



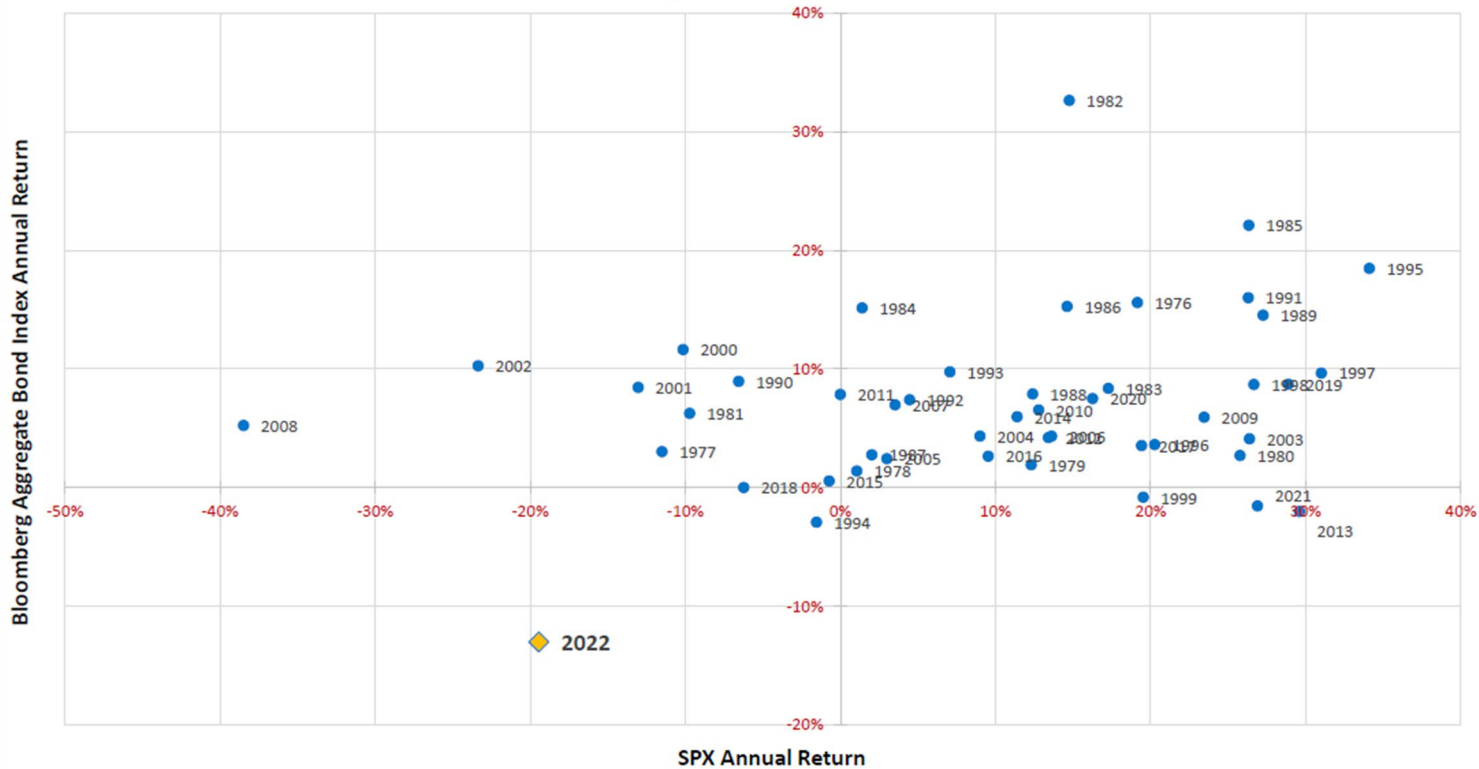
# **FAS Wealth Partners Quarterly Update**

**January 19, 2023**

invested in *you.*

# Difficult Year for Stocks and Bonds

S&P 500 vs. Bloomberg US Aggregate Bond Index Return by Year  
(1976-2022)



As of December 30, 2022  
Source: Bloomberg, DoubleLine  
Please see the Appendix for index definitions. You cannot invest directly in an index.

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# Gabriela Santos

## J.P. Morgan Global Market Strategist



**Gabriela Santos is Managing Director and Global Market Strategist on the J.P. Morgan Asset Management Global Market Insights Strategy Team. In this role, Gabriela is responsible for delivering timely market and economic insights to institutional and retail clients across the U.S. and Latin America. In addition, Gabriela conducts research on the global economy and capital markets and is responsible for the development of the Guide to the Markets, Guide to China, and Guide to the Markets - Latin America, amongst other publications. Gabriela has played an instrumental role in the development of the team's research on Chinese markets and the expansion of the Market Insights program in Latin America.**

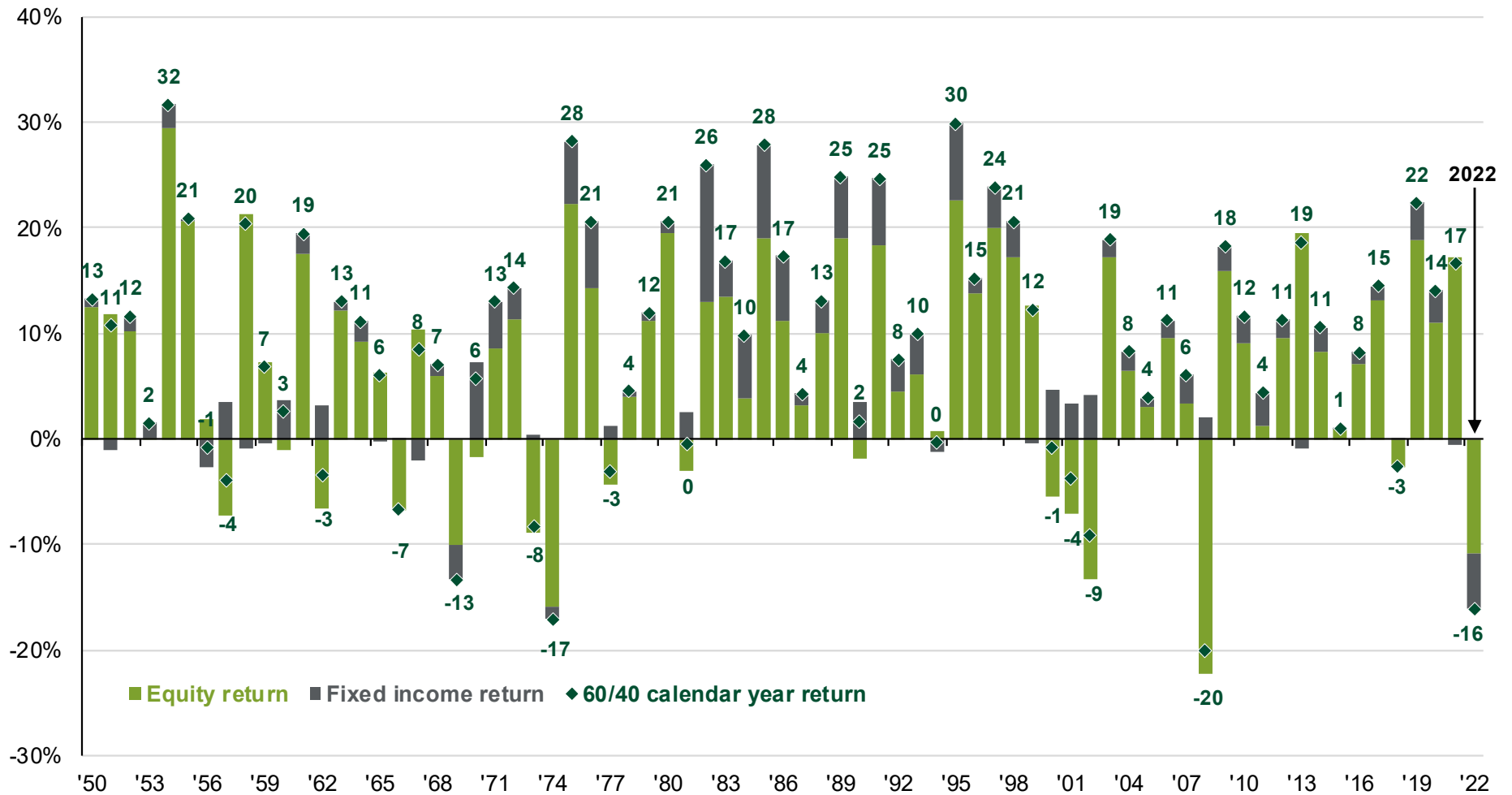
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# 60/40 annual returns

