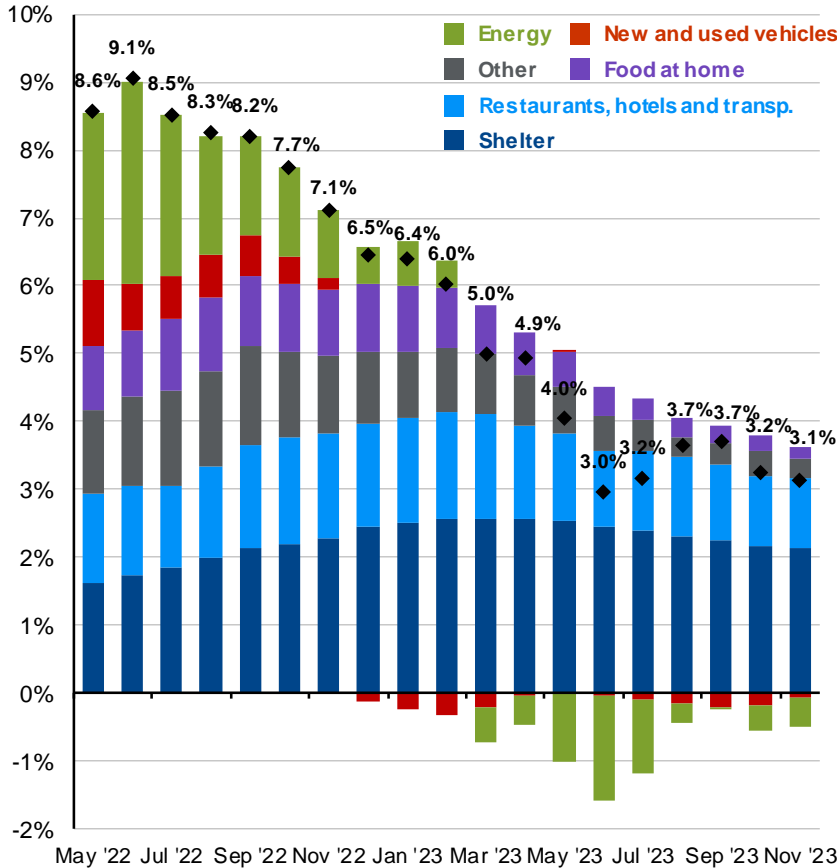
Contributors to core services ex-shelter CPI inflation*

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

Legend:
- **Other services** (green)
- **Recreation services** (gray)
- **Education and comm. services** (purple)
- **Airline fares** (light blue)
- **Transportation services (ex-airfares)** (red)
- **Medical services** (dark blue)

Data labels: 4.6%, 5.5%, 5.3%, 5.7%, 6.6%, 6.4%, 6.3%, 6.4%, 6.3%, 6.1%, 5.9%, 5.4%, 5.0%, 3.6%, 3.7%, 3.8%, 3.4%, 3.5%, 3.5%

X-axis: May '22 Jul '22 Sep '22 Nov '22 Jan '23 Mar '23 May '23 Jul '23 Sep '23 Nov '23
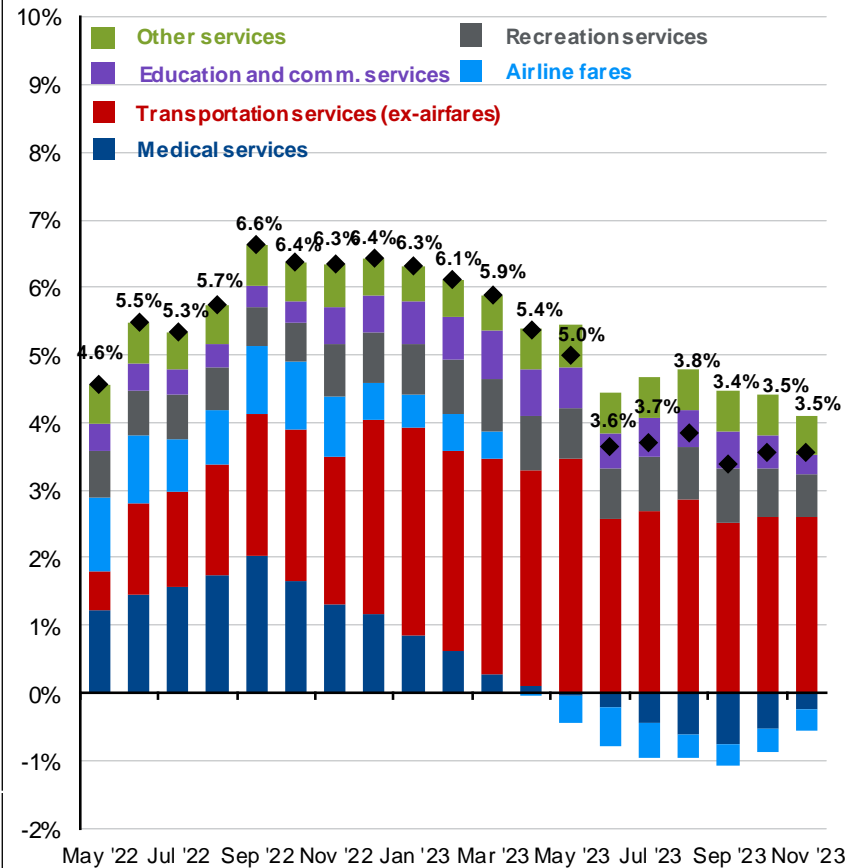
Source: BLS, FactSet, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. *Core services ex-shelter CPI is a custom index using CPI components created by J.P. Morgan Asset Management. (Left) "Shelter" includes owners' equivalent rent and rent of primary residence; "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. (Right) "Transportation services" primarily includes leased cars and trucks, motor vehicle insurance and motor vehicle maintenance and repair. Airline fares are broken out from transportation services.
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Oil markets

Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2019	2020	2021	2022	2023*	2024*	2019-2023
U.S.	19.5	18.6	19.0	20.3	21.9	22.2	11.9%
OPEC	34.6	30.7	31.7	34.2	33.4	33.1	-3.5%
Russia	11.5	10.5	10.8	11.0	10.8	10.7	-6.3%
Global	**100.3**	**93.9**	**95.7**	**100.0**	**101.6**	**102.2**	**1.3%**
Consumption							
U.S.	20.5	18.2	19.9	20.0	20.1	20.4	-1.9%
China	14.0	14.4	15.3	15.2	15.9	16.3	13.8%
India	4.9	4.5	4.7	5.0	5.3	5.6	7.9%
Global	**100.9**	**91.6**	**97.1**	**99.2**	**101.0**	**102.3**	**0.1%**
Inventory Change	**-0.6**	**2.3**	**-1.4**	**0.8**	**0.6**	**-0.2**	

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

Million barrels, number of active rigs
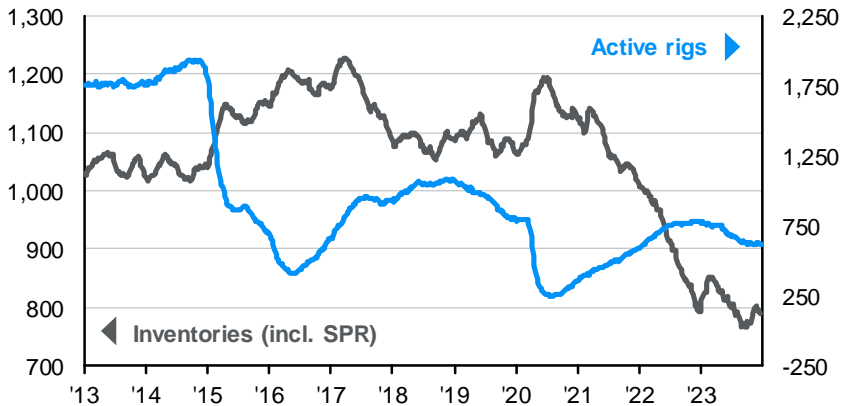
Price of oil

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 December 2023 EIA Short-Term Energy Outlook and start in 2023. **U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Liquid fuels include crude oil, natural gas, biodiesel and fuel ethanol. Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.
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Economy

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Bank assets and liabilities

Economy

Asset exposure by bank size
% of total loans and leases, domestically chartered commercial banks

Large
Top 25 banks by domestic assets

Other**: 19%
Commercial real estate: 13%
Consumer: 21%
Residential real estate*: 24%
C&I: 23%

Small
All banks outside top 25

Other**: 7%
Commercial real estate: 44%
Consumer: 10%
Residential real estate*: 22%
C&I: 16%
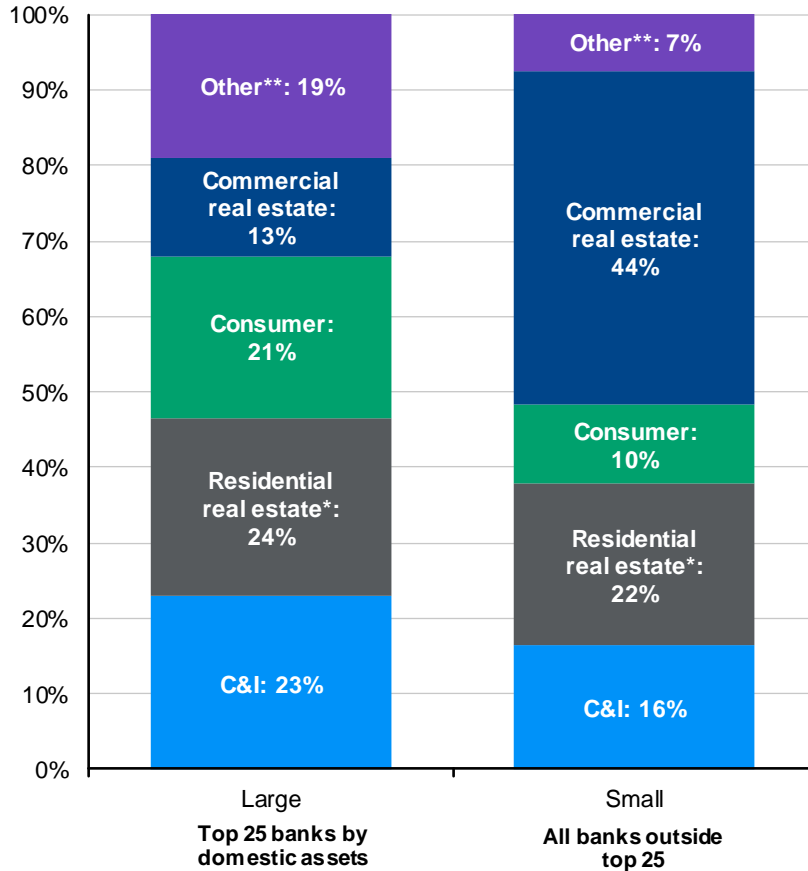
Important market interest rates
Monthly

	Dec. 2023
3-month T-bill	5.3%
Government money market fund	5.2%
Bank 6-month CD	2.3%
Bank savings account	0.5%
Bank interest checking account	0.1%
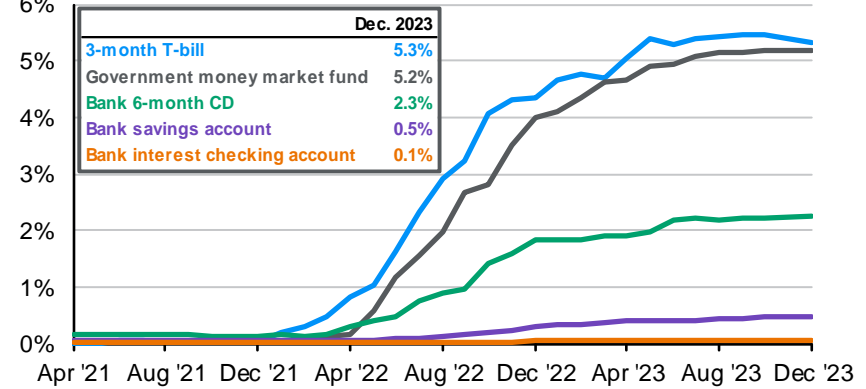
Bank deposits by bank size
Trillions of USD

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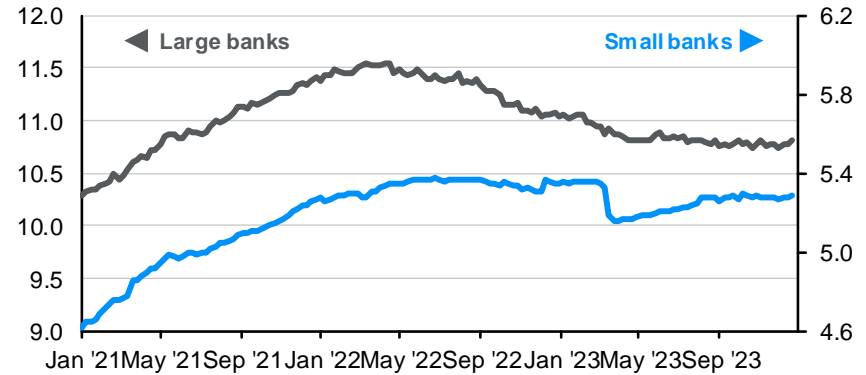
Source: Bankrate, Bloomberg, Crane Data, FDIC, Federal Reserve, J.P. Morgan Asset Management. Bank asset exposure is based on the monthly H.8 report by the Federal Reserve. Large banks are defined as the top 25 domestically chartered commercial banks ranked by domestic assets while small banks are defined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

Fixed Income

Federal funds rate expectations

FOMC and market expectations for the federal funds rate

FOMC December 2023 forecasts
Percent

	2023	2024	2025	2026	Long run*
Change in real GDP, 4Q to 4Q	2.6	1.4	1.8	1.9	1.8
Unemployment rate, 4Q	3.8	4.1	4.1	4.1	4.1
Headline PCE inflation, 4Q to 4Q	2.8	2.4	2.1	2.0	2.0
Core PCE inflation, 4Q to 4Q	3.2	2.4	2.2	2.0	

Legend:
- Federal funds rate
- FOMC year-end estimates
- Market expectations
- FOMC long-run projection*

Data labels: 5.38%, 4.60%, 3.62%, 3.60%, 3.03%, 3.06%, 2.90%, 2.50%
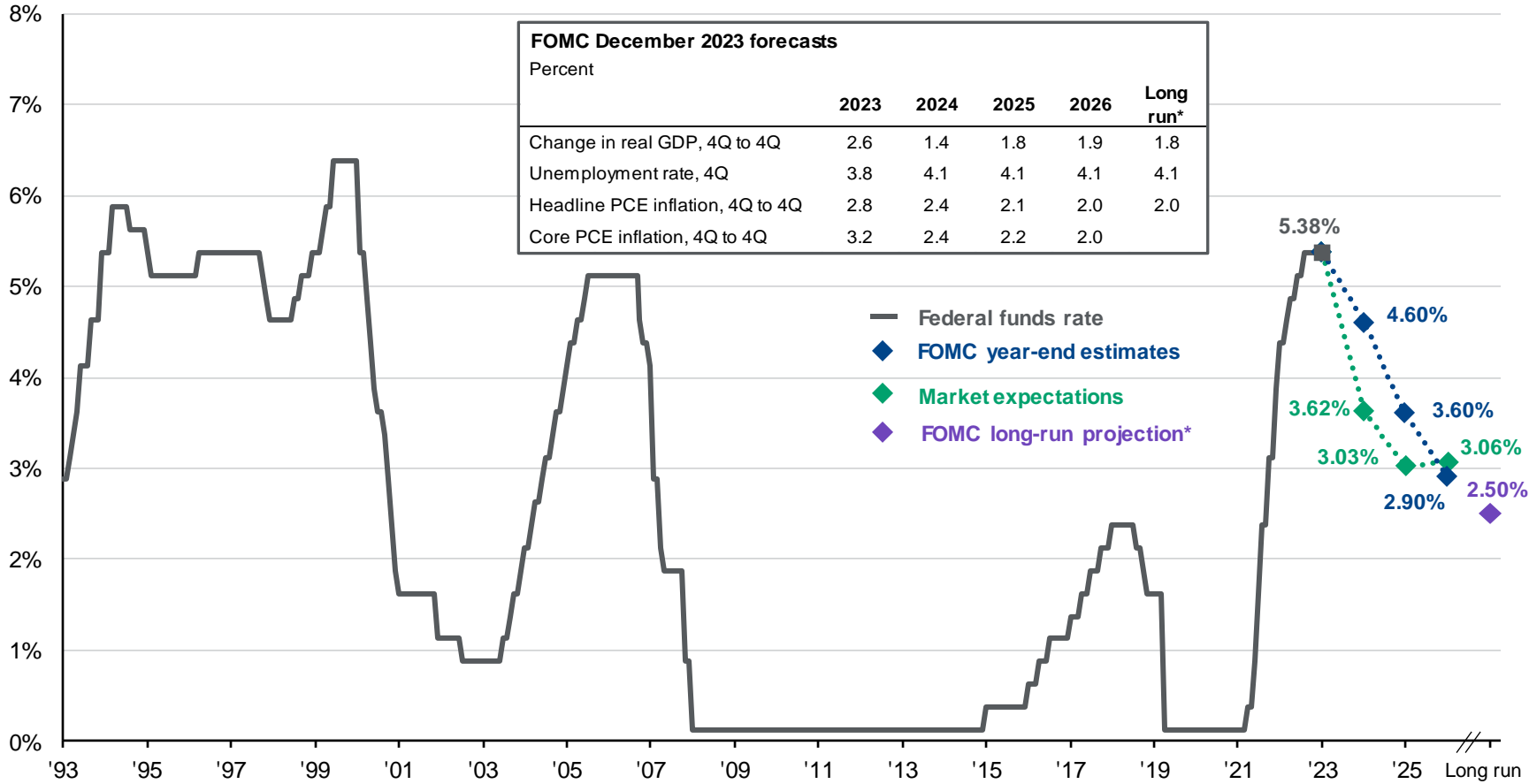
Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.
Market expectations are based off of USD Overnight Index Swaps. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in 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 December 31, 2023.

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Interest rates and inflation

Fixed Income

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

Sep. 30, 1981:
15.84%

Nominal 10-year U.S. Treasury yield

Real 10-year U.S. Treasury yield

Dec. 31, 2023:
3.88%

Dec. 31, 2023:
-0.11%

	Average	
	(1958 - present)	Dec. 31, 2023
Nominal yields	**5.75%**	**3.88%**
Real yields	**2.07%**	**-0.11%**
Inflation	**3.68%**	**3.99%**
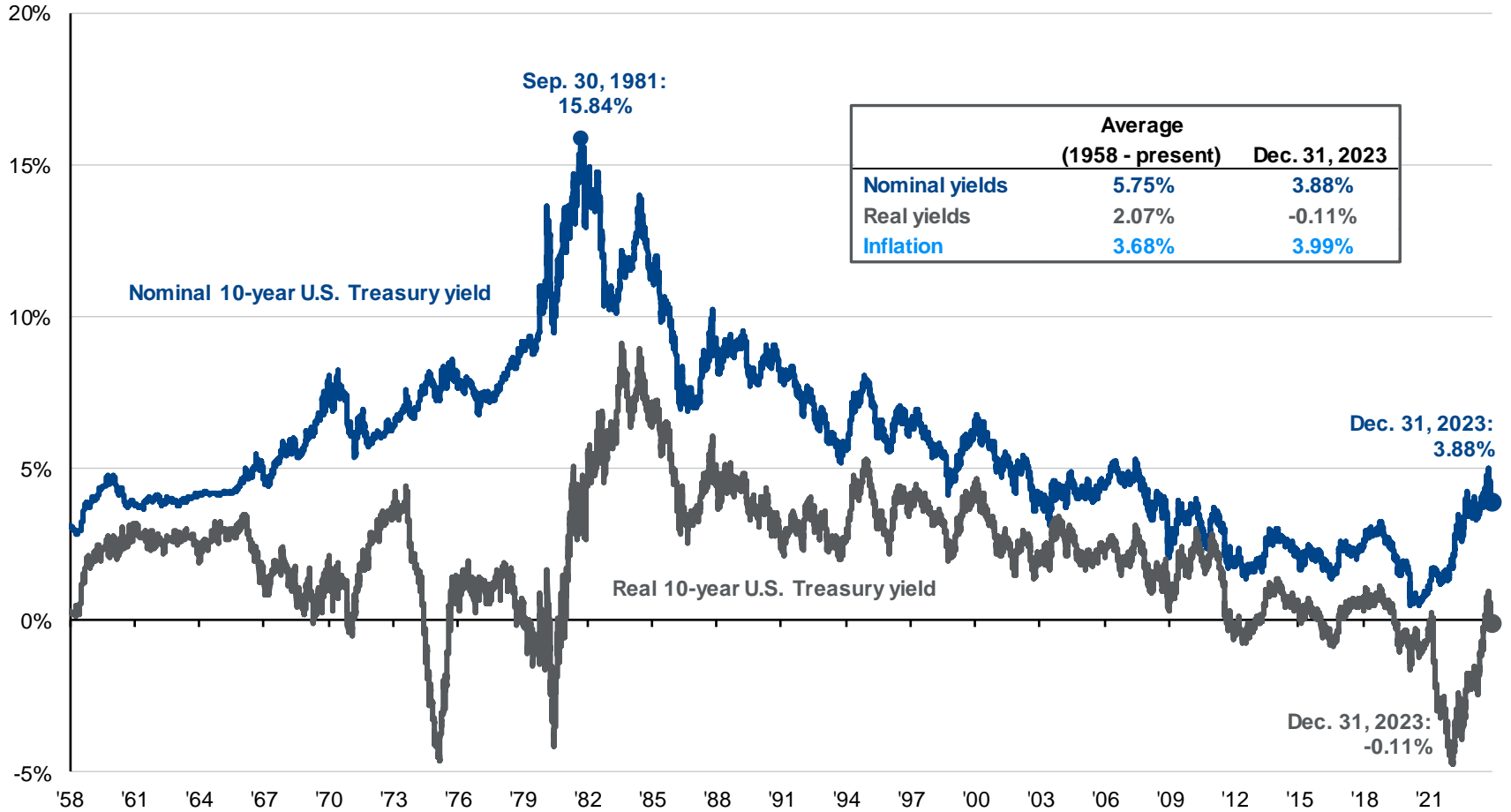
Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management.
Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month. For the current month, we use the prior month's core CPI figures until the latest data are available.
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Fixed income market dynamics

Fixed Income

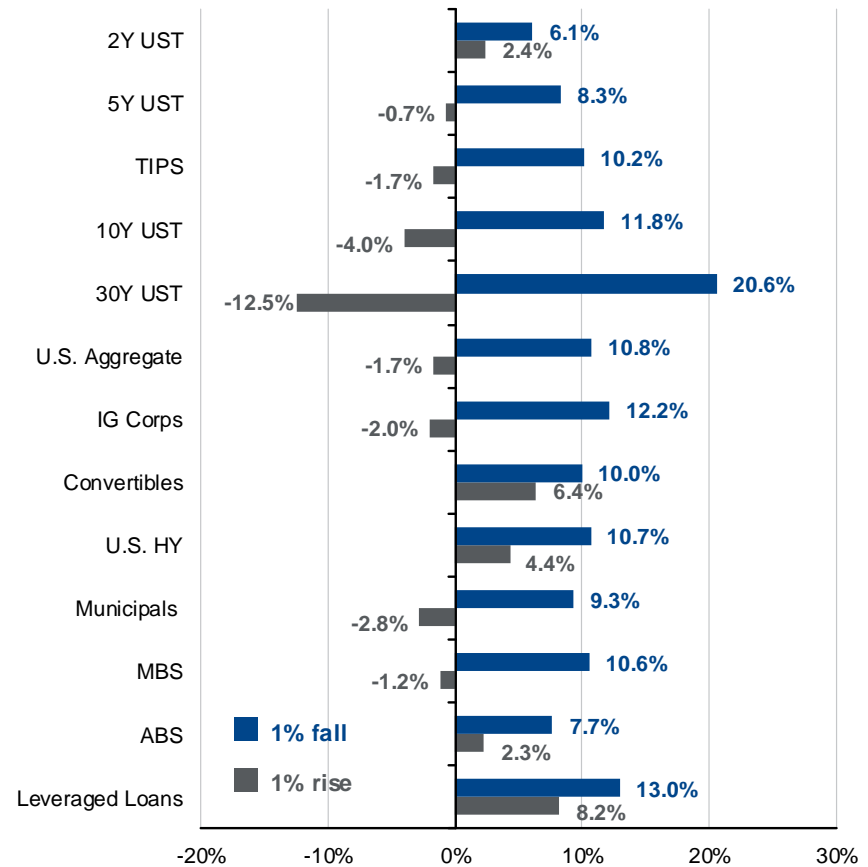| U.S. Treasuries	Yield		Return			
	12/31/2023	12/31/2022	2023	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
2-Year	4.23%	4.41%	3.65%	2 years	0.75	0.00
5-Year	3.84%	3.99%	3.93%	5	0.94	-0.02
TIPS	4.24%	4.38%	3.90%	7.1	0.68	0.32
10-Year	3.88%	3.88%	3.21%	10	1.00	-0.06
30-Year	4.03%	3.97%	1.93%	30	0.93	-0.09
Sector						
U.S. Aggregate	4.53%	4.68%	5.53%	8.5	0.87	0.26
IG Corps	5.06%	5.42%	8.52%	10.8	0.58	0.48
Convertibles	7.88%	7.58%	13.92%	-	-0.10	0.86
U.S. HY	7.59%	8.96%	13.44%	4.9	-0.03	0.72
Municipals	3.22%	3.55%	6.40%	13.3	0.62	0.22
MBS	4.68%	4.71%	5.05%	7.5	0.77	0.24
ABS	5.65%	5.89%	7.05%	3.7	0.01	0.03
Leveraged Loans	10.59%	11.41%	13.17%	2.4	-0.30	0.52

Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve

	1% fall	1% rise
2Y UST	6.1%	2.4%
5Y UST	8.3%	-0.7%
TIPS	10.2%	-1.7%
10Y UST	11.8%	-4.0%
30Y UST	20.6%	-12.5%
U.S. Aggregate	10.8%	-1.7%
IG Corps	12.2%	-2.0%
Convertibles	10.0%	6.4%
U.S. HY	10.7%	4.4%
Municipals	9.3%	-2.8%
MBS	10.6%	-1.2%
ABS	7.7%	2.3%
Leveraged Loans	13.0%	8.2%

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. Sector yields reflect yield-to-worst. Correlations are based on 15-years of monthly returns for all sectors. Past performance is not indicative of future results.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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U.S. Treasury yield curve

Fixed Income

Yield range over past 15 years

6.0%

5.3%
4.8%
4.8%
4.7%
4.4%
4.2%
4.2%
4.0%
4.0%
4.0%
3.9%
3.8%
3.9%
3.9%

Dec. 31, 2023
Dec. 31, 2022

4.2%
4.1%
4.0%
4.0%

Dec. 31, 2021

1.9%
1.9%
1.5%
1.4%
1.3%
1.0%
0.7%
0.4%
0.2%

0.0%

3m 1y 2y 3y 5y 7y 10y 20y 30y
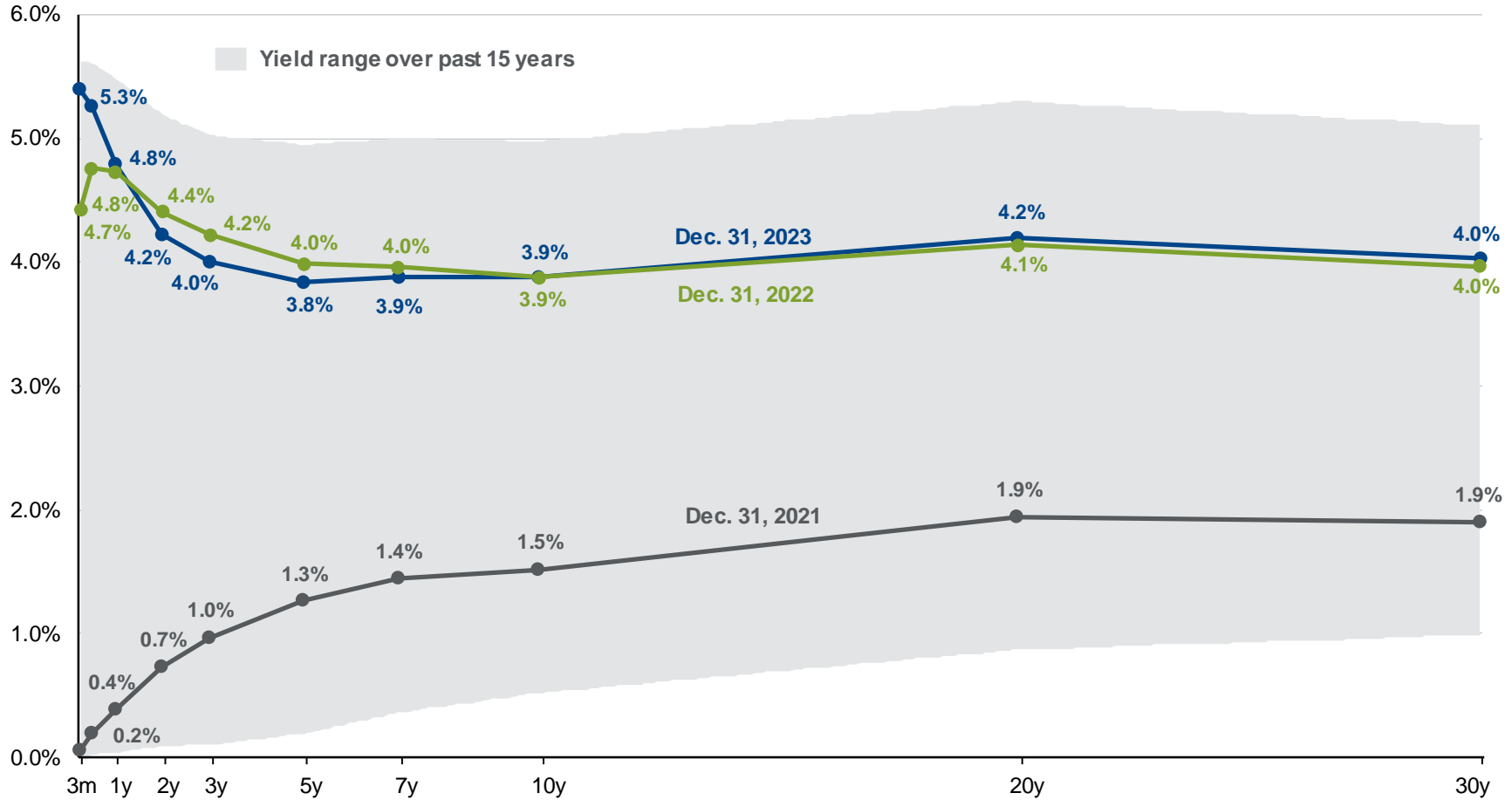
Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Fixed Income

Default rate and spread-to-worst

Percent

	Long-run avg.	Dec. 31, 2023
Default rate	**3.54%**	**2.88%**
Spread-to-worst	5.64%	3.77%
Recovery rate	**40.20%**	**35.70%**

Recession →

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 December 31, 2023.
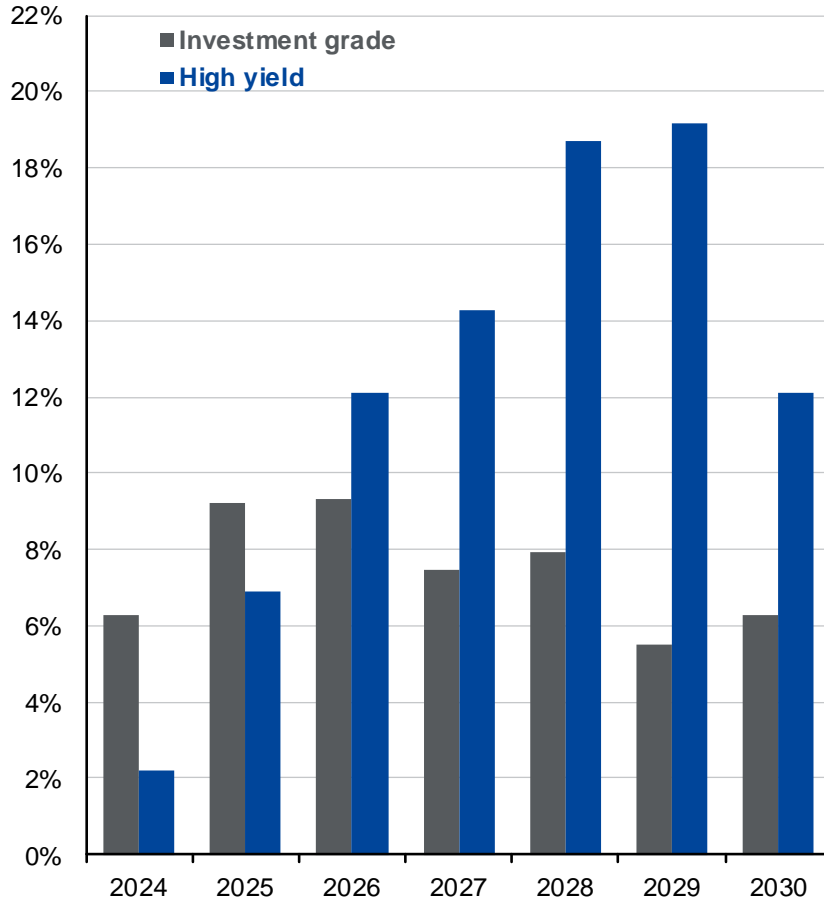
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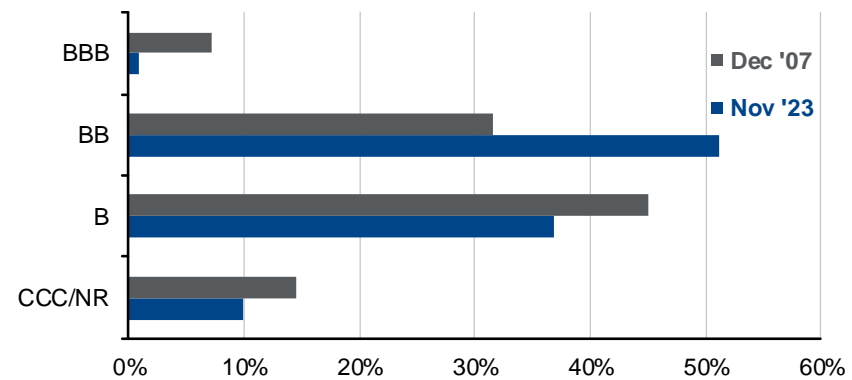
Credit maturity and default risks

Fixed Income

U.S. credit maturity schedule
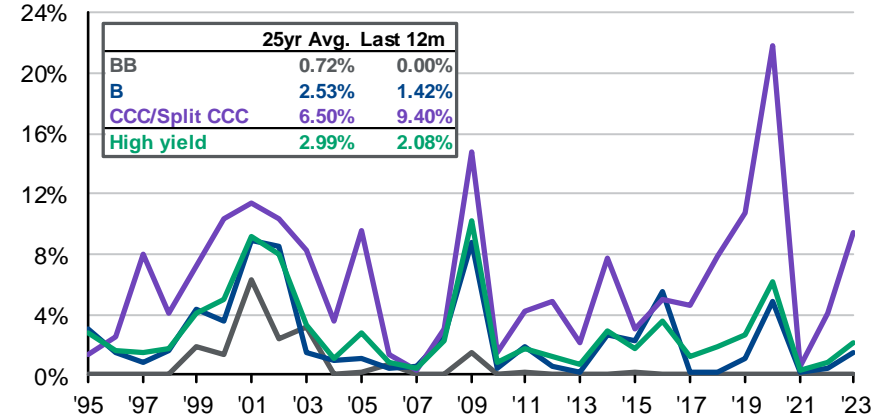% of bond index maturing in each year

Legend: ■ Investment grade ■ High yield

(Years: 2024, 2025, 2026, 2027, 2028, 2029, 2030)

Index weighting by credit rating
%, J.P. Morgan Domestic High Yield Index

Categories: BBB, BB, B, CCC/NR
Legend: ■ Dec '07 ■ Nov '23

U.S. high yield default rates
By credit rating

	25yr Avg.	Last 12m
BB	0.72%	0.00%
B	2.53%	1.42%
CCC/Split CCC	6.50%	9.40%
High yield	2.99%	2.08%

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.
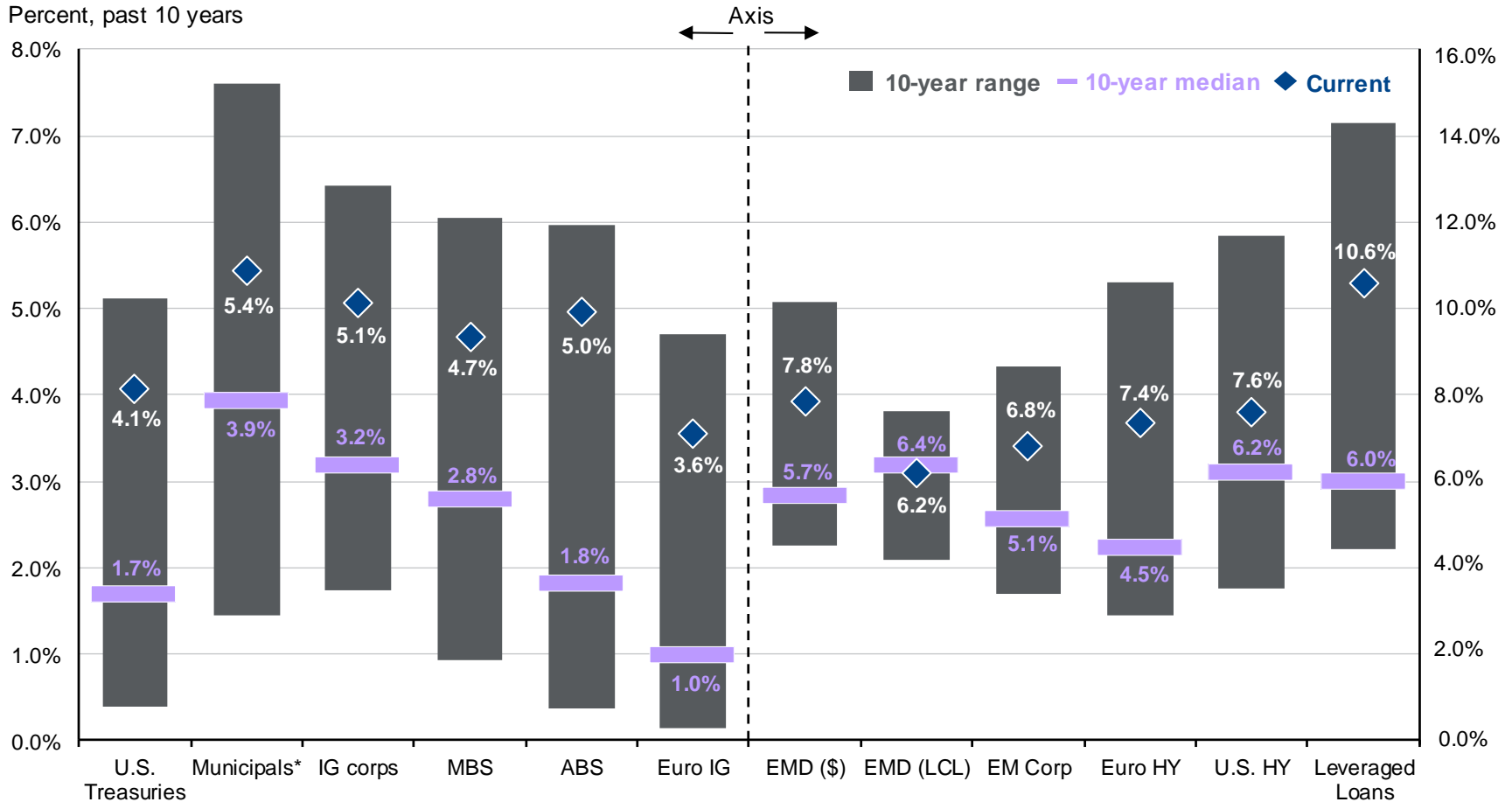*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Fixed income valuations

Fixed Income

Yield-to-worst across fixed income sectors
Percent, past 10 years

Axis

Legend: ■ 10-year range — 10-year median ◆ Current

Left axis values (U.S. Treasuries through Euro IG):
- U.S. Treasuries: Current 4.1%, Median 1.7%
- Municipals*: Current 5.4%, Median 3.9%
- IG corps: Current 5.1%, Median 3.2%
- MBS: Current 4.7%, Median 2.8%
- ABS: Current 5.0%, Median 1.8%
- Euro IG: Current 3.6%, Median 1.0%

Right axis values (EMD ($) through Leveraged Loans):
- EMD ($): Current 7.8%, Median 5.7%
- EMD (LCL): Current 6.2%, Median 6.4%
- EM Corp: Current 6.8%, Median 5.1%
- Euro HY: Current 7.4%, Median 4.5%
- U.S. HY: Current 7.6%, Median 6.2%
- Leveraged Loans: Current 10.6%, Median 6.0%

Source: Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management.
Indices used are Bloomberg except for emerging market debt and leveraged loans: EMD (USD): J.P. Morgan EMIGLOBAL Diversified Index; EMD (LCL): J.P. Morgan GBI-EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Leveraged Loans: JPM Leveraged Loan Index; Euro IG: Bloomberg Euro Aggregate Corporate Index; Euro HY: Bloomberg Pan-European High Yield Index. Yield-to-worst is the lowest possible yield that can be received on a bond apart from the company defaulting 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%.
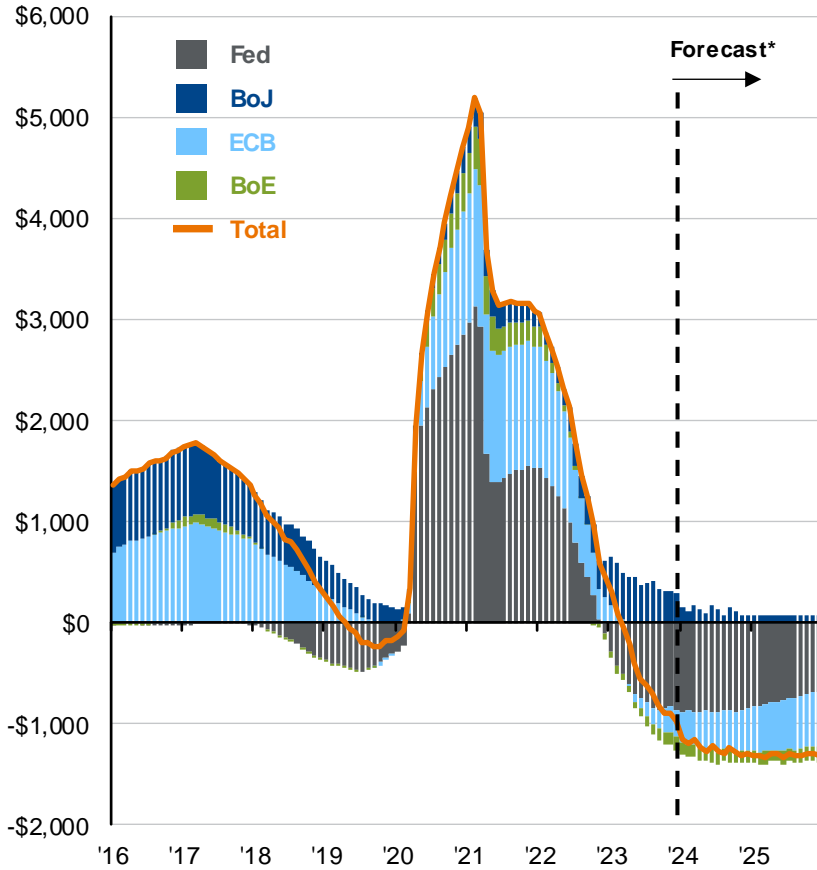*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Developed market monetary policy

Fixed Income

Developed market central bank bond purchases
USD billions, 12-month rolling flow

Legend: Fed, BoJ, ECB, BoE, Total

Forecast*

Historical policy rates and forward curves
Target policy rates and market implied forward rates