## 60/40 annual return decomposition

Total returns, 1950 – present



Investing Principles

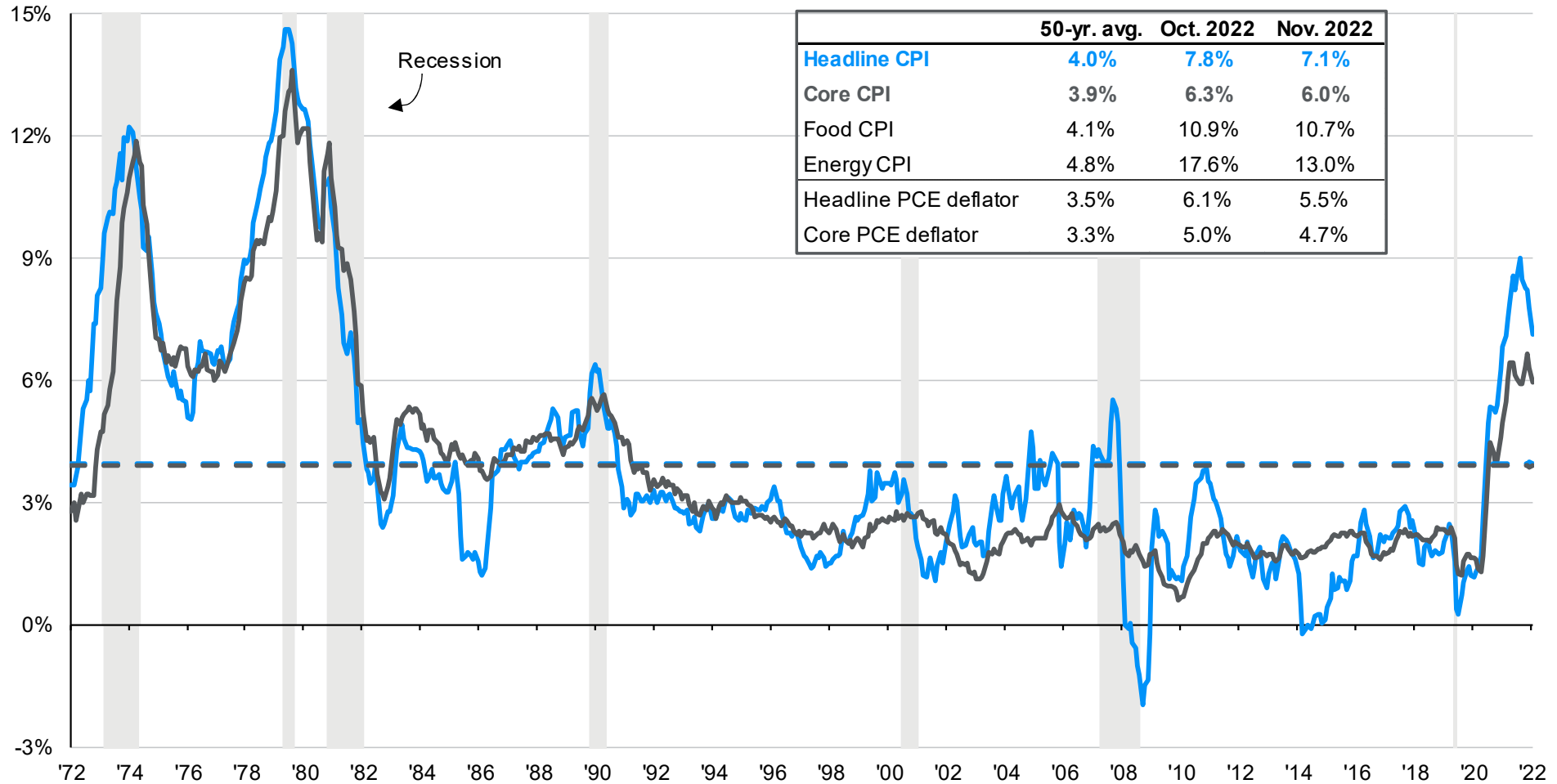
Source: FactSet, Standard & Poor's, Robert Shiller, Yale University, Bloomberg, Ibbotson/Strategas, J.P. Morgan Asset Management. The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. S&P 500 returns from 1950 – 1970 are estimated using the Shiller S&P Composite. U.S. fixed income total returns from 1950 – 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, 2022.



# Inflation

## CPI and core CPI

% change vs. prior year, seasonally adjusted



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

CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.

Guide to the Markets - U.S. Data are as of December 31, 2022.

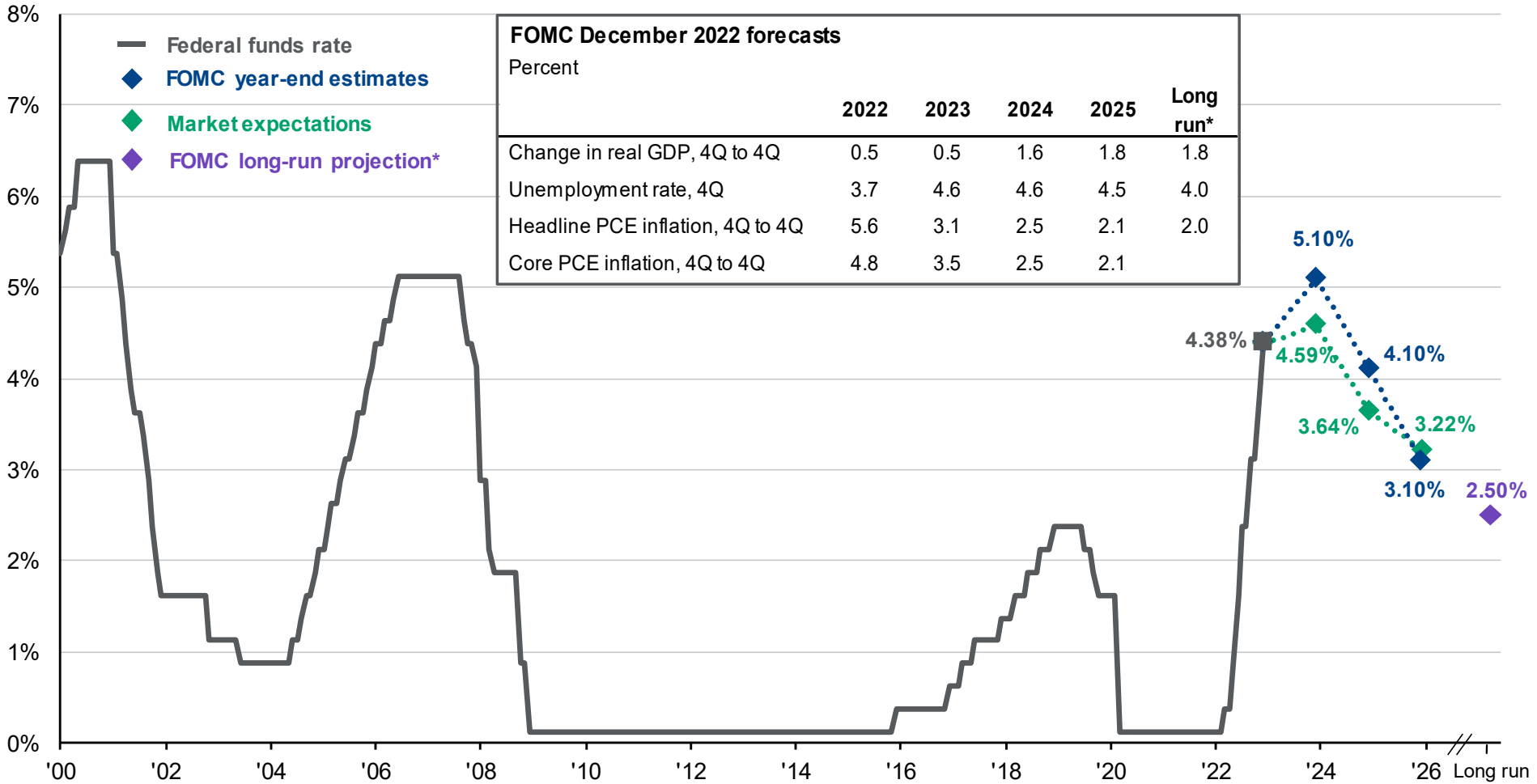


# The Fed and interest rates

Fixed Income

## Federal funds rate expectations

FOMC and market expectations for the federal funds rate



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

Market expectations are based off of the respective Federal Funds Futures contracts for December expiry. \*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, 2022.