Legend: Fed, ECB, BoE, BoJ
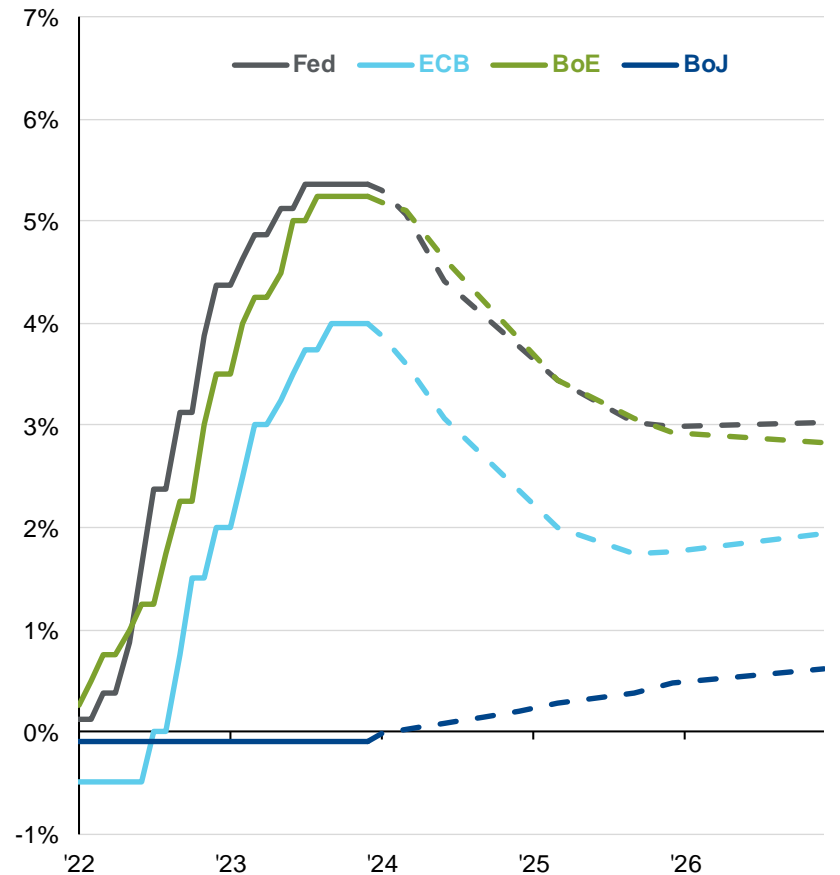
Source: BIS, Bloomberg, FactSet, J.P. Morgan Asset Management; (Left) Bank of England (BoE), Bank of Japan (BoJ), European Central Bank (ECB), Federal Reserve System (Fed), J.P. Morgan Global Economic Research. *DM bond purchase forecasts are internal assumptions based on government bond purchases as outlined in the most recent monetary policy announcements from the BoE, BoJ, ECB and Federal Reserve through December 2025. 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.
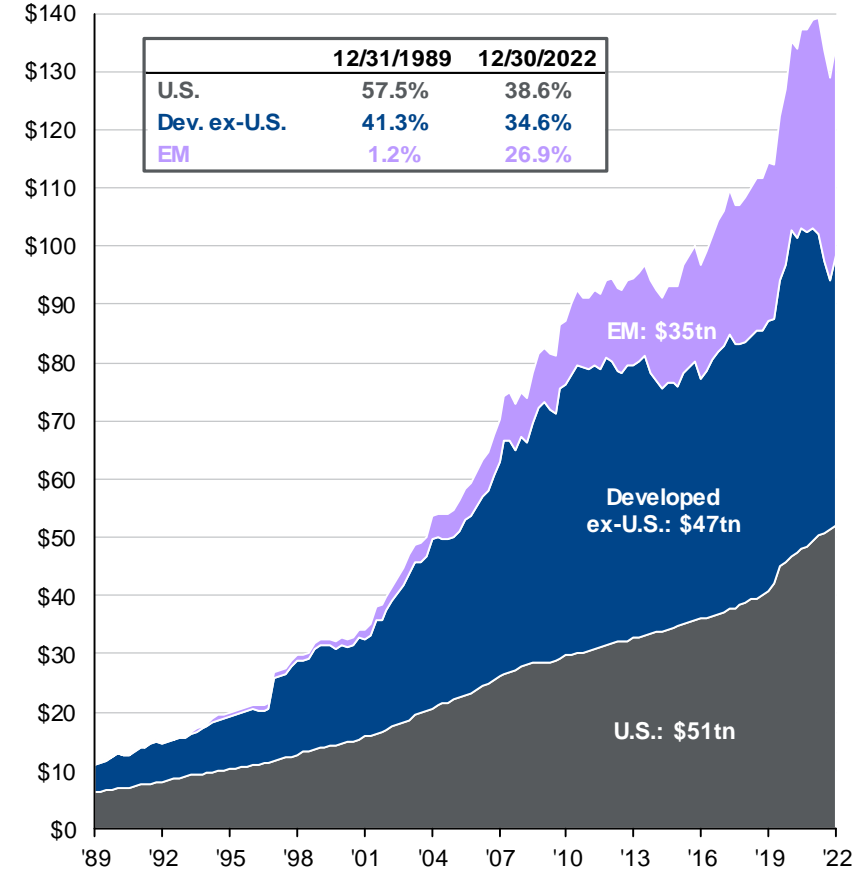*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Global fixed income

Fixed Income

Aggregates	Yield		2023 Return		Duration	Correlation to U.S. 10yr
	12/31/2023	12/31/2022	Local	USD		
U.S.	4.53%	4.68%	5.53%	5.53%	6.2 years	0.92
Gbl. ex-U.S.	2.87%	3.13%	-	5.78%	7.0	0.63
Japan	0.76%	0.75%	1.10%	-5.38%	9.2	0.65
Germany	2.73%	3.22%	5.85%	9.56%	6.3	0.55
UK	4.10%	4.29%	4.33%	10.57%	8.2	0.54
Italy	3.40%	4.10%	9.21%	13.04%	6.2	0.42
China	2.62%	2.94%	4.98%	2.90%	5.9	0.57
Sector						
Euro Corp.	3.56%	4.32%	8.19%	11.98%	4.4 years	0.45
Euro HY	7.35%	8.32%	12.78%	16.73%	3.0	0.06
EMD (USD)	7.84%	8.55%	-	11.09%	6.1	0.01
EMD (LCL)	6.19%	6.86%	10.03%	12.70%	5.0	-0.07
EM Corp.	6.81%	7.28%	-	9.08%	5.0	-0.01

Global bond market
USD trillions

	12/31/1989	12/30/2022
U.S.	57.5%	38.6%
Dev. ex-U.S.	41.3%	34.6%
EM	1.2%	26.9%

EM: $35tn

Developed ex-U.S.: $47tn

U.S.: $51tn

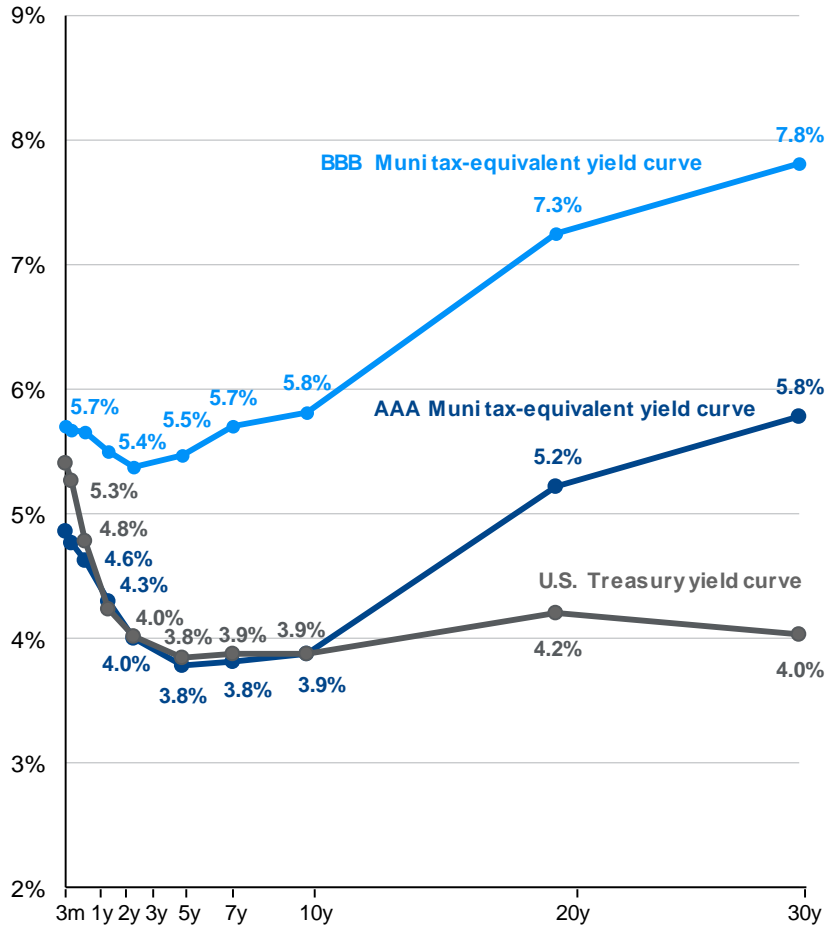Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet; (Right) BIS.
Fixed income sectors shown above are provided by Bloomberg and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the J.P. Morgan GBI EM Global Diversified Index (LCL) and the J.P. Morgan CEMBI Broad Diversified Index (Corp). European Corporates are represented by the Bloomberg Euro Aggregate Corporate Index and the Bloomberg Pan-European High Yield Index. Sector yields reflect yield-to-worst. Correlations are based on 10-years of monthly returns for all sectors. Past performance is not indicative of future results. Global bond market regional breakdown may not sum to 100% due to rounding.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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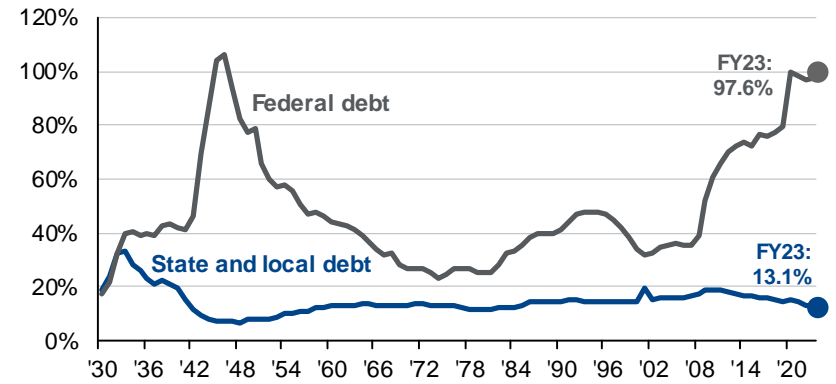ASSET MANAGEMENT

Fixed Income

Muni tax-equivalent and Treasury yield curves

BBB Muni tax-equivalent yield curve

AAA Muni tax-equivalent yield curve

U.S. Treasury yield curve

BBB: 5.7%, 5.5%, 5.7%, 5.8%, 7.3%, 7.8%
AAA: 5.7%, 5.4%, 4.0%, 3.8%, 3.9%, 3.9%, 5.2%, 5.8%
Treasury: 5.3%, 4.8%, 4.6%, 4.3%, 4.0%, 3.8%, 3.8%, 3.9%, 4.2%, 4.0%

Axis: 3m 1y 2y 3y 5y 7y 10y 20y 30y

State and local and federal net debt
% of GDP, 1930-2023, end of fiscal year

Federal debt

State and local debt

FY23: 97.6%

FY23: 13.1%

Muni and corporate default rates
% of issuers defaulting within 10 years, 1970-2022

■ Municipals
■ Corporates

	Municipals	Corporates
Aaa	0.0%	0.3%
Aa	0.0%	0.7%
A	0.1%	1.9%
Baa	1.0%	3.6%
Ba	3.3%	15.8%
B	16.6%	34.7%
Caa-C	23.6%	47.9%
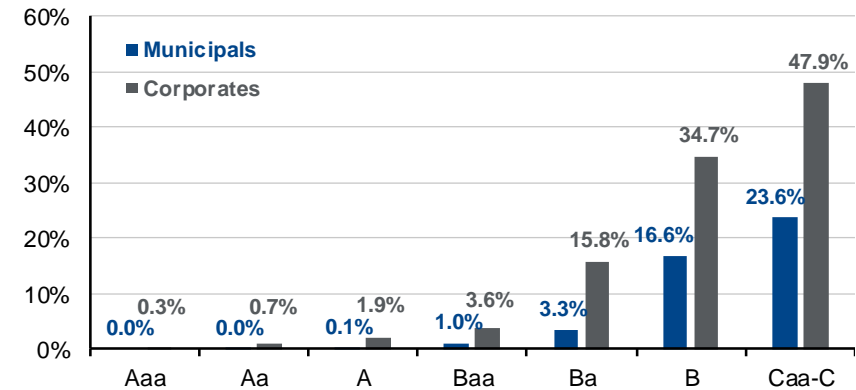
Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet, Federal Reserve, S&P Global; (Top right) Census Bureau, Congressional Budget Office (CBO); (Bottom right) Moody's U.S. Public Finance: U.S. municipal bond defaults and recoveries, 1970 to 2022. Municipal tax-equivalent yields are calculated 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.
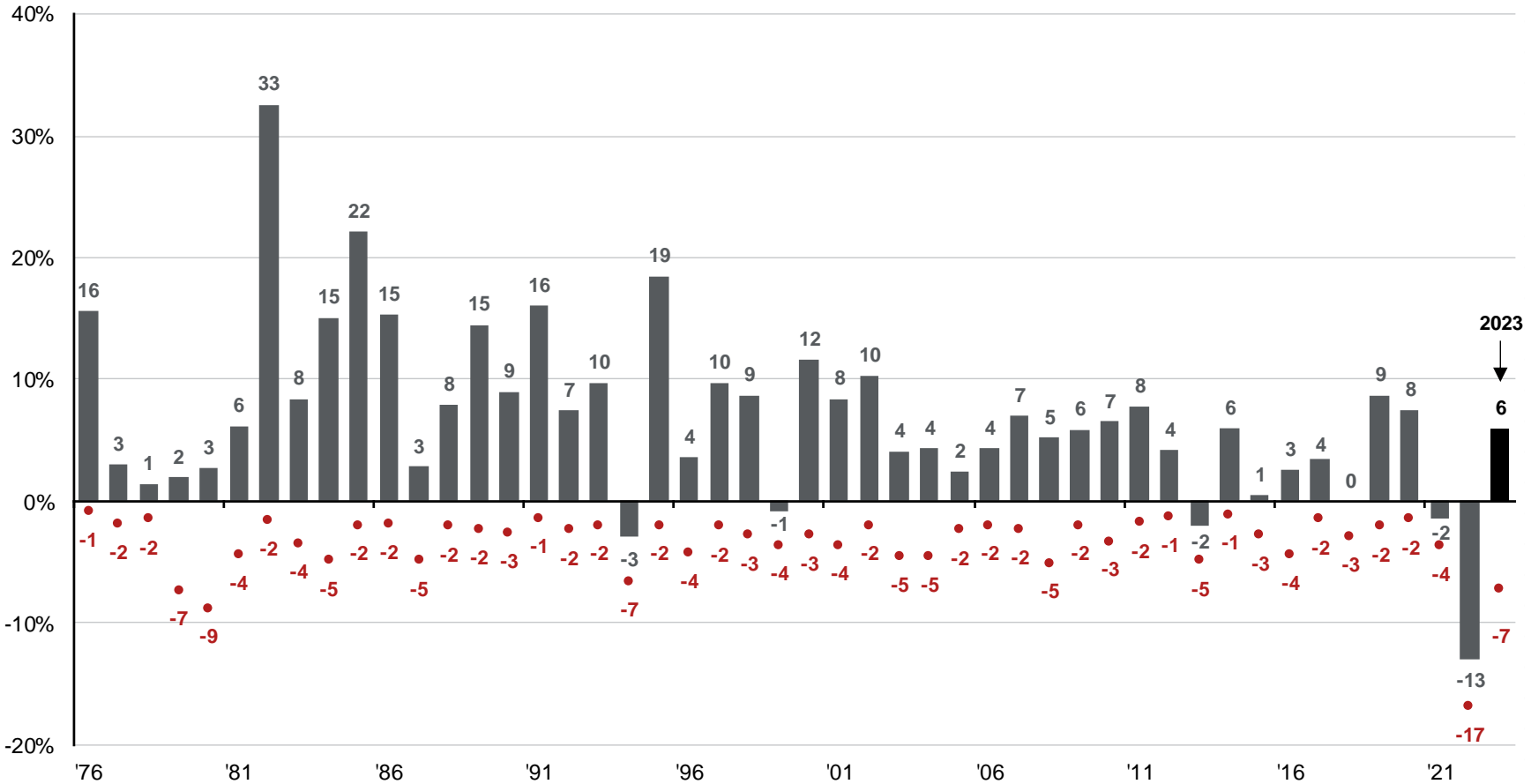*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Bloomberg U.S. Aggregate intra-year declines vs. calendar year returns
Despite average intra-year drops of 3.4%, annual returns were positive in 43 of 48 years

Fixed Income

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.
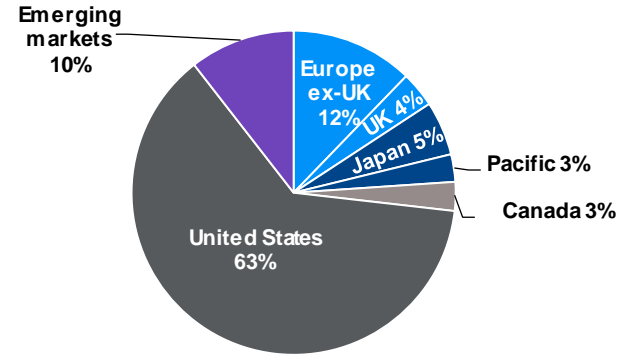*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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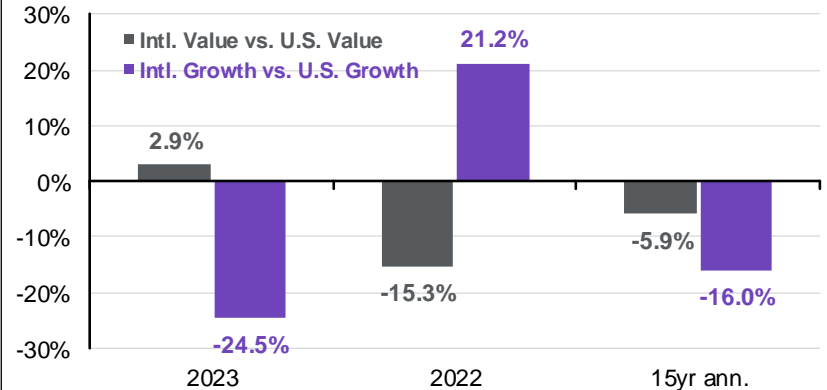
Global equity markets

International

Returns	2023		2022		15-years	
	Local	**USD**	**Local**	**USD**	**Ann.**	**Beta**
Regions						
U.S. (S&P 500)	-	26.3	-	-18.1	14.0	0.9
AC World ex-U.S.	14.7	16.2	-9.2	-15.6	7.2	1.0
EAFE	16.8	18.9	-6.5	-14.0	7.4	1.0
Europe ex-UK	17.3	22.7	-12.2	-17.3	8.0	1.2
Emerging markets	10.3	10.3	-15.2	-19.7	6.9	1.0
Selected Countries						
Japan	29.0	20.8	-4.1	-16.3	6.2	0.7
United Kingdom	7.7	14.1	7.2	-4.8	6.9	1.0
France	18.1	22.3	-6.9	-12.7	8.1	1.2
Canada	13.3	16.4	-5.8	-12.2	8.3	1.1
Germany	19.8	24.0	-16.5	-21.6	6.6	1.3
China	-10.6	-11.0	-20.6	-21.8	4.6	0.9
Taiwan	31.1	31.3	-21.3	-29.1	14.2	1.0
India	22.0	21.3	3.0	-7.5	11.1	1.0
Brazil	22.7	33.4	8.6	14.6	5.4	1.3

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

Emerging markets 10%
Europe ex-UK 12%
UK 4%
Japan 5%
Pacific 3%
Canada 3%
United States 63%

Global Value and Growth returns
Monthly, USD, total return

- Intl. Value vs. U.S. Value
- Intl. Growth vs. U.S. Growth

2023: 2.9%, -24.5%
2022: -15.3%, 21.2%
15yr ann.: -5.9%, -16.0%

Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. (Left) All return values are MSCI Total Return Index (Gross) data. 15-year history based on USD returns. 15-year return and beta figures are calculated using a rolling 12-month time period ending with the previously completed month. Beta is for monthly returns relative to the MSCI All Country World Index. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. Chart is for illustrative purposes only. Please see disclosure page for index definitions. Past performance is not a reliable indicator of current and future results. (Bottom right) U.S. Value = Russell 1000 Value Index, U.S. Growth = Russell 1000 Growth index, intl. Value = MSCI AC World ex. U.S. Value Index, intl. Growth = MSCI AC World ex. U.S. Growth Index. The 15yr. annualized figures are based on rolling data.
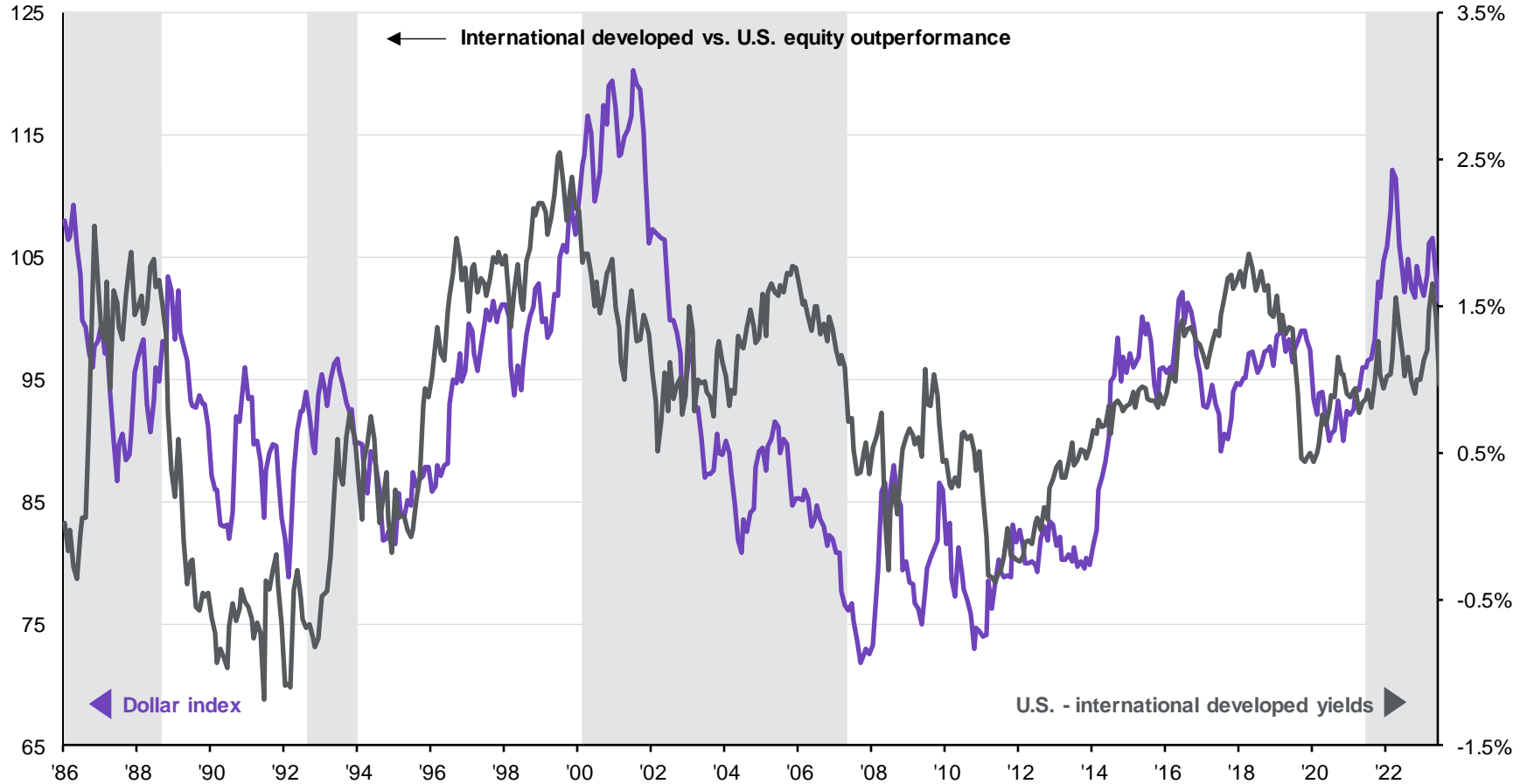*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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U.S. dollar and interest rate differentials