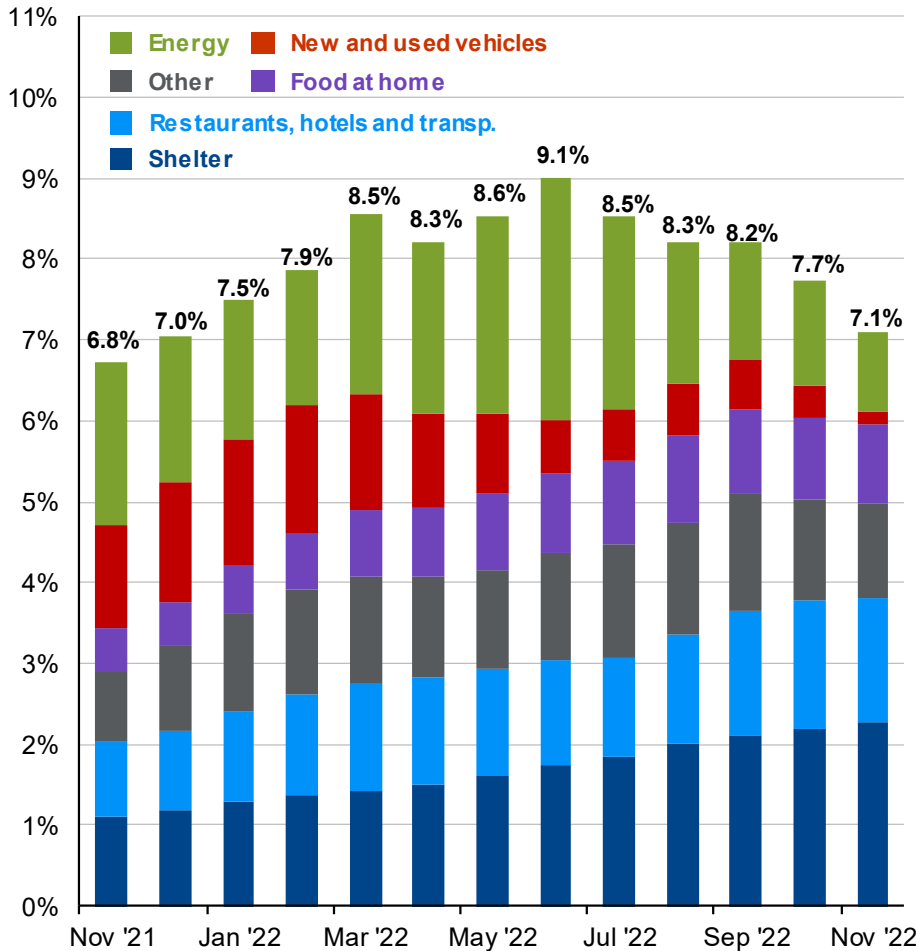


# Inflation drivers and expectations

Economy

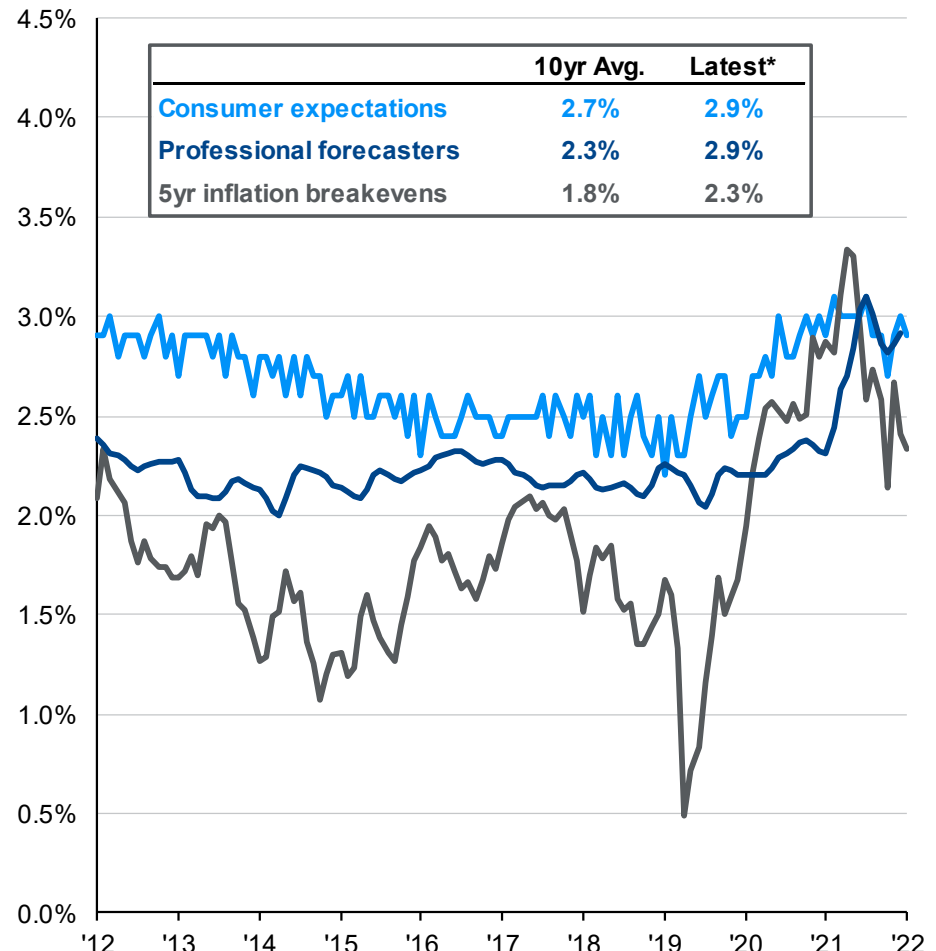
## Contributors to headline inflation

Contribution to y/y % change in CPI, not seasonally adjusted



## Inflation expectations, next 5 years

% change vs. prior year, non-seasonally adjusted



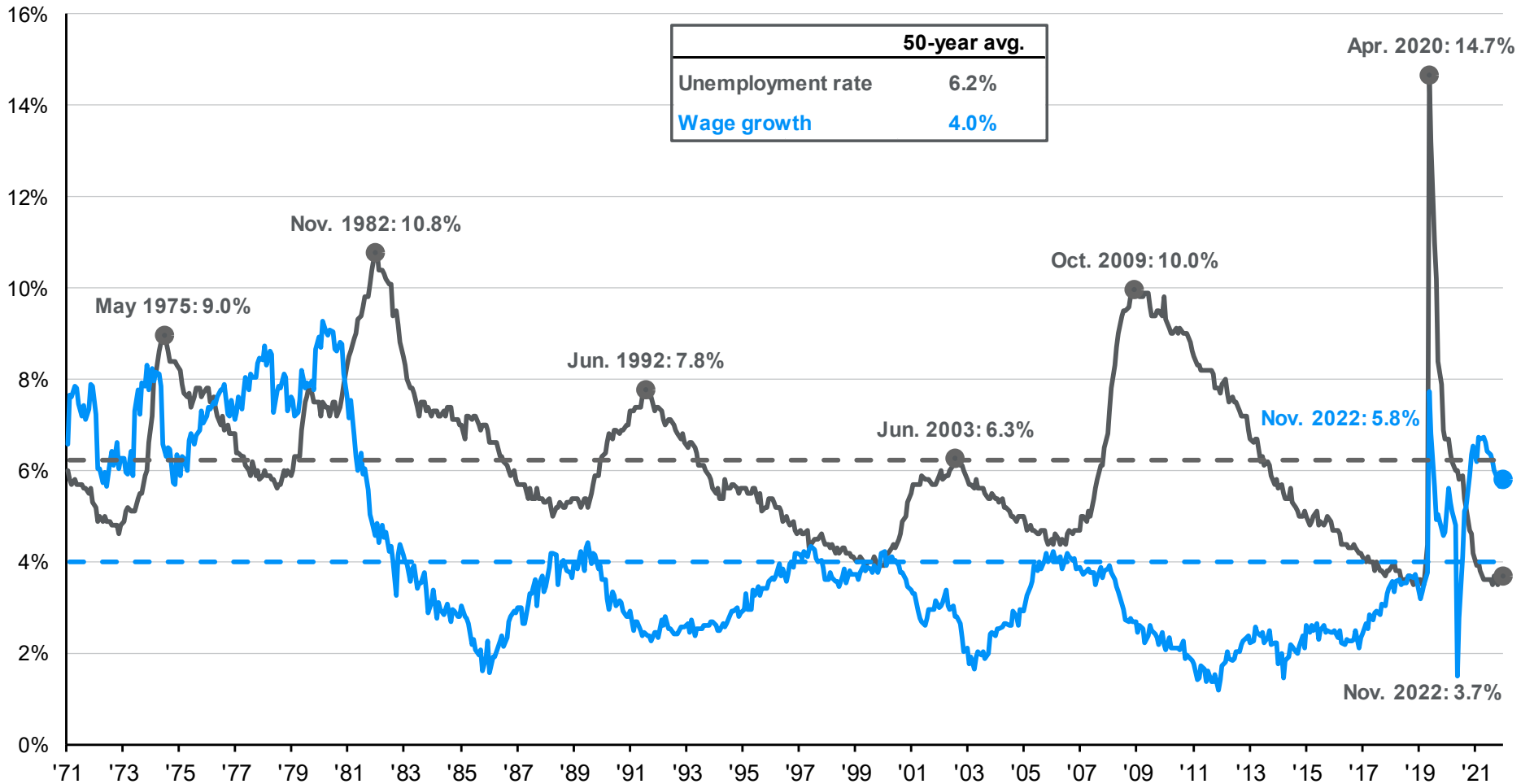
Source: Bureau of Labor Statistics, FactSet, Federal Reserve Bank of Philadelphia, University of Michigan, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. "Shelter" includes owner's equivalent rent and rent of primary residence. "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. \*Reflects the latest daily 5yr/5yr breakevens, preliminary or final Consumer Sentiment survey, and the quarterly Survey of Professional Forecasters interpolated to a monthly series. The Survey of Professional Forecasters reflects the median estimate by professional forecasters of average CPI inflation over the next 5 years. The series has been adjusted by J.P. Morgan Asset Management to exclude realized inflation readings within the forecast window.  
 Guide to the Markets – U.S. Data are as of December 31, 2022.



# Unemployment and wages

## Civilian unemployment rate and year-over-year wage growth

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



Source: BLS, FactSet, J.P. Morgan Asset Management.  
Guide to the Markets – U.S. Data are as of December 31, 2022.