Monthly

International

International developed vs. U.S. equity outperformance ←

◄ **Dollar index**

U.S. - international developed yields ►

Source: Bank of Canada, FactSet, Federal Reserve Economic Data (FRED), Ministry of Finance of Japan, MSCI, OECD, Standard & Poor's, J.P. Morgan Asset Management. The dollar index (DXY Index) is a nominal trade-weighted index of major trading partners' currencies. Major currencies are the British pound, Canadian dollar, euro, Japanese yen, Swedish kroner and Swiss franc. DM is developed markets, and the yield is calculated as a GDP-weighted average of the 10-year government bond yields of Australia, Canada, France, Germany, Italy, Japan, Switzerland and the UK. DM ex. U.S. = MSCI EAFE Index, U.S. = S&P 500 Index. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – U.S.* Data are as of December 31, 2023.
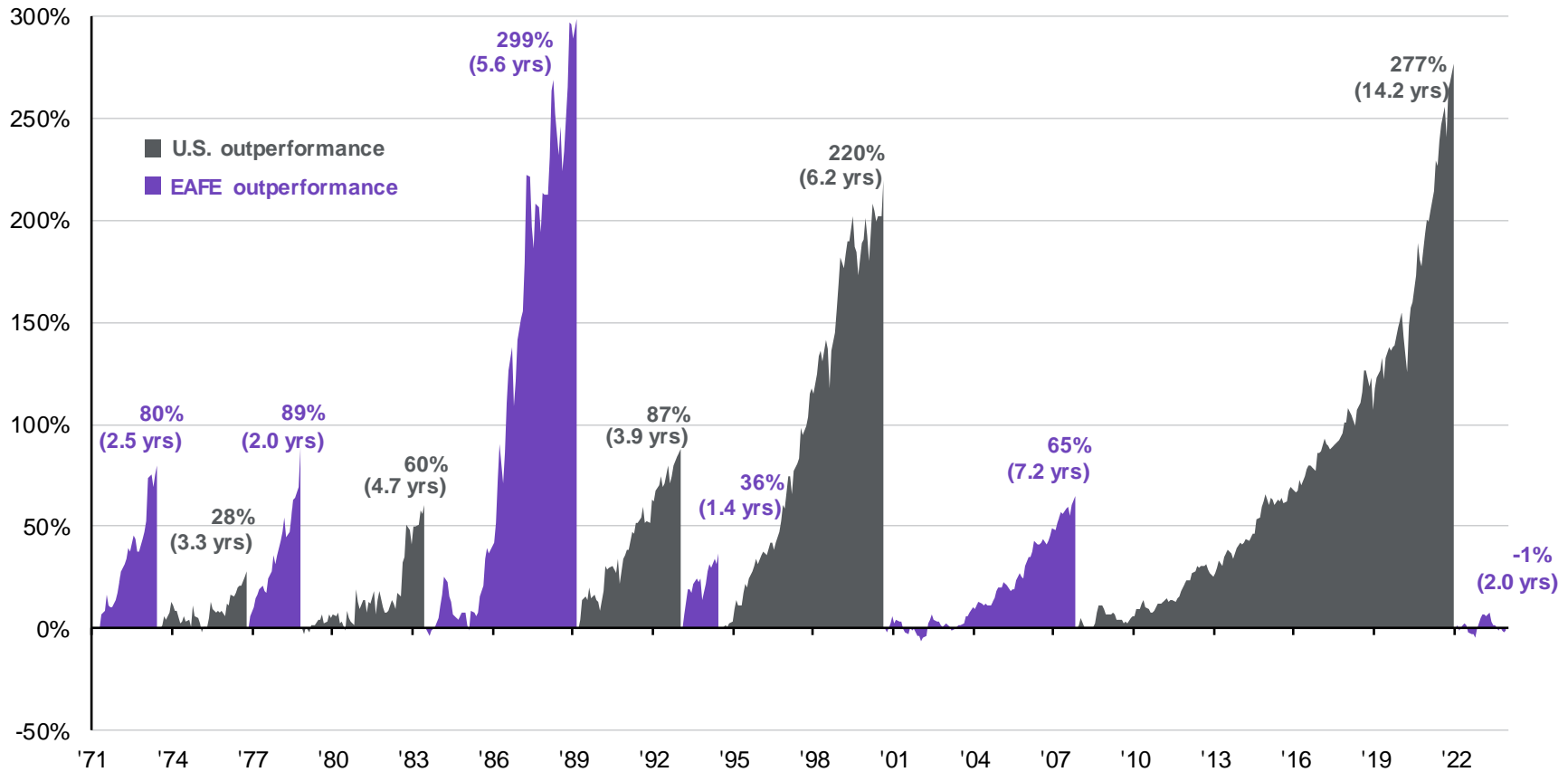
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Cycles of U.S. equity outperformance

MSCI EAFE and MSCI USA relative performance
U.S. dollar, total return, cumulative outperformance

■ U.S. outperformance
■ EAFE outperformance

80% (2.5 yrs)
28% (3.3 yrs)
89% (2.0 yrs)
60% (4.7 yrs)
299% (5.6 yrs)
87% (3.9 yrs)
220% (6.2 yrs)
36% (1.4 yrs)
65% (7.2 yrs)
277% (14.2 yrs)
-1% (2.0 yrs)

International

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44

International valuations and dividend yields

International: Price-to-earnings discount vs. U.S.
MSCI All Country World ex-U.S. vs. S&P 500, next 12 months

	20-yr. avg. P/E ratio	Current P/E ratio
S&P 500	15.6x	19.5x
ACWI ex-U.S.	13.1x	12.9x

+1 Std. dev.: -7.3%

Average: -16.2%

-1 Std. dev.: -25.1%

-2 Std. dev.: -34.0%

Dec. 31, 2023: -33.9%

International: Difference in dividend yields vs. U.S.
MSCI All Country World ex-U.S. minus S&P 500, next 12 months

Dec. 31, 2023: 1.7%

+2 Std. dev.: 1.7%

+1 Std. dev.: 1.5%

Average: 1.2%

-1 Std. dev.: 1.0%

International

Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.
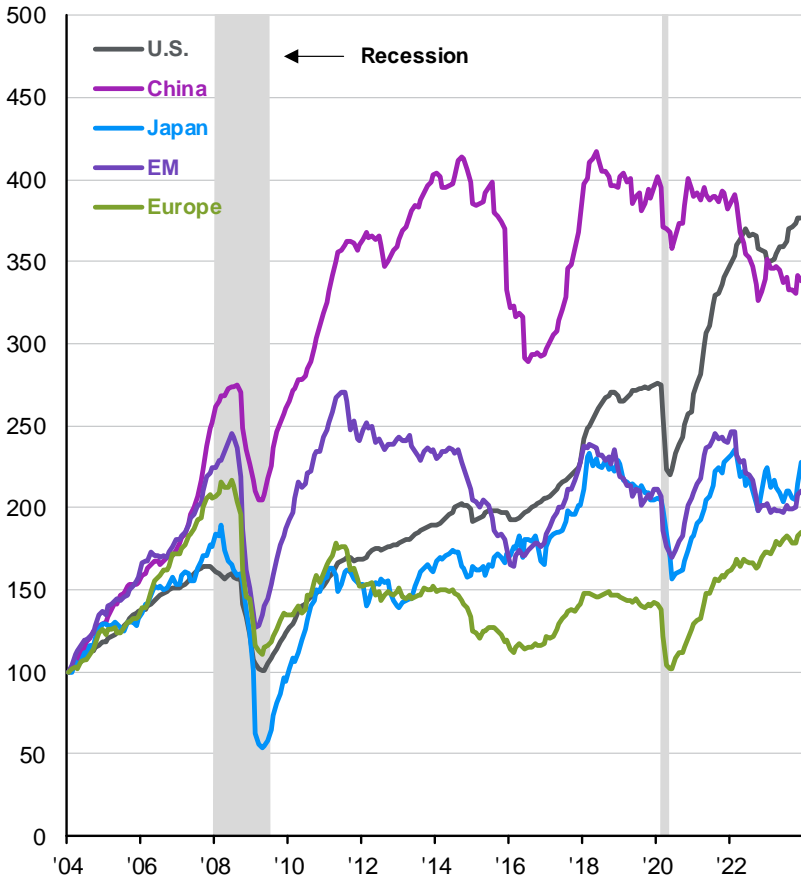*Guide to the Markets – U.S.* Data are as of December 31, 2023.
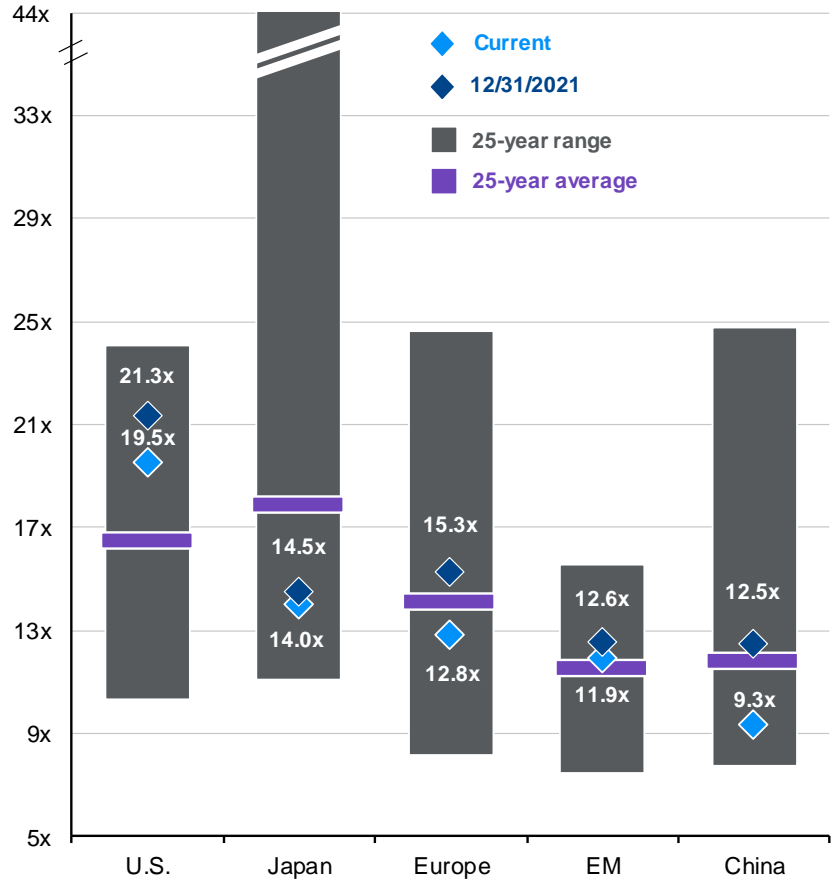
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Global earnings estimates

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

Global valuations

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

Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Next 12 months consensus estimates are based on pro-forma earnings and are in U.S. dollars. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively make up almost half of the overall index). Past performance is not a reliable indicator of current and future results. (Right) The purple lines for EM and China show 20-year averages due to a lack of available data.
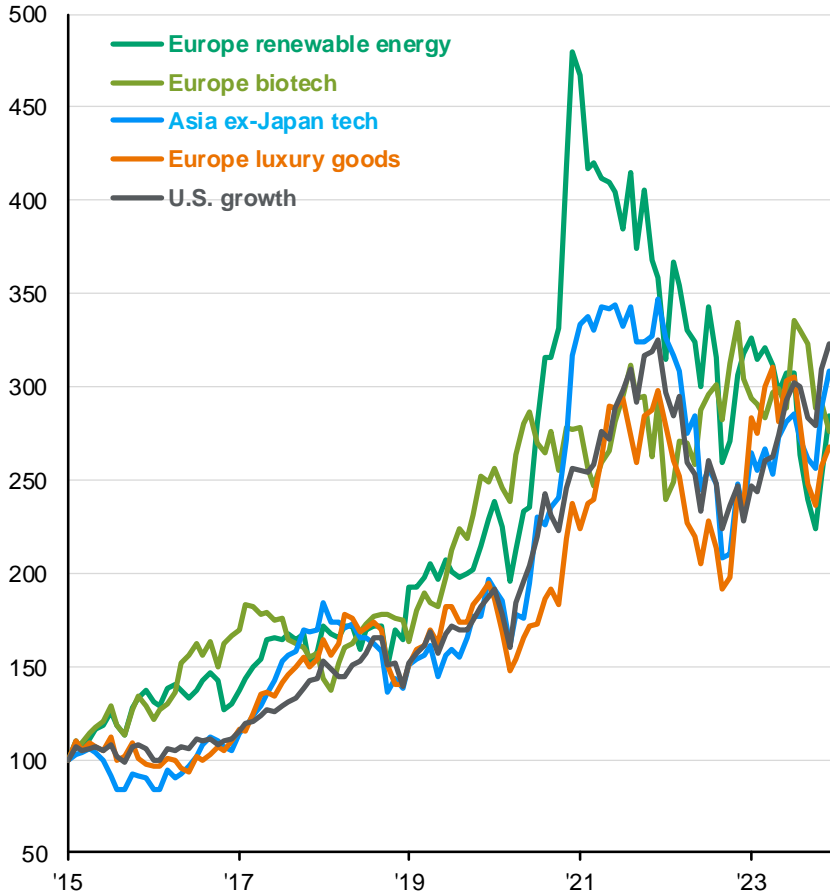*Guide to the Markets – U.S.* Data are as of December 31, 2023.
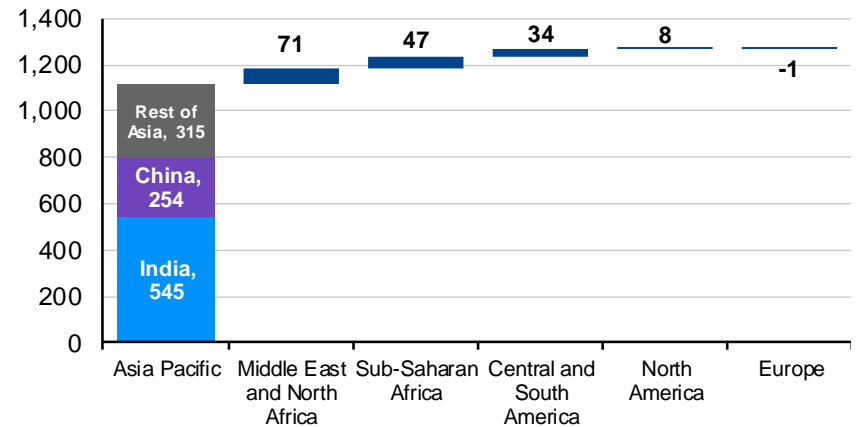
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International

Secular international trends

International growth sectors vs. U.S. growth
Total return, U.S. dollars, Jan. 2015 = 100

Legend:
- Europe renewable energy
- Europe biotech
- Asia ex-Japan tech
- Europe luxury goods
- U.S. growth

Regional contribution to middle class growth: 2024 to 2030
Millions of people

Asia Pacific breakdown:
- Rest of Asia, 315
- China, 254
- India, 545

Values: Middle East and North Africa 71; Sub-Saharan Africa 47; Central and South America 34; North America 8; Europe -1

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

UK	Europe ex-UK	Japan	U.S.	EM
20%	40%	47%	59%	65%

International

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International

Inflation expectations by country
Based on 5y5y swaps

- U.S.
- Eurozone
- Japan
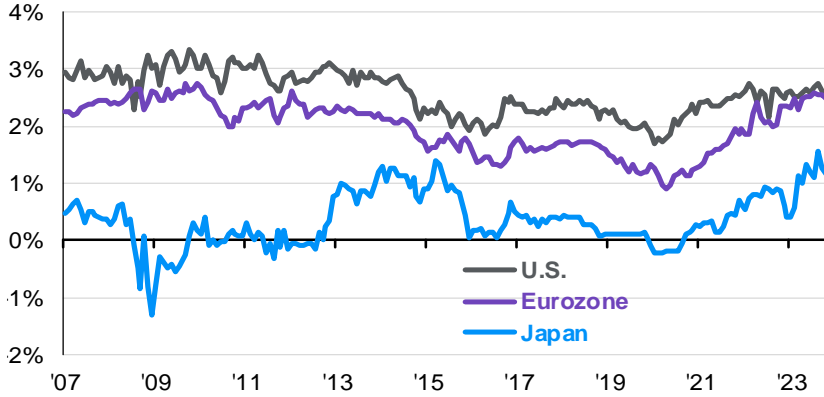
Interest rate expectations by country
Based on 5y5y swaps

- U.S.
- Eurozone
- Japan
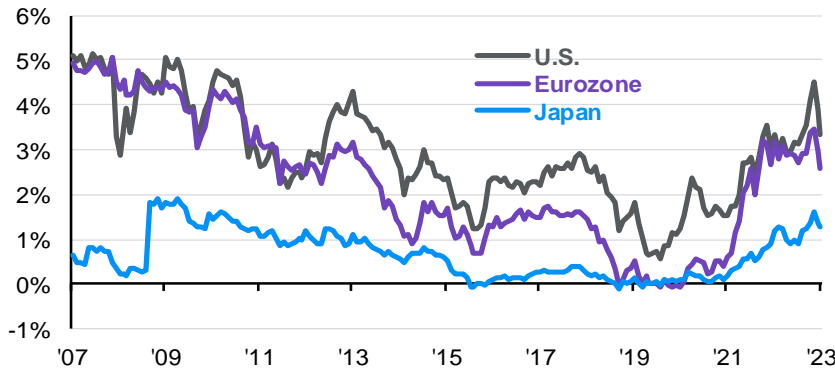
Relative performance in different interest rate environments
U.S. 10-year, annualized avg. total return, USD, 1979-present

-5.6%	-8.5%	0.0%	0.6%	-2.0%
0.1%	-5.1%	1.8%	2.6%	4.4%

U.S. 10-year Treasury rate ranges

- Intl. dev. vs. U.S.
- Intl. dev. Value vs. intl. dev. Growth

# of months	59	80	59	69	273
	0-2%	2-3%	3-4%	4-5%	5%+
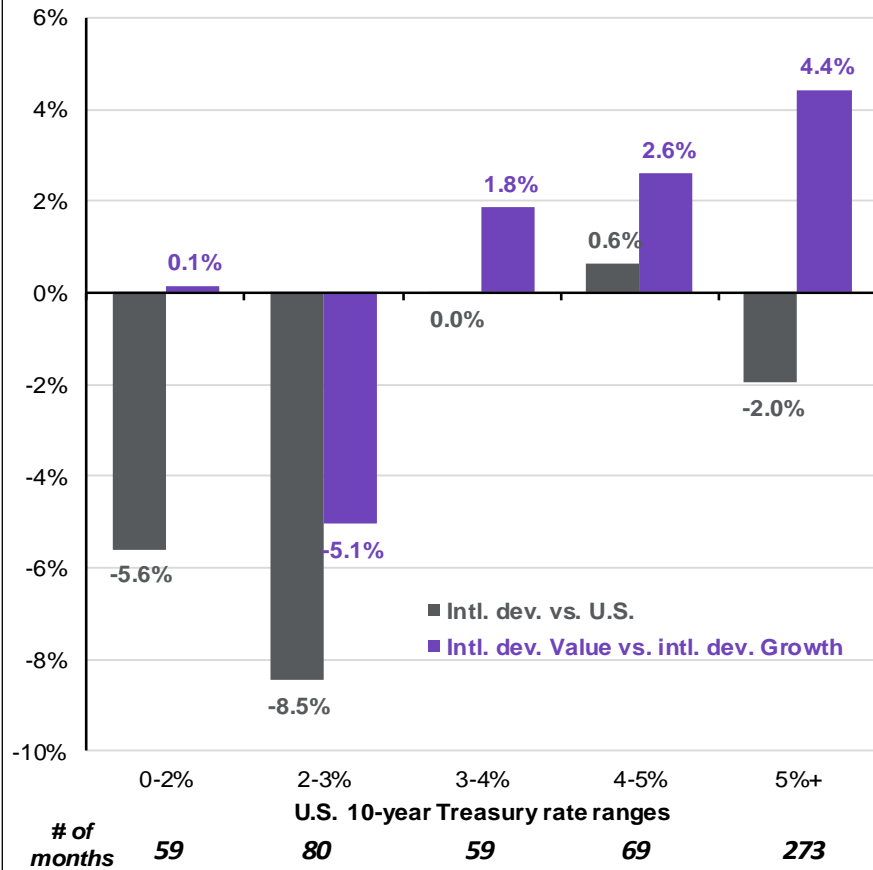
Source: J.P. Morgan Asset Management. (Top and bottom left) Bloomberg. These series represent measures of expected inflation and interest rates (on average) over the five-year period that begins five years from today. (Right) FactSet, MSCI, Standard & Poor's. U.S. = S&P 500 Index, intl. dev. = MSCI EAFE Index, intl. dev. Value = MSCI EAFE Value Index, intl. dev. Growth = MSCI EAFE Growth Index.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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International developed market dynamics

International

Intl. dev. relative valuation vs. the U.S. by sector
Forward P/E ratio, premium or discount vs. the U.S.

Discount vs. the U.S.

■ **25-year average**

◆ **Current**

Premium vs. the U.S.

Sectors (top to bottom): Health care, Comm. services, Technology, Cons. staples, Industrials, Utilities, Materials, Energy, Index, Financials, Cons. disc.