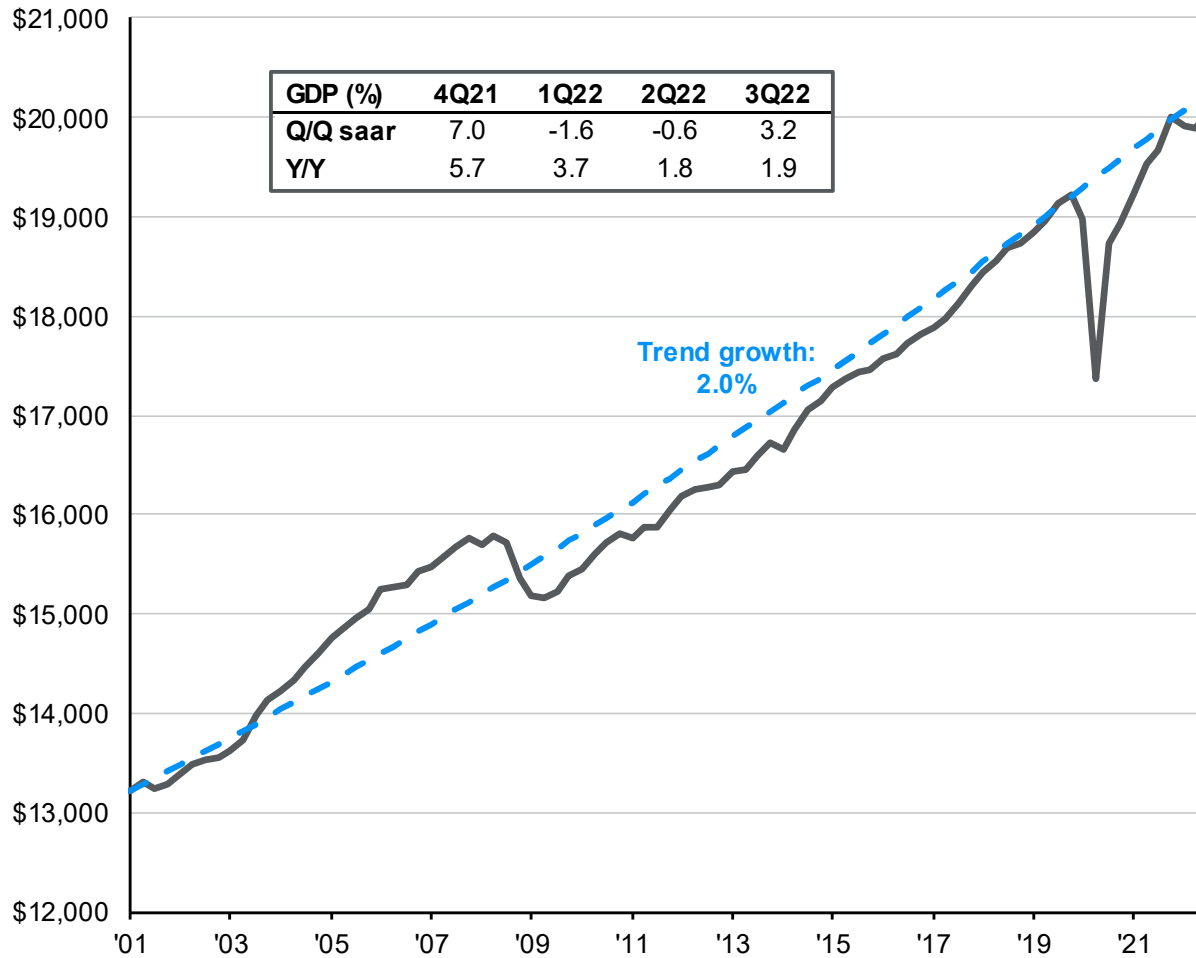




# Economic growth and the composition of GDP

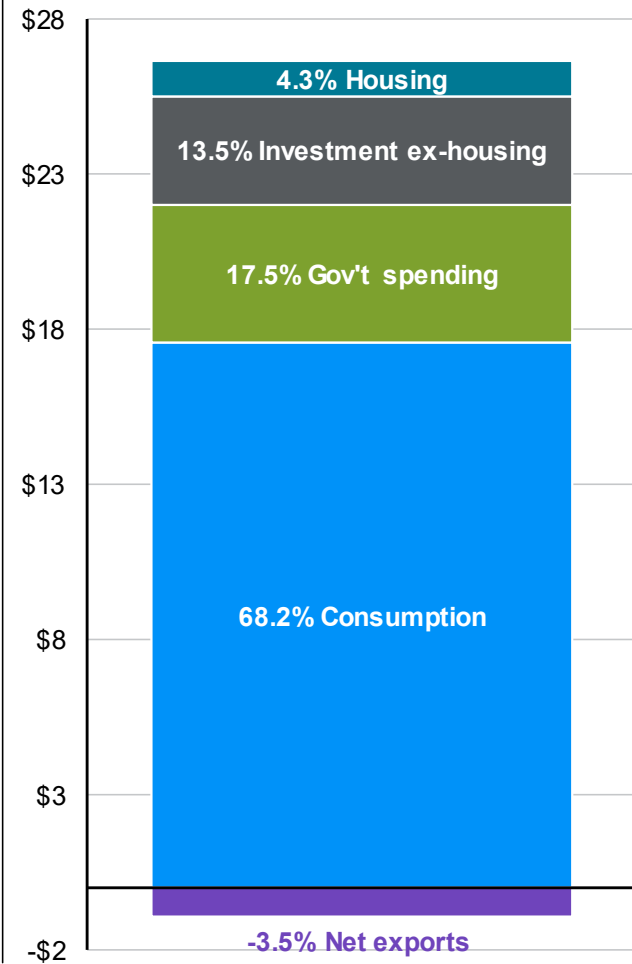
## Real GDP

Billions of chained (2012) dollars, seasonally adjusted at annual rates



## Components of GDP

3Q22 nominal GDP, USD trillions



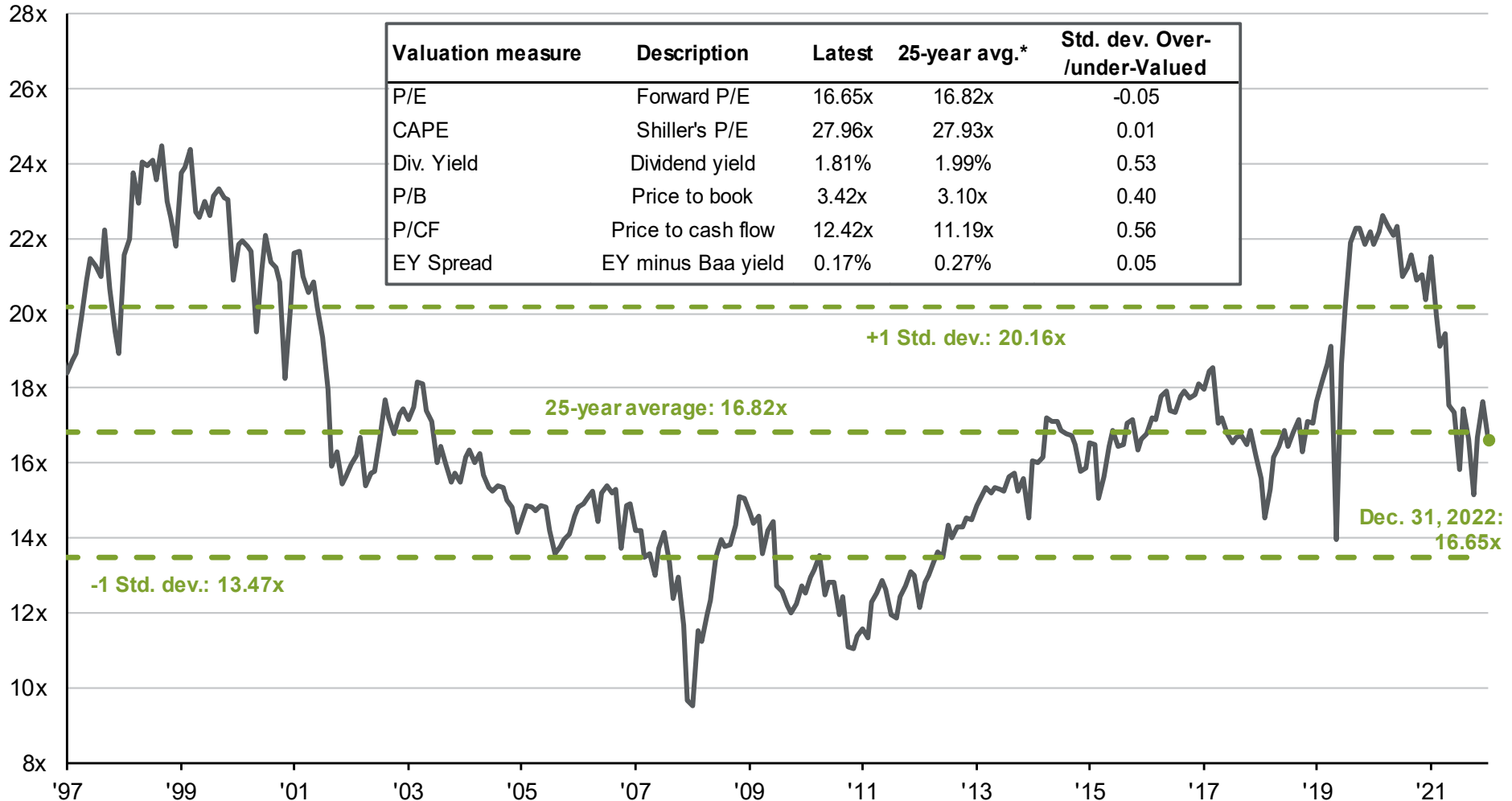
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19. Guide to the Markets - U.S. Data are as of December 31, 2022.



# S&P 500 valuation measures

Equities

## S&P 500 Index: Forward P/E ratio



Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1997 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are \$231. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. \*P/CF is a 20-year average due to cash flow availability. *Guide to the Markets - U.S.* Data are as of December 31, 2022.

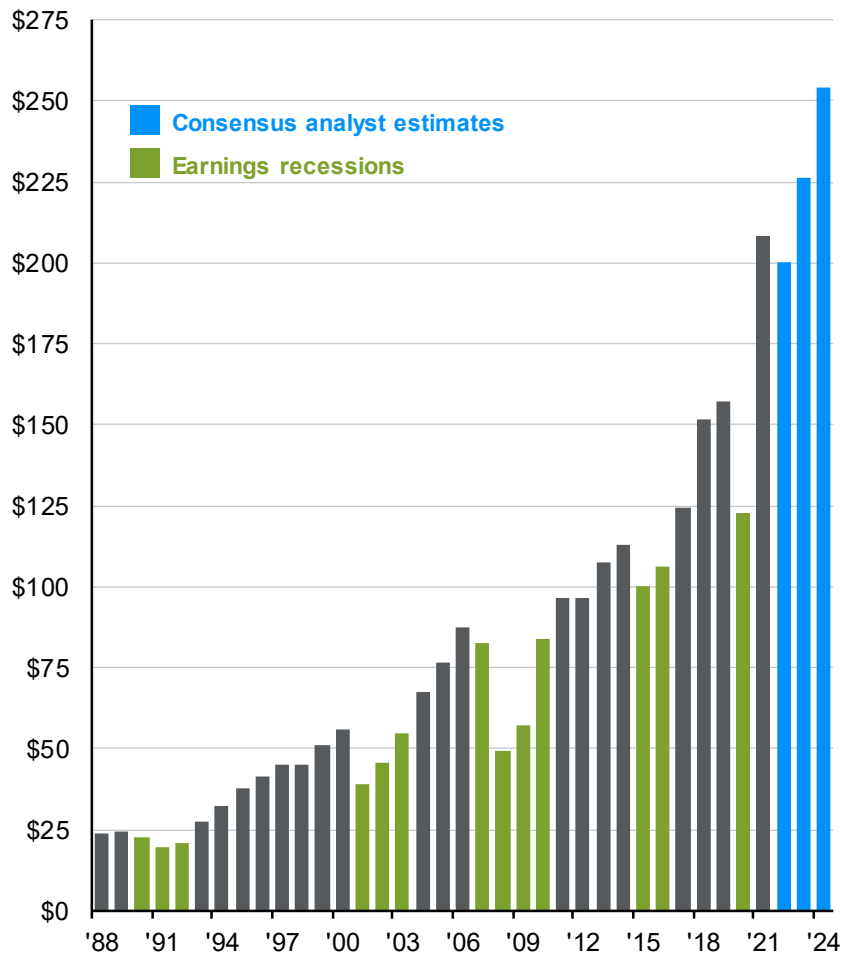


# Corporate earnings and analyst expectations

Equities

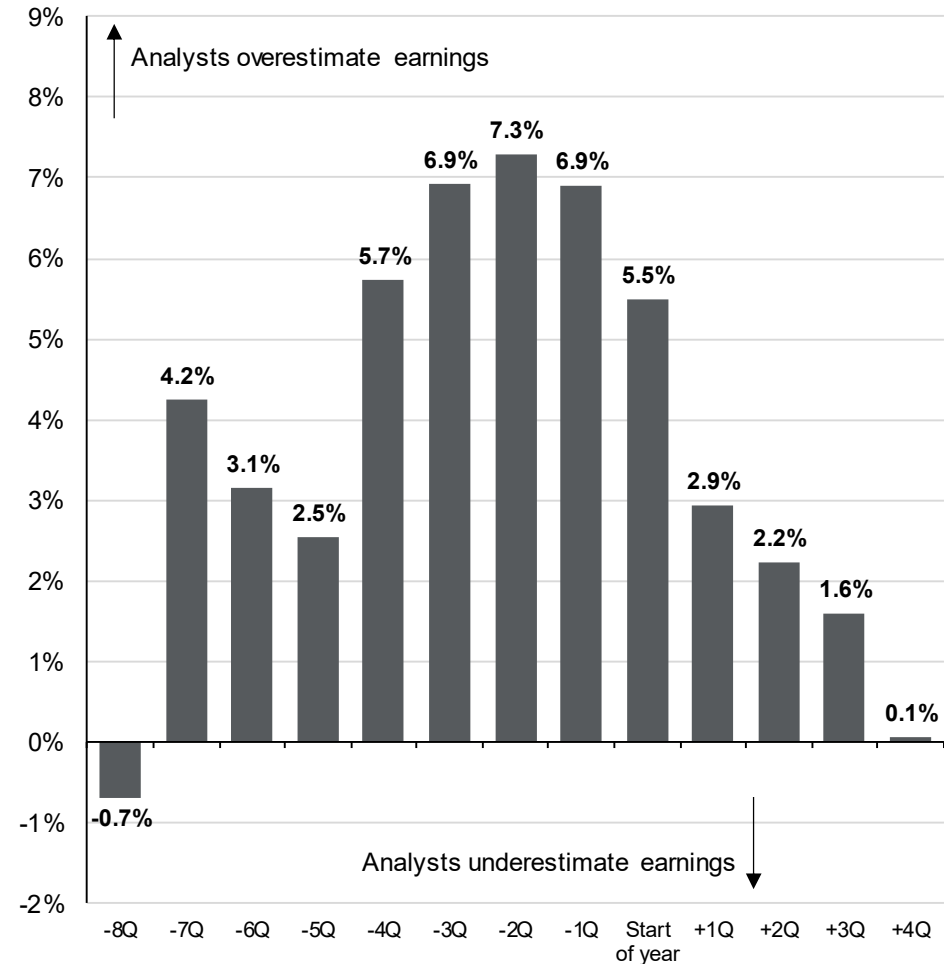
## S&P 500 earnings per share

Index annual operating earnings



## Average analyst over/underestimate of annual earnings

S&P 500, pro-forma EPS, 1996 - 2021

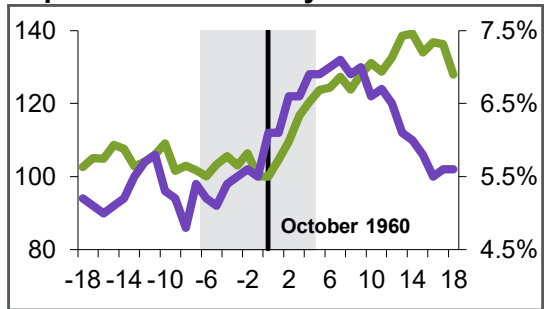


Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management. Historical EPS levels are based on annual operating earnings per share. Earnings estimates are based on estimates from Standard & Poor's and FactSet Market Aggregates. \*Earnings and multiple growth are both year-to-date percent changes of next 12-month estimates. Past performance is not indicative of future returns. Guide to the Markets - U.S. Data are as of December 31, 2022.

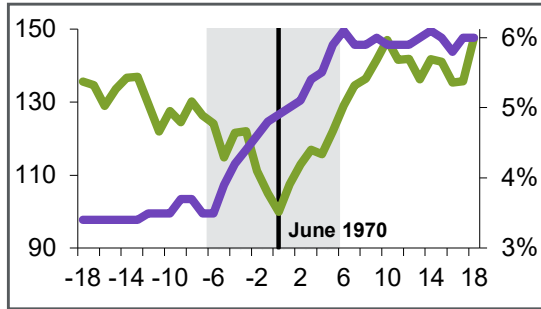


# Market inflection points, recessions and the unemployment rate

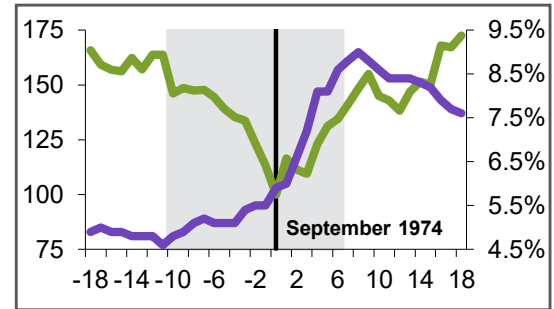
### April 1960 – February 1961



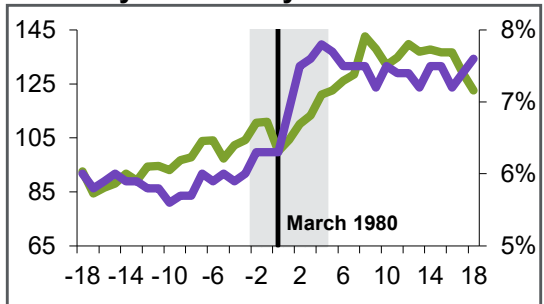
### December 1969 – November 1970



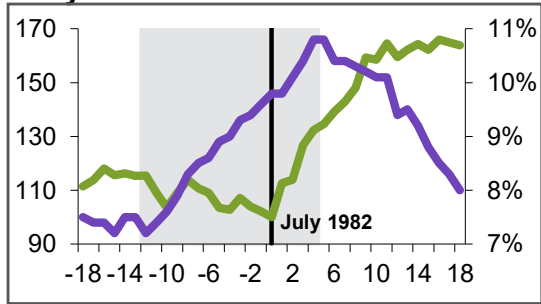
### November 1973 – March 1975



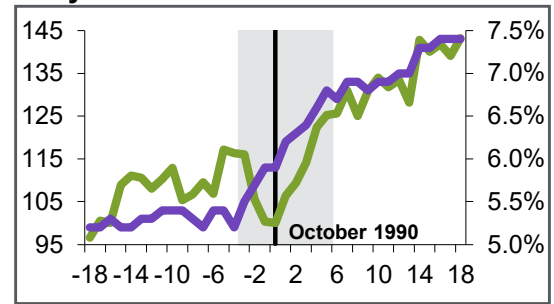
### January 1980 – July 1980



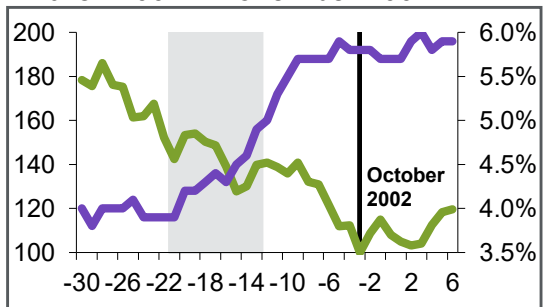
### July 1981 – November 1982



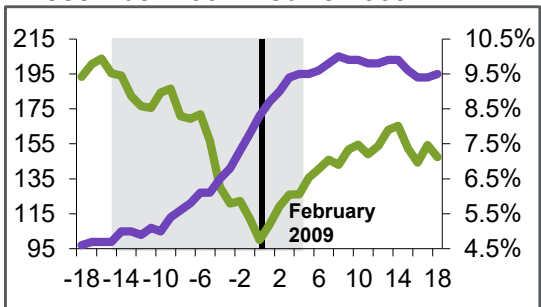
### July 1990 – March 1991



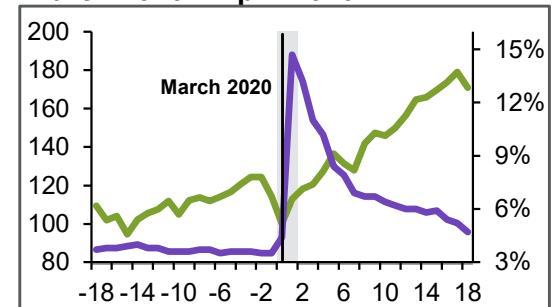
### March 2001 – November 2001



### December 2007 – June 2009



### March 2020 – April 2020



— Unemployment Rate      Recession  
— S&P 500 Total Return      Market Low

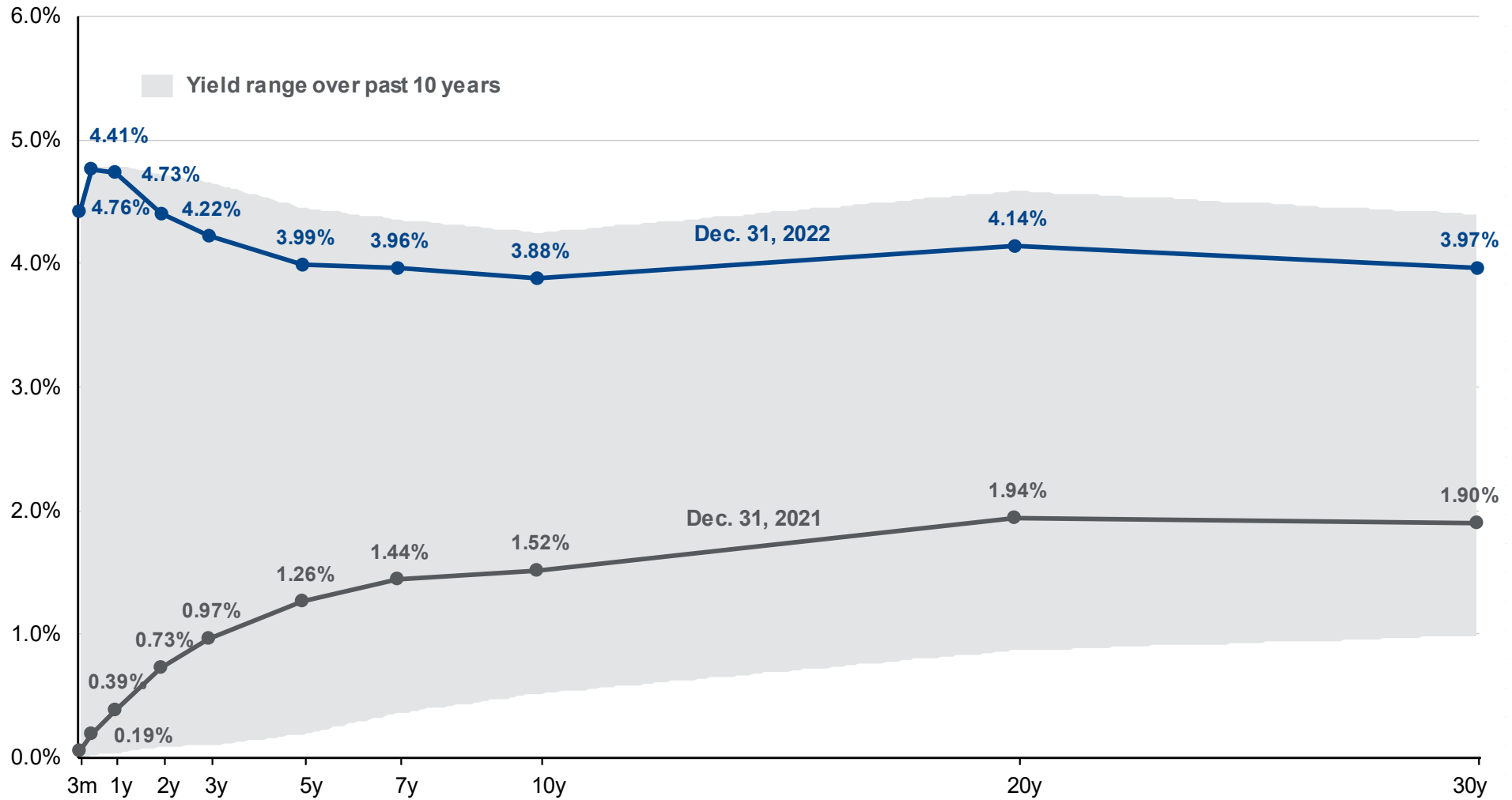
Source: BLS, Ibbotson, J.P. Morgan Asset Management. Time zero represents the numeric low of the S&P 500 Total Return Index associated with the recessionary period defined by the shaded grey area; data shown in months. S&P 500 Index is rebased to 100 at time zero. *Guide to the Markets - U.S.* Data are as of December 31, 2022.