X-axis: -60% -50% -40% -30% -20% -10% 0% 10% 20%
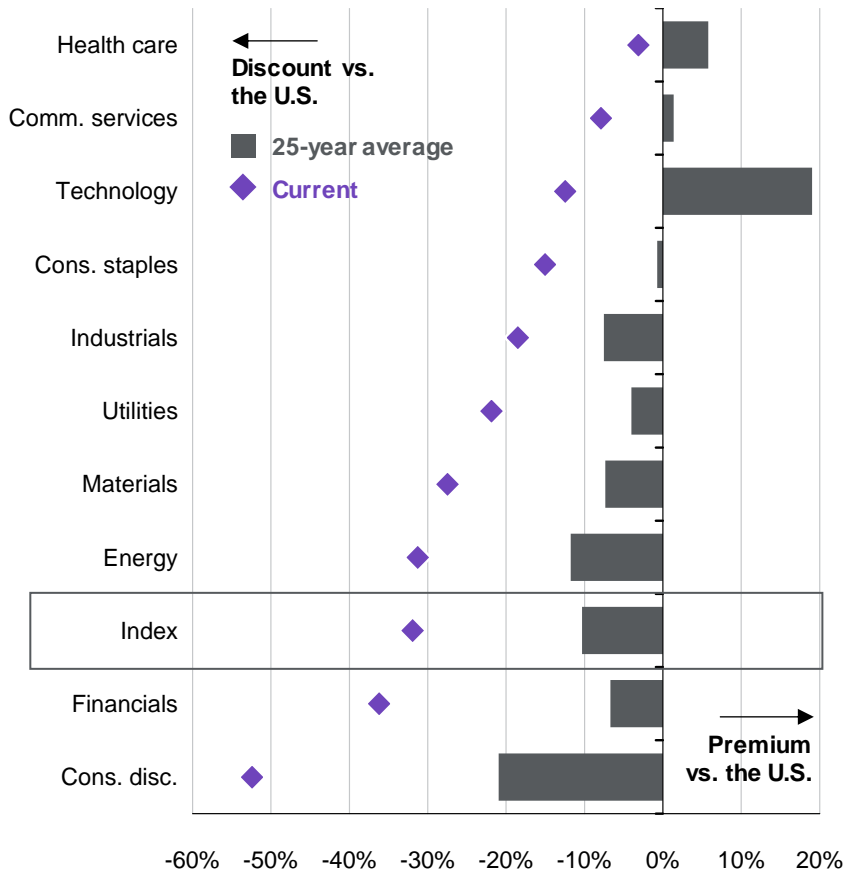
Buyback yields
Net buybacks divided by market capitalization

U.S.
Europe
Japan

X-axis: '04 '06 '08 '10 '12 '14 '16 '18 '20 '22
Y-axis: 0% 1% 2% 3% 4% 5%
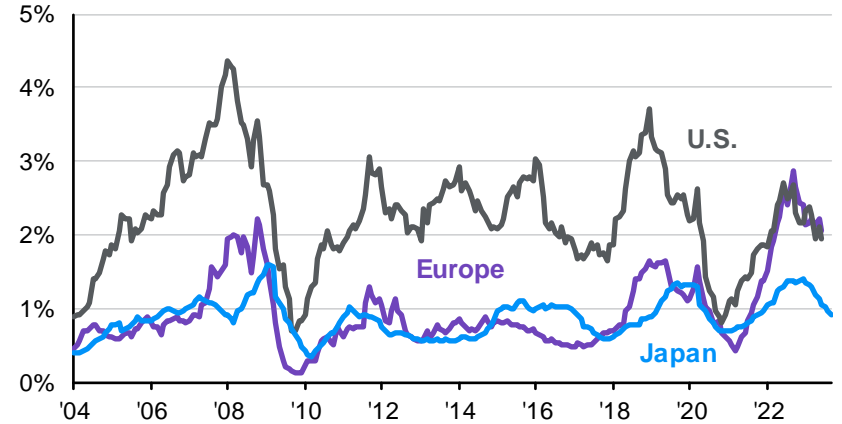
Buyback announcements in Japan
TOPIX, number of share buyback announcements, fiscal year

'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23
36	45	47	55	68	73	74	91	130	55	83	148	218
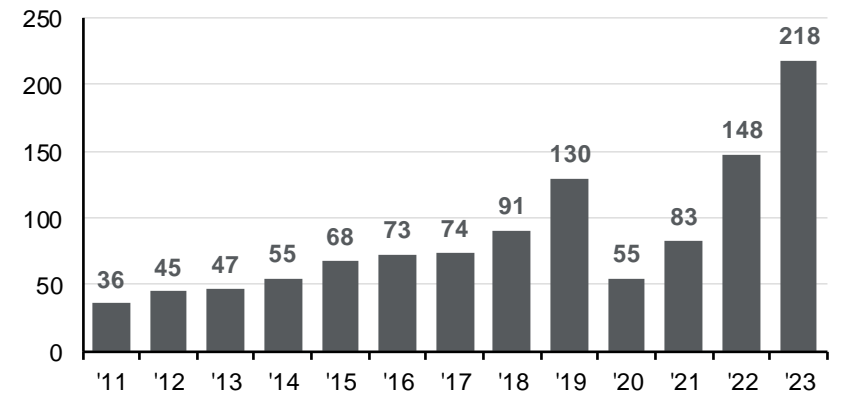
Source: J.P. Morgan Asset Management. (Left) FactSet, MSCI Intl. dev.: MSCI EAFE Index, U.S.: S&P 500 Index. Chart shows the current percentage discount of the index or sector 12-month forward P/E ratio versus the equivalent S&P 500 sector, and the 25-year average. (Top right) Bernstein, Bloomberg. Buyback yields are the value of total stock buyback announcements over the previous 12 months as a percentage of regional index market cap. Europe = MSCI Europe Index, U.S. = S&P 500 Index, Japan = TOPIX Index. Past performance is not a reliable indicator of current and future results. (Bottom right) Bank of America Global Research, QUICK. Based on companies in the TOPIX Index with fiscal year ending in May. Share buybacks aggregated from April 1 to May 18 for each year.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Global economic activity momentum

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

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'23	Nov	Dec
Global																		50.4	50.0
Manufacturing																		49.3	48.5
Services																		50.6	50.5
DM																		49.6	-
EM																		52.0	-
U.S.																		50.7	51.0
Japan																		49.6	50.4
UK																		50.7	51.7
Euro Area																		47.6	47.0
Germany																		47.8	46.7
France																		44.6	43.7
Italy																		48.1	-
Spain																		49.8	-
China																		51.6	-
India																		57.4	-
Brazil																		50.7	-

Developed rows: U.S., Japan, UK, Euro Area, Germany, France, Italy, Spain
Emerging rows: China, India, Brazil

2023: Nov, Dec
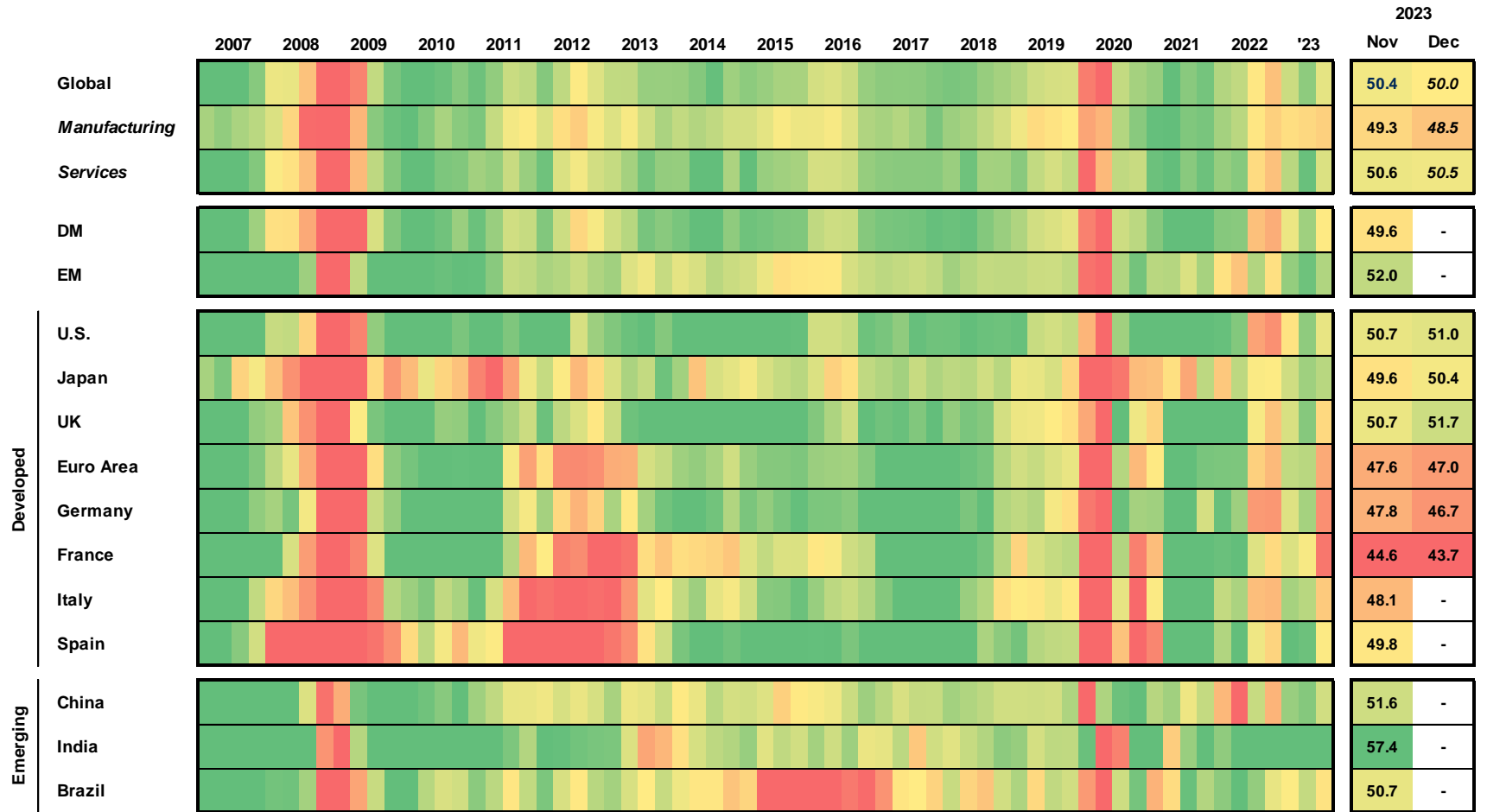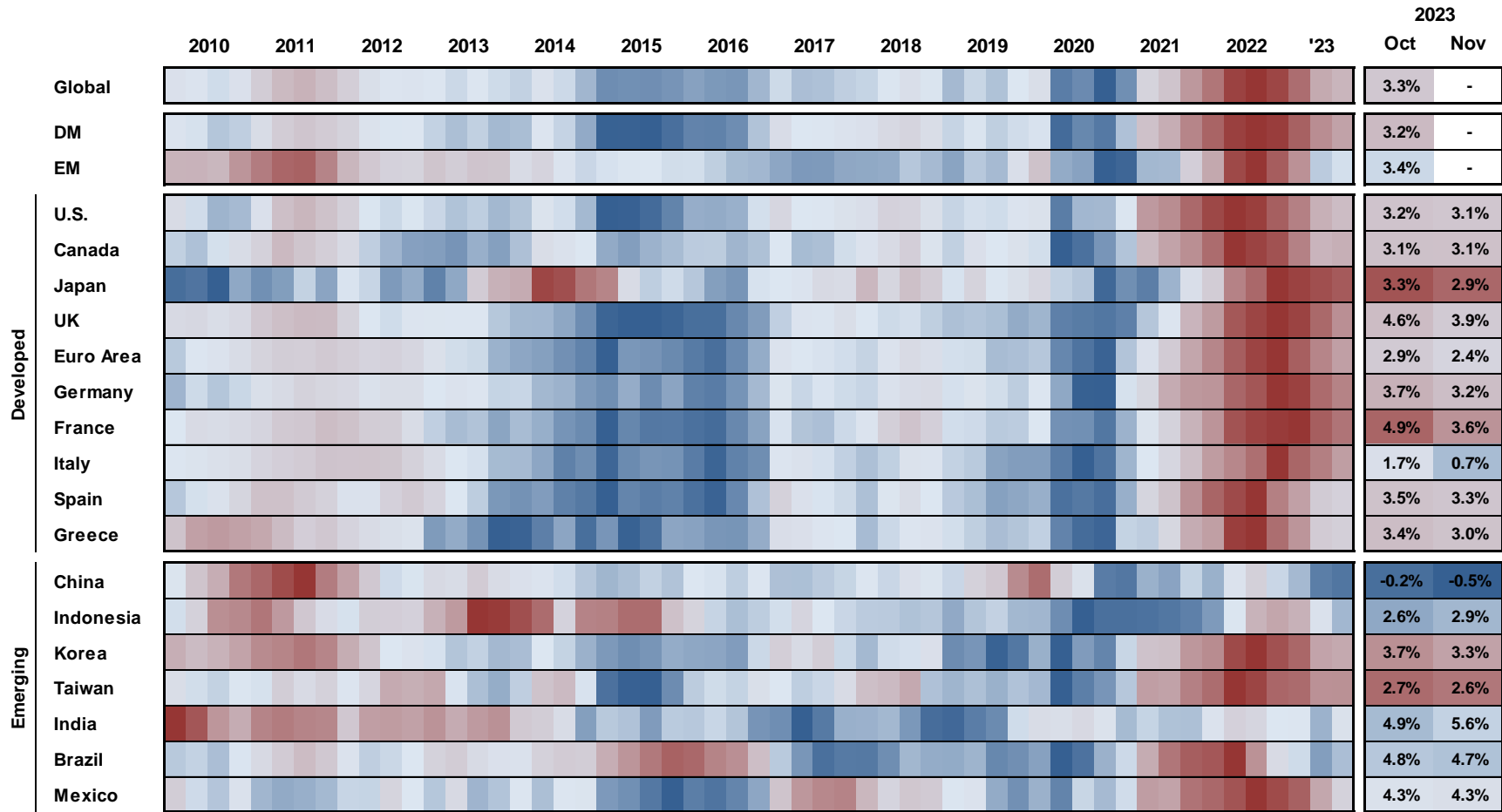
Source: J.P. Morgan Economic Research, Standard & Poor's, J.P. Morgan Asset Management.
The Composite PMI includes both manufacturing and services sub-indices. The Global, Manufacturing and Services figures for December are estimates by J.P. Morgan Asset Management. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, except for the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in for 2007-2009. Data for Japan are back-tested and filled in for the first two quarters of 2007. DM and EM represent developed markets and emerging markets, respectively.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Global inflation

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

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'23	2023 Oct	Nov
	Global															3.3%	-
	DM															3.2%	-
	EM															3.4%	-
Developed	U.S.															3.2%	3.1%
	Canada															3.1%	3.1%
	Japan															3.3%	2.9%
	UK															4.6%	3.9%
	Euro Area															2.9%	2.4%
	Germany															3.7%	3.2%
	France															4.9%	3.6%
	Italy															1.7%	0.7%
	Spain															3.5%	3.3%
	Greece															3.4%	3.0%
Emerging	China															-0.2%	-0.5%
	Indonesia															2.6%	2.9%
	Korea															3.7%	3.3%
	Taiwan															2.7%	2.6%
	India															4.9%	5.6%
	Brazil															4.8%	4.7%
	Mexico															4.3%	4.3%

International

Source: Bank of Mexico, Central Bank of Brazil, DGBAS, Eurostat, FactSet, Federal Reserve, IBGE, India Ministry of Statistics & Programme Implementation, Japan Ministry of Internal Affairs & Communications, J.P. Morgan Economic Research, Korean National Statistical Office, National Bureau of Statistics China, Statistics Canada, Statistics Indonesia, UK Office for National Statistics (ONS), J.P. Morgan Asset Management. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Colors determined by percentiles of inflation values over the time period shown. Deep blue = lowest value, light blue = median, deep red = highest value. DM and EM represent developed markets and emerging markets, respectively.
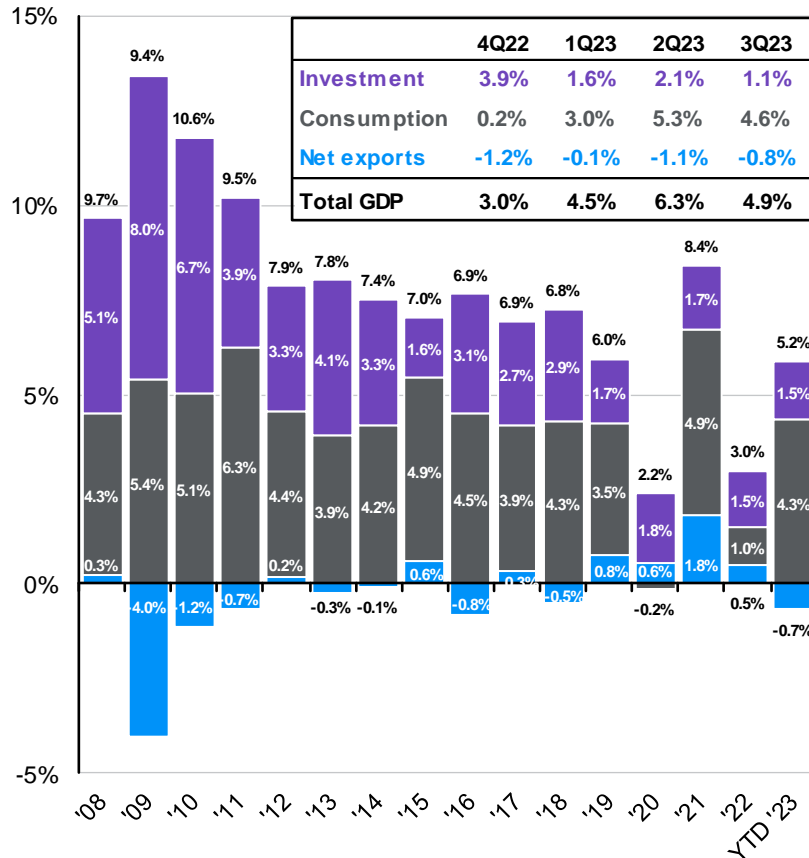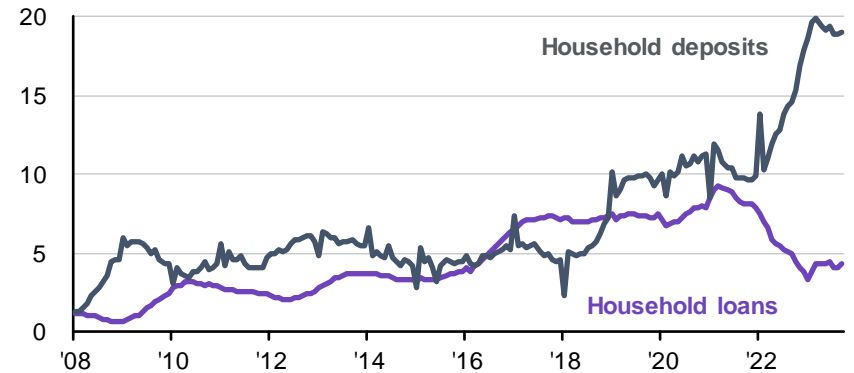*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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China: Economy

China real GDP contribution
Year-over-year % change, contribution by component

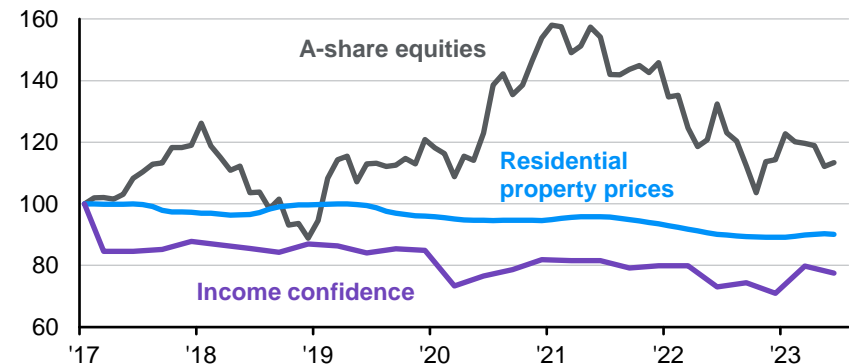|	4Q22	1Q23	2Q23	3Q23
Investment	3.9%	1.6%	2.1%	1.1%
Consumption	0.2%	3.0%	5.3%	4.6%
Net exports	-1.2%	-0.1%	-1.1%	-0.8%
Total GDP	3.0%	4.5%	6.3%	4.9%

Household deposits and loans
CNY trillion, rolling 12 months

Consumer income and wealth effect
Jan. 2017 = 100

Source: J.P. Morgan Asset Management; (Left) CEIC; (Top right) People's Bank of China, Wind; (Bottom right) CEIC, National Bureau Statistics of China, People's Bank of China. "A-share equities" are represented by the CSI 300 Index. "Residential property prices" are represented by an index that tracks secondary market residential property prices. "Income confidence" is represented by a diffusion index reflecting respondents' confidence in future income. The two right graphs come from our Guide to China.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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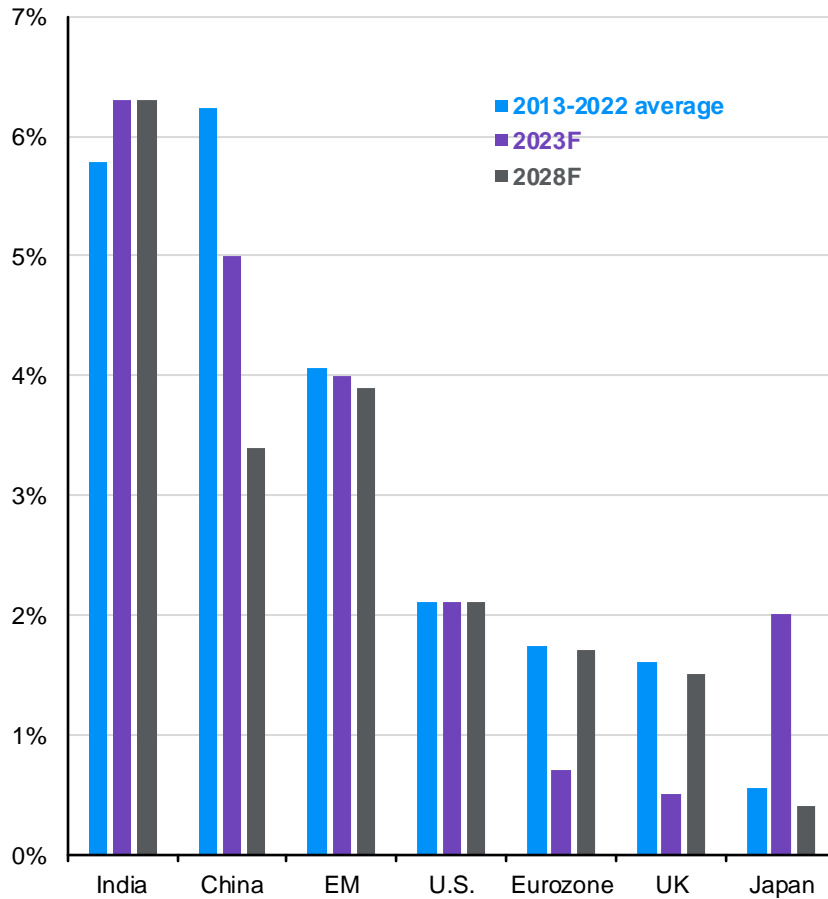ASSET MANAGEMENT

International

Real GDP growth by country
Year-over-year

- 2013-2022 average
- 2023F
- 2028F

Working age population growth
Estimated change between 2023 and 2033*, millions of people

92 (India), 29 (Southeast Asia), 14 (U.S.), -2 (Taiwan), -4 (South Korea), -6 (Eurozone), -39 (China)
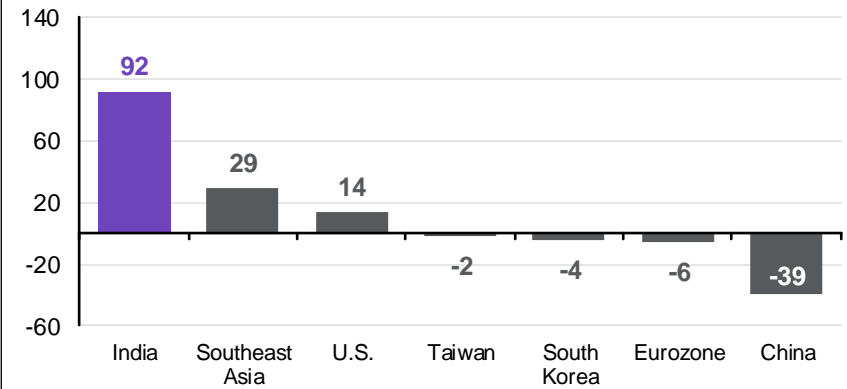
Government capital spending
% of GDP, current prices
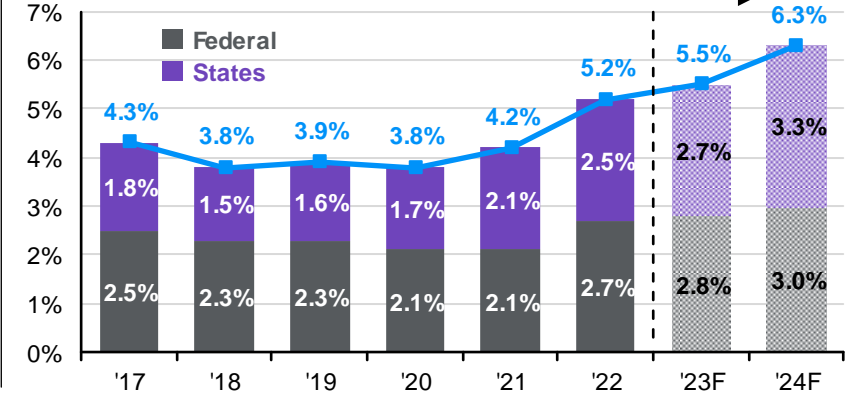
Forecast**

	'17	'18	'19	'20	'21	'22	'23F	'24F
Total	4.3%	3.8%	3.9%	3.8%	4.2%	5.2%	5.5%	6.3%
States	1.8%	1.5%	1.6%	1.7%	2.1%	2.5%	2.7%	3.3%
Federal	2.5%	2.3%	2.3%	2.1%	2.1%	2.7%	2.8%	3.0%

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Correlations and volatility

Alternatives

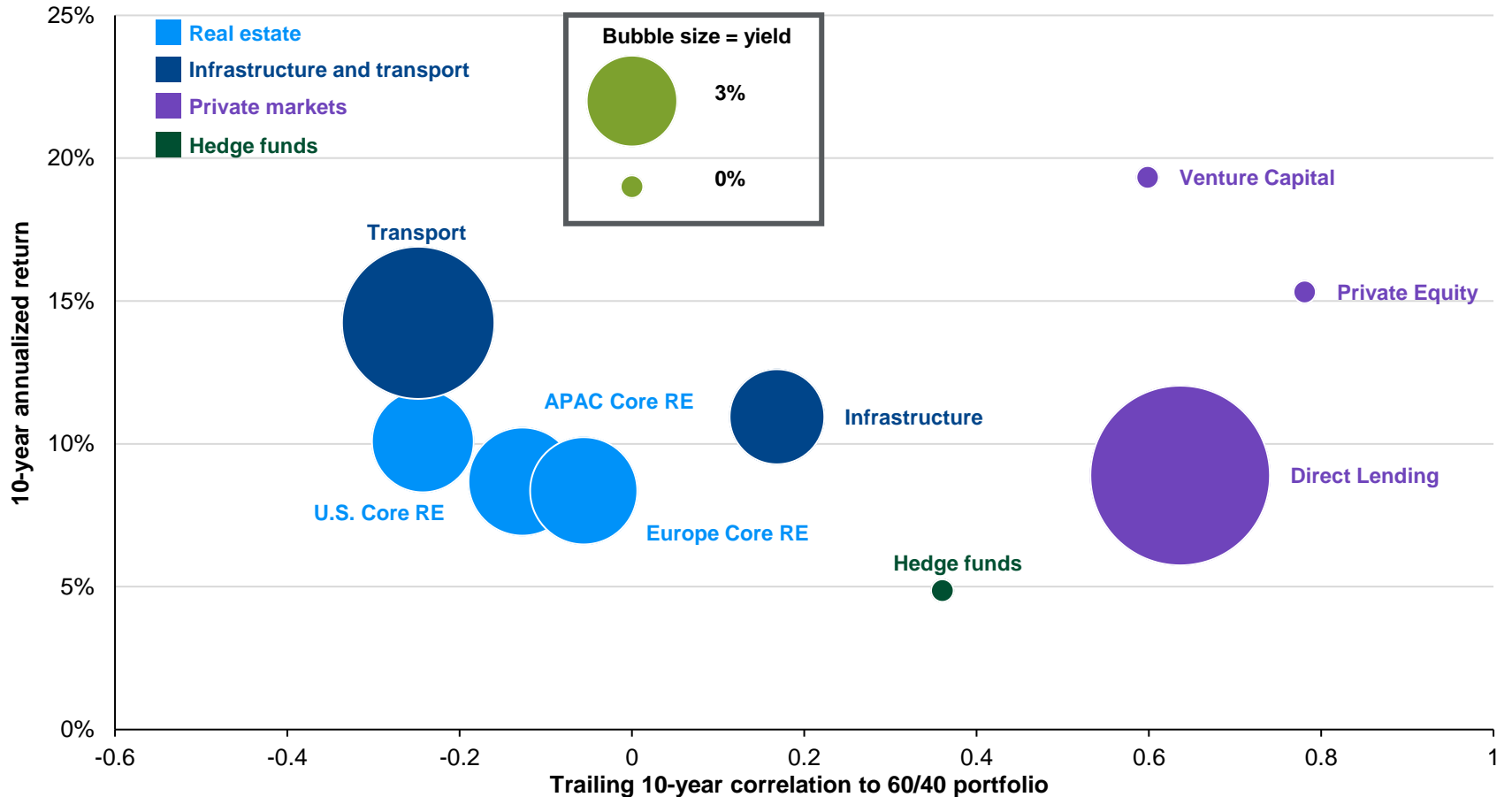|	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currcy.	EMD	Cmdty.	REITs	Hedge funds	Private equity	Gold	Ann. Volatility
U.S. Large Cap	1.00	0.90	0.80	0.33	0.87	0.42	-0.48	0.75	0.38	0.78	0.81	0.80	0.16	15%
EAFE		1.00	0.90	0.34	0.86	0.47	-0.63	0.80	0.41	0.66	0.80	0.78	0.27	16%
EME			1.00	0.32	0.83	0.42	-0.70	0.80	0.45	0.55	0.76	0.77	0.38	18%
Bonds				1.00	0.42	0.88	-0.41	0.69	-0.27	0.50	-0.04	0.13	0.61	5%
Corp. HY					1.00	0.48	-0.52	0.88	0.45	0.70	0.77	0.75	0.31	9%
Munis						1.00	-0.44	0.75	-0.23	0.62	0.09	0.26	0.51	5%
Currencies							1.00	-0.63	-0.36	-0.30	-0.30	-0.56	-0.63	7%
EMD								1.00	0.19	0.68	0.54	0.60	0.51	8%
Commodities									1.00	0.27	0.63	0.59	0.19	17%
REITs										1.00	0.56	0.62	0.27	17%
Hedge funds											1.00	0.81	-0.02	5%
Private equity												1.00	0.09	8%
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; Cmdty.: Bloomberg Commodity Index; REITs: NAREIT All Equity Index; Hedge funds: CS/Tremont Hedge Fund Index; Private equity: Time weighted returns from Burgiss; Gold: Gold continuous contract ($/oz). Private equity data are reported on a one- to two-quarter lag. All correlation coefficients and annualized volatility are calculated based on quarterly total return data for period from 12/31/2013 to 12/31/2023, except for Private equity, which is based on the period from 6/31/2013 to 6/31/2023. This chart is for illustrative purposes only.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Alternative asset correlations, returns and yields

Correlations, returns and yields
10-year correlations and 10-year annualized total returns, quarterly, 2013 - 2022
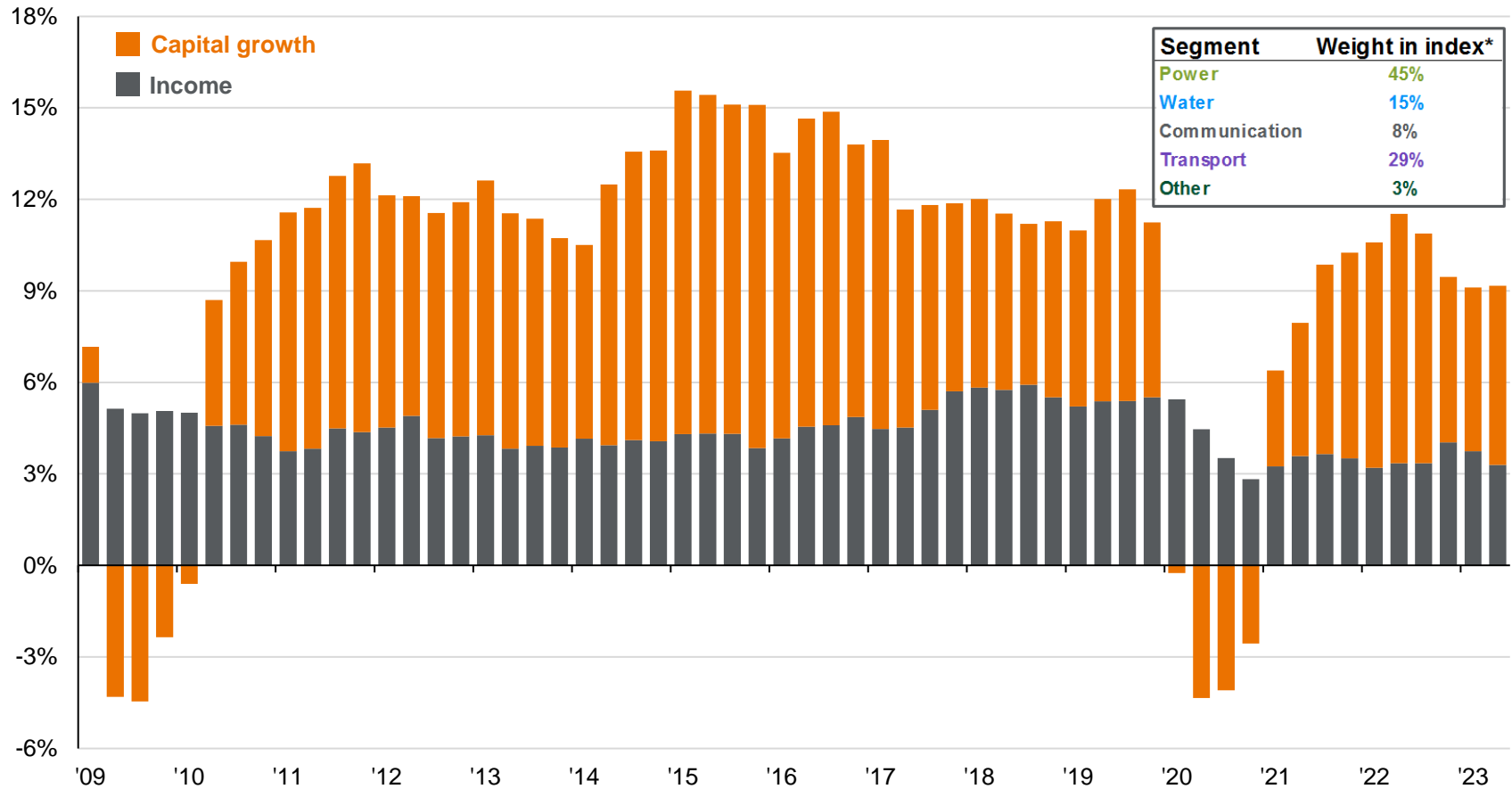

Alternatives

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Sources of global infrastructure returns

Global core infrastructure returns
Rolling 4-quarter returns from income and capital appreciation

Segment	Weight in index*
Power	45%
Water	15%
Communication	8%
Transport	29%
Other	3%

Capital growth
Income

Alternatives

Source: MSCI, J.P. Morgan Asset Management.
Infrastructure returns represented by the MSCI Global Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital growth. The chart shows the full index history, beginning in 1Q09, and ending in 2Q23. Past performance is not indicative of future results. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss. *Weights are based on enterprise value. This slide comes from our Guide to Alternatives.
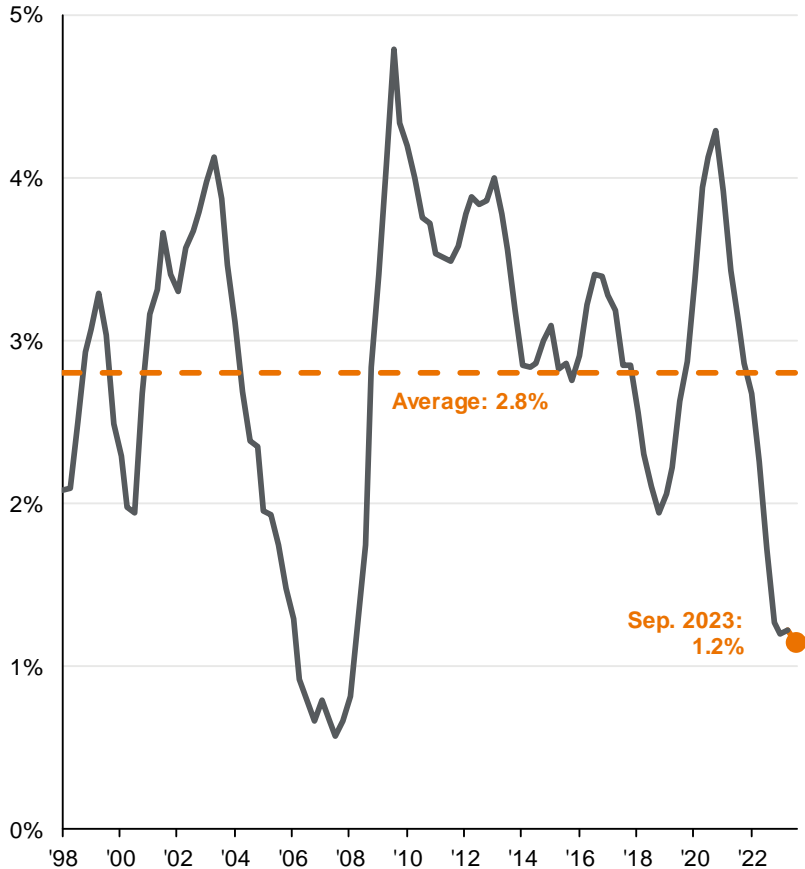*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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U.S. real estate dynamics

U.S. real estate cap rate spreads
Transaction based, spread to 10y UST, 4-quarter rolling average

Average: 2.8%

Sep. 2023:
1.2%

U.S. vacancy rates by property type
Percent

Apartment   Office
Industrial   Retail
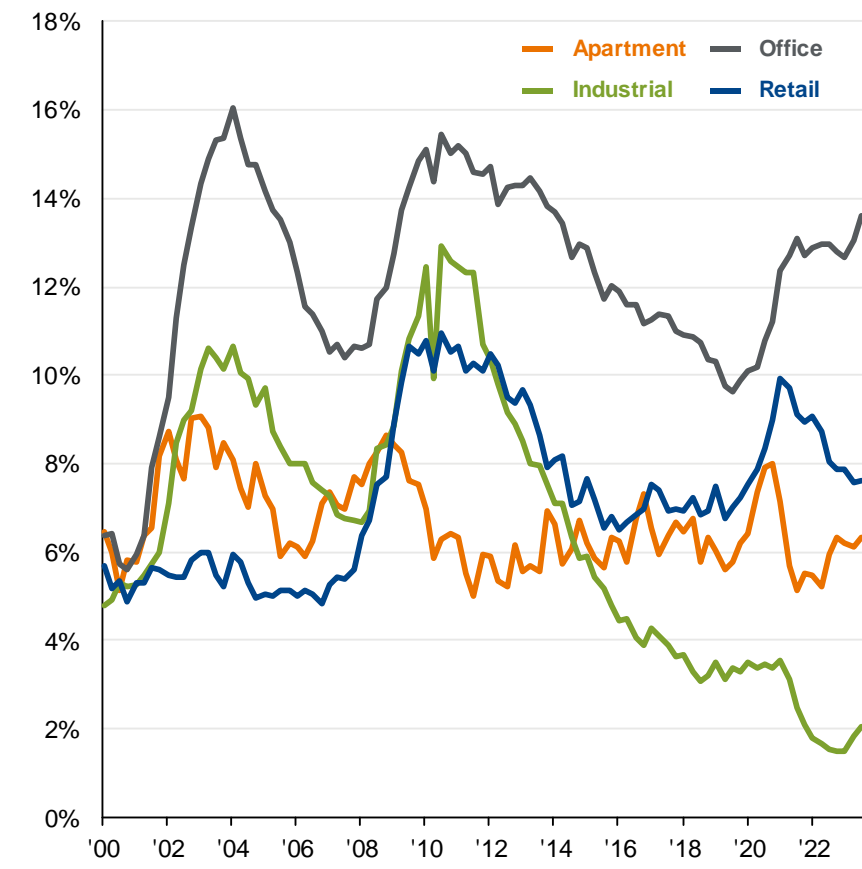
Source: NAREIT, NCREIF, Statista, J.P. Morgan Asset Management.
The cap rate, which is computed as the net operating income over sales price, is the rate of return on a real estate investment property. Vacancy rate data is as of 9/30/2023. This slide comes from our Guide to Alternatives.
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Private equity
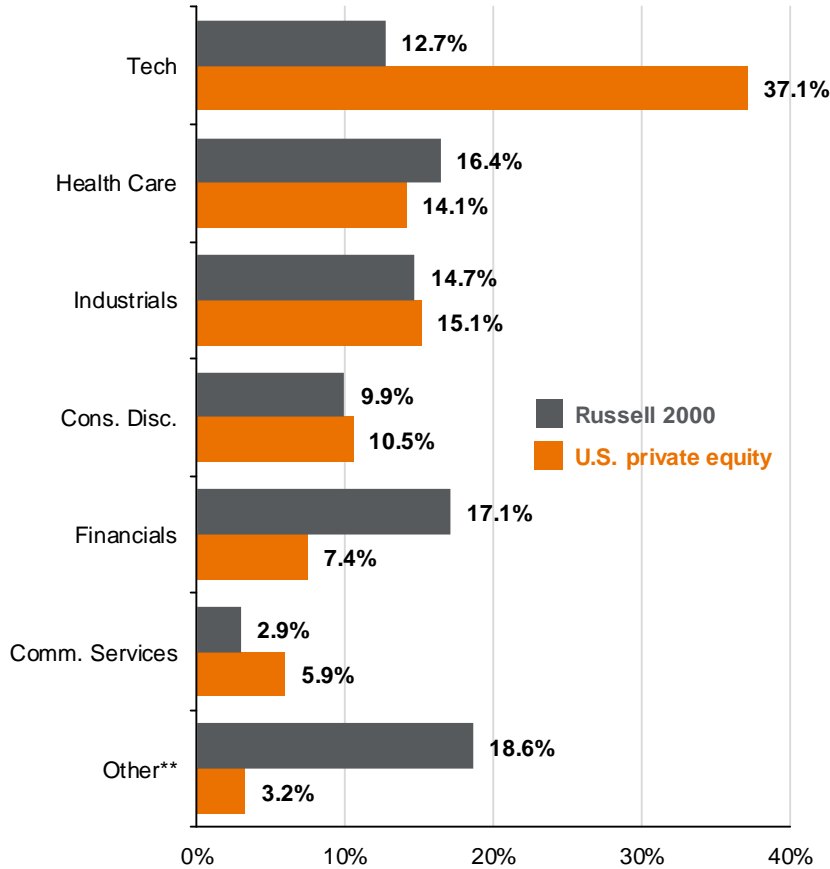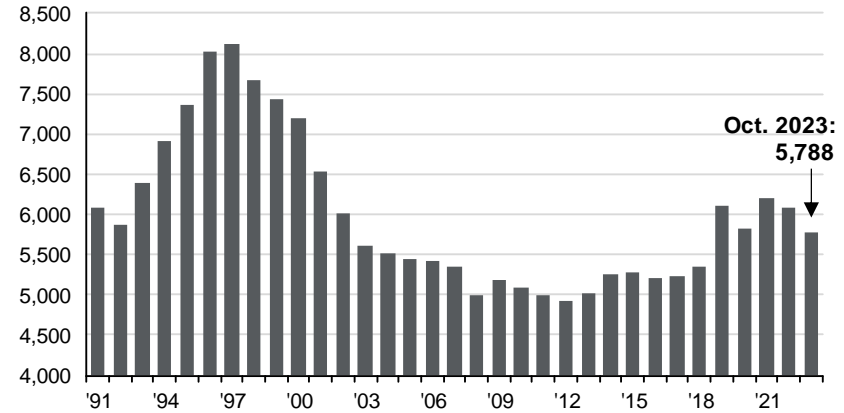
Private vs. public equity sector weights