# Yield curve

Fixed Income

## U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.  
Guide to the Markets - U.S. Data are as of December 31, 2022.

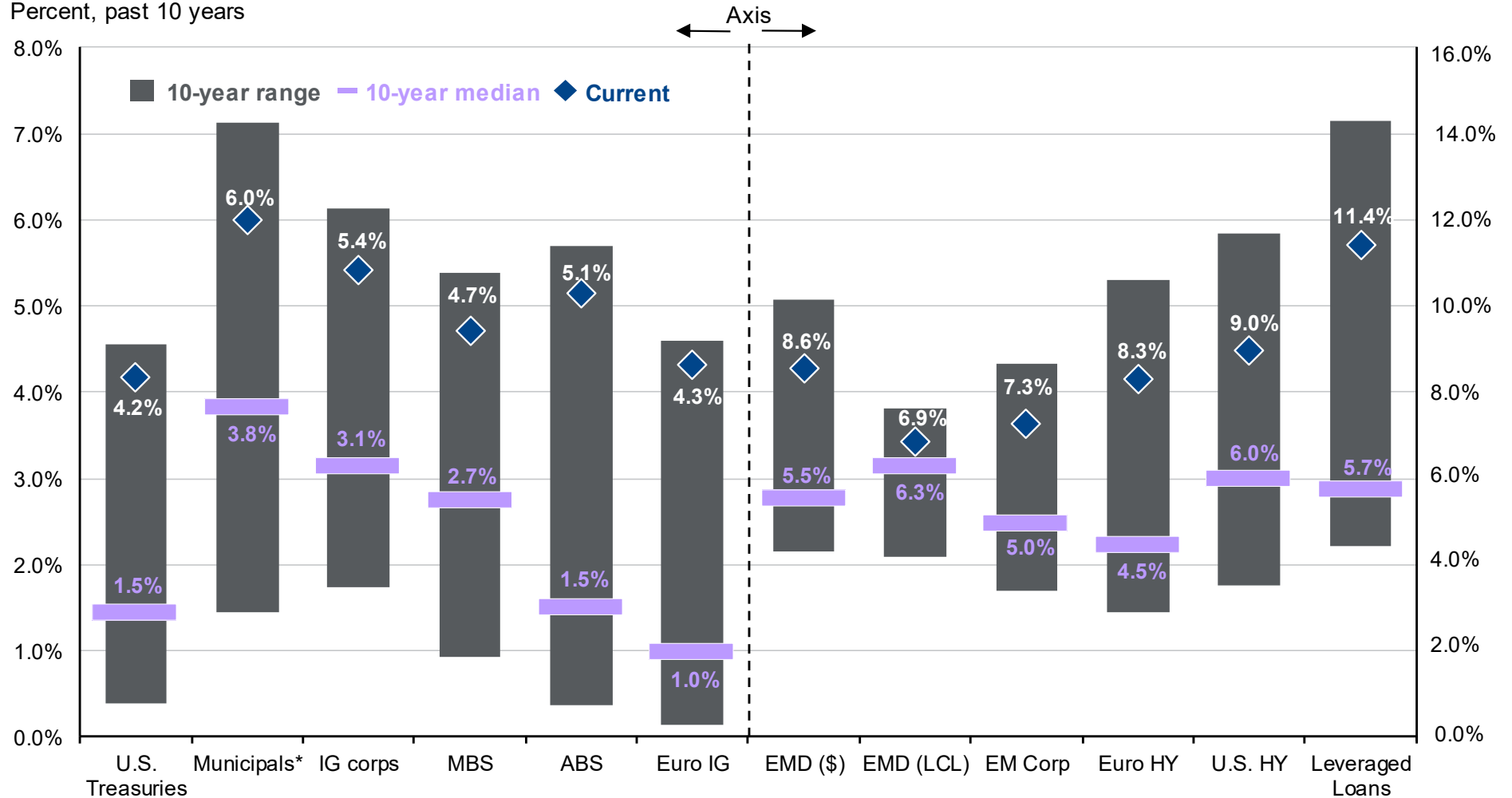


# Fixed income valuations

Fixed Income

## Yield-to-worst across fixed income sectors

Percent, past 10 years



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

Guide to the Markets – U.S. Data are as of December 31, 2022.