Sector	Russell 2000	U.S. private equity
Tech	12.7%	37.1%
Health Care	16.4%	14.1%
Industrials	14.7%	15.1%
Cons. Disc.	9.9%	10.5%
Financials	17.1%	7.4%
Comm. Services	2.9%	5.9%
Other**	18.6%	3.2%

Number of U.S. listed companies*

Oct. 2023: 5,788

Average size and median age at IPO

Average IPO size (LHS, $mm)
Median age (RHS, years)

Alternatives

Source: Cambridge Associates, Jay Ritter, Russell, University of Florida, World Federation of Exchanges, J.P. Morgan Asset Management. The sample is IPOs with an offer price of at least $5.00, excluding ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S&Ls and stocks not listed on CRSP (CRSP includes Amex, NYSE and NASDAQ stocks). Average IPO size is defined as the aggregate IPO proceeds during the period shown, divided by the number of IPOs. *Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. **Other includes real estate, utilities and energy. Percentages may not sum due to rounding. Sector weights are as of 6/30/2022. This slide comes from our Guide to Alternatives.
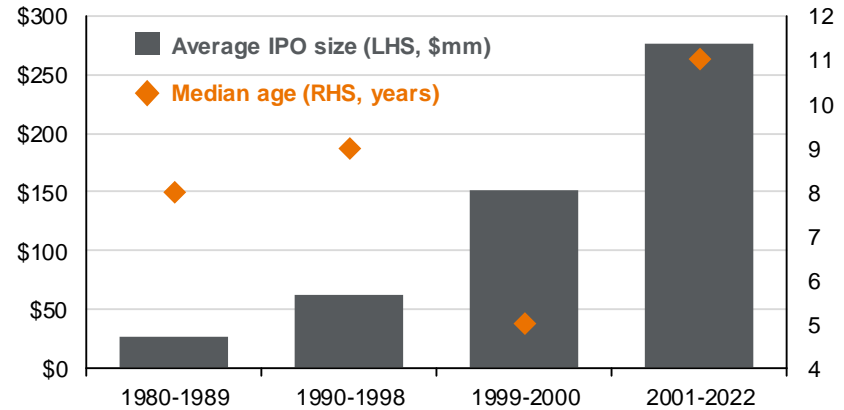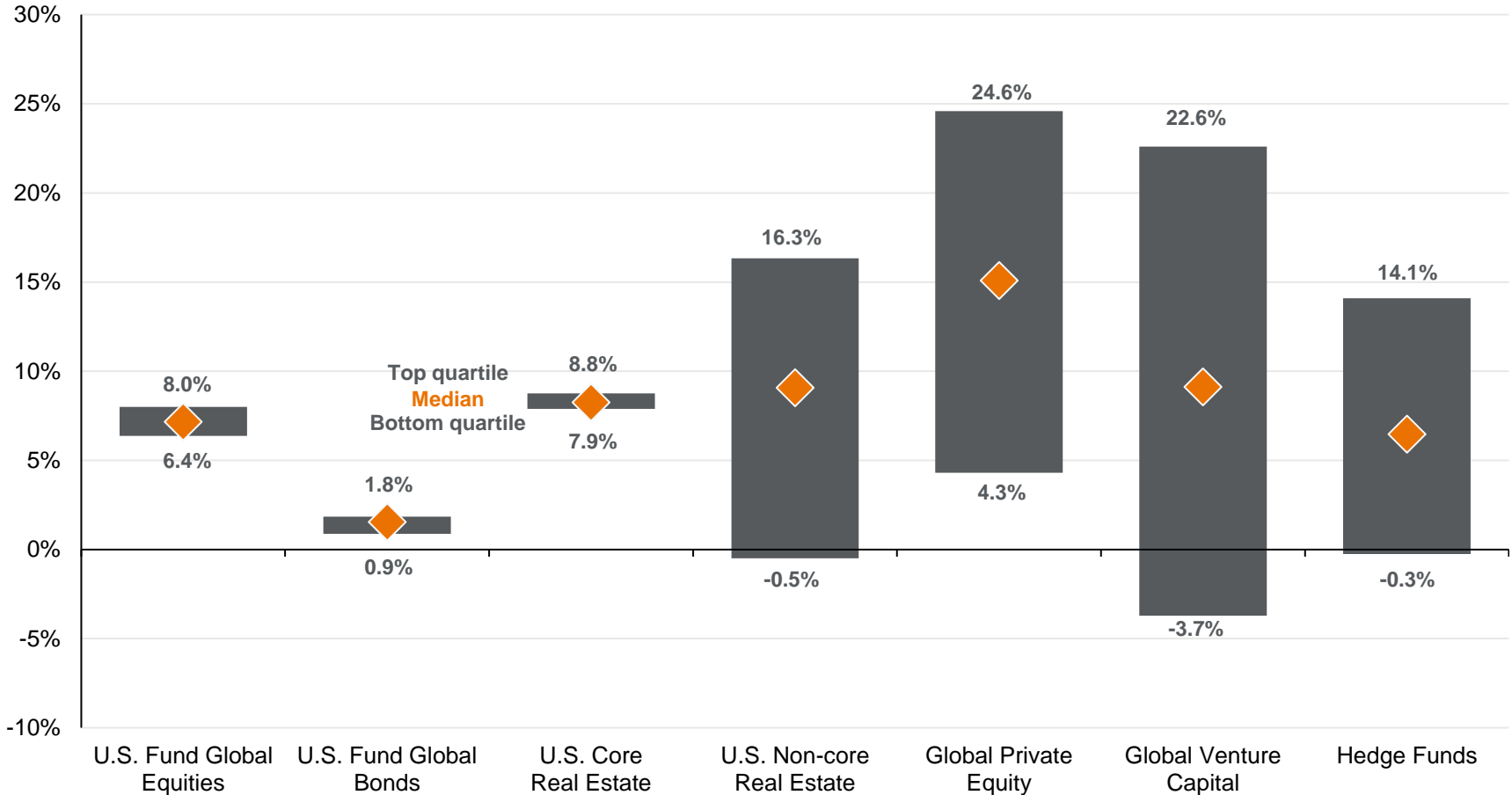*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Public and private manager dispersion
Based on returns over a 10-year window*

Source: Burgiss, NCREIF, Morningstar, PivotalPath, J.P. Morgan Asset Management.
Global equities (large cap) and global bonds dispersion are based on the world large stock and world bond categories, respectively. *Manager dispersion is based on the annual returns for U.S. Fund Global Equities, U.S. Fund Global Bonds, Hedge Funds, and U.S. Core Real Estate are over a 10-year period ending 3Q 2023. Non-core Real Estate, Global Private Equity and Global Venture Capital are represented by the 10-year horizon internal rate of return (IRR) ending 2Q 2023. U.S. Fund Global Equities and Bonds are comprised of U.S.-domiciled mutual funds and ETFs. This slide comes from our Guide to Alternatives.
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Alternatives

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Asset class returns

2009-2023 Ann.	Vol.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Large Cap 14.0%	Small Cap 21.9%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	REITs 41.3%	Comdty. 16.1%	Large Cap 26.3%
Small Cap 11.3%	REITs 21.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Large Cap 28.7%	Cash 1.5%	DM Equity 18.9%
REITs 10.9%	EM Equity 20.3%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	Comdty. 27.1%	High Yield -12.7%	Small Cap 16.9%
High Yield 8.6%	DM Equity 18.4%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	Small Cap 14.8%	Fixed Income -13.0%	Asset Alloc. 14.1%
Asset Alloc. 8.1%	Comdty. 16.6%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	Asset Alloc. 13.5%	Asset Alloc. -13.9%	High Yield 14.0%
DM Equity 7.4%	Large Cap 16.1%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	DM Equity 11.8%	DM Equity -14.0%	REITs 11.4%
EM Equity 6.9%	High Yield 11.5%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	High Yield 1.0%	Large Cap -18.1%	EM Equity 10.3%
Fixed Income 2.7%	Asset Alloc. 11.5%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	Cash 0.0%	EM Equity -19.7%	Fixed Income 5.5%
Cash 0.8%	Fixed Income 4.5%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Fixed Income -1.5%	Small Cap -20.4%	Cash 5.1%
Comdty. -0.2%	Cash 0.7%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	EM Equity -2.2%	REITs -24.9%	Comdty. -7.9%

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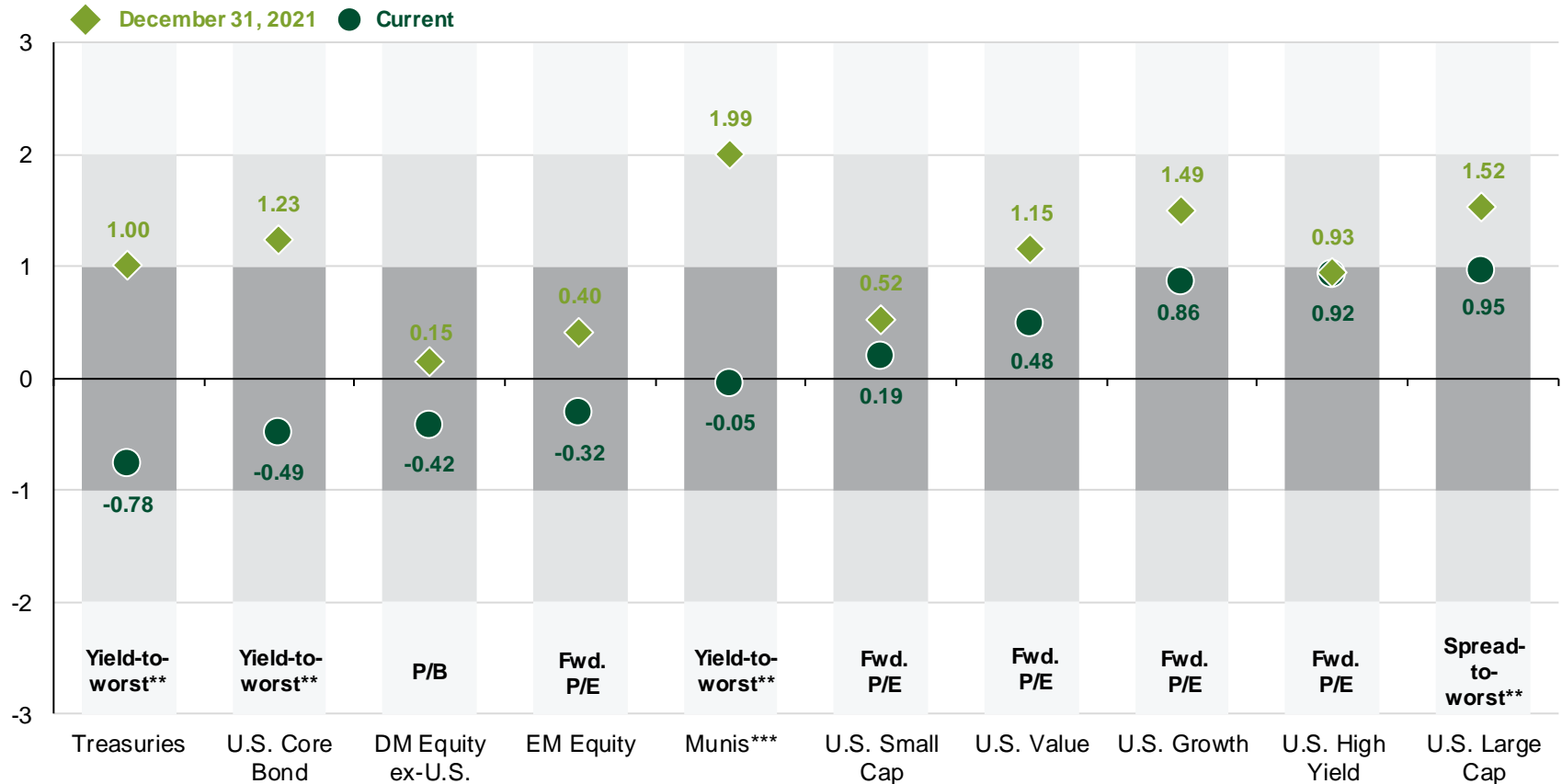*Guide to the Markets – U.S.* Data are as of December 31, 2023.

Investing Principles

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Valuations monitor

Asset class valuations
Z-scores based on 25-year average valuation measures*

◆ **December 31, 2021**   ● **Current**

Asset Class	Measure	Dec 31, 2021	Current
Treasuries	Yield-to-worst**	1.00	-0.78
U.S. Core Bond	Yield-to-worst**	1.23	-0.49
DM Equity ex-U.S.	P/B	0.15	-0.42
EM Equity	Fwd. P/E	0.40	-0.32
Munis***	Yield-to-worst**	1.99	-0.05
U.S. Small Cap	Fwd. P/E	0.52	0.19
U.S. Value	Fwd. P/E	1.15	0.48
U.S. Growth	Fwd. P/E	1.49	0.86
U.S. High Yield	Fwd. P/E	0.93	0.92
U.S. Large Cap	Spread-to-worst**	1.52	0.95

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%.
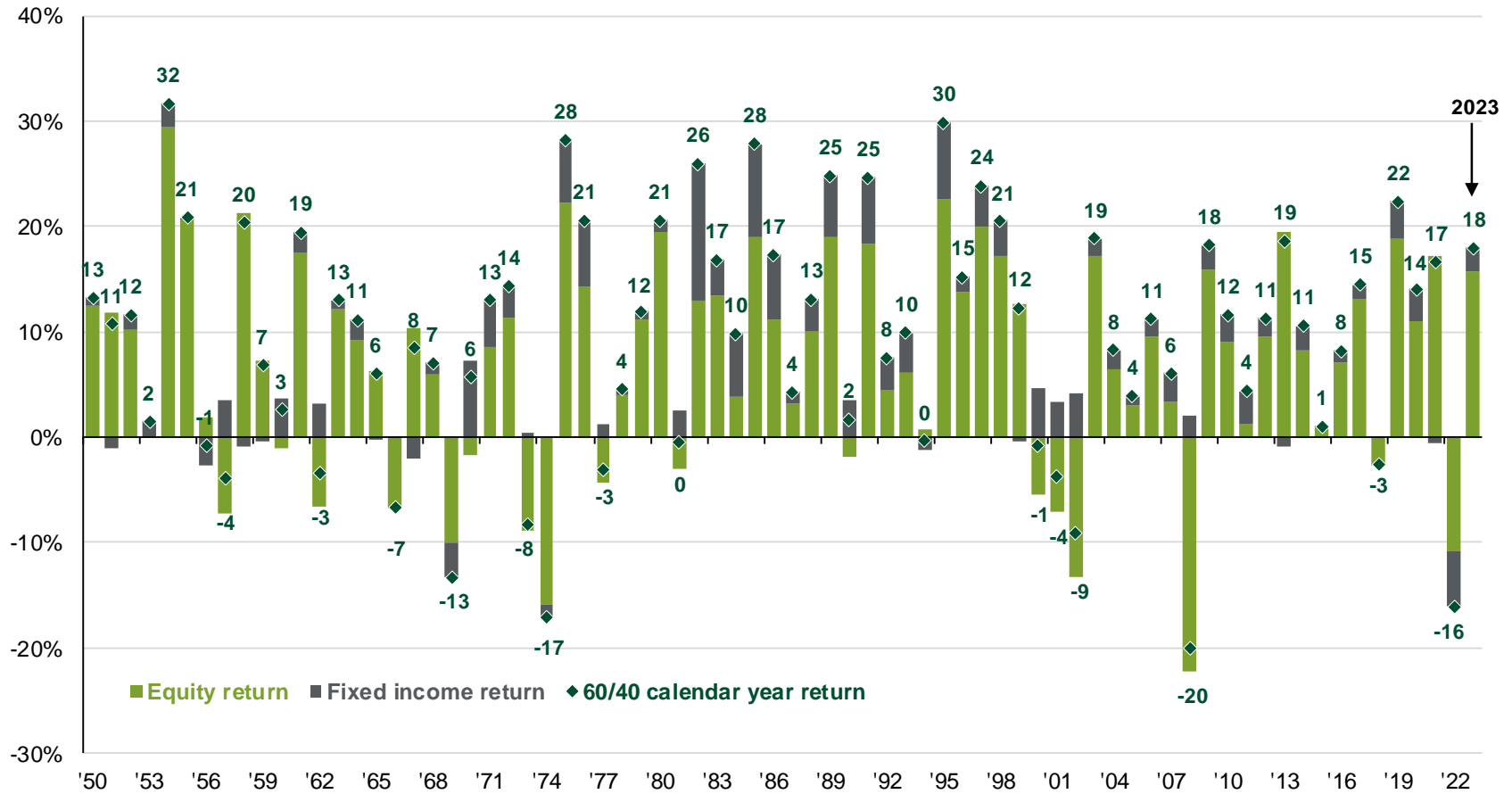*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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60/40 annual returns

60/40 annual return decomposition
Total returns, 1950 – 2023

■ **Equity return**   ■ **Fixed income return**   ◆ **60/40 calendar year return**
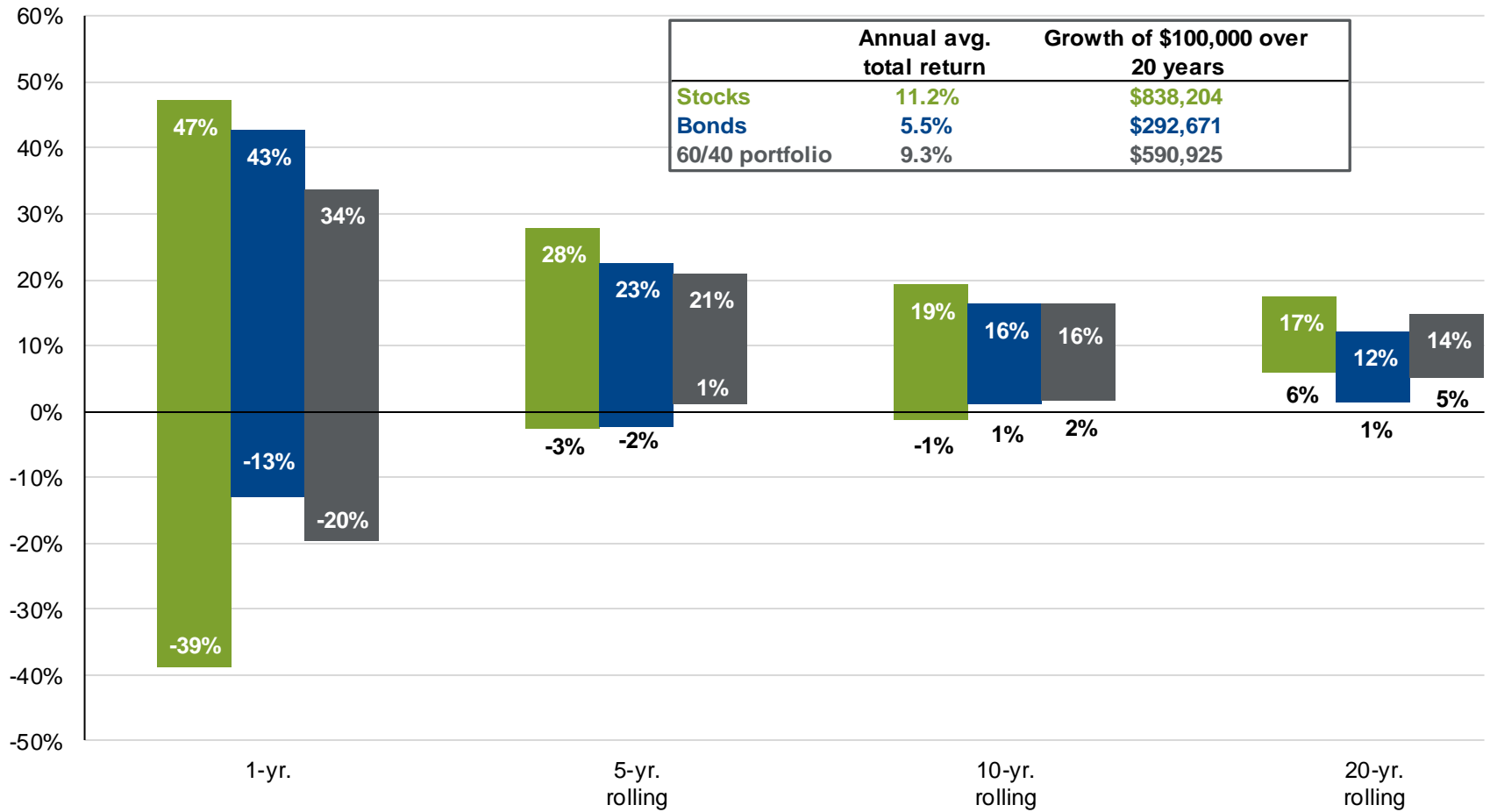
Source: Bloomberg, FactSet, Ibbotson/Strategas, Robert Shiller, Standard & Poor's, Yale University, J.P. Morgan Asset Management.
The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. S&P 500
returns from 1950 to 1970 are estimated using the Shiller S&P Composite. U.S. fixed income total returns from 1950 to 1975 are estimated using data
from Strategas/Ibbotson. The portfolio is rebalanced annually.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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Time, diversification and the volatility of returns