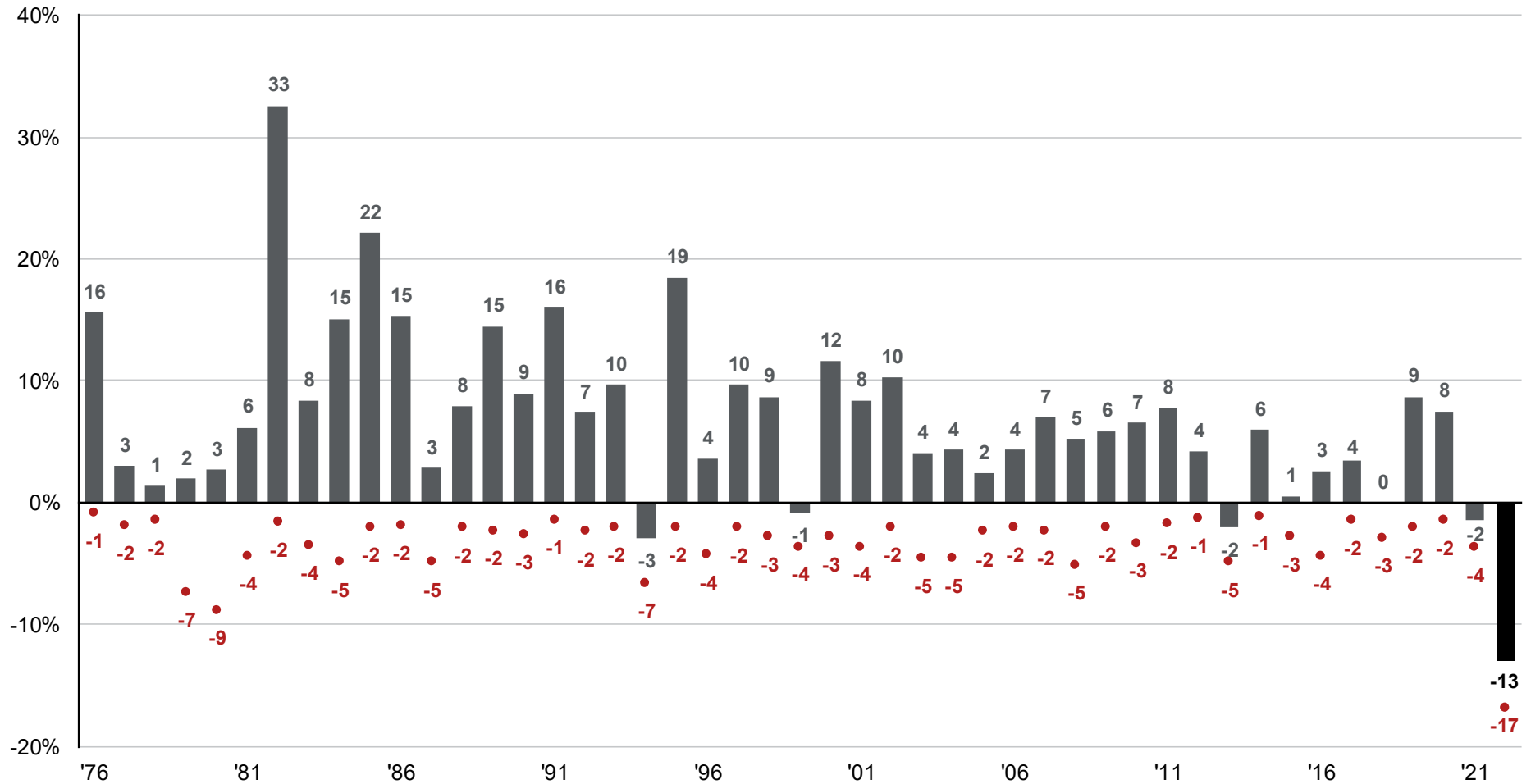


# Bloomberg U.S. Agg. annual returns and intra-year declines

Fixed Income

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

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

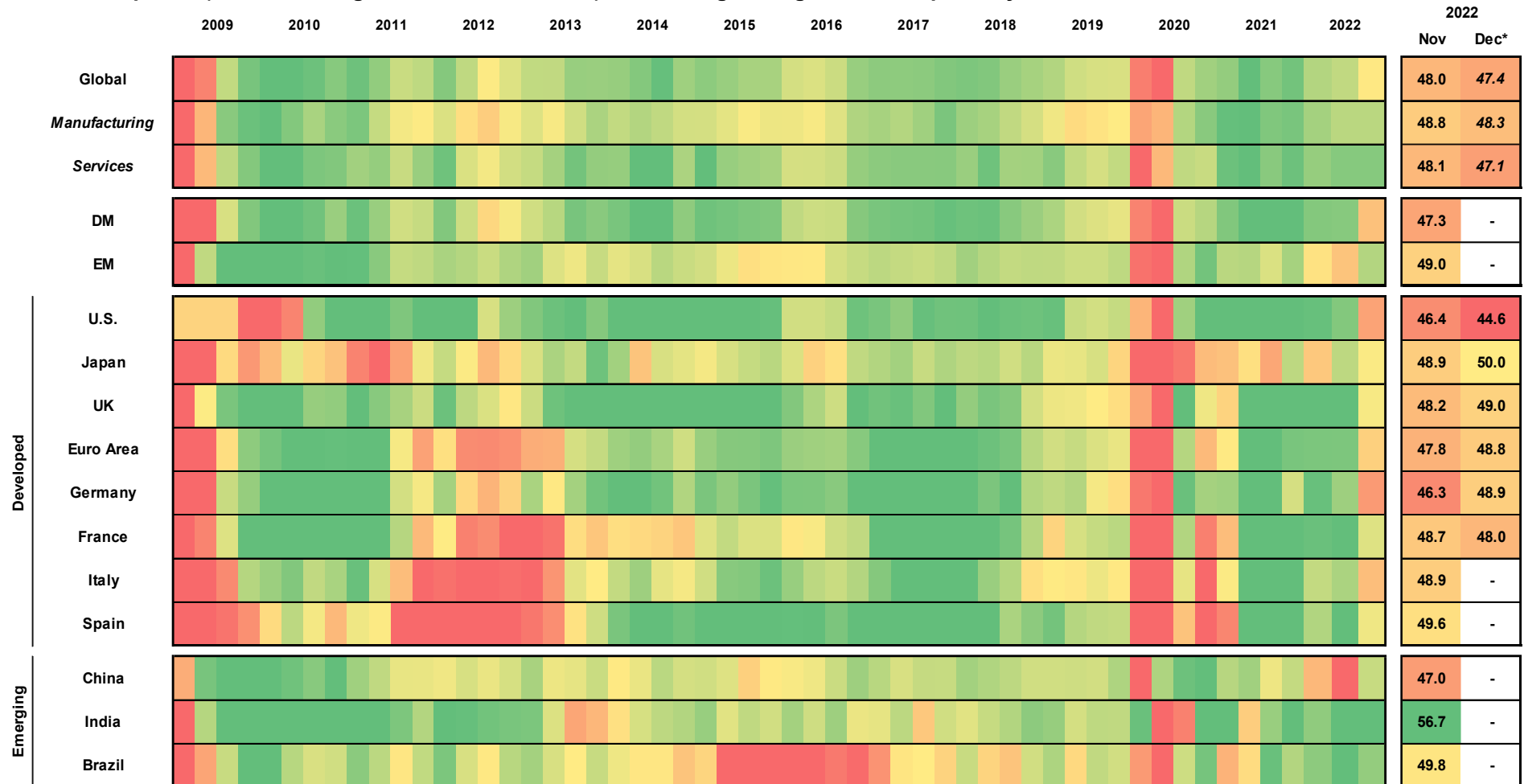


Source: Bloomberg, FactSet, J.P. Morgan Asset Management.  
 Returns are based on total return. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1976 to 2022, over which time period the average annual return was 6.6%. Returns from 1976 to 1989 are calculated on a monthly basis; daily data are used afterwards.  
 Guide to the Markets – U.S. Data are as of December 31, 2022.



# Global economic activity momentum

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



International

Developed

Emerging

Source: Standard & Poor's, J.P. Morgan Asset Management.  
 The Composite PMI includes both manufacturing and services sub-indices. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in from December 2007 to September 2009 due to lack of existing PMI figures. DM and EM represent developed markets and emerging markets, respectively. \*December composite figures are J.P. Morgan Asset Management estimates.  
 Guide to the Markets – U.S. Data are as of December 31, 2022.



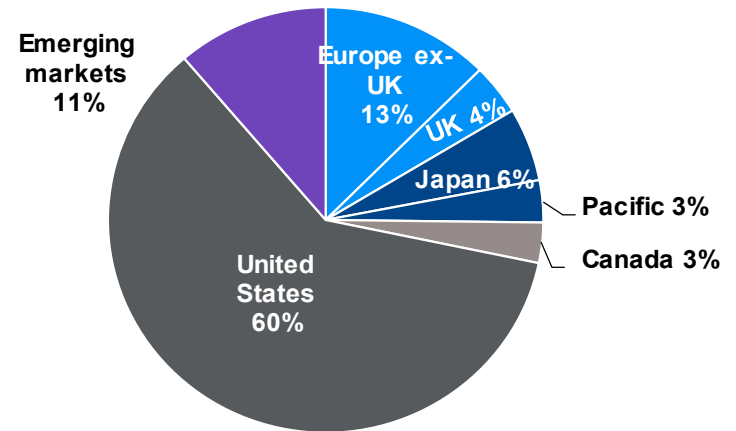


# Global equity markets

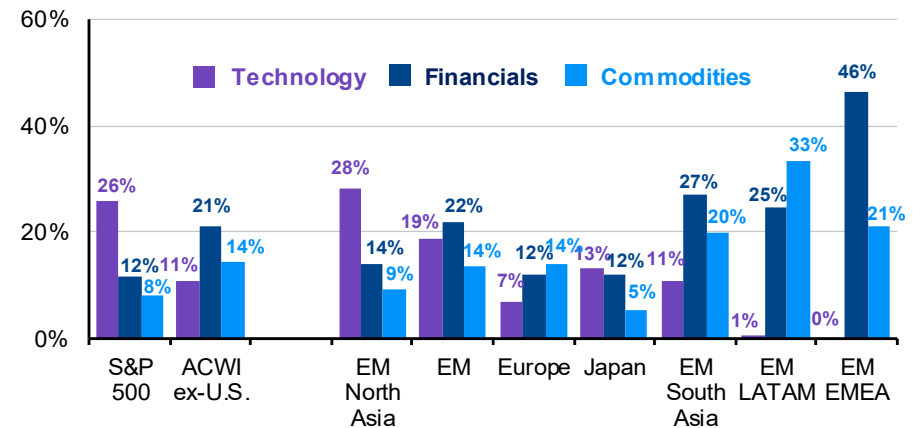
International

Returns	2022		2021		15-years	
	Local	USD	Local	USD	Ann.	Beta
<b>Regions</b>						
U.S. (S&P 500)	-	-18.1	-	28.7	8.8	0.90
AC World ex-U.S.	-9.2	-15.6	13.5	8.3	2.0	1.07
EAFE	-6.5	-14.0	19.2	11.8	2.3	1.04
Europe ex-UK	-12.2	-17.3	24.4	16.5	2.4	1.18
Emerging markets	-15.2	-19.7	0.1	-2.2	1.0	1.18
<b>Selected Countries</b>						
United Kingdom	7.2	-4.8	19.6	18.5	1.4	1.02
France	-6.9	-12.7	29.7	20.6	2.8	1.22
Germany	-16.5	-21.6	13.9	5.9	0.9	1.31
Japan	-4.1	-16.3	13.8	2.0	2.5	0.72
China	-20.6	-21.8	-21.6	-21.6	0.6	1.10
India	3.0	-7.5	28.9	26.7	2.4	1.26
Brazil	8.6	14.6	-11.2	-17.2	-2.1	1.50
Korea	-24.4	-28.9	0.8	-7.9	1.6	1.49

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



**Representation of key sectors in international markets**  
% of index market capitalization



Source: FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management. All return values are MSCI Gross Index data. 15-year history based on USD returns. 15-year return and beta figures are calculated for the time period 12/31/2007 to 12/31/2022. Beta is for monthly returns relative to the MSCI AC 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. EM North Asia includes China, Taiwan and South Korea. EM South Asia includes India, Indonesia, Malaysia, Pakistan, Philippines, Taiwan and Thailand. *Guide to the Markets - U.S.* Data are as of December 31, 2022.