Range of stock, bond and blended total returns
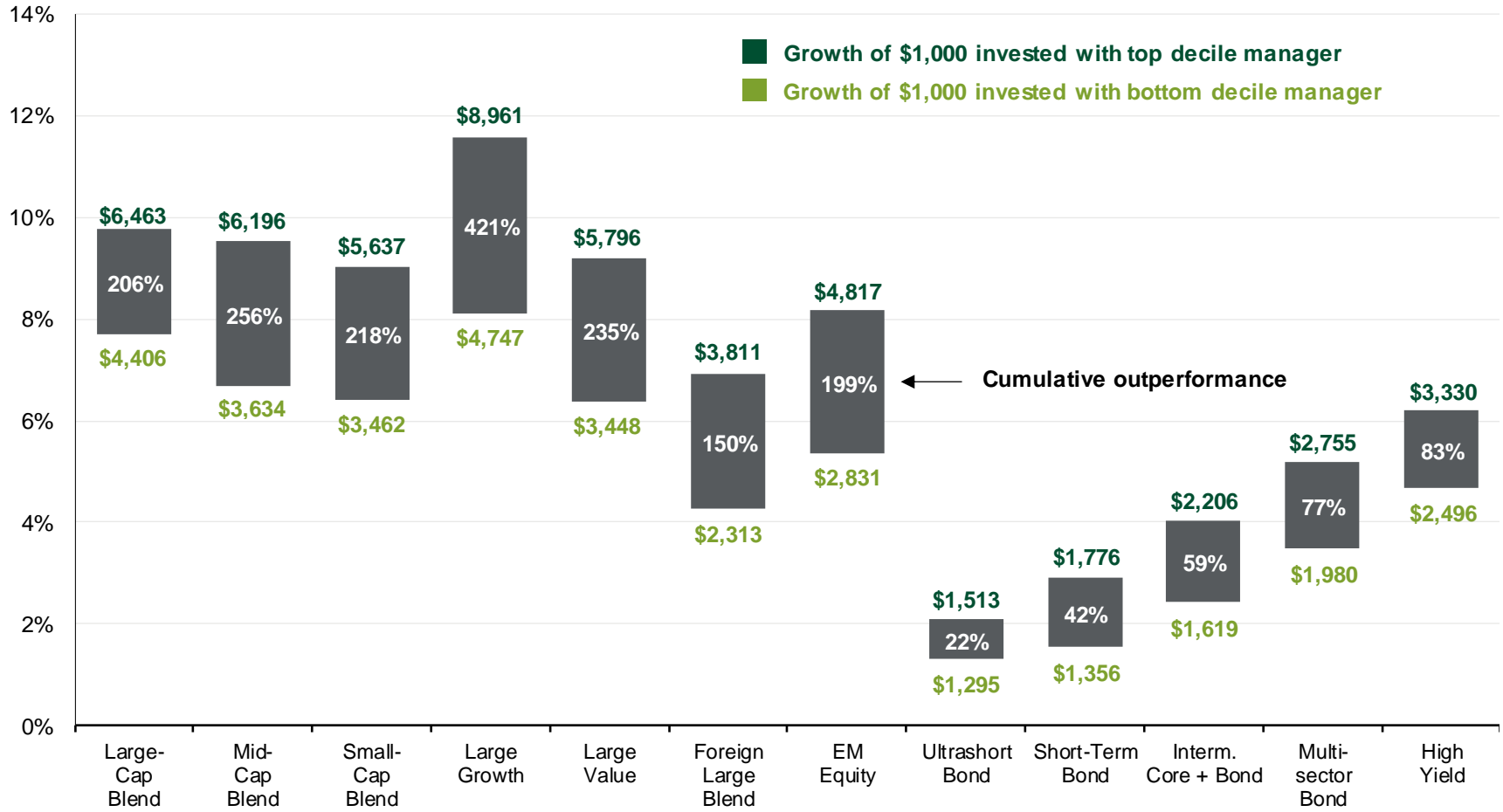Annual total returns, 1950-2023

	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.2%	$838,204
Bonds	5.5%	$292,671
60/40 portfolio	9.3%	$590,925

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20-year manager return dispersion and growth of capital
By asset type, annualized total returns, growth of $1,000 invested 20 years ago*

Growth of $1,000 invested with top decile manager

Growth of $1,000 invested with bottom decile manager

Cumulative outperformance

Large-Cap Blend: $6,463 / 206% / $4,406
Mid-Cap Blend: $6,196 / 256% / $3,634
Small-Cap Blend: $5,637 / 218% / $3,462
Large Growth: $8,961 / 421% / $4,747
Large Value: $5,796 / 235% / $3,448
Foreign Large Blend: $3,811 / 150% / $2,313
EM Equity: $4,817 / 199% / $2,831
Ultrashort Bond: $1,513 / 22% / $1,295
Short-Term Bond: $1,776 / 42% / $1,356
Interm. Core + Bond: $2,206 / 59% / $1,619
Multi-sector Bond: $2,755 / 77% / $1,980
High Yield: $3,330 / 83% / $2,496

Investing Principles

Source: Morningstar, J.P. Morgan Asset Management.
*Represents average annual portfolio return dispersion between the 10th and 90th percentile over a 20-year period for each Morningstar Category, including mutual funds and ETFs. Returns are updated monthly and reflect data through 11/30/2023. This information is for illustrative purposes only, does not reflect actual investment results, is not a guarantee of future results and is not a recommendation.
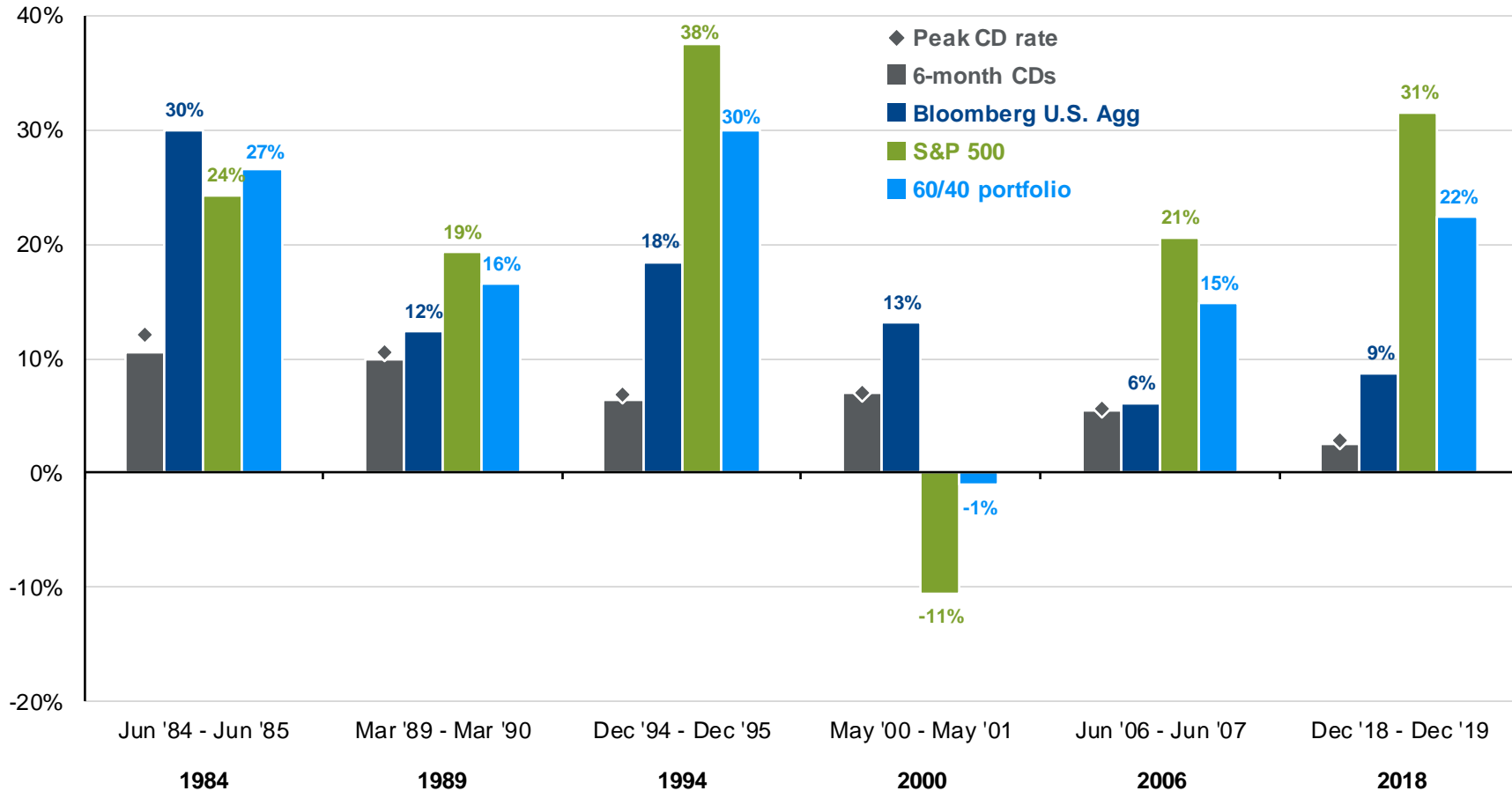*Guide to the Markets – U.S.* Data are as of December 31, 2023.

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Investment opportunities outside of CDs

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


Legend:
- ◆ Peak CD rate
- ■ 6-month CDs
- ■ Bloomberg U.S. Agg
- ■ S&P 500
- ■ 60/40 portfolio

Period	Jun '84 - Jun '85 (1984)	Mar '89 - Mar '90 (1989)	Dec '94 - Dec '95 (1994)	May '00 - May '01 (2000)	Jun '06 - Jun '07 (2006)	Dec '18 - Dec '19 (2018)
Bloomberg U.S. Agg	30%	12%	18%	13%	6%	9%
S&P 500	24%	19%	38%	-11%	21%	31%
60/40 portfolio	27%	16%	30%	-1%	15%	22%

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S&P 500 returns around the end of a Fed hiking cycle
%, price return, indexed to zero at the last hike

Last hike

1994-95
1983-84
2015-18
1988-89
2004-06
2022-2023
1999-00

Months around the last hike
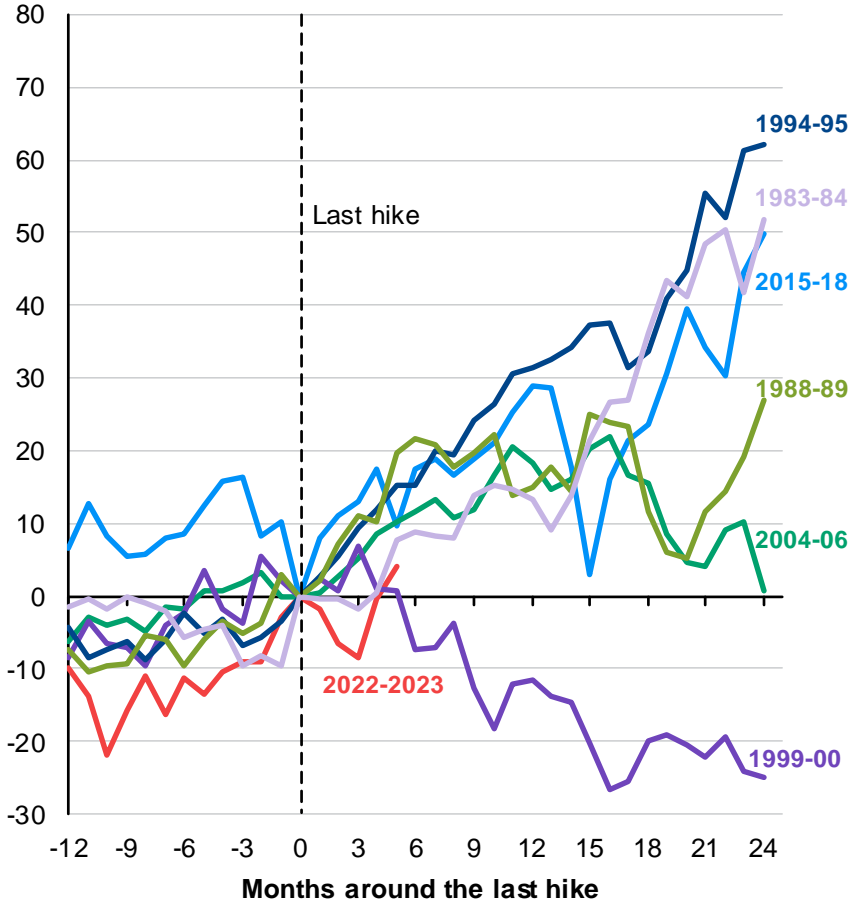
U.S. 10-yr returns around the end of a Fed hiking cycle
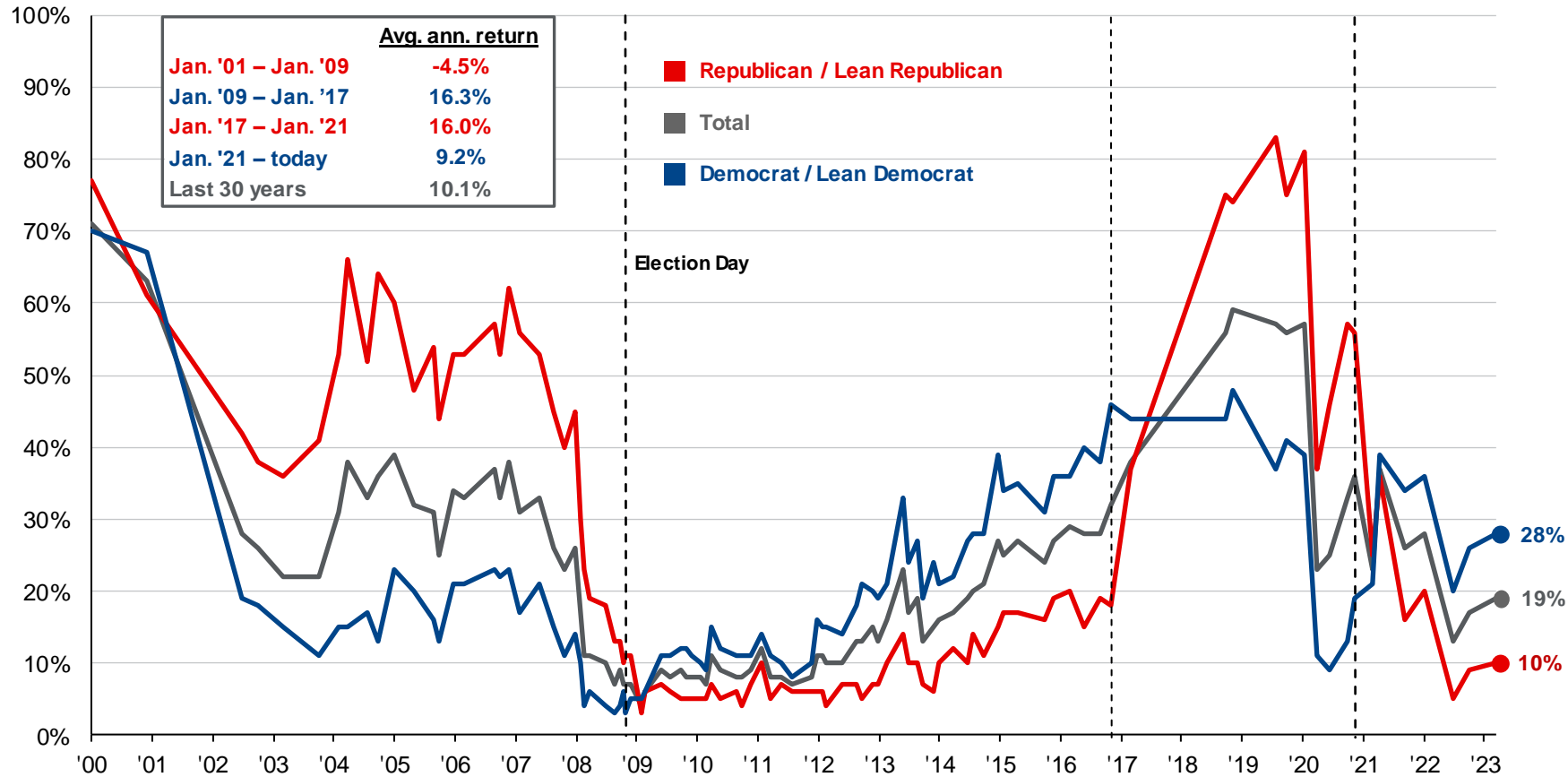%, total return, indexed to zero at the last hike
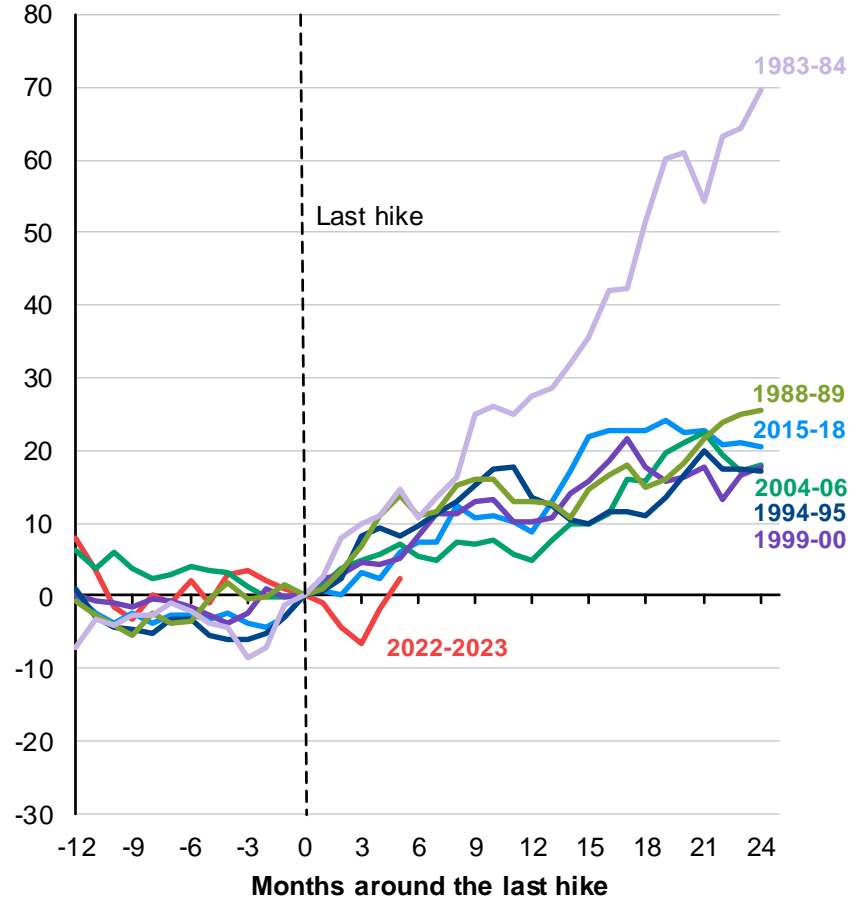
Last hike

1983-84
1988-89
2015-18
2004-06
1994-95
1999-00
2022-2023

Months around the last hike

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

	Avg. ann. return
Jan. '01 – Jan. '09	-4.5%
Jan. '09 – Jan. '17	16.3%
Jan. '17 – Jan. '21	16.0%
Jan. '21 – today	9.2%
Last 30 years	10.1%

- Republican / Lean Republican
- Total
- Democrat / Lean Democrat

Election Day

28%
19%
10%

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Government control, the economy and stock market

Real GDP

Year-over-year % change, annual

	Average	% of time
Republican	**2.8%**	**11%**
Democrat	**4.0%**	**29%**
Divided gov't	**2.7%**	**61%**
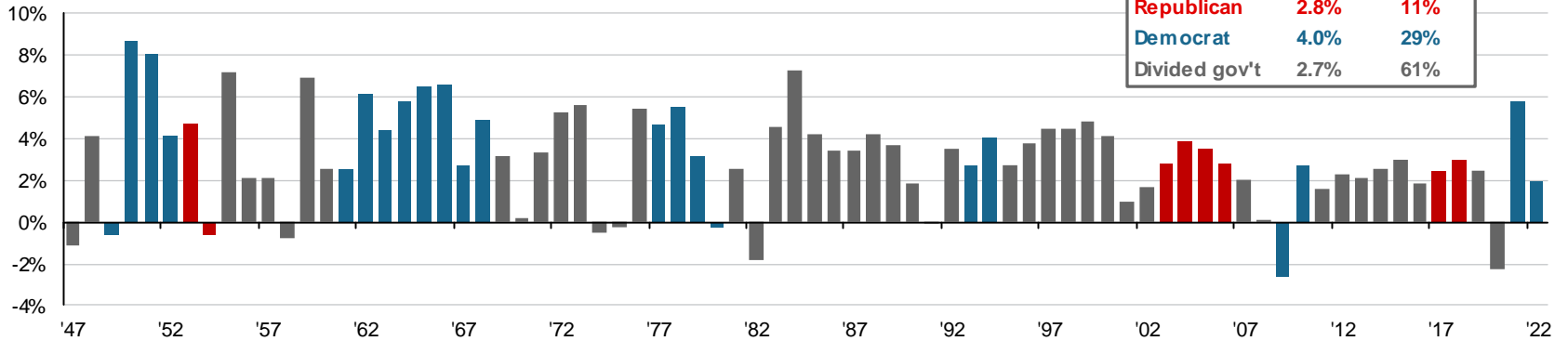
S&P 500 Price Index

Calendar year returns

	Average	% of time
Republican	**12.9%**	**11%**
Democrat	**9.9%**	**29%**
Divided gov't	**7.9%**	**61%**
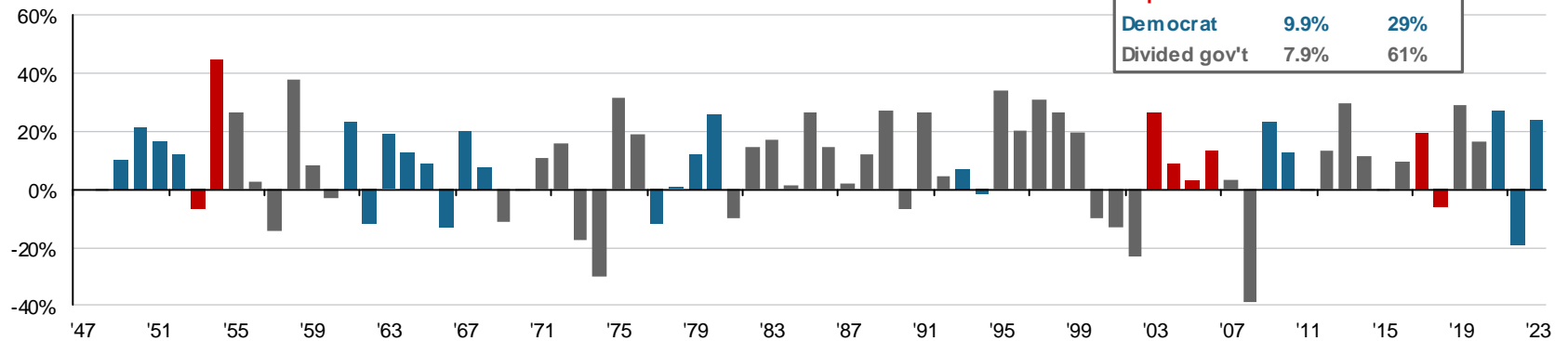
Source: BEA, Standard & Poor's, FactSet, J.P. Morgan Asset Management. Data is calendar year.
Guide to the Markets – U.S. Data are as of December 31, 2023.

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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.

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J.P. Morgan Asset Management – Definitions

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.

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Prepared by: David P. Kelly, Jordan K. Jackson, John C. Manley, Meera Pandit, Gabriela D. Santos, Stephanie Aliaga, Sahil Gauba, Nimish Vyas, Mary Park Durham, and Brandon Hall.

Unless otherwise stated, all data are as of December 31, 2023 or most recently available.

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