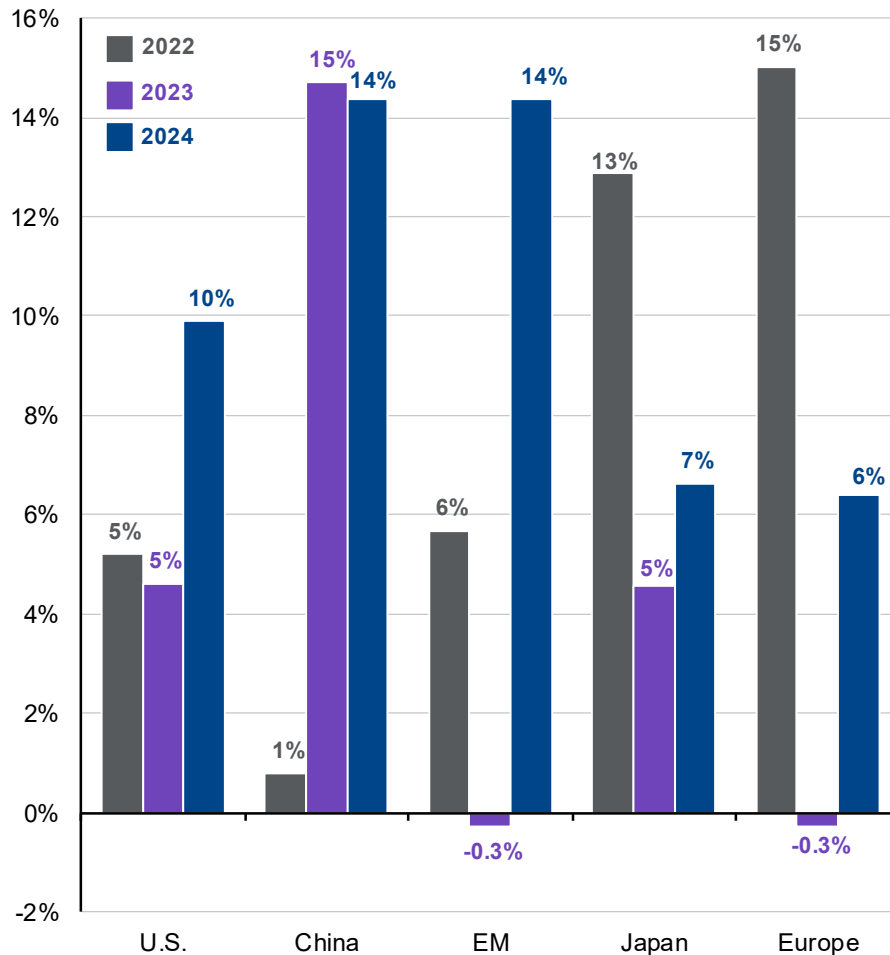


# International equity earnings and valuations

International

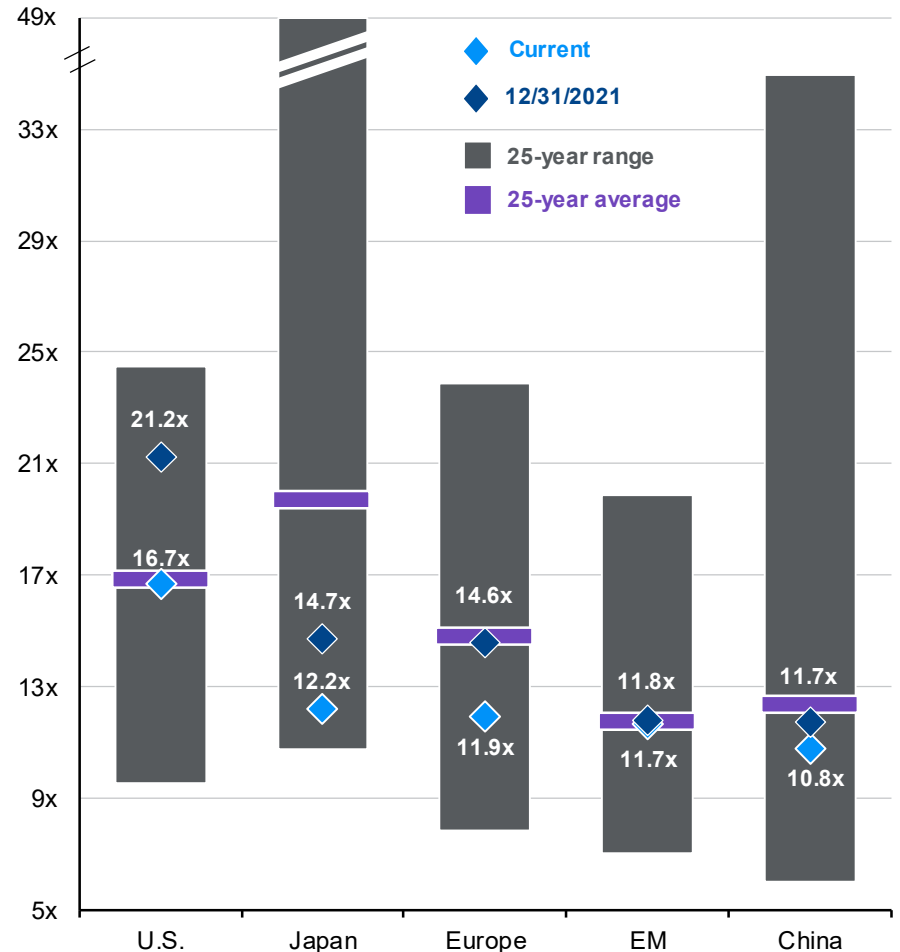
### Global earnings growth

Calendar year consensus estimates



### Global valuations

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



Source: FactSet, MSCI, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.  
 Calendar year consensus estimates are based on pro-forma earnings. 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 44% of the overall 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, 2022.

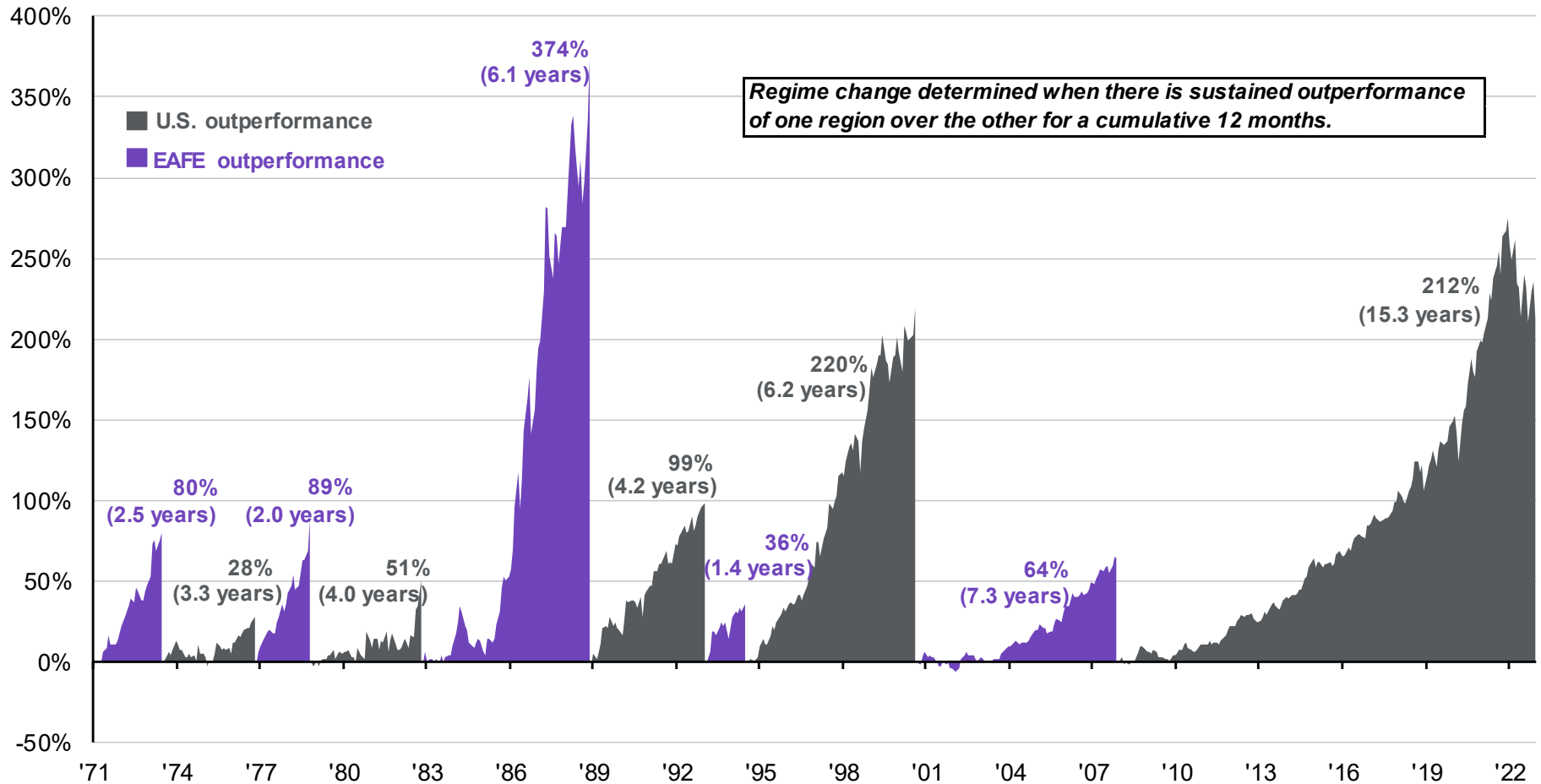


# Cycles of U.S. equity outperformance

International

## MSCI EAFE and MSCI USA relative performance

U.S. dollar, total return, cumulative outperformance\*



Regime change determined when there is sustained outperformance of one region over the other for a cumulative 12 months.

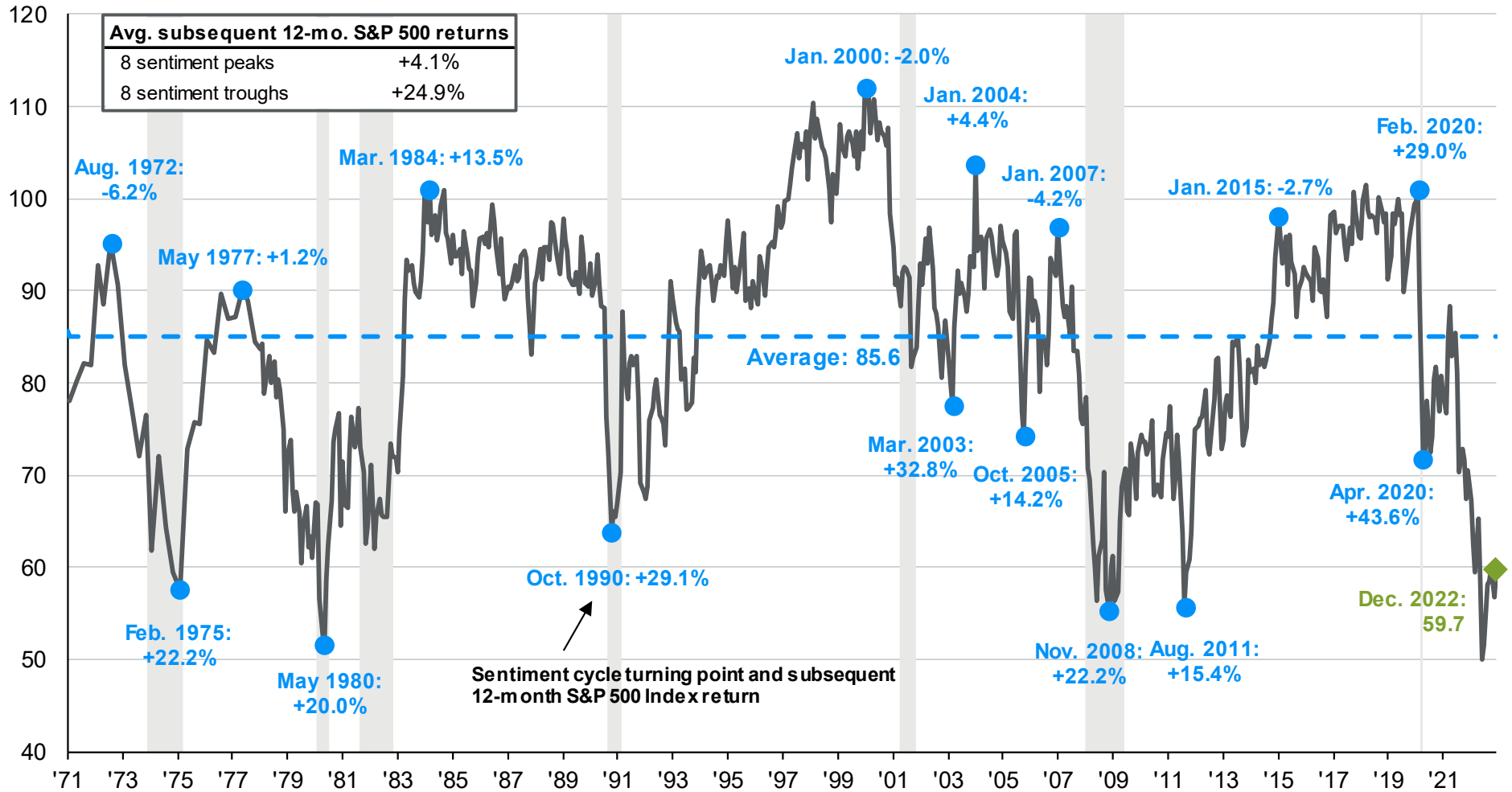
Source: FactSet, MSCI, J.P. Morgan Asset Management. \*Cycles of outperformance include a qualitative component to determine turning points in leadership.

Guide to the Markets – U.S. Data are as of December 31, 2022.



# Consumer confidence and the stock market

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



Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management. Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only, which excludes dividends. Past performance is not a reliable indicator of current and future results. Guide to the Markets - U.S. Data are as of December 31, 2022.

# Questions & Answers



invested in *you.*



# J.P. Morgan Asset Management – Index definitions

GTM

U.S.

69

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

## Equities:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Fixed income:

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

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

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

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

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

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

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

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

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

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

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

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

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

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



# J.P. Morgan Asset Management – Definitions

GTM

U.S.

70

## *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 **HFR1 Monthly Indices (HFR1)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFR1 are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFR1 Index constituents are included in the HFR1 Single Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

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

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

## *Definitions:*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



# J.P. Morgan Asset Management – Risks & disclosures

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71

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Unless otherwise stated, all data are as of December 31, 2022 or most recently available.

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